# Weathering the Storm

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## *The Financial Crisis and the EU Response*

### *Volume II*
### *The Response to the Crisis*

**Javier Villar Burke**

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*Weathering the Storm: The Financial Crisis and the EU Response, Volume II: The Response to the Crisis*



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## Abstract

*Weathering the Storm* explores the factors leading up to the recent global financial and economic crisis, how the crisis unfolded, and the response of European and national authorities. The book describes the rationale behind the measures undertaken to mitigate the consequences of the recession and to ensure that a similar situation does not happen again in the future.

In the wake of the crisis, various major changes continue to significantly affect the life and social organization of Europeans. For instance, a new ESM with a size financially comparable to that of the IMF was created; similarly, the reforms in economic governance imply much more intrusive participation of European countries in each other's macroeconomic policies. Moreover, the organization, regulation, and supervision of the financial sector have been drastically revamped.

The decisions taken by European and national authorities affect the daily lives of hundreds of millions of European citizens and countless more around the globe. An insightful read for anyone interested in understanding the topic and its effect on their lives, the book primarily addresses undergraduate students in their final year and graduate students in fields such as economics, finance, and political science. The main messages are explained through examples and charts. After reviewing the origins of the financial crisis in the first volume, this second volume focuses on the response given by national and European authorities.

## Keywords

capital markets, economic and monetary union, economic governance, euro area, European Union, financial crisis, financial markets, financial regulation, financial stability, sovereign crisis, sovereign stability instruments

# Contents

# Disclaimer

The opinions and statements expressed in this book are strictly personal and cannot be attributed in any way to the European Commission.

# Preface

The seed of this book was planted in early 2009 when I joined a group of colleagues providing presentations for groups visiting the European Commission. Many universities across Europe organize study visits to Brussels and the European institutions. It is not only universities, however, as groups of local authorities, entrepreneurs, and citizens also participate in similar study trips. Between 2009 and 2013, I had the chance of delivering over 20 such presentations to visitors to explain what the European institutions were doing to confront and overcome the crisis. The initial focus was on the rescuing of banks and countries confronted with financial difficulties. However, the messages evolved with the rapidly changing circumstances and broadened to include other subjects, such as ongoing policy reactions toward economic governance or the regulatory reform of financial services.

Speaking with these visitors highlighted the difficulties that citizens, whether they had an economic background or not, had in following and understanding the complex developments. While the circumstances leading to the crisis originated many years before and were built up over a long period of time, important decisions were taken in a matter of three or four years. The aim of these measures was to stabilize markets, to foster the capacity of the financial system to provide credit, and, ultimately, to establish the conditions for the creation of jobs and growth.

I thought that explaining the circumstances underlining these decisions, what they intend to achieve and what they entail was so important that it should be made available beyond the selected few who had the opportunity to visit Brussels, thus providing the impetus for this book.

I am very grateful for being able to have enjoyed the privilege of working for two of the main departments of the European Commission dealing with the response to the crisis—DG ECFIN and DG FISMA—while also following very closely the work of the third one—DG COMP. Therefore, I have tried to compile the views from those different perspectives

from the lens of my own personal interpretation. Nevertheless, I sought to remain as objective as possible and to base my opinions on evidence. I have compiled a significant amount of data, presented mainly in a visual format, throughout the different chapters, as another key added value of this book.

# Acknowledgments

I would like to thank the following colleagues and friends for their support and very useful comments in drafting the manuscript: Elemer Tertak, Stan Maes, Harald Stieber, Eleuterio Vallelado González, Carlos Garriga, Martin Spolc, Lars Boman, Matteo Salto, Victor Savin, Lucia Ribacchi, Gisele Hites, Toan Phan, Santosh Pandit, Miroslav Bozic, Manuel Thenard, Monika Nauduzaite, Rainer Wessely, Christian Engelen, Felix Karstens, Andrea Bomhoff, Stefan Pieters, Maurits Pino, and Francisco Espasandín Bustelo. Moreover, Jane Gimber, Caroline Simpson, Priscila Lee Burke González, Brenda Maher, and Stephen Curzon helped me with my ever-improvable English. Of course, any remaining errors are only my fault.

This book would not have been possible, however, without the hard work of many others. This is particularly true given the way decisions are taken in the EU with the collegiality approach of the Commission and the consensual method of Council and the European Parliament. This implies that decisions incorporate the contributions of many people and the views of many parties. While it is therefore impossible to mention all the colleagues from whom I have gained insight and with the risk of forgetting some important people, I would like to highlight a few individuals with whom I have most closely collaborated and gained valuable knowledge and support in my daily work and whose impact has ultimately contributed to making this book possible (in alphabetical order): Benjamin Angel, Markus Aspegren, Boris Augustinov, Alberto Bacchiega, Dilyara Bakhtieva, Nathalie de Basaldúa, Ugo Bassi, Leonie Bell, Andrea Beltramello, Álvaro Benzo, Alexandra Berketi, Sean Berrigan, Niall Bohan, Chris Bosma, Andreas Breitenfellner, Pamela Brumter-Coret, Alfonso Calles Sánchez, Nadia Calviño, Francesca Campolongo, Jessica Cariboni, Sarai Criado, Angela D'Elia, Lucía de Lorenzo Serrano, Miguel de la Mano, Ioana Diaconescu, Marie Donnay, Ann Sophie Dupont, Luis Fau, Leila Fernández Stembridge, Florence François-Poncet, Christophe Galand, María Teresa González Gómez, Carlos González Maraval,

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An important part of the analysis presented here is based on data published by various authorities either at the national or the European level. I would like to thank the different statistical institutes and central banks as well as their staff for their contribution, without which my understanding of how the economy works would have been much more limited. Similarly, the compilation of this public data would not have been possible without the collaboration of the many anonymous citizens and companies that have replied to surveys for statistical purposes.

# PART C

# Supporting the Financial System and Sovereigns Under Financial Stress

In Volume I, we have seen how a series of dysfunctionalities and flaws built up over the years and remained concealed or unnoticed under high economic growth. These imbalances and risks were eventually uncovered by the crisis. Volume II presents how public authorities, both at national and EU level, responded to the crisis from many different fronts both on a temporary basis to address some urgent and *ad hoc* issues and on a permanent basis to tackle structural problems in certain policy areas.

While adapting to the changing circumstances, the European institutions made an effort to coordinate and plan the response to the crisis at European level. This task was mainly undertaken by the European Commission and the European Council. The European Parliament, the European Central Bank (ECB), and the Eurogroup were also involved. These coordination exercises were translated into a series of strategic documents setting roadmaps or blueprints for the actions to be taken (see Table 10.1).

The various measures undertaken as a response to the crisis can be classified into four main areas (Figure C.1). The first area refers to the measures to address the flaws in the single financial market surfaced by the crisis. Some urgent measures were needed to stabilize financial markets and avoid the collapse of the financial system in the short run. The impact of those measures on competition and on the level playing field was mitigated not only by the fact that they were temporary but also by specific conditions required on the institutions receiving support. On the other hand, a comprehensive regulatory reform agenda was launched to fix the underline structural deficiencies and to avoid that a similar situation could repeat in the future.

The second area refers to the crucial role played by the ECB in stabilizing financial markets in the most acute moments of the crisis but also later on. A third approach targeted the few EU Member States that were confronted with extremely high borrowing costs to the point to lose market access. A solidarity framework was created to address this problem. Finally, other measures aimed at improving ex-ante economic policy coordination among EU Member States, including a strategy for growth and jobs.

In Chapter 3, we have seen how the first wave of the crisis affected financial institutions and the public accounts of some EU countries. The two chapters of Part C focus on the emergency financial support provided

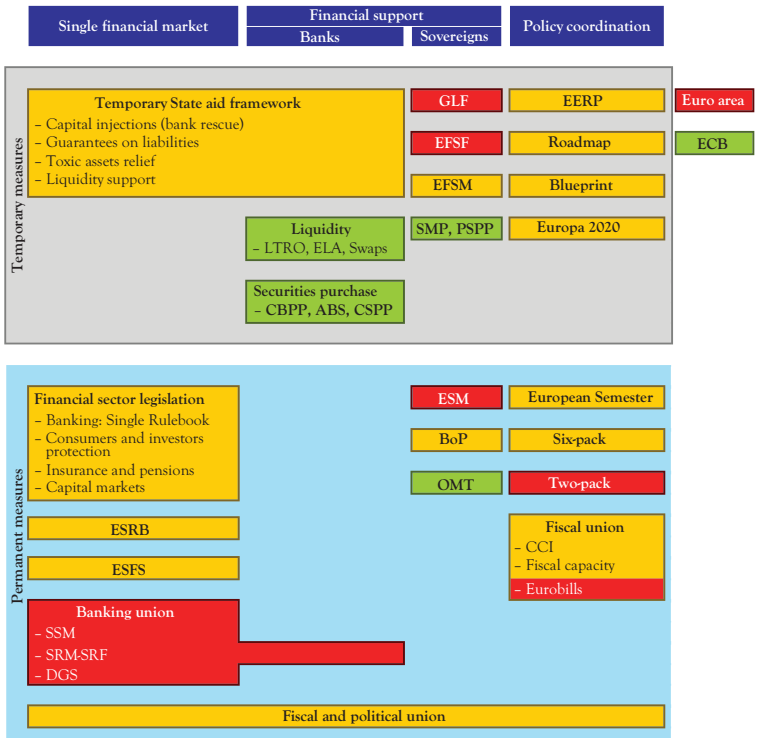


***Figure C.1 Response to the financial crisis: an overview***

National and European authorities reacted to the crisis throughout different fronts.

*Source:* Own elaboration.

*Notes:* A list of acronyms is available at the end of the book. Their meaning is explained throughout the different chapters.

to both financial institutions (Chapter 4) and to sovereigns under stress (Chapter 5). These efforts aimed at stabilizing the system through a sort of fire brigade. Fixing the flaws from a more structural perspective is discussed in Parts D (dealing with the regulatory reform) and E (discussing macroeconomic policies).

# CHAPTER 4

# Supporting the Financial System

The crisis, which first erupted in the United States, quickly spread to Europe by strongly affecting large European financial institutions involved in financing the U.S. subprime boom. Moreover, idiosyncratic problems in some EU economies—such as excessive housing booms and the contagion to the countries that financed them—further deteriorated the situation. Chapter 1 highlights how financial institutions, and banks in particular, are responsible for critical functions of the economy such as the payments systems and the channeling of credit flows. Therefore, the first reaction of public authorities was to develop emergency measures to prevent the collapse of the financial system and to avoid contagion to other parts of the economy.[1]

These emergency measures mainly consisted of (1) direct injections of capital by public authorities to banks that had suffered losses so significantly that their solvency was threatened and (2) State guarantees over bonds issued by banks under financial stress. Furthermore, those measures were complemented by the relief of impaired or toxic assets, other liquidity measures, and the support provided by the ECB in the form of liquidity injections and other measures.

State aid support is, in principle, forbidden by the EU Treaties because it distorts normal competition among economic agents. A bank operating under sound management and which does not require public support

[1] Admittedly, banks perform, under the same roof, other activities that are not necessarily so fundamental for the rest of the economy. An important axis of the response to the crisis addresses this issue, namely, to isolate critical functions of the banks from other more speculative activities, so that the banking systems become more robust to withstand shocks and banks' incentives become more aligned with those of the overall economy and society. For further details, see Part D.

may find itself at a competitive disadvantage with respect to other banks which have received State aid after having undertaken excessive risks.

The balance between the need to address the turmoil in the financial markets and to maintain fair competition was addressed by the European Commission through a series of Communications. These Communications set temporary rules on State aid in response to the economic and financial crisis. Some rules tackled the credit squeeze in the financing of real economy by allowing Member States to grant subsidized loans, loan guarantees at reduced premium, risk capital for small and medium-size enterprises (SMEs), and direct aids up to a certain limit. The rules also clarified under which circumstances and how governments would be allowed to recapitalize banks, how to set guarantee schemes for bank debt, how to relieve banks from impaired assets, and included details about other support measures.[2]

The Communications aimed at addressing urgent problems while preserving the level playing field between banks receiving State support and those that did not, as well as between countries implementing such measures and those which did not. In fact, banks receiving support were required to present a viability plan to regain a sound position after implementing restructuring measures.

The temporary measures were initially established until 2010 although they were later updated and prolonged. The last modification of the temporary State aid rules entered into force in summer 2013. These new rules explicitly require a burden sharing of losses and problems of failing banks by private investors or creditors before public money can be deployed to support said banks. The rules constituted a transitional framework until the *Bank Recovery and Resolution Directive* (BRRD), which provides a permanent framework for crisis management in the financial sector, entered into force in 2015–2016.[3]

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[2] These were the so-called "Banking" Communication, the "Recapitalization" Communication, the "Restructuring" Communication, the "Prolongation" Communication, and the "Impaired assets" Communication. See the references for Part C.

[3] See Part D for further details.

The public assistance provided to the financial sector in the context of the crisis can be measured in two ways: how much aid financial institutions have received (Section 4.1) and how public accounts have been impacted by providing financial assistance (Section 4.2). Furthermore, the ECB also played a crucial role in supporting the financial system (Section 4.3).

## Public Support Received by Financial Institutions

### *Capital Injections*

The capital of a bank, as in any other company, represents the funds invested by the shareholders or owners, which enables them to take business decisions and participate in the bank's profits. The capital also constitutes a guarantee for all other stakeholders interacting with the bank: from depositors and borrowers to employees and suppliers. This is so because the capital is the first layer for the absorption of losses.

Without entering into an in-depth analysis of underlying reasons—misconduct, excessive risk-taking, external shocks, and so on[4]—the crisis generated significant losses in a number of banks. Capital was significantly eroded or even totally wiped out. With close to zero or even negative capital, banks needed to be liquidated and their operations wounded down unless they were able to obtain fresh capital. Given the circumstances—global financial turmoil, widespread lack of trust, and so on—obtaining capital from private sources was in most cases not an option. Therefore, public authorities were forced to step in as "last resort" to rescue the financial system by directly bailing out the banks with the most acute problems.

Injecting capital constitutes the most intrusive intervention that a government can undertake in a financial institution as it implies a *de facto* nationalization—or partial nationalization, depending on the proportion of capital remaining in private hands. Governments are, in general, quite reluctant to undertake this type of intervention because, under

[4] Some of these aspects have been mentioned in Chapter 3; further details are also developed in Section D.

the capitalist system, such activities are considered to be better managed privately. However, the issue is substantially more complex. First of all, private management was probably responsible for decisions leading to the financial crisis and, therefore, it was difficult to trust the same people to implement a solution. Secondly, in some Member States, a non-negligible market share of financial services was already provided by public banks—for instance, the Landesbanken in Germany or the Cajas in Spain. Banks were considered a strategic sector and, therefore, having large public banks was not perceived as a "socialist" policy. In any case, in order to mitigate an excessive direct implication of public authorities in financial markets, capital injections were expected to be temporary. Moreover, in a certain number of cases, the appointment of management remained in private hands despite the significant amounts of capital injected by public authorities.

In concrete terms, EU banks received almost €450 billion of capital injected by governments (equivalent to 3.4 percent of the EU GDP) between 2008 and 2013.[5] British banks received the most (€100 billion) followed by German, Irish, and Spanish banks (more than €60 billion in each country). Greek banks received over €40 billion and French, Belgian, and Dutch banks received more than €20 billion. In the other Member States, capital injections were around or below €10 billion (Figure 4.1).

In relative terms, Irish and Greek banks received the largest support in the form of capital injections (38 and 22 percent of GDP, respectively). Cypriot, Portuguese, and Slovenian banks received government capital equivalent to 8 percent or more of GDP. In Belgium, Luxembourg, Spain, and the United Kingdom, banks received the equivalent to between 5 and 6 percent of GDP. In Denmark, The Netherlands, and Austria, banks were injected with an amount of capital equivalent to about 4 percent of GDP.

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[5] By the time of writing, consolidated data were only available for the 2008–2013 period. However, a few additional public interventions were also undertaken in 2014 and 2015, in many cases linked to resolution. According to the list of cases published by DG Competition, State aid for restructuring or resolving banks was provided by the governments of Austria, Greece, Ireland, Cyprus, Bulgaria, Italy, Hungary, Germany, and Portugal during those two years. That being so, the total amount mobilized remained much lower than the quantities injected during the first years of the crisis.

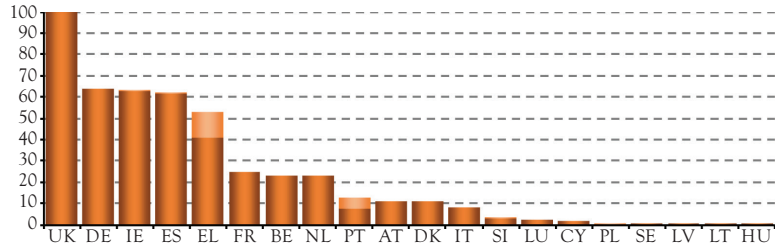


***Figure 4.1 Capital injected in banks by public authorities, 2008–2014 cumulative, € billion***

The crisis required large capital injections by public authorities to support their respective banking systems. This included both "core" countries like the UK, Germany, and France, as well as "peripheral" countries like Ireland, Spain, and Greece.

*Source:* European Commission (DG COMP) and own calculations.

*Notes:* Data for 2014 refer to approved injections (not effective injections) and until September only; they are marked with a lighter shade.

In all other Member States, the injections were below the EU average (of 3.4 percent of GDP) (Figure 4.2).

The crisis hit different Member States at different moments. In the early stages of the crisis, core countries supported their banking systems. Indeed, the banks that needed public support in terms of capital in 2008 and 2009 were located in the United Kingdom, Germany, France, Belgium, The Netherlands, Denmark, Austria, and Luxembourg, that is, mainly in "core" EU and euro area countries. In 2010, Irish banks received significant capital injections and banks in the United Kingdom and The Netherlands received a second wave of capital injections. This was linked to the strong involvement in the U.S. subprime market of these countries and to excessive lending to EU problem countries.

Later on, banks from "peripheral" countries also needed financial support. This was linked to internal problems such as the housing boom and other excessive risk-taking by banks. But it was triggered by the freeze in their funding sources—for instance, the interbank lending that banks in peripheral countries were obtaining from banks in core countries. In 2011 and 2012, support was mainly provided to banks in Spain, Greece, Portugal, and Cyprus. Support in 2013 was significantly lower than in previous years (Figure 4.3). British banks were particularly hit because they were not only deeply involved in the U.S. subprime crisis but also confronted by a domestic housing boom.

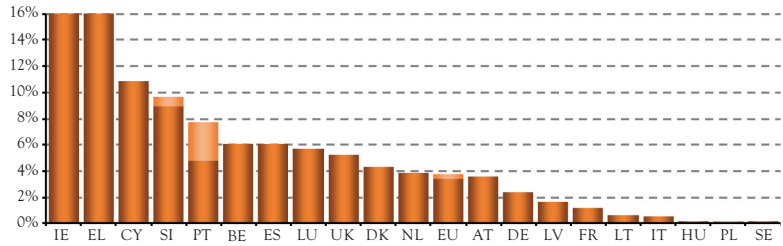


***Figure 4.2 Capital injected in banks by public authorities, 2008–2014 cumulative, percentage of GDP***

Relative to GDP, public capital injections were larger in "peripheral" countries like Ireland, Greece, Cyprus, or Slovenia. This significantly deteriorated the fiscal position of these countries.

*Source:* European Commission (DG COMP) and own calculations.

*Notes:* Data for 2014 refer to approved injections (not effective injections) and until September only; they are marked with a lighter shade. Ireland: 38.3 percent; Greece: 22.4 percent (29.2 percent including approved measures in 2014).

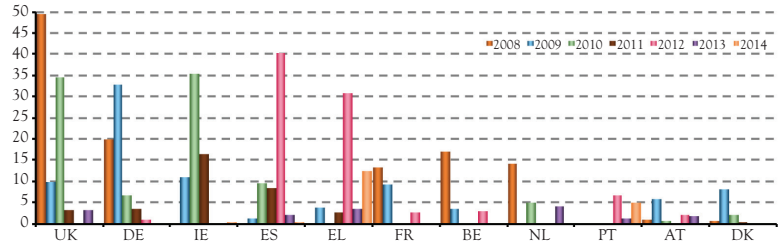


***Figure 4.3 Capital injected in banks by public authorities, annual data, € billion***

Capital injections unfold at different moments across countries. Losses in "core" countries were mainly originated in the holdings of "toxic" assets linked to the US subprime crisis and materialized in the early stages of the crisis. Losses in "peripheral" countries were more linked to the deterioration of the general economic outlook and the burst of domestic bubbles. Therefore, these losses were incurred a few years after the outbreak of the crisis.

*Source:* European Commission (DG COMP) and own calculations.

*Notes:* Data for 2014 refer to approved injections (not effective injections) and until September only. The chart includes the countries with more than €10 billion of total capital injections.

Greece and other peripheral countries have been pointed out as the countries with the longest and most severe crises. However, one should not forget that the financial system in some core countries, such as the United Kingdom or Germany, was also significantly hit by the crisis in its initial phases, although more in absolute terms than relative terms (Figure 4.4) given the large size of these countries.

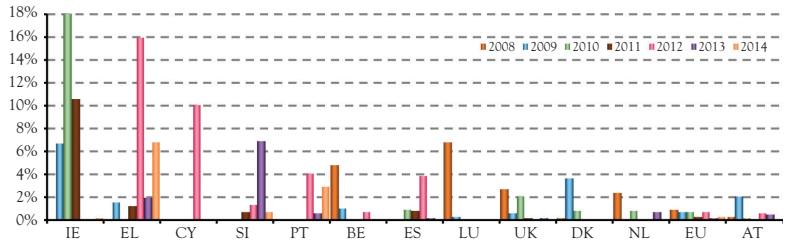


***Figure 4.4 Capital injected in banks by public authorities, annual data, percentage of GDP***

See comments to Chart 4.3.

*Source:* European Commission (DG COMP) and own calculations.

*Notes:* Data for 2014 refer to approved injections (not effective injections) and until September only. The chart includes the countries with total capital injections equivalent to more than 3 percent of GDP.

### *Guarantees on Bank Liabilities*

Banks are among the companies with the highest leverage. This means that most of their activities are financed via recourse to debt or, to put it differently, the amount of capital is very limited in relation to the total size of the banks' balance sheets—typically between 3 and 6 percent of total assets (see Chapter 1). The crisis eroded investor confidence and the latter started to question the solvency of certain financial institutions as well as their capacity to pay back debts (see Chapter 3). Therefore, governments not only injected capital directly into banks, but also supported the financial system by guaranteeing bonds issued by banks. In 2009, at the peak of the crisis, government guarantees on EU bank liabilities amounted to €840 billion, about twice as much as the total amount of capital injected up to 2013.

Ireland and Denmark initially provided a "blanket" guarantee. This meant that the State guaranteed all outstanding bonds issued by the banks in their jurisdictions and not only new issuances as had been the case in all other countries. Consequently, despite their small size, these two countries were among the countries with the largest government guarantees (a peak of €285 billion for Ireland and €145 billion for Denmark). The blanket guarantee expired in 2009 in Denmark and in 2010 in Ireland. Besides these two specific cases, banking systems in core countries were the first ones to need government support, as was the case for capital

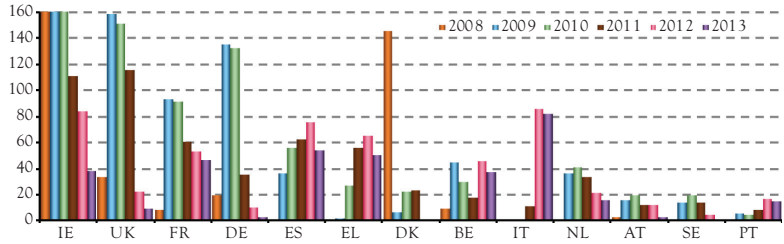


***Figure 4.5 Government guarantees on bank liabilities, outstanding amounts, € billion***

See comments to Chart 4.3.

*Source:* European Commission (DG COMP) and own calculations.

*Note:* Ireland: 2008 = €180 billion; 2009 = €284 billion; 2010 = €196 billion. The chart includes the countries which had more than €10 billion of outstanding guarantees.

injections. In the 2008–2010 period, the United Kingdom and Germany guaranteed more than €120 billion of bonds issued by their banks; and France guaranteed more than €80 billion. Thereafter, the amount of outstanding guarantees decreased as bonds matured.

Peripheral countries like Spain, Greece, and Portugal, guaranteed larger amounts of bank bonds in the 2011–2013 period than in previous years (Figure 4.5). Guarantee schemes needed to be approved by the European competition authorities (the European Commission) and the approvals required renewal every six months. The financial system stabilized in most countries after a couple of years; however, in a few countries—for instance, in Cyprus and Portugal—guarantee schemes were prolonged until 2015 and beyond.[6]

In relative terms, guarantees on bank bonds peaked at 7.1 percent of EU GDP in 2009 and shrunk to 2.7 percent in 2013. Besides the blanket guarantees in Ireland and Denmark, the use of guarantees appears to have been largest in Greece, followed by Cyprus, Belgium, and the United Kingdom. While guarantees declined in the countries initially hit by the crisis, in 2013 they were still significant—above 5 percent of GDP—in Greece, Belgium, Portugal, Luxembourg, Cyprus, and Spain (Figure 4.6).

[6] See decisions by DG Competition.

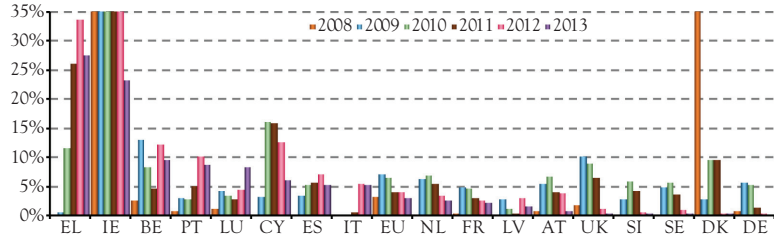


***Figure 4.6 Government guarantees on bank liabilities, outstanding amounts, percentage of GDP***

See comments to Chart 4.3.

*Source:* European Commission (DG COMP) and own calculations.

*Note:* Ireland: 2008 = 97%; 2009 = 174%; 2010 = 127%; 2011 = 71%. Denmark: 2008 = 62%. The chart includes the countries which had guarantees equivalent to 5 percent of GDP or more.

Since then, the amount of liabilities guaranteed by governments has significantly declined in most countries.[7]

### *Other Support*

As discussed in Chapter 3, the erosion in confidence in the initial phases of the crisis was linked to the difficulties in assessing the actual value of the portfolios of securitized U.S. subprime mortgages and other "toxic" assets in the balance sheets of some European banks. Therefore, some Member States provided additional support to banks by relieving their balance sheets from these toxic assets; this support bears some resemblance to capital injections. Furthermore, some Member States provided direct short-term liquidity support to banks in their jurisdictions.

The use of these other instruments to support the banking system was more limited than the use of capital injections and government guarantees on bonds. Yet, asset relief measures amounted to a total of €188 billion in the period spanning from 2008 to 2013 and liquidity support measures amounted to a total of €70 billion (Figure 4.7). German banks were, by far, those that benefitted most from asset relief from public authorities

[7] Although consolidated data on state aid from DG COMP for 2014 and 2015 are not available, the declining trend can be deduced from Eurostat series (see next section).

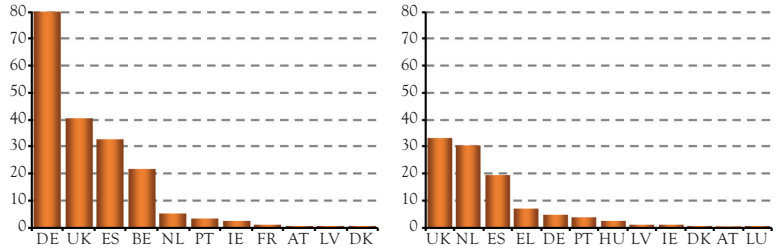


***Figure 4.7 Other support measures, 2008–2014, € billion***

Other support measures were more limited than the capital injections and guarantees on liabilities. Still, they were quite relevant in a few countries.

*Source:* European Commission (DG COMP) and own calculations.

(€80 billion) followed by British (€40 billion), Spanish (€33 billion), and Belgian (€22 billion) banks. Liquidity support measures other than guarantees were mainly used in the United Kingdom (€33 billion), The Netherlands (€30 billion), and Spain (€19 billion).[8]

In relative terms, asset relief measures or liquidity support measures represented approximately 3 percent or more of GDP in Belgium, The Netherlands, Greece, Spain, Germany, and Latvia. Support in other Member States was below 3 percent of GDP (Figure 4.8).

## The Support to Financial Institutions: Impact on Public Accounts

The previous section discusses the financial support received by financial institutions in order to withstand the crisis. This section looks at the other side of the coin, namely, how this support has affected public finances. In the context of the Stability and Growth Pact[9] and the monitoring of public accounts, the European Commission (Eurostat)

[8] As shown on Figures 4.7 and 4.8, countries like Ireland, Slovenia, Denmark, and Austria intended to provide additional support to their banking systems in 2014; however, data about the effective use of the approved amounts are not available.

[9] See Chapters 2 and 8.

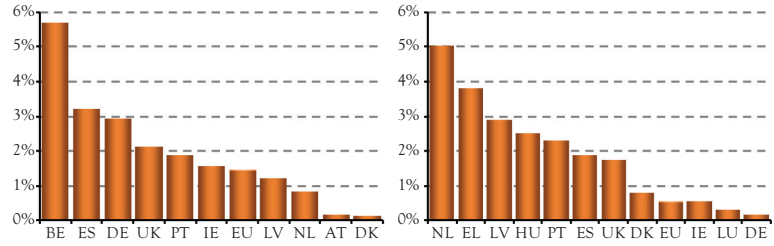


***Figure 4.8 Other support measures, 2008–2014, percentage of GDP***

See comments to Chart 4.7.

*Source:* European Commission (DG COMP) and own calculations.

provides data on public debt, public deficit, and contingent liabilities linked to the support provided to financial institutions throughout the crisis.

The two different ways of measuring the public support provided to financial institutions can be illustrated with an example. A capital injection of €10 billion in a bank would be reported as such in the statistics published by DG Competition. On the other hand, Eurostat would take into consideration whether the capital injection compensates existing losses—thus impacting public deficit—or leads to an actual increase in the capital of the bank—so that it would be computed as an investment in assets. In addition, Eurostat also takes into consideration other expenditures and revenues linked to the operation; for instance, the cost of issuing new debt to finance the operation or the revenues received in the form of dividends.

The impact of public interventions in the financial sector can be summarized using three main indicators: measures that represent a cost and therefore increase deficit—such as capital injections to compensate for a loss, measures that increase government liabilities—such as issuing a sovereign bond to finance a capital injection, and measures that imply contingent liabilities—such as government guarantees on bonds. The interventions in the financial sector may not only lead to an increase in liabilities but also to an increase in public assets—such as bank shares—that is an investment that can be recovered in the future by selling the

asset. The impact on public accounts of the interventions in the financial sector is summarized in Tables 4.1 and 4.2.

The impact on deficit peaked in 2010 with almost €70 billion in the euro area—non-euro area countries had a small surplus in that year. A second peak in deficit can be observed in 2012 with over €50 billion. Since then, the impact on public deficit of interventions in support of the financial sector has significantly declined. Overall, throughout the 2008–2015 period, the support to financial institutions had a cumulative impact on public deficit of €209 billion (€198 billion in the euro area).

Public support leading to government assets and liabilities has been much larger with a peak of over €630 billion in terms of assets and over €710 billion in terms of liabilities observed in 2010. Thereafter, governments have divested over 30 percent of their assets, but they still hold €430 billion linked to support to financial institutions. Since the decline in liabilities has been even smaller, the net support to the financial sector (liabilities minus assets) has maintained an increasing trend to reach more than €200 billion in 2015.

While the declining deficit figures seem to point to a stabilization of the financial system, the high level of outstanding net support indicates that the situation is still far from normalizing. In fact, a value for public liabilities larger than the value of assets indicates potential future losses, unless market conditions significantly improve and governments are able to sell the assets at a higher price than current market value. Therefore, public authorities may need to make a choice between rapidly selling their investments and waiting for better market conditions. The first option is problematic because it would significantly impact the deficit through the materialization of the losses implicit on the figures on net support. However, it is unclear when governments will be able to sell their holdings in financial institutions under favorable conditions. This may prolong the distorted effects of having public companies as significant players in financial markets for quite some time.

The implicit financial support in the form of contingent liabilities was also quite significant—with a peak of over €1,400 billion in 2009. However, it has significantly declined, particularly in the United Kingdom—contingent liabilities declined from a peak of €620 billion in 2009 to nil in 2013. This reflects the government guaranteed bonds issued by banks

*Table 4.1 Impact on public accounts of the support to financial institutions, € billion*

| Government accounts' item | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total or average |
|---|---|---|---|---|---|---|---|---|---|
| **Euro area** | | | | | | | | | |
| Net revenue or cost for general government | −3.0 | −9.6 | −69.6 | −11.0 | −51.5 | −26.0 | −11.6 | −16.3 | −198.5 |
| General government assets | 175.9 | 249.2 | 412.0 | 393.9 | 424.9 | 372.2 | 337.8 | 302.9 | 333.6 |
| General government liabilities | 181.0 | 246.6 | 494.2 | 507.9 | 580.4 | 533.4 | 516.3 | 509.3 | 446.2 |
| Contingent liabilities | 509.3 | 767.8 | 569.1 | 558.6 | 563.7 | 468.3 | 270.2 | 208.8 | 489.5 |
| Net support (liabilities minus assets) | 5.1 | -2.6 | 82.2 | 114.0 | 155.5 | 161.2 | 178.6 | 206.5 | 112.6 |
| Net support including contingent liabilities | 514.5 | 765.2 | 651.3 | 672.6 | 719.2 | 629.4 | 448.7 | 415.3 | 602.0 |
| **EU 28** | | | | | | | | | |
| Net revenue or cost for general government | −8.6 | −17.3 | −67.3 | −9.9 | −48.8 | −26.8 | −12.9 | −17.3 | −209.0 |
| General government assets | 239.2 | 368.8 | 632.2 | 562.2 | 606.5 | 535.8 | 498.5 | 431.4 | 484.3 |
| General government liabilities | 248.5 | 386.5 | 710.8 | 709.8 | 772.8 | 702.9 | 681.2 | 632.5 | 605.6 |
| Contingent liabilities | 848.0 | 1,422.0 | 1,040.6 | 792.5 | 586.5 | 470.7 | 271.0 | 208.8 | 705.0 |
| Net support (liabilities minus assets) | 9.3 | 17.6 | 78.7 | 147.6 | 166.3 | 167.1 | 182.7 | 201.2 | 121.3 |
| Net support including contingent liabilities | 857.3 | 1,439.6 | 1,119.3 | 940.1 | 752.8 | 637.8 | 453.7 | 410.0 | 826.3 |

This table shows the cost incurred by public authorities as a consequence of the various public measures implemented to support the financial sector (with a direct link to the crisis). It also shows how the government balance sheet was affected in terms of assets, liabilities, and contingent liabilities (e.g. guarantees).

*Source:* European Commission (Eurostat) and own calculations.

*Notes:* The last column includes the total for the whole period for the first indicator (net revenue or cost) and the average for the 2008–2015 period for the other indicators (assets, liabilities and net support). In 2007, contingent liabilities were €37 billion for non-euro area countries; the impact on the rest of the items was negligible.

*Table 4.2 Impact on public accounts of the support to financial institutions, percentage of GDP*

| Government accounts' item | 2008 (%) | 2009 (%) | 2010 (%) | 2011 (%) | 2012 (%) | 2013 (%) | 2014 (%) | 2015 (%) | Total or average (%) |
|---|---|---|---|---|---|---|---|---|---|
| **Euro area** | | | | | | | | | |
| Net revenue or cost for general government | 0.0 | −0.1 | −0.7 | −0.1 | −0.5 | −0.3 | −0.1 | −0.2 | −2.0 |
| General government assets | 1.8 | 2.7 | 4.3 | 4.0 | 4.3 | 3.7 | 3.3 | 2.9 | 3.4 |
| General government liabilities | 1.9 | 2.7 | 5.2 | 5.2 | 5.9 | 5.4 | 5.1 | 4.9 | 4.5 |
| Contingent liabilities | 5.3 | 8.3 | 6.0 | 5.7 | 5.7 | 4.7 | 2.7 | 2.0 | 5.0 |
| Net support (liabilities minus assets) | 0.1 | 0.0 | 0.9 | 1.2 | 1.6 | 1.6 | 1.8 | 2.0 | 1.1 |
| Net support including contingent liabilities | 5.3 | 8.2 | 6.8 | 6.9 | 7.3 | 6.3 | 4.4 | 4.0 | 6.2 |
| **EU 28** | | | | | | | | | |
| Net revenue or cost for general government | −0.1 | −0.1 | −0.5 | −0.1 | −0.4 | −0.2 | −0.1 | −0.1 | −1.6 |
| General government assets | 1.8 | 3.0 | 4.9 | 4.3 | 4.5 | 4.0 | 3.6 | 2.9 | 3.6 |
| General government liabilities | 1.9 | 3.2 | 5.6 | 5.4 | 5.8 | 5.2 | 4.9 | 4.3 | 4.5 |
| Contingent liabilities | 6.5 | 11.6 | 8.1 | 6.0 | 4.4 | 3.5 | 1.9 | 1.4 | 5.4 |
| Net support (liabilities minus assets) | 0.1 | 0.1 | 0.6 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 0.9 |
| Net support including contingent liabilities | 6.6 | 11.7 | 8.7 | 7.1 | 5.6 | 4.7 | 3.3 | 2.8 | 6.3 |

See comments to Table 4.1.

*Source:* European Commission (Eurostat) and own calculations.

*Note:* The last column includes the total for the whole period for the first indicator (net revenue or cost) and the average for the 2008–2014 period for the other indicators (assets, liabilities, and net support).

that are not rolled over when they mature—or at least not with a new guarantee.

In relative terms, government support to the financial sector meant an accumulative deficit increase of 2 percent of euro area GDP (1.6 percent in the EU as a whole). By 2015, the net support in terms of liabilities minus assets was 2.0 percent of GDP in the euro area and 1.4 percent of GDP for the EU as a whole. These figures, which might eventually need to be absorbed as losses by public accounts, do not seem very problematic in aggregate terms. However, they can be significant in some specific countries (see the example of capital injections in the next subsection).

This context provides the rationale for one of the policy reactions to the crisis: to deepen economic integration in the EU and especially within the euro area, in order to break the financial link between governments and banks with headquarters falling under their jurisdiction. For this, a "Banking Union" is in the process of being implemented (see Part D). Furthermore, proposals to move toward a European fiscal capacity have also been tabled, which would allow social transfers without a direct connection to specific countries (see Part E).

### *Capital Injections as an Example of Impact on Public Accounts and of Differences Across Countries*

The support provided by public authorities to financial institutions may have different effects on public accounts depending on the characteristics of each specific case. This is illustrated by the data on capital injections. Capital injections are recorded as an asset when they can be considered as an investment, that is, when the capital has a value that is expected to be recovered, or as public deficit, when the capital injection is considered a loss. Furthermore, the example of capital injections will also be used to highlight the differences observed across countries that may be concealed on the aggregate figures.

By 2015, up to €220 billion were considered as deficit increasing capital injections and €140 billion were considered investments (Tables 4.3 and 4.4). Deficit-increasing capital injections were mainly provided in Ireland, Spain, and Germany (between €40 and €50 billion in each country) followed by Greece (€21 billion), Austria (€14 billion), the United Kingdom

*Table 4.3 Capital injections recorded as deficit-increasing (capital transfer), € million*

| Country | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|---|---|
| Germany | 2,610 | 3,817 | 33,726 | 500 | 2,100 | | | | 40,143 |
| Ireland | x | 4,000 | 35,393 | 7,121 | 280 | | | 2,111 | 48,905 |
| Spain | | | | 5,136 | 39,068 | 3,019 | 572 | 440 | 48,235 |
| Netherlands | | 2,160 | 928 | | | 1,216 | | | 4,304 |
| Greece | x | | | 395 | 265 | 14,383 | | 6,206 | 21,249 |
| Belgium | | | | 821 | 2,915 | | | | 3,736 |
| Austria | | 2,650 | 675 | 700 | 1,555 | 1,750 | 5,422 | 1,750 | 14,503 |
| Portugal | | | 1,800 | 600 | 856 | 700 | 4,938 | 2,337 | 11,230 |
| Slovenia | x | x | x | 243 | 61 | 3,633 | 352 | x | 4,289 |
| Italy | | | | | | | | 1,747 | 1,747 |
| France | | | | | 2,585 | | | | 2,585 |
| Luxembourg | | | | | | | | | |
| Cyprus | | | | | 93 | | 1,500 | 175 | 1,768 |
| Lithuania | | | 32 | 886 | | 254 | | | 1,172 |
| Latvia | | 204 | 162 | 71 | 55 | –36 | | | 455 |
| **Total EA18** | **2,610** | **12,831** | **72,716** | **16,473** | **49,832** | **24,919** | **12,783** | **14,766** | **204,321** |

(*Continued*)

*Table 4.3 Capital injections recorded as deficit-increasing (capital transfer), € million (Continued)*

| Country | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|---|---|
| United Kingdom | 2,591 | 12,768 | | | | | | | 12,768 |
| Sweden | | | | | | | | | |
| Bulgaria | | | | | | | 741 | 115 | 856 |
| Denmark | | | | 338 | 45 | 27 | | | 410 |
| Croatia | | | 61 | | | | | 65 | 126 |
| Hungary | | | | | | | | | |
| **Total EU28** | **5,201** | **25,599** | **72,777** | **16,812** | **49,877** | **24,946** | **13,525** | **14,946** | **218,481** |

Injections of capital by public authorities can increase government deficit, when they compensate incurred losses (Table 4.3); or increase government assets, when they can be considered an investment (Table 4.4).

*Source:* European Commission (Eurostat) and own calculations.

*Notes:* "x" indicates that data are not disclosed due to confidentiality reasons. Totals are calculated taken into account available data only.

*Table 4.4 Government assets: Shares and other equity in financial institutions, € million*

| Country | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Average |
|---|---|---|---|---|---|---|---|---|---|
| Germany | 11,200 | 37,883 | 40,033 | 26,866 | 25,243 | 23,617 | 22,017 | 19,829 | 25,836 |
| Ireland | | | 2,315 | 10,706 | 10,986 | 11,266 | 11,266 | 10,098 | 7,080 |
| Spain | | | 8,697 | 9,294 | 8,552 | 5,329 | 4,443 | 4,443 | 5,095 |
| Netherlands | 37,090 | 31,815 | 31,845 | 28,345 | 27,579 | 27,899 | 26,399 | 19,863 | 28,854 |
| Greece | x | 214 | 142 | 485 | 6,693 | 29,890 | 17,133 | 6,152 | 8,673 |
| Belgium | 16,400 | 19,372 | 17,849 | 17,509 | 18,274 | 14,812 | 13,301 | 12,024 | 16,193 |
| Austria | 900 | 5,644 | 5,644 | 5,019 | 4,434 | 3,010 | 635 | 415 | 3,212 |
| Portugal | 930 | 1,930 | 3,796 | 3,796 | 3,416 | 3,416 | 3,380 | 3,755 | 3,053 |
| Slovenia | x | 160 | 160 | 160 | 160 | 187 | 268 | 268 | 195 |
| Italy | | 4,050 | 4,050 | 2,600 | 2,600 | 4,071 | 1,071 | 1,815 | 2,532 |
| France | 323 | 3,451 | 1,463 | | | | | | 655 |
| Luxembourg | 2,406 | 2,535 | 2,535 | 2,535 | 2,608 | 2,608 | 2,608 | 2,608 | 2,555 |
| Cyprus | | | | | 1,796 | | | | 225 |
| Lithuania | | | | | | | | | |
| Latvia | | | 110 | 110 | 110 | 110 | 75 | | 64 |
| **Total EA18** | **69,249** | **107,053** | **118,639** | **107,424** | **112,450** | **126,213** | **102,594** | **81,270** | **103,112** |

(*Continued*)

*Table 4.4 Government assets: Shares and other equity in financial institutions, € million (Continued)*

| Country | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Average |
|---|---|---|---|---|---|---|---|---|---|
| United Kingdom | 13,069 | 51,357 | 67,028 | 35,421 | 57,329 | 63,798 | 68,286 | 59,774 | 52,008 |
| Sweden | 211 | 2,016 | 2,314 | 1,694 | 2,052 | | | | 1,036 |
| Bulgaria | | | | | | | | | |
| Denmark | 0 | 0 | 0 | 20 | 82 | 130 | 210 | 308 | 94 |
| Croatia | | | 69 | 64 | 41 | 40 | 22 | 75 | 39 |
| Hungary | | 111 | | | | | | | 14 |
| **Total EU28** | **82,529** | **160,537** | **188,050** | **144,623** | **171,953** | **190,182** | **171,112** | **141,426** | **156,302** |

See comments to Table 4.3.

*Source:* European Commission (Eurostat) and own calculations.

*Nowtes:* "x" indicates that data are not disclosed due to confidentiality reasons. Averages are calculated since 2008 and taken into account available data only.

(€13 billion), and Portugal (€11 billion). On the other hand, capital injections accounted as investments were mainly recorded in the United Kingdom (€52 billion average for the period 2008–2015), The Netherlands (€29 billion), Germany (€26 billion), and Belgium (€16 billion).

Most countries have started to sell or divest their participations in financial companies. However, only in France has the government completed the divestment of its participation in the capital of national banks. Government participation in financial companies remains significant in a number of other Member States such as the United Kingdom, The Netherlands, Germany, and Belgium.

This overview of countries recalls the fact that the crisis affected both core and peripheral countries and euro area, as well as non-euro area Member States. The actual impact of the crisis on public accounts will only be known when public participation in the capital of financial companies is sold and a profit or a loss can be calculated vis-à-vis the current book value. Furthermore, as we have seen in the previous subsection, funding costs—government liabilities—should also be taken into account.

## Support Provided by the ECB

Besides governments, central banks have also played a crucial role in supporting the financial system throughout the crisis by adapting monetary policies to the rapidly changing circumstances. In 2007 and 2008, the ECB's monetary policy focused on supporting the financial sector with liquidity in a moment when turbulence and the lack of confidence had led to the collapse of interbank markets. In 2009 and 2010, the crisis turned into a sovereign debt crisis and monetary policy widened its scope by also purchasing certain sovereign bonds. The goal was to bring government bond yields back to what should correspond according to each country's economic conditions so that an appropriate monetary transmission could be ensured; public accounts were also indirectly supported.

Faced with the risk of heading toward a creditless economic recovery, in mid-2014 the ECB[10] announced a series of measures aiming at

[10] Monetary policy responsibilities are shared between the ECB and all euro area NCBs that jointly form the Eurosystem. We use the term "ECB" to refer also to the Eurosystem.

reactivating the credit flow to the real economy including a reduction in the policy rate, the reactivation of the longer-term refinancing operations (LTROs) and the purchase of certain bank bonds and asset-backed securities. This somehow constituted a continuation of previous accommodative monetary policy measures in the euro area, but with some modifications. In January 2015, the program was expanded to also include the purchase of bonds issued by euro area governments, agencies, and European institutions. With inflation still at very low levels, the ECB added the purchase of corporate sector bonds to its existing programs in mid-2016.

The goal of this section is to review and put into perspective the various measures the ECB implemented throughout the crisis including the decrease of the policy rate to virtually zero, the extension of the maturities of its liquidity providing operations, the expansion in total liquidity injected into the economy, the relaxation in collateral requirements, and the purchase of government and corporate bonds.

### *The Conventional Monetary Tool of the ECB: Interest Rates*

The euro area was conceived with a structural liquidity deficit to force banks to borrow from the central bank. This enables the ECB to steer monetary policy in the euro area by using the central policy rate as its main tool. It does so by conducting weekly auctions to provide liquidity to banks, against collateral, at the central policy rate.

With traditional bank assets having long maturities—for instance, mortgage loans—the good functioning of the financial sector depends on the ability of banks to obtain liquidity through money markets. Short-term market rates are bound by the corridor form between the marginal deposit facility and the marginal lending facility of the central bank (Figure 4.9, right-hand panel). Whenever a bank needs additional liquidity beyond the regular central bank auctions, the bank can borrow at the marginal lending rate. A bank that finds itself with excess liquidity can place it with the ECB and be remunerated at the deposit facility rate. Both the marginal lending rate and the deposit facility rate imply a penalty with respect to the central rate or market rates. This framework promotes the functioning of interbank markets while, at the same time, gives the central bank a last resort role whenever there is an overall lack or excess of liquidity.

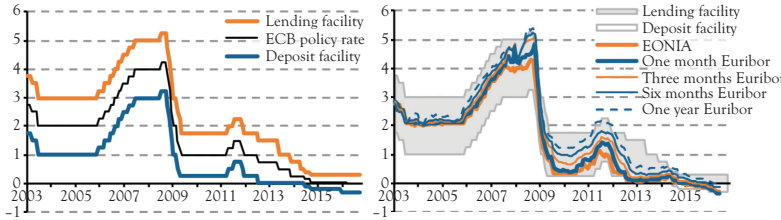


***Figure 4.9 Key ECB central policy rates and market rates, percentage***

Market rates are driven by the corridor form by the deposit facility and the lending facility of the central bank. The policy rate has virtually hit the zero lower bound and, therefore, the central bank needs to use alternative tools to implement its (accommodative) monetary policy.

*Source:* ECB and own elaboration.

With the outbreak of the crisis, money markets dried up and central banks had to step in as lenders of last resort to avoid liquidity constrains from evolving into solvency problems and, ultimately, into the collapse of the financial system. The ECB progressively reduced the central policy rate from 4.25 percent to zero (Figure 4.9, left-hand panel). Moreover, since June 2014 banks have to pay increasing interests for placing their excess liquidity in the central bank. The modern financial system is based on electronic money, the negative deposit rates put an incentive to withdraw the deposits and convert them to cash. While holding cash also has a cost—for instance, building and securing a vault—and a risk—it can be stolen, lost or destroyed—there is a limit to how much the ECB can increase the cost of the deposit facility before this leads to significant distorting effects.

Reducing the policy rates constitutes the standard measure for loosening the monetary stance. By easing access of banks to liquidity, the central bank aims to facilitate the provision of credit to the real economy and ultimately to reactivate economic activity and inflation. However, despite the significant reduction in the ECB policy rate, loan rates have not significantly declined (Figure 4.9). Volume indicators also point to a limited flow of credit to the economy (see European Commission 2015, Chapter 1). On top of that, divergent lending rates across countries signal a trend toward a certain fragmentation of financial markets in the euro area (Figure 3.9). The difficulties faced by the central bank when it comes to steering price developments are also reflected in the decline of inflation to levels well below the 2 percent target (Figure 4.10).

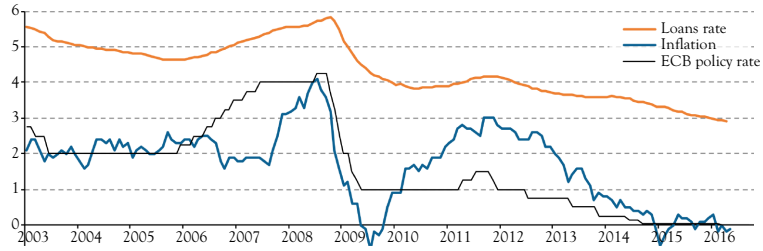


***Figure 4.10 ECB policy rate, loans rate and inflation, percentage***

Inflation has declined to zero or even negative values (deflation), well below the 2 percent target. The policy rate has driven the loan rate down, but with some lag.

*Source:* ECB and own calculations.

*Note:* "Loans rate" is calculated as the weighted average of the rate charged on the different types of loans granted to households and nonfinancial corporations.

### *Unconventional Monetary Measures*

The ECB undertook a series of unconventional measures to complement its traditional tools because (1) interest rates were about to hit the zero lower bound, (2) monetary policy struggled to achieve its goal of keeping inflation at 2 percent, (3) problems were detected in the functioning of some specific market segments, and (4) economic growth remained subdued. These unconventional measures can be classified into two main categories: first, the tools linked to the provision (or absorption) of liquidity and the role of lender of last resort of the ECB beyond the conventional marginal lending and deposit facilities; second, the outright purchase of securities to address deficiencies in specific market segments (Table 4.5).

### *Liquidity Injections: The Lender of Last Resort*

The failure of Lehman Brothers in September 2008 was followed by panic. This, in turn, led to the shutting down of interbank markets and a squeezing of the liquidity available for banks. The ECB stepped in as a lender of last resort by changing its liquidity auctions to fix-rate tenders with full allotment. Therefore, since late 2008, banks can receive all the liquidity they ask for from the ECB, as far as they have enough collateral to back it up. To ensure banks do not run out of collateral, the

***Table 4.5 Monetary policy measures and tools***

| Monetary policy of the European Central Bank | | |
|---|---|---|
| **Conventional measures**<br>*Steer inflation* | **Unconventional measures**<br>*Repair monetary transmission (foster credit)* | |
| **Policy rates** | **Lender of last resort** | **Purchase of securities** |
| | *Liquidity provision* | *Dysfunctional segments* |
| –Marginal lending facility | –Full-allotment | Sovereign bonds |
| –Central rate (regular auctions) | –Relaxation of collateral requirements | –SMP<br>–OMT |
| –Deposit facility (negative) | –Maturity extension (3 months => 4 years) | –PSPP |
| | –Foreign currency (swaps) | Bank and corporate bonds |
| | –Other operations (ELA) | –CBPP<br>–ABSPP<br>–CSPP |
| | **Liquidity absorption** | Miscellaneous |
| | –Reserve requirements (current account) | –"Other securities" |
| | –Deposit facility (banks decide) | |
| | –Fixed-term deposits (SMP sterilization) | |

Throughout the crisis, the ECB has implemented a series of unconventional policies.

*Source:* Own elaboration.

conditions for accepting it were also relaxed. As a consequence of these measures—full allotment and relaxation of collateral requirements—central bank lending to commercial banks soared from around €450 billion in early-2008 to over €800 billion in late 2008 and to over €1,200 billion in 2012[11,12] (Figure 4.11).

[11] To better grasp the meaning of these figures, one should note that euro area GDP was €8,550 billion in 2012 and total assets of euro area banks were €32,700 billion. Therefore, the lending provided by the ECB to euro area institutions through open market operations represented over 14 percent of euro area GDP and about 3.7 percent of banks' balance sheets.

[12] Besides the "lending of last resort" function of the central bank, the issuance of government guarantees on bank bonds was also instrumental for the confidence to return to financial markets and for interbank markets to reopen as it has been discussed earlier in this chapter and in Chapter 3.


***Figure 4.11 Lender of last resort: liquidity provision through open market operations, ECB, € billion***

During the crisis, euro area banks used the liquidity facilities of the ECB extensively, particularly in the periods 2008–2010 and 2012–2013, but not anymore since late 2014.

*Source:* ECB and own elaboration.

In addition to the aforementioned, the maturities of central bank loans were extended. Traditionally, the ECB provided liquidity to banks with a maturity of either one week (main refinancing operations or MROs) or three months (LTROs). New six-month auctions were introduced in 2008. Later on, maturities were extended to one year, three years, and even four years (Figure 4.12).

Recourse to LTROs was very significant in 2009 and 2012, when it reached over €1,000 billion. However, after the 2012 LTROs were reimbursed, banks have made a more limited use of this facility. This could be linked to the regular nature of the targeted LTROs—previous LTROs were announced as one-off measures—so that banks do not need to borrow on a precautionary basis. However, the reactivation of the purchase programs since early-2015 (see the following) may also have played an important part as those programs have *de facto* injected significant amounts of liquidity into the banking system.

Despite the reduction in the volumes from the peak, some banks may have been using the central bank facilities almost as a permanent source of liquidity—maybe even as a source of funding—rather than as a tool to manage temporary liquidity frictions (as traditionally it should be).

### *Market Operations: Purchase of Bonds*

Among the unconventional measures implemented throughout the crisis, the ECB launched a series of outright operations under which the ECB

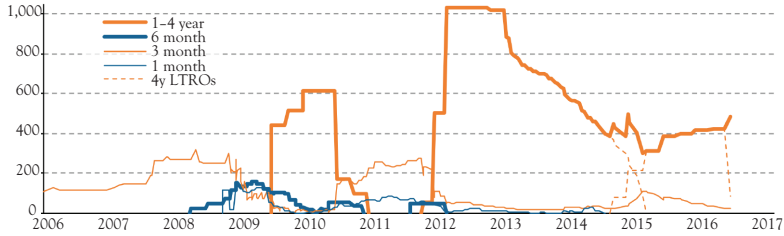


***Figure 4.12 ECB liquidity: Breakdown by maturity (LTROs), € billion***

The main tool for the provision of liquidity during the crisis was the LTROs with very large maturities. The initial 1-year maturity was later expanded to 3 and even 4 years.

*Source:* ECB and own calculations.

*Notes:* LTROs: longer-term refinancing operations. The main refinancing operations (MROs) with one-week maturity are not included. For the one to four-year operations, the continuous line indicates the outstanding amounts and the dotted lines represent the repayments of the operations of 2011–2013 and the new operations.

could purchase securities directly on the primary or secondary market. The goal of these operations is to improve the functioning of specific market segments, such as sovereign debt markets or bank bond markets in particular countries or maturity ranges. These operations imply a shift from a passive use of the ECB balance sheet—banks use central bank liquidity facilities according to their needs—to an active use of the ECB balance sheet as a tool for monetary policy.

The various programs launched by the ECB in different waves can be classified in two main types: programs for the purchase of *corporate* and *sovereign* bonds.

The ECB can purchase *corporate* bonds not only on secondary markets, but also on the primary market. In other words, the ECB can buy bonds directly from the issuer and, therefore, the purchases can be used as a tool for providing liquidity and not only for steering the functioning of specific markets. The ECB implemented three programs for the purchase of covered bonds (CBPP) in June 2009, November 2011, and October 2014. The first two programs are in the process of being wound down (bonds remain in the balance sheet of the ECB until they reach maturity) and the third CBPP is still active with almost €200 billion purchased by mid-2016. In parallel to the third CBPP, the ECB launched a program for the purchase of asset-backed securities; however, this has a much more

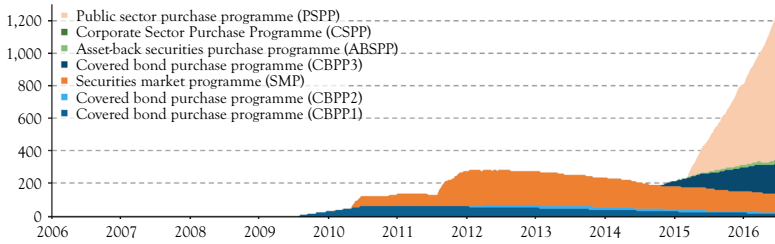


***Figure 4.13 Securities held by the ECB, € billion***

The purchase of bonds was used since mid-2009. It became one of the most important monetary tools since the launch of the public sector purchase program in early 2015.

*Source:* ECB and own calculations.

*Notes:* Holdings for monetary policy purposes.

limited scope (less than €20 billion purchased by mid-2016). Finally, in March 2016, a new corporate sector purchase program targeting bonds issued by nonfinancial corporations was announced. The scope of this program is also expected to be limited. The purchases under the different programs are summarized in Figure 4.13.

The central bank can only purchase government bonds on the secondary market so as not to infringe the prohibition of monetarily financing public accounts. The first government-bond purchase program was the Securities Market Programme (SMP) launched in May 2010. The program targeted sovereign bonds from countries under market pressure: initially Greece, Ireland, and Portugal, that were about to apply for a macroeconomic adjustment program (see Chapter 5). The SMP was reactivated in late 2011 to purchase bonds from Italy and Spain. However, given that such countries were not expected to apply for an adjustment program, the ECB imposed some form of "secret" conditionality upon them (Trichet and Draghi 2011).

In late summer 2012, the SMP was substituted by the Outright Monetary Transactions (OMT). The confidential conditionality of the SMP, besides lacking democratic accountability, had become difficult to enforce. As an improvement (compared to the SMP), the activation of the OMT is subject to two conditions: first, beneficiary countries must fulfill a strict and effective conditionality attached to an appropriate European Stability Mechanism program; and second, to ensure the OMT pursues the goal of improving the financing conditions of beneficiary countries,

the latter need to maintain market access. Although no Member State has asked for the activation of the OMT so far, it remains a tool that can be used should the need arise.[13] The OMT is a passive tool—or rather a contingent tool—as its activation requires an application from the part of a Member State.

In early-2015, the ECB launched the Public Sector Purchase Programme (PSPP). With over €800 billion purchased under the PSPP by mid-2016, this program constitutes the bulk of the purchases of the ECB. Given the amount mobilized and the theoretical impact on the supply of money,[14] the PSPP is sometimes referred to as quantitative easing (QE).

### *Conclusion on ECB Measures*

Throughout the crisis, the ECB implemented a number of unprecedented measures with an ever wider reach. Firstly, the policy rate, after having remained at a historical low of 1 percent for almost four years, gradually decreased to zero. Secondly, the maturity of LTROs was extended from the traditional three-month period to one, three, and eventually four years. Thirdly, total liquidity injected in the economy expanded in parallel to the relaxation of collateral requirements. Finally, series of purchase programs were introduced targeting sovereign bonds, covered bonds, asset-backed securities, and corporate bonds with significant amounts purchased. Other central banks in the EU—for instance, the Bank of England or the Danmarks National Bank—as well as in third countries—for instance, the United States, and Switzerland—have implemented similar accommodative monetary policies throughout the crisis.

Scattered signs of a positive economic outlook emerged throughout 2014 and 2015. For instance, better financing conditions for governments and financial corporations, reinforced capital positions of banks, a smooth start of the SSM and the SRM in the context of the banking

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[13] The German Constitutional Court challenged the legality of the OMT, but the ECJ (2015) declared the OMT to be compatible with EU law.

[14] The actual effect of this liquidity "injections" needs to be nuanced given the liquidity absorbing effects of the liabilities side of the ECB balance sheet. See Villar Burke (2016) for further details.

union, a mild recovery in output growth gained ground in the euro area, and so on.

However, new measures implemented since 2014 imply an additional layer to previous measures, many of which are still outstanding. This may raise some questions regarding the robustness of the recovery and how much it will depend on external or public support. In addition, the slower growth of emerging markets—particularly China—the scandal linked to fraud by diesel car manufacturers, and the refugee crisis may affect recovery. Moreover, the U.S. Fed has started to raise interest rates and this may have worldwide effects. All of this tends to indicate that the European banking and financial sectors, while having significantly strengthened their financial position, they are required to be closely monitored to avoid new problems rise in the coming years.

## Conclusion

The support to the financial sector both from governments and central banks has been very substantial throughout the crisis. While some measures have already been wound down, the outstanding support is still significant in a number of cases. This support has contributed to avoid a collapse of the financial system. However, financial support does not necessarily fix all the original flaws nor does it constitute the main driver for recovery. Fixing flaws in the single market requires a comprehensive regulatory reform agenda (Part D). As reiterated by the ECB president, monetary policy can support the economy and provide time, but "it cannot and must not be the only instrument [as] monetary policy alone cannot lead to balanced growth [and] lasting prosperity for our economies."[15] Fostering recovery requires a series of macroeconomic policies (see Part E).

Before reviewing the policies aimed at fixing flaws and revitalizing the economy, the next chapter completes the overview of support measures by presenting how European partners have provided support to public accounts in countries under financial distress.

[15] Draghi (2015).

# Index