

The Euro Crisis¹

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1. Introduction

In April of 2010, Euro-zone officials agreed to a bailout package of €30 bn for Greece in an attempt to stave off a default that threatened a meltdown of the European financial system. The size of the package was quickly deemed inadequate and, with IMF support, was increased to €110 bn. Since then the Greek package has been extended and augmented on several occasions, including an additional €34.4bn released just around the time of this writing, bringing the total Greek bailout to €240 bn, or roughly 115 percent of its 2011 GDP. Greece is not alone in seeking relief: Ireland, Portugal, Spain, and Cyprus all face debt crises of similar consequences, albeit of different magnitudes. The waves of potential defaults, debt downgrades, euro summits and emergency measures to stabilize markets have continued now for two years – as we approach the end of the third year one wonders whether the term “crisis” still applies?

Disentangling the how and why of the European situation is well beyond the scope of this paper. What we will attempt to do is present what we believe are the main drivers of the crisis and some evidence to support our view. We also bring our perspective as international macroeconomists to the analysis. Alas, from the perspective of our discipline, exchange rate and debt crises are neither rare nor obscure events, as is well documented by scholars too numerous to cite but perhaps best summarized by Reinhart and Rogoff (2009). In our view the events in Europe are not idiosyncratic to the eurozone – placing Europe in the context of exchange rate crises more generally is helpful for understanding the dilemma facing Europe today.

But to begin, we begin at the beginning.

2. Unto us a currency is born

The desire for institutions that would support a united and peaceful Europe rose out of the aftermath of World War II. The initial steps - the creation of the European Coal and Steel Community (ECSC) and the European Economic Community (EEC) – appear on the surface to be economic in scope.² However, the ultimate goal was political: to tie the hands of the major industrial powers to make another world war “not merely unthinkable, but materially impossible” (The Schuman Declaration of May 9, 1950). Over time, the ambitions of European leaders evolved toward the integration of cooperating states into a single economic union. These steps included the elimination of passport controls among EU members, a commitment to the free movement of people, goods, services, and capital, and common extra-EU trade policies.

In 1957, a subset of EU member states embarked on the ambitious goal of merging into a common currency area. This was a long process that culminated in the signing of The Maastricht

¹ We are grateful to Dimitrije Ruzic for providing outstanding research assistance.

² See Bastasin (2012) for the political origins of the European experiment and an analysis of how national opportunism may bring about the Euro’s demise.

Treaty (1993) – an agreement that provided the institutional framework for joining and governing a unified currency area. Under the terms of the treaty, participation in the Euro-zone required that countries meet the following conditions:

- a. *Inflation rates*: No more than 1.5 percentage points higher than the average of the three best performing (lowest inflation) member states of the EU
- b. *Annual government deficit*: The ratio of the annual government deficit to gross domestic product (GDP) must not exceed 3% at the end of the preceding fiscal year.
- c. *Government debt*: The ratio of gross government debt to GDP must not exceed 60% at the end of the preceding fiscal year.
- d. *Exchange rate*: Applicant countries should have joined the exchange-rate mechanism (ERM II) under the European Monetary System (EMS) for two consecutive years and should not have devalued its currency during the period.
- e. *Long-term interest rates*: The nominal long-term interest rate must not be more than 2 percentage points higher than in the three lowest inflation member states.

Eleven countries (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain) met the Maastricht criteria in time for the euro's January 1999 launch. The zone later expanded to include Cyprus, Estonia, Greece, Malta, Slovakia and Slovenia, bringing the area to its current 17 members.

On the one hand, the Maastricht Treaty is remarkable for the strictures it placed on the fiscal policy of sovereign states. On the other hand – and what has become clear in hindsight – is that there were a number of important policies that were left out of the Treaty. The Treaty contained no provision regarding the supervision of the financial sector at the EU-level: monitoring of banks and lender of last resort responsibilities remained at the national level. The treaty contained no provision for cyclical transfers: the adjustment to business cycles or adverse external shocks must be borne by fiscal adjustment or endogenous price adjustment at the national level. Finally, the treaty contained no provision for exit by countries that failed at some future date to meet the conditions of treaty. As would ultimately become clear, the failure to include an exit option would mean that, once major issues did arise, any discussion of bailouts or possible exit must occur outside the regular institutional structure.

3. The pros and cons of a common currency

In thinking about why the euro is in crisis today, it is useful to ask why countries might find it advantageous to join a currency union in the first place. There are a number of factors on the benefits side of the ledger. Sharing a common currency eliminates the currency risk that is usually associated with international business. Eliminating this risk should reduce transactions costs of cross-border transactions, increase trade, and improve overall efficiency.

There are also a number of potential disadvantages of a common currency. Some of these disadvantages are identical to those (in theory) of adopting an exchange rate peg. In the case of a shared currency or the adoption of a peg, the national government no longer has autonomy in setting monetary policy to achieve national goals. This can be a plus, particularly for countries struggling to contain inflation. The exchange rate peg can effectively anchor inflation expectations and tie the hands of undisciplined central bankers. But a key disadvantage of both the common currency and the peg is that countries lose the exchange rate as a stabilization mechanism – if a country begins to run trade balance surpluses or deficits, the exchange rate will not automatically adjust to bring export supply and import demand back into alignment.

An important difference between the adoption of the euro and the adoption of an external peg is that the euro brought with it the specifics of the Maastricht Treaty; in particular, the commitment to a set of fiscal rules along with the elimination of autonomous monetary policy. The Maastricht rules, and the Stability and Growth pact that followed, are generally reasonable rules more or less in line with good governance in good times. However, in bad times the inability to adjust either an external price or make large fiscal adjustments would prove to be a major challenge to the euro area.

In general, do the benefits of a common currency in Europe outweigh the risks? The theory of optimal currency areas, developed by Mundell (1961), provides some guidance. A region is said to be a good candidate for a shared currency if countries in the region are more or less similar, and if they are sufficiently integrated. The kinds of indicators that economists use to assess whether those conditions are met are the volume of intra-regional trade, the similarity of business cycles, and the extent of intra-region factor mobility. If those indicators are high, the response to shocks can work through channels other than the exchange rate, minimizing the role of the exchange rate as an adjustment mechanism. The extent to which these indicators could be said to be large enough to justify the elimination of the exchange rate depends on which countries one looks at, and the source of the underlying shocks. But many in Europe would argue that the optimal currency area criteria miss the aspirational aspect of the euro project. Even if Europe failed to satisfy those conditions in 1999, the belief was that the euro would be self-fulfilling; the euro itself would help Europe evolve toward meeting those conditions over time.

4. The failure of exchange rate based stabilizations (OR, Why this time won't be different just because we are Europeans)

The conditions for an optimal currency area notwithstanding, in January 1999 11 countries relinquished control over their monetary policy and adopted the euro as their currency of exchange. In one sense, this policy experiment was something entirely new. Countries representing a significant fraction of the global economy had agreed to the creation of a new central bank that would issue and control the supply of a new currency and to a set of commonly agreed-to fiscal rules. In another sense, the creation of the euro was a version of a policy that has been implemented with varying degrees of success many times before.

Monetary history is replete with examples of countries with good intentions but ultimately bad outcomes with respect to external exchange rate pegs (to list just a few recent episodes: Mexico 1991-94, Argentina 1991-02, Brazil, 1994-99). In the short run, external pegs are greeted with optimism. The peg serves as an anchor for inflation expectations and forces governments to commit to low inflation and fiscal prudence. Exchange rate based stabilizations are often adopted in conjunction with other reforms (e.g. financial liberalization, lifting of capital controls, lowering of regulations on industry) that stimulate economic activity. As a consequence of these policies, countries face lower borrowing constraints, helping to fuel an increase in investment, consumption and government expenditures. In many cases this leads to a boom in the stock market, an increase in housing prices and an overvalued real exchange rate. If expectations outpace actual economic performance, however, the short-run expansion may be followed by a reversal in capital flow, an exchange rate crisis and an economic recession. In this sense, the exchange rate based stabilization policy is said to contain the seeds of its own destruction unless policy makers effectively rein in the euphoria of markets (Calvo and Mendoza, 1996).

If some of this sounds similar to the European context (and we will present some evidence that suggests that it should), it is because Europe, too, viewed the creation of the euro and the set of policies that accompanied it as the beginning of a new era of economic growth and prosperity. Indeed, in the short run, the creation of the euro seemed to fulfill the continent's greatest

expectations. However, in the long-run, failure to invest the ‘euro dividend’ in the institutions needed for long-run stability, and confusion about the applicability and enforcement of fiscal rules, may ultimately lead to the euro’s undoing.

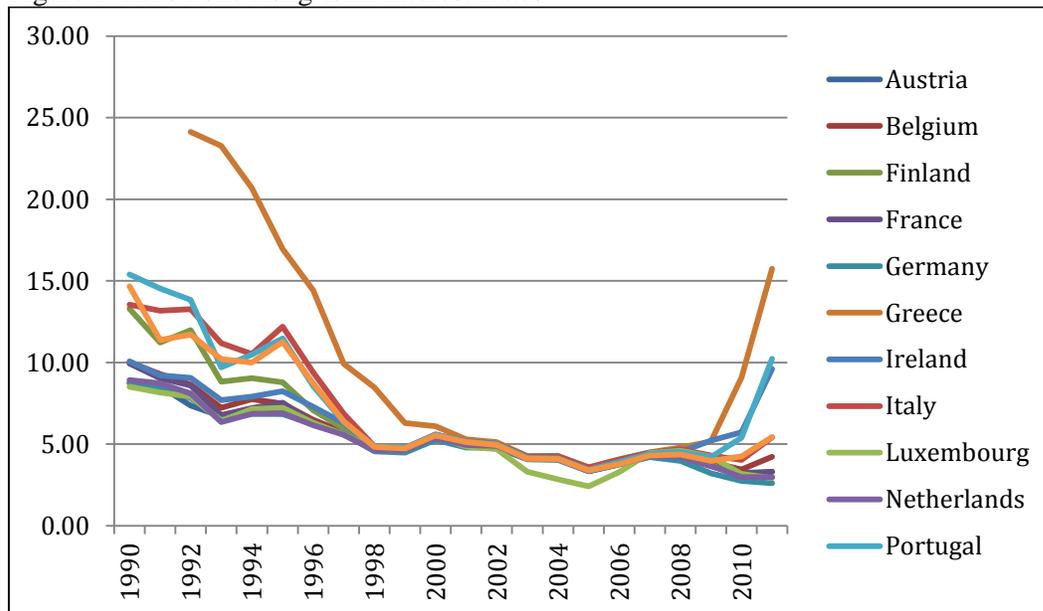
5. EUPhoria and Early Warning Signs

Initially, the post-euro news from Europe was uniformly positive. In the first half of the 2000s, European GDP clipped along at a healthy 2.25% p.a. and inflation remained in check, with a cross-country average inflation rate of less than two percent. Intra-European trade accounted for about 60 percent of total trade volume, suggesting a high level of integration and a large flow of goods and services within the euro-region. The elimination of currency risk and bank deregulation resulted in a rapid expansion of capital flows from capital-rich northern Europe to capital-poor southern Europe.

5a. Long-term debt warnings

The first warning signs of trouble, however, appeared in financial markets in the pricing of long-term debt. In the early 1990s the cost of government borrowing varied widely, with Greece paying over 24% at the same time as rates for the Benelux countries hovered just above 6 percent. By 2001, however, long-term interest rates converged across the Euro-zone countries, with Greece and Germany paying the same low rate of 5%. Whether international investors believed that under the new European arrangements the risk of Greek debt was identical to that of Germany, or whether they believed that euro-zone government debt came with an implicit bailout guarantee, this led to an underestimate of risk and a misallocation of resources across Euro-zone countries. Ironically, in the early years the low and convergent interest rates were lauded, the euro was thought to have most benefited countries by lowering their costs of issuing government debt. It is these same countries that are now mired in excessive levels of household and government debt.³

Figure 1: Euro-zone Long-term Interest Rates

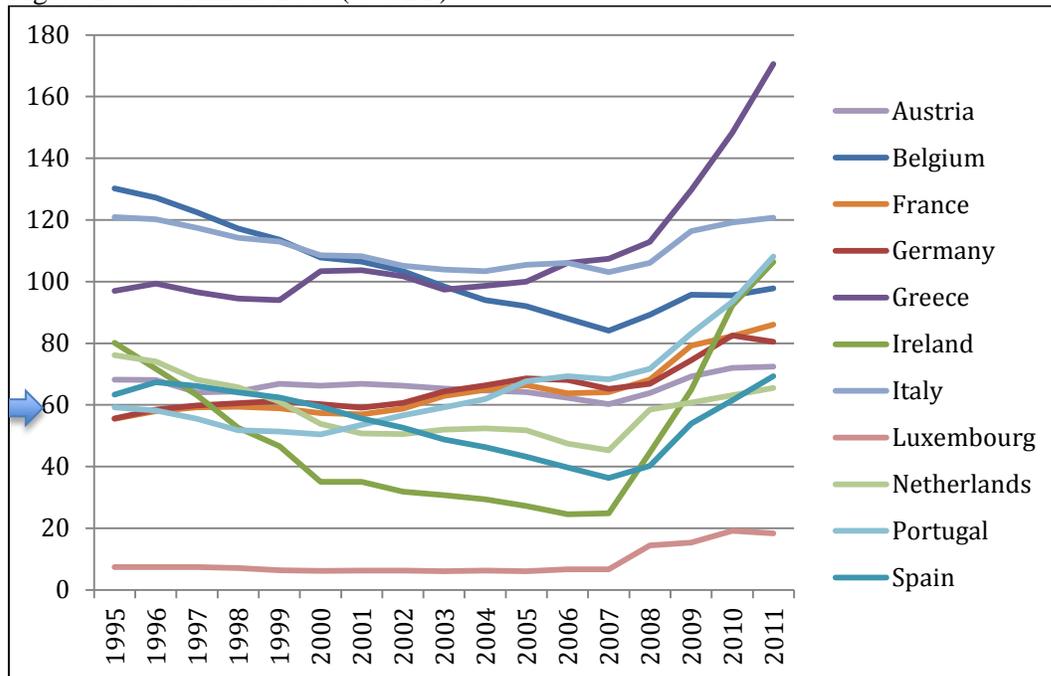


Source: Eurostat

³ See Lane (2012) for a detailed analysis of the origins of the EU sovereign debt crisis.

Violations of the euro-zone's fiscal rules were widespread from the get-go. In 2000, for example, one year after the euro was launched, five of the eleven countries in the euro-zone (Greece joined the euro-zone in 2001) were in violation of the public debt rule. In 2005 the three largest euro-zone economies, France, Germany and Italy, were out of compliance with both the budget deficit and public debt rules. By 2008, only 2 of the original 11 euro members had met the 60 percent public debt-to-GDP limit, and debts climbed further with the global financial crisis. Punitive proceedings were started against Portugal in 2002 and Greece in 2005, but no fines were ever imposed as a consequence of fiscal violations, instead the Stability and Growth Pact was revised in 2005 to allow more flexibility for countries in the midst of structural reforms or business cycle downturns.

Figure 2: Government Debt (% GDP)



Source: Eurostat

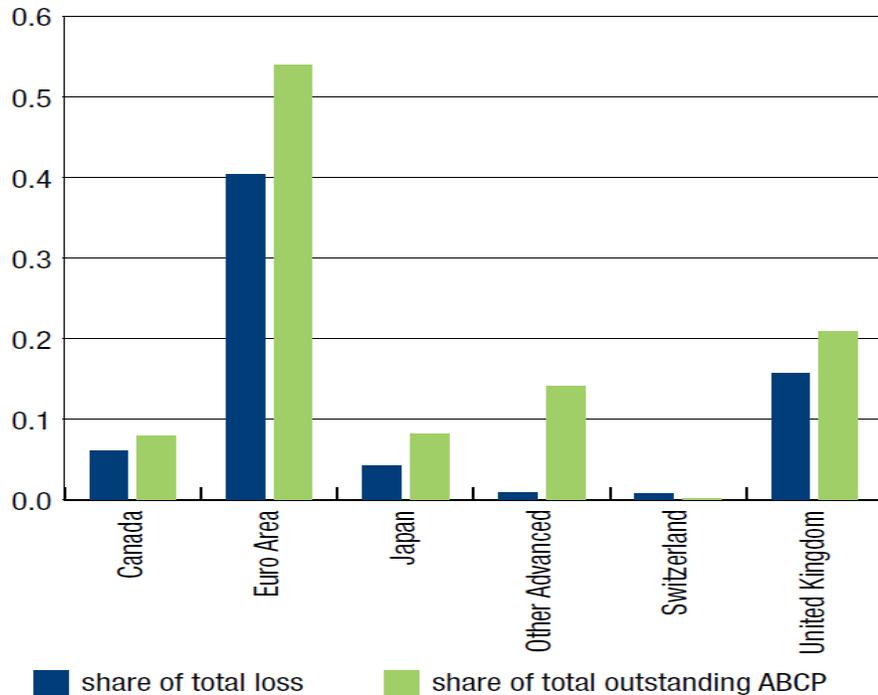
Although the existence of the euro means that nominal exchange rates are fixed within Europe, differences in inflation across countries can still affect real exchange rates. For example, Germany's low inflation has made the country's exports relatively cheap, while higher rates of inflation in Greece and Spain make their exports relatively dear. Labor market rigidities in Europe aggravate real divergences by failing to allow wages to adjust to local circumstances, and there was little evidence of structural reforms of labor and product markets outside of Germany prior to the crisis. The fiscal prudence criteria discussed earlier, if adhered to, make things worse by limiting the ability of governments to use national fiscal policy to counteract recessions that affect one member state more than the others.

5b. Warnings from the banking sector

Another set of warning signs that were largely ignored came from the banking system. Europe depends on banks much more heavily than does the United States. The vast majority of credit in Europe is intermediated by the banking system, and Euro-area banks rely on wholesale funding, largely in the form of senior unsecured bonds, rather than deposits. At the same time that European banks raised funds in dollars they invested them worldwide, a large fraction of which

went to holdings of (subsequently toxic) US asset-backed commercial paper (ABCP). European banks' share of ABCPs exceeded 50% of the total outstanding in 2007 and their share of losses on ABCPs between 2007 and 2008 exceeded 40% of the total (Acharya and Schnabl, 2010).

Figure 3: Regional Holdings of US Asset-Backed Commercial Paper



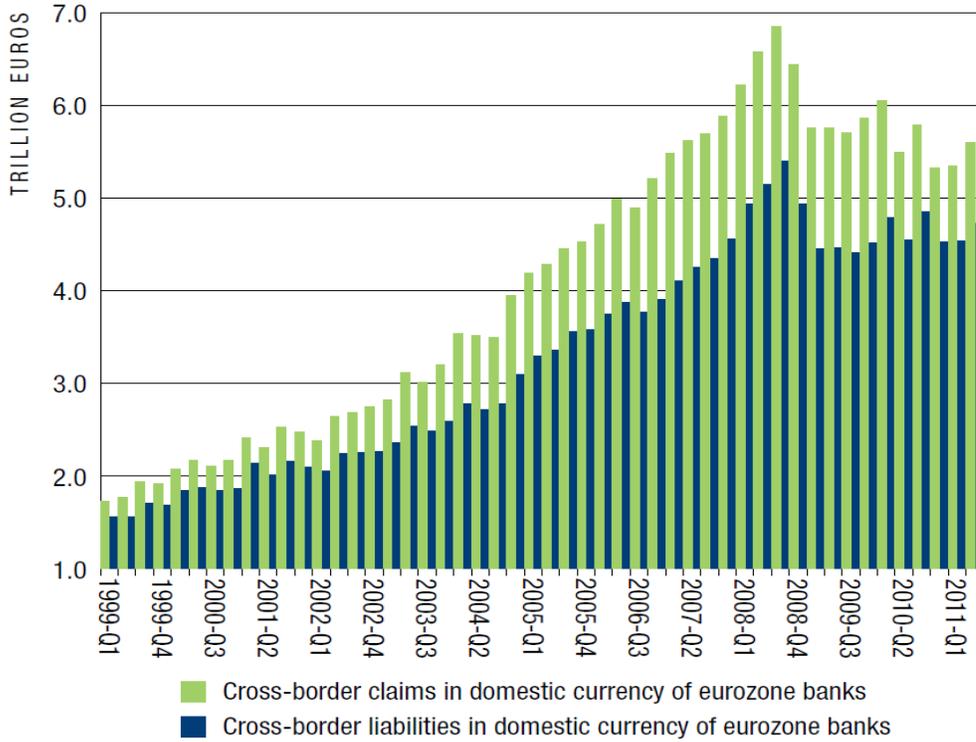
Source: Gourinchas, Rey and Truemptler (2012) using Acharya and Schnabl (2010) data for ABCP exposure. ABCP holdings expressed as a fraction of total ABCP outstanding and share of losses in total losses on debt claims between 2007Q4 and 2008Q4 vis-a-vis the United States.

Another cause for concern for the European banking sector also comes from the asset side of the balance sheet. Even if the wholesale dollar funding market and the ABCP market had remained liquid, rising European bank holdings of European government sovereign debt should have sounded off alarms. In 2007 bank holdings of domestic sovereign debt exceeded 10% in Greece and Italy, and were around 7% in Portugal and Spain, while in the US and the UK bank holdings of sovereign debt were well below 1%. Cross-border bank holdings of Euro-zone sovereign debt are also substantial, especially for French and German banks. Just as financial markets seemed not to distinguish between European countries in terms of the cost of credit, European banks seemed not to distinguish the riskiness of sovereign bonds. Sovereign bonds were treated as virtually riskless, and as perfect substitutes. When sovereign debt was revealed to be risky, European bank balance sheets deteriorated dramatically.

Another factor that compounded financial sector risk is that the introduction of the euro coincided with the scaling up of the European banking sector. Cross-border banking within the euro area rose dramatically, helping to fuel real estate bubbles in Spain and Ireland. Liberalization of controls throughout Europe meant that banks were acting as global banks, but importantly monitoring and regulatory responsibilities remained at the national level. As Bank of England governor Mervyn King, presciently pointed out, "global banks are global in life, but national in death". To make matters worse, bank debts as a fraction of national GDP rose dramatically in

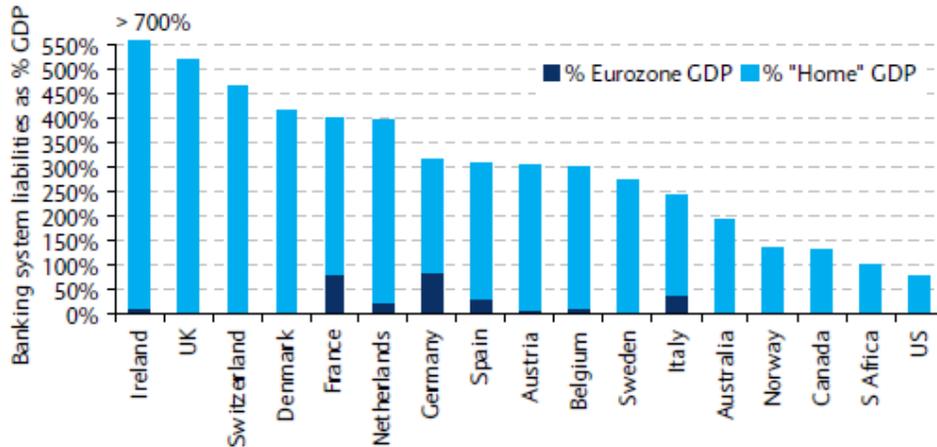
Europe. The biggest bank in the US, JP Morgan Chase, has liabilities of roughly 13 percent of US GDP while 20 European banks have liabilities of 50 percent of their home country GDP.

Figure 4: Cross-Border Euro-Denominated Assets and Liabilities of Euro Area Banks



Source: Bank for International Settlements, Locational Banking Statistics, Table 5A

Figure 5: Bank Debts as a Fraction of National GDP



Source: <http://www.mybudget360.com/contagion-european-union-banking-debt-20-european-banks-liability-gdp-euro-fdic/>

The global financial crisis further exposed the fragility of the European banking sector. As problems of dollar funding and asset quality surfaced, each country responded with policies in their own national interest. Indeed some policy responses (including the decision to recapitalize banks using public funds, which in turn increased sovereign debt even further) resulted in governments increasing the very risks they were trying to minimize. In Ireland the government's assumption of bank debts dramatically added to the ratio of public debt to GDP.

The breakdown of fiscal coordination and the banking sector crisis within the euro-zone made the ECB's job of setting euro-zone wide monetary policy all the more complicated.⁴ In apparent response to the lack of enforcement of the Stability and Growth Pact, in November 2005 the ECB stated that it would only accept member government securities with a rating of A- or above as collateral in its refinancing operations. In 2009 the ECB had to make a dramatic about-face by announcing it would accept as collateral all outstanding and new debt instruments issued or guaranteed by Euro-zone governments.

6. Divergence, not Convergence

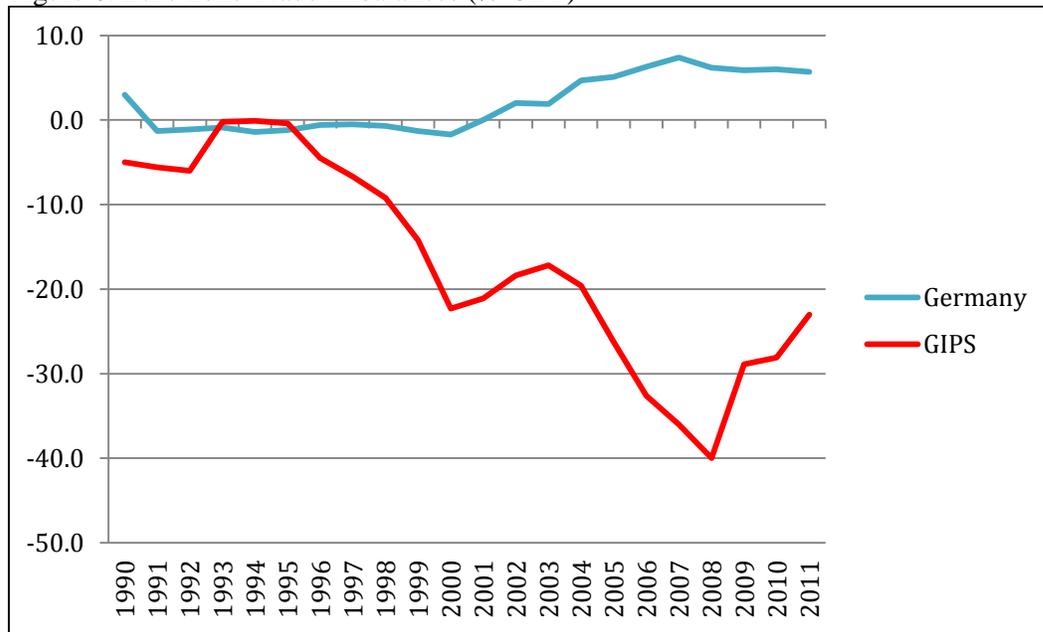
Although most analyses of European economic conditions in the 1990s did not suggest the region met the criteria for an optimal currency area, some predicted that the euro would itself help countries to become more similar. Indeed, initially this appeared to be the case. The economies of a number of the poorer members of the Euro-zone, especially Ireland and Spain, grew dramatically after the introduction of the euro, so much so that these "new Europe" countries seemed poised to catch-up to, and even over-shadow, "old Europe".

Economic theory does not necessarily predict convergence for countries with a common currency, especially in the short run. Initial differences in infrastructure and the degree of industrialization should lead capital to flow to countries with higher marginal products of capital. Differences in comparative advantage might lead countries to specialize and trade flows to expand, but this in turn could lead to further differences in production and different business cycle risk. Ideally, institutions should develop to help countries tolerate these differences. In the European case, however, differences among countries seem to have deepened along north-south lines. The Greek fiscal crisis underscored these differences and reinforced distrust between member countries.

In the late 1990s Italy and Ireland were running substantial current-account surpluses, while Germany ran a deficit. Shortly after the Euro was introduced current-account balances deteriorated dramatically in Greece, Italy, Ireland and Spain (and to a lesser extent France), while trade balances in Germany and the Netherlands shot up. Euro area trade flows rose during this time period, but the benefits of this trade seem to have gone largely to one country, Germany. Accumulated net capital inflows across Europe mirror the uneven trade flows, with Spain, Greece and Italy on one side and Germany on the other. Unit labor costs, likewise, split across North-South lines, with the Greek cost index reaching 150 just prior to the crisis and the German one well below 110.

⁴ See Shambaugh (2012) for an analysis of the "interlocking" EU crises in banking, sovereign debt, and growth.

Figure 6: Euro-zone Trade Imbalances (% GDP)



Source: Eurostat, GIPS includes Greece, Italy, Portugal and Spain

Although European economic divergence can be seen as a North-South phenomenon, individual countries each have their own story. In Greece, a combination of pervasive tax avoidance by households and business, the misrepresentation of fiscal problems by the government, and over-generous commitments to public employees led to a dramatic rise in public debts that no one believes are sustainable. In 2007 Spain appeared to be in good shape, the government was running fiscal surpluses and Spanish banks were considered well-capitalized and managed. However, the collapse of the Spanish property bubble and high levels of private debts led to a dramatic reversal of fortunes. Ireland's property boom and bust was at least as severe, forcing the Irish government to bailout the Irish banks to the tune of 70 billion euros. Labor market reforms in Germany helped to lower unit labor costs and boost exports, but German banks became heavily exposed to sovereign debt in Spain, Ireland, Portugal and Italy, so much so that a sovereign default by one of these countries could bring the collapse of the German banking system.

While capital flows from trade surplus countries like Germany to trade deficit countries like Greece, Spain and Ireland are fully predictable, what many observers did not anticipate is the role that financial institutions in Europe would play in accelerating and magnifying these flows. In the United States the introduction of the dollar as the national currency occurred during a period when financial markets were neither fully globalized nor sophisticated. This gave the US economy time to develop institutions and banking regulations which helped manage the capital flows resulting from differences in productivity and trade balances between states. The Euro-zone was created in a very different financial market context, and at a time when cross-border banking regulations were being dismantled rather than reinforced, providing fertile conditions for the rapid amplification of unsustainable credit booms.

7. Policy Responses

Financial markets have forced policy action in Europe even as politicians have dragged their feet. Massive capital flows and sudden stops are part of the new financial landscape, putting governments in a much more vulnerable position than was true when financial markets were less globalized and many countries imposed capital controls. In its first decade the peripheral Euro-zone economics attracted foreign investments exceeding 3 trillion euros in equity and bond holdings and foreign deposits, since 2010 a trillion euros of foreign portfolio flows have reversed mainly in GIIPS bonds (in Greece the flows have fully reversed themselves, the reversal has been the least severe in Ireland).

National central banks typically provide the first-response to financial market turbulence. The ECB was able to serve that role in the early years of the euro-zone when capital flowed from the core to the periphery by accommodating slightly above-target inflation. However, when the periphery experienced massive capital flight leaving those countries with prices and unit labor costs that were wildly out of line with market equilibrium, the ECB had no policy tools at its disposal. The ECB is prohibited under the treaty (Article 104) from directly providing finance to governments as a form of economic stimulus, leaving periphery governments on their own to deal with the financial crisis.⁵

It was only when the survival of a number of large European banks headquartered in the core EU countries came into question that the ECB reluctantly agreed to take a more active policy role. The ECB provided liquidity to banks via long-term refinancing operations (LTROs)⁶, the banks agreed to reinvest this liquidity in government debt, and governments agreed not to expand deficits. This resulted in a doubling down on sovereign debt as banks used liquidity to shore up their balance sheets with (domestic) sovereign debt. The ECB also announced a series of measures in coordination with other G7 Central Banks aimed at reducing financial market volatility and improving liquidity including: (1) buying government debt securities, (2) re-activating dollar swap lines with Fed, and (3) accepting as collateral all outstanding and new debt instruments issued or guaranteed by Euro-zone governments (including Greece).

The extraordinary steps taken by the ECB to shore up euro-zone financial liquidity were matched with a series of more timid steps by the EU to provide first temporary, and eventually permanent, emergency bailout funds to member governments. The first of these was the European Financial Stability Facility (EFSF) originally worth €750 billion (in May 2010) and then increased to €1 trillion (in Feb 2012). This facility issues bonds to raise funds needed to provide loans to Euro-zone countries in financial trouble, recapitalize banks or buy sovereign debt. A second temporary facility (the European Financial Stabilization Mechanism⁷) can borrow up to a total of €60 billion in financial markets on behalf of the EU under an implicit budget guarantee.

The first permanent bailout fund, called the European Stability Mechanism (ESM) was established in September 2012 and has a maximum lending capacity of €500 billion. ESM bailouts will importantly be conditional on member state commitments to economic reforms and fiscal consolidation. Another precondition for receiving an ESM bailout will be for the country to have fully ratified the European Fiscal Compact⁸ balanced budget pledge and to agree to be

⁵ See Dominguez (2006) for further discussion of the European desire for more integration combined with reluctance to cede national political control that underlies policy at the ECB and other EU institutions.

⁶ LTROs allow banks to borrow unlimited amounts at 1% for 3-years against a wide variety of collateral to help address short- and medium-term bank funding needs.

⁷ http://ec.europa.eu/economy_finance/eu_borrower/efsm/index_en.htm

⁸ The Fiscal Compact requires members to enact laws requiring national budgets to be in balance or in surplus within the treaty's definition and which provide for a self-correcting mechanism to prevent their breach. The treaty defines a balanced budget as one which has a general budget deficit less than 3% of GDP and a structural deficit of less than either 0.5% or 1%, depending on a

evaluated on all relevant financial stability matters by the so-called Troika (European Commission, ECB and IMF). This new fiscal pact is a renewed attempt to come up with enforceable debt and spending limits, but with growth as a stated objective and stiffer penalties for violators.

The EU continues to debate proposals for greater integration of EU banking regulation with the most ambitious of the proposals including euro-wide deposit insurance, bank oversight and joint means for recapitalization of banks. There is also discussion of allowing the ECB to serve as a lender of last resort to governments. Germany seems to be backing away from the idea of a full-fledged “banking union,” suggesting that euro-wide regulation be focused only on a few large cross-border banks and that deposit insurance remain at the national level. Acceptance of full-fledged euro-wide bank regulation seems unlikely to come about until a major cross-border bank is declared insolvent, is too big to fail, and is too big to be bailed out by its national authorities.⁹

Although the current European crisis is a euro-wide problem, it was initially treated as a sequence of national problems; this reinforced national divisions rather than developing a systemic approach. Policy responses have consistently been “too little too late” with resources put into programs always increasing after the fact. The Troika approach only underscores the inability of the EU to manage its own affairs.

8. Prognosis

To say that Europe is at a crossroads is both a cliché, and a truism. At this juncture it is as easy to see a path toward compromise, policy adjustment and recovery as it is to see a path toward conflict of interests, withdrawal and collapse. We are wise enough not to claim we know which of these paths Europe will take, but we can sketch out the two most extreme scenarios.

Scenario 1: Unity forever

In this scenario European governments fully embrace the idea that national sovereignty must take a back seat to European economic objectives and the full-scale integration of financial markets. A true banking union would be created with a centralized banking regulatory system and a lender of last resort under the ECB. A more flexible system of fiscal rules would be developed which recognize the joint goals of economic growth and deficit reduction, backed by a permanent system of fiscal transfers and a centralized tax base to provide resources to the ECB to serve as a lender of last resort. In order to restore competitiveness in southern European countries the overall Euro-zone inflation rate would be adjusted upward, and unsustainable public debts in the GIIPS would be renegotiated to allow countries to remain in the zone and also recover economically.

countries debt-to-GDP ratio. If the structural deficit is found to exceed those limits, the country will have to correct the issue within the timeline, nature and targeted size deemed necessary by the European Commission. The treaty also places compliance with its budgetary and other requirements under the jurisdiction of the European Court of Justice. A state found in breach of its obligations can ultimately be fined up to 0.1% of its GDP.

⁹ An agreement on a single supervisory mechanism (SSM) by European finance ministers was agreed to as this paper is going to press. According to the deal, the first step toward a banking union, the ECB will directly supervise banks whose assets exceed €30 bn or 20% of their country's GDP and banks that have received indirect funding from an EU bailout fund. National supervisors will be primarily responsible for the rest, but the ECB will still be empowered to supervise any small banks that might warrant its attention. All 17 euro-zone countries will participate in the SSM, but it is voluntary for the remaining EU countries.

Scenario 2: Breaking up is hard to do

Countries come to the conclusion that the costs of staying together outweigh the benefits. Each country may decide to go it alone, or a German-Benelux currency union may remain while other countries loosely peg to it. In the best version of this scenario EU policies vis-à-vis trade, labor mobility and common regulations are preserved, while coordinated fiscal and monetary policy are abandoned. In the worst version of this scenario the break-up is precipitated by a massive sell-off of the euro, a collapse of global financial markets and an unraveling of EU commitments and institutions.

In the end, which of these scenarios plays out, is not about economics. Designing economic policies is complicated, but not impossible. The biggest challenges are political. At this juncture the necessary institutions for scenario 1 are not in place, and it is not clear that financial markets will give Europe the space necessary to develop them. Nor is it clear that political interests and already existing institutions (such as national constitutions) are configured in such a way that will make it possible for governments to move toward even greater political union. On the other hand, it is remarkable how long the euro crisis has lasted already, each time financial markets seem poised to bring about a dénouement, European leaders come through with “just enough agreement” to keep the EU experiment alive. It helps that the US and Japan are also enmeshed in their own fiscal messes, making it difficult for investors in Europe to know where to escape. Global exchange rate adjustments that lead to an orderly depreciation of the euro against the dollar and yen could help, though if this leads to significant capital outflow, things could rapidly get worse for Europe. The one thing that seems irrefutable is that a financial market driven collapse of the euro is unequivocally bad for the US and the global economy, unfortunately this is not a scenario we can rule out.

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