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European Central Bank Tools and Policy Actions B: Asset Purchase Programs[1]

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Abstract

Beginning in August 2007, the European Central Bank (ECB) used standard and non-standard monetary policies as the global financial markets progressed from initial turmoil to a widespread sovereign debt crisis. This case describes the key features of the ECB's asset purchase programs throughout the Global Financial Crisis and subsequent European sovereign debt crisis. These programs include the Covered Bond Purchase Programs (CBPP1, CBPP2, CBPP3), Securities Markets Program (SMP), Outright Monetary Transactions (OMT), Asset-backed Securities Purchase Program (ABSPP) and the Public Sector Purchase Program (PSPP).

In combating the crises, the ECB designed various innovative programs which it successively employed as the crises progressed. While some programs proved highly effective, others were less so. A major program, the OMT, was challenged in court and ultimately found to be within the ECB's legal operating framework.

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[1] This case study is one of two Yale Program on Financial Stability (YPFS) case modules considering the European Central Bank's monetary policy operations during the Global Financial Crisis. The other is:

- *European Central Bank Monetary Policy Operations During the Crisis A: Open Market Operations, Collateral Expansion, and Standing Facilities.*

Cases are available from the Journal of Financial Crises.

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1. Introduction

Beginning in August 2007, the ECB used standard and non-standard measures to address the onset of the Global Financial Crisis. Its actions accelerated after September 2008 following Lehman Brothers' bankruptcy and the subsequent market turmoil. The standard response of lowering key short-term interest rates proved insufficient, however, as short-term rates approached zero and interbank markets became increasingly dysfunctional through 2009. The ECB then used a series of non-standard policy tools to restore monetary policy channels and the banking sector to its normal intermediation role. The ECB response throughout the Financial Crisis consisted of five key elements:

1. expanding the list of assets eligible as collateral in Eurosystem[5] credit operations;
2. lengthening the maturities of refinancing operations;
3. meeting in full the banks' liquidity requests at a fixed-rate in full;
4. providing liquidity in foreign currencies; and
5. supporting the financial markets with purchases of various Euro-denominated securities.

This case focuses on the last element: the ECB's various asset purchase programs. Figure 1 provides a timeline of the included programs and key events.

Figure 1: Key Programs and Events

Date	Announcement	Size (billion €)
Jun-09	Covered Bond Purchase Program (CBPP1)	60
May-10	Securities Markets Program (SMP)	218
Oct-11	Covered Bond Purchase Program 2 (CBPP2)	16
Jul-12	Draghi pledge to "do whatever it takes to preserve the Euro"	–
Aug-12	Outright Monetary Transactions (OMT)	0*
Sep-14	Asset-backed Securities Purchase Program (ABSPP)	7*
Sep-14	Covered Bond Purchase Program 3 (CBPP3)	85*
Jan-15	Public Sector Purchase Program (PSPP)	147*

**Program ongoing as of writing in July 2015, numbers as of May 2015.*

As the ECB unveiled new forms of asset purchases, beginning with the first covered bond purchase program in mid-2009, price stability and the functioning of normal monetary policy channels remained strained. For this, the ECB escalated its programs' scope from a series of Covered Bond Purchase Programs to outright purchases via the Securities Markets Program. Later, the ECB unveiled the Outright Monetary Transactions which, although

[5] The Eurosystem is the network of each member country's National Central Bank and the ECB.

unused, relieved funding pressures on periphery economies. Despite its effectiveness, the program was challenged in the European Court of Justice as a form of monetary financing that exceeded the ECB's monetary policy boundaries. However, the court sided with the ECB in 2015, finding the OMT legal within the ECB's operating framework. Consequently, the ECB embarked on the Public Sector Purchasing Program, which represented the first large-scale asset purchase program by the Eurosystem and is commonly called European QE.

The ECB's asset purchase programs have not been uncontroversial. A common criticism is that the programs fall outside the bounds of the ECB's single mandate: price stability. The single mandate is a notable divergence between the Federal Reserve and the Eurosystem, as the Federal Reserve has a dual mandate of price stability and full employment. The ECB addressed the concern directly:

> In the current period of weak growth and low inflation, the interest rate instrument has not been sufficient to steer inflation closer to 2%. If the ECB still had room to cut interest rates, it would have done so already… the asset purchase programme was the only appropriate tool to enable the ECB to achieve a similar result (ECB FAQ about Asset Purchases).

It is also worth noting that throughout this period the ECB engaged in a series of longer-term refinancing operations (LTROs) which provided credit over longer periods, from three months to three years. The ECB relied heavily on LTROs to provide liquidity to the market in the period after 2008. The ECB employed LTROs in various forms throughout the crisis, including LTROs with fixed-rate full allotment, with longer than the usual three-month maturity, and LTROs, which targeted credit in specific markets. Importantly, the ECB offered a pair of three-year LTROs in late 2011 and early 2012 in which credit institutions refinanced about €1 trillion (See "European Central Bank Lending and Credit B: Open Market Operations, Collateral Expansion and Standing Facilities" for a detailed discussion of LTROs.).

The remainder of this case is organized as follows. Section 2 describes the ECB's first asset purchase program and its successive iterations, the Covered Bond Purchase Programs. Section 3 details the ECB's Securities Markets Program. Section 4 describes the ECB's Outright Monetary Transactions program and the ensuing legal actions. Section 5 describes the Bank's escalation in purchase programs in late 2014 and early 2015, including a third Covered Bond Purchase Program, the Asset-backed Securities Purchase Program, and the Public Sector Purchase Program.

Questions

1. Did the ECB's single mandate constrain its ability to calm financial markets and restart lending relative to other major central banks?
2. How effective was the separation principle in preventing liquidity-providing operations and asset purchases from affecting the Eurosystem's monetary policy stance?
3. Would it have been better for the Eurosystem to begin programs like the SMP and OMT earlier or even simultaneously? To what extent did political constraints slow or alter the ECB's preferred course of action?
4. How did the Securities Markets Program differ from quantitative easing programs implemented by other major central banks?
5. Why did the ECB begin the Public Sector Purchasing Program when it did? Would a similar program have been helpful earlier?

6. Why was the ECB a senior creditor in the Securities Markets Program but pari passu in the Outright Monetary Transactions program?

2. Covered Bond Purchase Programs

Covered bonds are "dual-recourse bonds, with a claim on both the issuer and a cover pool of high-quality collateral (which the issuer is required to maintain)... —the recourse to the issuer and consequent lack of credit risk transfer distinguishes covered bonds from asset-backed securities" (ECB 2008). Unlike ABS, the cover pool—the collateral for the covered bond—remains on the balance sheet of the issuer, whereas the underlying pool for ABS is transferred to a separate special-purpose vehicle. Covered bonds were issued mainly in Europe rather than in the United States and are the most important private issued debt market in Europe's capital markets (Morrison and Foerster 2015). The covered bond market provided a large share of funding for mortgage lending in Europe leading up to the Global Financial Crisis. ECB President Jean-Claude Trichet described the importance of covered bonds as providing banks "access to funding of a longer-term nature than the ECB's refinancing operations. Covered bonds thus allow banks to manage the maturity mismatch between their assets and liabilities" (Trichet July 13, 2009).

Due to covered bonds' low credit risk, the market remained relatively robust as financial market conditions deteriorated after August 2007.

Covered Bond Purchase Program 1

After the fall of Lehman in mid-September 2008, spreads for covered bonds increased substantially and the functioning of interbank lending markets worsened materially. Therefore, the ECB announced in May 2009 a program to purchase €60 billion of Euro-denominated covered bonds issued in the euro area by June 2010. The program was called the Covered Bond Purchase Program (CBPP1).[6] ECB President Trichet noted that the CBPP1 could help the market's liquidity, issuances, and spreads. The ECB would "implement the CBPP gradually, taking into account market conditions and the Eurosystem's monetary policy needs" (Trichet July 13, 2009).

The CBPP was established based on the ECB's decision under Article 18.1 of its Statue, which allows the ECB and the national central banks to:

- operate in the financial markets by buying and selling outright (spot and forward) or under repurchase agreement and by lending or borrowing claims and marketable instruments, whether in Community or in non-Community currencies, as well as precious metals; and
- conduct credit operations with credit institutions and other market participants, with lending being based on adequate collateral. (ECB Article 18: Open Market and Credit Operations)

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[6] Initially the Covered Bond Purchase Program's acronym was CBPP. But as the ECB implemented the second and third round of Covered Bond Purchase Programs, the acronyms have been changed to CBPP1, CBPP2 and CBPP3.

The covered bond market was chosen specifically because of its role in funding euro-area banks and thereby the program encouraged lending to the nonfinancial sector. The ECB explicitly explained its choice of the CBPP:

> Covered bonds possess a number of attractive features from the perspective of financial stability. Covered bonds as dual recourse instruments are less risky than most other bank securities and increase banks' access to long-term funding, thereby mitigating liquidity risks. In the context of the ongoing financial market turmoil, it is important to stress that, on the whole, covered bonds have proven themselves relatively resilient, in particular in comparison with securitization (Beirne et al 2011 and ECB December 2008).

The ECB expected the program to last one year, to June 2010, and laid out objectives with which to measure the program's success:

1. easing funding conditions for credit institutions and enterprises;
2. encouraging credit institutions to maintain and expand their lending to clients; and
3. improving market liquidity in important segments of the private debt securities market.

The CBPP distributed funds across the euro area via direct purchases, and the ECB held the purchased securities to maturity. Eligible securities were required to:

- be eligible for use in Eurosystem credit operations;
- meet the criteria set out in the directive on undertaking for collective investment in transferable securities (UCITS);
- generally have an issue of at least €500 million, and not less than €100 million;
- generally be rated at least AA or equivalent by one of the major rating agencies, but could not in any event be rated less than BBB/Baa3;
- have underlying assets that include exposure to private and/or public entities (ECB June 4, 2009 and ECB June 30, 2010).

The program's announcement surprised markets, and spreads in the secondary market sharply tightened. However, uncertainty about which covered bonds were included in the program—what type and what maturity—muted the announcement's impact somewhat. Later ECB analysis found the CBPP decreased covered bond yields some 12 basis points, and most of the effect occurred during the announcement and shortly thereafter. The ECB also found that the CBPP might not have affected total uncovered and covered bond issuance; rather, the program created a substitution of the uncovered bank bonds for covered bonds. There was a measured flight-to-quality as yields on covered bonds stayed low relative to the increasing uncovered bond rates.

By the completion of the CBPP, the Eurosystem purchased 422 different bonds totaling €60 billion with about 25 percent from the primary market and the remaining 75 percent from the secondary market with an average duration of 4.1 years. Literature has broadly supported that the CBPP achieved its initial goals by reducing money market rates, easing funding conditions in credit markets, helping credit institutions maintain their lending to clients, and promoting improved market liquidity generally for private debt securities.

However, it is important to note that the CBPP took place simultaneously with the first one-year LTRO[7] and the effects of the two overlapped. The ECB notes that the LTRO "had a major impact in relation to reducing money market term rates" (Beirne et al 2011).

Further, the CBPP occurred while various government programs were introduced and implemented to guarantee uncovered bank bonds. As these actions target the same goal of relieving pressure on bank funding, the effects of the CBPP are difficult to isolate. Government guarantee programs were highly effective and during the crisis new bank debt essentially required a government guarantee to satisfy investors' concerns. Combined, these programs were successful in assisting banks to raise more term funding (Beirne et al 2011).

Covered Bond Purchase Program 2

In response to a possible Greek default and concerns about the resulting losses for European banks, the ECB announced the CBPP2 in October 2011, just as ECB President Mario Draghi replaced President Trichet. CBPP2's implementation began in November 2011, with similar conditions to the CBPP1. The CBPP2 was announced to be somewhat smaller than the first covered bond program at €40 billion compared to €60 billion. Eligible securities needed to satisfy similar conditions to those of CBPP1 and were required to:

- be eligible for use in Eurosystem credit operations;
- meet the criteria set out in the directive on undertaking for collective investment in transferable securities (UCITS);
- have an issue of at least €300 million or more;
- have a minimum rating of BBB- or an equivalent from at least one major rating agency;
- have a maximum residual maturity of 10.5 years;
- have underlying assets that include exposure to private and/or public entities (ECB November 3, 2011).

There was little expectation that the ECB would undertake a second round of covered bond purchases, especially given that an analysis done by the ECB of the CBPP1 had noted the CBPP1 was "not expected to be extended or expanded" (Beirne et al 2011).

The aim of the CBPP2 was twofold:

1. ease funding conditions for credit institutions and enterprises; and
2. encourage credit institutions to maintain and expand their lending to customers (ECB October 2012).

The ECB announced in April 2012, just six months into the program, that it would slow purchases of covered bonds due to "investors' increasing demand for euro area covered bonds and to the decline in the supply of covered bonds" (ECB April 2012). CBPP2 ended in October 2012, after the program reached a nominal value of €16.4 billion—less than half of

[7] See YPFS case "European Central Bank Lending and Credit A: Open Market Operations, Collateral Expansion and Standing Facilities" for a discussion of the ECB's lending facilities including the LTRO.

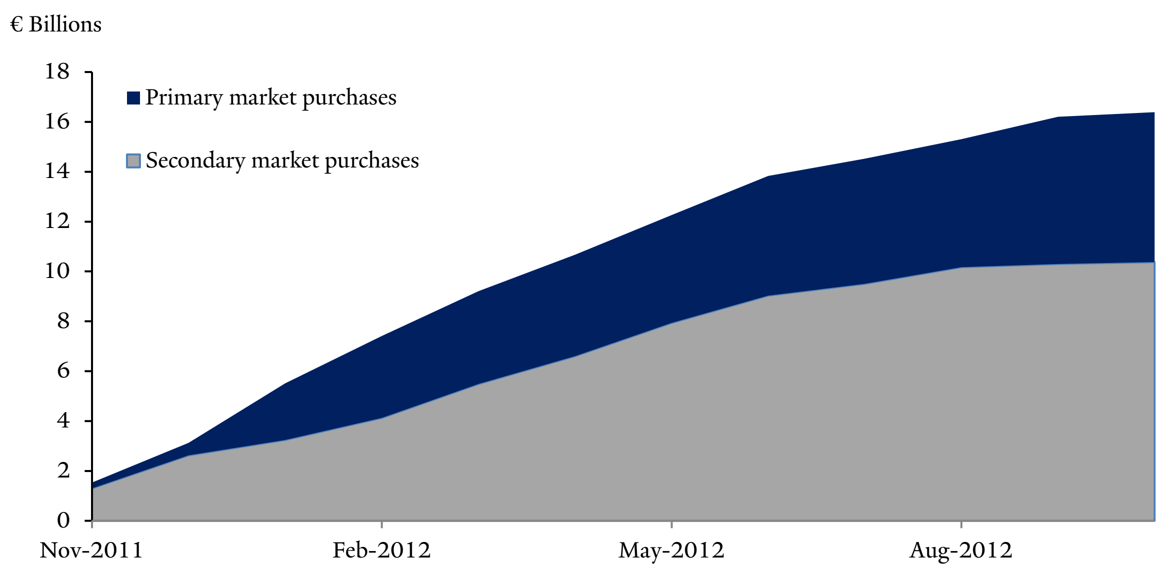
the €40 billion initially announced. The program purchased about 35% of its holdings from the primary market and 65% from the secondary market. Figure 2 shows the history of CBPP2 purchases.

The ECB announced its third round of covered bond purchases in September 2014, and the Eurosystem began purchases of covered bonds in October 2014 for an expected period of 24 months (ECB October 15, 2014). CBPP3 was larger than the previous two covered bond purchase programs; in the first six months of CBPP3 the Eurosystem had purchased €70 billion, whereas in CBPP2 the Eurosystem had purchased less than €17 billion after its full implementation. Figure 3 shows the path of purchases of CBPP3.

The program specified that eligible securities were required to:

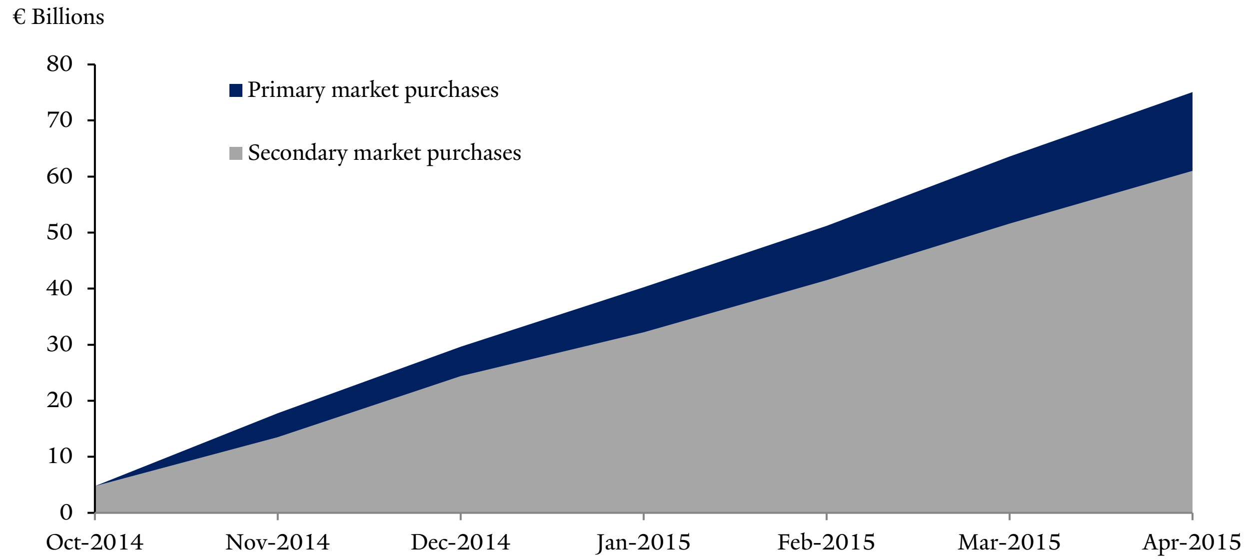
- be eligible for use in Eurosystem credit operations;
- be issued by euro area credit institutions, or in the case of multi-cedulas, by special purpose vehicles incorporated in the euro area;
- have a minimum rating of BBB- or an equivalent from at least one major rating agency;
- be denominated in euros and held and settled in the euro area; and
- have underlying assets that include exposure to private and/or public entities (ECB Technical Annex, October 2, 2014).

Figure 2: CBPP2 Purchases



Source: European Central Bank.

Figure 3: CBPP3 Purchases



Source: European Central Bank.

Covered Bond Purchase Program 3

A key difference between CBPP3 and the preceding covered bond purchase programs was that it had no limit on its potential size. This is explainable by its implementation in conjunction with targeted longer-term refinancing operations (TLTROs), where CBPP3 volume depended in part on TLTRO take-up. The program was designed to last at least two years, compared with the one-year program schemes of CBPP1 and CBPP2. Further, CBPP3 allowed the ECB to purchase retained bonds directly from issuers, unlike the first two programs.

Importantly, the ECB announced the CBPP3 as a component to the expanded asset purchase programs in late 2014. This new set of expanded programs featured the CPBB3, the Asset-backed Securities Purchase Program, and the Public Sector Purchase Program, which are discussed in detail in Section 5.

3. Securities Markets Program

In May 2010, the ECB announced the Securities Markets Program (SMP) after several key markets ceased functioning, threatening the ability of the Eurosystem to properly set market interest rates of longer maturity bonds. The ECB noted that its goal was "to ensure depth and liquidity in those market segments which are dysfunctional. The objective of this programme is to address the malfunctioning of securities markets and restore an appropriate monetary policy transmission mechanism" (ECB May 14, 2010). The ECB coordinated purchases that were carried out by the different national central banks (NCBs) of the Eurosystem.

Under the SMP, the Eurosystem purchased Eurozone government bonds in the secondary market. Initially these purchases focused on Greek, Irish, and Portuguese government bonds. Later, in August 2011, the program expanded to include Italian and Spanish government bonds. Purchased bonds were held to maturity by the Eurosystem. To ensure the SMP did not engage in a form of quantitative easing, the ECB sterilized the resulting cash flows as commercial banks were allowed to park proceeds of their SMP transactions at the ECB in time deposits, thereby keeping the money supply stable. ECB President Trichet explained, "The Securities Markets Programme should not be confused with quantitative easing. In simple words: We are not printing money. This confirms and underpins our commitment to price stability" (Trichet May 2010). Due to the ECB's inability to provide monetary financing, no purchases took place in the primary market. The ECB's legal basis for the SMP was Article 18.1—the same framework used for the Covered Bond Purchase Programs that allowed the Eurosystem to conduct operations of "buying and selling marketable securities."

Figure 4: Securities Markets Program Holdings, at Completion of Program

Issuer	Notional Amount (€ Billions)	Average Maturity (Years)
Ireland	14	5
Greece	34	4
Spain	44	4
Italy	103	5
Portugal	23	4
Total	218	4.3

Source: European Central Bank.

Because of the SMP, the Eurosystem purchased €220 billion of Greek, Irish, Portuguese, Italian, and Spanish government bonds. Figure 4 provides a breakdown by country of the Eurosystem's holdings at completion of the program in Q3 2012. In its initial form, the Eurosystem sterilized the proceeds of the SMP by offering commercial banks time deposits at the ECB. This sterilization ended in mid-2014 (Ghysels et al 2014).

The announcement of the SMP immediately moved yields. Relative to Bunds, Greek ten-year spreads tightened more than 400 bps on May 10, 2010. When the ECB expanded the SMP to Italian and Spanish debt in August 2011, both countries' ten-year yields fell some 100 bps relative to Bunds. Figure 5 and 6 show the impact of the program on select countries' yields. The impact of the SMP beyond the initial adjustments is more difficult to quantify, but the literature concludes the SMP had a short-lived yet helpful impact on reducing liquidity premia and volatility for European sovereign debt.

The program ended with the announcement of the Outright Monetary Transactions (OMTs) in September 2012.

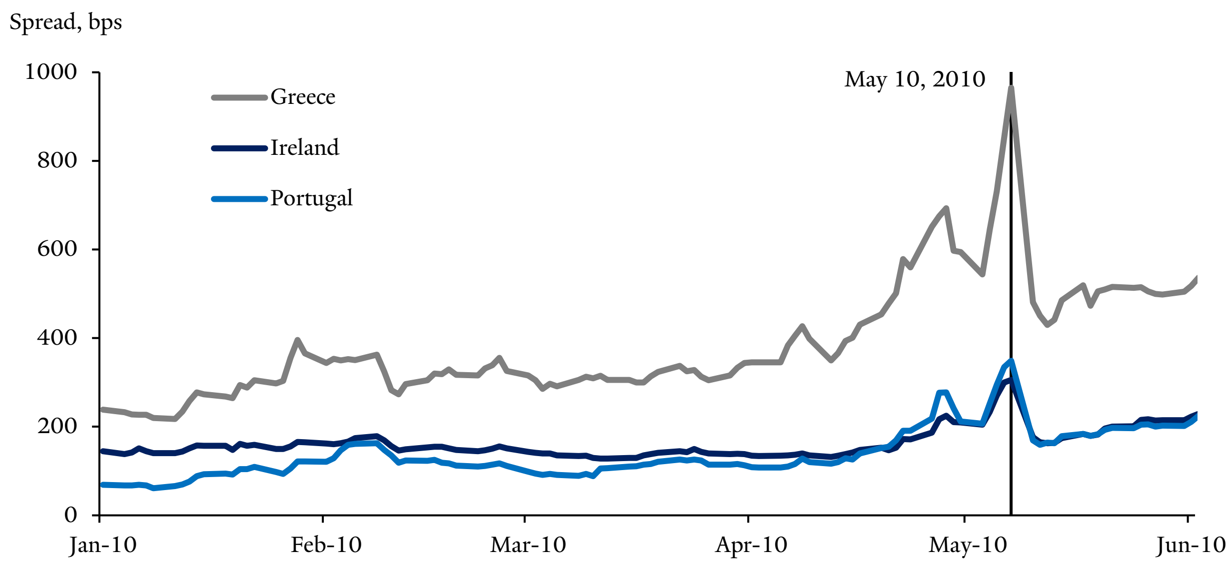
Differences from other large-scale asset purchase programs

The SMP resembled other large-scale asset purchase programs, but many important differences existed. First, and perhaps most importantly, the SMP was not meant to change the monetary policy stance to a more accommodative position, hence the Eurosystem's sterilization of the SMP's proceeds to banks. Quantitative easing in other countries had an explicit objective of creating a more accommodative monetary policy position. The Eurosystem maintained its monetary stance through a series of one-week "fixed-term deposits" in a weekly tender under the auspices of its fine-tuning operations as a part of its normal open market operations. The sterilization was effective at collecting the excess liquidity created by the SMP except for five occasions when sterilization was temporarily incomplete, but these instances lasted less than a week each. Moreover, the sterilization of SMP was small compared to the liquidity provided via concurrent longer-term refinancing operations.

A second difference between the SMP and other large-scale asset purchase programs was the characteristics of the markets in which the program took place. In the case of quantitative easing in the United States or United Kingdom, the programs took place in large and liquid markets. The SMP, however, took place in a relatively illiquid market with substantial risk premia (Manganelli 2014).

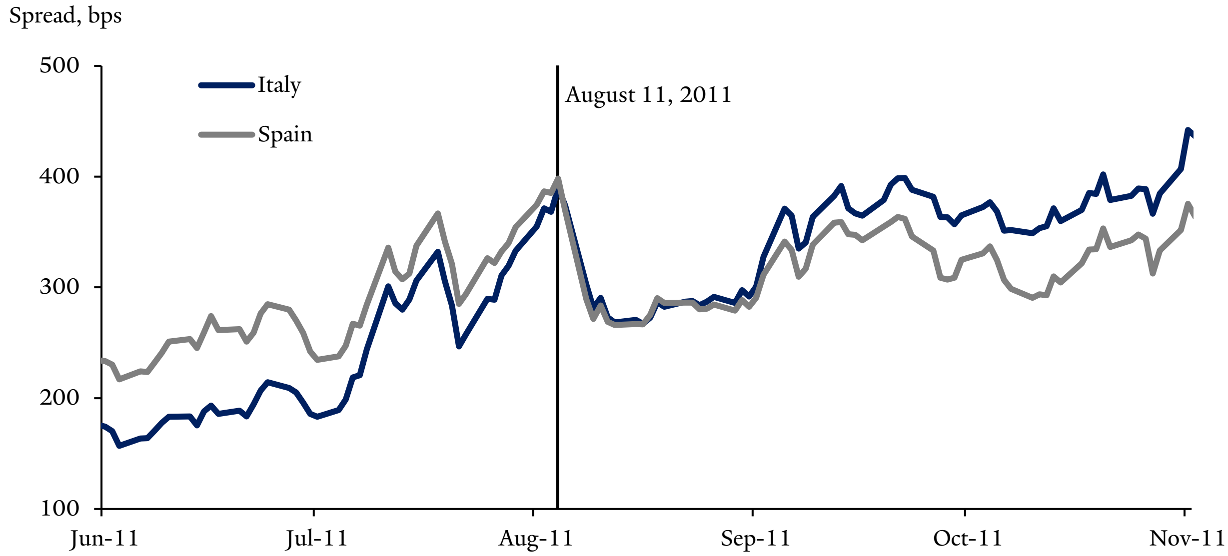
Third, SMP resembled foreign exchange intervention. As Eser and Schwaab (2013) note, "[k]ey features of the program—such as total amounts, the duration of the program, as well as the targeted securities—were not disclosed while the program was active." Market actors learned the nuances of the program in real time as the purchases took place. This is a marked difference from other large-scale asset purchase programs (Eser and Schwaab 2013).

Figure 5: Select Euro 10-Year Spreads, May 2010 SMP Reaction



Source: Bloomberg.

Figure 6: Select Euro 10-Year Spreads, August 2011 SMP Reaction

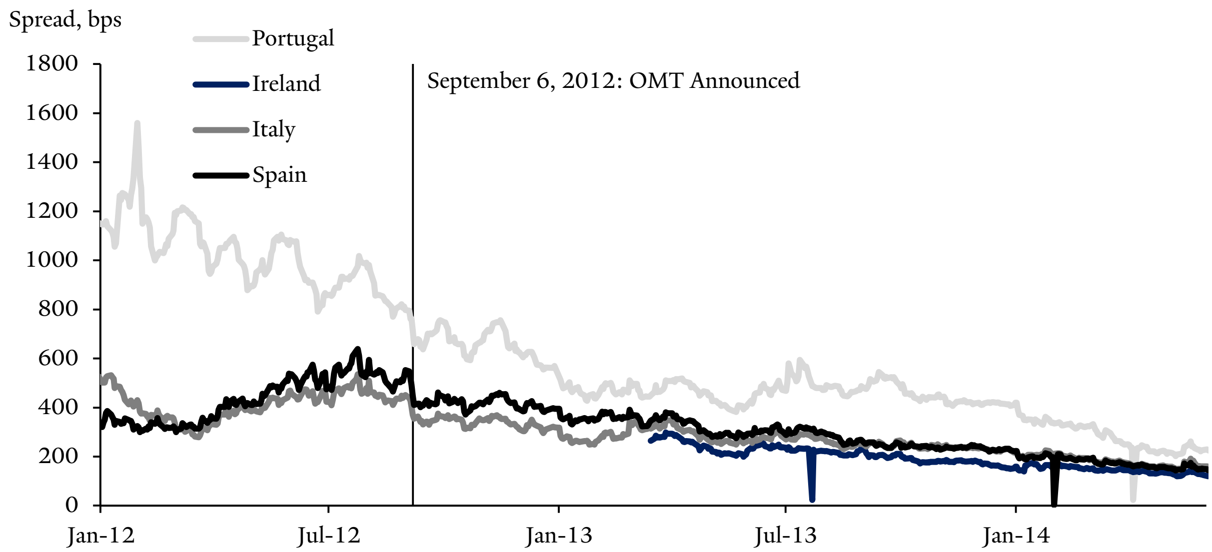


Source: Bloomberg.

4. Outright Monetary Transactions

The ECB announced Outright Monetary Transactions (OMT) on September 6, 2012, shortly after ECB President Draghi's July 2012 pledge to do "whatever it takes" to preserve the Euro. Under certain conditions, the OMT would have the Eurosystem purchase sovereign bonds with maturities between one and three years with the goal of aligning sovereign borrowing costs with their fundamental values. At the time of the announcement in the fall of 2012, nominal rates had diverged significantly and the ability of banks to secure financing had eroded materially. Banks in stressed countries were virtually unable to tap unsecured interbank markets, and there was no sign this fragmentation would recede without unconventional actions. Because of the paralysis in the interbank markets, the Eurosystem's monetary stance was not reflected in certain countries' markets, and the ECB was unable to implement monetary policy as it could in normal times. In this context, President Draghi's "whatever it takes pledge" and the announcement of the OMT marked the beginning of the end of the divergence in certain periphery rates compared to Bunds, as can be seen in Figure 7.

Figure 7: Rates Divergence in the Periphery



Source: Bloomberg.

The OMT aimed to "[safeguard] an appropriate monetary policy transmission and the singleness of the monetary policy" in the Eurosystem. The OMT featured a set of key criteria and details:

- The decision to intervene would be made by the ECB Governing Council at its discretion.
- The program had no ex ante limit on the bond purchases, save for the supply of eligible bonds.
- The OMT focused on short-term debt with maturities between 12 and 36 months.
- There would be no seniority for the Eurosystem, unlike the SMP. The Eurosystem had *pari passu* credit status.[8]
- Like the SMP, the Eurosystem would fully sterilize the resulting excess liquidity.
- Bonds were only purchased on the secondary market to avoid monetary financing (Wolff 2013).

A unique component of OMT was its conditionality requirements. The program was only available to countries in compliance with the conditionality associated with the European

[8] The ECB noted in its OMT release that it would be *pari passu* "in accordance with the terms of such bonds." Therefore, neither securities purchased via the SMP or the OMT gave the ECB senior creditor status. Rather the ECB became a senior creditor after it swapped Greek debt into special securities protected from restructuring" (See Cotterill September 2012. "Senior, the SMT and the OMT." Financial Times. Available at http://ftalphaville.ft.com/2012/09/06/1148941/seniority-the-smp-and-the-omt/.).

Financial Stability Facility and European Stability Mechanism (EFSF/ESM) programs. The International Monetary Fund (IMF) was involved to design country-specific conditionality and monitoring of the program. For a country to be eligible for OMT purchases it had to:

- receive support from the EFSF/ESM either in the form of direct macroeconomic support or precautionary conditioned credit lines;
- already have regained access to private capital markets, defined as successfully placing a bond offering with a ten-year maturity; and
- have borrowing costs elevated beyond what should be normally justified by underlying economic fundamentals (ECB October 4, 2012).

However, countries which met the conditionality criteria would not necessarily receive OMT efforts, as the Governing Council retained discretion:

> …the Governing Council will consider Outright Monetary Transactions to the extent that they are warranted from a monetary policy perspective as long as programme conditionality is fully respected, and terminate them once their objectives are achieved or when there is non-compliance with the macroeconomic adjustment or precautionary programme. Following a thorough assessment, the Governing Council will decide on the start, continuation and suspension of Outright Monetary Transactions in full discretion and acting in accordance with its monetary policy mandate (ECB October 4, 2012).

Legal Considerations

As a result of the exceptional features of the OMT—primarily the conditionality requirements and the potential unlimited size of OMT—the Bundesverfassungsgericht (Germany's Federal Constitutional Court, also called 'the BVerfG') asked for a preliminary ruling from the European Court of Justice (ECJ) under the TFEU (Treaty of the Functioning of the European Union). This was the BVerfG's first ever reference to the ECJ. In its reference, the BVerfG questioned the legality of the OMT, mainly that "the ultimate objective of [the] programme [was] to transform the ECB into a 'lender of last resort' for the States of the euro area." The ECB contended that the OMT "[was] a proper instrument for dealing with exceptional circumstances, since, despite its 'unconventional' nature and the risks it entails, its objective is merely to do what has to be done in order to restore the ECB's ability to make effective use of its monetary policy instruments." In the view of the BVerfG, such a program would be incompatible with German national constitutional law and also EU law. Specifically, the BVerfG questioned whether:

- OMT is an economic policy measure and therefore beyond the scope of the ECB's mandate; and
- whether OMT is incompatible with the prohibition of monetary financing as set forth in Article 123(1) TFEU.

For the first consideration, the BVerfG questioned whether the OMT was outside the ECB's domain as it linked OMT to economic assistance programs where the Governing Council could end the OMT for a country should the country stop meeting these conditionality requirements. In this case, the ECB would end its OMT actions for reasons other than monetary policy considerations. Furthermore, because the OMT provided for purchases of bonds in only specific countries, the BVerfG argued the ECB was selectively applying monetary policy, and therefore its actions were incompatible with Article 119 TFEU and

Article 127(1)-(2) TFEU and with Articles 17 to 24 of the Protocol on the Statue of the European System of Central Banks and of the European Central Bank.

For the second consideration, the BVerfG questioned whether the lack of limits on the program, the lack of a timing gap between the issuance of government debt and the Eurosystem's purchase of the debt, and the lack of credit requirements for the government bonds purchased violated the prohibition of monetary financing from Article 123 TFEU.

It is important to note that monetary policy in the euro area depends on three articles of the TFEU. Article 119 dictates that the primary objective of monetary policy is to "maintain price stability and, without prejudice to this objective, to support the general economic policies of the Union, in accordance with the principles of an open market economy with free competition." The second, Article 127, sets the objective of the European System of Central Banks to maintain price stability as laid out in Article 119. Finally, Article 123 prevents the Eurosystem from engaging in monetary financing (Merler 2015).[9]

In this context, an Advocate General of the European Court of Justice, Pedro Cruz Villalón, delivered a much-anticipated opinion on January 14, 2015, which found:

1. OMT was compatible with Article 119 TFEU and Article 127(1)-(2) TFEU, provided that the ECB adheres to the following conditions:

    (a) refrain from any direct involvement in financial assistance programs to which the OMT was linked; and

    (b) comply with the obligation to state reasons and with the requirements deriving from the principle of proportionality.

2. OMT was compatible with 123(1) TFEU provided that the timing between the issuance of government debt and its purchase by the ECB in an OMT program transaction allows sufficient time so "as to permit the actual formation of a market price in respect of the government bonds" (Opinion of Advocate General, January 14, 2015).

Markets closely followed the announcement of the Advocate General's opinion, and the release of the opinion in January 2015 paved the way for an expansion of the ECB's unconventional asset purchase programs within the month, including the Public Sector Purchase Program (PSPP). Following the Advocate General's opinion, the European Court of Justice ruled that OMT was indeed legal in June 2015: "The programme for the purchase of bonds on secondary markets does not exceed the powers of the ECB in relation to monetary policy and does not contravene the prohibition of monetary financing in member states" (European Court of Justice, June 2015).

Results

The OMT program was not used as of June 2015, but its announcement proved highly effective. The program remains available as of June 2015. Benoît Cœuré, a member of the Executive Board of the ECB, noted its success as measured in four ways. First, spreads on ten-year government bonds had returned to more normal levels, and credit default swap

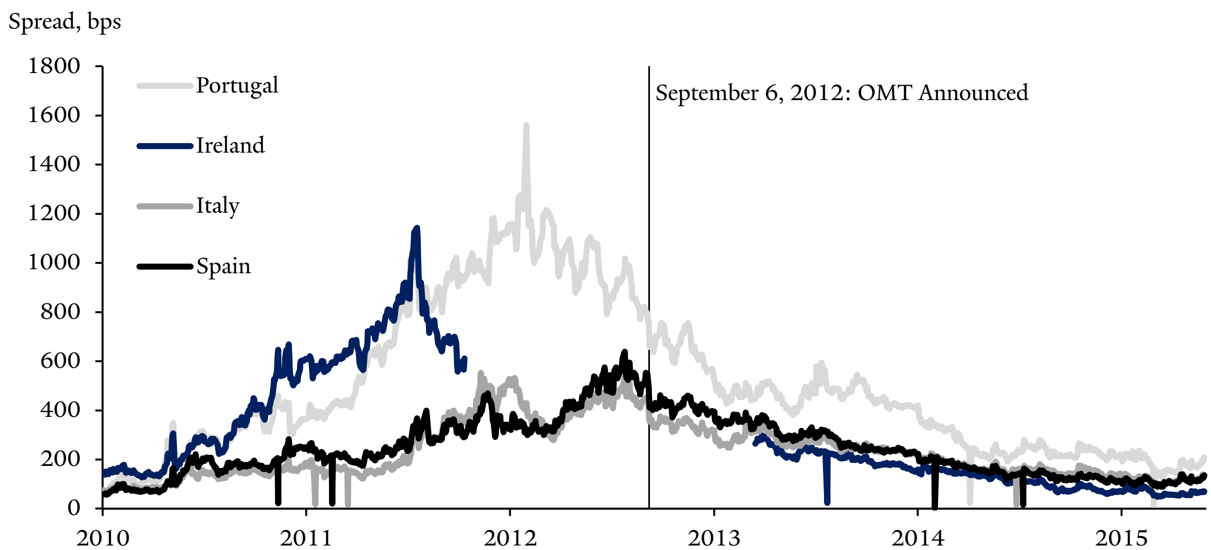
[9] See the Appendix for the full text of the relevant articles.

spreads had gone down in all countries from their peaks before the announcement of the OMT program in September 2012. (See Figures 8 and 9, respectively.)

Second, bank and commercial borrowing conditions eased and corporate bond spreads in the stressed economies decreased substantially, allowing the private sector in those countries to regain access to capital markets. Third, banks were able to raise capital and secure funding from the market, and divergence in funding costs across countries fell. Finally, the program's success can also be seen in the decline in use of the targeted longer-term refinancing operations (Cœuré 2013).

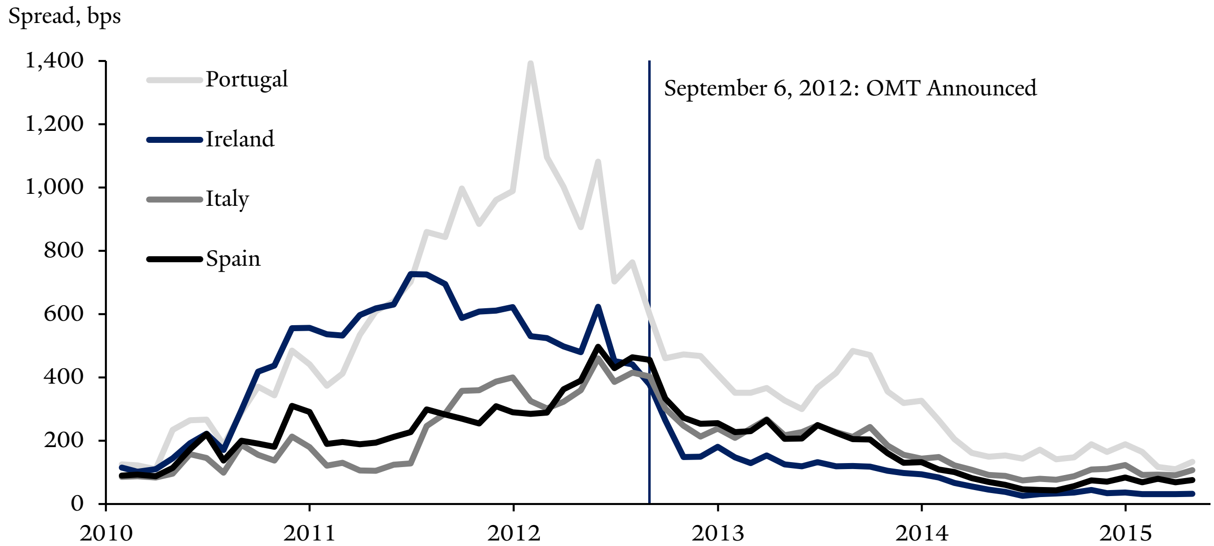
In sum, Cœuré describes the OMT's success as follows: "OMTs were able to address the impairments to the transmission mechanism of monetary policy by reducing fragmentation and restoring the distributional neutrality of monetary policy. It has eliminated fears of disasters and removed denomination risk from the market."

Figure 8: 10-Year Yields Return to Normal Levels



Source: Bloomberg.

Figure 9: Sovereign CDS Declines, As Well



Note: Five-year credit default swaps.
Source: Bloomberg.

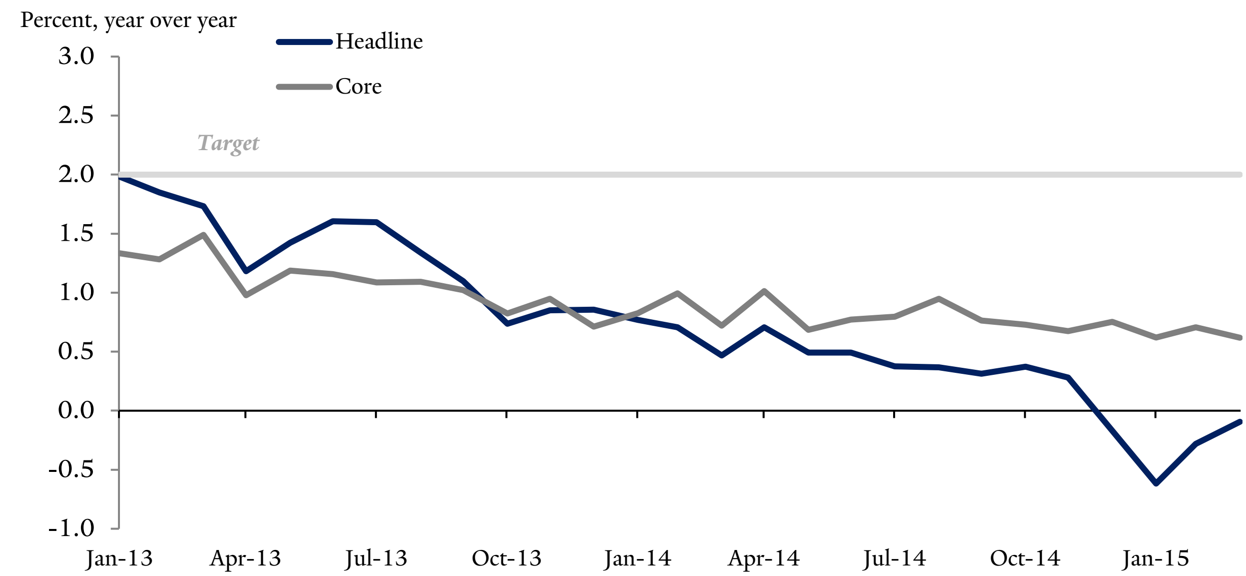
5. Late 2014 and Early 2015: Purchase Programs' Expansion

Despite the clearly positive effect of the OMT program, the euro area's economy still faced considerable headwinds in 2014, key among them low inflation. Harmonised Index of Consumer Prices (HICP) inflation trended downwards quickly through 2014, touching 0.3 percent in August 2014 and core inflation trended downwards as well. Figure 10 shows the evolution of prices in the euro area at the time. ECB President Draghi also expressed concern for market expectations of inflation over the medium and shorter term at the US Federal Reserve's symposium in Jackson Hole, Wyo. in August 2014. The basis for his concern can be seen in Figure 11.

The ECB therefore acted to stem increased concerns of deflation in September 2014. On September 4, 2014, the ECB announced that it would cut its main policy rate to 0.05 percent from 0.15 as well as begin the new Asset-back Securities Purchase Program (ABSPP) alongside a third Covered Bond Purchase Program (CBPP3). Further, the ECB confirmed on September 4 that it would continue with plans to undergo two targeted longer-term refinancing operations (TLTROs), valued jointly at about €400 billion, which would provide four-year liquidity to banks in proportion to their lending to the private sector (ECB September and October 2014).

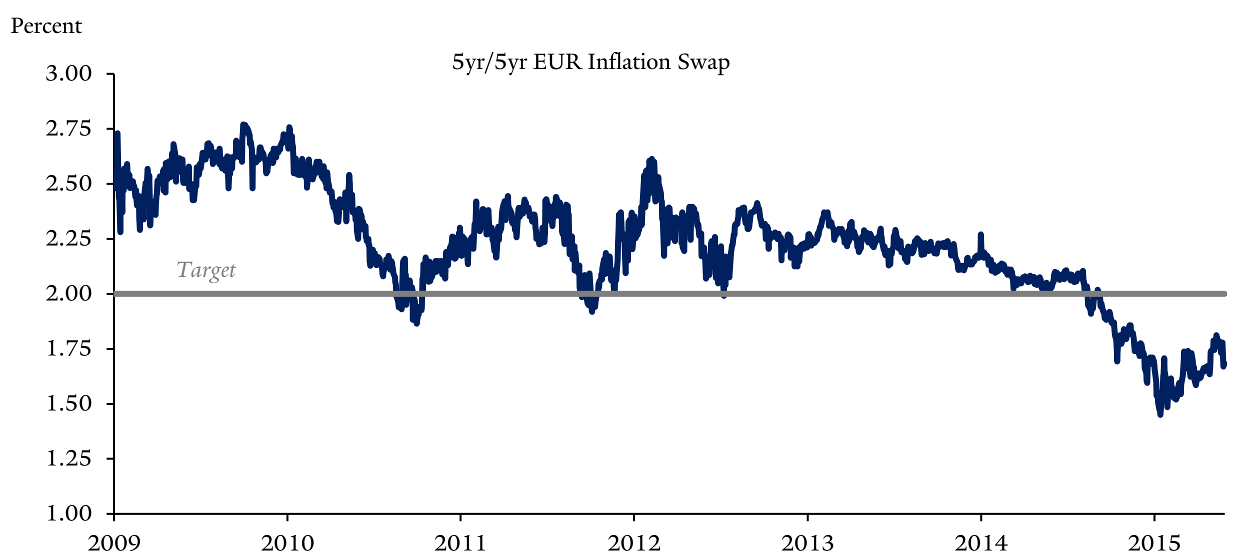
Four months later in January 2015, amid continued falling energy prices threatening already-strained price stability, the ECB announced a large bond-buying plan called the Public Sector Purchase Program (PSPP), colloquially called the ECB QE. The program purchased debt issued by European agencies, institutions, and central governments. Although the ECB's Governing Council remained deeply split on the issue, the ECB's announcement far outpaced expectations as the plan effectively called for some €1.1 trillion in purchases for at least two years, mostly in sovereign debt, compared to private sector expectations of roughly €500 billion.

Figure 10: Inflation in the Euro Area



Source: European Commission, European Central Bank.

Figure 11: Medium-Term Market-Based Inflation Expectations



Source: Bloomberg.

The ECB announced intended total purchases of €60 billion per month lasting through at least September 2016. At the time of the announcement in January 2015, the ECB's asset purchase programs, CBPP3 and ABSPP, accounted for €10 billion in purchases per month. Therefore, the announcement in January 2015 increased ECB purchases by €50 billion per month.

In sum, between September 2014 and January 2015, the ECB increased its asset purchase programs considerably to include: (1) CBPP3, (2) ABSPP, and (3) PSPP.

Covered Bond Purchase Program 3 (CBPP3)

As discussed earlier, the ECB began its third round of covered bond purchases in September 2014 (ECB October 15, 2014). The ECB designed the program to last two years. CBPP3 was larger than the previous two covered-bond purchase programs. In the first six months of CBPP3 the Eurosystem purchased €70 billion, whereas in CBPP2 the Eurosystem purchased less than €20 billion after the same number of months.

Asset-backed Securities Purchase Program (ABSPP)

The ECB announced the Asset-backed Securities Purchase Program (ABSPP) in September 2014 and began its operation in October 2014 to last at least two years. Under the ABSPP, the Eurosystem purchased ABS with assets from the euro area's nonfinancial private sector. The program was launched in parallel to the CBPP3, and the total purchases per month between the two totaled €10 billion. However, the initial size of the program was unknown and market participants expected a program of hundreds of millions of euros per month rather than billions per month (ECB September 2014).

Design

The ABSPP purchased both senior and guaranteed mezzanine tranches of ABS in primary and secondary markets. Specifically, eligible senior tranche securities were required to:

- be eligible as collateral for Eurosystem credit operations;
- be denominated in euros;
- be issued by an issuer in the euro area;
- be secured by claims residing in the euro area;
- have a second best credit assessment of at least BBB-/Baa3;
- meet special stipulations if the underlying claims were based in Greece or Cyprus; and
- meet the Eurosystem applied issue share limit of 70 percent per ISN, and 30 percent in cases of ABS with underlying claims against nonfinancial private entities in Greece or Cyprus (ECB ABSPP Technical Annex 1, October 2014).

Operationally, the Eurosystem had already accepted ABS as collateral for the decade preceding the ABSPP, so the Eurosystem only required a "few adjustments... inspired by simple considerations" to adjust the Eurosystem's collateral rules to the risk assessment used for purchasing ABS (Draghi, October 2, 2014). President Draghi laid out key considerations governing the eligibility of certain securities in the ABSPP:

1. Outright purchases are necessarily different from lending against collateral as lending is temporary, therefore ABS accepted as collateral may not be appropriate for purchases by the Eurosystem.

2. ABSPP, along with the concurrent TLTROs, were aimed at boosting lending to small- and medium-sized enterprises and therefore the focus was on ABS comprised of loans and similar lending which are "easy to read and price and interpret." Therefore, ABSPP excluded structured ABS although structured ABSs were accepted as collateral.

3. The Eurosystem wanted "to be as inclusive as possible. But with prudence." Draghi provided two caveats to his inclusive comments: that the Eurosystem implement measures to mitigate risks from ABS in Greece and Cyprus so they are risk-equivalent with securities purchased elsewhere. Second, that the purchase of ABS from Greece and Cyprus ought to be contingent on the ongoing programs of those countries.

In practice, the caveats for (3) suggested that ABS and covered bonds from the two countries which were ineligible as collateral for open market operations would in fact be included in the ABSPP. Further, the Eurosystem would buy relatively less of them. For the second caveat, the press emphasized Draghi's comments of "No programme, no purchases." The technical appendix, released shortly after Draghi's press conference, elaborated, stating: "for ABSs with underlying claims against non-financial private sector entities resident in Greece or Cyprus... a derogation... will be applied for as long as the Eurosystem's minimum credit quality threshold is not applied in the collateral eligible requirements for marketable debt instruments issued or guaranteed by the Cypriot or Greek governments" (ECB ABSPP Technical Annex 1, October 2014). As long as a country remained in a program, the minimum credit threshold was suspended and therefore the ECB could buy Greek and Cypriot securities derogating from the ratings requirements (Merler 2014).

Results

Securitized markets adjusted quickly and spreads between eligible and non-eligible ABS developed shortly after the October 2014 technical announcements. The effect was particularly apparent in the periphery (See Figure 12). Moreover, spreads of similar, eligible products across the euro area converged significantly.

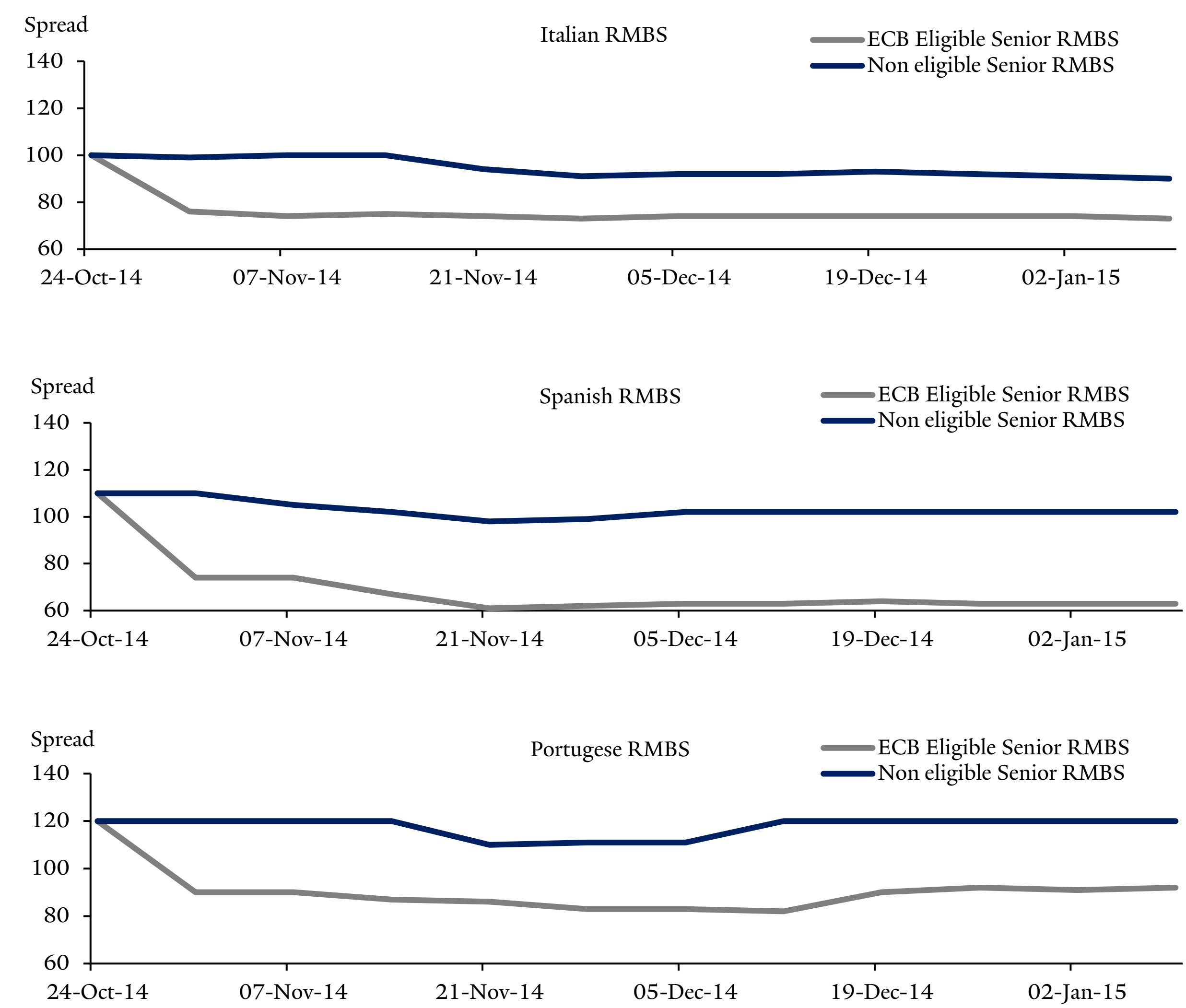
Public Sector Purchase Program

In January 2015, the ECB announced its intention to purchase bonds from euro area governments and securities from European institutions and national agencies through the Public Sector Purchase Program (PSPP).[10] The program encompassed the existing CBPP3 and ABSPP as well as a new expansion to purchases of sovereign debt and would account for some €60 billion in total purchases per month. The ECB Governing Council announced that the purchase program would continue until "the ECB sees a sustained adjustment in the path of inflation which is consistent with the aim of achieving inflation rates below, but close to, 2 percent over the medium term." The ECB announced that purchases would continue until

[10] In the January 2015 press release, the program was originally named the Extended Asset Purchase Program (EAPP), however it was later renamed the PSPP.

at least September 2016, and the Eurosystem would implement the purchases in a decentralized fashion with coordination from the ECB (ECB January 22, 2015).

Figure 12: Spreads Decoupling Between Eligible and Non-Eligible ABS



Source: Morgan Stanley Research.

The Governing Council embarked on the extended asset purchase program due to price stability concerns. Although a large portion of the fall in prices stemmed from lower energy prices, other important components of core HICP inflation remained depressed; mainly services and non-energy industrial goods. Falling inflation from mid-2013 through early 2015 lowered market-based expectations of inflation, "including at horizons at which [market based measures of inflation expectations] should normally show resilience to realised inflation observations." The Governing Council concluded "the risk had intensified that the sequence of negative surprises to headline inflation figures would be propagated to price formation in the future." (ECB Economic Bulletin, January 2015).

Although the first TLTRO as well as the CBPP3 and ABSPP had provided liquidity with satisfactory pass-through, as seen in the nominal cost of bank-borrowing for nonfinancial corporations, the measures did not move price growth towards its target. Given that key interest rates were at their lower bound, the Governing Council saw expanded quantitative measures as the “only effective tool to provide further monetary policy accommodation” (ECB Economic Bulletin, January 2015).

Design

The Eurosystem spent some €50 billion per month in the PSPP program, and the remaining €10 billion were split between ABSPP and CBPP3. The €50 billion per month from the PSPP was allocated such that 12% (roughly €6 billion per month) went towards the debt of supranational institutions. The remaining €44 billion purchased sovereign debt securities. Of that €44 billion, €4 billion in purchases came from the ECB and €40 billion from the NCBs. Figure 13 shows the design of the program between the ECB and the NCBs.

Securities eligible for purchase in the secondary market as a part of PSPP must:

- have remaining maturity of two to 30 years;
- be denominated in euros;
- be eligible as collateral for Eurosystem operations (i.e. the country must have a sufficiently high enough credit rating or is currently under a EU program);
- yield more than the deposit rate (-0.2% in March 2015);
- not be purchased in an amount more than 25 percent of an issue; and
- not be purchased in an amount more than 33 percent of an issuer’s total outstanding balance.[11]

Eligible securities therefore included nominal and inflation-linked government bonds and bonds issued by governmental agencies, international organizations and multilateral development banks located within the euro area. Purchases would be distributed across the Eurosystem according to the capital key, which was used to calculate the NCB capital as a share of the ECB’s capital (ECB Capital Subscription, Website). To avoid concerns of monetary finance, there was a “blackout” period before the Eurosystem could purchase newly issued securities. Purchases by NCBs focused “exclusively on their home market” (ECB Governing Council January 2015). This raised some concerns, as NCBs usually transfer profits to their respective treasury, so in effect the NCB’s actions provided a savings for governments on their interest payments.

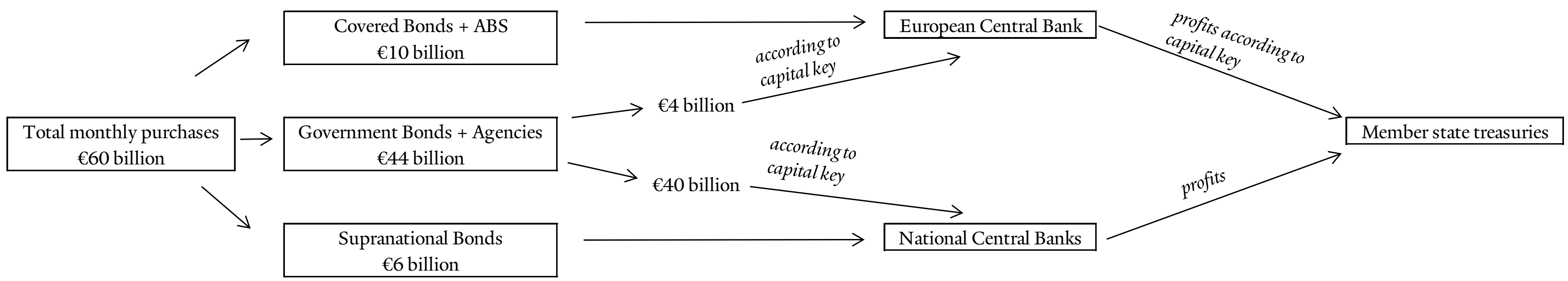
Purchases by NCBs were not eligible for risk sharing. Benoît Cœuré, the aforementioned member of the Executive Board of the ECB, explained the lack of risk sharing: “...we have taken into account the specificities of the euro area, meaning that we operate in an environment of decentralised national fiscal authorities, and the ECB has no mandate to engage in large-scale pooling of fiscal risks” (Cœuré 2015).

The 25 percent per issue stipulation sought to prevent the ECB from obtaining a blocking minority in a debt restructuring, as not blocking a restructuring “could be interpreted as

[11]The ECB already owned more than 25 percent of some issues due to the SMP.

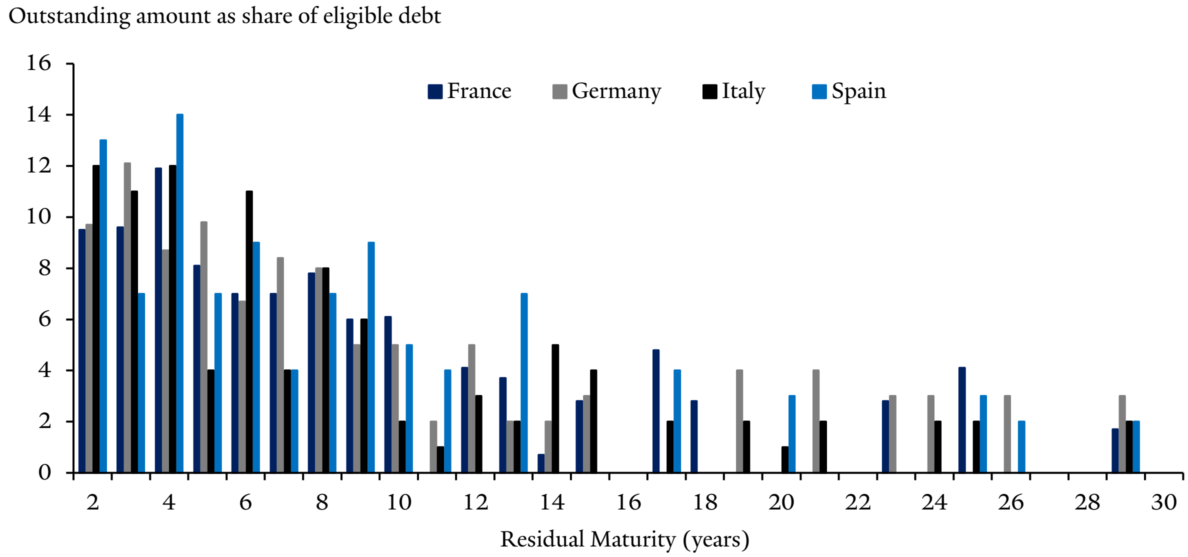
monetary financing of a member state" (Bruegel 2015). The 33 percent per issuer rule sought to preserve "market functioning and allow the formation of a market price on a given security" (ECB, Account of monetary policy meeting, January 22, 2015). At the time of announcement, Greece was the only country affected by the rule as the Eurosystem held some 34.6 percent of outstanding eligible debt with between two and 30-year residual maturity.

Figure 13: Public Sector Purchase Program Design



Source: European Central Bank, Bruegel (2015).

Figure 14: Maturity Distribution in Select Euro-Area Economies



Source: European Central bank, Bruegel (2015).

The total size of eligible debt securities—those between two and thirty year residual maturity and those with yields above the deposit rate—at the time of announcement was about €4.3 trillion at face value, or €5.3 trillion at market value (Bruegel 2015). The rule excluding bonds yielding less than or equal to the deposit rate only excluded some Bunds, which decreased Germany's eligible bonds by about €130 billion from €787 billion to €659 billion.

While the PSPP clearly aimed to affect prices, the ECB did "not want to suppress the price discovery mechanism." Cœuré noted three particular areas of "unintended consequences" that the ECB actively sought to manage with market neutrality operations of the PSPP: transparency, liquidity, and collateral availability.

First, in order to provide a high degree of transparency, the ECB published its aggregate securities purchases weekly and published the residual maturity of securities held per jurisdiction once a month. The ECB sought to be market neutral in its purchases in terms of the distribution of maturities as well and so structured its purchases to mimic the existing distribution of eligible securities' maturities. About three-fourths of the eligible securities matured in less than 10 years; Figure 14 shows the maturity distribution in the four largest economies. Supranational European debt followed a similar maturity distribution, with most of it maturing in less than 10 years. Further, the purchases would occur in a "smooth and consistent" fashion.

Second, the Eurosystem focused on maintaining liquidity in the key markets affected by PSPP. To do so, the Eurosystem avoided—as much as possible—purchasing the cheapest-to-deliver bonds underlying futures contracts, securities with "special rates" in the repo markets due to temporary scarcity, and other securities with unusual liquidity shortages. The ECB developed these operational details in large part due to the efforts of the Federal Reserve, Bank of England, and Bank of Japan in their respective existing large-scale asset purchases, in part detailed by Song and Zhu (2014).

Third, because the PSPP was a "buy-and-hold" strategy on the part of the Eurosystem, the effective supply of securities available to market participants declined. The securities purchased were often used for collateral services, and the Eurosystem sought to offset potential market distortions that would come should the Eurosystem not lend its purchased securities. For example, there were concerns in specific segments of the repo market that collateral was increasingly scarce, and in Q1 2015, term repo for German collateral dated longer than 90 days traded below the deposit facility rate. For this reason, the Eurosystem made securities purchased through PSPP, along with those from SMP and CBPP3, available to the market for securities lending. This, again, follows the lessons learned by other major central banks in pursuing large scale asset purchases. For example, the Bank of England made available all gilt holdings to the United Kingdom's Debt Management Office which in turn lent them to market participants (Cœuré 2015).

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Appendix

The following provide the relevant excerpts for the legal framework of the Outright Monetary Transactions program, as selected by the Advocate General Villalón from Title VIII of Part Three of the FEU (Functioning of the European Union) Treaty, which is entitled “Economic and Monetary Policy.”

Article 119

1. For the purposes set out in Article 3 of the Treaty on European Union, the activities of the Member States and the Union shall include, as provided in the Treaties, the adoption of an economic policy which is based on the close coordination of Member States’ economic policies, on the internal market and on the definition of common objectives, and conducted in accordance with the principle of an open market economy with free competition.

2. Concurrently with the foregoing, and as provided in the Treaties and in accordance with the procedures set out therein, these activities shall include a single currency, the euro, and the definition and conduct of a single monetary policy and exchange-rate policy the primary objective of both of which shall be to maintain price stability and, without prejudice to this objective, to support the general economic policies in the Union, in accordance with the principle of an open market economy with free competition.

3. These activities of the Member States and the Union shall entail compliance with the following guiding principles: stable prices, sound public finances and monetary conditions and a sustainable balance of payments.

Article 123

1. 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.

2. Paragraph 1 shall not apply to publicly owned credit institutions which, in the context of the supply of reserves by central banks, shall be given the same treatment by national central banks and the European Central Bank as private credit institutions.

Article 127

1. The primary objective of the European System of Central Banks (hereinafter referred to as “the ESCB”) shall be to maintain price stability. 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. The ESCB shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources, and in compliance with the principles set out in Article 119.

2. The basic tasks to be carried out through the ESCB shall be:

- to define and implement the monetary policy of the Union,
- to conduct foreign-exchange operations consistent with the provisions of Article 219,
- to hold and manage the official foreign reserves of the Member States,
- to promote the smooth operation of payment systems.

Glossary

ABS	asset-backed security
ABSPP	Asset-backed Securities Purchase Program
BSI	balance sheet item
CBPP	Covered Bond Purchase Program
ECB	European Central Bank
ECJ	European Court of Justice
EFSF	European Financial Stability Facility
ESM	European Stability Mechanism
FRFA	fixed-rate full allotment
FTOs	fine-tuning operations
IMF	International Monetary Fund
LTROs	longer-term refinancing operations
MROs	main refinancing operations
NCB	national central bank
OMT	Outright Monetary Transactions
PSPP	Public Sector Purchase Program
SLTROs	supplementary longer-term refinancing operations
SMP	Securities Markets Program
TFEU	Treaty on the Functioning of the European Union
TLTROs	targeted longer-term refinancing operations
VLTROs	very long-term refinancing operations