

About this Newsletter

In this issue of Finance, we discuss the Greek debt crisis as it relates to the relationship between the European Central Bank and the central banks of Eurozone nations. We also explain the various litigation matters that the recent Greek bailout may spur.

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The European Debt Crisis and the Role of the European Central Bank

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Introduction

Recent fiscal problems in the European Union (EU), and in particular the sovereign bond transactions by the European Central Bank (ECB), have placed a spotlight on the ECB's role at the center of the monetary authority of the Eurozone (the Eurosystem) and its preferential position in the Greek bond default. The ECB has forged a new and still evolving mission of bond market interventions to stabilize, or perhaps destabilize, the prices of sovereign bonds issued by Greece and other members of the Eurosystem.

This newsletter describes the ECB and its functions, defines the ECB's role with relation to the national central banks (NCBs) within the Eurosystem, and outlines how these organizations have responded to the Eurosystem's sovereign bond crisis. Along with these institutions, the newly established European Financial Stability Fund (EFSF), the European Financial Stability Mechanism (EFSM), and the European Stability Mechanism (ESM) are designed to play a central role in providing future financial assistance to Eurosystem member countries. With this framework established, we show how the ECB's actions in this spring's Greek bond restructuring affected the price of bonds held by private investors. Disputes engendered by the debt restructuring executed by Greece will likely generate substantial activity in international arbitration forums and other legal arenas.

As part of our analysis of the Eurosystem, we present recent balance sheet data for the ECB, German and Greek central banks, and the EFSF and EFSM to demonstrate how these organizations have reacted thus far to the Eurosystem's sovereign debt crisis. We also detail the specific terms of the Greek bond restructuring and the favored position of the ECB and Eurosystem's member central banks to illustrate how the ECB's transactions can eventually affect individual investors. The potential for legal action due to the restructuring terms is outlined in the final section.

The views expressed in this newsletter are strictly those of the authors and do not necessarily state or reflect the views of *The Brattle Group, Inc.*

The ECB and the Eurosystem

The Maastricht Treaty, which went into effect in 1993, provided the legal basis for the ECB and the Eurosystem. Since January 1999, the ECB has managed the monetary policy for the Eurosystem, which is comprised of the ECB and the national central banks of the Eurozone member states.¹ The Treaty states that the primary objective of the Eurosystem shall be to maintain price stability.² In other words, the overriding monetary policy goal of the ECB is to ensure price stability in the Eurozone.

The treaty also prohibits the provision of ECB credit to the public sector.³ Thus, the terms of the treaty that legally established the ECB and the Eurosystem did not anticipate a need to stabilize the prices of individual sovereign bonds issued by the Eurozone

member states. This is because membership in the Eurosystem required adherence to prudency rules,⁴ which would maintain the ability to have a common currency.

The ECB coordinates the monetary policies of the Eurosystem's NCBs to maintain price stability. To do this, the ECB conducts transactions between itself and the Eurosystem's NCBs, as well as central banks outside the Eurosystem. The ECB can borrow and lend directly to member NCBs. For example, if an NCB needs reserves in order to issue euros, the ECB can provide credit to that NCB against collateral posted by the NCB. Likewise, the ECB can borrow from an NCB to reduce the reserves and euro issues of that NCB.

Acronyms, Acronyms, Acronyms!

What is the European Central Bank (ECB)?

The ECB manages and administers overall monetary policy for the Eurozone, which is comprised of European Union (EU) member states that have adopted the euro as their currency. The ECB conducts monetary policy for the Eurosystem by coordinating the monetary policy initiatives of the member states' national central banks (NCBs).

What is the Eurosystem?

The Eurosystem is the monetary authority of the Eurozone, consisting of the ECB and NCBs of Eurozone member states.

What is the European System of Central Banks (ESCB)?

The ESCB consists of the ECB and all of the national central banks of the EU. Not all EU member states have adopted the euro, and therefore have independent monetary policies. These include the United Kingdom, Denmark, Sweden, Poland, and Hungary, among others. Thus, the ESCB comprises the Eurosystem and an extended set of European central banks.

What is the European Financial Stability Facility (EFSF)?

The EFSF is a program designed to provide loans to distressed EU nations. The EFSF is funded by debt guaranteed by EU member states, but disproportionately by Germany and France.

What is the European Financial Stability Mechanism (EFSM)?

The EFSM is another program designed to provide loans to distressed EU nations. Unlike the EFSF, the EFSM is funded by debt guaranteed by the EU's budget itself rather than by individual member states.

What is the European Stability Mechanism (ESM)?

The ESM is a program designed to replace the EFSF and the EFSM in the future. The design of the ESM is similar to that of the International Monetary Fund (IMF). It was recently officially inaugurated, but will have limited authority. For instance, the German high court limited Germany's possible share of the ESM to €190 billion and disallowed the ability of the ESM to receive a banking license, which prevents it from borrowing directly from central banks.

This temporarily affects the reserve balances of the targeted NCBs and, in turn, the reserve positions of the commercial banks in the targeted countries. The reserve positions of the commercial banks are affected because as the ECB varies an NCB's reserves, the NCB must increase or decrease its commercial bank reserves (or make some other balance sheet adjustment). The ECB also conducts reserve, currency, and swap transactions with central banks outside the Eurosystem. These transactions balance foreign currency and reserve flows among Eurosystem NCBs and provide liquidity to the Eurosystem overall.⁵

The establishment of two temporary bailout funds in May 2010, the EFSF and the EFSM, has provided a means by which the ECB can indirectly engage in sovereign debt purchases. The EFSF was authorized to borrow up to €440 billion, guaranteed by the countries in the Eurozone,⁶ while the EFSM was authorized to borrow up to €60 billion, guaranteed by the budget of the EU itself.^{7,8} The borrowed funds can be used to buy sovereign debt.

Beginning in May 2010, via some NCBs of the Eurosystem as well as the EFSF and EFSM, the ECB began its purchases of sovereign debt — first with bonds issued by Greece, Ireland, and Portugal, followed in August 2011 by purchases of bonds from Spain and Italy. It is likely that virtually all the sovereign bonds were actually purchased by NCBs with the purchases financed through repurchase agreements (repos) extended by the ECB to the purchasers.

The sovereign bond transactions by the ECB in the secondary market served only to provide price support and did not directly fund the public sectors of these countries. The public sector funding of each nation was accomplished by the initial sales in the primary markets when the sovereign bonds were issued. One might argue that an indirect public sector subsidy from the ECB did take place because support of the secondary market prices would allow new issues of sovereign debt at lower coupon interest rates.

French and German Banks and the NCBS

The political constraints on the EU can be illustrated through the cases of France and Germany. During the first part of the 21st century, German and French commercial banks were engaged in large scale wholesale lending to countries experiencing a real estate boom (Ireland, Spain, Portugal, and England).

The European real estate bubble burst in 2008,* leading to a widening of secondary market credit spreads and an exchanging of more-risky assets for less-risky assets, such as sovereign and bank debt for U.S. Treasury securities. This caused numerous challenges including a devaluing of the euro and a concentration of riskier debts in the German and French banks.

Instead of letting their banks experience the errors in their lending, the Deutsche Bundesbank and the Bank of France started shoring up their banks by purchasing this risky debt. The net result was a concentration of bad debt in the two largest members of the ECB. Massive political tensions emerged because the credit worthiness of Germany and France were now affected. This, in turn, has limited the ECB's ability to inject liquidity and conduct monetary policy.

* Available at: <http://www.bloomberg.com/news/2012-07-19/ireland-bulldozes-ghost-estate-in-life-after-real-estate-bubble.html>.

The ECB and German and Greek NCB Balance Sheets

The inter-relatedness of the ECB, the Eurosystem, and various NCBs is based upon both rules and politics. To demystify the relationships among the various entities, the following analysis contains overviews of the balance sheets of the ECB and the Eurosystem in consolidation, in addition to Germany and Greece in isolation.

The ECB's ability to conduct monetary policy operations is hindered by its relatively small size. The ECB balance sheet grew from €100 billion in 2005 to €230 billion at the end of 2011.⁹ The balance sheet of the Deutsche Bundesbank, the national central bank of Germany, was four times larger than the balance sheet of the ECB at the end of 2011, and as of July 2012, has

grown to over €1.1 trillion. Including off-balance-sheet assets, even the Bank of Greece's balance sheet is twice the size of the ECB's. Thus, the ECB is dwarfed by the consolidated Eurosystem balance sheet, which has grown from €1 trillion to €3 trillion over the last 7 years.

The ECB must rely on the balance sheets of various larger NCBs (such as that of Germany) to execute its monetary policy. However, the ECB does not control these large NCBs. The independence of the ECB is contingent simultaneously on the independence of NCBs from fiscal and political decisions of their respective member states, as well as coordinated and consistent effort among the NCBs to advance the ECB's policies. However, certain central banks such as the Deutsche Bundesbank are hesitant to lose their own monetary independence and become secondary to the ECB.¹⁰

The assets and financing of the ECB and the Eurosystem have evolved greatly over the last 10 years, demonstrating a drifting of responsibilities of these entities. As shown in **Figure 1**, in 2005,

the ECB's main assets were gold (€8 billion), claims on NCBs from the issuance of euros (€28 billion), and bank balances, as well as foreign currency and euro loans (€34 billion). This general structure was relatively unchanged through 2006, except that more euros were issued. As shown in **Figure 2**, during the same period, the ECB was financed mainly through banknotes as well as foreign reserve deposit balances from NCBs.

The ECB's reaction to the 2008 Financial Crisis led to a significant increase in intra-Eurosystem claims through the ECB's inter-country settlement system TARGET2 (see sidebar "What is TARGET2?"), which was used as a borrowing/lending mechanism to provide liquidity to NCBs as required.¹¹ The U.S. Federal Reserve Bank provided an enormous amount of liquidity through currency swaps (see "Non-Euro Area Liabilities" in Figure 2) as European debt holders exchanged their holdings for U.S. Treasury securities. The demand for dollars relative to euros rose, thereby creating exchange rate pressure that was offset by U.S. Fed currency swaps.

What is TARGET2?

TARGET2 is the ECB's real-time gross settlement system for cross-border transactions. Whenever a bank makes a cross-border payment to another bank, that transaction is settled through the respective NCBs, which then settle through the ECB. At the end of each day, these transactions are aggregated, leaving each NCB with a single net position with the ECB. An NCB in a country experiencing an outflow of capital or trying to shore up its banks through banknote purchases will have a net liability with respect to the ECB. The ECB reports its net TARGET2 position on its balance sheet, but disaggregates TARGET2 into the corresponding claims and liabilities in its balance sheet footnotes.

Before the financial crisis, fund flows were relatively stable and capital was readily accessible for banks to borrow funds if necessary to net out any funding shortfalls. However, due to the financial crisis, many banking systems lost access to capital as wholesale lending and deposits shrank while non-U.S. denominated repos became very expensive. To cover their liabilities, they had to turn to their NCBs for funding, which in turn were forced to borrow from other Eurosystem institutions, thus leading to large net TARGET2 liabilities for the NCBs of countries such as Spain, Ireland, Greece, and Portugal.

A low net TARGET2 claim masks the fact that overall claims and liabilities via TARGET2 increased to almost €850 billion by the end of 2011, a ten-fold increase in the last five years. It appears that the use of TARGET2 as a lending mechanism continues to grow. As of October 2012, the TARGET2 claim of the Deutsche Bundesbank alone on the ECB had risen to €720 billion, an increase of over €200 billion from the beginning of the year. In sharp contrast, the Bank of Spain has a TARGET2 *liability* of around €380 billion, the largest liability of any NCB, which is up from €150 billion in the beginning of the year.

As lending institutions, NCBs and the ECB require collateral from their borrowers in order to make loans. Historically, this collateral could have consisted of government debt such as Greek government bonds. Thus, NCBs such as the Deutsche Bundesbank could have funded the purchase of Greek debt via TARGET2. In July 2012, however, the ECB suspended the ability to use Greek bonds as collateral for borrowing.*

* Available at: <http://www.ecb.int/press/pr/date/2012/html/pr120720.en.html>.

Figure 1 - ECB Assets

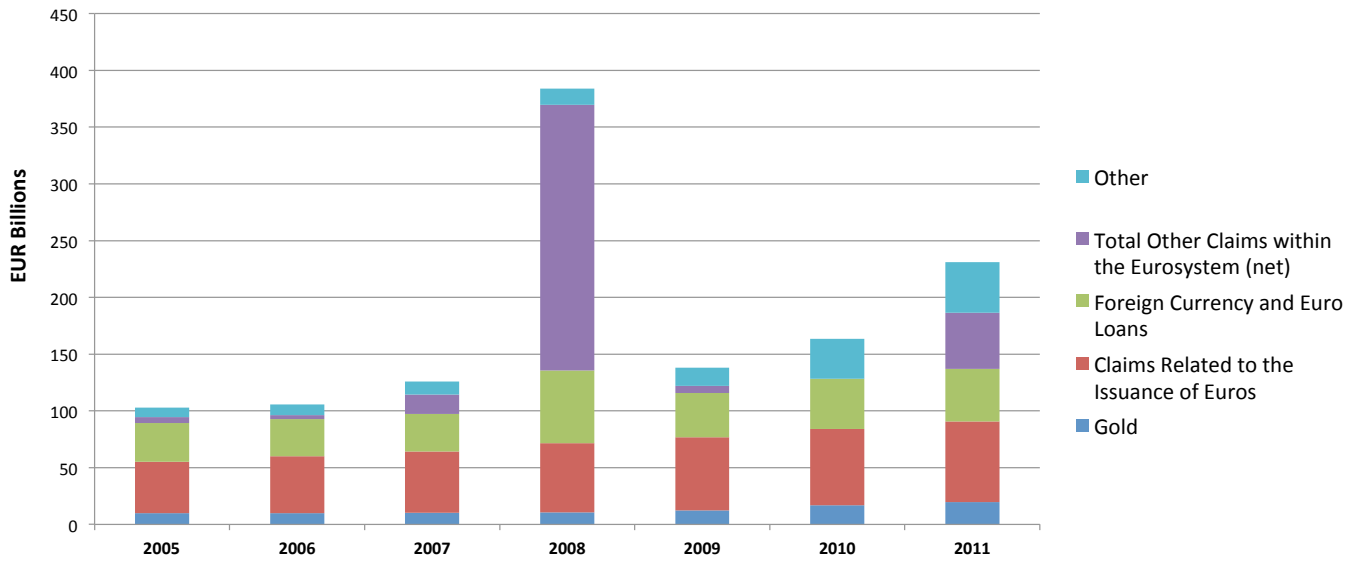
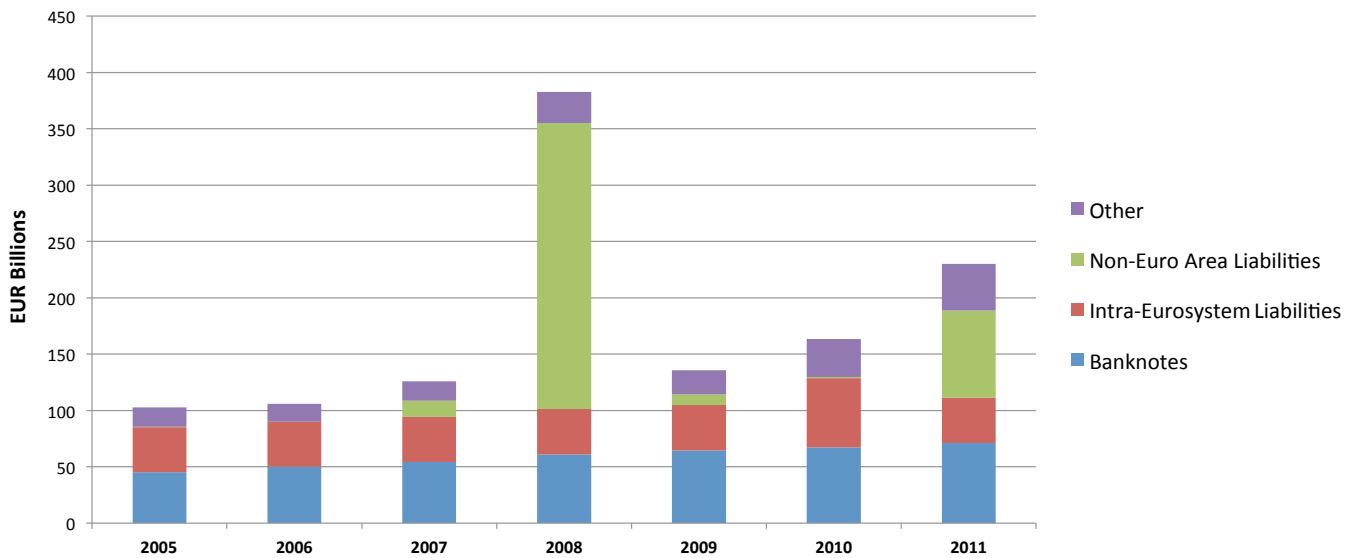


Figure 2 - ECB Liabilities



In 2009 and 2010, the U.S. currency swaps were unwound, the ECB balance sheet decreased to pre-crisis levels, and the Eurosystem balance sheet remained relatively flat. However, certain NCB balance sheets such as that of the Bank of Greece continued to increase drastically. The Bank of Greece pledged securities in return for funding via TARGET2. Much of this financing came from other NCBs, such as the Deutsche Bundesbank, which had a corresponding increase in lending to other Eurosystem institutions.

With the resurgence of currency swaps with the U.S. and the Swiss National Bank, as well as continued financing via TARGET2, balance sheet and off-balance-sheet growth continued through 2011. **Figure 3** shows the asset side of the balance sheets of the ECB, the Bank of Greece, and the Deutsche Bundesbank. As can be seen, there has been substantial growth in the asset bases of all three entities. Whereas the Deutsche Bundesbank's growth has come from lending to other NCBs and banks, the Bank of Greece's growth has come as a result of TARGET2 borrowing and

Figure 3 - ECB and NCB Balance Sheet Assets

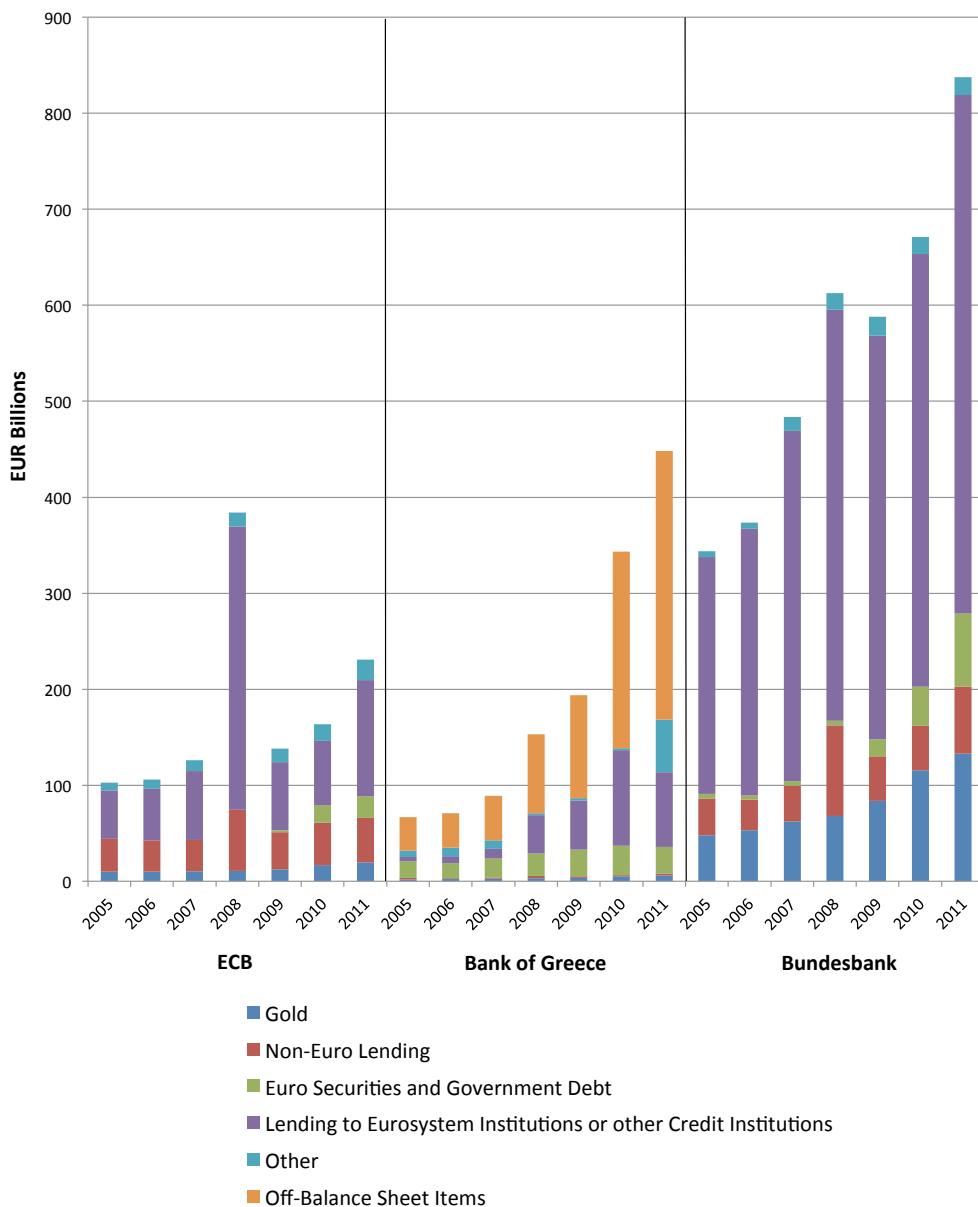
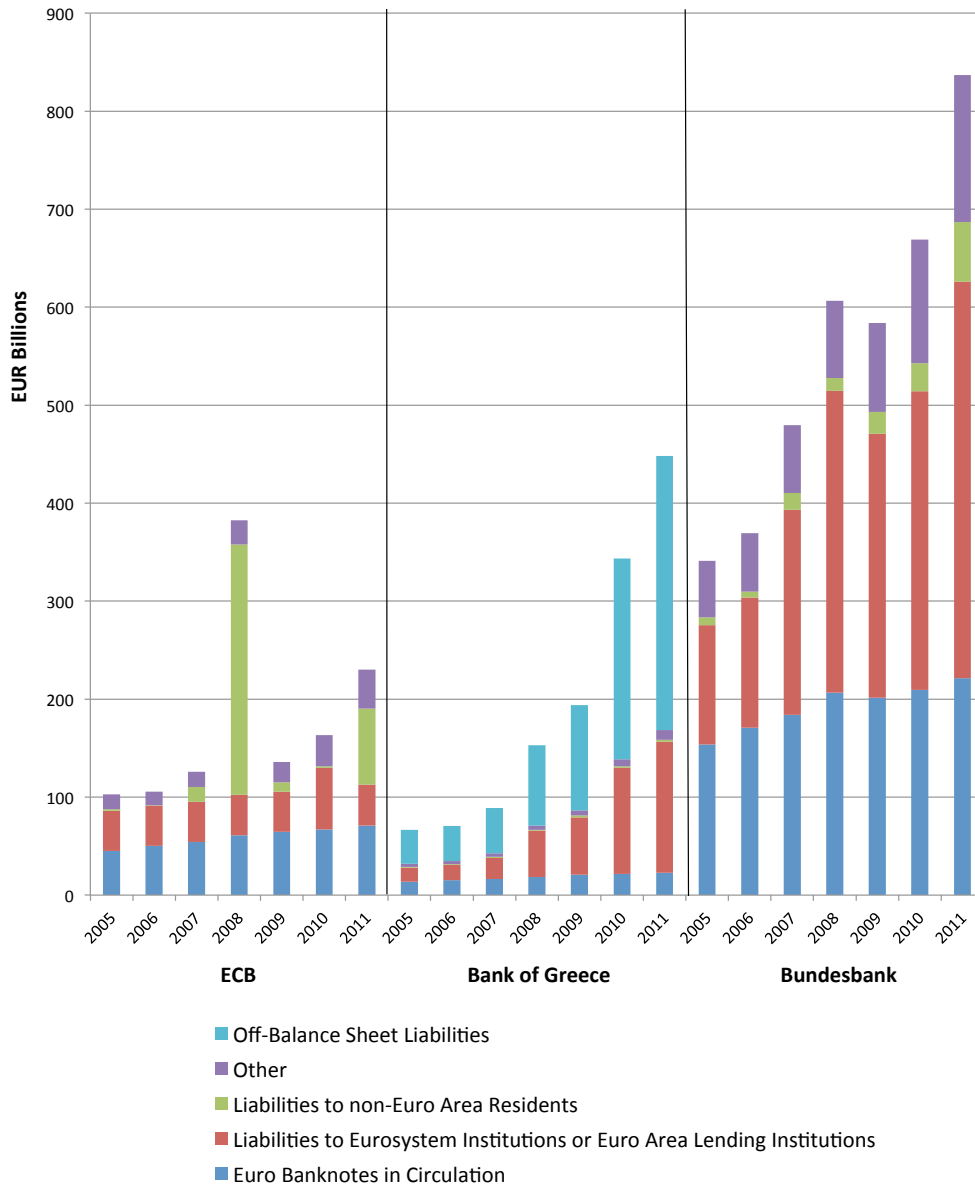


Figure 4 - ECB and NCB Balance Sheet Liabilities



over €270 billion in off-balance-sheet transactions as of October, much of which is insufficiently specified to be determined. It is clear from Figure 3 that the asset composition of NCBs in the Eurosystem varies considerably.

Figure 4 shows the balance sheets liabilities of the ECB, the Bank of Greece, and the Deutsche Bundesbank. As demonstrated

in the figure, the liabilities for the Deutsche Bundesbank are balanced between banknotes and borrowings from other banks, whereas the Bank of Greece, again, is financed primarily via off-balance-sheet transactions and TARGET2 borrowing. Thus, there are dramatic differences between how the Deutsche Bundesbank and the Bank of Greece are financed, with the ECB (via TARGET2 and other mechanisms) sitting in the middle.

EFSF and EFSM Balance Sheets

Concurrently, the European Financial Stability Facility (EFSF) has been making significant loans and loan commitments to Ireland, Portugal, Greece, and Spain, with current loan commitments of €292 billion, though that does not appear to have been fully drawn down. To finance these operations, the EFSF has issued debt, much of which appears to have been purchased by various financial institutions, central banks, and sovereign funds in the Eurozone as well as in Asia, though this cannot be determined with certainty given the level of information disclosure. Debt issued by the EFSF is over-collateralized through guarantee agreements with several EU member states. A vast majority

of the guarantees are from Germany and France. The EFSF has sufficient guarantees to issue an additional €148 billion in loan commitments to distressed members states.

The EFSM can be funded by up to €60 billion in third party debt, which is guaranteed by the European Union itself. Currently, the EFSM has issued loan commitments to Ireland and Portugal totaling €48.5 billion, leaving the EFSM with the capability to issue another €11.5 in commitments as necessary. Thus far, the EFSM has issued €45 billion in debt, and so has funded most of its current commitments.

Figure 5 - EFSF Balance Sheet

Assets (EUR bn)		Liabilities (EUR bn)	
Loans and Loan Commitments to Ireland	17.7	Long-term Debt	103.3
Loans and Loan Commitments to Portugal	26.0	Short-term Debt	13.8
Loans and Loan Commitments to Greece	144.6	Unissued Debt	174.9
Loans and Loan Commitments to Spain	100.0		
Cash Buffer ⁽¹⁾	3.7		
Total	292.0	Total	292.0

⁽¹⁾ As of October 2011, a cash buffer is no longer required by the EFSF

Figure 6 - EFSM Balance Sheet

Assets (EUR bn)		Liabilities (EUR bn)	
Loan Commitments to Ireland	22.5	Long-term Debt	45.0
Loan Commitments to Portugal	26.0	Unissued Debt	3.5
Total	48.5	Total	48.5

The ECB and the Greek Bond Restructuring

Up to this point, the most dramatic action in the current Eurosystem financial crisis has involved Greece. Following increasing national debt problems, which intensified concerns of a potential default, in May 2010, a first loan package from the EU members and the IMF to Greece went into effect. This was a three-year loan, with a 5.5% interest rate in the amount of €110 billion, with €80 billion being provided by the European Union and the remaining €30 billion by the IMF.¹² The loan was conditional on the implementation of austerity measures by the

Greek government. The package was not sufficient to improve the debt situation significantly, and in June 2011, Greece's sovereign debt was downgraded by Standard and Poor's to CCC, which was the lowest sovereign debt rating in the world.

Due to Greece's poor economic performance and weak credit conditions in 2011, a debt restructuring program ("second bailout loan") was proposed by the EU leaders in late 2011, combined with yet another package of austerity measures.

By the end of 2011, the total Greek public debt outstanding was estimated to be €356 billion, with €206 billion held by private creditors — €177 billion of bonds governed by Greek law, and €29 billion of bonds governed by foreign law and hence eligible for the swap arrangement described below. The remaining €150 billion, exempt from the swap, consisted of ECB bond holdings (€57 billion), EU loans (€53 billion), IMF loans (€21 billion), and short-term bills and other holdings (€19 billion).¹³

The second bailout restructuring proposal, finalized in February 2012, included a new loan in the amount of €130 billion, combined with an initially optional swap from private creditors of Greek government bonds into new long-term Greek bonds with a lower interest rate and short-term EFSF notes. In particular, for each bond in the amount of €100, the private debt holder was offered (i) €15 in short-term (two-year) EFSF notes; (ii) new long-term Greek bonds with maturity up to 30 years, face value of €31.5, and a weighted-average coupon, based on the full 30-year period, of 3.65%;¹⁴ and (iii) detachable GDP-linked instruments, which grant an additional coupon payment if Greece's GDP exceeds expectation. Hence, under the terms of the restructuring, private bondholders would agree to write down the value of Greek bonds, in nominal terms, by 53.5%.

By March 2012, the majority of private holders agreed to restructure €152 billion worth of Greek government bonds out of a total €206 billion eligible for the debt restructuring deal. Another 69% of investors, who owned Greek bonds not issued under Greek law (foreign-law debt), agreed to restructure roughly €20 billion. Given the voluntary acceptance by more than two thirds of private holders, collective action clauses were then activated by the Greek government. By April 2012, nearly 97% of bondholders had accepted the restructuring deal, corresponding to €199.1 billion of the total debt. Thus, the swap arrangement reduced the total debt by around €106 billion.

The ECB and Eurosystem NCB holdings of Greek debt were exempt from the terms of the March 2012 swap arrangement for private investors. The ECB and NCB's original holdings of Greek government bonds were swapped for new bonds identical in terms and nominal values in February 2012.¹⁵ Thus, they experienced no loss in nominal value (a "zero haircut") and the new bonds were treated as senior to the remaining Greek debt, other than loans from the IMF, which are always senior to all claims, and so were not affected by the swap or the haircut. This implies that the 53.5% haircut taken by the private holders could have been significantly decreased if all the debt was restructured: the same €106 billion total debt reduction could have been achieved by a 30% write down of the total debt amount of €356 billion, instead of a haircut of 53.5% of the debt that was, in fact, treated as subordinated to the ECB debt.

The International Swaps and Derivatives Association considered the Greek debt swap to be a triggering credit event for credit default swaps (CDS) on Greek debt, in the net amount of approximately \$3.2 billion.¹⁶ The decision was made following the use of collective action clauses for private debt holders that did not voluntarily agree to the debt restructuring. The settlement of the CDS contracts went smoothly, and given the small net settlement amount, the overall impact on Eurosystem commercial banks was insignificant.

On May 15, 2012, contrary to the terms established in the debt restructuring, the Greek government paid out around €435 million to redeem foreign-law debt (in this case, debt which was issued under United Kingdom law¹⁷) held by private bondholders who had refused to participate in the debt exchange. This was allegedly undertaken to avoid legal action concerning certain cross collateralization provisions in some of the other foreign-law bonds.¹⁸

Most recently, on November 26, 2012, international lenders agreed to steps designed to further reduce the Greek debt burden, in concert with Greece's efforts to meet previously defined conditions regarding its fiscal imbalances.¹⁹ These steps include cutting the interest rate on government loans, increasing the maturity of EFSF loans to Greece from 15 years to 30 years, and allowing Greece to defer interest repayment on those loans for 10 years. The plan also includes €43.7 billion in new financing as well as an additional debt buyback. Though the specific terms of the debt buyback have not yet been revealed, there is the potential that similarly to the results of the debt swap and haircut, certain debt holders will fare worse than others.

Potential for Legal Action

Several groups of private holders of Greek government bonds who were forced to participate in the debt restructuring deal are preparing legal actions against the Greek government. In particular, a planned lawsuit against the Greek government²⁰ alleges that the bond swap consisted of expropriation from the bondholders who were forced to participate, breaking a bilateral investment treaty (BIT) between Germany and Greece. It appears that other BIT-related legal actions are being pursued regarding Greek bonds worth 650 million Swiss francs and governed by Swiss law, as well as arbitration actions under Greece BITs with Chile, Latvia, and Turkey.²¹

In addition, the May 15, 2012 payment of Greek bonds has the potential to lead to legal actions pursued by bondholders who were forced to participate in the debt restructuring, who can now claim that the terms of the agreement were not applied to all bondholders of Greek debt in the same manner.

An ongoing case similar in substance is the dispute in *Abaclat and Others (formerly known as Giovanna a Beccara and Others) v. Argentine Republic*. In 2001, facing a severe economic crisis, the Argentinean government suspended payments and declared default on over \$100 billion of sovereign debt. In 2005, in a more favorable economic situation, the Argentinean government offered to exchange the defaulted debt for newly issued Argentinean debt. The exchange was accepted by 76% of debt holders, with a substantial number of debt holders refusing to participate. There was a further debt exchange offer in 2010, but a class formed by 60,000 Italian bondholders who did not accept either swap offers pursued an arbitration claim — submitted to the World Bank's International Centre for the Settlement of Investment Disputes (ICSID) — against Argentina, claiming that Argentina violated its obligations under the BIT between Argentina and Italy. An August 4, 2011 decision²² focused on jurisdictional issues, stated that arbitrators at the ICSID have authority to hear an investment treaty claim brought by the class of bondholders. The arbitration process continues.

Conclusion

The ECB has been thrust into a new and unforeseen role by the fiscal problems in several Eurosystem countries and the general noncompliance and non-enforcement of EU and Eurosystem membership requirements. The responses by the ECB and Eurosystem, including ECB transactions in member countries' sovereign bonds and the Eurosystem's establishment of several investment mechanisms, have shuffled much of the Eurosystem governments' bonds around, but continuing fiscal problems in Greece, Spain, Portugal, and Italy still threaten the stability of the Eurosystem. Moreover, Greece's bond restructuring and the senior position taken by the ECB and NCBs increases the risk of investments in the bonds of several Eurosystem governments and raises the possibility of continuing litigation by creditors.

Endnotes

- ¹ Gerdesmeier, D., F. P. Mongelli, and B. Roffia, "The Eurosystem, The US Federal Reserve, and the Bank of Japan: Similarities and Differences," European Central Bank, working paper no. 742, March 2007.
- ² Other objectives given, listed by priority, are to ensure "... a high level of employment ..., sustainable and non-inflationary growth, a high level of competitiveness, and convergence of economic performance." See *Ibid*, pp. 12-13. Note that the original treaty referred to the Eurosystem instead as the European System of Central Banks (ESCB), which refers to the ECB in conjunction with the central banks of all EU members, not just those that joined the euro. The presumption was that all EU members would eventually join the euro. Because this has not come to pass, we must draw a distinction between the two, as described in the sidebar "Acronyms, Acronyms, Acronyms!"
- ³ *Ibid*, p. 15.
- ⁴ There are specific regulations for membership in the Eurosystem, including strict limits to inflation, budget deficit as a percentage of GDP, debt as a percentage of GDP, and others.
- ⁵ From our earlier newsletter, "Understanding the Credit Crisis Part 2: Getting Down the Mountain," you will notice that the U.S. Federal Reserve balance sheet almost doubled by \$1 trillion in swap lines to Europe as the 2007-08 liquidity crisis took hold in Europe.
- ⁶ Available at: http://www.efsf.europa.eu/attachments/faq_en.pdf.
- ⁷ Available at: http://ec.europa.eu/economy_finance/eu_borrower/efsm/index_en.htm.
- ⁸ Note that in February 2012, a new treaty was signed, creating another bailout fund, the European Stability Mechanism (ESM), which was inaugurated in October 2012 and is supposed to replace the EFSF. The joint EFSF/ESM lending capacity was set to €500 billion. Available at: <http://www.european-council.europa.eu/home-page/highlights/european-stability-mechanism-treaty-signed?lang=en>.
- ⁹ The ECB only publishes annual account statements. Thus, the most recent data available for the ECB is as of December 31, 2011.
- ¹⁰ Available at: <http://www.economist.com/node/21564245>.
- ¹¹ ECB 2011 Annual Report, pp. 34-36.
- ¹² Available at: <http://news.bbc.co.uk/2/hi/8656649.stm>.
- ¹³ "Statement on Monetary Policy," Reserve Bank of Australia, May 2012, p. 31. Available at: <http://www.rba.gov.au/publications/smp/2012/may/pdf/0512.pdf>.
- ¹⁴ Press Release issued by the Steering Committee of the Private Creditor-Investor Committee for Greece on Swap Agreement, February 21, 2012. Available at: http://www.toima.gr/files/1/2012/02/21/Terms%20for%20bond%20swap%20_21-2-2012_.pdf.
- ¹⁵ "Euro Area Policies: 2012 Article IV Consultation – Selected Issues Paper," IMF Country Report No. 12/182, p. 47. Available at: <http://www.imf.org/external/pubs/ft/scr/2012/cr12182.pdf>.
- ¹⁶ Available at: <http://www.bloomberg.com/news/2012-03-09/greek-debt-deal-might-trigger-3-billion-of-default-swaps-under-isda-rules.html>.
- ¹⁷ Zettelmeyer et. al., "The Greek Debt Exchange: An Autopsy," September 11, 2012. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2144932.
- ¹⁸ Available at: <http://www.reuters.com/article/2012/05/15/us-greece-bond-idUSBRE84E0MY20120515>.
- ¹⁹ Available at: <http://www.reuters.com/article/2012/11/27/us-eurogroup-greece-idUSBRE8AQ0J920121127>.
- ²⁰ Available at: <http://www.ft.com/intl/cms/s/0/79ed422c-6c67-11e1-bd0c-00144feab49a.html#axzz2COiJ1BI>.
- ²¹ "Greece: a new Argentina?" K. Karadelis, *Global Arbitration Review*, 7:3, June 2012.
- ²² Available at: <http://italaw.com/documents/AbaclatDecisiononJurisdiction.pdf>.

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- Forensic Economics
- Intellectual Property
- International Arbitration
- International Trade
- Product Liability
- Regulatory Finance and Accounting
- Risk Management
- Securities
- Tax
- Utility Regulatory Policy and Ratemaking
- Valuation

Industry Practice Areas

- Electric Power
- Financial Institutions
- Natural Gas
- Petroleum
- Pharmaceuticals, Medical Devices, and Biotechnology
- Telecommunications and Media
- Transportation

Our Finance Practice

Members of our firm are internationally recognized experts in financial economics, corporate finance, accounting, and risk management. We are distinguished by our experience in financial institutions and structured finance products.

Our areas of focus include:

- ◆ *Securities*
- ◆ *Accounting*
- ◆ *Valuation of complex financial instruments*
- ◆ *Bankruptcy*
- ◆ *Insurance and banking*
- ◆ *Pensions and other managed asset funds*

Our finance team provides a range of services to clients, including expert testimony, non-testifying expertise, general litigation support, litigation case strategy, expert identification and coordination, and consulting services.

About The Brattle Group

The Brattle Group provides consulting and expert testimony in economics, finance, and regulation to corporations, law firms, and governments around the world.

We combine in-depth industry experience and rigorous analyses to answer complex economic and financial questions in litigation and regulation, develop strategies for changing markets, and make critical business decisions.

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