The Crisis in the Euro Zone

Did the Euro Contribute to the Evolution of the Crisis?

Justin Yifu Lin

Volker Treichel

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Abstract

The simmering sovereign debt crisis in the Euro Zone represents a looming threat to the recovery of the world economy and could lead to a renewed global financial crisis. The purpose of this paper is to analyze the root causes of the crisis in Europe and assess the extent to which it was driven by the global financial crisis and by factors internal to Europe, notably the adoption of the common currency. Adoption of the euro led to convergence of interest rates in periphery countries to the levels in core countries and, in combination with rising capital inflows owing to greater financial integration, set off a consumption and real estate boom in periphery countries, leading to higher growth and increases in government revenue and spending. The resulting real appreciation led to a loss of competitiveness in periphery countries, adversely affecting export performance and

causing rising current account imbalances. While the fiscal position remained manageable before the crisis owing to rising revenue, the recession brought about by the global financial crisis led to the burst of real estate bubbles and a financial sector crisis and to sharply increased budget deficits and worsened debt indicators and triggered the sovereign debt crisis. Core countries, in particular Germany, maintained a competitive edge through wage restraint allowing them to increase exports to periphery countries, while their banks profited from increased lending to non-core countries. In sum, the euro exacerbated intra-European imbalances whose unsustainability became evident in the aftermath of the global financial crisis and triggered the current sovereign debt crisis.

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Justin Yifu Lin and Volker Treichel¹

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The crisis in the Euro Zone

Did the euro contribute to the evolution of the crisis?

1. The global financial crisis that erupted with the collapse of Lehman Brothers in September 2008 ushered in a period of recovery in 2010 and 2011 driven primarily by growth in emerging markets. Yet, the simmering sovereign debt crisis in the Euro Zone represents a looming threat to the recovery of the world economy and could lead to a renewed global financial crisis. The purpose of this paper is to analyze the root causes of the crisis in Europe and assess the extent to which it was driven by the global financial crisis and by factors internal to Europe, notably the adoption of the common currency.

2. The crisis in Europe reflects primarily the reaction of financial markets to over-borrowing by private households, the financial sector and governments in periphery countries of the Euro Zone. In many analysts' views, the European debt crisis—which led to economic adjustment programs sponsored by the EU and the IMF in Greece, Ireland and Portugal—was caused by fiscal profligacy on the part of noncore countries driven primarily by the expansion of a welfare state model and rising public sector wages.² Proponents of this view argue that if countries had balanced their budgets and avoided the temptation to create a welfare state, excessive private spending would not have occurred and investors and banks would have been more aware of the risks involved. Consequently, noncore countries must adopt a realistic position regarding their fiscal policy stance and renounce their welfare objectives. The generalized commitment to fiscal discipline will allow Europe's currency to regain strength, without further need for fiscal stimulus. Among European countries, Germany is a particularly strong proponent of the view that fiscal austerity is crucial to addressing the crisis, and under its influence, the G-20 Toronto summit in June 2010 established fiscal consolidation as the new policy priority.³

3. This paper will argue that—in the peculiar policy and regulatory environment of the Euro Zone—the adoption of the euro itself was a major factor in bringing about excess consumption and exacerbating weak competitiveness in periphery countries in the Euro Zone. The euro was a crucial factor in promoting financial integration and lowering interest rates in periphery countries. While financial integration itself would have been a desirable outcome, it triggered large inflows of capital from core into non-core countries that financed rising consumption, partly encouraged by rising wages, as well as a real estate boom. In addition, much like in the United States, financial deregulation prompted the development of new financial instruments and

²For an example, see Weidmann (2012).

³Parkin (2010). See also Wolf (2012).

derivatives which further spurred the real estate boom.⁴ Rising wages and the real estate boom initially helped increase fiscal revenue and allowed deficits to remain in line with the Maastricht criteria (except for Greece), in spite of government expenditure that rapidly rose due to increasing government wage bills and social transfers. Yet, with growth increasingly driven by unsustainably high domestic consumption, periphery countries lost export competitiveness and the manufacturing sector declined. At the same time, core countries' competitiveness and their external surpluses improved, as a result of wage restraint and the relative undervaluation of the euro compared to the earlier national currencies.

4. The global financial crisis since September 2008 led to a recession in Europe and triggered the burst of the real estate bubble; both resulted in a ballooning of fiscal deficits and a massive deterioration of debt indicators that set the stage for the sovereign debt crisis in the Euro Zone that began with the Greek crisis in early-2010.

Note: Projection data from previous year of actual GDP growth.

Source: World Economic Outlook, various years.

5. The dynamics between core countries, especially Germany, and non-core countries in the Euro Zone appear analogous to those between East Asian surplus economies and the United States in the run-up to the global financial crisis.⁵ Excess consumption in the United States brought about by a real estate boom and low interest rates allowed East Asian countries to expand their exports, until the burst of the real estate bubble and the ensuing crisis of the financial sector triggered a global recession. The consumption boom in the United States went

⁴ Lin and Treichel (2012).

⁵ *Ibid.*

hand in hand with a decline in the competitiveness of the US economy, in particular in the manufacturing sector.

I. The euro and financial integration and deregulation in Europe

6. The road to financial integration in Europe began in early 1957, when under the so-called European directives most countries began to lift capital controls and deregulate interest rates, with a view to creating a single market in banking and financial services. However, only by the late 1980s and early 1990s did most countries embark definitively on a financial liberalization strategy, spurred by the single European Act of 1987 (Table 1).

Table 1: Financial liberalization and integration in Europe				
	Lifting of capital controls	Interest rate deregulation	First Banking Directive	Second Banking Directive
Belgium	1991	1990	1993	1994
Denmark	1982	1988	1980	1991
France	1990	1990	1980	1992
Germany	1967	1981	1978	1992
Greece	1994	1993	1981	1992
Ireland	1985	1993	1989	1992
Italy	1983	1990	1985	1992
Luxembourg	1990	1990	1981	1993
Netherlands	1980	1981	1978	1992
Portugal	1992	1992	1992	1992
Spain	1992	1992	1987	1994
United Kingdom	1979	1979	1979	1993
Source: Buch and Heinrich (2002).				

7. In 1999, the adoption of a five-year financial harmonization program—the Financial Services Action plan (FSAP) —brought about a new level of financial integration. The FSAP's main objectives were (i) the development of a single market for wholesale financial services; (ii) the creation of open and secure retail markets; (iii) the establishment of clear, efficient, prudential rules and supervision of financial services; and (iv) the establishment of the conditions for an optimal single financial market. The Lisbon agenda (2000) and the re-launching of the Lisbon strategy (2005) further reinforced the goal of creating a single financial market. These reforms resulted in a fully integrated financial market. Using the Chinn-Ito index which measures openness in capital account transactions the table below shows that countries reached the status of full liberalization after the adoption of the euro in 2002 (Table 2).

Table 2: Chinn-Ito Index of capital account liberalization for selected groupings				
	1990–1994	1995–1999	2000–2004	2005–2009
Core Countries	83.2	96.1	97.4	100.0
Non-Core Countries	19.5	80.5	96.6	100.0
Other Euro Countries	-37.9	-9.5	24.7	81.3
Non-Euro Countries	8.8	39.0	66.9	87.9

Note: The Chinn-Ito Index is expressed in terms of its highest value for all countries considered in their sample. Thus, a value of 100 means complete liberalization.

Core countries include Austria, Belgium, France, Germany, and the Netherlands. Non-Core countries include Greece, Ireland, Italy, Portugal, and Spain. Other Euro countries include Estonia, Malta, the Slovak Republic, and Slovenia. Non-Euro countries are comprised of Sweden and the United Kingdom.

Source: Chinn and Ito (2008).

8. Financial integration resulted in a sharp increase in cross-border capital flows with claims by core countries on non-core countries' banking systems dominating the increase. Lending by German and French banks to non-core countries' banks was by far the most important factor in this increase.

Note: Non-Core countries are Greece, Ireland, Italy, Portugal, and Spain.
Source: Bank for International Settlements.

9. Financial integration was also promoted by greater economic alignment among Euro Zone countries, resulting from the observance of convergence criteria for inflation, fiscal balances, exchange rate and interest rates that had been established as pre-conditions for the adoption of the euro. However, it was the adoption of the euro itself in 2002 which brought about a marked increase in financial integration. Table 3 shows the substantial growth in balance sheets in particular in non-core countries, following the adoption of the euro.

Table 3: Growth in balance sheets in European Union measured by external position vis-à-vis all sectors as percentages of GDP

Assets			
Period	Core countries	Non-Core countries	Non-Euro
1990–1995	47.40	22.52	58.97
1996–2001	61.96	55.74	76.40
2002–2010	118.31	96.15	131.37
Liabilities			
Period	Core countries	Non-Core countries	Non-Euro
1990–1995	41.79	19.89	63.26
1996–2001	63.40	60.31	84.35
2002–2010	102.44	107.22	148.44
Note: Core countries include Austria, Belgium, France, Germany, and the Netherlands. Non-Core countries include Greece, Ireland, Italy, Portugal, and Spain. Non-Euro countries include Sweden and the United Kingdom.			
Source: Bank for International Settlements.			

10. Kalemli-Ozcan et al (2009) investigate in greater detail the impact of the euro on financial integration. They find that following the adoption of the euro bilateral bank holdings and transactions increased by roughly 40 percent among the Euro Area countries. The significance of the euro for this result is underscored by comparing the increase in bank holdings in the 12 countries that first adopted the euro with the three EU 15 countries (Denmark, Sweden and United Kingdom) that have not joined the currency union.

11. After quantifying the total effect of the euro, Kalemli-Oczan also analyze the deeper roots of the impact of the euro on financial integration. Specifically, they ask whether the euro promoted financial integration by (i) reducing the currency risk and eliminating exchange rate fluctuations, (ii) through legal harmonization or (iii) through higher trade. They find that the euro's impact on capital flows was largely driven by the elimination of the currency risk. In addition, they confirm that the 27 directives of the FSAP had a major impact on financial integration and on the intensity of capital flows across member states.

12. They also investigate the hypothesis of whether cross-border banking integration is driven by an increased volume of transactions in international trade. As goods and assets move

in tandem and currency unions raise bilateral trade, the positive impact of the single currency on financial integration may partly be coming from goods trade. Kalemli-Oczan et al. establish econometrically, though, that trade cannot explain any part of the effect of the euro on financial integration.

13. The elimination of the currency risk and the easier access to international capital markets that followed EMU membership led to convergence of interest rates in periphery countries to the level of core countries. The resulting fall in lending rates on commercial bank loans as well as on the cost of sovereign debt in periphery countries was perhaps the single most important effect of the adoption of the euro and had profound implications for the financial system in Europe and the structure of European economies (Figure 3).

Figure 3: Convergence in inflation rates and long-term bond yields

14. As pointed out by Perez-Caldentey and Vernengo (2012), interest rate convergence also lowered interest rate margins especially in noncore countries. Between 1990–95 and 1996–2001, interest rate margins—as a percentage of total earning assets—declined from 3.9 percent to 2.8 percent, while they remained roughly constant in core countries. This translated into a decline in the rate of return over assets in noncore countries from 0.8 percent to 0.5 percent between 1990–95 and 1996–2001. In the face of a decline in ROA (as in the case of noncore countries between 1990–95 and 1996–2007) or for a roughly constant ROE (as in the case of both core and noncore countries between 1996–2001 and 2002–2007) the levels of profitability (ROE) of the financial system can be maintained or increased by higher levels of leverage (or indebtedness). Available

evidence on Germany (Bloomberg) shows that leverage for the major banks increased on average from 27 to 45 percent between 1996 and 2007 (Table 4).

Table 4: Selected indicators of the performance of the banking system in the European Union

Core Countries						
Period	Financial deepening	Costs/Income	Interest margins	ROA	Concentration	Z-Score
1990–1995	92.5	72.8	2.3	0.3	67.2	15.4
1996–2001	103.5	67.8	2.5	0.9	67.2	9.4
2002–2007	108.2	70.2	2.1	1.0	68.2	7.3
Non-Core Countries						
Period	Financial deepening	Costs/Income	Interest margins	ROA	Concentration	Z-Score
1990–1995	56.8	67.6	3.9	0.8	72.1	23.9
1996–2001	73.3	70.8	2.8	0.5	66.7	25.6
2002–2007	112.8	66.5	2.2	0.4	68.9	15.8
Eurozone Countries						
Period	Financial deepening	Costs/Income	Interest margins	ROA	Concentration	Z-Score
1990–1995	77.0	65.8	3.1	0.6	73.7	18.1
1996–2001	77.3	69.9	2.7	0.7	68.8	12.7
2002–2007	101.3	67.6	2.4	0.8	70.8	10.4

Note: Core countries include Austria, Belgium, France, Germany, and the Netherlands. Non-Core countries include Greece, Ireland, Italy, Portugal, and Spain. “Financial deepening” is measured by private credit, deposit money banks, and other financial institutions. “Cost/Income” is measured as total costs, as a share of total income of all commercial banks. “Interest margins” equals the accounting value of a bank’s net interest revenue, as a share of its interest-bearing (total earning) assets. ROA equals “rate of return over assets.” “Concentration” refers to assets of three largest banks as a share of assets of all commercial banks. “Z-Score” is estimated as $ROA + equity/assets / sd(ROA)$; the standard deviation of ROA, $sd(ROA)$, is estimated as a 5-year moving average. Source: Beck and Demirgüç-Kunt (2009).

15. Where did the increase in lending go? The sharp fall in interest rates led to a very significant increase in consumer lending; and in Ireland and Spain, and to an extent in Greece, much of it was channeled into real estate (Figure 4). As a result, from 1997 to 2007, housing prices rose at an average annual rate of 12.5 percent in Ireland and 8 percent in Spain, compared to 4.6 percent in the United States during its bubble. Over the same period, construction as a share of gross output rose from 9.8 to 13.8 percent in Spain, and from 7.9 to 10.4 percent in Ireland. In the United States, the same figure only increased from 4.6 to 4.9 percent.⁶ Yet, the channeling of funds into real estate allowed bubbles to emerge in Ireland and Spain whose burst was at the core of the economic crisis.

⁶ Dadush (2010) p.13.

Figure 4: Growth rate of mortgage loans for selected European countries

Source: European Central Bank.

16. Like in the United States, financial deregulation encouraged the creation of derivatives whose risk profile could not be properly assessed. At the same time, risk management was weakened through the shadow banking system that was only marginally under the supervision of bank regulatory authorities. This was especially the case in Spain where securitization (mortgage-backed securitization and asset-based securitization (*MBS* and *ABS* onwards)) may have had a large and lasting effect on housing prices.⁷

17. Fahri and Tirole (2009) link securitization as a major contributing factor to incentives towards leverage and the building up of systemic risks. Securitization allowed banks to turn traditionally illiquid claims (overwhelmingly in the form of bank loans) into marketable securities which enabled banks to off-load part of their credit exposure to other investors, thereby lowering regulatory pressures on capital requirements and allowing them to raise new funds and expand lending to the private sector. The massive development of the private securitization market experienced in recent years coincided with a period of low risk aversion and scant defaults. This so-called “Great Moderation” resulted in a number of shortcomings in firms’ risk management tools and models which often used default figures from this period and tended to underestimate default and liquidity risks.⁸

⁷ Cabo-Valverde *et al* (2011).

⁸ The term “Great Moderation” was coined by Stock and Watson (2002).

18. Recent research empirically assesses the impact of securitization. Mian and Sufi (2009) show that securitization played an important role in the expansion of the supply of credit. Dell’Arriccia *et al.* (2012) suggest that lending standards declined more in those areas in the United States experiencing larger credit booms, housing price increases and higher mortgage securitization rates. Furthermore, results from Keys *et al.* (2010) show that existing securitization practices adversely affected the screening incentives. There is also evidence that securitization has quantitatively increased the amount of credit granted making it less dependent on specific banking or monetary policy condition (Loutskina, 2010; Loutskina and Strahan (2009)). There is also considerable evidence that securitization makes further acquisition of risks more attractive for banks (Krahn and Wilde (2006); Uhde and Michalak (2010); Instefjord (2005); Hansel and Krahn (2007)).

19. What was the impact of securitization on the housing market in Spain? Carbó Valverde, and Rodríguez Fernández (2010), using cointegration and vector-error-correction models on a sample covering the 1988Q4 to 2008Q4 period, find that housing prices and mortgage credit interact in the short and the long run. Their results also suggest that there was a regime shift in mortgage lending in Spain starting in 2001 when mortgage credit securitization grew substantially. In the development of the credit boom from 2007 to 2010, the use of ABS and MBS grew significantly. The outstanding values of these securities gives an idea of the significant potential risk transferring associated with them. In particular, the outstanding values of Spanish ABS grew from 42 billion euros in 2008Q1 to 81 billion euros in 2009 Q4, declining to 75 billion euros in 2010 Q1. As for the MBS, the outstanding values changed from 112 billion euros in 2008 Q1 to 172 billion euros in 2009 Q2, falling afterwards to 164 billion euros in 2010Q1. So, overall securitization was a very important factor in the Spanish real estate bubble.

20. Convergence of interest rates within the Euro Zone also created a gap between the interest rates that would have been desirable from the point of view of a member country’s individual circumstances and those that prevailed, thus underscoring the fact that the Euro Zone was not an optimal currency area. In fact, a recent study by the OECD finds that, using the Taylor rule, policy interest rates over 2001-2006 were approximately 500 basis points too high for Germany, but between 300 and 400 basis points too low for Spain, Greece and Ireland (Ahrend *et al* (2008)), and that these relatively low interest rates are correlated with increases in asset prices. They argue that accommodating monetary policy over the period 2002-2005 in combination with rapid financial market innovation seems to have been in retrospect among the factors behind the run-up in asset prices and consequent financial imbalances.

21. The abundance of capital flows throughout Europe, substantially lower borrowing costs, easy access to liquidity via leveraging and as a result of growing lending from core banks to noncore banks, and no exchange rate risk provided an illusionary sense of prosperity in a low-risk environment. The sense of prosperity was illusionary because it was not matched by

improvements in productivity or the business environment that would have laid the foundation for sustained long-term growth. In fact, the sudden abundance of financial flows in non-core countries resulting from the adoption of the euro exacerbated weak competitiveness that had already adversely affected these countries before the adoption of the common currency.⁹

22. One of the factors contributing to this loss of competitiveness was the sharp rise in wages in non-core countries. Between 2001 and 2011 per unit labor costs in Greece rose by 33 percent, 31 percent in Italy, 27 percent in Spain and 20 percent in Ireland, while they grew by only 11 percent in the United States and by only 0.9 percent in Germany (Table 5).¹⁰ This increase in wages was primarily driven by increases in public sector wages—aimed at swaying the electorate towards the ruling parties—which then also triggered increases in private sector wages. Expenditure increases were considered to be manageable, though, owing to the substantially lower borrowing costs for sovereigns in the aftermath of the adoption of the euro and rapidly rising revenue reflecting the increase in economic activity and the real estate boom (Table 6 and Figures 3, 5 and 6).

Table 5: Percent increase in unit labor costs, Q1 2001–Q1 2011

Greece	33.2%
Italy	30.7%
Spain	26.6%
Ireland	20.0%
United States	11.5%
Germany	0.9%
Source: OECD.Stat.	

Table 6: General government deficit, percentage of GDP

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Greece	-3.7	-4.5	-4.8	-5.6	-7.5	-5.2	-5.7	-6.5	-9.8	-15.6	-10.3	-9.1
Ireland	4.7	0.9	-0.4	0.4	1.4	1.7	2.9	0.1	-7.3	-14	-31.2	-13.1
Italy	-0.8	-3.1	-3.1	-3.6	-3.5	-4.4	-3.4	-1.6	-2.7	-5.4	-4.6	-3.9
Portugal	-3.3	-4.8	-3.4	-3.7	-4.0	-6.5	-4.6	-3.1	-3.6	-10.2	-9.8	-4.2
Spain	-0.9	-0.5	-0.2	-0.3	-0.1	1.3	2.4	1.9	-4.5	-11.2	-9.3	-8.5
France	-1.5	-1.5	-3.1	-4.1	-3.6	-2.9	-2.3	-2.7	-3.3	-7.5	-7.1	-5.2
Germany	1.1	-3.1	-3.8	-4.2	-3.8	-3.3	-1.6	0.2	-0.1	-3.2	-4.3	-1.0
Source: Eurostat												

⁹ Gwartney *et al* (2010).

¹⁰ Dadush (2010) p.32.

23. Bibow (2012) argues that one of the core reasons behind the current crisis of the Euro Zone is the lack of wage coordination which is normally critical in preventing asymmetric shocks and sustaining a monetary union (Mundell (1961)). In fact, since 1996, Germany established its own new lower norm of zero nominal unit labor cost inflation resulting from a consensus between the trade unions, workers' representatives and employers that wage restraint was pivotal to preserve Germany's competitiveness, reduce unemployment and prevent further relocation of labor to Eastern Europe and other low-wage countries. Most European countries, especially on the periphery, found themselves unable to emulate German wage restraint,

reflecting the political economy in their countries that resulted in pressure to increase wages at a time when the adoption of the euro seemed to herald a new era of prosperity.

24. Wage increases and growth in government spending in non-core countries led to large increases in aggregate demand. In Greece, for example, aggregate demand grew between 2002 and 2007 by an average of 4.2 percent compared to a growth of only 1.8 percent in the Euro Area (Dadush (2010) p.34). This increase was financed by foreign borrowing and resulted in higher inflation with consumer prices in Greece rising since 1997 by 47 percent compared to an increase of only 27 percent in the Euro Area. Only over the past four years, the real effective exchange rate appreciated by 17 percent eroding Greece's competitiveness and resulting in a widening current account deficit.

25. In a quasi Dutch disease-type phenomenon, this loss of external competitiveness also led to a shift away from manufacturing sectors towards service and non-tradable sectors. Table 7 shows that, between 2000 and 2007, the share of manufacturing in GDP fell by 10 percent in Ireland, 3 percent in Italy, 4 percent in Spain, and 3 percent in Portugal and 1 percent in Greece (from its already low level of 10 percent). At the same time, the share of the service and construction sectors in Spain increased by 3.4 percentage points of GDP, while it increased by 2.3 percent points of GDP in Ireland. The shares of the construction sector did not increase in Greece and Portugal.

26. Yet, the share of the manufacturing sector rose by 1 percentage point of GDP in Germany. This increase in the relative size of Germany's manufacturing sector (from its already very high level) was also reflected in a rise of Germany's overall surplus position with the Euro Zone member countries.

Table 7: Manufacturing Value Added, percent of GDP		
	2007	Change since 2000
Germany	24	+1
Ireland	22	-10
Italy	18	-3
Spain	15	-4
Portugal	14	-3
Greece	10	-1

Source: World Bank

27. The emerging divergence in competitiveness between core and non-core countries was partly conditioned by countries' desire to observe Maastricht stability criteria. In fact, prior to the global financial crisis most Euro Zone countries maintained their fiscal deficits at or below 3 percent of GDP (with the notable exception of Greece and—to an extent—Portugal, although Portugal managed to substantially reduce deficits in 2007 and 2008). Several countries, such as Ireland and Spain even had surpluses. Yet with core countries able to pursue wage moderation

and restraint policies and noncore countries not having the means to counteract and offset core countries' 'beggar thy neighbor' policies, a growing competitiveness gap emerged leading to widening euro imbalances.

28. And this impacted countries' external position: the current account balance for noncore countries deteriorated sharply during the finalization of the European integration process, and even more so following the adoption of the euro. Much like in the United States¹¹, this deterioration in the current account was driven by the sharp increase in housing prices.¹² While many Northern European countries' current account positions improved, including those of Austria, Finland and the Netherlands, it was the massive increase in Germany's current account surplus by over 10 percentage points of GDP since 2000, partly because of increasing exports to periphery countries, that was at the core of the emergence of intra-European imbalances (Figure 7). Figure 8 shows the evolution of export market shares for Greece, Spain and Portugal. Growth in these countries was more and more dominated by internal consumption.

Figure 7: German trade surplus in Europe

Source: Comtrade.

¹¹ See also Figure 40 based on Laibson and Mollerstrom (2010), in Lin and Treichel (2012).

¹² Bibow (2012) p.12.

Figure 8: Evolution of export market share

Note: This shows whether the country's exports grow faster or slower than its market, i.e., if it is experiencing market share gains or losses

Source: OECD.

29. Overall, at the heart of the crisis in the Euro zone is a balance of payments crisis caused by the large and growing gap in competitiveness between core and periphery countries. And as discussed above, the common currency was central to this outcome with its impact on interest rates (both for sovereigns and for credit to the private sector), financial integration and the encouragement of export-led growth in core countries and consumption-led growth in non-core countries.

30. The investment and consumption boom were not without (temporary) benefits. For example in Greece, after averaging an annual GDP growth rate of 1.1 percent from 1980 through 1997—the slowest in eventual Euro Area countries—Greece's economy expanded at an average rate of 4.0 percent over the next ten years, the third-fastest rate in the Euro Area. In Spain, economic growth averaged 3.8 percent between 1997 and 2007, 1.3 percentage points higher than the average for the years between 1980 and 1997. Ireland had the highest growth during 1997 and 2007, achieving an average rate of 6.8 percent, an improvement over its already impressive growth rates of 4.6 during the years of 1980 and 1997. Only Portugal experienced slower average growth rates in the later period, with an average rate of 2.3 percent during 1997-2007, and an average rate of 3 percent for the period 1980-97. This is due to the country's poor

competitiveness. In fact, there is much evidence that Portugal's business climate is especially weak and further deteriorated following the adoption of the euro.

31. In the aftermath of the global financial crisis, most European countries entered a recession and the bubble in the real estate market burst, leading to sharp increases in non-performing loans and subsequent government-financed bail-outs for the financial sectors. The increase in public debt resulting from these bail-outs was further compounded by the ballooning of government deficits resulting from the sharp fall in revenue as a result of the drop in output. Figures 9 and 10 show the evolution of fiscal balances and of the public debt burden following the crisis.

Figure 9: Evolution of general government deficits, percent of GDP

Source: Eurostat.

Figure 10: Evolution of general government gross debts, percent of GDP

Source: Eurostat.

II. Country cases

32. Over-indebtedness resulting from the crisis and the adoption of the euro in the context of a weak policy and regulatory environment are common themes for all European countries currently affected by the euro crisis. There are, however, considerable differences among various countries.

Ireland

33. The crisis in Ireland is essentially one of a boom and bust of a real estate bubble. Encouraged by the fall in interest rates that went along with the adoption of the euro, banks obtained funding from British, German and US banks, usually in the form of short-term debt, foreign-owned bank deposits, or foreign-owned portfolio equity, to expand credit to the private sector. Figures 11 and 12 below indicate the degree of Irish indebtedness.

Figure 12: Foreign claims on Ireland, December 2011

Source: Bank for International Settlements.

34. Fuelled by a rapid expansion of credit, Ireland's housing market began to expand in 2000, resulting in a boom in property investment and construction. The wealth effect from this boom spurred higher levels of consumption and helped sustain high growth rates. Boosted by the real estate boom, Ireland's banking system ballooned to five times the size of the economy, and its external debt to over 1000 percent of GDP at the end of 2010. When in the wake of the crisis funds from the US and Britain dried up, the banking system experienced a liquidity crunch, thus slowing credit to the real estate market. As borrowing became more expensive, the demand for housing started to decline, resulting in a fall in prices and an oversupply of housing. This put pressure on the balance sheets of banks many of which had relied extensively on profitable mortgage loans to boost their earnings. The authorities' extensive support as well as access to emergency support from the Central Bank was vital to address financial stability concerns. Yet, the bailout or purchase of failing banks also led to a crisis of confidence, as the government bailout package reached 20 percent of GDP and the budget deficit shot to 32 percent of GDP in 2010, leading to outflows of foreign assets. Figure 13 below shows the extent to which Ireland

and other countries in the periphery experienced major withdrawals of foreign-owned funds in the course of the crisis. The crisis exposed Ireland's vulnerabilities to financial contagion.¹³

Sources: BIS: and IMF. World Economic Outlook database.

35. The housing boom was also the crucial factor obfuscating the soundness of Ireland's fiscal position. On the surface, Ireland had pursued conservative fiscal policies and in fact had been running fiscal surpluses since the mid-90s, except in 2002. However, these surpluses were increasingly driven by tax revenue boosted from the property bubble. In fact, during 2000-2007, driven largely by the revenue boom, revenue from capital taxes and stamp duties increased from 2 percent in 2000 to 4 percent of GDP, while VAT increased by one percentage point of GDP to 7 ½ percent.¹⁴ At their peak in 2007, these revenues represented over a third of total current revenue, as opposed to one-fifth of current revenue in Spain and the UK, two other countries with large asset booms. This asset-related revenue encouraged increases in structural expenditure and masked a rising structural deficit. When adjusting for the impact of asset prices, the Irish structural deficit reached 8 percent in 2007 (as opposed to a measured surplus of 0.9 percent of GDP), spiking to 12 percent of GDP in 2008.

¹³ Lenihan and Honohan (2010). Also, Lane (2011), which discusses how Ireland was able to refinance their debt through the ECB-IMF. Iceland, on the other hand, was not able to do so, and had to negotiate directly with UK and Dutch governments in order to refinance, paying higher interest rates in the process.

¹⁴ IMF (2010).

36. While Ireland's crisis was primarily driven by the burst of the real estate bubble, loss of competitiveness owing to the rapid rise in wages was also an important factor in explaining the crisis. Notably, the departure of Dell, a large manufacturing employer, to Poland in early 2009 was symbolic of the loss of edge in low-end manufacturing. Ireland's share of the value of global and European manufactured exports, which had risen sharply between 1995 and 2001, fell steadily thereafter (Figure 14). Since then, however, export growth has been sustained, though at lower levels than in the 1990s, as Ireland repositioned itself as a service exporter and "knowledge hub".

Share of Imports of Services from Ireland

	2004	2005	2006	2007	2008
UK	9.2	9.3	9.2	10.7	11.1
US	2.2	1.6	2.0	2.2	1.8
France	4.0	3.8	3.4	4.9	5.0
Germany	3.0	3.6	3.3	3.5	3.5
Italy	3.2	3.5	4.8	5.0	5.1
Spain	2.3	2.5	2.6	2.9	3.0

Source: Eurostat

Iceland

37. Although not a member of the Euro Zone, Iceland's crisis followed a very similar pattern to that of Ireland. In 2007, the banking system had ballooned to 10 times the size of the economy, as a result of expansion abroad through direct acquisitions as well as the financing of the expansion of international companies and Icelandic multinationals. German banks were crucial in providing funding to Icelandic banks (see Figure 15). The rapid increase in lending

fuelled bubbles in all asset classes, particularly the stock market and real estate. Inflated asset prices and non-transparent cross financing and related party lending between banks and holding companies helped mask poor asset quality and facilitated the financing of credit expansion by borrowing abroad, increasing vulnerability. Moreover, like in other European countries, domestic demand grew rapidly, fed by capital inflows and reflecting growing imbalances. Real GDP expanded by 28 percent during 2003-07, driven by private consumption and large investments in power-intensive industries. The spending boom was underpinned by strong growth of disposable income, easy credit, rapid increase in housing and equity wealth, and low unemployment. At the same time, external balances ballooned and net external indebtedness deteriorated sharply, exceeding 110 percent of GDP while the expansion of Icelandic companies and banks abroad bloated gross international liabilities to 625 percent of GDP in 2007.

Figure 15: Foreign bank claims in Iceland

Source: Bank for International Settlements.

38. In the wake of the global financial crisis in late-2008, Iceland experienced a deep financial and economic crisis of its own.¹⁵ Given their high leverage, Icelandic banks, which were relying on wholesale funding—primarily from German banks—were cut off from financing and a brief attempt to nationalize one of them revealed the severe problems facing the banking system which contributed to a downgrade of the sovereign. Within a short period of time, the three largest banks (Landsbanki, Glitnir and Kaupthing) collapsed. The banking crisis reflected

¹⁵ IMF (2012).

poor asset quality and bubbles, a worsening of credit conditions, intensified financial disruptions and dislocations, and a major equity market sell-off. Confidence evaporated, the currency depreciated sharply and the exchange rate market ceased to operate, while other assets prices were in freefall. During 2009-10, real GDP and domestic demand declined cumulatively by a 10 ½ and 23 percent, respectively. Following a deterioration of the budget deficit to 8.6 percent of GDP in 2009 from a surplus of 5.4 percent of GDP in 2007, the government's fiscal position improved to a deficit of 4.6 percent of GDP in 2011. In contrast to Ireland, where the deterioration of the fiscal position reflected mostly the size of the bail-out package, Iceland's fiscal position was primarily the result of the collapse in economic activity. Iceland allowed its banking system to collapse.

Spain

39. The evolution of the crisis in Spain followed similar patterns to that of Ireland. As in Ireland, the lowering of interest rates accompanying the introduction of the euro plus the growing financial integration in Europe led to a sharp increase in lending which primarily fuelled the real estate market. While in Ireland, German banks were second to British banks in providing funding, in Spain (like in Iceland) German banks played the most important role as lender (Figure 16). When funds from German banks ceased to flow in the context of the global financial crisis and economic growth stagnated, the bubble burst, leading to an avalanche of non-performing loans in the banking system (Figure 17), especially the '*cajas*' where political meddling and profiteering from local politicians allowed loans to be extended to a segment of borrowers with questionable credit worthiness, somewhat similar to the subprime mortgage market in the United States.¹⁶

Source: Bank for International Settlements.

¹⁶ Deutsche Bank Research (2004).

40. While high personal indebtedness in the run-up to the bubble, mostly on account of real estate, made the economy particularly vulnerable, the loss of competitiveness resulting from the appreciation of the exchange rate due to substantial wage increases exacerbated the impact of the crisis and led to a marked increase in unemployment, especially among young people where unemployment reached more than 50 percent. The increase in unemployment partly also reflected the stringent labor laws. Even though Spanish banks were initially robust because of the stringent capital requirements and banking supervision, the burst of the real estate bubble seriously undermined their health and made a bail-out necessary. The government first bailed out Bankia in the amount of US\$ 23.8 billion, and in June 2012, European partners collaborated to provide a bail-out package of US\$ 145 billion for the banking system as a whole.

41. In addition to the costs of the bail-out package, the deterioration of the fiscal accounts also reflected the large stimulus administered in the aftermath of the global financial crisis. With the crisis, the incipient deterioration in the fiscal accounts accelerated as revenue-rich real estate collapsed, automatic stabilizers kicked in and the large stimulus package took effect. In fact, the general government deficit swung from a surplus of 2 percent of GDP in 2007 to a deficit of 11.2 percent of GDP in 2009, sparking widening spreads. Performance on the fiscal side further weakened in 2011 as a result of fiscal slippage (of about 3 percent of GDP) which greatly undermined the credibility of Spain to deliver fiscal consolidation at a time when nervousness of financial markets had peaked because of the ongoing crisis in Greece.

Figure 17: Spanish household nonperforming Loans

Source: Banco de España.

Greece

42. Greece also experienced a real estate bubble and a sharp increase in household debt with a similar genesis to that of Spain and Ireland. However, in contrast to Iceland, Ireland and Spain, Greece pursued sharply expansionary fiscal policies, largely driven by social transfers and increases in civil service wages, and had not been observing the Maastricht criteria (Table 6 and Figure 3).¹⁷ Loose fiscal policy could be sustained for a long time because of low interest rates on euro-denominated bonds and buoyant revenue reflecting strong, largely consumption-driven economic activity. In the absence of structural measures to improve the competitiveness of the economy, growth weakened and debt sustainability indicators worsened laying the ground for the crisis of confidence of the financial markets in the solvency of Greece and the ongoing sovereign debt crisis in the Euro Zone.

43. While the real estate bubble was important in Greece, fiscal profligacy along with failure to implement structural reforms aimed at improving competitiveness was the critical factor in Greece.

44. Since 2009, Greece has been unwinding imbalances, but through deeper recession and slow improvements in competitiveness. Real GDP has declined by more than 13 percent since 2009. Private investment led the downturn in 2009, while public retrenchment started only in 2010. With falling incomes and employment, private consumption took over as the main driver of the recession in 2011. Current and leading indicators suggest that domestic demand continues to contract sharply: retail trade volume shrank by around 11 percent year-on-year in the fourth quarter; industrial production declined by 11 percent year-on-year in the fourth quarter; the manufacturing PMI has fallen to close to historical lows; and industrial new orders declined by 8 percent in the fourth quarter of 2011. Competitiveness gains are not yet evident on an economy-wide basis. The recession and losses from government debt exposures have taken a deep toll on the banking system, undermining financial stability.

Portugal

45. The genesis of Portugal's crisis was different from that of the other countries in that it did not reflect the burst of a real estate bubble or fiscal profligacy, but mainly a broad deterioration of the business environment and competitiveness, seemingly accelerated by the country's accession to the Euro Zone. In the context of the recession brought about by the global financial crisis, this poor competitiveness resulted in unsustainable debt indicators and triggered the crisis of confidence.

46. Prior to the crisis, Portugal had begun consolidating its finances; in fact, between 2005–07 the government succeeded in reducing the structural balance by over 3 percentage points of

¹⁷ Recent corrections of government statistics on the fiscal position showed that Greece had misreported the fiscal deficit prior to the adoption of the euro.

GDP to around 3 percent of GDP, largely by cutting compensation via public sector administration reforms and upfront tax increases, notably via raising the standard VAT rate. Nevertheless, the fiscal position remained weak compared to Euro Area peers in the Northern countries. Encouraged by the sharp fall in interest rates following the adoption of the euro, government expenditure kept rising very quickly reflecting higher social expenditure and wages (Figure 18).

Figure 18: Portuguese public social expenditure as a percentage of GDP

Source: OECD.

47. Furthermore, as a result of this real appreciation, Portugal's competitiveness declined from its already weak level. Membership in the Euro Zone seems to have adversely affected Portugal's business environment as measured by the country's global ranking on the Economic Freedom index which declined from position 22 in 2000 to position 41 in 2005 and position 46 in 2008. Key areas affecting this deterioration in the ranking are the size of government and the regulation of credit, labor and business. While the size of the government was affected by the expansionary impact of the country's membership in the euro, the ranking on 'judicial independence' and 'impartial courts' experienced a substantial downward trend reflecting increased levels of cronyism. 'Access to money' was, however, the best rating, reflecting the membership in the Euro Zone. The poor business environment led to a substantial competitiveness gap. As a result and different from other countries whose growth performance benefited from EU membership, Portugal's growth was sluggish since the early 2000s, as the pre-euro adoption boom turned into a post-euro bust (Figure 19) .

Figure 19: Portuguese productivity indicators

Portugal's income gap was mostly in productivity...

...reflecting weak TFP growth...

...and low labor productivity growth.

Productivity growth fell in most sectors of the

Source: OECD, BoP, and IMF Staff Calculations

1/ Data are from OECD. The latest available data for Portugal's total factor productivity growth were up to 2005.

2/ Data are from BoP.

48. At the same time, Portugal became one of the most highly indebted countries in Europe. Government debt has risen sharply over the past decade, corporate leverage has increased, and household debt, driven by low savings, is among the highest in the Euro Area. This has been reflected in sustained large current account deficits financed mainly by bank borrowing from abroad, and a negative net international investment position of about 100 percent of GDP in 2008, one of the weakest among advanced countries. Increasing debt in the context of the crisis has fostered rising risk premia (Figure 20).

Figure 20: Portuguese debt indicators

Sources: Bank of Portugal, Eurostat and staff calculations.
1/ Non-consolidated figures.

Italy

49. While Italy's fiscal policy in recent years had been reasonably conservative—well below the Maastricht criterion of 3 percent of GDP—its vulnerability arises from fiscal profligacy in the past which resulted in a very high debt public burden (which was even slightly above that of Greece's in 2009). Like Portugal, vulnerability to adverse shocks in a highly uncertain post-crisis global environment reflects the combination of high debt, declining competitiveness and anemic growth. While like Portugal, Italy did not have a real estate bubble, a recent study by the European Commission showed that, from 1998 to 2008, exports of goods and services grew more slowly in Italy than in any other member country. Standard competitiveness indicators in Figure 21 show a rising gap since the late 1990s.

Figure 21: Italian competitiveness indicators

Global market shares have been declining...

...as labor costs have been relatively high...

...and the real exchange rate appreciated.

Nominal exports fell sharper than for peers...

...but the exports started to recover following a sharp decline ...

...with trade balances moving sideways.

Sources: Istat; OECD; Eurostat; Bank of Italy; and IMF staff estimates.

50. Banks proved resilient to the initial phase of the global financial crisis, as they benefited from a business model based on classical on-balance sheet lending-deposit activity, and strong customer relationships. With adequate liquidity and the absence of asset bubbles and toxic assets, this conservative business model sheltered Italian banks from the liquidity crunch at the onset of the crisis. However, the subsequent deterioration of the economy weakened banks' asset quality and profitability. Following the economic contraction, lending growth to the private sector slowed sharply, profitability declined, and asset quality deteriorated.

Concluding remarks

51. The adoption of the euro prompted fundamental changes in the Euro Zone. Convergence of interest rates in periphery countries to the levels in core countries in combination with rising capital inflows owing to greater financial integration set off a consumption and real estate boom in periphery countries, leading to higher growth and increases in government revenue and spending. The resulting real appreciation led to a loss of competitiveness in periphery countries, adversely affecting export performance and causing current account imbalances. While the fiscal position remained manageable before the crisis owing to rising revenue, the recession following the global financial crisis led to the burst of the real estate bubble and a financial sector crisis and to sharply increased budget deficits and worsened debt indicators and triggered the sovereign debt crisis. Core countries, in particular Germany, maintained a competitive edge through wage restraint allowing them to increase exports to periphery countries, while their banks profited from increased lending to non-core countries. In sum, the euro exacerbated intra-European imbalances whose unsustainability became evident in the aftermath of the global financial crisis and triggered the current sovereign debt crisis.

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