

18-8 Real and Imagined Constraints on Euro Area Monetary Policy

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Abstract

Although the European Central Bank (ECB) has been pursuing an aggressively expansionary policy since 2012, previously the ECB was behind the curve in lowering interest rates and making asset purchases to combat the prolonged euro area recession. This paper argues that part of the delay can be attributed to the multi-country nature of the euro area. Over-interpreting the limitations of the ECB's statutory mandate, some ECB decision makers were wary of being accused of circumventing the prohibition on monetary financing by intervening in the market of the debt of weaker governments. Some were also mesmerized by the relatively strong performance of the German economy in the crisis and attributed the slower post-crisis recovery of most other member states to national policy failures that should not be offset by euro area monetary policy. All of this was exacerbated by the ECB's adoption of and (at least until 2011) adherence to a seductive but analytically flawed "separation principle," which misled some of its decision makers into overestimating the adequacy of the monetary expansion that was being applied. The ECB's toolbox is indeed somewhat limited by its statute, reflecting multi-country considerations, but abandonment of the separation principle should help ensure a more effective, holistic approach to monetary policy design in the future.

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1. INTRODUCTION AND SUMMARY

Why was the European Central Bank (ECB) slower than other central banks in the financial crisis to lower interest rates and to start buying government debt?

To some extent, the explanation lies in the institution's collective delay in recognizing the gravity and likely duration of the macroeconomic collapse and the extent of the need for expansionary policy. Influential also, and linked with this, was a persistent institutional conservatism dating back to the early years of the euro, reflecting a determination at that time to establish a reputation for being as vigilant against inflation as the Bundesbank had been in previous decades.

But there is more. Two influences specifically relate to the multi-country character of the euro area.

The relatively rapid post-crisis recovery of the German economy encouraged some (still determined to burnish the ECB's credentials as a worthy successor to the Bundesbank) to frame the policy problem as one in which the weaker performance of other economies was interpreted as attributable to national policy errors, not calling for a monetary policy response.

Many commentators have also pointed out an exaggerated ECB caution in employing tools that could, in any way, be interpreted as providing the kind of sustenance to borrowing by national public authorities that is precluded by the Treaty of Maastricht that established the ECB.

Accepting all of these as contributing factors, this paper emphasizes a further cause of delay, namely the reliance that many at the ECB placed on a seductive but analytically flawed separation principle. This separation principle proposed exclusive use of interest rate policy to ensure price stability, confining the use of nonstandard policy tools to restoring the smooth functioning of money markets during the crisis. Separation inhibited the use of powerful tools (such as outright asset purchase or so-called quantitative easing—QE) for macroeconomic stabilization. The separation principle was influential in ECB thinking from the outset of the crisis and well into 2011.

What follows seeks to explain how multi-country considerations and the separation principle both influenced the tools employed and the timing and extent of expansionary monetary policy in the euro area during the crisis.

The Monetary Toolkit and the Separation Principle

The ECB was set up at a time when it was becoming fashionable to move to technocratic central banks more narrowly focused on the goal of price stability than had been the case before. This fashion was a reaction to the economic costs experienced from the recessions induced by the policy measures that were belatedly adopted to bring the inflation of the 1970s under control. The goal of price stability was seen as requiring the use of a limited toolbox and the monetary authority's removal from the short-term pressures of the electoral cycle. In an era that came to be known as the "Great Moderation," the apparent success of this model of a narrowly-focused and independent central bank seemed to justify fully its adoption in the European Union.

From the outset in 1999, the ECB's main monetary policy instrument involved setting the policy interest rates (at which it made short-term secured loans to banks) at levels designed to steer aggregate demand and hence

inflation to meet the inflation objective. For almost a decade the ECB performed this function and delivered on the inflation target. Indeed, its determination to prove its credentials as an inflation fighter likely inhibited its willingness to counter the growth slowdown of 2001–02 with a temporary monetary easing (cf. Mody 2018). Already at that time the ECB came under criticism for being slow to use its discretion to ensure price stability only over the medium term.

But the global financial crisis beginning in 2007 made it evident that the instrument toolkit and level of intrusion in the markets of central banks would need to be much broader and holistic to counter the economic and financial collapse. The ECB did move quickly to expand its toolkit, but it focused the new tools on the liquidity aspects of the crisis.

This was where the separation principle came in: Nonstandard tools would be employed to address dysfunction in the money markets, while interest rate policy could continue to be used to maintaining price stability (with increases in the policy rate even as bank liquidity pressures became acute in the third quarter of 2008).

Relatively innocuous at first, adherence to the separation principle masked the inadequacy of the ECB's monetary response when the crisis deepened in 2010–11. As we will see, the separation principle can be implicated in the mistaken—albeit temporary—increase in interest rates in 2011; it also delayed the introduction of QE.

Multi-country Aspects

Early in the crisis, the multi-country character of the ECB began to influence policy. With fiscal authorities in several member states coming under pressure, some observers became concerned that ECB open-market purchases of government bonds would be seen as too close to violating the Treaty prohibition of monetary financing of governments. Furthermore, the contrasting speed and degree of macroeconomic recovery in different member states began to color policymakers' view of the nature of the crisis. Some decision makers seemed to consider the quick recovery of some member states, especially Germany, as the norm. If so, this meant that structural and budgetary reforms in the other countries, not monetary policy, were falling short.

But the multi-country construction of the euro area had even greater implications when policymakers began to consider the distributional impact of potential monetary policy actions on different countries.

At first sight, the multi-country aspects of the euro area should not matter for its monetary policy, focused as it is on price stability in the area as a whole. Strictly speaking, there should be no political interference in the decisions of the ECB. Indeed, the EU Treaty commands ECB decision makers not to take instructions from national governments, and EU governments have undertaken not to seek to influence ECB decision makers.¹

1. Article 123 of the EU Treaty states: "Overdraft facilities or any other type of credit facility with the European Central Bank or with the central banks of the Member States (hereinafter referred to as 'national central banks') in favour of Union institutions, bodies, offices or agencies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the European Central Bank or national central banks of debt instruments." Note that this text does not preclude purchases in the secondary market. The purpose of Article 123 is of course to ensure that euro money is not debauched in the interest of providing cheap finance to one or more sovereigns and to avoid cross-border transfers or subsidies lacking democratic authorization. It is not a mandate to employ central banking powers to coerce or undermine a sovereign.

Besides, the statutory objectives of the ECB relate to the European Union and the euro area as a whole, not to individual countries. Still, as in all central banks, the role of each individual ECB decision maker's experience and understanding of economic mechanisms is influential in determining the course of policy and the choice of instruments. National perspectives are thus not wholly absent from the ECB decision-making process.

The ECB has long been understood to be a consensus-oriented decision-making body, eschewing the individualistic approach employed, for example in the United States, Britain, Sweden, and other important central banks. This assumption was especially so during the early years of the crisis; more recently, especially with the publication of summary accounts of the Governing Council's monetary policy deliberations, the degree of convergence of opinion is now somewhat revealed. But for the earlier period it is not easy to judge from the formal record just how tight the consensus within the ECB was at key moments in the crisis, or to track from the public record how national identity might have affected decision makers' perceptions and decisions.

Why Did the Separation Principle Prevail?

One likely reason that the separation principle gained traction and survived so long is that it helped to avoid or defuse potential conflict between hawks and doves among ECB decision makers. Hawks could continue to steer interest rates in a manner that ensured price stability would not be compromised, while doves were given a freer hand to adopt expansive unconventional or nonstandard liquidity measures to contain the effects of financial instability.

But evolving financial conditions and personnel changes began to displace this equilibrium. Towards the end of 2011, the decision-making bodies of the ECB experienced substantial turnover, bringing new thinking and a shift in the collegial environment.

As money market tensions eased, the rapid endogenous shrinkage of the ECB's balance sheet helped focus attention on the degree to which its monetary policy stance had been less expansionary than that of other major central banks. Soon the separation principle fell into disuse.

After the Separation Principle

The ECB's monetary toolkit was progressively widened in the three years following the 2011 turnover in decision-making positions, and it is now arguably as fully equipped to deal with similar crises in the future as any other central bank.

Today, like other central banks, the ECB has never looked so powerful.² It has driven interest rates below zero (figure 1), and its holdings of government and other bonds, purchased for monetary policy purposes, exceed €2.5 trillion (about \$3 trillion). It has become more active in bank supervision (now also centralized for the euro area in the ECB's Single Supervisory Mechanism [SSM]). Some of the national central banks and other financial

2. Cf. Tucker (2018) on the growing power of central banks. To be precise, one should distinguish between the ECB itself and the wider eurosystem encompassing also the national central banks (NCBs) of the euro area member states. Most monetary policy transactions and the bulk of the eurosystem's balance sheet relates to the NCBs, but the decisions are made by the ECB Governing Council, which is made up of six executive board members (including the president and vice president) and the governors of the NCBs (now 19 in number). Where no ambiguity seems likely, we follow here the synecdoche of colloquial usage.

authorities in the euro area have introduced macroprudential tools restricting the scope of loan contracts (such as upper limits on loan-to-value and loan-to-income ratios). Thus, a much broader toolkit than used in past decades is being energetically employed. With the separation principle abandoned, the ECB's approach to macro and micro aspects of economic and financial underperformance is based on a more holistic view of monetary transmission and a wider view of its institutional mandate.

Still, given the degree to which the crisis and the policy response have already divided debtors and creditors in the euro area, the ECB may continue to act in a somewhat constrained manner, tacitly influenced, despite its independence, by the pushback from those who now see it as overmighty rather than underpowered. For example, the ECB would probably stop short of employing what is known as "helicopter money"—a distribution of cash to the general public—unless recessionary conditions became even more acute than in 2008–12.

Thus we square the current perception of the ECB as a powerful central bank able to deploy an extensive range of tools with the notion, prevalent from early in the crisis, that the ECB is, by virtue of its multi-country constitution and the statutory prohibition on monetary financing of governments, inherently limited in its ability to act vigorously to counter the economic downturn.

The remainder of the paper is organized as follows: Section 2 discusses the mandates of the ECB and other central banks and how they have been reinterpreted in recent years including as a result of the crisis. Section 3 documents how, after a quick start, the ECB's monetary policy response to the crisis became slower than that of the other major central banks. Section 4 describes the separation principle and how it was presented by members of the ECB Executive Board. Section 5 explains how the separation principle influenced the surprising temporary increase in euro area policy interest rates during 2011. Section 6 spells out the role of the separation principle in slowing the introduction of large-scale asset purchases (QE). Section 7 reports the demise of the separation principle. Section 8 considers the extent to which the powers of the ECB today are still constrained by its multi-country character, noting the obstacles to "helicopter money." Section 9 contains concluding remarks.

2. MANDATES: EXPLICIT AND IMPLICIT

The range of tasks expected of central banks has rarely been limited to monetary policy. Although the breadth of their legislative mandate has varied over the years, price stability has always been central. But while price stability is often given priority in the mandate, it is implicitly, and usually also explicitly, accompanied by other elements, such as high or maximum employment (United States; New Zealand since 2018) or support for wider economic policies (euro area, United Kingdom, Switzerland). Central banks have also been expected, either explicitly or implicitly, to guard against systemic financial crises and to manage them when they occur. Many central banks in the postwar period were operated as arms of government policy.

After the collapse of the Bretton Woods System almost a half-century ago, though, followed by two oil price spikes, the problem of inflation came to center stage. Central banks began to narrow their focus to the task of regaining control over price stability. High interest rates in the face of persistent labor market and fiscal pressures eventually helped to tame inflation, albeit at a cost in terms of recession and unemployment.

That there is a tradeoff between maintaining high employment on the one hand and restoring stable prices (when inflation has gotten out of control) on the other is recognized even where the central bank's formal mandate prioritizes stable prices. The US Federal Reserve is not the only central bank whose behavior can be approximated by a simple policy rule according to which it increases its interest rate not only when inflation is above target but also when the output gap is negative. Most central banks, including the ECB, consult such a formula (known as a Taylor rule) when considering the appropriateness of their policy stance. But most would agree with former Federal Reserve chairman Ben Bernanke that such rules should not apply mechanically.³

By the 1990s, central banks seemed to have identified a limited toolkit and operating procedures that, combined with a clear rules-based mandate often defined by a numerical inflation target and with independence from government direction, enabled them to achieve and maintain price stability. Central banks concentrated on steering short-term money market interest rates to influence aggregate demand while preserving stable inflation expectations. It became accepted that ensuring price level stability requires predictability and steadiness within a well-communicated, medium-term framework.

Macroeconomic theory had come to suggest that there was little else that monetary policy could do to promote medium-term growth or stability in economic activity. The remainder of the mandate was not jettisoned but was overshadowed by the primacy being given to price stability.

With the focus now firmly on an attainable and measurable target for which central banks could be held responsible, society was willing to grant to increasingly technocratic central banks the necessary independence to get the job done.

Given this technocratic environment, it was less surprising than it would previously have been to see the European Union create a multi-country central bank representing perhaps the largest international pooling of sovereignty ever known. With strict rules aimed at independence (and including security of tenure and length of appointment of the members of its Governing Council),⁴ the tasks of central banking were consigned to an unelected body. Indeed, the European Central Bank encapsulated the new narrowly focused approach to central banking more than most central banks. Its mandate ranked price stability above all other goals, and it did not (at first) have supervisory responsibilities with regard to the banks that were its counterparts in monetary policy operations.

At first, the experiment worked as expected: Inflation in the euro area (as in other countries where independent inflation-focused central banking had been adopted) was low and stable in the early years of the new millennium. Originally the ECB declared that inflation was to be kept "below 2 percent." From 2003, the aim

3. Ben S. Bernanke, "The Taylor Rule: A Benchmark for Monetary Policy?" Brookings Institution Blog, April 28, 2015 (<https://www.brookings.edu/blog/ben-bernanke/2015/04/28/the-taylor-rule-a-benchmark-for-monetary-policy/>).

4. The members of the Executive Board are appointed to nonrenewable 8-year terms; the governors of NCBs must be given terms of at least 5 years. Members of the Governing Council may be relieved from office only if they no longer fulfill the conditions required for the performance of their duties or are found guilty of serious misconduct. Experience has nevertheless suggested that political pressures can occasionally be effective in inducing a member of the Governing Council to resign.

was to keep inflation “below but close to 2 percent in the medium term.” It succeeded, albeit arguably at the cost of higher than needed unemployment in 2001–03 (Mody 2018).

With the outbreak of the global financial crisis from 2007, the ECB was not the only central bank to wake up to the degree to which its full mandate, requiring it to support the general economic policies in the European Union, was implicitly much wider, especially during a crisis, than the primary mandate of maintaining price stability.⁵

In countries affected by the crisis around the world, central bank behavior has shifted substantially from the tightly defined, and largely rules-based, approach that had become standard for monetary policy. The emergence of a macrofinancial crisis, while still requiring clear and credible communication, forced central banks to move quickly to interpret fast-changing market conditions and has required flexibility and decisive action—and some surprises. Central banks have employed a wider range of tools and have been less predictable in their actions. During the international financial crisis, central banks have used innovative financial engineering and an expansive approach to providing liquidity to quell the spread of uncertainty and panic in global financial markets. They have also interacted with government more intimately than had become the norm.

This changed behavior reflects central banks’ interpretation of what is often a vague and implicit mandate for financial system stability. The interpretation draws on an understanding of historic practice in comparable circumstances, as interpreted by scholars and as distilled in dialogue between central bankers from different countries in what can be thought of as a transnational epistemic community of central bankers, for example through their regular meetings at the Bank for International Settlements in Basel and elsewhere. Such dialogue has made conventional an array of crisis-management policy actions that are at the disposal of central banks (Honohan et al., forthcoming 2019; Tucker 2018).

But the use of a wider set of tools also raises questions of democratic legitimacy: Central banks know what the situation requires, but do politicians accept that they have delegated such powers to unelected entities that have much more independence than their predecessors?

Even in a financial crisis, central bank independence remains vital, but central banks have recognized that, in a crisis, close consultation and collaboration with government, as well as stronger efforts to ensure accountability before parliaments and the general public, become necessary both to ensure effectiveness and to retain political and democratic legitimacy for the larger policy steps that need to be taken.

Nowhere is the need to ensure democratic legitimacy more pressing than in the euro area because of the implicit cross-border lending and borrowing that is involved—with considerable persistence in the identity of borrower and lender countries (figure 2).

5. As set out in Article 2 of the Statute of the European System of Central Banks (ESCB) and of the European Central Bank: “Without prejudice to the objective of price stability, [the ESCB] shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union.”

3. THE ECB BEHIND THE CURVE

The Slow Response of the ECB in the Crisis

Although the ECB has participated in widening the monetary policy toolbox, and has adopted an aggressively expansionary stance, this activism was not so evident earlier in the crisis.

To be sure, it did react promptly to the early stirrings of financial stress by flooding the market with liquidity in August 2007. The ECB provided this liquidity for relatively short rolling periods only and on a collateralized basis. Nevertheless, this action was the first clear acknowledgement by public authorities worldwide of the gravity of the unfolding crisis.

But the ECB was demonstrably slower in lowering interest rates and in entering into large scale asset purchases than were the other major central banks.

On interest rates, the ECB actually *increased* its policy rate on July 3, 2008. This action reflected the ECB's concerns over the inflationary impact of the 50 percent surge in oil prices that had occurred in the first half of that year. By mid-2008, annual inflation seemed to have touched 4 percent, but the oil price surge was subsequently fully reversed in the second half of 2008.

The policy rate increase was reversed in the internationally coordinated interest rate reduction engineered by the world's leading central banks in October 2008, and the ECB continued to reduce rates in the following half-year. But it reached its temporary floor (of 1 percent) only in May 2009, some months after the Fed, the Bank of Japan, the Bank of England, and the Swiss National Bank had all pushed their rates to what they considered their effective lower bounds.

The ECB's two-step interest rate increase in early 2011 also stands out as unusual compared to the four other major central banks that were maintaining interest rates at their floor levels.⁶ As in 2008, this was also an occasion when oil prices had surged once more, and to almost the same levels. At the time of the 2011 interest rate increases, euro area inflation was projected to exceed 3 percent—and it did, but fears that this would have a knock-on or secondary effect leading to persistently high inflation proved to be utterly false.

The other major expansionary tool that leading central banks employed to combat the recession was the large-scale outright purchase of financial assets, the policy that became known as quantitative easing (QE). The Fed was first out of the blocks with its QE in November 2008.⁷ Other major central banks, including the Bank of England, the Bank of Japan, the Swedish Riksbank, and, in a different manner, the Swiss National Bank, followed. Apart from some limited purchases of covered bonds, albeit not on a macroeconomically relevant scale, the ECB only began to purchase assets outright in some volume during 2014 and then on a large scale, including public sector bonds, in early 2015.

6. Though central banks in some smaller and faster-recovering economies had already entered a tightening phase: Israel and Australia already in late 2009 and Sweden in June 2010.

7. Most analysts judge that QE by the Fed had a sizable impact on credit market conditions (cf. Gagnon 2016; for a dissident view see Greenlaw et al. 2018).

Framing Errors Help Explain Why the ECB Was Behind the Curve

It seems clear that ECB actions reflected in part an underestimation of the gravity of the macroeconomic downturn not only in 2008–09 but also in 2011.

One possible reason why the ECB was more liable than others to err on this side relates to the multi-country character of the euro area. Specifically, the ECB's thinking was probably influenced by the widely contrasting performance of different member states of the euro area economy. Euro area policymakers tended to interpret the divergence in economic performance in a one-sided way. They were impressed by the fact that Germany, the largest national component, saw comparatively little deterioration in economic performance after 2008. For example, Germany's unemployment rate, which had, precrisis, fallen from double digit levels to about 7 percent in 2008, briefly rose again in the crisis but only to about 8 percent in 2009 before resuming its downward movement and passing below 7 percent already in mid-2010. (In contrast, euro area unemployment as a whole resumed its post-crisis upward trend in 2011, reaching a peak of over 12 percent in 2013.)

Thus, one way of framing the euro area macroeconomic crisis post-2008 was to look to Germany as the reference or benchmark economy and to attribute underperformance in other euro area countries to self-imposed national policy errors. Such a framing could imply that a much less expansionary monetary policy was called for than if average euro area performance was the main reference.

Although Germany's quick and comprehensive recovery from the crisis was quite exceptional, and even though Germany accounts for only about a quarter of the euro area economy, I suspect that, consciously or unconsciously, many ECB decision makers and policy analysts thought of German economic performance as the norm. Given that analysis, they were reluctant to go any further in using monetary accommodation merely to offset what they interpreted as government policy errors in underperforming parts of the euro area.

It thus seemed natural to separate the idiosyncratic problems of stressed countries from the central issue of system-wide price stability, which, after all, was and is the primary objective of the ECB.

Although it is undeniable that the governments of the weaker economies needed to respond with corrective policies, whether fiscal or structural, there seemed to be an unwarranted tendency for euro area policymakers to underestimate the need for supportive monetary policy (and for expansionary fiscal policy by those countries with headroom).

Even if their monetary policy mandate is a euro-wide one, national conditions in the countries they know best surely influence ECB decision makers' awareness and understanding of political economy. According to the mindset prevailing among monetary policy specialists in many parts of the euro area, it would be a mistake to use monetary policy to correct for weak macroeconomic conditions resulting from national governmental policy errors. In that view, such an action would blur the objectives of monetary policy and would likely result in higher overall inflation without any lasting correction of the adverse conditions in the poorly managed economies; such a policy would merely reinforce moral hazard in the behavior of delinquent national governments.

To the extent that such framing influenced monetary policy decisions, it induced a tighter policy than would have been needed to stabilize the euro area economy as a whole. But, as we will see below, the attempt to separate crisis-related problems from the main task of monetary policy went further than this and in a more explicit way.

Liberal Nonstandard Measures Were Used by the ECB

It is important to remember that the ECB had also taken other steps already in 2008–11 to ease financial market conditions and to remove the blockages that limited banks' access to loanable funds. Instead of deciding on a fixed amount of funds to auction each week, the ECB started in October 2008 to make unlimited funds available in its weekly credit auctions (the so-called "fixed rate full allotment" approach), and it also introduced progressively longer-term lending operations that enabled banks to be sure of their funding when making medium-term lending commitments. In mid-2009 a one-year loan was made available; from the end of 2011, three-year loans were made available. (In 2014 a four-year subsidized loan, targeted at banks that expanded business lending, was introduced, and there was another of these in 2016.)

There were also significant reductions in the credit quality standards required for the collateral that banks presented to the ECB when borrowing funds (including lower floors for credit ratings, notably the early reduction in the rating floor from A to BBB). This in turn reduced the incidence of banks having insufficient collateral to access the ECB's borrowing window. Indeed, the ECB was even prepared to accept as collateral "own use" bonds created by banks if guaranteed by sufficiently creditworthy third parties (including governments). The collateral easing drew criticism from conservatives who feared that the ECB was opening itself to substantial credit risk (though this risk has not materialized).

These nonstandard measures greatly increased ECB lending, as banks, having lost confidence in the previously seamless functioning of the interbank market, wished to hold very large precautionary cash balances. These increases in lending happened not only in 2008–10 but again towards the end of 2011 and into 2012 as a second wave of banking pressure swept in. This new wave was driven to a large extent by a loss of confidence on the part of the US investors whom some major European banks had come to depend on for short- and medium-term funding.

4. THE SEPARATION PRINCIPLE

Why was the ECB's restrictive stance on interest rates and QE so much out of line with its liberal nonstandard policies on bank liquidity? One important driver of this deviation was an early ECB decision on how to approach policy design in the unusual conditions of financial market disruption that had emerged in September 2008.

Realizing that its wider implicit financial stability mandate required a wider toolkit, but concerned about any policy drift that could compromise the primary price stability mandate, ECB policy design was strongly influenced by the doctrine known as the separation principle. According to this principle, the macroeconomic (price stability) mandate would continue to be addressed through the use of conventional interest rate policies, while financial market instability would be addressed only with nonstandard measures. Adoption of this principle steered the choice of policy instruments in a way that slowed its adoption of a more aggressive expansionary stance.

This separation principle was not an original idea. It goes back to Tinbergen's 1956 assignment principle (according to which there should, for example, be as many policy instruments as targets) and was in vogue in the 1990s debate about how far central banks should lean against asset price bubbles (Buiters 2009). For many,

the winning argument in that debate is encapsulated by Svensson (2016), who pointed out that—as Jeremy C. Stein had remarked⁸—while interest rates reach into all parts of the economy and as such can be effective in restraining a credit boom, the interest rate increase that would be needed to choke off a credit boom is likely to be so high as to damage normal economic activity in the remainder of the economy. In line with that conclusion, the mainstream central bank view precrisis was that interest rates should not be used to choke off a bubble: Instead, other tools, macroprudential in nature, should be brought into play for that purpose, leaving monetary policy focused on the inflation goal.

But could separation reasoning be taken too far and lead monetary policy into error under extreme circumstances of market disruption and slump? Certainly, the ECB hung on to the separation principle longer than most. In particular, by identifying anything other than interest rate policy as inappropriate for use in macroeconomic stabilization and the inflation target, the ECB was fighting the downturn with one hand tied behind its back. It was prepared to use other policies, but only to the extent needed to repair the functioning of the money markets in order to ensure an effective transmission of monetary policy to the macroeconomy.

ECB Executive Board members laid great emphasis on the separation principle during the crisis. An early statement, on September 5, 2008, before the collapse of the financial services firm Lehman Brothers and after the ECB had increased its policy rate despite the tense money market conditions, is in a speech by Jürgen Stark, the ECB's chief economist:⁹

[A] clear distinction must be maintained between: on the one hand, the determination of the monetary policy stance required to maintain price stability; and, on the other hand, the provision of liquidity to the money market. This so-called “separation principle” ensures that the specification and conduct of refinancing operations are not interpreted by market participants as signals of future changes in the monetary policy stance. At the same time, it maintains the focus of the monetary policy decisions firmly on the delivery of the primary objective, thereby avoiding dilution or complication stemming from competing considerations regarding the functioning of the short-term money markets.

In subsequent weeks, other ECB Executive Board members repeatedly and strongly endorsed the principle. Speaking in September 2008, José Manuel González-Páramo observed that:

At the ECB we believe that the separation principle, i.e. the separation of liquidity policy measures from any considerations about the monetary policy stance, has served us well. Indeed, the liquidity policy aided the transmission of monetary policy even in the turbulent times experienced over the past year, while monetary policy was left free to focus on its overriding objective of ensuring price stability.¹⁰

8. Jeremy C. Stein, “Overheating in Credit Markets: Origins, Measurement, and Policy Responses,” speech at the research symposium “Restoring Household Financial Stability after the Great Recession: Why Household Balance Sheets Matter,” sponsored by the Federal Reserve Bank of St. Louis, St. Louis, Missouri, February 7, 2013 (<https://www.federalreserve.gov/newsevents/speech/stein20130207a.htm>).

9. This seems to be the first explicit mention of the separation policy by an ECB decision maker, though in a January 2009 speech, José Manuel González-Páramo stressed that “from the first day it opened its doors” the ECB had “stuck to this... separation principle.” José Manuel González-Páramo, “Liquidity, funding and solvency: Policy responses and lessons,” speech, Universidad de Alcalá de Henares Madrid, January 16, 2009 (<https://www.ecb.europa.eu/press/key/date/2009/html/sp090116.en.html>).

10 José Manuel González-Páramo, “Central banks and the financial turmoil,” speech at the Eleventh Annual International Banking Conference, “Credit Market Turmoil in 2007-08: Implications for Public Policy,” Federal Reserve Bank of Chicago, Chicago, September 25, 2008 (https://www.ecb.europa.eu/press/key/date/2008/html/sp080925_1.en.html).

Even when the most severe part of the global financial market freeze had been going on for months, in February 2009, ECB Vice President Lucas Papademos insisted that “the separation principle implies that the policy interest rate is not employed to alleviate stresses in the financial system if upside risks to price stability prevail.”¹¹

An enthusiast for the separation principle could thus defend even the first 2011 interest rate increase, despite still fragile financial market conditions, as indicating the ECB’s determination not to allow the crisis to leak into higher inflation.

Thus ECB president Jean-Claude Trichet, in a representative speech (given on the day in May 2011 when the ECB signaled a second policy rate increase, despite the deepening euro area crisis), stated:

[W]e have a clear doctrine. We do what we have to do to deliver price stability in the medium term, using the interest rate tool and our so-called standard measures. The non-standard measures take into account the fact that we have abnormal functioning of various markets or segments of the market. That is the way we operate and you have a clear demonstration today of the separation principle because we are maintaining the non-standard measures as they were in the first quarter and, at the same time, we indicate that we might change the standard measures.¹²

Or again, a few months later:

Let me emphasize that our non-standard measures do not in any way impinge on our capacity to tighten our monetary policy stance in response to inflationary pressures.¹³

We return to the 2011 interest rate increases below.

The separation principle offered an approach to compromise—for example between those more concerned with financial market disruption and those concerned with maintaining low inflation, or between those more concerned with macroeconomic stability and those adamantly opposed to measures that would ease a national government’s ability to borrow. Finding compromise was important for a central bank that had up to then emphasized more than most the desirability of consensus and the need for a single voice on monetary policy.¹⁴

According to the compromise, financial market disruption could thus be held at bay with liberal ECB lending policies for banks without any let up in the fight against inflation and without any specific concessions

11. Lucas Papademos, “Tackling the financial crisis: policies for stability and recovery,” speech at the Annual Dinner of the Society of Business Economists, London, February 11, 2009 (<https://www.ecb.europa.eu/press/key/date/2009/html/sp090211.en.html>).

12. Jean-Claude Trichet, “Introductory statement to the press conference (with Q & A),” Frankfurt am Main, March 3, 2011 (<https://www.ecb.europa.eu/press/pressconf/2011/html/is110303.en.html>).

13. Jean-Claude Trichet, “The ECB’s response to the crisis,” speech at the WDR Europa-Forum, Berlin, May 26, 2011 (<https://www.ecb.europa.eu/press/key/date/2011/html/sp110526.en.html>).

14. As scholars had already noted before the crisis emerged, the ECB is among the central banks most anxious to present a united front on important monetary policy decisions. Thus Blinder (2009): “On a *genuinely collegial* committee, the chairman is less dominant. Members basically agree in advance to reach a group decision, and then they accept the result even if they are not entirely happy with it. The ECB Governing Council is probably the most prominent contemporary example of this type.” (See also Riboni and Ruge-Murcia 2018.) ECB communication has since evolved, with publication of summary accounts of each monetary policy discussion since early 2015 and greater acknowledgment now of the range of opinions held within the Governing Council. In 2011, though, to describe a decision as “unanimous” was only to say that no one insisted on registering a formal dissent.

to the financing of government. The hawks held a strong—over-strong—line on anti-inflationary interest rate policy; the doves succeeded in stabilizing banking.

In late 2008, ECB staff's preferred measure of success in countering financial market stresses was convergence of the market interest rate to the policy rate. Thus González-Páramo in that September 2008 speech:¹⁵

During the turmoil, the separation principle proved to be very effective. Supported by the flexibility of its operational framework, the ECB was able to react in a flexible and quick manner to a changing market environment, and it allowed the steering of interest rates close to the policy rate by means of temporary quantity adjustments, albeit without increasing the aggregate supply of euro liquidity to the banking sector.

Later, fragmentation of the euro area money market into national silos would make achieving this goal much more complex.

Soon it became clear that separation was not entirely possible. For one thing, the low interest rates were not being transmitted in a fully effective manner throughout the euro area. Indeed, the effective structure of interest rates was perverse. With an ECB policy rate at 1 percent, the effective cost of funds to banks in surplus countries with close-to-full employment (led by Germany) was about zero, because banks in those countries had so much liquidity that no one was prepared to pay significantly more than the ECB's deposit rate (then zero percent), whereas banks in the stressed countries, where aggregate economic activity was well below potential, were dependent on borrowing from the ECB at the higher rate of 1 percent. (This inversion in policy rates contributed to a parallel inversion in bank lending rates [figure 3].)

Furthermore, the easy liquidity conditions did begin to leak into government funding conditions, especially in the winter of 2011–12 when banks in some of the stressed countries (notably Italy) invested a large portion of the low-cost funds borrowed in the 3-year long-term refinancing operations in higher yielding bonds of their own governments.

When the governments of the stressed economies began to lose market access, this inversion of the geographic pattern of interest rates became more severe. The ECB's response to this situation in May 2010 seemed uncharacteristically vigorous. It suddenly embarked on outright purchases of the bonds of the stressed governments in what was called the Securities Market Program (SMP), which is discussed later.

5. THE SEPARATION PRINCIPLE AND THE 2011 INTEREST RATE DECISIONS

The separation principle might have been innocuous enough if it had remained little more than a heuristic device to help policymakers think about the myriad of instruments and policy issues that presented themselves. But it contributed to a mindset that resulted in a serious misstep by the ECB in early 2011. A surge in energy prices at that time threatened to bring average inflation in the euro area above 3 percent by the end of the year. The ECB had to decide whether to react to this overshoot of its target by increasing interest rates.

15. Note the use of the past tense in referring to the turmoil, even though this speech was in September 2008! See José Manuel González-Páramo, "Central banks and the financial turmoil," speech at the Eleventh Annual International Banking Conference, "Credit Market Turmoil in 2007-08: Implications for Public Policy," Federal Reserve Bank of Chicago, Chicago, September 25, 2008 (https://www.ecb.europa.eu/press/key/date/2008/html/sp080925_1.en.html).

Most observers felt that energy prices were too volatile for this surge to require an early adjustment of interest rates, especially given the weak and tentative nature of the recovery of economic activity in many European economies. Indeed, recovery had not yet started in several parts of the euro area.

Nevertheless, at its March 2011 monetary policy meeting, the ECB pre-announced a 25-basis point ($\frac{1}{4}$ percentage point) interest rate increase in its policy rates.¹⁶ This increase was duly confirmed the following month.

For those fixated on price stability, which is after all the primary statutory objective of the ECB, it seems to have been especially important to avoid giving the impression that the ECB was indifferent to inflation, at a time when the ECB was operating a program (the SMP) that some saw as lax, risky, and legally questionable.

That the rate increase was approved by the Governing Council as a whole reflected an attempt to help maintain a middle course between the diverse views of members of the ECB Governing Council. As mentioned, the ECB had up to then been a consensus-driven institution, known for downplaying divergent opinions in its public communications. There was a strong collegial preference to fall in behind a policy stance endorsed by the president and the members of the Executive Board. A policy stance seen in the market as having only weak support in the Governing Council might not be as effective in achieving the intended results. (An inflation risk could be headed off with a much lower interest rate increase if market participants inferred a determined and largely united Governing Council.) And in this case, those who actively supported the increase could, after all, argue that, according to the separation principle, the nonstandard measures were still available to deal with financial market uncertainty. Even though financial markets were still jumpy, interest rates could (on that view) safely be used to target inflation.

I acknowledge that—if it had been presented as a warning shot against any reemergence of an inflationary psychology—a plausible case could possibly have been made in early 2011 for a small rate increase. After all, inflation did eventually exceed 3 percent that year, albeit only briefly. But the more obvious policy would have been to wait. Anyway, one 25-basis-point rate increase would have certainly been enough to signal that the ECB was being vigilant against inflation. However, no attempt was made to communicate that this would be a one-shot increase. Instead, there was a second increase within three months.

This second 25-basis-point interest rate increase, made effective in July 2011, was much less easy to rationalize. Taking into account the general shift to fiscal consolidation, endorsed by the G-20 in mid-2010, and reflected in the 2011 euro area Fiscal Treaty, the market was left to suppose that both fiscal and monetary policy had shifted to a tightening mode. Of these two policy shifts, the fiscal one was surely much more damaging, but the interest rate tightening, even if it lasted for just eight months, was not innocuous (figure 1).

In 2011 the euro area was suffering from a deficiency of demand. The situation should have been met with continued fiscal expansion, but this had come to a premature end the previous year. Higher interest rates could only worsen the demand deficiency (Eichengreen 2015, Mody 2018). With growth stalling because of these

16. Observers had been conditioned to understand the statement “strong vigilance is warranted with a view to containing upside risks to price stability” as a coded indication that an interest rate increase was to be expected at the following meeting.

mistaken fiscal policy decisions taken by countries whose governments had a safe degree of fiscal headroom, it was even more important for monetary policy to send a clear picture of continued accommodation and ease.

Soon it became more evident that these interest rate increases had been a mistake. Already in September there was talk of a reduction. By the end of the year the policy rate was back down to 1 percent.

This mistake was not repeated, but it may have contributed to further losses in market confidence in the ability and determination of European policymakers to decisively restore the smooth functioning of the financial system.

6. THE SEPARATION PRINCIPLE AND QE

Reliance on the separation principle may also have contributed to the remarkable fact that the ECB did not follow the lead of the other major central banks in adopting a large scale outright bond purchase program until 2015, about six years after the Fed.

After all, the most visible early symptom of financial instability disrupting financial markets was the banks' scramble for liquidity in late 2008. The ECB was quick to respond to this scramble by moving to a full allotment approach to its repurchase auctions. Each week it simply announced the rate of interest at which funds would be made available and met all bids at that rate. By definition, then, as long as full allotment was in operation, no bank with eligible collateral could find itself short of liquidity. And a relaxation of the collateral rules expanded access to this facility. Recognizing that banks needed to be sure that this system would not be shut off without sufficient notice, the ECB also made various commitments to continued full allotment and also (as mentioned above) arranged a number of auctions for longer-term borrowing (so-called long-term refinancing operations, or LTRO).

Alternatively, the ECB could have made additional liquidity available through outright purchases. Some decision makers might have hesitated to buy government debt, but in 2009 the absence of stresses on government finances would have made such opposition seem abstract and ideological.

The point is that the move to full allotment in the ECB's normal operations was seen as the simplest measure sufficient to restore bank liquidity.

Outright bond purchases on a sufficiently large scale would have done more than improve bank liquidity. It would in particular have reduced long-term interest rates and would also have contained credit risk spreads as the crisis deepened. In this way an early adoption of QE would have helped restore and maintain aggregate demand in the euro area throughout the period 2010–14.¹⁷ But that would have meant using nonstandard measures to achieve a macroeconomic goal, the assignment ruled out by the separation principle.

There were in fact some small-scale purchases of bonds undertaken before 2015: a covered bond purchase program as early as 2009 and the aforementioned SMP from 2010.¹⁸ However, these programs were specifically

17. For a forthright argument favoring such action see Orphanides (2017), who also emphasizes the impact of the ECB's reliance on sovereign credit ratings for determining eligibility as collateral in ECB credit operations and in the QE program.

18. The SMP entailed ECB purchases of the bonds of Greece, Ireland, and Portugal from May 2010 and Italy and Spain from August 2011. By the time the purchases ended in September 2012, about €210 billion had been purchased, corresponding to about 8 percent of the eventual size of the QE program of 2015–18.

targeted at disrupting specific sectors of the financial market. And as such they were pursued on a scale too small to have significant macroeconomic effects. Besides, in rigorous adherence to the separation principle, the impact of SMP purchases on aggregate liquidity was offset by sales of other assets.¹⁹ Accordingly, these purchases were fully in line with the separation principle. In particular, as a nonstandard measure, the SMP was not inflation targeted as such.²⁰ These exceptions to the rule that QE was not adopted early by the ECB thus point to the relevance of the separation principle.

By the time that it became clear in 2012 that more accommodation was needed, and large-scale bond purchases were back on the agenda, the stress in public finances in several euro area countries had become acute. Now there was no overlooking the fact that many would perceive large-scale purchases by the ECB of government bonds as a covert bailout of over-indebted sovereigns, in effect a circumvention of the EU Treaty prohibition on monetary financing. Banks in countries with stressed sovereigns had already borrowed heavily from the eurosystem in the normal liquidity operations, leaving banks in the creditor countries with large liquid asset holdings at the central bank; this meant that substantial implicit cross-border claims had built up between national central banks in the eurosystem, adding to the perception of bailout (cf. Sinn 2014).

The legality of even the Outright Monetary Transactions (OMT) program, announced by the ECB in September 2012 (a few weeks after ECB president Mario Draghi's famous "whatever it takes" speech in London on July 26), was challenged on these grounds in the German Constitutional Court even by the Bundesbank, despite the fact that the OMT program insisted on government adherence to policy conditionality (in an IMF-type program) as a precondition for any bond purchases.²¹

As the banking panic subsided during 2012, demand for liquidity in the ECB refinancing operations diminished. The ECB's balance sheet therefore contracted.

It is often suggested that this contraction reflected a tightening of ECB policy, at a time when the Fed and other large central banks were still adding to their balance sheets with bond purchases. But that misses the point. The shrinkage was entirely endogenous. The size of a central bank's balance sheet is a very incomplete measure of the stance of policy. Additional dimensions include the maturity and credit risk profile of the assets.

In 2012, most of the ECB's assets were collateralized loans to banks with maturities of less than three years. Its balance sheet had grown largely because of the jump in market aversion to the risk of lending to banks. In

19. Specifically, the liquidity creation resulting from SMP purchases was offset by special sale and repurchase agreements, known as reverse repo operations. This offsetting exercise could be meaningful only in an ideological sense, since the total amount of liquidity in the euro area has been determined by demand since full allotment was introduced. In other words, as all liquidity demanded at the fixed policy rate was being fully met in the normal monetary policy operations, such mopping-up could not have any net impact on system liquidity (cf. President Trichet's remarks at the monetary policy press conference in August 2011: Jean-Claude Trichet, "Hearing at the Committee on Economic and Monetary Affairs of the European Parliament," Introductory statement, Brussels, August 29, 2011, <https://www.ecb.europa.eu/press/key/date/2011/html/sp110829.en.html>).

20. Although the SMP purchases were in the secondary market and at market price—and although they were far from being sufficient in volume to cap bond market spreads at reasonable levels—the program was a step too far for those adhering to the most uncompromising prohibitions on monetary financing, and led to two consequential resignations from the Governing Council.

21. To be precise, it requires "strict and effective conditionality attached to an appropriate programme" of the funding agencies, the European Financial Stability Facility (EFSF) or the European Stability Mechanism (ESM). One of these agencies cofinanced each of the lending programs to Cyprus, Greece, Ireland, and Portugal with the IMF.

other words, despite the large balance sheet, the ECB was not carrying out much maturity transformation and only a limited amount of credit risk. Its balance sheet expansion had not generated much of an expansionary macroeconomic impulse. Conversely, the contraction of the ECB's balance sheet was an endogenous response reflecting a decline in market risk aversion; it did not imply a contractionary impulse.

In contrast, by buying long-term bonds while issuing short-term deposits, the Fed's QE program had achieved a substantial maturity transformation.

Meanwhile euro area inflation began to flag well below the target level. But before the ECB could safely and effectively move to the large-scale purchases of government bonds that might boost demand and bring inflation back on target, it had to minimize the risk of successful or even credible legal challenges, including from the Bundesbank. All other material steps had to be explored first. Thus, the ECB decided to push policy interest rates even lower, including stepping gingerly into negative territory. It restarted purchases of asset-backed securities and other bonds. The manifest insufficiency of these actions made it indisputable that achieving the inflation target could only be assured through purchases of the only assets practically available at sufficient scale to have a sizable macroeconomic impact, namely government bonds.

And clearly, the separation principle had to be abandoned if the ECB was to venture into buying 30-year bonds from countries with credit ratings as low as BBB!

7. SEPARATION ABANDONED

Towards the end of 2011, there were several key changes in the membership of the ECB's Governing Council and especially the Executive Board towards the end of 2011.²² This altered the collegial environment in which decisions were taken and likely accelerated the demise of the separation principle, allowing a more coherent and integrated approach to ECB policy. No longer (for the new team) would unconventional policy be limited to dealing with financial market disruption.²³ Indeed, the ECB was moving towards the position suggested by Ubide (2017) that there should be no distinction made between conventional and unconventional monetary policies, as all monetary policies aim at achieving optimal financial conditions.²⁴

22. While most decision making at the ECB is assigned to the Governing Council, the president and the other members of the Executive Board play a key role in agenda setting.

23. By 2012 the concept of a separation principle was more often applied in ECB circles to the need to separate monetary policy from banking supervision. Still, there is an intriguing late example of the original usage, with a slightly different twist, in a speech by Vice President Vítor Constâncio in February 2015, who remarked, at a time when interest rates were being lowered: "Monetary policy must prioritise the goal of price stability and not deal with the emergent financial stability issues. ...The separation principle implies that ... financial stability dominance of monetary policy should be avoided by the central bank. This conceptual view was behind the recent ECB decision to increase the expansionary stance of monetary policy, thus not yielding to the voices that claimed we should first consider the risks for asset prices and for the risk-taking transmission channel of monetary policy." Vítor Constâncio, "Financial stability risks, monetary policy and the need for macro-prudential policy," speech at the Warwick Economics Summit, February 13, 2015 (<https://www.ecb.europa.eu/press/key/date/2015/html/sp150213.en.html>).

24. A distinction between conventional and unconventional monetary policies has recently been cemented as the basis of the financial relationship between the Bank of England and the UK Treasury, the argument being that the Bank should seek authority for undertaking unconventional policies that have associated financial risks going beyond the Bank's capital. Financial relationship between the Treasury and the Bank of England, Memorandum of Understanding, June 21, 2018 (<https://www.gov.uk/government/publications/financial-relationship-between-the-treasury-and-the-bank-of-england>).

This was clearly needed as each subsequent year brought severe challenges:

- the banking stresses of 2011–12, already mentioned (seen in the rapid growth in ECB lending for nine months from the middle of 2011 as shown in figure 4);
- in 2012 the default and redenomination risk stresses on the euro system that threatened to pull it apart entirely (figure 5);
- in 2013 the beginnings of normalization of US monetary policy that threatened to transmit higher long-term interest rates to Europe; and
- heading into 2014 a renewed weakening of euro area economic activity—with a triple dip seemingly in the cards—clearly called for further monetary easing, even though short-term interest rates were near the floor.

By 2014 the ECB had shown it was increasingly prepared to use its toolkit more comprehensively and convinced markets of this. Among the measures adopted were:²⁵

- the open-ended nature of the OMT program (2012);
- the introduction during 2013 of forward guidance on the likely trend of policy interest rates (replacing the previous “no commitment” approach to policy interest rates);
- the further lowering of interest rates to zero and below during 2013–16; and
- the expansion of asset purchases, eventually including public sector bonds during 2015, was at last thoroughgoing.

The low inflation—actual and expected—that had begun to grip the euro area by 2013 made this transition easier by more closely aligning the policy goals of hawks and doves. There could be no doubt that inflation was below the stated target and that virtually all other possible measures short of public sector bond purchases had been tried. Buying in the largest bond market—government bonds—was an obvious measure sanctioned by historical and contemporaneous usage abroad and which was clearly permitted even by the strictest reading of the Treaty. In effect, by early 2015 it had been demonstrated that, short of adjusting the inflation target down, there was no serious alternative to buying government bonds if the target was to be reached.

7. THE ECB TODAY: OVER-MIGHTY OR UNDER-POWERED?

The Slow Response of Inflation

In early 2016 the ECB doubled down on these policies, increasing the rate of government bond purchases (and adding nonbank corporate bonds to the program) and lowering its policy rate even further (so that banks depositing reserves currently pay 40 basis points for the privilege of doing so).

25. A more comprehensive account is conveniently provided by Vitor Constâncio in “Role and Effects of the ECB Non-standard Policy Measures,” remarks at the ECB Workshop Monetary Policy in Non-Standard Times, September 11 and 12, 2017 (<https://www.ecb.europa.eu/press/key/date/2017/html/ecb.sp170912.en.html>).

The measures have been effective in many dimensions. Short-term money market rates have gone negative, and long-term rates have moved close to zero. Credit spreads on peripheral country sovereign debt have narrowed sharply (albeit with some reversal with respect to Italy during the second quarter of 2018). And a third GDP dip was averted. But, despite these measures, inflation, though generally above zero, still bumps around well below 2 percent. Although one can accept that a gradual convergence towards that benchmark is to be expected, how can this slow impact be explained?

To some extent the slow convergence of inflation can be attributed to a global phenomenon, namely the so-called flattening of the Phillips curve. A tightening of the labor market measured by falling unemployment rates seems to be having a much smaller impact on wage inflation than was previously the case. This observation applies to many other countries beyond the euro area and may have something to do with increasing indirect competition from China and other emerging economies, lowering the market power of labor in any given country.

But—more relevant to our topic here—to an extent the explanation lies in the fact that the measures described, though quantitatively unprecedented, are, in a certain sense, somewhat less than they seem. This applies both to the interest rate measures and to the asset purchase measures. Although nominal interest rates are at the lowest possible levels, *real* short-term interest rates are far from being exceptionally low.

That is where asset purchases come in. By buying long-term assets, the central bank has been flattening the yield curve—the gap between short- and long-term yields. But, because there has been a global trend towards a reduction in the equilibrium real long-term interest rate, central banks have not pushed market rates as far below the current equilibrium rate as would have been achieved in previous episodes of recession or below-target inflation (cf. Ball et al. 2016).

Naïve criticism of the ECB's asset purchase program speaks of money printing and of an inevitable high inflationary consequence down the road. Such commentary neglects the fact that the exchange of a cash deposit at the ECB for a German government bond is very different from the central bank handing out newly created cash to the government for it to spend. The exchange of two safe and marketable instruments differing mainly in their terms to maturity shifts the yield curve (as mentioned) but does not in itself represent an injection of spending power. In this way, QE is less than it often seems.

By buying the bonds of governments for which there is some perceived credit risk, the ECB does reduce credit risk premia. It is evident that this has had a sizable impact on some credit spreads. But again, note that the ECB's action has been an exchange of assets, not a gift. These QE policies have changed the aggregate size of both sides of the balance sheet of the eurosystem central banks but have had little impact on their net capital. Accordingly, the policies have had a worthwhile effect²⁶ but not the dramatic and dangerous shock feared by critics.

26. Specifically, 1½ percent higher GDP and 50 basis points on inflation by 2018, according to some ECB estimates, and more than that according to estimates circulated by some market participants (cf. Andrade et al. 2016; De Santis and Holm-Hadulla 2017; Gambetti and Musso 2017; see also Vítor Constâncio, "Role and Effects of the ECB Non-standard Policy Measures," remarks at the ECB Workshop Monetary Policy in Non-Standard Times, September 11 and 12, 2017 (<https://www.ecb.europa.eu/press/key/date/2017/html/ecb.sp170912.en.html>)).

8. WHAT ABOUT HELICOPTER MONEY?

If QE asset purchase policies work mainly through the cost of finance and by affecting credit and term premia, would it have been possible for the ECB to make a quicker impact on aggregate economic activity by some more direct means such as helicopter money?

There are two separate questions here. One is whether helicopter money could be effective; the other is whether the ECB's mandate could extend to providing helicopter money.

Under some circumstances, helicopter money has no impact on real economic activity. Models embodying a form of Ricardian equivalence, with expectations and spending behavior fully adjusted to any recent shocks, display this feature.²⁷ But the call for helicopter money is only made at times when the economy is far from equilibrium, and at a time when many economic agents are constrained, not by their lifetime resources but by liquidity constraints. This could even apply to heavily indebted governments. To the extent that helicopter money breaks a liquidity constraint for the recipients, it might have a substantial impact.²⁸ In such circumstances, as Milton Friedman supposed, economic agents picking up dollar—or euro—bills dropped from a helicopter will surely go and spend most of them, thereby increasing aggregate demand and driving up the price level (as well as generating more economic activity).

When it comes to considering how such a policy might be implemented, it becomes evident that the euro area suffers a shortfall of mandate in this area. The distribution of newly created cash without any quid pro quo raises a question not inherent in QE asset purchases: To whom will the cash be distributed? Equally to everyone in the euro area? Such questions clarify that helicopter money falls in the arena of fiscal policy, and international fiscal policy at that.

Can the ECB take it upon itself to make such a lump-sum distribution across the 19 euro area countries, with the wide differences in income levels within and between them? (After all, average income in Luxembourg is six times that in Lithuania; accordingly, equal cash distributions to all persons would have dramatically different impacts in the different countries.)

To be sure, QE also has distributional effects. These effects are more complex than they appear at first sight, though probably not as strong in net terms as is sometimes thought.²⁹ For the euro area, the impact seems to be progressive.³⁰

Importantly, though, asset purchases have long been accepted as a normal activity of central banks, which thus have an implicit if not explicit power to carry them out. The central banking history and lore that justify aggressive policies countering financial instability can hardly be said to include an endorsement of such a quasi-fiscal action as helicopter money. The governance requirements are of a clearly different order. Here the ECB

27. Cf. Claudio Borio, Piti Disyatat, and Anna Zabai, "Helicopter Money: The Illusion of a Free Lunch," *Voxeu*, May 24, 2016 (<https://voxeu.org/article/helicopter-money-illusion-free-lunch>).

28. Cf. Buiter (2014) and John Muellbauer, "Helicopter Money and Fiscal Rules," *Voxeu*, June 10, 2016 (<https://voxeu.org/article/helicopter-money-and-fiscal-rules>).

29. See Bunn et al. (2018) and Andrew G. Haldane, "How Monetary Policy Affects Your GDP," Finch Lecture, University of Melbourne, April 10, 2018 (<https://www.bankofengland.co.uk/-/media/boe/files/speech/2018/how-monetary-policy-affects-your-gdp-speech-by-andy-haldane.pdf>).

30. Vítor Constâncio, "Inequality and Macroeconomic Policies," address to the European Economic Association, August 22, 2017 (<https://www.ecb.europa.eu/press/key/date/2017/html/ecb.sp170822.en.html>).

would probably be seen as exceeding its mandate and entering into activities lacking democratic legitimacy. A legal challenge would, I expect, be successful.³¹

An essentially equivalent economic effect would, however, be achieved if euro area governments and the ECB came to an understanding that the latter would maintain financial market conditions through continued intervention in government bond markets to enable governments to coordinate the expansion of the spending necessary to expand aggregate demand without this spilling over onto their cost of borrowing.

Clearly such coordination would need extremely careful governance to ensure continued central bank independence and to prevent the risk of fiscal dominance. Independent measures adopted by fiscal and monetary authorities, each taking account of what the other is doing, would be necessary.

But this brings us back to the macroeconomic policy failures of 2010–11. I refer to the reluctance of those euro area governments that had sufficient fiscal headroom to keep spending, and the ECB's failure to recognize during 2011 the emerging deficiency of aggregate demand.

At its heart, the call for helicopter money is essentially a call for a more expansionary fiscal policy. The independent central bank's role would be to ensure that it does not act in such a way that financial markets respond to needed fiscal expansion by choking it off. Achieving this balance within the legal and political structures of the euro area would be delicate and challenging, though perhaps not impossible if it proved necessary (as it does not at the moment) to bring inflation back on target.

9. CONCLUDING REMARKS

The global financial crisis has gradually drawn the ECB into policy areas and instruments for which its mandate is less explicit, though no less real. Like other major central banks, it has had to innovate in response to developments in globalization, in commodity price fluctuations, and in unusually large fiscal deviations. In doing so, it has been criticized for working at or beyond the limit of its mandate. Yet it has recognized the unique challenges of democratic legitimacy and the unique political constraints that it faces in the multi-country currency union. And the ECB's expanded bank supervision role with the multi-country Single Supervisory Mechanism (SSM) has involved similar issues.

Having tested the limits of their mandates, the ECB and other European central banks are unlikely to want to return to the light touch policy of the 1990s (Blinder et al. 2017). The ECB should certainly not unlearn the lessons of the past few years.

In particular, the ECB's monetary toolkit makes it now arguably as fully equipped to deal with similar crises in the future as that of any other central bank. Having abandoned the separation principle, its policy decisions should be based on a more holistic view of monetary transmission and of the ECB's full mandate.

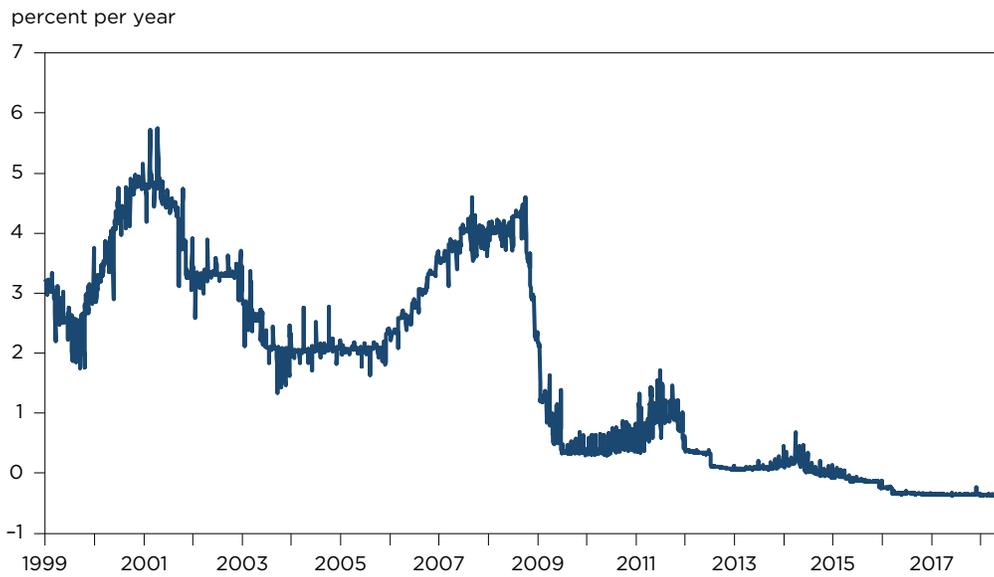
The wider toolbox that the ECB, like other central banks, has been using to address a wider set of policy goals than mere price stability calls for careful communication. This is true in general, especially as achievement of these goals is not so easy to verify. In the multi-country euro area, where suspicion about covert transfers between different countries has been a constant theme in public discourse, precise and thorough communication is even more vital if sufficiently broad public acceptance of the ECB and its role is to be assured in the years ahead.

31. Despite its formal independence, the effectiveness of the ECB, like that of any central bank, does depend on it maintaining a degree of democratic legitimacy.

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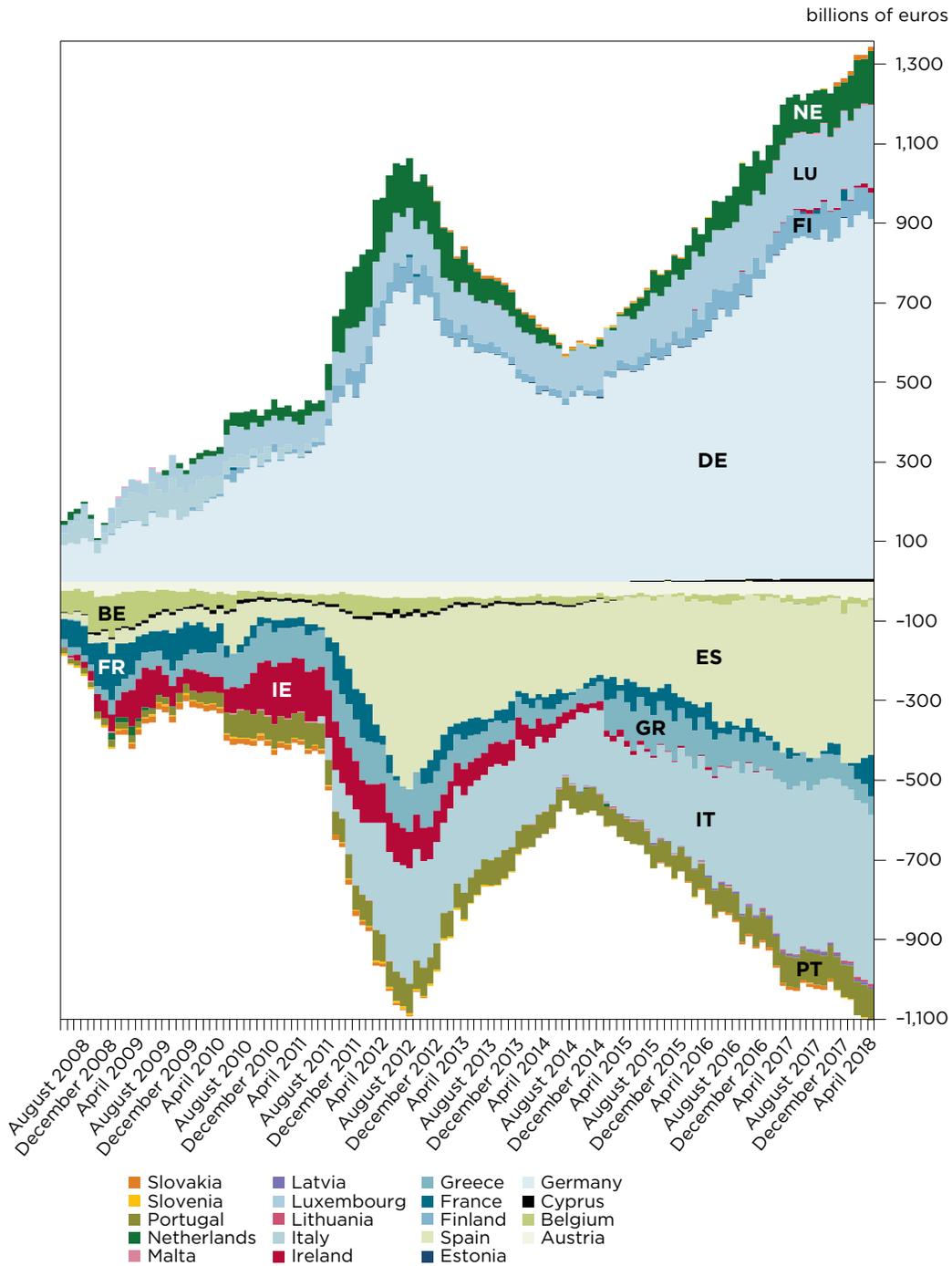
Figure 1 Euro area money market rate (EONIA)



EONIA = Euro OverNight Index Average

Source: European Central Bank.

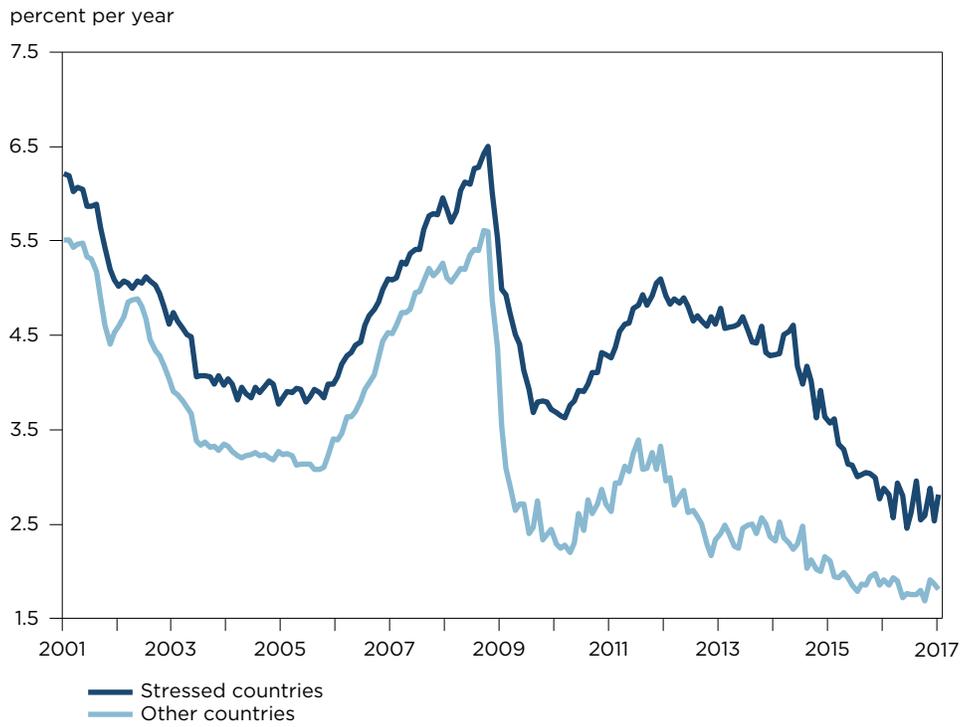
Figure 2 Net creditor and debtor positions of each national central bank in the eurosystem



BE = Belgium; DE = Germany; ES = Spain; FI = Finland; FR = France; GR = Greece; IE = Ireland; IT = Italy; LU = Luxembourg; NE = Netherlands; PT = Portugal

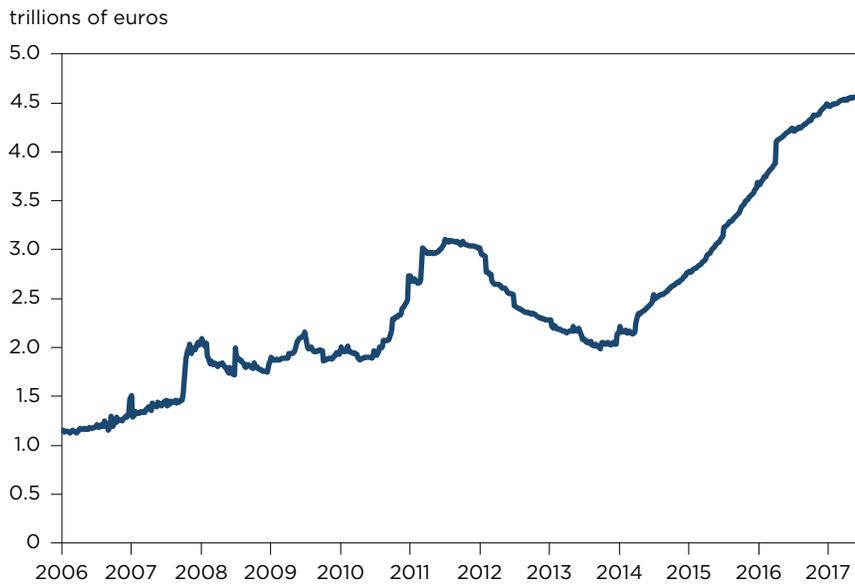
Source: European Central Bank.

Figure 3 Bank lending rates to stressed and other countries in the euro area



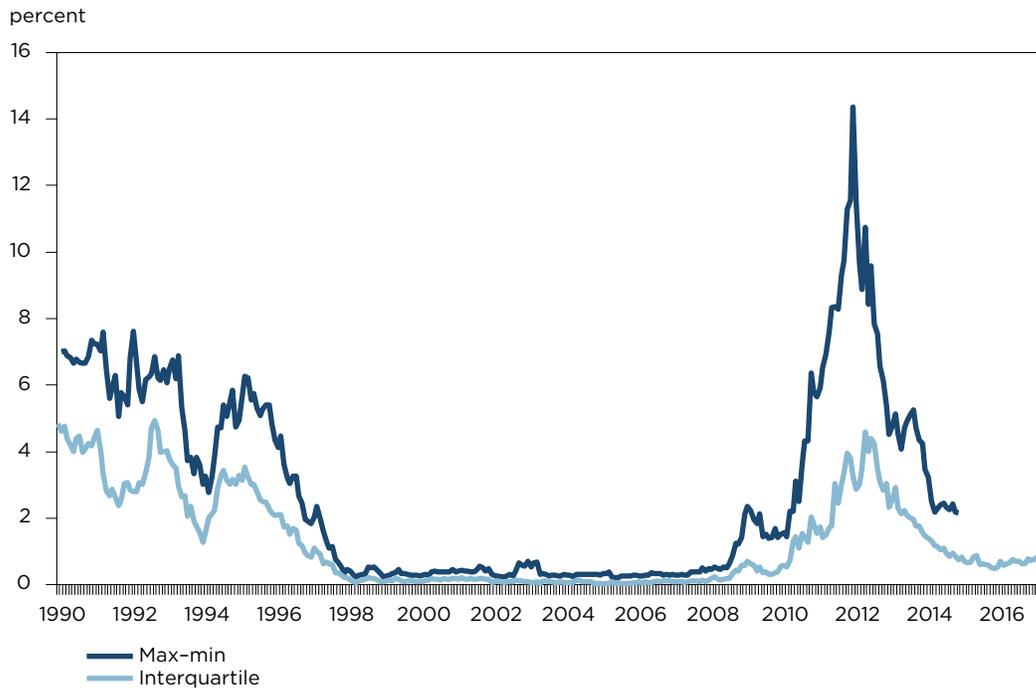
Source: European Central Bank.

Figure 4 Total assets of ECB



Source: European Central Bank.

Figure 5 Euro area sovereign 10-year bond yields, interquartile and maximum-minimum ranges



Source: European Central Bank.