COPING WITH THE FRAGMENTATION OF THE EURO AREA BANKING SYSTEM AND THE REAL CRISIS
THE IMPOSSIBLE CHALLENGE OF THE ECB ALONE

The financial turmoil resulting from the subprime crisis and then the European sovereign debt crisis have weakened the euro zone's banks and the state of public finances, creating a vicious circle in which the banking and debt crises have been mutually reinforcing (Shambaugh, 2012). This was followed by an unprecedented loss of confidence that caused a double liquidity crisis: first in September 2008, following the fall of Lehman Brothers, and then at the end of 2011 due to the European debt crisis. Despite the many common rules[1] applied by the Member States on financial regulation and a common framework for competition and freedom of establishment, the banking and financial system, which seemed to be increasingly integrated[2], has fragmented.

Fragmentation of the European banking system has had strong consequences. First, beyond the European deposit guarantee, one euro in a Portuguese bank could not be substituted with one euro in a German bank, for Portuguese and German banks did not support the same default risk. It led to a **reduction in the optimality of the euro zone**. Second, fragmentation meant increased spreads between European domestic interest rates, which paved the way for a modification in the transmission of the European central bank (ECB) single monetary policy. The pass-through of conventional monetary policies no longer worked in distressed economies where monetary conditions were increasingly influenced by the level of debts, public and private, or by the market perception of unsustainability. **The single monetary policy then aggravated the divergence between the core and the periphery**: low rates for main refinancing operations reduced core countries rates, but not that of the periphery. Consequently the ECB tried to counter this phenomenon by repeatedly proposing various unconventional measures, prioritizing support for the banking system due to the key role it plays in financing non-financial agents in the Eurozone. In addition, a large-scale institutional change has started taking place with the on-going establishment of a banking union designed to supervise the euro zone's systemic banks and to propose resolution mechanisms to cope with future bank failures.

This chapter provides an overview of the fragmentation of banking system in the euro zone. It discusses the measures taken by the ECB to deal with this, including the banking union. **The chapter highlights the shortcomings of a European strategy which would exclusively rely on the ECB to save the euro.** A stronger coordination, first between the ECB and national bank supervisors and, second between the ECB and national governments, is called for in order

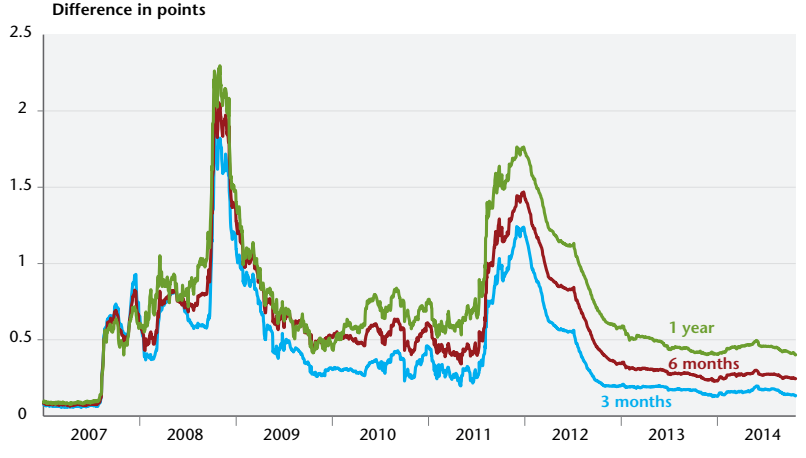
1. Rules resulting from the transposition of European directives, themselves usually inspired by the recommendations of the Basel Committee.
2. The numerous reports written on European financial integration indeed showed that while the interbank markets were highly integrated, this was not the case of retail banking (see for example Jappelli and Pagano, 2008).

not only to escape a new range of bank failures but also to resolve the *current* economic crisis. Consequently, **two proposals are made: first, a special banking fund is discussed to address the too-important-to-fail (TITF) banks which, under the on-going banking union, will draw on national backstops, hence on bail-outs; second, the launch of a policy mix is advocated, with a fiscal investment package financed by European Investment Bank (EIB) bond issuance** *and* ECB purchases.

1. The fragmentation of the Eurozone banking system

The banking system in the euro zone has been hit hard by the dual crisis that has afflicted Europe since 2007: first, the subprime crisis and then the sovereign debt crisis. The first caused heavy losses related to the holding of toxic assets. This forced central banks to take exceptional measures (see below) and governments to set up plans to bail out their banking systems in late 2008. Tensions on the interbank markets significantly eased, as was seen in changes in the difference between the Euribor and Eurepo[3] interbank rates (Figure 1). However, **the interbank market never returned to the way it functioned before the crisis**, and tensions peaked anew in mid-2011 in conjunction with the sovereign debt crisis in the euro zone. Indeed, the banks' exposure to sovereign risk threatened their solvency and plunged the euro zone into a vicious circle in which banking and fiscal problems became mutually reinforcing in some countries. It remains that since the sovereign debt crisis was mainly confined to Greece, spreads in the interbank market remained well below the peak seen during the fall of Lehman

Figure 1. Difference between the Euribor rate and the Eurepo rate



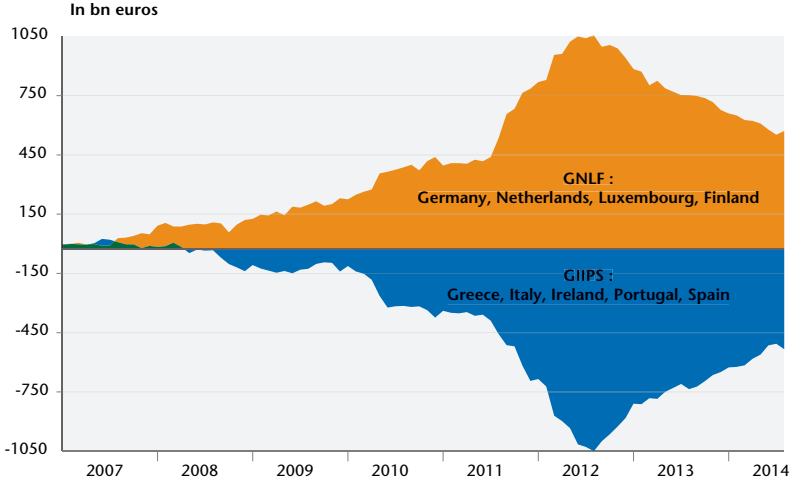
Source: Datastream.

3. The Euribor rate represents the price of an interbank loan without collateral for a given term. The Eurepo rate is the price of an interbank loan with collateral for the same term.

Brothers. The gradual decline in the prices of Italian and Spanish bonds nevertheless increased the risk of a new systemic crisis, engendering further tensions on the interbank markets from mid-2011. In order to ensure that these tensions did not give rise to a major systemic crisis, the ECB decided to intervene again and granted financing for an exceptional period of three years. The ECB thus covered most of the financing needs of the Spanish and Italian banks, which were no longer able to raise funds on the interbank market or the bond market.

While this meant that the banking crisis was contained, it was certainly not resolved. Indeed, a dichotomy has emerged between the countries at the heart of the European Union (Germany, France[4], Netherlands, Belgium and Finland) and those experiencing a crisis in their public finances (Greece, Portugal, Ireland, Spain and Italy). In the bond markets, this has resulted in a reallocation of investor portfolios to the detriment of the countries at risk. The purchase of government bonds issued by countries considered safer has been favoured, which has had the effect of causing significant losses for banks exposed to sovereign risk, *i.e.* mainly those from the countries in crisis. Their increasingly fragile situation led them to be deprived of liquidity in the interbank market. Banks in the core countries possessed cash and preferred to leave it on deposit with the ECB. Without market financing, the banks in the countries in crisis turned to the ECB *via* its various monetary policy operations. Consequently **the ECB has replaced the market and has been implicitly taking on the risk that interbank market players no longer wish to bear**. This has resulted in a very significant increase in TARGET balances (Figure 2), which measure the debtor or creditor positions of the national central banks, and thus the commercial banks vis-à-vis the ECB.

Figure 2. TARGET balances



Source: Eurocrisis monitor, Osnabrück Universität.

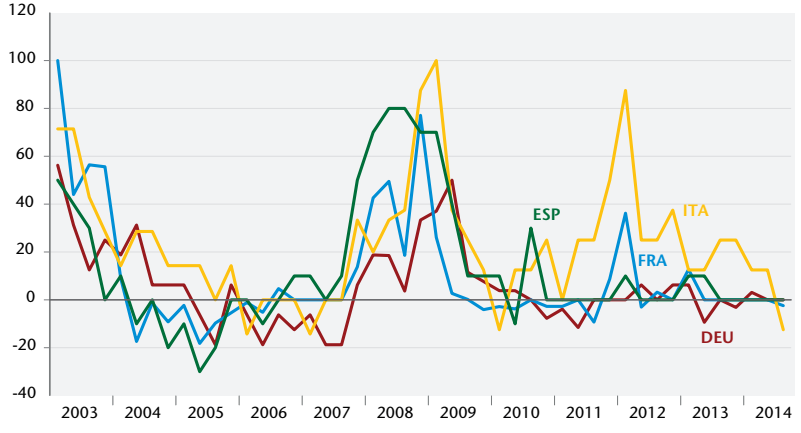
4. France can be considered one of the Union's core countries. Nevertheless, with regard to the TARGET balances, French banks are slightly in debt, but not at all on the same scale as the Spanish and Italian banks.

The crisis has in fact severely disrupted the functioning of the interbank market, which had previously appeared highly integrated. Credit flows and cross-border deposits between monetary and financial institutions (MFIs) in the euro zone have contracted sharply. As far as banks' bilateral consolidated foreign claims are concerned, Bouvatier and Delatte (2014) show that banking integration has reversed in the euro zone, in contrast with what happened in non-euro zone banks where banking integration has strengthened since the financial crisis.

The change in credit conditions as measured by the ECB's Bank Lending Survey (BLS) clearly reflects the tightening of credit conditions in Spain at the beginning of the crisis, in line with the crash in the real estate market, as well as in Italy, where restrictions on the supply of credit to households and businesses peaked in late 2011 and early 2012 (Figures 3 and 4). These observations are in line with the influential work of Jiménez, Ongena, Peydro and Saurina (2012). Using a microeconomic database on bank behaviour, these authors show that the probability that a Spanish bank will refuse credit to non-financial corporations increases in a deteriorating economic environment (tightening of monetary policy or reduced growth) and that this effect is even stronger when the banks are weakly capitalized or not very liquid.

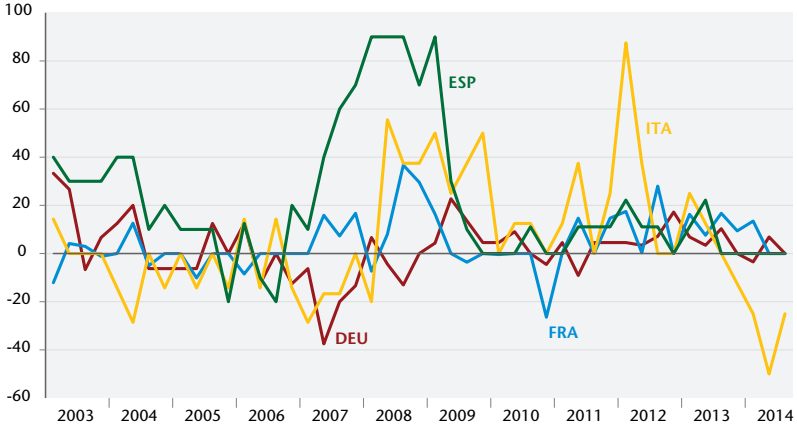
Another dimension of fragmentation involves the sharp increase in the dispersion of bank rates in the euro zone since 2007. This can be seen in the changes in interest rates on loans to non-financial corporations (Figure 5) in the euro zone since the crisis, as well as in the interquartile differences calculated for the rates charged on loans (to euro zone households or non-financials, see Figure 6) and deposits (Figure 7).

Figure 3. Credit conditions applied to enterprises



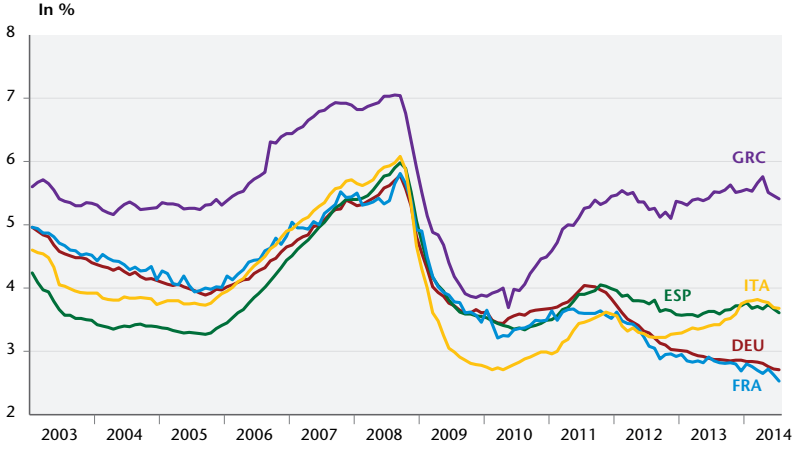
Note: The curves for each country represent the difference between establishments reporting that they have tightened their credit conditions and those reporting that they have been eased. Therefore a rise reflects tighter credit conditions.
Source: ECB (Bank Lending Survey).

Figure 4. Credit conditions applied to households (for house purchase)



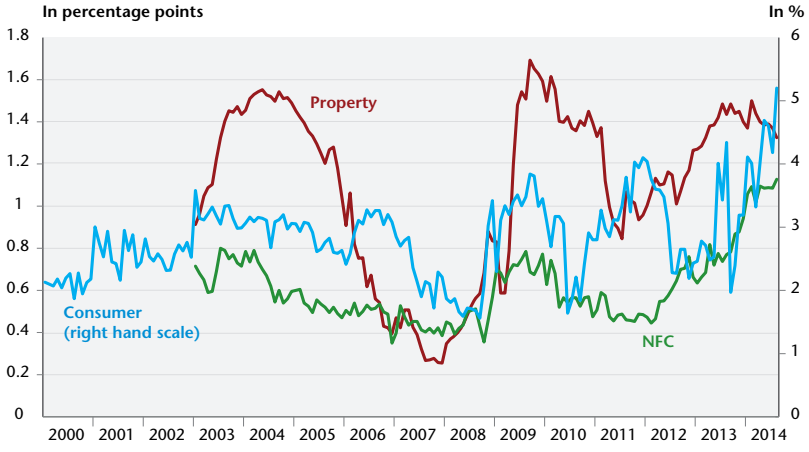
Note: The curves for each country represent the difference between establishments reporting that they have tightened their credit conditions and those reporting that they have been eased. Therefore a rise reflects tighter credit conditions.
Source: ECB (Bank Lending Survey).

Figure 5. Interest rates on new lending to non-financial corporations (1 to 5 year term)



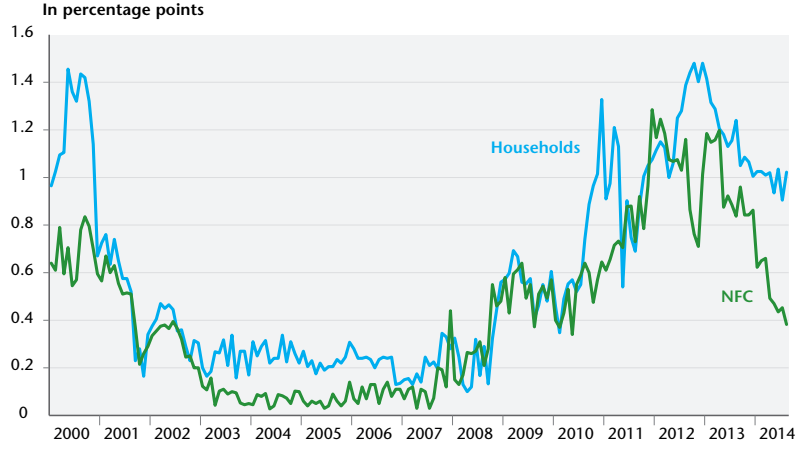
Source: ECB.

Figure 6. Dispersion of interest rates on bank credits



Source: ECB. Interquartile difference.

Figure 7. Dispersion of interest rates on bank deposits



Source: ECB. Interquartile difference.

A heterogeneity that impacts transmission of monetary policy

Achieving uniformity in the transmission of the ECB's monetary policy in all the Member States is central to ensure the viability of the monetary union. There were already significant differences in the transmission of monetary policy prior to the crisis (Arnold & van Ewijk, 2014; Sorensen & Werner, 2006), although a trend toward greater uniformity had been observed (Vajanne 2007; Blot & Labondance, 2013). Note, however, that this conclusion depends heavily on the markets surveyed and their level of legal integration and competition (de Graeve, de Jonghe, & van der Vennet, 2007). Homogenization appears clearly in the transmission of monetary policy on the rates charged to business. Transmission is more heterogeneous on other markets where national characteristics associated with legal systems and popular customs are still essential to setting bank rates (Mojon, 2000; Giuliodori, 2005), like markets for mortgage and consumer loans.

The trend towards uniformity in the transmission of monetary policy throughout the euro zone came to a halt with the crisis, and the convergence of bank interest rates has even reversed [(Arnold & van Ewijk, 2014),(Belke, Beckmann, & Verbeyen, 2013),(Karagianis, Panagopoulos, and Vlamis, 2010), (Rughoo & Sarantis, 2014)].

The fragmenting transmission of monetary policy is weakening the euro zone because it reduces the effectiveness of the ECB's single monetary policy if it leads to strengthening economic divergences, when, for instance, expansionary monetary policy does not produce lower interest rates on the loans of the peripheral countries. In the following, we intend to show that fragmentation is not only due to economic fundamentals but also to heterogeneous self-sustaining dynamics. To explore this point, we propose estimating the following equation in an effort to explain the nominal interest rates applied by the banks $rb_{i,t}$ in each Member State i at time t. Here we present the results for interest rates on 1 to 5-year loans to non-financial corporations (NFCs) and for two types of loans to households: real estate loans and consumer loans.

$$rb_{i,t} = \alpha_i + \beta.time_i + \gamma.prime_{i,t} + \delta.rm_t + \rho.CISS_t + \varepsilon_t$$

These interest rates are explained by the money market rates rm_t which reflect the ECB's conventional monetary policy. Here we take the overnight rate (Eonia). In addition, we include a variable reflecting the risk premium associated with each Member State ($prime_{i,t}$), calculated as the difference between the long-term rates on government bonds and the money market rates. To take account of the exacerbation of risk aversion since the crisis, we also include an indicator of financial stress: the Composite Indicator of Systemic Stress (CISS) developed by the ECB (Hollo *et al.*, 2012).

Panel estimates are implemented on two sub-samples of the euro zone: one for the core countries (Austria, Belgium, Finland, Germany, France and the Netherlands) and the other for those in the periphery (Spain, Greece, Ireland, Italy and Portugal). We include country fixed effects, and we include a time trend $time_i$ that measures the temporal effect that is not related to the fundamentals included in the model. Finally, we estimate these panels for two sub-periods: before and after the crisis.

Results are reported in table 1. Looking at the rates for NFCs, we find that before the crisis the determinants of these rates were relatively similar in the countries of the core and the periphery. Monetary policy was a little more influential in the peripheral countries, but for the rest, the coefficients were very close. Note in particular the downward trend in rates for both groups of countries identified by the $time_i$ variable. This result indicates that, independently of the model's fundamentals, there is a trend for bank rates to fall in the euro zone. **Before the crisis, there was a trend towards setting relatively homogeneous interest rates for loans to NFCs in the euro zone**.

The results since the crisis point towards a different dynamic, with increasingly clear fragmentation. While the transmission of monetary policy remains at an equivalent level in the core countries, it diminishes sharply for countries in the periphery. Furthermore, while the variable that takes into account the risk premium applied to each Member State is no longer significant for the core countries, it still is for the periphery countries. However, this is a period during which rate spreads were increasing for these countries, indicating that tensions on the bond markets are affecting the rates charged by banks. Likewise, the financial stress indicator still has a positive, significant effect, but the coefficient is twice as high for the countries of the periphery. Finally, it is interesting to note the results of the time variable. For the core countries, this variable has not been significant since the crisis, indicating that the establishment of bank rates does reflect the fundamentals included in the estimates. For the periphery, this variable has become positive since the crisis: in addition to the other determinants included in the equation, an upward trend in bank rates can be seen in the peripheral countries. This result highlights the process of divergence between the two groups of countries. The peripheral countries have suffered a hike in bank rates independently of the fundamentals, a situation that is not seen in the core countries. This post-crisis trend towards differentiation can also be seen when looking at the establishment of bank rates for households, whether for real estate loans or consumer loans. This observation is confirmed (Table 2) by taking into account non-conventional measures where, rather than the EONIA we introduce an implicit monetary policy rate[5] (or "shadow rate"). Since the crisis, there has been noticeable fragmentation between the core and the periphery.

The ECB is thus facing a dual challenge. First, it has to bring inflation back to its target. The fight against the risk of deflation is thus becoming central to the implementation of monetary policy. Second, the measures taken by the ECB also has to aim at reducing the fragmentation of the European banking system so as to restore homogeneity in the transmission of monetary policy within the euro zone (Cour-Thimman & Winkler, 2013).

5. The calculation of an implicit monetary policy rate can be used to translate the unconventional measures taken by the central banks. The implicit rate can thus be negative. See Wu and Xia (2014) for an illustration.

Table 1. Determinants of bank interest rates before and after the crisis

	NFC				Property				Consumer			
	Pre-crisis		Crisis		Pre-crisis		Crisis		Pre-crisis		Crisis	
	Core	Periph	Core	Periph	Core	Periph	Core	Periph	Core	Periph	Core	Periph
Eonia	0.74***	0.88***	0.72***	0.39***	0.43***	0.87***	0.15***	0.49***	0.68***	0.28***	0.01	-0.50**
	[0.03]	[0.02]	[0.04]	[0.09]	[0.05]	[0.03]	[0.05]	[0.09]	[0.06]	[0.09]	[0.17]	[0.22]
Prime	0.21***	0.16***	0.00	0.07***	0.20***	0.13***	0.11***	-0.03**	0.31***	0.01	-0.13	0.04
	[0.03]	[0.03]	[0.03]	[0.01]	[0.06]	[0.04]	[0.03]	[0.01]	[0.07]	[0.13]	[0.12]	[0.03]
Ciss	0.33***	0.35***	0.15***	0.27***	0.24***	0.35***	0.15***	0.30***	0.28***	0.30***	0.19***	0.43***
	[0.01]	[0.01]	[0.01]	[0.03]	[0.02]	[0.02]	[0.02]	[0.03]	[0.03]	[0.06]	[0.06]	[0.08]
Time	-0.01***	-0.01***	0.00	0.02***	-0.02***	-0.01***	-0.01***	-0.00	-0.01***	0.00	0.00	0.02***
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.01]	[0.00]
Constant	3.30***	2.51***	2.61***	-0.13	5.04***	3.07***	4.39***	2.88***	4.58***	8.36***	5.44***	6.64***
	[0.14]	[0.13]	[0.24]	[0.30]	[0.27]	[0.17]	[0.30]	[0.29]	[0.33]	[0.60]	[1.07]	[0.75]
N	387	288	402	268	432	288	402	268	459	288	335	201
r2	0.89	0.97	0.80	0.46	0.35	0.93	0.73	0.64	0.69	0.28	0.05	0.16

Data source: ECB & Eurostat, authors' estimates.

Table 2. Determinants of bank interest rates before and after the crisis

	NFC				Property				Consumer			
	Pre-crisis		Crisis		Pre-crisis		Crisis		Pre-crisis		Crisis	
	Core	Periph	Core	Periph	Core	Periph	Core	Periph	Core	Periph	Core	Periph
Shadow	0.52***	0.62***	0.24***	0.11***	0.29***	0.60***	0.02	0.10**	0.52***	0.19**	-0.12	-0.47***
	[0.03]	[0.03]	[0.02]	[0.04]	[0.04]	[0.04]	[0.02]	[0.04]	[0.05]	[0.09]	[0.08]	[0.10]
Prime	0.07	0.01	-0.06	0.08***	0.12	-0.03	0.09***	-0.01	0.16**	-0.08	-0.14	0.01
	[0.04]	[0.05]	[0.03]	[0.01]	[0.06]	[0.05]	[0.03]	[0.01]	[0.07]	[0.13]	[0.12]	[0.03]
Ciss	0.42***	0.47***	0.27***	0.33***	0.30***	0.47***	0.17***	0.37***	0.38***	0.35***	0.16**	0.29***
	[0.02]	[0.02]	[0.02]	[0.03]	[0.03]	[0.02]	[0.02]	[0.03]	[0.03]	[0.06]	[0.06]	[0.08]
Time	-0.01***	-0.00***	-0.00	0.02***	-0.02***	-0.01***	-0.01***	-0.00	-0.01***	-0.00	-0.00	0.01**
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.01]	[0.00]
Constant	4.04***	3.35***	3.13***	-0.05	5.48***	3.92***	4.61***	3.13***	5.48***	8.85***	5.96***	7.57***
	[0.17]	[0.18]	[0.30]	[0.32]	[0.26]	[0.21]	[0.31]	[0.32]	[0.30]	[0.54]	[1.06]	[0.75]
N	387	288	402	268	432	288	402	268	459	288	335	201
r2	0.83	0.93	0.70	0.44	0.31	0.87	0.72	0.61	0.67	0.27	0.06	0.23

Data source: ECB & Eurostat, authors' estimates.

2. The ECB and unconventional monetary policy measures as a last resort?

The results reported in the previous section have shown that monetary policy does not share the same degree of effectiveness in the core and the peripheral countries: it may still be effective in the first but not in the latter. It thus questions the ability of the ECB to manage the euro area crisis on its own.

The gloomy economic situation in the euro zone, with its deflationary risks, brought the European Central Bank (ECB) to undertake a round of quantitative easing. These measures, some of which may demand that the ECB take on risk – *via* the acquisition of securitization products, *i.e.* Asset Backed Securities (ABS) – are controversial. Some economists, such as Hans-Werner Sinn, criticize the ECB: in their view, it is exceeding its mandate for price stability by subjecting the European economies to a risk of inflation due to excess liquidity that it has put into circulation. Other economists, such as Michel Aglietta, believe instead that the ECB is providing an appropriate response to Europe's economic situation within the given institutional framework. They even regret the slowness of its response and are pushing for an institutional change to give the ECB a plurality of objectives, including price stability, growth and financial stability (Blot *et al.*, 2014) or price stability, financial stability and a sustainable public debt (Aglietta, 2014).

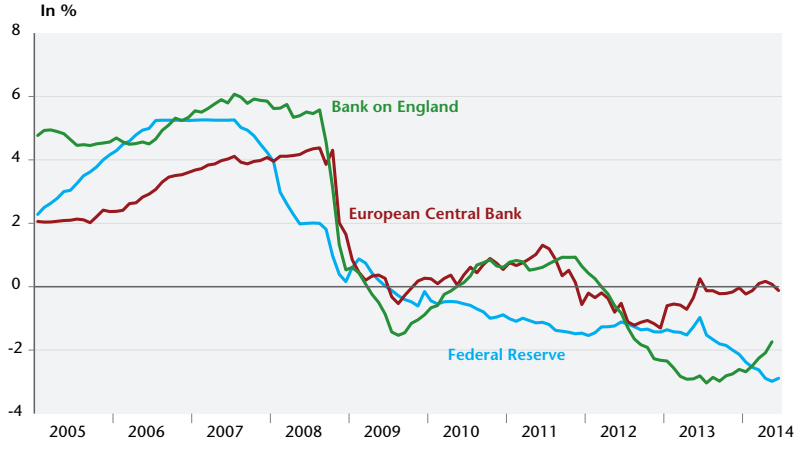
After having reviewed the recent unconventional measures implemented by the ECB, we review the effectiveness of these measures. We conclude on the challenges of ECB policies in the longer run and discuss the usefulness of a change in the statutes of the ECB.

Comparison of the monetary policy measures taken by the ECB, the Bank of England and the Fed

The major central banks have resorted to various measures, both conventional and unconventional, that have resulted in increasing and / or changing the size and composition of their balance sheets. There are nevertheless important differences in the nature of the measures preferred by the ECB, the Federal Reserve and the Bank of England. These differences result in large part from the financial structure of the economies in question. The ECB has for instance focused on supporting the banking system because of its major role in financing non-financial agents. In the United States, where market financing is predominant, the Federal Reserve has instead sought to influence market prices through the purchase of securities. The fact remains that increasing the size of the balance sheet is still an imperfect way to take account of the additional monetary stimulus resulting from the unconventional measures implemented. There have been recent efforts to determine an equivalent of these actions in terms of key interest rates, called an implicit rate or shadow rate. Wu and Xia (2014) propose an approach that is based on the rate curve and thus calculate the implicit rate of the monetary policy of the ECB, the Federal Reserve and the Bank of England. Doing this shows that the ECB has indeed conducted a more expansionary monetary policy (Figure 8) through unconventional measures than what the main refinancing operations rate shows, as the implicit rate is negative. However,

the ECB's policy has been relatively less expansionary than that of the Bank of England and the US Federal Reserve.

Figure 8. Shadow rates of monetary policy



Source: Wu & Xia (2014), http://faculty.chicagobooth.edu/jing.wu/research/data/WX.html.

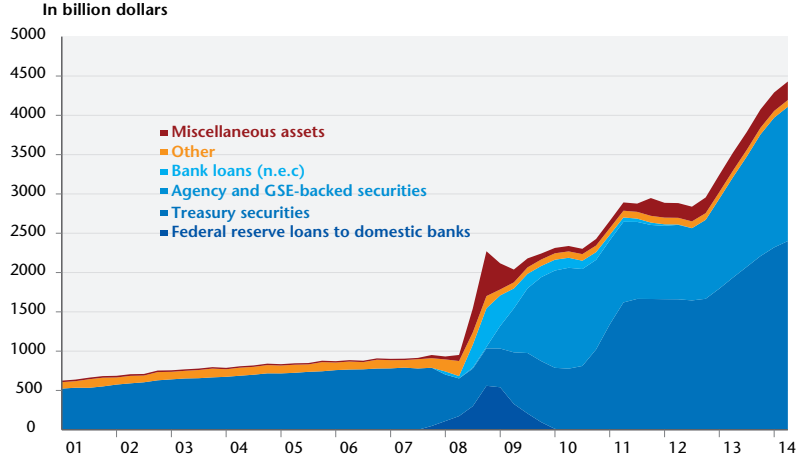
The monetary policies of the major central banks have consisted in lending directly to the banks (against high-quality collateral) and intervening in the financial markets (mainly government securities but also securities backed by real estate assets, and non-financial commercial paper). Several types of interventions have been endorsed:

- On the one hand, the Fed and the Bank of England decided to intervene, as a first step, mainly through (conventional) loans to banks facing liquidity problems. In a second step, these central banks engaged in purchases of securities on the markets to lower long-term interest rates and stimulate the economy. For example, the Federal Reserve established programmes for purchasing US government debt (the first was launched in March 2009) and mortgage-backed securities. In June 2014, the securities portfolio of the Federal Reserve came to about 4000 billion dollars, or about 90% of its balance sheet (Figure 9). Likewise, in January 2009 the Bank of England set up the Asset Purchase Facility, a very large-scale programme to purchase British government securities and to a lesser extent Treasury bills and corporate bonds. In July 2012, this had reached a level of GBP 375 billion, or 90% of the BoE's assets (Figure 10).

- On the other hand, most of the ECB's efforts have relied on collateralized loans (*i.e.* against guarantees) to the banking sector. Since October 2008, auctions for monetary policy transactions have been conducted at fixed rates with full allocation for demands for bank refinancing. In other words, so long as sufficient collateral is provided, any demand for bank liquidity is met. This policy is thus entirely dependent on the demand for liquidity coming from commercial banks, and thereby breaks with the previous policy of a limited supply of liquidity to banks. Though new, this policy is not quite unconventional, insofar as it does

not increase the size of the commercial banks' excess reserves, or the risk borne by the ECB.[6] Furthermore, the ECB implemented unconventional measures when it decided to increase the maximum maturity of its loans (initially 3 months), with one-year operations carried out in June, September and December 2009 (LTRO) and three-year operations in December 2011 and February 2012 (VLTRO). The ECB has also created programmes to purchase securities: (i) secured bank bond purchases (called "covered bond purchase programmes", CBPP) in June 2009 and CBPP2 in November 2011 were designed as a further way of dealing with banks' financing costs, which were considered too high and thus incompatible with the orientation of monetary policy; (ii) the Securities Markets Programme (SMP) was launched in May 2010 to engage in the limited purchase of government debt on secondary markets, sums that were supposedly sterilized by the ECB; the SMP was designed as a response to the pressure on sovereign debt markets, which called into question the smooth transmission of monetary policy in the euro zone; (iii) Outright Monetary Transactions (OMT), a new programme of buying sovereign bonds, starting in August and September 2012, which is intended to limit what are considered excessive risk premiums on certain sovereign debt bonds; (iv) finally, facing a growing risk of deflation in the euro zone, the ECB decided on 4 September 2014 to implement a new programme to purchase the debt securities of European companies and residential real estate loans (Asset-Backed Securities Purchase Programme, ABSPP) and a new programme for purchasing secured bank bonds (CBPP3), with the aim of freeing commercial bank balance sheets of these debts and thereby encouraging them to lend to businesses, in particular SMEs.

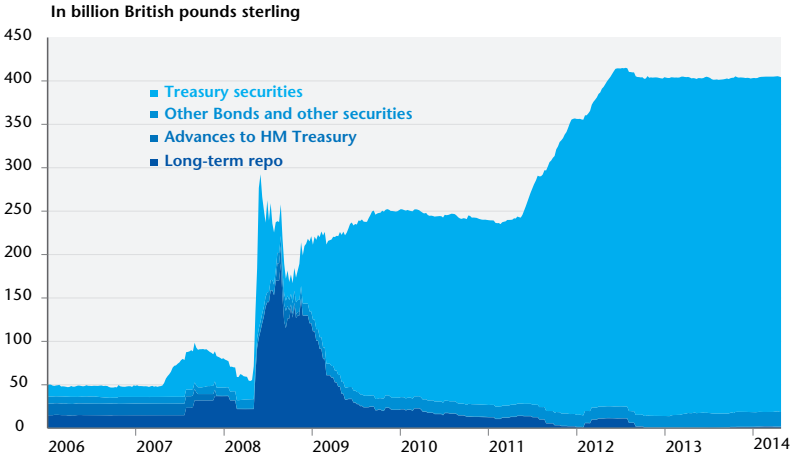
Figure 9. Composition of the Federal Reserve's balance sheet assets



Source: Federal Reserve (Flow of Funds).

6. It must be acknowledged that risk has somewhat increased to the extent that collateral eligibility requirements are reduced.

Figure 10. Composition of the Bank of England's balance sheet assets



Source: Bank of England.

The multiplicity of the ECB's purchasing interventions should not mask the fact that its programmes remained limited in scale: 50 billion euros for the CBPP and CBPP2, 162,5 billion euros for the SMP (as stated in the initial announcement)[7], an unlimited but unused amount for OMTs and unspecified amounts for ABSPP and CBPP3, compared with about 1 trillion euros for the two long-term lending operations (LTRO), which contributed greatly to increasing the size of the ECB's balance sheet (Figure 11). It follows that the ECB has done more to relieve commercial banks than to directly support or revive financial market activities.

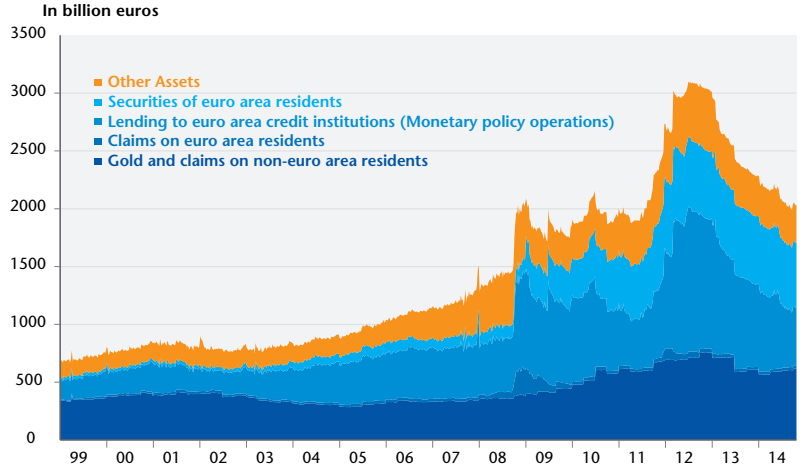
The differences in technique between the central bank interventions reflect particular legal and economic factors – legal, because EU treaties prohibit the ECB from buying sovereign bonds on the primary market, and economic, as central banks seek to affect financing conditions as efficiently as possible. In the euro zone, banks provide the bulk of financing for private sector activity, which is why the ECB intervenes mainly by lending to the banking sector. Conversely, finance for the US economy is more disintermediated, which explains the scale of the Fed's securities purchases.

A much-discussed unconventional monetary policy involves influencing expectations through the announcement of policy in advance (conventional or unconventional). This policy of "forward guidance" (formerly called "open-mouth operations") consists of announcing that the central bank benchmark rate will not be cut until the unemployment rate falls below 7% of the working population (as did the Bank of England from the summer of 2013) or of announcing an unlimited conditional buyback of sovereign debt (up to a maturity of 3 years) to contain the upward pressure on the yields on government bonds (this was the

7. The maximum amount allocated to SMP was 219 billion euros in January-February 2012.

case of the ECB's Outright Monetary Transactions programme, launched in the summer of 2012, and up to now never used).

Figure 11. Composition of the ECB's balance sheet assets



Source: ECB.

On the effectiveness of ECB unconventional monetary policy

The ECB objectives are easily circumscribed within the European framework. The Treaty on the European Union requires that the ECB prioritize the pursuit of price stability. In addition, without detriment to this objective, the ECB shall pursue policies that are consistent with the objectives of the European Union, which include in particular the search for high growth that does not generate inflationary pressures. The effectiveness of the ECB's monetary policy can thus be judged by these two objectives: price stability and, once that is achieved, economic growth. To achieve these objectives, the ECB must ensure that the channels for transmitting its policy towards the banks and financial markets function properly.

Hitherto, unconventional measures were introduced officially in order to restore the channels for transmitting the ECB's monetary policy to the real economy – the very channels that in some euro zone countries had been damaged by the financial crisis and the euro crisis.

Numerous articles have dealt with the ECB's monetary policy since the start of the crisis. Creel, Hubert and Viennot (2013) offer a summary (see the Table on p. 26 of their paper), which concludes that in general the interest rate channel worked, whereas the credit channel did not have the expected effects of transmission. The recent results of Altavilla, Giannone and Lenza (2014) nuance these findings to some extent, by showing that the announcement of the OMT programme led to lowering the two-year sovereign rates of Italy and Spain, without any effect on German and French sovereign yields. Using a multi-country VAR model linking the macroeconomic and financial variables, they

show that these OMT announcements may have had a significant impact on the level of economic activity, lending and prices in Spain and Italy: for instance, the simple announcement of the unconventional policy could have improved the transmission of conventional monetary policy to the macroeconomic and financial variables.

Following this work, Creel, Hubert and Viennot (2013) examined the effectiveness of the ECB's conventional and unconventional policies during the financial crisis in four countries (France, Germany, Italy and Spain). They estimated the impact of the conventional instrument and the purchases of securities under the ECB's unconventional policies (those classified as "Securities held for monetary policy purposes") on interest rates and on the volume of new loans made in different markets: loans to non-financial corporations, to households, the sovereign debt market, and the money market. They show (see table 3) that unconventional policies have led to lowering interest rates on the money market, on government securities and on loans to non-financial corporations. These policies, however, have had no effect on the volume of lending. At the same time, it turns out that the conventional instrument, whose lack of effectiveness was one of the justifications for the use of unconventional measures, had the expected effect on virtually all the markets surveyed – more so in the South of the euro zone than in the North on the market for six-month sovereign bonds.

It seems therefore that unconventional policies have had a direct impact on the sovereign bond market as well as indirect effects, by helping to restore the effectiveness of the conventional instrument on other markets. One of the reasons explaining the weak impact of both conventional and unconventional monetary instruments , on the volume of loans granted is the need for commercial banks to deleverage and reduce the size of their balance sheet by adjusting their portfolio of risk-weighted assets. This has pushed them to increase their reserves rather than to play their intermediation role and to demand a relatively higher return for exposure. **Bank practices, though legitimate, hurt the transmission of monetary policy: rates fall, but credit fails to take off.** It is thus important for monetary policy not to be based exclusively on the banking sector.

In view of these results, **it is interesting to note that the new wave of unconventional operations discussed by the ECB since June 2014 has focused more directly on the possible acquisition of sovereign bonds and the acquisition of corporate securities, which means bypassing the banking sector**. This workaround should hopefully strengthen the transmission of monetary policy to the real economy, a result that would obviously be welcome to avoid the risk of deflation in the euro zone.

As a matter of fact, on 5 June 2014, the ECB announced a series of measures, including rate cuts and measures to boost the supply of loans. It is difficult to estimate the direct impact on economic activity in the euro zone. It is also possible that the (indirect) signalling effect of these measures can generate an improvement in market conditions and confidence.

Table 3. Panel data estimation of ECB monetary policies on interest rates and volumes

	Money market		Sovereign bond mkts, maturity 6 mth		Sovereign bond mkts, maturity 5 yr		Sovereign bond mkts, maturity 10 yr		NFC loans, inf to 1 m€		NFC loans, sup to 1 m€	
	rate	volume	rate	volume	rate	volume	rate	volume	rate	volume	rate	volume
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Conventional MP	**0.33*** **	2,16	0,02	**-0.05***	0,21	0,06	-0,14	0,02	**0.23*** **	-0,03	**0.27*** **	**-0.37***
	[0.06]	[3.41]	[0.29]	[0.03]	[0.47]	[0.04]	[0.42]	[0.04]	[0.06]	[0.07]	[0.10]	[0.21]
Unconventional	**-0.01*** **	0,15	-0,02	0,00	**-0.03***	0,00	0,01	0,00	**-0.01** **	-0.01***	**-0.02*** **	-0.01*
MP	[0.00]	[0.13]	[0.01]	[0.00]	[0.02]	[0.00]	[0.02]	[0.00]	[0.00]	[0.00]	[0.00]	[0.01]
Lag rate	-0,04		-0.51***		-0.48***		-0.50***		0.13**		-0.30***	
	[0.06]		[0.04]		[0.04]		[0.03]		[0.06]		[0.06]	
Lag volume		0.88***		0.31***		-0.19***		0.24***		0.40***		0.42***
		[0.03]		[0.06]		[0.05]		[0.06]		[0.05]		[0.06]
Volume	0,00		-0,66		0,06		1.13*		0,04		0.06**	
	[0.00]		[0.66]		[0.70]		[0.63]		[0.04]		[0.03]	
Rate		-1,20		0,01		-0,01		0.01***		0,04		0.35***
		[3.42]		[0.01]		[0.00]		[0.00]		[0.07]		[0.12]
CPI	0,02	0,87	0,00	-0.01**	0,05	-0.03***	0,07	-0.02**	0,01	0.04***	0,02	0.09***
	[0.01]	[0.56]	[0.05]	[0.00]	[0.07]	[0.01]	[0.07]	[0.01]	[0.01]	[0.01]	[0.02]	[0.04]
IP	0,00	0,12	0,00	0,00	0,01	0,00	0,01	0,00	0,00	0,00	0.01***	-0.01**
	[0.00]	[0.08]	[0.01]	[0.00]	[0.01]	[0.00]	[0.01]	[0.00]	[0.00]	[0.00]	[0.00]	[0.01]
CISS	-0.50***	4,46	-0,64	0,00	1.19**	0,02	0,24	-0.11*	-0.20**	0.33***	-0.46***	0.99***
	[0.09]	[4.78]	[0.41]	[0.04]	[0.60]	[0.07]	[0.59]	[0.06]	[0.09]	[0.11]	[0.16]	[0.32]
Oil Price	0.00*	0,05	0,00	0,00	0.01**	0,00	0,01	0,00	-0.00*	0.00*	0,00	0,00
	[0.00]	[0.04]	[0.00]	[0.00]	[0.01]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
STOXX	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
Const.	0.06**	-1,94	0.41**	0.13***	-0,15	0.31***	-0,07	0.14***	-0,01	0.24***	-0,04	0.66***
	[0.03]	[1.48]	[0.17]	[0.02]	[0.28]	[0.02]	[0.22]	[0.02]	[0.05]	[0.04]	[0.07]	[0.13]
N	256	260	256	260	256	260	256	260	256	260	256	260

Standard errors in brackets. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The model is estimated with time and country fixed-effects robust to an AR(1) disturbance term.
Source: Creel, Hubert and Viennot (2013).

- The ECB lowered the rates on its main refinancing operations (MRO) and the deposit rate to 0.15% and -0.10% respectively. The marginal lending rate was reduced to 0.40%.
- A certain number of measures to strengthen liquidity have been announced: the sterilization of the Securities Market Programme (SMP), which currently takes up to 165 billion euros, will end; the fixed-rate financing operations with full allotment[8] ("fixed rate full allotment") will be extended for at least 18 months, until the end of 2016; and the ECB will carry out a series of targeted LTROs (TLTROs) on a horizon of over 2 years starting September 2014.
- The TLTROs will have a maturity of less than 4 years, and the initial allocation will be 7% of outstanding private sector loans, with access to additional funds based on improvement in actual lending. This could increase access to the liquidity of banks in the peripheral countries that are currently deleveraging.
- The cost of these loans will be set at the rate of the MRO at the time of purchase plus 0.10 points. By making available financing over 4 years at the MRO + 0.10 point rate, the ECB is strengthening its forward guidance policy by ensuring that rates will remain low for an extended period.
- In addition, Mr. Draghi has reported "an intensification of preparatory work related to ABS purchases" to encourage the development of the market.

On 4 September 2014, slowing growth and the increasing risk of de-anchoring inflationary expectations and drifting into deflation prompted the ECB to lower its benchmark interest rate by 10 basis points and to announce the purchase of private sector assets starting in October. The announcement reinforced the package of measures announced in June.

- The ECB cut its key interest rate by 0.10 point. The rate on the main refinancing operations (MRO) is now 0.05% and the rate on deposit facilities -0.20%. Mario Draghi noted that this reduction would make the upcoming TLTRO operations more attractive.
- The ECB also announced a programme to purchase ABS (ABSPP) to stimulate new credit flows to the real economy. The ABS programme will include "simple and transparent" ABS purchases backed by underlying assets consisting of claims on the non-financial private sector in the euro zone. The programme will include residential mortgage-backed securities (RMBS).
- In parallel, a covered bond purchase programme (CBPP3) was announced that will target purchases of covered bonds issued by euro zone monetary financial institutions.
- Mario Draghi also stated that a quantitative easing programme (referring to purchases of sovereign bonds) was discussed.

These measures can be broken down into three groups based on their respective objectives:

1. Implicit tightening[9] of the monetary policy stance, inducing as a reaction:

8. The ECB meets all the demands for liquidity made by the banking system.
9. Linked firstly to the reduction in the inflation rate, which is pushing up the real interest rate, and secondly to the reduction in the size of bank balance sheets.

   i. Rate reductions,
   ii. Injections of liquidity (end of SMP sterilization, LTRO, FRFA extension).
2. Deterioration of the mechanisms for the transmission of monetary policy ("*via* the channel of bank credit"), inducing as a reaction:
   i. Targeted LTROs,
   ii. Purchases of ABS and CBPP3.
3. Increasing gap between inflation and the ECB target and the medium-term economic outlook, inducing as a reaction:
   i. Broad-based asset purchases.

What impact these measures are likely to have?

Rate reductions

These measures operate through various channels, and their impact will depend, in part, on the demand for credit. **We believe that the direct impact of these rate cuts will be relatively weak**. The standard multipliers suggest an impact of less than 0.1% on the euro zone's GDP, although the signalling effect of a negative deposit rate could have a slightly higher impact.

Injections of liquidity

The impact of the end of the SMP sterilization operation (which increases the reserves of the central bank) will increase liquidity and thus could push the EONIA rate towards the bottom of the interest rate corridor. But the effect is likely to be limited, because the excess liquidity will decline if the banks continue to repay the 450 billion euros from the existing very long-term refinancing operations (VLTROs). As the banks already have access to virtually unlimited ECB financing and reimbursement, **it is not very likely that new liquidity injections will have a significant impact on the economy**, in the context of the current corridor.

Targeted LTROs

The TLTROs could potentially have a significant effect. The TLTROs are supposed to reduce banks' financing costs significantly. Indeed, on average, 4-year financing on the markets currently costs euro zone banks around 150 basis points. It can be expected that the TLTROs will reduce this cost. However, **even if the banks use the TLTRO programme, it may not have the desired effect on the mechanism for transmitting monetary policy, as the banks may use this financing to buy government bonds or other assets rather than stimulating the supply of loans to households and businesses**. The fact that banks in the euro zone are currently reimbursing the 2011 and 2012 VLTROs suggests that there are barriers to lending today (mainly low demand for loans), even when financing costs are low. The main difference between the VLTRO and TLTRO though involves conditioning the provision of liquidity in the latter on an amount of outstanding loans to the non-financial private sector (excluding mortgages), based on what the Bank of England did with its Funding for Lending Scheme (FLS) set up in summer 2012.

ABS purchases and CBPP3

These new measures supplement the TLTRO programme, as these purchases should allow substitution in the banks' balance sheets in favour of lending to the real economy. However, **it is impossible at this stage to quantify the impact of these announcements**. The purchases of covered bonds began in October 2014, while the ABS purchases will begin before the end of the year. The covered bond spreads have narrowed in response to these announcements. The purchases will continue for at least two years, but no details on their size have been given.

Estimates of the current size of the ABS market vary, but are around the 1,000 billion euro mark, about half of which is traded on the financial markets. A note by Bruegel[10] suggests that about 60% of the market is made up of RMBS. The quality of outstanding ABS securities varies, and not all will be eligible for ECB purchases. In addition, a large part of the existing shares are already used as collateral with the ECB.

More specifically, Mario Draghi announced on 4 September 2014 that the objective could be to raise the ECB's balance sheet to its level of early 2012. To do this would require increasing it from its current level by 1,000 billion euros. He did not provide an estimate of the size of the two purchasing programmes. A recent survey by Bloomberg estimated the TLTRO programme at 500 billion euros. But an important part of the TLTRO could simply replace the financing for the refinancing operations conducted in 2011-2012. This suggests that **an asset purchase programme of an additional 500 billion euros would be needed to reach the target announced for the size of the ECB balance sheet**.

"Broad-based asset purchases" (in the ECB's language: QE and the purchase of sovereign bonds)

It seems doubtful that the combination of TLTRO programmes and purchases of ABS and covered bonds would enable the ECB to achieve half or more of the 1,000 billion euros of net expansion in the size of its balance sheet. The first tranche of the TLTRO programme has been disappointing (the ECB allotted 82.6 billion euros on 18 September 2014, and the second tranche will be announced on 9 December 2014 and allocated on 11 December). The continuing deterioration of the macroeconomic environment will give investors reason to hold their assets until the ECB's policy goes even further. To achieve a trillion euro expansion of its balance sheet, the ECB needs to move to the next step of the plan set out by Mario Draghi in the Spring, *i.e.* "Broad-based asset purchases" (BBAP), and to reach the target size, they should include purchases of sovereign bonds in the euro zone.

In December 2014, the ECB has published its new economic forecasts, including the first for up to 2017. It seems that early 2015 will be the earliest occasion at which new monetary stimulus measures could be announced if the economic outlook for the euro zone still shows no sign of improvement, or if fears of a de-anchoring of inflation expectations gain more ground. In this case, there is a good chance that the ECB will use unconventional monetary policy, as it sees fit,

10. *Asset-backed securities: The key to unlocking Europe's credit markets?*, by Carlo Altomonte and Patrizia Bussoli, 24 July 2014.

that is to say, the purchase of sovereign bonds, to try to prevent a further deterioration in the economic outlook, which could lead to the break-up of the euro zone.

All in all, two main conclusions emerge from the study of ECB monetary policies: **First, the monetary programmes implemented by the ECB have remained limited in scale, in contrast with other central banks like the Fed and the Bank of England; second, monetary policy measures have not produced an increase in bank loans, despite an improvement in the interest rate channel; consequently, monetary policy measures have neither been sufficient to produce a recovery in the euro zone nor to achieve the inflation target at 2%. Fragmentation remains.**

3. Banking Europe: In unity strength?

The banking union, which has been phased in from November 2014, is part of a slow process of European financial integration. The premises of a banking and financial Europe already figure in the Treaty of Rome (1957). In addition to the free movement of goods, the Treaty provided for the freedoms of establishment, of the provision of services and of the movement of people and capital (Article 67). These fundamental freedoms provided fertile ground for the emergence of a European banking and financial market. It was nevertheless not until the Single European Act in 1986, followed by the 1988 Directive, that Article 67 came into force, on 1 July 1990. Meanwhile, in 1974, the Basel Committee defined the basis for international prudential banking regulations, which were gradually adopted at the European level with the Basel I standards in 1988 (some countries), Basel II in 2004 (standard adopted in the form of an EU directive) and then Basel III in 2010 (adoption of a European directive and a European regulation with implementation starting on 1 January 2014).

A fruit of the crisis, the banking union is organized around three pillars. It harmonizes supervision (and thereby abolishes unnecessary opportunities for regulatory arbitrage), creates bank resolution mechanisms in the euro zone and adopts the logic of a "bail-in" of the banks. In this sense, it offers new solutions. However, it leaves grey areas, and **the European solidarity created by the banking union could be insufficient to deal with major shocks. A specific banking fund may thus be needed**.

The banking union: A solution with three pillars

At the EU summit in June 2012, the heads of State announced plans to create a European banking union. The idea of the banking union was born from a threefold need: to break the link between the sovereign debt crisis and the banking crisis by creating a Single Resolution Fund and at an ultimate stage by allowing the direct recapitalization of troubled banks by the European Stability Mechanism;[11] to prevent runs on banks; and to avoid the fragmentation of the euro zone's banking markets.

11. In this ultimate case, the approval of national parliaments may be necessary. For instance, according to the decision of the German parliament on 6 November 2014, the approval to ESM funds for direct recapitalization are currently limited up to an amount of 60 bn. euros, while the Single Resolution Fund shall have a total volume of 55 bn. euros in 2023.

Pillar 1

The first pillar is the Single Supervisory Mechanism (SSM): its implementation is based on three texts.[12] The Regulation of 3 November 2013 entrusts prudential supervision of the banking system to the European Central Bank as of 4 November 2014. Article 6 of the Regulation states that the nature of this supervision depends on the size of the bank, its importance to the economy of the participating State, and the scale of its cross-border activities. The following are therefore distinguished:

- "Important" banks, directly supervised by the ECB

Institutions considered "important" are those that comply with at least one of these four conditions: 1) hold total assets exceeding 30 billion euros; 2) hold total assets of over 20% of the Member State's GDP; 3) are considered significant by the competent national authority; or 4) are considered significant by cross-border activity.[13]

Regardless of these criteria, the SSM will cover at least three banks per country and those that have claimed or received direct financial assistance through the EFSF or the ESM. 130 banking groups throughout the euro zone will be affected, *i.e.* almost 85% of all banking assets in the euro zone, but in different proportions in different countries.

- The "less important" banks are those whose supervision continues to be ensured by the national authorities, but under the control and within the framework defined by the ECB.

Banks that do not meet the above criteria will still come under the supervision of their respective national supervisors; they may be subjected to the direct responsibility of the ECB if their situation deteriorates and if warranted by the risks that they could pose to financial stability.

In order to have a good estimate of the state of health of Europe's banking system, in late 2013 the ECB joined with the European Banking Authority (EBA) to initiate stress tests and an asset quality review (AQR). The results were published on 26 October 2014. The stress tests are designed to assess the resilience of banks in the event of a major crisis (recession with a 1.7% fall in Europe's GDP, rising interest rates, falling property prices, etc.). The AQR aims to verify the quality of internal valuations of risky assets. These internal valuations play a key role since they are used to calculate risk-weighted assets (RWA). The equity ratio (as defined in Common Equity Tier 1, called CET1[14]) divided by the RWA then defines the Basel risk-based capital ratio, one of the solvency ratios used in the new Basel 3 prudential regulations. As of 2015, this must be greater than 4.5%. Basel 3 also provides for adding a capital conservation buffer.[15] By 2019 this capital must represent at least 2.5% of the RWA, and the sum of Common Tier 1 and conserva-

12. The Agreement of 6 November 2013; Regulation No 1022/2013 establishing a European supervisory authority (European Banking Authority); and Regulation No 1024/2013 of 15 October 2013 giving the ECB specific tasks on policies relating to the prudential supervision of credit institutions.

13. At least, this includes banks whose cross-border assets or liabilities make up a significant part (>10%) of its total assets or liabilities.

14. Equity capital according to CET1 criteria consist of common shares, retained earnings, and a portion of the minority interests of bank subsidiaries.

tion buffer capital must be above 7% by 2019.[16] For its evaluation exercise, the ECB has retained a minimum threshold of 5.5% in the stress scenario and 8% in the baseline scenario. On this basis, only 25 of the 130 banks evaluated had a lack of equity capital. A total recapitalization on the order of 25 billion euros is thus necessary. This mainly concerned banks from the peripheral countries: Cyprus (Bank of Cyprus), Greece (Hellenic Bank, National Bank of Greece, Eurobank), Italy (Banco Popolare, Banca Popolare di Milano, Banca Popolare di Vicenza, Monte dei Paschi di Siena, Banca Carrige, etc.) and Portugal (Banco Comercial Portugues). Twelve banks have in fact already carried out capital increases since 1 January 2014, so only thirteen banks need to increase their capital. **These seemingly good results for the health check on Europe's banks mean that the ECB can begin its new single supervisor mission in serenity. There have nevertheless been a number of criticisms of its method of assessing bank fragility, through stress tests, so Europe's optimism should be taken with caution**.

Indeed, there are pros and cons to bank stress tests. Among the pros, Petrella and Resti (2013) show that empirically the stress tests, corrected for the economic environment in which they were made public, had the expected market effects. They support the argument that the publication of these results constitutes information that is likely to influence the price of bank stocks. Schuermann (2014) also justifies the bank stress tests based on their ability to generate a return of confidence in the banks. Among the cons, Borio *et al.* (2014) point out the several shortcomings of these tests. First, they are based on a partial equilibrium approach that does not take into account the feedback effects of bank fragility on macroeconomic risks (also see Galati and Moessner, 2013). The risks estimated are only due to the first round effects of strictly exogenous shocks. Second, the underlying econometric model is linear, which is contradictory to the goal of the stress tests, which is precisely to detect a breakdown in banks' balance sheets following a macroeconomic shock. Third, the stress test models are "the antithesis of what financial instability corresponds to" (Borio *et al.*, 2014). Financial instability is not set off after a major macroeconomic shock (a 1.7% fall in euro zone GDP!), but after a "normal" shock, that is to say, a small-scale shock. If GDP tumbles 1.7%, and the financial system is swept away in the storm, it cannot be concluded that the financial system was already fragile. Conversely, if there is only a small shake then it is easier to blame the fragility of the financial system if it fails to withstand this. Fourth, financial and banking crises are not normally triggered after GDP falls, but before it has substantially declined.

Pillar 2

The second pillar provides a Single Resolution Mechanism (SRM), which is to handle the resolution of bank failures. It is based on two Community texts[17] and an Inter-Governmental Agreement of the Council of the European Union (21 May 2014) covering certain specific aspects of the establishment of a Resolution Fund.

15. This capital could consist of a compulsory retention from earnings when the solvency ratio is insufficient.

16. The total Basel risk-based capital ratio can significantly exceed that number, if, depending on the institute and economic activity, systemic or countercyclical buffers are activated by the regulatory authorities. However, postponing the introduction of an obligatory absolute leverage-ratio in addition to the risk-weighted approach until 2016 has been criticized.

A Single Resolution Board will be created and will decide, centrally, to recapitalize an institution or to liquidate it. The regulation establishing the SRM (No. 806/2014) governs the creation of the Single Resolution Fund and its compartments, as well as the conditions for deciding on its use, while the Inter-Governmental Agreement deals with the transfer of national funds into the Single Resolution Fund and on proceeding with the mutualization of its compartments. The SRM will apply only to banks participating in the SSM.

First, the principle of "bail-in" is enacted as follows: starting in January 2015, the EU Recovery and resolution of banks Directive is to come into effect, which provides, when a bank is in difficulty, a "bail-in" of the bank, rather than an external "bail-out" by the government. The first to pay would be the shareholders and creditors in order of seniority – bondholders, then depositors whose deposits exceed 100.000 euros. The bail-in will apply to at least 8% of the bank's liabilities before the Single Resolution Fund can be used. As a rule, the Fund may not recapitalize more than 5% of the bank's liabilities.

Second, unlike the rest of the resolution mechanism, which is Community level, the establishment of the resolution fund will be based on the Inter-Governmental Agreement. After a period of eight years (2016-2023), the Fund, which will be funded by the banks, will have 55 billion euros and be mutualized.[18] The pooling of these funds will take place gradually, with 40% of funds to be shared during the first year, 60% the second year, and the rest being included progressively over the following six years.

Pillar 3

The third pillar is to harmonize the already existing national deposit guarantee schemes. Directive 2014/59/EU[19] on the strengthening of deposit guarantee mechanisms reaffirms the protection of guarantees on deposits of up to 100,000 euros. It provides, after a transition period of 10 years, quicker reimbursement (7 days) in the event of a bank failure and more solid financing for national guarantee mechanisms (0.8% of deposits covered against about 0.1% in France in 2014) via a tax levy on banks.

Numerous grey areas

While many experts agree that the banking union is a big step in "deepening" European integration, a number of grey areas undoubtedly remain. First, **the process of unifying the banking systems will be slow**. The mutualization established in the second and third pillars will take place later. If a State's banks need to be bailed out during the transition period, then it is the State in question that would continue to borrow in its own name from the ESM. Furthermore, the

17. Directive 2014/59/EU of 15 May 2014 establishing a framework for the resolution and recovery of credit institutions and investment firms, and Regulation 806/2014 of 15 July 2014 on the Single Resolution Mechanism, which essentially governs how the mechanism functions.
18. The agreement provides that, upon a plenary decision of the Resolution Board, the Fund may borrow on the financial markets to strengthen its capacity for intervention. The target amount is also raised to at least 1% of all covered bank deposits at the end of the transition period (2016-2013).
19. Directive 2014/49/EU on deposit guarantee schemes was published in the *OJEU* on 12 June 2014; it must be transposed by the Member States before 31 May 2016.

methods for the transfer and mutualization of contributions to the Single Resolution Fund (second pillar) are based on an intergovernmental treaty, potentially giving countries a veto.

The fragmentation of banking between countries is likely to increase, for three reasons. First, because, as Basel 3 comes on line, banks, especially in troubled countries, will be subject to more stringent requirements and so will have to rein in their credit distribution and strengthen their liquidity with the ECB (Couppey-Soubeyran *et al.*, 2012). Second, while other countries, including France, wanted all 6.000 banks in the euro zone to be subject to the ECB's new supervisory regulations, Germany managed for its regional banks (*Sparkassen*) to avoid the ECB's single supervision by making a distinction between major banks and smaller banks. The argument put forward is that in the case of small regional banks a central supervisor does not have any informational advantage over a local supervisor (Quignon, 2013). Between 25% and 35% of the German banking system is thus still directly supervised by the national authorities (against only 5% for France, where the banking system is highly concentrated). Yet the small regional banks may also pose a systemic risk (Speyer, 2012; Quignon, 2013), as is evidenced by the difficulties Spain's savings banks have encountered and the resulting impact on the country's banking system. There is a risk of fragmentation between a well-capitalized conglomerate of big banks and a weakened periphery of small undercapitalized banks. Third, the fragmentation will increase most, if ever one of the Global Systemically Important Banks (GSIBs) has to go through resolution at public expense of the member state, in which it is seated. These interconnected institutes incorporate the largest part of the systemic risk. So far, the too-important-to-fail (TITF) problem has not been addressed sufficiently within the Banking Union. In particular, European megabanks still take benefits from the implicit subsidy based on the fact that in case of difficulties a government bail-out will be necessary to guarantee the stability of the financial system (IMF 2014). If one of these banks has to be resoluted, the Single Resolution Fund will not yet be large enough to provide 5% of the bank's total liabilities (Lindner *et al.*, 2013). Indeed, this makes the TITF problem one of the central challenges beyond the current state of the European Banking Union.

The shift from a bail-out to a bail-in logic is similar to a return to market discipline where investors, being aware of a reduction in the State's implicit support, will demand higher returns based on the risk profile of the issuing bank. This **revaluation of bank risk may weigh on the banks' refinancing costs and the allocation of credit to business**.

The new financial products being purchased and issued by financial institutions are spurring the emergence of a system of credit that parallels the traditional banking system and avoids prudential regulation. This parallel system of "shadow banking" facilitates access to liquidity, which could be beneficial to the financing of the real economy, but it is also conducive to the development of leverage effects that can in turn encourage speculative abuse. This parallel system is ignored by the proposed banking union. In an ACPR note, D. Nouy (2013) mentions several possibilities, including expanding the supervisor's role, or separation. However, the article warns against the risk of regulations that would lead to reducing access to liquidity.

More specifically, on the issue of separation, **the banking union will require a broader harmonization of national regulations**. Indeed, following the recom-

mendations by Volker (2010), Vickers (2011) and Liikanen (2012), several countries have adopted national measures on the separation of banking activities aimed at securing deposits: the United Kingdom, France, Germany and Belgium. These uncoordinated national choices are questionable and constitute a new source of divergence. The adoption of common regulations for banks' financial activities could be a fourth major pillar of the banking union (Antonin *et al.*, 2014). The separation advocated by the Barnier proposal lends credibility to the banking union and its three pillars (SSM, SRM and deposit insurance). The establishment of a consistent framework simplifies the control of the European supervisor within the SSM process (the ECB will check banks' normal activities and ensure that they are not disturbed by speculative activity) and reduces distortions in competition. The separation advocated by the Barnier project also lends credibility to the SRM, as it becomes more difficult for banks to attain systemic size (too-big-to-fail), and losses by market banks will not be reflected (at least not directly) in the lending activities of deposit banks. By reducing the risk that commercial banks will fail, it reduces the risk that a costly bailout for savers (bail-in) will be needed, such as activating the deposit guarantee.

There has been criticism of the attribution to the ECB of the single supervisor mission. One argument holds that the process of supervision at the European level should be as broad as possible, and ideally include all the economies of the European Union (Pisani-Ferry *et al.*, 2012; Barbu and Boitan, 2013). However, as things exist today, single supervision via the ECB is required only for the euro zone. It would have been more appropriate to expand the powers of the EBA. However, the EBA's credibility might have been tainted insofar as the stress tests it published in July 2011 were imperfect predictors of banks' real ability to withstand the sovereign debt crisis in late 2011.

Speyer (2012) sets out six other factors that argue against attributing the whole supervision mission to the ECB:

— A conflict in objectives: the ECB would combine the powers of monetary policy and financial supervision. There may be conflicting objectives in these mandates, such as a trade-off between price stability and the strength of the banking system.

— The risk of credibility: if the ECB fails in its role as the single supervisor, this could harm its reputation.

— The ECB is independent, and its mandate should be clear so that Parliament can easily hold it accountable for its actions. This new role of supervisor could cloud the clarity of its mission.

— A broader and more political mandate increases the risk of political interference, weakening its independence.

— The authority delegated to the EBA was more readily accepted because it was subject to parliamentary control. The independence of the central bank could be an obstacle to the exercise of the new powers.

— From a legal point of view, the decisions taken by a supervisor should be disputable before another legal entity. The notion of the ECB's independence does not fit well with the possibility of appealing to another authority.

However, these issues have to be weighed against the fact that **at the current stage of European integration, the ECB seems the only institution that can effectively enforce an improvement in financial market stability.**

Towards a better mutualization of risk

The banking union represents an undeniable advance, as it should make it possible to break the vicious circle between the banking crisis and the sovereign debt crisis. Banks should be notably less exposed to public finances weaknesses as was the case during the recent crisis. Cost of funding for banks would then be reduced and become more homogeneous. Consequently, the transmission of monetary policy could also become more homogeneous: if banks are better integrated, their characteristics should converge, which will allow them to apply more uniform rates on new loans and therefore better pass through the key rate policy to market rates.

The success of the banking union depends on developing the activity of each bank beyond its national market. The successful completion of the banking union should be characterized by banks with a territorial coverage that is broad enough to absorb asymmetric economic shocks. In this sense, the geographical diversification of banks' balance sheets could contribute to mutualizing asymmetric cyclical shocks. **By simplifying the bank-regulator relationship, the single supervisor should help banks to expand beyond their domestic markets, which would also contribute to better integration**. Besides, by reducing the potential political capture of the decision to save some banks, it would avoid to let non-performing banks (or even Zombies banks) pursue activity, hence deteriorating the quality of intermediate finance. The ensuing strength of the European banking system would improve its stability. The harmonization in the procedure would also reduce national heterogeneities across countries. It would then reduce costs of funding and fragmentation across countries. It must yet be stressed that the resolution procedure may still be complex, long and open to political dispute.

The crisis resolution fund and the deposit guarantee fund provide two additional ways to protect the banking system. To some extent, these two funds constitute a mechanism for mutualizing asymmetric shocks in the euro zone, which could contribute to further optimizing the currency area, in the sense of Mundell (Quignon, 2013). In 2009, at the height of the banking crisis, governments had to commit significant public funds, up to a level of 9.1% of GDP. But what would happen if ever these two funds proved insufficient in the future? Would each State once again take responsibility for supporting its banking sector? If some States proved unable to do this, then in order to prevent the breakup of the euro zone, such a failure could require either greater fiscal union via the ESM or that the ECB goes beyond its implicit role as lender of last resort, which is theoretically limited to liquidity crises, and becomes the true saviour of the euro by monetizing the losses. Large safety nets and appropriate backstop (through the resolution fund) may help to prevent liquidity squeezes, increase stability and reduce fragmentation across countries. Given the limited scope of the single resolution fund and very progressive funding though, uncertainties will remain strong on the ability of the banking union to be able to resolve timely a systemic institution.

Beyond the current stage of the European Banking Union

The success of the European Banking Union depends on two issues not adequately addressed at the current stage. First, the implementation of an effective backstop in addition to the existing resolution and deposit guarantee funds, which could easily become overloaded in the case of the next systemic turbulences. Under the status quo, national backstops which have not been set up effectively in all member states are still favoured and which carry the risk of once again setting off the vicious circle between banks and states. Second, the problem of too-important-to-fail (TITF) banks, which should be discussed in the light of a comparison between Europe and the United States, as in both markets bank concentration has increased due to the financial crisis. The amount of total assets held by European megabanks even exceeds the one held by US megabanks, while at the same time the absolute leverage ratio (see Footnote 15) of European GSIBs is on average almost one percentage point lower than the one of American GSIBs (Hoenig, 2014). In order not to place the budgets of the member states under undue pressure and in order to address the TITF problem, Lindner *et al.* (2014) propose a special sectorial fund instead of national backstop solutions. In the long term, the biggest market participants' contributions to this fund are expected to be substantial such that it gives an incentive to reduce the size.[20]

The fund would have to be financed by pan-European levy instead of national ones. As the euro zone is an integrated financial market, solvent financial market participants from other member states than the domestic, including non-banks such as hedge funds and other shadow banks, should ultimately contribute to pan-European financial market stability. While in principle constructed for cases in which the Single Resolution Fund is undercapitalized, if necessary, the special sectorial fund could also be used for the coordinated process in dealing with banks for which the asset quality review and the stress test on 26 October 2014 have evaluated a lack of equity capital. As the results mainly concerned banks from the peripheral countries, this could prevent a further fragmentation of the banking system without creating budgetary consequences in the corresponding member states. In order to be immediately operational a comprehensive direct recapitalization by the ESM is needed, while the ESM receives claims against the pan-European banking sector which must be repaid in a more long-term manner.

4. The ECB and the future

The activism of the ECB has raised at least four concerns about the risks it may pose to the Euro zone in the long run. The first risk is inflation. The monetarist view acknowledges that the growth of monetary aggregates will fuel inflation. At the moment, such a risk is negligible: as discussed in chapter 1, the euro zone is facing the risk of deflation, not inflation. The second risk induced by the ECB is political: does quantitative easing bypass the mandate of the ECB, notably when the latter is involved in buying public bonds? The answer to this question will be given by the European Court of Justice in January 2015. Mean-

20. Both scenarios, asset sales or breaking apart into legally independent entities, are conceivable. The contribution period has to be stretched in order not to place a strain on lending or on financial market stability as a result of direct and high contribution payments.

while, one can say that the primary mandate of the ECB is to achieve price stability. Drawing on this mandate, one might argue that quantitative easing is aimed at increasing inflation expectations and inflation rates up to the level where the inflation target will be reached. In this sense, QE would help the ECB to achieve its objective. The third risk is one of excessive volatility in the euro/USD exchange rate (ER) in an era of secular stagnation. The reasoning borrows from the "overshooting" argument: the US tapering produces a differential in monetary stances between the US and the euro zone. A long lasting expansionary monetary policy in the euro zone, coupled with a restrictive policy in the US, may generate a positive interest rate spread between the US and the euro zone, hence an expected appreciation of the euro vis-à-vis the USD. Such an expectation would require a sharp and sudden euro depreciation, hence volatility in the ER, without a surge in long run growth. This argument can be used, nevertheless, to argue that a sharp depreciation of the euro will foster economic growth in the short run: the risk thus becomes an opportunity. Finally, there are concerns whether the massive purchases of assets including sovereign bonds, by driving down the returns on these comparatively safe assets, will inflate the prices of other, riskier assets. This might even create bubbles whose subsequent bursting might be difficult to control. Raising the prices of existing assets also has distributional implications that many will be uncomfortable with in the wake of the crisis and given an already pronounced trend to greater inequality in many countries. Of course measures could be taken to counter possible side effects such as these. They do not invalidate quantitative easing. But they imply that careful policy choices need to be made.

So far, the relative ineffectiveness of the ECB to foster growth and inflation must be acknowledged: **the ECB will not be able to reflate the euro zone on its own**. In the light of the previous analysis **it should be considered to initiate a time-limited policy of quantitative easing in Europe *via*, e.g. a pre-announced and substantial volume of purchases by the European Central Bank of newly created European Investment Bank bonds on the secondary market.** The funds are made available to euro zone member state governments for public investment projects that meet certain minimal European guidelines and without a co-financing requirement. A number of variations of the scheme can be envisaged, each with specific economic or political advantages and drawbacks. These are discussed below; first we set out the basic mechanisms:

- The scheme is established based on a decision by the European Council and initially given a timescale of, say, five years that clearly establishes this form of central bank support for public investment as reflecting a temporary phenomenon necessitated by the risk of deflation and or stagnation and the break-up of the currency union. Within this framework, the EIB emits bonds on a degressive scale. Starting from an initial level – as a point of departure we propose €250 bn in the first year, but the scheme is flexibly scalable – the volume of bonds issued is progressively reduced (e.g. by €50 bn a year).
- The ECB commits to purchasing these bonds on the secondary market and holding them on its books for a holding period (for instance ten years). The EIB triple A rating coupled with the preannounced central bank purchases will ensure extremely low interest rates. In order to ensure conformity with the ECB's Treaty obligation to ensure price stability – currently being

infringed on the downside – a trigger mechanism can be incorporated: if economic recovery is sufficiently strong that inflation rises above a certain threshold, the ECB can progressively withdraw from the purchases (taper).

- The EIB makes the funds generated by its bond placements available to Member States for public investment purposes. The precise way resources are allocated between Member States can be varied to meet different policy aims and considerations of political feasibility (see below). The EIB is not responsible for detailed vetting of proposals, as is the case with its normal lending, (It normally performs extensive due diligence to secure its triple A rating, but this is not required here since the bonds are held by the ECB). Equally the usual requirement for 50% Member State co-financing is waived.
- Member States submit projects for funding that meet a small number of European guidelines (e.g. conformity to the goals of the Europe 2020 strategy, climate-change commitments etc.). A starting point could be the list in any case being drawn up for the Juncker Investment Plan. Some funding could also be reserved for pan-European projects, although the likely more extensive coordination demands involved risk implementation delays.
- Member States conduct the projects with money being disbursed following agreed milestones. Ultimately member State governments are responsible to their electorates regarding the use of the money made available to them.
- After the agreed ECB holding period has expired the debt held by the ECB is to be serviced. Here, too, different options are conceivable. It can, but it needs not, be a feature of the scheme to extend the holding period indefinitely; see the discussion below.

Before looking at various specifications and options, it is worth noting some important advantages of this approach in the current economic and political context:

- A predetermined volume of additional real spending on goods and services is reliably and predictably injected into the sluggish European economy, raising real incomes and setting off multiplier and also anti-disinflationary effects (*cf.* IMF 2014: 75ff.). This is in marked contrast to QE on purchasing existing private or public sector assets: these do not of themselves create additional real spending, but rather rely on indirect and uncertain channels to increase spending, involve the vagaries of the financial sector and the risks of inflating asset bubbles etc.
- Government budgets are not burdened with additional debt for many years by which time real and nominal incomes and thus debt servicing capacity will be substantially higher. On the contrary, deficit and debt ratios will decline due to the faster nominal GDP growth. This is in contrast to strategies involving giving greater fiscal leeway to struggling economies: this adds to their deficit and debt (although, depending on the multiplier, not necessarily to the respective GDP ratios) and increases consolidation needs.
- Investment in areas crucial for Europe's future can be achieved, raising productive capacity and productivity and crowding in private investment.

There will be no crowding out because there will be no increase in interest rates. There may be some upward pressure on inflation for a limited period particularly if investment is also financed in low-unemployment countries like Germany. However, higher inflation, especially in Germany, is a boon not a bug of the scheme.

- As an additional advantage shared with other QE schemes, the monetary expansion will tend to cause depreciation of the euro, raising external competitiveness.
- The scheme can be tailored in the light of political requirements. Depending on program design, and if political obstacles can be overcome, public investment spending can be concentrated in countries or regions with the highest unemployment and largest negative output gaps. But if there is no political support for such European-redistribution, the scheme can go ahead on a "juste retour" basis, albeit with substantially reduced effectiveness.
- The scheme relies on already existent institutions and can be implemented quickly.
- The program is in principle infinitely scalable, as the ECB can "finance" bond purchases with central bank money it creates at will, and it can be progressively wound down as necessary and contingent on incoming information about the state of the European economy. It is not mutually exclusive to other measures on the monetary or fiscal side (and could be rescaled accordingly).
- The scheme solves the problem of which assets the ECB should buy, offering a market of unlimited size in principle and a security on which the ECB faces no risk of capital losses (even if this is not economically, only politically, important – see below).
- The political effects for the process of European integration cannot be quantified, but are likely to be substantial. The projects and their joint funding would create a visible expression of a common European resolve to exit the crisis and embark on a path of shared prosperity and ecological modernisation. The Europe2020 Strategy would be given a substantial boost, rather than, as now, a constant remainder of failure. The current risks of political crisis (and secession) in some member states buckling under the huge economic and social pressures would be reduced.

A number of alternatives and variations exist within this overall approach, each with specific advantages and drawbacks. They relate, alongside the size and duration of the scheme, to the role of the ECB in purchasing EIB bonds, the allocation of funds between member states, and to the debt servicing and repayment options.

- Size and duration: As a point of departure a five year programme is proposed with a degressive bond issue of €250 bn in the first year (2015), falling by €50 bn each year. This represents roughly 2.5% of Euro Area GDP in the first year falling by 0.5 p.p. each year. The aim is to boost spending as fast as possible, but also to allow for the time needed to deploy resources efficiently. It would take the programme to the end of the Europe 2020 strategy period. The total volume (€750 bn) represents some three-quarters of the balance-sheet expansion apparently envisaged by the ECB. In the

iAGS 2014 report capital investment needs of around €200 bn per year were identified. In the Commission's AGS 2015 an investment gap of between €230 and €370 bn is estimated. This is a serious understatement, however, presumably designed to show the appropriateness of the Juncker Investment Package: it is based on bringing the investment share back to between 21 and 22% of GDP but "accepts" the heavily depressed level of GDP as the benchmark for that calculation, and in any case ignores the need for additional investment to meet agreed policy objectives. In the light of these comparators the proposals seems appropriately dimensioned, but it can be rescaled (and clearly would need to be smaller if it were targeted on the countries which suffered the most from the crisis, rather than being spread across the whole currency area).

- Inflation target: In order to safeguard the independence of the ECB to pursue its mandate there should be a provision for the ECB to gradually wind down (taper) its purchases if economic conditions, and specifically the inflation rate, warrant this. Here it is proposed that central bank purchases would be wound down to zero over a six month period if the core inflation rate in the euro area exceeds 2.5% for three consecutive months. The 2.5% rate implies some limited overshooting, but this is more than justified given the prolonged and substantial undershooting of the inflation target. In order to avoid shocks to the financing process the EIB would continue to issue bonds. This would be non-inflationary as private-sector liquidity would be absorbed.
- Both fund disbursement and repayment can be designed in a number of ways, whereby an underlying trade-off between political feasibility and economic effectiveness needs to be borne in mind, reflecting the above-mentioned heterogeneity within the Euro Area. At one extreme would be a scheme in accordance with the principle "to each according to need, from each according to means". Funds would be made available primarily to the countries in crisis on the basis of a combination of indicators such as the unemployment rate, the output gap or per capita income. Debt servicing and redemption (after the ECB holding period) would be "socialised", e.g. based on GDP weighting. The other extreme would be a voluntary scheme based on a "juste retour" principle. Countries may claim the ECB-backed EIB finance as they perceive their needs, and each country subsequently services its nationally-specific debt to the ECB. The first extreme is clearly politically infeasible, as the Eurobond/redemption fund debates have shown. The latter would be ineffective as uptake is likely to be very limited. Some middle way needs to be found that maximises the economic impact while meeting political exigencies. One solution would be to distribute investment funding on the basis of population. This would likely be perceived as fair, although Germany would receive the largest absolute disbursement. Even so, countries with higher financing costs and lower incomes and prices – i.e. the "crisis countries" – would actually benefit most in per capita terms. Repayment obligations could be entirely proportionate to funds received, or various European solidarity components could, given the political will to do so, be incorporated.
- A more radical proposal – although in fact it is much less so than it might appear – would be to extend the central bank holding period to "for ever",

in essence removing the need for countries to repay the debt to the central bank. In other words the public investment is financed by pure money creation (helicopter money). This may well be politically difficult to "sell": it is counterintuitive, but economically there is no reason not to adopt this approach. The debt servicing payments constitute income for the ECB; at the end of the year it transfers its profits back to its owners – ultimately the taxpayers. As both the government and the central bank are public bodies the monies paid essentially wander from the left to the right pocket of the public-finance trousers. The debt might just as well be extinguished. There is no real "loss" to the central bank in doing so. The only loss is higher inflation; normally this is a serious concern, but not in the current context (see Whelan 2014).

5. Conclusion

The euro area remains in a perilous situation, economically and politically. The threat of break-up has not been averted. In a number of countries opposition parties that are openly calling for exit and/or default are gaining in strength.

It is conceivable that a mix of less restrictive national fiscal policy, the European Investment Plan and aggressive quantitative easing by the ECB might jolt the euro area economy out of stagnation. This is highly uncertain however. First, **this chapter has showed that monetary policies by the ECB have not had a strong impact on growth, inflation and credit**. Second, **the Juncker Plan (Investment Plan for Europe) which is supposed to mobilise at least** €315 bn in additional investment has important limitations. The Plan runs for three years, so if fully realised the investment boost would amount to just over 1% of GDP each year. This would be welcome. However, the proposal is explicit that very little additional public finance is being made available. Rather the existing Structural and Investment Funds will be "fully exploited". Member States will be invited to commit funds, the incentive being that any such expenses will not count against the fiscal deficit. The key issue is that the bulk of the funding is supposed to come from private investors; the fund is highly leveraged. Given their apparent reluctance to invest in the current economic environment, it has not been made clear what the proposed scheme really changes in investors' calculations to justify expectations of a substantial increase. Even if private investment under the programme does take off, to what extent will it merely replace investment that was planned anyway (deadweight effect)? A previous and somewhat similar scheme largely failed to generate a significant investment boost. All in all, the scheme itself is unlikely to do harm – except for the risk that it might convince policymakers that anywhere near enough has been done. It would be foolhardy to expect the Plan to deliver a major boost to investment and output, however.

In order to underpin recovery, public investment and progress towards the Europe2020 goals, some form of public-investment-based QE financed by ECB purchases, for a limited period, can be considered, of which one type has been discussed in this chapter. As the literature cited above shows the view that such policies are necessary is increasingly gaining ground in the policy debate. The authorities should not leave it until it is too late. Another form of public policy may also be considered, like a package that combines a pan-European carbon tax with fiscal stimulus (see chapter 4).

The chapter has also discussed about the grey areas of the banking union and proposed a sectorial fund to escape a possible new wave of bail-outs in the future.