

# Recent Economic and Financial Crises

Lecture 5  
Part 2  
The Euro Crisis

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## Recent Economic and Financial Crises

- The Great Financial Crisis, 2007-09
- The Euro Crisis

"We very much think of the euro area as a beautiful ship that has been built, nurtured for the soft seas, but which is not yet completely finished for the rough ones. A lot has been done in relation to banking union. If I have a message today it is that that particular part of the ship needs to be finished, needs to be completed and speed is of the essence."

*Christine Lagarde* Managing Director of the IMF, September 10, 2013

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## Global Pandemic of the GFC

Even though in late 2007 two large European banks - German IKB and British Northern Rock - had already collapsed, amongst the first victims of the GFC, in September 2008 the German Minister of Finance, Peer Steinbrueck, declared: "This crisis is above all an American problem."

A few days later much of the **European banking system effectively collapsed** and Germany was forced to bail out the banking giant Hypo Real Estate. Ireland had to issue a very costly blanket guarantee for all liabilities (deposits and bonds) of its biggest financial institutions, other European countries followed suit and Britain effectively nationalized much of its banking system.

**Conventional wisdom** - first promoted by Goldman Sachs analysts - that held that the rest of the world would "decouple" from the ailing US was **clearly proven wrong**

An old saying in financial markets states that "when the US sneezes, the RoW catches a cold"

**The GFC spread globally through several channels:**

- **Money markets:** the complex webs of borrowing and lending that binds together the international financial system broke down after the Lehman default
- **Stock markets:** investors sentiment turned negative and the stock markets all over the world became the medium through which investors registered their growing aversion to risk, by dumping equities and piling into "riskless assets" (mainly T-Bills and T-Bonds and "safe heavens" currencies like US\$ and Yen)
- **Trade:** letters of credit [that guarantee that goods in transit between trading partners would be paid when they reach their final destination] and trade finance became much more expensive and often unavailable at any price. As a result, **global trade came to a standstill**. At the peak of the crisis, in early 2009, exports were down 30% yoy in China and Germany, 37% in Singapore and 45% in Japan. World trade was 50% lower in 2009 than it 2008
- **Commodities:** Collapse of international commodity prices, especially oil (that fell to US\$ 40 a barrel from over 110\$) and copper, throwing commodities-exporting countries into fiscal crises

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“Contagion effect” or “home-grown problems”?

The crisis started in the US but the “contagion” would not have spread to other countries had they also not been suffering from their own underlying vulnerabilities and weaknesses, often similar to those of the US:

- Housing prices in many countries around the world had appreciated at a relentless rate, even higher than in the US: the Economist calculated that the total value of the residential properties in the world’s developed economies had doubled from 2000 to 2005. This gain, a stunning \$40 trillion, was equivalent to the combined gross GDP of all countries in question
- As house prices went up, households felt wealthier, spending more and saving less. The boom in residential property investments boosted these countries’ GDP
- Low savings and high consumption and investment rates implies a **negative current account balance**: the imbalances need to be funded by foreign capital, private or public
- Private capital flows are intermediated by the traditional or the shadow banking system: when both systems seized up, the imbalances could not any longer be financed by private capital flows. **Deficit countries were forced to rebalance their trade flows in a very short period of time** - no financing was any more available - or had to resort to official support
- **Public spending as % of GDP in most countries kept growing after 2000**, notwithstanding the favourable growth cycle, but Government budget deficits generally remained well behaved because revenues were boosted by tax receipts linked to the financial and real estate boom. When the economy slowed down, **budget deficit expanded dramatically**
- **Leverage and risk taking was also high in the European banking and financial sector**: leverage ratios at European banks were even higher than their US counterparts (Credit Suisse 33:1, ING 49:1, Deutsche Bank 53:1, Barclays 61:1) and European banks were heavily involved in the financing of many high risk ventures, leveraged buyouts and had even heavily invested in American subprime loans
- Finally European banks had vastly increased cross-border financing, exposing themselves to **sovereign risk**, towards Central and Eastern European countries and towards “peripheral” euro countries

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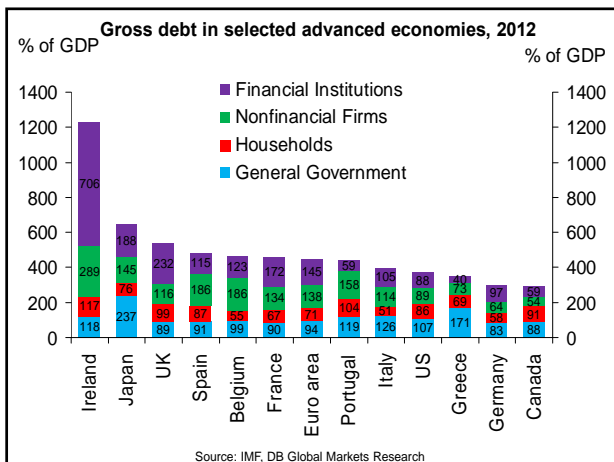
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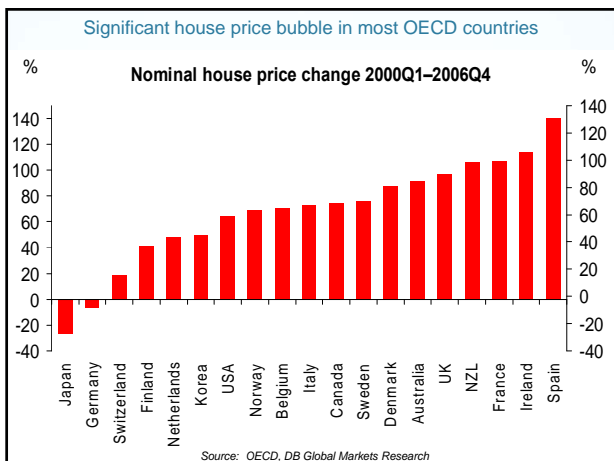
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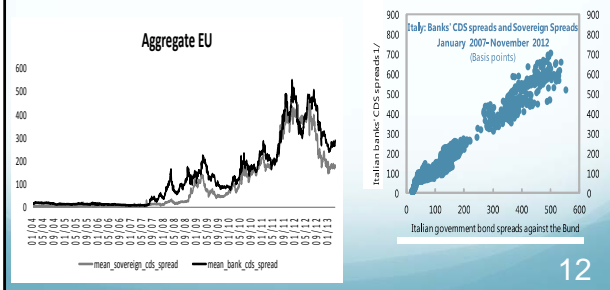




### 1.1. The Euro Banks vs Sovereign linkage

**European banks hold large amounts of euro area sovereign debt on their balance sheets.** Data from the stress tests of 91 significant banks show that Greek banks hold roughly 25% of GDP in the form of domestic govies, Spanish banks 20% of GDP while Italian and Portuguese banks hold closer to 10% of GDP. Banks in the Earea also hold considerable volumes of bonds of other European sovereigns such that the total exposure to stressed sovereigns is even higher

The cost of insuring bank bonds varies with the cost of insuring the sovereign debt that those banks hold: **the risk of sovereign default is directly translated to the risk of bank default**



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### 1.2. The euro bank crisis: capital/solvency issues

- Problems at European banks do not end with declines in the market value of sovereign bonds: **European banks were the dominant investors in US MBS and sponsored 70% of the asset-backed commercial paper (ABCP) originated prior to the subprime crisis.** Declines in real estate prices in Europe also created fears of huge valuation losses on banks' residential and commercial real estate loan portfolios
- Between May 2007 and the end of 2011, the market capitalization of European banks fell by 80%. The declines in market value far exceeded banks' write-downs, leading to a large gap between banks' accounting and market values. As of end 2011, the market cap of European banks was equal to just 57% of the tangible book value of equity, implying that banks were priced at a 43% discount to their accounting values. Many banks had been writing asset values up even as the market applied steeper discounts to those same assets: between 2007 and 2011, the book value of the 20 largest European banks increased by 35% even as these banks' market values declined by 53%
- Since 2007 nearly every Earea country took steps to stabilize their banking system which involved fiscal resources.** These included direct injection of capital into the banks (in 10 of 15 Earea members) and state guarantee of bank liabilities (12 out of 15), as well as loans to the banking sector, acquisition of bad assets, nationalization, and individual rescues
- Based on IMF estimates, total direct support to the financial sector by mid-2011 (not including liability guarantees that may or may not cost money in the future) are roughly 6% of GDP in countries like Greece and Belgium, 13-14% in the Netherlands and Germany, and as high as 40% in Ireland. Some of this money will be repaid, but in some cases, the costs could go higher. In particular, the Irish state has been basically bankrupted by its support to Irish banks (whose default, incidentally, would not have represented a major domestic systemic problem, since the Irish banks had relatively little retail business and were mainly funded by foreigners, in particular British, German and French banks: therefore we can say that the Irish taxpayer "bailed-out" foreign financial institutions, at great cost to such a small country)

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### 1.2.a Stress tests and Euro Banks recapitalization: EBA (failed) attempt

- Unlike the liquidity concerns which are normally dealt with at supranational level (by the ECB at times in coordination with the other global central banks) **bank solvency concerns in the Earea have been treated until now as a local matter.** The European Commission and the ECB helped play a coordinating role as various EU nations grappled with banking solvency issues, but the plans – and most importantly their funding – came from the member states
- The **EBA** (European Banking Authority, the pan-European banking regulator) forced European banks to undergo "Stress Test", following the example set by US authorities. **Rigorous "Stress Test" (as performed in the US) are the main way to resolve uncertainty over banks' balance sheets solvency (that can lead to liquidity crises)**
- European authorities have performed a number of "stress test", but the most interesting scenario for the market to evaluate – a sovereign default – is just what that the authorities have promised to avoid!
- U.S. stress tests were successful because they were credible but also because there was a committed public capital backstop in case of capital shortfalls.** In the euro, any backstop is still at the national level: a bank that could go bankrupt due to a failure of its sovereign is relying on that same sovereign for a capital backstop
- In December 2011, the EBA required euro area banks to raise a total of €114.7 billion of capital to meet a 9% core tier one capital requirement by the middle of 2012. As of July 2012 banks were able to raise €94.4 billion in additional equity. Those banks that were unable to raise the required capital were either restructured or received public assistance. In the case of Spain, the EBA's original €26 billion capital shortfall estimate was repeatedly revised upwards until July 2012 when the Eurogroup granted €100 billion to the bank recapitalization fund of the Spanish government to cover the estimated capital shortfall among Spanish banks

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### 1.2.b Stress tests and Euro Banks recapitalization: the ECB and the Single Supervisory Mechanism

- Following the failed attempts of the newly formed "European Banking Authority" (EBA) to produce adequate "stress tests" of the main European banks, the ECB took charge
- The European Central Bank (ECB) published on Oct. 26th 2014 the results of a thorough year-long examination of the resilience and positions of the 130 largest banks in the euro area, accounting for 82% of total banking assets: this rigorous exercise was a major milestone in the preparation for the **Single Supervisory Mechanism**, which will become fully operational in November 2014
- The **Comprehensive Assessment** - which joined up the AQR and the stress test components - was aimed at strengthening banks' balance sheets, enhancing transparency and building confidence.
- The **AQR** (Asset Quality Review) conducted by the ECB examined whether assets were properly valued on banks' balance sheets as on 31 December 2013. It made banks comparable across national borders by applying common definitions for previously diverging concepts and a uniform methodology when assessing balance sheets. The ECB recognises the **need to improve the consistency of the definition of capital and the related quality of capital**. ECB Banking Supervision will address this as a matter of priority.
- In the **Stress Test** banks were required to maintain a minimum CET1 ratio of 8% under the baseline scenario (as for the AQR) and a minimum CET1 (Core Equity Tier 1) ratio of 5.5% under the adverse scenario. **The stress test is a prudential exercise to test banks' ability to withstand weakening economic conditions**
- This unprecedented in-depth review of the largest banks' positions should boost public confidence in the European banking sector. By identifying problems and risks, it will help repair balance sheets and make the banks more resilient and robust. This should facilitate more lending in Europe, which will help economic growth**

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### 1.3. The euro bank crisis: liquidity issues

- In response to additional funding problems at banks in Dec 2011 the ECB provided nearly €500 bn through a **Long Term (up to 3y) Refinancing Operation (or LTRO)**. A second LTRO on Feb 29th, 2012 provided over €500 bn euros more.
  - The ECB loaned to banks for terms up to 3 years, filling a M/T liquidity need but it did not purchase assets from the market (contrary to the FED), thus leaving any credit risk on the balance sheets of banks**
  - The ECB maintains that the purpose of the LTRO program is simply to smooth troubled markets and ensure that the monetary policy transmission mechanism is functional
  - Prior to the crisis, LTROs were done with a variable rate tender, in which banks were required to bid on a fixed allotment of €. In response to the liquidity troubles that Europe faced, **the ECB decided to engage in a fixed-rate tender with full allotment**. As long as banks have the required collateral, they have access to as much liquidity as they need
  - In addition to this non-standard implementation of monetary policy, **the ECB also expanded the set of eligible collateral for longer-term repo operations**
  - These operations allowed European banks to profit from a "carry trade" by borrowing from the ECB at 1% to buy much-higher yielding government debt. The IMF estimates that of the €513 bn net increase in ECB bank credit provided through the LTROs, €115 bn was used to acquire additional government debt. With Italian and Spanish 10-year notes yielding above 7% and 5.6%, respectively, just prior to the allotments, it is conceivable that the net interest income from the LTROs alone increased bank capital levels by €5 billion in 2012
  - Still, if banks use the LTRO to fund more sovereign debt purchases (to benefit from the carry trade), this means that while the LTRO may have been a crucial solution to a liquidity problem, it also implies that **the connection of banks and sovereigns has merely been strengthened as banks hold even more sovereign debt**.
- In that sense, the LTRO is notably different from the quantitative easing (QE) policies followed by the Federal Reserve where the Fed purchased assets outright rather than help fund banks' ability to purchase them

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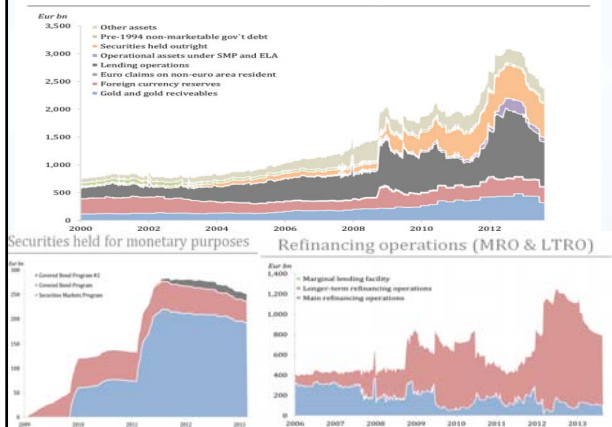
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### ECB balance sheet; assets




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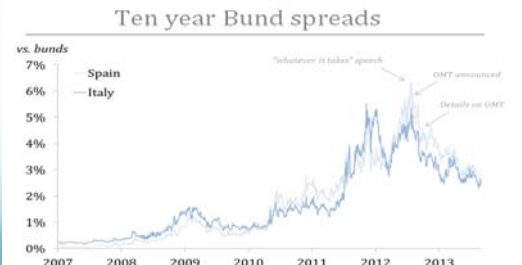
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### 2.1. The euro sovereign debt crisis: credit spread

Between the introduction of the euro currency in 1999 and the Lehman Brothers bankruptcy in 2008, market participants did not distinguish between the credit quality of EMU member states. Despite dramatically different fiscal profiles, the yields on 10-year notes issued by Germany and Greece were roughly the same as recently as 2007.

While the Maastricht Treaty that established the EMU expressly forbade bailouts, two institutional features made EMU sovereign bonds functionally equivalent: (1) the ECB applied an identical haircut to all euro area sovereign bonds pledged as collateral irrespective of fiscal position; and (2) all euro area sovereign debts carried a zero risk weight for banks under the EU Capital Requirements Directives



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### 2.2. The euro sovereign debt crisis and the "power to print" money

The euro sovereign debt crisis also reflects a fundamental problem in the architecture of the common currency. Whilst the U.S. and U.K. governments borrow in a currency that their central bank can print (i.e. market participants know that a Treasury bill can always be redeemed at par in U.S. dollars upon maturity), the Italian and Spanish governments are effectively borrowing in a foreign currency and cannot provide similar assurances. If official support came, it would likely subordinate existing private lenders, exacerbating their ultimate losses, as happened in the case of Greece. Creditors demand a premium for bearing this risk, which creates a negative feedback loop, as the resulting increase in sovereign borrowing costs worsens the fiscal outlook, which further increases risk premia and yields

	(as a % of GDP)			10 Year Yield (7/31/2012)
	Gross Public Debt	Structural Budget Balance	Required Fiscal Adjustment to Hit 60% Debt Ratio by 2030	
France	86.01	-1.32	7.38	2.06
Germany	80.56	1.65	2.98	1.37
Greece	165.41	-1.52	13.92	25.46
Ireland	106.46	-4.59	12.88	NA
Italy	120.10	2.03	4.59	6.08
Japan	126.41	-7.72	21.08	0.79
Portugal	107.82	0.37	10.44	11.20
Spain	69.12	-5.10	12.74	6.75
United Kingdom	81.79	-3.73	13.15	1.54
United States	102.93	-5.31	19.58	1.47

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### 3. The euro growth crisis

The euro area has two aspects of a growth crisis:

1. the overall area is growing too slowly to reduce unemployment and support debt levels
2. the distribution of growth across the area is unbalanced with those economies facing pressure in bond markets growing most slowly

This imbalance of growth is often described as a problem of current account imbalances within the euro area. The chief problems in the GIPSI are:

1. their large current account deficits prior to the crisis
2. the buildup of overall debt (not just government debt), in particular debt owed to foreigners (the external debt).

The current account deficit and growth crisis are clearly linked:

- the current account imbalances prior to the crisis signalled competitiveness problems in the periphery, and the present day current account deficits are a drag on demand. These gaps grew over a decade and will be very hard to reverse quickly with no changes in exchange rates across member states possible, holding back growth in the GIPSI
- the capital inflows helped increase domestic prices in GIPSI, reducing the competitiveness of the borrowing countries. The increase in prices reduced real interest rates relative to other euro countries, leading to more and cheaper borrowing and to the buildup of debt that now requires painful deleveraging
- For GIPSI to increase their growth based on exports (or shift consumption towards domestic goods and away from imports), they need their relative prices to fall compared to other goods and services on world and euro area markets

In 2002 Blanchard and Giavazzi argued the current account deficits (just growing at the time) may not be a problem within the euro area as they may simply represent poorer countries with higher expected growth rates increasing their consumption in a newly unified market. More recently, with ten more years of experience to monitor, Obstfeld (2012) has argued policymakers should remain wary of current account deficits even within a currency union (especially if national governments are responsible for national financial stabilization)

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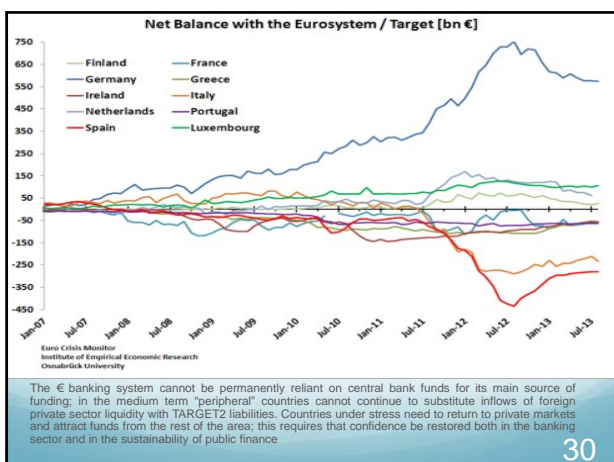
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### The Outright Monetary Purchases (OMT)

"There are risks and costs to action. But they are far less than the long-range risks of comfortable inaction." JF Kennedy

ECB President Draghi in his now-famous July 2012 speech argued that rising yields on Spanish and Italian debt "have to do more and more with the risk of convertibility" (i.e. the risk that a Spanish € may one day be worth less than a German €) than with credit risk.

- When OMTs were announced in August 2012, financial fragmentation had created widely divergent borrowing costs for firms and households across euro area countries. As a result, the transmission of monetary policy was severely impaired: monetary policy impulses were not evenly transmitted across countries or adequately along the yield curve
- Furthermore, a tail-risk in the euro area emerged, triggering self-perpetuating dynamics in the economy: in an adverse scenario a "bad equilibrium" was possible, triggered by self-fulfilling and reinforcing expectations. Investors required an interest rate premium to compensate for the risk that the euro might not remain the irreversible currency of the euro area – at least in its current composition. In this adverse scenario, the expectation of one or more countries exiting the euro would have driven public and private financing costs in these countries to such a high level that they would have had no other option than to actually exit

If some portion of the yield differential reflects "redenomination risk", then elevated borrowing costs are not just the fault of the profligate peripheral governments but also an issue properly in the jurisdiction of the central bank. To the extent that yields reflect redenomination risk rather than borrower-specific factors, they come into ECB mandate and "the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough" [Mario Draghi]

- The goal of OMT is to eliminate the unwarranted and self-reinforcing fears of a euro area break-up that have undermined ECB ability to effectively conduct monetary policy in the pursuit of price stability, complementing – but not substituting itself – to the market, which in the current crisis has been abrupt and unreliable

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### The Outright Monetary Purchases (OMT)

6 September 2012 - Technical features of Outright Monetary Transactions

The Governing Council (GC) of the ECB has taken decisions on a number of technical features regarding the Eurosystem's outright transactions in secondary sovereign bond markets that aim at safeguarding an appropriate monetary policy transmission and the singleness of the monetary policy. These will be known as OMT and will be conducted within the following framework:

- Conditionality
  - A necessary condition for OMT is strict and effective conditionality attached to an appropriate European Financial Stability Facility/European Stability Mechanism (EFSF/ESM) programme
  - The GC will consider OMT 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 GC will decide on the start, continuation and suspension of OMT in full discretion and acting in accordance with its monetary policy mandate
- Coverage
  - Transactions will be focused on the shorter part of the yield curve, and in particular on sovereign bonds with a maturity of between one and three years
  - No ex ante quantitative limits are set on the size of OMT
- Creditor treatment
  - The Eurosystem intends to clarify in the legal act concerning OMT that it accepts the same (pari passu) treatment as private or other creditors with respect to bonds issued by euro area countries and purchased by the Eurosystem through OMT
- Sterilisation
  - The liquidity created through Outright Monetary Transactions will be fully sterilised
- Transparency
  - Aggregate OMT holdings and their market values will be published on a weekly basis. Publication of the average duration of OMT holdings and the breakdown by country will take place on a monthly basis

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### Suggested Readings

- Jay C. Shambaugh: **The Euro's Three Crises**, Brookings Papers on Economic Activity Spring 2012, [http://www.brookings.edu/~media/Projects/BPEA/Spring%202012/2012a\\_Shambaugh.pdf](http://www.brookings.edu/~media/Projects/BPEA/Spring%202012/2012a_Shambaugh.pdf)
- Benoît Cœuré, Member of the Executive Board of the ECB: **Outright Monetary Transactions, one year on**, Speech at the conference "The ECB and its OMT programme", organised by Centre for Economic Policy Research, German Institute for Economic Research and KfW Bankengruppe, Berlin, 2 September 2013, <http://www.ecb.europa.eu/press/key/date/2013/html/sp130902.en.html>
- Martina Cecioni, Giuseppe Ferrero: **Determinants of Target 2 Imbalances**, Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), number 136, Sept. 2012, [http://www.bancaditalia.it/pubblicazioni/econo/quest\\_ecofin\\_2/qef136/QEF\\_136.pdf](http://www.bancaditalia.it/pubblicazioni/econo/quest_ecofin_2/qef136/QEF_136.pdf)

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