

THE EUROPEAN BALANCE-OF-PAYMENTS PROBLEM

2.1 Introduction

The euro was introduced on the assumption that no large internal imbalances would ever pose a threat to its stability. The rules set out in the Stability Pact were considered sufficiently stringent to secure the euro's future. Dissenting voices nevertheless abounded, within and outside Europe. Stressing the problem of imbalances, Friedman (1997a, 1997b, 2001) forecast that the euro would last ten years. Similar statements were made by Feldstein (1997), who even emphasised the danger that the euro could potentially exacerbate political divisions within Europe. Other critics pointed out that rules in the Stability Pact would not prevent fiscal crises from occurring, and, once under stress, the institutional setting of the euro area would be inadequate to deal with it (see Buiter et al. 1993, among many others).

These analyses were not taken seriously in Europe, where they were discarded as expressions of political preference rather than economic expertise. After all, the euro was very much a political enterprise, arising from the desire to keep Europe's divisions and potential conflicts under control after World War II. Its introduction was arguably accelerated by the German reunification, as France and other European countries had to be reassured that the new political geography of Europe would not conflict with their post-World War II strategy of reining in Germany in a European context. While the euro will hopefully survive the present crisis, scientific honesty calls for an acknowledgement that the early warnings cited above were not groundless. Indeed, at the time of writing, the euro is immersed in a deep existential crisis. Substantial capital flight from several European countries that have shaken European stability in recent years are currently feeding one of the largest economic challenges ever faced by post-war Europe.

There are differing views on the causes of, and cures for, this crisis. At one end of the spectrum, some ultimately see it as a public debt crisis and advocate the

strengthening of political constraints on government borrowing. Others primarily regard it as a confidence crisis, which should be addressed by setting up a very large rescue fund, i.e. by wielding a 'big bazooka'. They count on the fact that, if the crisis is truly expectation-driven, the resources will never have to be used. This chapter begins by reconsidering these and other views, and later stresses the structural reasons for the crisis, particularly the loss of competitiveness on the part of some euro area countries and the resulting surge in private and public foreign indebtedness. The chapter closes with some policy conclusions and recommendations.

EU leaders have devoted most of their attention to the public debt issue. The fiscal compact agreed upon at the EU Summit on 8 December 2011 aims to re-establish the fundamental principle of fiscal discipline as a precondition for a viable monetary and economic union. There is no doubt that a successful fiscal compact would be a key step towards rescuing the euro area from the political climate of uncertainty that has prevailed to date. However, as not all EU countries were willing to sign the compact, it merely has the status of an intergovernmental agreement which is superseded by the EU Treaty. Thus, the opening of the excessive deficit procedure is not automatic as intended, but requires an active, qualified majority decision on the part of the Council.¹ Once opened, the procedure was supposed to lead to automatic consequences unless a qualified majority of euro-area member states were to oppose them. However, since details of the compact are still to be defined at the time of writing this report, we fear that the rules may be diluted through various compromises made even after the deficit procedure has been opened. Indeed, it is very likely that there will still be (1) political decision-making on fines (although with a reversed qualified majority) and (2) fines that countries can pay with borrowed money that could become part of a future bail-out. That does not constitute a strong sanction. In EEAG (2003), Chapter 2, we proposed (1) that sanctions should be decided by the Court of Justice and (2) that

¹ See European Council (2011a,b).

sanctions should be non-pecuniary (e.g. loss of voting power).² Since such changes are not likely, one should not expect the fiscal compact to be binding.

In our view, a credible strategy for getting the euro area back on track needs to consider two key problems:

- i) The emergence of large intra-euro area imbalances reflected in the misalignment of price and wage levels, as well as in sizeable current account deficits and surpluses and net foreign asset positions.
- ii) The emergence of massive cross-border capital flight, recorded by exorbitantly large claims between national central banks within the Eurosystem, pointing to a loss of confidence in the policies of some euro area countries.

To solve the first problem, the euro area requires an internal realignment of real exchange rates. As a currency realignment is precluded by the very existence of a common currency, adjustment can only occur via changes in price, wage or productivity levels.

To solve the second problem, a mechanism is needed that re-establishes the market's confidence in continued lending to the respective countries, provides immediate liquidity assistance to countries while they try to implement necessary policy measures and slows down capital flight. The euro area needs a credible plan to simultaneously address fundamental imbalances and to stem the possibility of self-fulfilling runaway processes due to the less-than-perfect credibility of policy plans, at both a national and a euro area level.³

The crisis has made it quite clear that, in the case of independent states, country-specific risk is bound to be priced by the market sooner or later. Large price differentials for government bonds can only jeopardise the work of the European Central Bank (ECB), and blur the distinction between standard and non-standard monetary operations on the one hand, and fiscal interventions on the other. Moreover, such differentials can feed large and destabilising cross-border capital flows into the countries issuing relatively safer assets.

With independent states, the liability principle, whereby each state is ultimately responsible for its debt, needs to be clearly inscribed in the new fiscal com-

pact. This will allow for interest differentials among national borrowers. Yet, to function properly, the euro area also needs a core system of common assets that are of a sufficiently high quality to provide a European safe asset. A homogenous, commonly guaranteed bond or bill may, in principle, satisfy the need for a common safe asset, but is hardly consistent with the liability principle, given the present lack of political integration. National bills subject to common rules and satisfying strict standards may, however, offer a viable alternative to a homogenous Eurobond and serve the same purpose. Section 2.6 of this chapter defines and proposes such a European standard bill.

2.2 Capital flights are shaking macroeconomic stability in Europe

While there is hope that the euro will survive, albeit on shaky foundations, its founders must have deemed it unconceivable that the newly created currency area would ever experience capital flights as large as, or even larger than, the flows that have torpedoed financial and currency stability in emerging markets from Latin America to Central Europe and Eastern Asia in the past. Yet massive capital outflows from the crisis countries are now a fact.

2.2.1 Fundamentals and 'confidence'

It is well known that, once policymakers have lost credibility, the economy can be shaken by belief-driven speculative attacks of a magnitude only loosely related to fundamentals (Calvo 1988, Cole and Kehoe 2000). De Grauwe (2011) and others have pointed out that self-fulfilling speculative spirals can severely damage a government's creditworthiness. If some investors begin to doubt that a country will be able to repay its public debt, they will sell the respective government bonds they hold, making the price of these bonds fall and the effective interest rates rise.

There are all kinds of market dynamics that can feed such attacks. A key pattern consists of herd behaviour. The price decline stokes uncertainty among other investors, who also sell their assets to avoid capital losses, inducing a further decline. This, in turn, makes more investors apprehensive, potentially causing panic in the end.

Once such an attack is set in motion, governments have to offer higher yields for newly issued govern-

² See EEAG (2003), Chapter 2, pp. 46–75.

³ Key difficulties involved in designing solutions to either problem are discussed in Section 2.6.

ment debt, which increases the interest burden in their budgets and prompts them to borrow more to finance this burden. This leads to progressively higher debt-to-GDP ratios, which further undermine the confidence of investors and induce them to charge an even higher interest rate. At the moment such mutually reinforcing runaway processes are clearly destabilising the financial system of the euro area.⁴

These analyses are plausible, but they need to be complemented by two important observations. Firstly, self-fulfilling speculative attacks do not arise when policies and institutional arrangements are credible. Good fundamentals and sound institutions prevent belief-driven destabilisation. In this sense, the current crisis in Europe cannot be exclusively due to confidence factors – it also is the result of years of distorted growth, during which some European countries ran large current account and/or public deficits, or allowed their banks to take on too much risk, and let unit labour costs rise relative to those of other members of the euro area.

Secondly, with imperfect policy credibility, confidence crises do impact negatively the macroeconomic process, generating a strong recessionary impulse. In Europe, the risk premiums on government debt spill over to the borrowing costs of residents in the respective country. In other words, firms and households in the periphery countries see their creditworthiness and their ability to borrow closely tied to that of their governments. High and volatile sovereign risk spreads have generated a lethal credit crunch in these countries, producing the premises of a deep recession in 2012 in some of those countries.

The idea of a public debt crisis spiral – a government that is solvent when it has to pay up to 5 percent interest on its debt may become insolvent if it has to pay 10 percent – is an intuitive explanation, but fails to capture the true economic essence of the problem. Gloomy expectations of a recession can become self-fulfilling because, as soon as firms and households expect a slowdown in growth, they also expect the government budget to

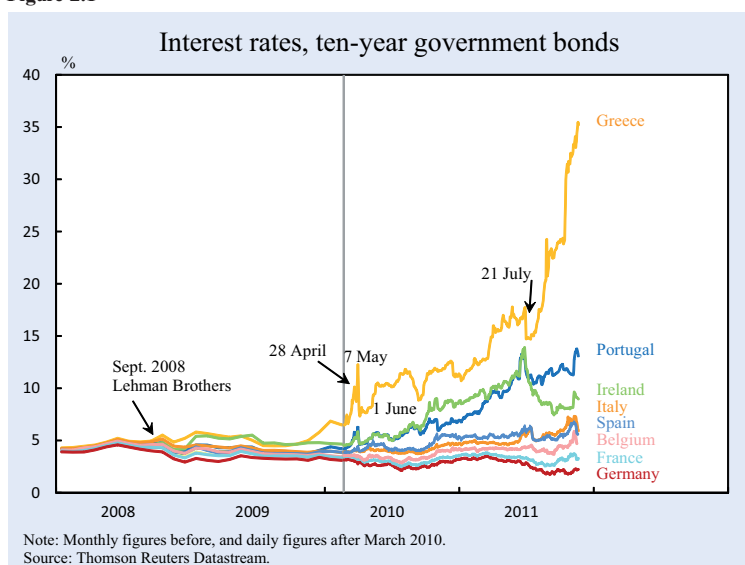
deteriorate (due to falling tax revenues). To the extent that this raises the risk premiums on government bonds and these are correlated to those on private debt, it also feeds back directly into the interest paid by the private sector. Even if policy interest rates remain close to zero, the economy nevertheless experiences the equivalent of a monetary contraction in such a scenario.⁵

It follows that analyses stressing confidence as a key factor responsible for driving interest rate differentials in Europe should also stress the following two facts. Firstly, confidence crises only occur when fundamentals are already weakened. Secondly, once set in motion, they are equivalent to sharp negative shocks to the macroeconomy.

2.2.2 The confidence crisis

The mere fact of a confidence crisis resulting in capital flight and differing risk perceptions, whether fundamental or expectations-driven, can best be illustrated by looking at interest spreads and asset values. Figure 2.1 shows how interest rates for ten-year government bonds have evolved during the financial crisis. As is well known, the interest rates for all euro area countries were nearly identical until the first half of 2008, they began to differ after the collapse of Lehman Brothers and they exploded after spring 2010. Greek rates peaked temporarily on Wednesday 28 April 2010. During that day, the interest rate for two-year Greek government bonds soared to 38 percent (although it settled at a lower rate at the end of that day). The markets were obviously jumpy.

Figure 2.1



⁴ See Krugman (2011a) who compares the situation with a vicious circle.

⁵ See the extensive analysis in Corsetti et al. (2011).

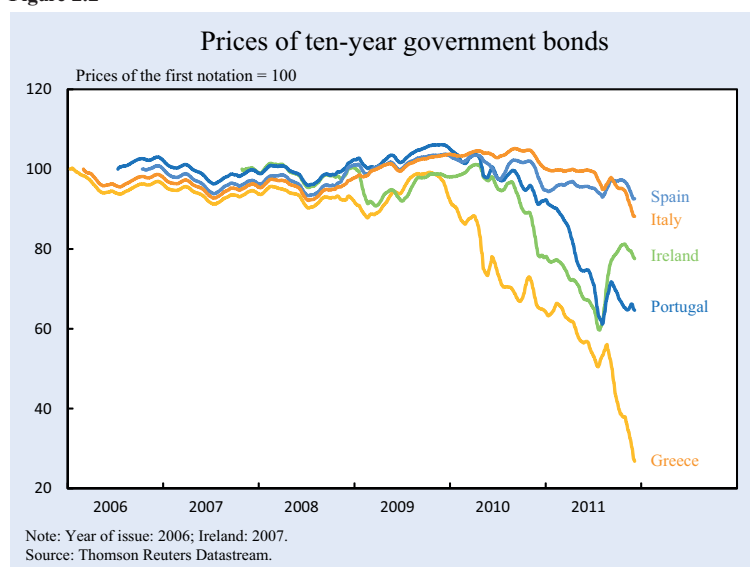
As discussed in greater detail below, the European Union reacted by creating a rescue programme for Greece and establishing the European Financial Stability Facility (EFSF) on 8/9 May 2010. These measures led to a temporary reduction in the spreads. However, from 1 June 2010 onwards the Greek rate started to rise again, with momentary periods of relief, and went beyond 35 percent by the end of last year. Meanwhile, a second rescue program for Greece of 130 billion euros was announced, the details of which were not yet known at the time of this writing. All of these measures were obviously unable to prevent the Greek risk premium from rising to levels signalling catastrophe. Including ECB support (purchases of government bonds and Target credits), the total level of public credit already granted to Greece could now total around 390 billion euros (see also Figure 2.10).⁶

After some delay the interest rates of Ireland and Portugal followed suit. However, whereas the Portuguese rate kept rising, the Irish rate peaked in June 2011, declined substantially thereafter, and began to rise again in November. The Italian and Spanish rates also rose gradually, but steadily compared to those of Germany. The crisis has now affected the interest paid by France, Austria and Belgium. Even the negative risk premiums allowing Germany to borrow at extremely favourable rates have been fluctuating with market confidence.

As outstanding government bonds have a given statutory rate of interest, they adjust to the rising interest rates with declining market values. Figure 2.2 shows the development of the market values of ten-year government bonds issued in 2006 and 2007. Greek sovereigns fell to less than 30 percent of their face value by the end of 2011, Portuguese sovereigns to less than 70 percent, Irish sovereigns to less than 80 percent, Italian sovereigns to less than 90 percent and Spanish sovereigns to slightly above 90 percent.

⁶ First Greek Loan Facility (May 2010) 110 billion euros, Target loans (as of 30 September 2011) 100 billion euros, purchases of government bonds 50 billion euros (estimate), second bail-out package 130 billion euros (Euro Summit Statement 26 October 2011).

Figure 2.2



The losses in market value put a substantial strain on the balance sheets of investment funds, insurance companies and commercial banks worldwide. In Europe, France was hit particularly hard, because its banking sector was far more strongly exposed to the Southern countries' public debt than that of any other nation. Insofar as banks were holding government bonds on their trading books, they were obliged to show write-off losses on their balance sheets. However, as most government bonds are held on their banking books, the majority of write-off losses remain hidden to date. Even the stress tests carried out by the European Banking Authority (EBA) have not seriously attempted to address this issue.

Despite institutional reluctance to address this issue openly, the repercussions on the private economy were significant. Banks and financial intermediaries reacted to the imminent write-off losses by rebalancing their lending strategies. The fall in the price of government bonds affected the creditworthiness of those private agents who held them in their portfolios. The fiscal squeeze implied by higher public borrowing costs and calls for higher taxes, higher tariffs and more expensive public services also gave rise to the expectation of strikes and other forms of protest that would hamper production and distribution. This all implied that borrowing in the private sector became more expensive as public borrowing costs rose. The correlation coefficient between the public and private risk premiums tends to be quite high, especially for the euro area countries subject to fiscal stress (see for instance, Corsetti et al. 2011). While a high correlation could, in principle, reflect two-way causality

(from the private crisis to its public counterpart and vice-versa), it is apparent that, once a sovereign state is in trouble, the prevailing direction goes from public to private. Thus, the rising interest spreads were not limited to the public sector, but affected entire economies.⁷

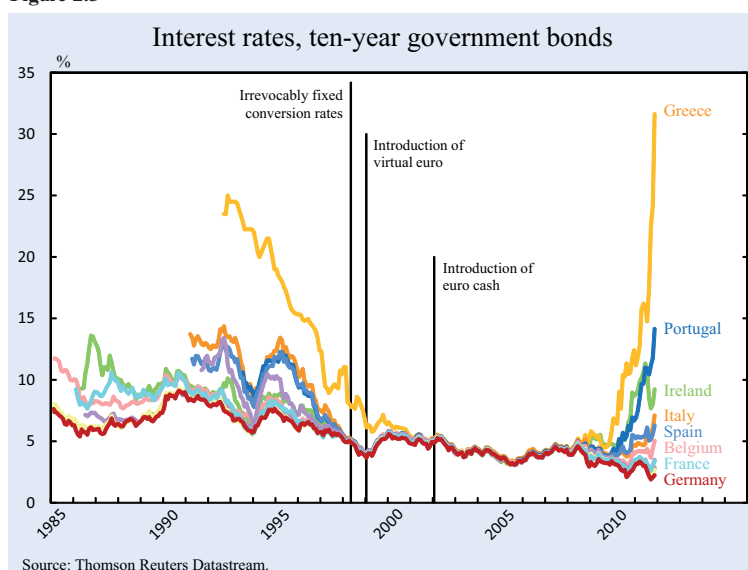
2.3 Over-borrowing, over-lending and the loss of competitiveness

While it is obvious that capital flight from the crisis-hit countries has occurred, it is not clear whether this was due to an irrational or a rational market reaction to conflicting information about country fundamentals, the firepower of rescue facilities and other such factors. After all, fundamentals are not only subject to present destabilising forces, but are also influenced by their stabilising counterparts. The lower the market value of existing government bonds falls, the larger the profit investors will make if a country does indeed repay its debt. Thus, falling prices also trigger more demand for such bonds, which limits the runaway process. The recovery of Irish government bonds from spring to autumn 2011 can be interpreted in this light.

In fact, if the default probabilities differ, the statutory interest rates for government bonds from different countries should also differ, for if they do not, the mathematically expected interest rates (in short: the effective interest rates) differ by the default probability. For simplicity, consider the extreme (and unrealistic) case where default means that no money is paid back. If, say, the annual statutory interest rate of a country is i and the annual default probability is p , the effective rate of interest is $i - p$. Thus, equality of the effective interest rates requires spreading the statutory interest rates in line with the differing default probabilities.

In EEAG (2011) we emphasised that, for this reason, it would be wrong to worry unduly about interest rate differentials within the euro area.⁸ On the contrary, interest differentials are a necessary ingredient for a

Figure 2.3



functioning European capital market, since they send price signals to borrowers and investors. If a country borrows too much or is hit by a negative shock, its increasing default probability should indeed be reflected in rising interest rates to provide sufficient incentives for adjustment.⁹

Let us suppose that interest spreads were to be suppressed artificially by letting countries issue unlimited amounts of homogeneous Eurobonds, i.e. bonds jointly guaranteed by all euro area countries. In this scenario, a country could de facto reduce its effective interest rate simply by borrowing more, because this would increase its default probability and hence the probability of shifting the repayment burden to the other countries guaranteeing the debt. Note that a lower effective interest rate would then induce the country to borrow even more. A vicious feedback effect could be activated: borrowing more would further increase the probability of default, thereby reducing the effective interest rate even further, and strengthening the incentive to borrow.

In the extreme case where borrowers know for sure that they will not be able to repay the extra money borrowed and are nonetheless allowed to participate in Eurobond issuances, there is no intrinsic limitation to their borrowing. For such countries this means increasing living standards today without reducing them in the future. Credit given by other countries in this case is tantamount to a donation.

⁷ Harjes (2011) estimates a pass-through coefficient, from public to private borrowing cost, as high as 50 percent.

⁸ See EEAG (2011), Chapter 2.

⁹ If they were not, the implication would be that either investors are irrational, or they anticipate a bail-out.

There seems to be a broad consensus that Eurobonds of this kind are not to be introduced in the foreseeable future. Yet there is also ample evidence that the introduction of the euro itself produced similar effects in the years before the crisis, because it suggested to investors that all euro countries would be ‘sitting in the same boat’ and would therefore have the same default probability. This belief clearly contradicted the no-bail-out clause of the Maastricht Treaty, but it was not entirely irrational, given that the regulators themselves obviously shared it. After all, the European governments had managed to free banks from the obligation of holding equity against government bonds in the Basel regulatory framework, arguing that all government bonds would be perfectly safe assets.¹⁰ Thus, in a sense, the euro was already perceived to be a kind of Eurobond system, and therefore induced the runaway process in terms of the excessive borrowing described above.

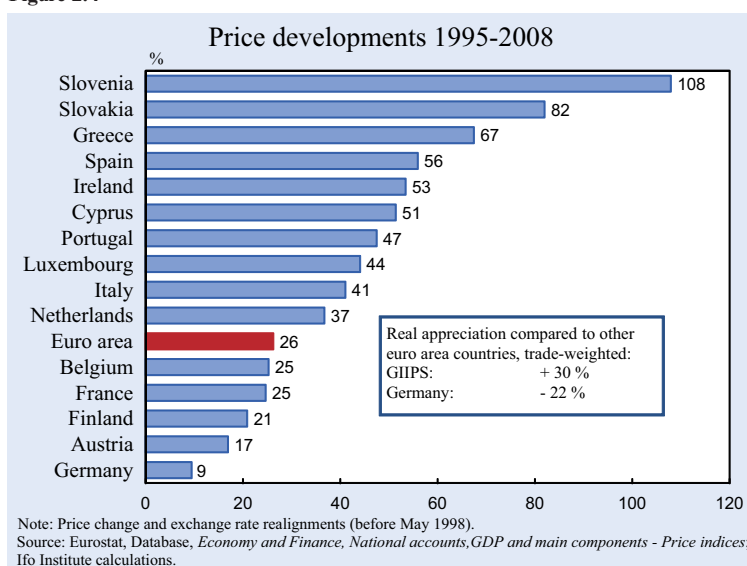
Figure 2.3, which extends Figure 2.1 to earlier years, shows the rapid convergence of interest rates before the introduction of the euro. While undervaluation of credit risk over the past decade was more of a global phenomenon than specific to the euro area, the new currency undoubtedly contributed to it, and quite decisively. The present crisis was preceded by roughly a decade of uniform interest rates, extending from 1998 to 2008. Prior to 1998 interest rates had varied substantially because investors faced country-specific depreciation risks for which the countries had to pay a premium over the German Bund. That phase ended with the EU Summit in Madrid in December 1995, when the ultimate decision to introduce the euro was made and it was foreseeable which countries would be joining and when the exchange rates would be irrevocably fixed (which happened in May 1998). Within just two years, 1996 and 1997, all interest rates except that of Greece converged to the Bund level. The Greek rate converged later, as the drachma was not among the currencies for which the exchange rate had been previously fixed and because Greece did not join the euro area until 2001, two years after the other countries.

¹⁰ See EEAG (2011), Chapter 2.

The similarity between pre-euro interest dispersion and today’s dispersion is striking. In the past interest rates diverged due to the fear of depreciation; now they do so because of the fear of default. As discussed above, while the chart refers to the interest rate on public debt, the convergence was much more general and also included private interest rates. The general drop in interest rates triggered an expansion in countries which had hitherto been obliged to pay a premium, as the lower interest rate induced private and public agents to borrow more. In Portugal and Greece the government sector took the opportunity to hire more employees at higher wages, while in Ireland and Spain the private sector built more homes, created employment and gave higher wages to construction workers. In the end, it made little difference which sector acted first. As the construction workers paid more taxes, the government sector was pulled along; and as government employees used their wages to build more homes, the construction sector benefited. This all generated a boom with high growth rates, declining rates of unemployment, high wage increases and high rates of inflation.

From 1995, the beginning of interest convergence, to 2008, the year of the full outbreak of the financial crisis, Ireland grew by 118 percent, Spain by 56 percent, Greece by 55 percent and Portugal by 33 percent, while the euro area average was 31 percent. Germany, on the other hand, suffered from an extremely low rate of net investment (the lowest of all OECD countries) and grew by only 22 percent during this period. Among the countries now in crisis, only Italy did not participate in the boom: its

Figure 2.4



growth rate was 19 percent, even lower than that of Germany.

Figure 2.4 shows that prices also increased rapidly. In the period under consideration, the price level of domestically produced goods and services (GDP deflator) in Greece increased by 67 percent. In contrast, the price level in Germany increased by only 9 percent. This obviously meant that Germany depreciated in real terms compared to its trading partners, while Greece appreciated. Italian prices also rose by 41 percent, but unlike the other countries now in crisis, Italian inflation seems to have resulted from an internal cost push, rather than a demand-driven boom. The box in the chart gives the exact figures, which also take into account the last currency realignments to occur before the exchange rates were irrevocably fixed in May 1998. Germany depreciated against its euro area trading partners by 22 percent, whereas the GIIPS countries appreciated by 30 percent against theirs.¹¹

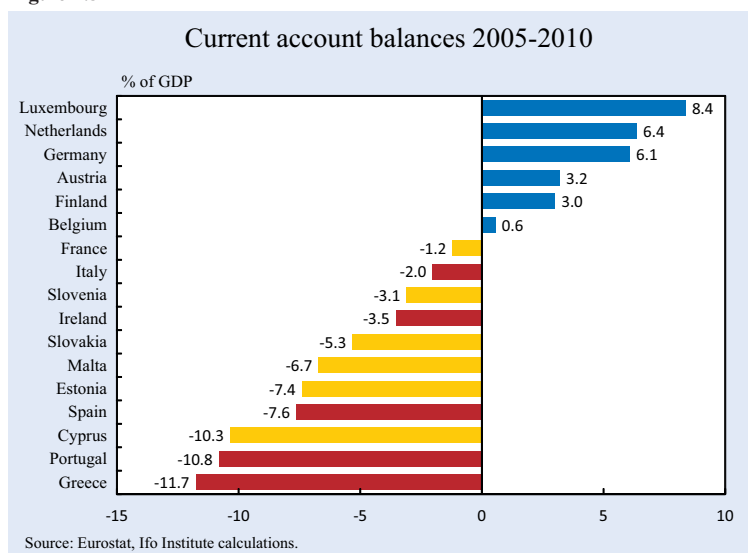
Over time the appreciating countries developed current account deficits, as rising prices undermined the competitiveness of their exports and rising real incomes boosted imports. This phenomenon is illustrated by Figure 2.5, which depicts the average current account deficits in the years 2005–2010. Portugal and Greece had truly huge current account deficits of 10.8 percent and 11.7 percent of GDP respectively. Spain's deficit of 7.6 percent of GDP was also alarmingly large. The deficits of Italy (2.0 percent) and Ireland (3.5 percent) were much smaller. While the Irish current account deficit disappeared as early as 2010, Italy's deficit kept rising, reaching a level of 3.5 percent in 2010. The deficits posted by Greece and Portugal, by contrast, settled at 10.1 percent and 10.0 percent respectively in that year. Recent estimates for 2011 show that the joint current account deficits of the GIIPS countries will total around

127 billion euros, or 4.0 percent of their joint GDP (see European Commission 2011).

The current account deficits are, by definition, identical to the respective capital imports that these countries absorbed. Current account deficits and capital flows are jointly determined by economic forces. The causal origin of an imbalance can in principle come from the goods and services, as well as from the capital markets. As argued above, however, there is ample evidence that, in the period considered, the imbalances in the euro area originated in the capital market. The announcement and introduction of the euro (in a period of global undervaluation of risk) constituted a unique and strong shock to Western Europe's economy that led to extreme and unusual cross-border capital movements.¹² In those countries subject to capital inflows, the economy underwent a growth process with sustained increases in prices and rising current account deficits. In Germany, which suffered from a capital outflow, the real economy and prices stagnated, turning its current account deficit into a surplus, as the competitiveness of exporting industries increased and imports were held back by stagnating incomes. Germany's current account surplus, and hence Germany's net capital export, totalled 6.1 percent of GDP in the period 2005–2010. In absolute terms, the current account surplus in 2011 is estimated to be 131 billion euros.

A current account deficit measures the annual increase in the net foreign debt position of a country, and a current account surplus represents the annual increase in its net foreign asset position.¹³ Figures 2.6 and 2.7 show the net foreign positions of the euro area

Figure 2.5

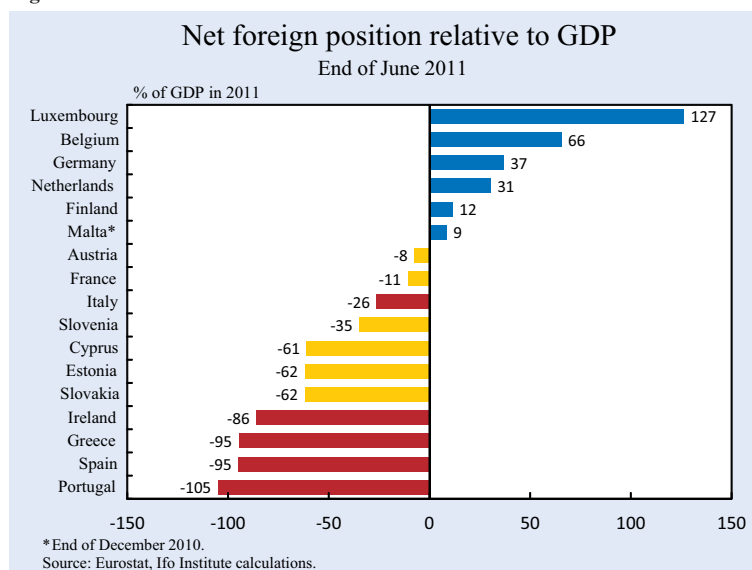


¹¹ We use the term GIIPS for Greece, Ireland, Portugal and Spain and GIIPS for these countries plus Italy.

¹² This was predicted in Sinn and Koll (2000) and re-examined in Sinn (2010). See also Sinn et al. (2011).

¹³ For the net foreign asset position revaluation, however, adjustments due to changing market values and exchange rates of foreign assets are added. Such revaluation adjustments are not included in the current account flows.

Figure 2.6



countries that had accumulated by June 2011, in terms of percent of GDP and in terms of euros respectively.

It is worth noting that Italy's net foreign debt position, while sizeable in absolute terms (due to the economic size of this country), amounts to only 26 percent of GDP. This is due to the fact that Italy has not traditionally delved into foreign borrowing, so an external deficit has emerged only recently. For the rest of the crisis-hit countries, however, net foreign debt amounts to a startling 95 percent of GDP, with little variation between individual countries (95 percent for Greece, 86 percent for Ireland, 105 percent for Portugal and 95 percent for Spain). The latter figures are very large by historical standards, and they

arguably show more clearly than any other indicator the fundamental macroeconomic imbalances in the crisis-hit countries.

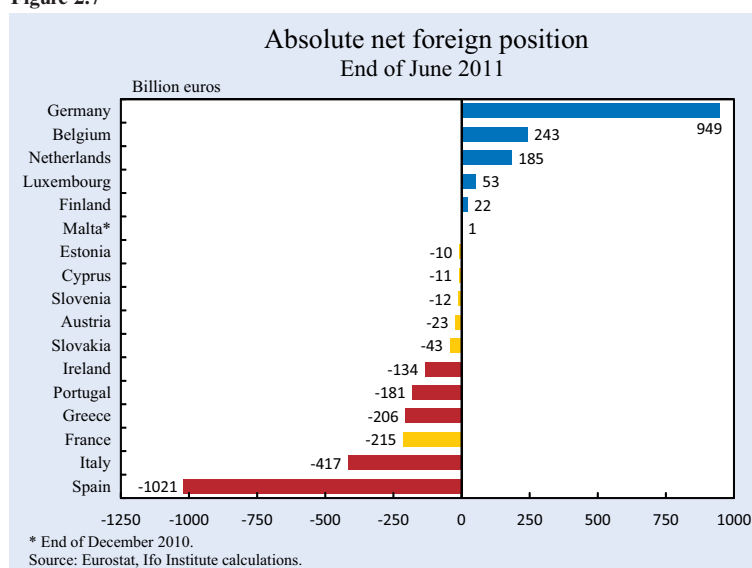
As discussed below, the true situation in the periphery countries is even worse than suggested by these figures, since in the boom years nominal GDP – to which the debt is related – was inflated by rapid nominal growth (reflecting both high real growth and large price increases). Indeed, in the pre-euro period, it seemed for a number of years that public and private debt levels could be kept in check because of the rapid increase in nominal incomes.

With the crisis shattering any exuberant expectations about prospective growth, it is now clear that the inflated price and wage levels in the first years of the euro are not sustainable. The bitter truth facing the crisis countries today is that, as their goods must become cheaper for them to regain competitiveness, this will at least initially increase their debt-to-GDP ratios.

No less than 52 percent of the total net foreign debt of the GIIPS countries, or about 1021 billion euros, is accounted for by Spain. 417 billion euros or 21 percent by Italy, and 521 billion euros or 27 percent by Greece, Ireland and Portugal combined. The Spanish figure may look less alarming insofar as Spain has a relatively low ratio of public debt to GDP, which totalled about 70 percent in 2011. This

is a better ratio than the euro area average (88 percent). However, as explained, it was largely the real-estate sector that absorbed the foreign credit in Spain. The sector experienced a classical real-estate bubble that, when it burst, generated a high rate of unemployment that has now reached more than 20 percent, concentrated among the young. Spain is not a small country like Greece or Ireland, but one of the euro area's biggest economies. The sheer size of its outstanding foreign debt is a major threat to the stability of the euro area.

Figure 2.7



On the other side of the balance are countries like Belgium, Germany and the Netherlands. It is important to note that the German net foreign asset position, amounting to 949 billion euros or 37 percent of GDP in June 2011, is about as large as Spain's net foreign debt in absolute terms. The combined net foreign wealth of Belgium and the Netherlands, on the other hand, largely offsets the net foreign debt of Italy. By mid-2011 even the euro area's entire net foreign asset position was negative (– 820 billion euros).

2.4 Capital flights and the euro area's internal balance-of-payments imbalances

Initially, the relative high inflation in the periphery countries was often interpreted as inherent in the process of productivity and price convergence due to capital flows from the core.¹⁴ Increasingly, however, it also reflected overly-optimistic expectations that the then rising trend in income and real-estate prices would continue into the future (and/or that their investment would be somehow guaranteed). At a global level, such an illusion burst in the period from August 2007, when the interbank market first seized up, to October 2008, when the collapse of Lehman Brothers triggered a major financial crisis in the United States and Europe. These events undermined the assumption that former high-interest countries would be safer than before the introduction of the euro, while equity losses on US structured securities forced banks to deleverage by pulling out of risky investments. Borrowing in the interbank markets became more expensive and virtually impossible at times. Across borders, these problems reflected the reluctance of investors to finance the imbalances of crisis countries. In some cases capital even fled abroad on a dramatic scale in anticipation of the adjustments to come.

As is well known, the ECB, like central banks in the United States and elsewhere, stepped in decisively, de facto substituting for the freezing interbank market. Direct borrowing and lending between bank A and B, wherever located, was replaced by the indirect flow of credit via the Eurosystem (the ECB and the national central banks in the euro area). While the replacement was unrelated to national boundaries in principle, in practice it meant that the countries of the periphery received a public capital flow via the Eurosystem that replaced the stalling inflows of private capital previ-

ously financing their current account deficits. The borrowing commercial banks received more refinancing credit from their National Central Banks (NCBs), while the 'lending' banks either placed the funds that they no longer dared to lend (and thus export) in time deposits or in the 'deposit facility' with their NCBs, or took less central bank refinancing credit in the first place. By compensating for the portfolio choice of the markets, the activities of the Eurosystem had automatically avoided the disruptive balance-of-payments crises that usually accompany massive capital flights of the kind now being experienced by the crisis countries in the euro area. However, the intervention also has relevant implications for the allocation of capital in Europe.

The replacement credit flowing through the ECB system is indirectly measured by the so-called Target accounts. 'Target' is the name of the euro area's electronic payment system. A payment system like Target is an essential building block of a monetary union, and the key vault for the smooth operations of financial markets, especially monetary policy. In normal times, i.e. without large risk premiums in interbank markets, the transactions via Target accounts may or may not net out, yet there is no implicit subsidy to capital movements. During the crisis, however, the Target system recorded huge imbalances, turning it into a seismograph of the shock waves that capital markets sent through the Eurosystem.¹⁵ The operation of the Target system guaranteed liquidity at basically risk free rates to national financial systems and governments facing difficulties.

More specifically, the Target accounts measure the imbalances resulting from the reluctance of the capital markets to continue financing the current account deficits of the periphery countries and from the outright capital flight from these countries.

As the interbank market broke down, the capital inflow from private lending operations and asset purchases went missing in the periphery countries. In fact, capital was flowing out as foreign banks repatriated the funds they had been lending and domestic investors began to exchange domestic for foreign assets to safeguard their wealth. This created a net flow of money through the Target system.

Considered on their own, these movements of funds across the borders would have reduced the stock of

¹⁴ See, e.g., Sinn and Reutter (2000) and Sinn and Koll (2000) as well as the critical review of these interpretations in Sinn (2010).

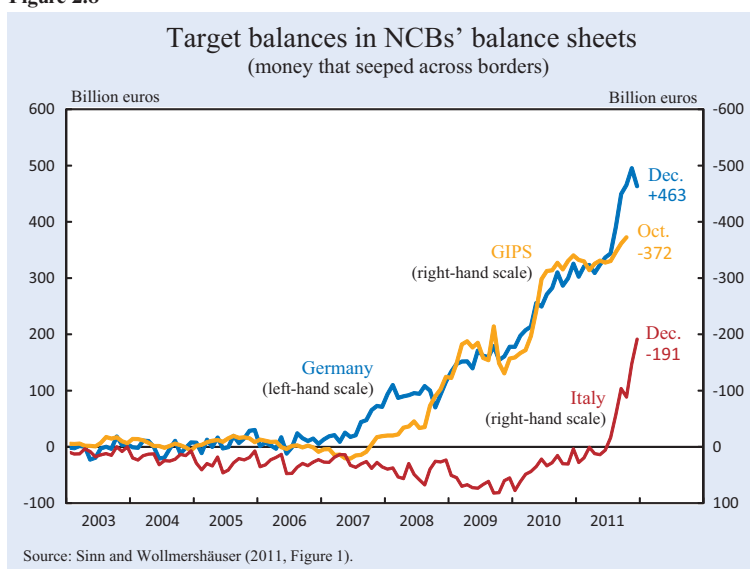
¹⁵ See Sinn (2011a,b), Sinn and Wollmershäuser (2011) and CESifo (2012).

base (central bank) money in the crisis countries and increased it in the receiving countries. However, common monetary policy at the euro area level ensures that these flows are fully and automatically sterilised. Banks in the countries sending the money drew more refinancing credit and money from their NCBs to replace the outflow of money via the Target system; while banks in the receiving countries lent the money seeping in to their respective NCB or took less refinancing credit in the first place, because they did not need the extra liquidity. Thus, neither the aggregate stock of base money nor its distribution among the countries was affected.¹⁶ The Target balances recorded in the national balance sheets therefore also measure the reallocation of net central bank credit between countries, or equivalently, a credit provision between the central banks replacing stalling private capital flows, as argued above.

The orange curve in Figure 2.8 shows the development of *negative* Target balances at the central banks in the GIPS countries compared to the Eurosystem, and the blue curve shows the corresponding development of *positive* Target balances at the Bundesbank.¹⁷ Sizeable cross-border net flows of funds within the euro area clearly began in the summer of 2007 and have continued unabated, with short lulls, ever since. By December 2011, a huge stock of Target credit had accumulated in Germany, amounting to 463 billion euros. This represents about half of Germany's net foreign wealth as reported in Figure 2.7. In addition, capital also fled towards non-euro area countries like Switzerland, Japan and the United States.

The internal euro area balance-of-payments imbalances have been so huge and persistent for over four years that the money flowing in electronically from

Figure 2.8



the euro area's periphery (GIIPS countries) has now entirely eliminated, in an accounting sense, the stock of net NCBs credit to the banking system in the core (the non-GIIPS countries).¹⁸ The process has absorbed the entire net central bank credit in the core and has even made it negative (– 222 billion euros in October 2011). While this has not resulted in a credit squeeze in the core economies, due to the fact that capital was chasing 'safe' assets,¹⁹ the core NCBs have now become net debtors to their respective commercial banking systems.²⁰

Of course, the replacement of private credit with public credit via the Eurosystem, as shown by the Target balances, would have been more difficult had the ECB not reduced its collateral requirements for refinancing credit. As early as 15 October 2008, in the week following the Washington G7 agreement to rescue all systemically relevant banks, the ECB Council reduced the creditworthiness of the required collateral from A- to BBB- (see Table 2.1). It announced that it would return to normal collateral requirements by December 2009, but the Council postponed and ultimately shelved this plan. Moreover, it subsequently suspended any rating requirement for Greek, Irish and Portuguese government bonds submitted by commercial banks as collateral for refinancing credit. Although the ECB required a discount on the face value of the government bonds, this step was decisive

¹⁶ For further details see Sinn (2011b) and Sinn and Wollmershäuser (2011, Section 7).

¹⁷ To the extent the data are published they stem from the NCBs' balance sheets. Otherwise, they are reconstructed from IMF statistics. For details see Sinn and Wollmershäuser (2011, see in particular the appendix of the NBER version of that paper). The ECB itself does not possess a comprehensive data set but reconstructed the data for missing countries in the same way as was done by these authors. We find this lack of statistics on the part of the ECB unacceptable and urgently recommend that statistics offering the necessary clarity are provided by the ECB, see European Central Bank (2011, p. 37, footnote 5).

¹⁸ See Sinn and Wollmershäuser (2011), Figure 9.

¹⁹ See Sinn and Wollmershäuser (2010, Figure 7 and related discussion) as well as the Sinn (2011a,b).

²⁰ Tornell and Westermann (2011, 2012) and Kohler (2012) have argued that this may pose severe problems in terms of the sustainability of the euro system.

Table 2.1

ECB collateral requirements

Date	Minimum credit rating threshold
Until 14 October 2008	A-
15 October 2008	BBB-
10 May 2010	Suspended for Greece*
31 March 2011	Suspended for Ireland*
7 July 2011	Suspended for Portugal*
* For debt instruments issued or guaranteed by the government.	

Source: Sinn and Wollmershäuser (2011, NBER version).

in providing banks with the low-cost credit that the market was no longer willing to provide. In addition, the ECB generously accepted non-marketable assets and asset-backed securities the banks had themselves created out of their credit portfolios (often protected by national state guarantees). The share of these two latter categories in the submitted collateral increased from about 15 percent to over 40 percent in the period from 2006 to 2010.²¹

While there is disagreement on the modalities and the extent of the ECB interventions, there is no doubt that the ECB had to act in an institutional void – as no explicit mechanism to deal with a crisis was envisioned in the treaties. Initially, the ECB policy actions handled liquidity problems in the financing of ailing banks and financial systems in both the core and the periphery countries. With the emergence of sovereign and jurisdiction risk, however, the interventions of the ECB started to have specific implications for financing balance-of-payments deficits, cushioning possible disruptive effects of capital flights, and public budget deficits. Effectively, they have resulted in the financing of government debt by the Eurosystem that article 123 of the EU Treaty had intended to prohibit. This process has not produced overall monetisation, but it has implied a redistribution of credit risks across national boundaries.

It is useful to look at the ECB's interventions from the viewpoint of a normal balance-of-payments crisis. In the absence of a common currency (in this case the euro), massive capital flight or current account deficits usually force a central bank to increase domestic interest rates, and/or use its international reserves, possibly borrowing from other central banks, and eventually accepting a currency depreciation. This limits the sustainability of balance-of-payments deficits. In the euro area, however, there is theoretical-ly no such limit if the ECB accepts sufficiently low

collateral for refinancing credits. The accumulated financial flows intermediated by the Eurosystem are simply recorded as accounting credit and debit across NCBs. In other words, when bank A is located in a different country to bank B, the Eurosystem intermediation shows up on the balance sheets of the individual NCBs. As NCBs merely record the flows in their accounts, the credit and

debit records cancel each other out in the Eurosystem's consolidated balance sheet, and there is no net creation of central bank money (monetary base) in the process.

A few formal identities may help clarify the relationship between the Target accounts and the balance of payment. For our purposes, we use the customary definition of the capital account that records the activity of private agents as well as fiscal rescue operations, but excludes official settlements across borders, which is the balance of payments.²² The definition of the balance of payments is thus simply the sum of the current account and the portion of the capital account excluding official settlements. For transactions across countries with independent currencies, balance-of-payments deficits and surpluses are usually settled in official reserve currencies (dollars, euros, yen, sterling, Swiss francs), or by changes in the amount of Special Drawing Rights (a type of accounting currency) at the International Monetary Fund (IMF).

Within the euro area, the settlement occurs in terms of net flows of euros via the Target system, involving debit and credit accounting across NCBs. Thus, the Target account in principle *is* the intra-euro area balance of payments. The two concepts are basically synonymous.²³

A balance-of-payment or Target deficit always results from an imbalance between the total current account and how much of it the capital market is willing to finance. There is a balance-of-payment deficit if the capital market is willing to finance only a fraction of the current account deficit, and an even greater deficit

²² The statistical terminology distinguishes between capital account and financial account in the balance of payments. To simplify the language, the term 'capital account' in this chapter refers to the sum of capital account and the financial account of the balance of payments.

²³ See Sinn (2011a), Sinn and Wollmershäuser (2011) and Homburg (2012).

²¹ See Rocholl (2010).

if, in addition, private capital flows out in net terms. For any given current account deficit, an increase in capital outflows necessarily results in an additional balance-of-payment deficit. As a result of capital flight, it is possible to simultaneously have a current account surplus and a balance-of-payment deficit.

The combination of external imbalances in both the current account and the capital account is creating enormous imbalances in balances of payments within the euro area. The charts in Figure 2.9 show how Target credit relates to the current account deficits of each of the GIIPS. The red curve indicates the stock of Target credit as shown in Figure 2.8, and the blue curve shows the current account balance accumulated from 1 January 2008. It refers to the auxiliary coordinate system also shown in blue. It is important to note that both lines represent stocks rather than flows.

By definition, the current account must be financed with either ordinary capital imports or Target credit. Thus, if in Figure 2.9 the (blue) current account line is above the (red) Target line, the vertical distance between these two lines measures the cumulated ordinary capital import since 1 January 2008, and if the

Target line is above the current account line, the distance measures the cumulated ordinary capital export.

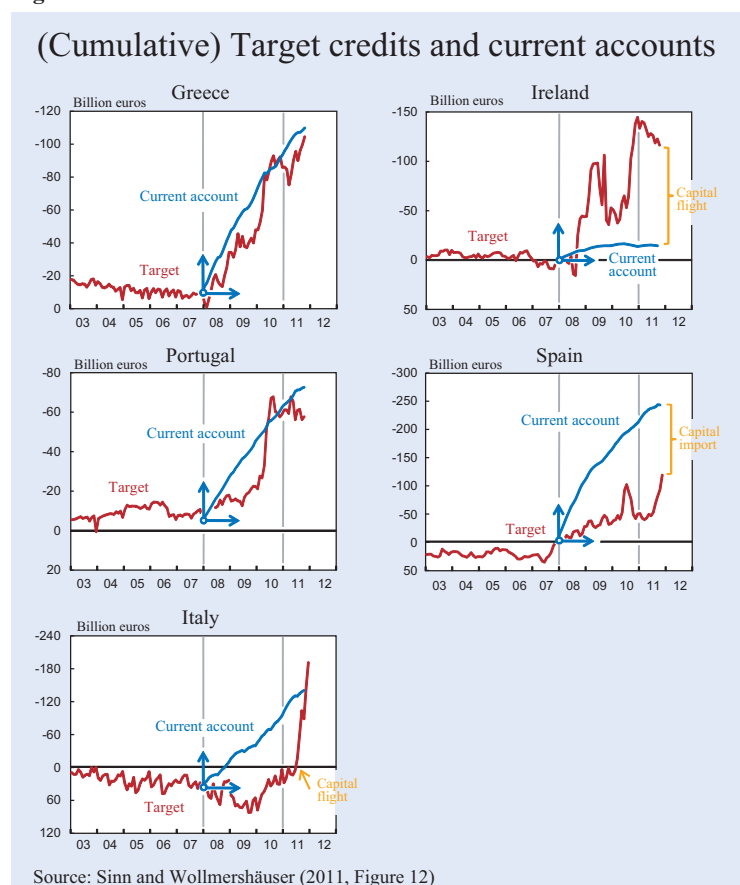
The charts for Greece and Portugal show that over the three years from 2008 to 2010, their current account deficits were nearly entirely financed with Target credit. In net terms there was hardly any net private capital inflow over the three years under consideration. Thus, these two countries had been benefiting from net official assistance de facto well before the official public rescue operations started in 2010. They were effectively protected from an early and painful capital account reversal. This assistance allowed them to receive a net inflow of goods from other countries to the tune of 140 billion euros over the three years of the crisis: Greece and Portugal were effectively drawing credit from other euro area NCBs at below market rates. While no parliament was involved in deciding on this credit, in economic terms it was quite similar to an open rescue credit via the EFSF, for example, which taps funds from the core and lends them to the periphery. Even the liability aspects are very similar, for if these countries go bankrupt and their collateral, largely government bonds, falls in value, the surviving euro countries are to share the liability according to

their respective ECB capital shares, which is exactly the liability sharing rule for EFSF credits. As shown in Figure 2.10, support from the Eurosystem to date clearly exceeds any assistance paid out in terms of rescue loans by the community of states.

In Ireland the Target credit vastly exceeds the accumulated current account deficit (of about 14 billion euros). It mainly corresponds to huge net outflows of private capital totalling around 130 billion euros. Predominantly this represented a withdrawal of those short-term funds that the banks of the core had been lending to Ireland.

In Spain the Target credit covered about a quarter of the current account deficit in the years 2008–2010, which amounted to around 200 billion euros. Three quarters of the accumulated current account deficit was financed with private credit.

Figure 2.9



As shown in Figure 2.8, Italian Target liabilities did not start to grow until later (from July 2011 onward). The chart clearly shows that the Target curve became much steeper than the current account curve at that point, indicating capital flight. As Italian and foreign investors started to reduce their exposure to Italian assets and to purchase assets abroad, the Eurosystem, through the Banca d'Italia, provided liquidity to Italian banks to compensate for the shrinking inter-bank loans.

In the second half of 2011 the Italian net private asset position swung completely. The capital flight that has occurred since then has more than offset Italy's capital import since the beginning of 2008. As of the end of 2011, Target finance was even a little higher than the sum of the current account deficits over these four years.

The main recipient of outflows from Italy was Germany. As mentioned above, by the end of last year, Germany had accumulated Target claims of around 460 billion euros, or half of the country's net foreign asset position. Moreover, even before Italy started to suffer large outflows, the Bundesbank's Target claims had grown substantially in the years 2008–2010, almost accounting for Germany's entire current account surplus with the rest of the euro area. So, while the German current account surplus with the rest of the euro area was 264 billion euros over the three years mentioned, Germany's Target claims increased by 255 billion euros. Thus, 96 percent of the current account surplus corresponded to Target claims of the Bundesbank against the Eurosystem, and only 4 percent, or 10 billion euros, were accounted for by other assets. Interestingly enough, 6 billion of those 10 billion euros were claims resulting from public rescue operations in favour of Greece, and only 4 billion euros represented private, marketable assets or claims.

Capital flights of this kind have usually marked the end of fixed exchange rate systems. Consider the Bretton Woods system of fixed exchange rates that was in place in the first post-war period up to 1973.²⁴ Towards the end of this system, the US Federal Reserve engaged in an excessively expansionary policy (while fiscal policy was also loose) that was no longer compatible with the credibility of the official conversion rate with gold, as it sustained a rate of inflation that was clearly above inflation in

Germany. Despite capital controls, capital started to flow from the United States into Germany and other safe-haven currencies. As a result of the fixed exchange rate regime, the dollars arriving in Europe either had to be exchanged for domestic money, increasing its overall stock or, if sterilised, had to replace domestic refinancing credit. The inflow of dollars (or US Treasury Bills to which they were converted) accumulating in the European national banks back then are, by and large, comparable to today's Target claims.

The Bretton Woods system ended soon after France asked the United States to convert the dollars it had accumulated into gold; the United States gave up the gold standard at that point (1971). This cannot happen in the euro area, given that no NCB in the Eurosystem has any right to 'call due its Target claims'. On the other hand, the GIIPS are, of course, not the United States. They cannot pursue an expansionary monetary policy in the face of large capital outflows. They can, however, slow down their reform process, or fall victim of confidence crises and keep feeding the outflow of capital.

A more recent and relevant example is the large systemic crisis of the European Monetary System in 1992–93, that derailed the plan to introduce the euro initially set out in the Maastricht Treaty. As discussed by Buiter et al. (1998), large imbalances emerged because of the combined effect of a major inflationary shock in Germany, and the cumulative erosion of competitiveness in the periphery of the system. The shock derived from the modalities of German unification, granting a one-to-one conversion rate of East German wages with the West, and starting a large programme of transfers (Sinn 1992). To counter inflation, the Bundesbank engaged in rapid monetary contraction, raising policy rates between 1990 and 1992 (in mid-1992, the German Discount and Lombard rates were as high as 8.75 and 9.70 percent respectively). With a fixed exchange rate system, the other countries in Europe were forced to adjust their rates accordingly. To make matters worse, as doubts emerged about their ability to remain in the fixed exchange rate system while absorbing a strong monetary contraction, a rising interest rate premium amplified the negative monetary impulse from the Bundesbank. Then as now, there were widely contrasting interpretations of the crisis: one interpretation stressed self-fulfilling erosion of confidence, whereas another emphasised fundamental macroeconomic imbalances.

²⁴ See Tornell and Westermann (2011), Blankart (2012), Kohler (2012) and Schlesinger (2012).

Over the course of 1992, any cooperative solution – involving a nominal appreciation of the D-mark, which would have allowed the Bundesbank to lower policy rates – was rejected, reflecting increasing internal divisions among policymakers. Some countries simply refused to let their currency devalue against the D-mark. When markets fully realised the extent of these divisions, speculative movements became a tsunami. The only way to resist this tsunami would have involved active and unlimited lending of reserves from the core and international institutions, to the periphery countries in crisis. Under the Exchange Rate Mechanism of the European Monetary System, however, no obligation was present. A large balance-of-payments imbalance immediately translated into a balance-of-payments crisis, forcing many countries to opt out of the system. Some of the countries which were able to defend their parity against massive speculative attacks, like France, could count on strong cooperation with Germany (mainly in the form of liquidity support), but especially on the fact that interest rates within the system would fall rapidly, once excess demand in Germany was reduced by the effective revaluation of the D-mark. In this sense, the break-up of the system, and extensive and large devaluation by the periphery, allowed the core to remain intact.

A key lesson from this analysis is that, as long as fundamental imbalances are not corrected, and confidence crises are not contained, the functioning of the payment and financial system will come at the price of persistently large, or even growing, balance-of-payments deficits. Limiting Target accounts will increase the likelihood of an at least partial break-up of the Eurosystem.

However, large Target imbalances are worrisome for a number of reasons. Firstly, they show that public capital flows have replaced private flows which, if it were to continue over time, would distort the allocation of resources within the euro area. Secondly, they substantially reallocate credit and wealth risks between the countries of the euro area. A default by one state or by residents in one state raises the taxpayers' bill across Europe proportionately. The losses are nominally born by the Eurosystem as a whole, but they are allocated to the NCBs in proportion to their ECB capital keys, which basically reflect country size. The NCBs, in turn, have to be recapitalised by either retaining profits, which otherwise would be distributed to the respective national treasuries or by outright capital injections from governments. In either case national tax payers foot the bill. Moreover,

should the Eurosystem break up, multilateral target liabilities may in principle turn into bilateral liabilities, de facto aggravating the situation of the creditors.²⁵ As long as the Eurosystem provides liquidity at a euro area wide fixed price to banks, the Target system can provide virtually unlimited credit to finance massive reshuffling of portfolios across borders, not to mention large current account imbalances.

The key problem highlighted by the above considerations is that the current state of the monetary union is not sustainable, as a mix of fundamental imbalances and confidence factors are creating increasing tension between the crisis countries and the rest of the euro area.

2.5 The rescue operations

As the sovereign spreads on government bonds grew high and volatile in crisis countries, and the balance sheets of the NCBs increasingly worsened, as shown in Figures 2.8 and 2.9, the ECB increased its pressure on euro area governments to help out with relief operations. There were several steps in this development.

Firstly, on 8/9 May 2010 a 110 billion euros package for Greece was agreed (80 billion euros from the European Union and 30 billion euros from the IMF). Other rescue mechanisms were also enacted. They included the EFSF, with a volume of 440 billion euros, the European Financial Stability Mechanism (EFSM), with a volume of 60 billion euros, which were basically funds available for the European Commission, as well as a 250 billion euro supplement from the IMF.

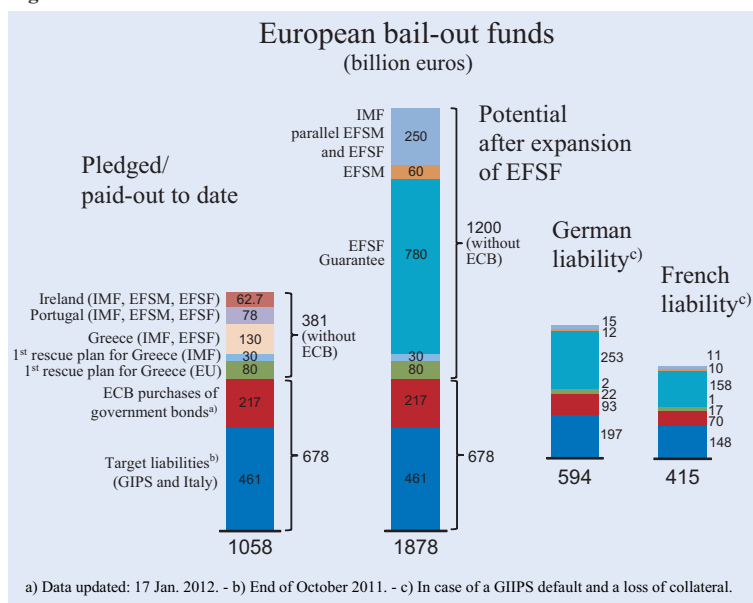
On 29 November 2010, a 62.7 billion euros package for Ireland was agreed, which was taken out of the previously agreed rescue facilities (IMF: 22.5 billion euros, EFSM: 22.5 billion euros and EFSF: 17.7 billion euros).

On 17 May 2011, a 78 billion euros facility for Portugal was agreed, to which the EFSF, EFSM and IMF each contributed 26 billion euros.

On 21 July 2011 the euro area leaders extended the volume of the EFSF from 440 billion euros to 780 billion euros in order to be able to effectively lend

²⁵ In the case of a non-cooperative break-up with default, however, since Target credit mostly corresponds to past capital inflows into the country, the creditor states may be tempted to seize foreign assets accumulated in their own financial systems.

Figure 2.10



440 billion euros. This required ratifications by all of the euro area parliaments, which were completed on 13 October 2011.

On 26 October 2011 a second bail-out package of 130 billion euros for Greece was agreed upon.

Figure 2.10 summarises the rescue activities, incorporating Target credits, up until October 2011 and ECB purchases of government bonds up until 13 January 2012. It is based upon the most recent data available at the time of writing. The first column shows the funds actually committed, and the second column the potential commitments, including IMF help and the enhanced EFSF.

The figure shows that the overall public credit volume granted to the GIIPS countries, as far as this can be determined to date (see footnote), has risen to 1,058 billion euros, and none of this credit has thus far been repaid. Interestingly enough, at 678 billion euros the ECB's implicit and explicit rescue operations are far bigger than the credit help granted to particular countries by the parliaments of the euro area, which totals only 381 billion euros.²⁶ However, as the second column shows, the potential overall rescue facility by the community of states and the ECB totalling 1,878 billion euros is much bigger than the sum granted to individual states up to this point.

²⁶ The help granted to a particular country includes the money conditionally promised, such as the money earmarked for Greece, provided Greece meets the conditions of the European Commission, the IMF and the ECB, the so-called 'troika'.

The third and fourth columns show the theoretical maximum liabilities that the current institutional setting would imply for Germany and France should (a) the GIIPS countries default and their collateral become worthless while (b) the euro as such continue to exist. In this case the German share in the ECB losses increases from Germany's statutory 27 percent to 43 percent, while the French share increases from 20 percent to 32 percent. This explains the respective dark blue and red portions of these columns. The remaining portions are explained by the potential maximum losses in the EFSF as laid down in the underlying treaty, the countries' respective

shares in the EU budget and the respective shares in the IMF budgets. At the beginning of 2012, the maximum total German liability amounted to 594 billion euros and the corresponding French liability to 415 billion euros. Of course, these calculations are carried out keeping other things equal: the economic 'Armageddon' brought about by a generalised default in the euro area will by itself create massive economic losses of a size that is difficult to forecast.

The size of the official packages agreed upon since 2010 is not small per se, but there is a clear reason why the piecemeal approach to the crisis adopted so far, in uncertain and contradictory steps, has provided no solution to the crisis. Addressing the crisis will call for a clear definition of the future financial and fiscal architecture of the euro area, as well as one that provides a clear sense of direction towards a sustainable single currency. It will also require decisive interventions in the short-term to stem destabilising confidence crises at their roots.

2.6 Reforming the EMU

The euro area's internal problems, with the emergence of large and volatile risk premiums and large balance-of-payments imbalances, have arguably arisen as a result of fundamental asymmetries across its borders, which have grown out of proportion due to massive underestimation of credit risk within the union before the eruption of the global crisis and the lack of effective correcting mechanisms since. The underestima-

tion of credit risk after the announcement of the euro introduction led to overly rapid and unfounded interest rate convergence and excessive capital flows, which, in turn, created inflationary bubbles, mispricing and excessive risk-taking in the periphery countries while arguably contributing to a stagnation in the core (see EEAG 2011). In some countries, this led to huge current account deficits and dangerously high net foreign debt positions, which undermined the creditworthiness of some countries (see Figure 2.6). In the case of Ireland, high public liabilities generated by the rescue of the banking sector combined with smaller, but non-negligible, external deficits made the national economy extremely vulnerable. The position of Italy, fragile because of the large stock of public debt, has further deteriorated with the global crisis, due to the atypical emergence of current account deficits in recessionary years, as a result of competitiveness losses.

When the US crisis swept over to Europe and capital markets became aware of the risks at stake, country-specific interest rates diverged and capital fled to the core in waves, starting from the smallest and more exposed countries. With a large current account deficit to finance, the periphery replaced the missing private capital with public credit that commercial banks were able to draw out of the Eurosystem masking or even fostering the imbalances that may ultimately threaten the stability and existence of the EMU as a whole.

The euro area urgently needs measures to correct the existing imbalances and reduce interest divergence and capital flight, enabling the system to return to a sustainable equilibrium. Achieving all these goals is extremely difficult, perhaps even impossible since a number of the proposed measures to provide short-term relief create difficult trade-offs and conflicts with desirable long-run equilibriums. Regaining competitiveness requires crisis countries to engineer real devaluations. But with a large stock of public and private liabilities denominated in euros, falling prices raise the real burden of debt, implying that fiscal stress may be rising in the process of disinflation. This suggests that relative price adjustment, which is bound to be painful and time consuming, must be combined with liquidity support. The risk inherent in this strategy is that, to avoid financial disaster now, the European Union will de facto accept open-ended support to countries that ultimately turn out to be insolvent. In this case, the tax payers in those countries giving the support will in the end face large costs,

which may lead to a political revolt that could kill the whole euro project as we know it. The risk inherent in the alternative strategy, avoiding open-ended support at all costs to 'save the euro' in the long run, is that it could – if the worst comes to the worst – lead to financial catastrophe now.

Another key issue concerns the creation of a common safe asset in the euro area. The immediate introduction of Eurobonds or other systems of collective liability would arguably provide short-term relief to periphery countries, but also effectively restore the distorted pre-crisis system of neglected investment risks within the euro area – a system which is likely to again lead to macroeconomic, current account and net foreign asset imbalances. Without a safe asset, however, the euro area would constantly be subject to massive and destabilising capital movements and flight. In addition, normal operations by the ECB would be constantly challenged by the lack of any clear distinction between monetary and financial stability on the one hand, and fiscal stability on the other.

Below we discuss the trade-offs on both accounts: correcting competitiveness with a large stock of debt denominated in euros, and creating a safe class of assets in the euro area.

2.6.1 Realigning relative wages and prices under a large debt denominated in euros

In the absence of open realignment possibilities by way of exchange rate adjustment, the most arduous task facing the euro area for the remainder of this decade is that of bringing its internal relative price and wage levels back to a sustainable equilibrium. Only such realignment will make it possible to reduce the euro area's internal current account imbalances and create the conditions for sustaining the internal debt that has accumulated so far. Indeed, for some of the crisis countries, reducing net foreign debt is ultimately the way to regain the full confidence of capital markets.

In principle, the necessary rewinding of the clock could be achieved via deflation in the periphery and/or inflation in the core. Both alternatives, however, will meet with high resistance. Inflation in Germany would undermine the country's acceptance of the euro and threaten the survival of any government tolerating it. The reason for this is well known:

given Germany's experiences with hyperinflation in the 1920s, even the remotest fear of inflation will trigger political resistance. Deflation in the periphery countries, which were used to high and persistent inflation even before the euro, will in turn require severe austerity measures that force the economy down with a degree of rigour that may well bring people onto the streets, and even threaten the stability of the political system.

A key problem is that national private and public debt is no longer denominated in a domestic currency, as it was prior to the introduction of the euro. In the 1992–93 crisis, any country that exited the European Exchange Rate Mechanism and devalued immediately became more competitive without suffering any adverse effect on the government and private debt situation. Today, any drop in domestic prices to regain competitiveness (or an exit from the euro area without changing external debt into national currency) would at the same time raise the burden of debt in relation to nominal domestic income. Thus, unlike previous episodes of realignment in Europe, the benefits from real devaluation are going to be tempered, if not offset, by its adverse balance sheet effects for firms and the government (Corsetti 2010, Krugman 2011b and EEAG 2011).²⁷ This problem is well known, especially in relation to the experiences of Latin American countries, where devaluations have been systematically associated with large contractions, financial crises and debt defaults.²⁸

Yet there are instances suggesting that it is not impossible to gain competitiveness via real depreciation that results from cutting wages and prices, or letting them inflate by less than in other countries. Latvia decreased its price level by 8 percent within only one year (2009Q1–2010Q1) after an internal wage moderation agreement had been achieved, and Ireland cut its price level by over 14 percent compared to its euro area trading partners over a period of five years (2006Q3–2011Q2), after its house price bubble burst.

In Latvia the government could count on at least three favourable features of the economy at the time of the internal devaluation. Firstly, public debt was small – hence the fall in the price level did not have a strong impact on the fiscal burden of the country, via the implicit rise in the real value of public liabilities.

Secondly, the country size is small, which made it easy to find a compromise between all relevant social groups. Thirdly, Latvia wanted to enter the euro area and knew it would jeopardise its entry chances with an open depreciation.²⁹ Nonetheless, a large external debt implied that real devaluation had strong negative wealth effects on private firms and households. Latvia accepted a 20 percent decrease in its real GDP. In the case of Ireland, the prospects of a successful devaluation were enhanced by productivity growth and the existence of a manufacturing sector that quickly recovered as it was able to sell at lower prices.

Germany also depreciated by 22 percent against its euro area trading partners in the period from 1995 to 2008, as shown by Figure 2.4. This process coincided with a period of stagnation, unemployment and outflows of capital. Only 3 percentage points of Germany's real depreciation were due to exchange rate adjustment before the currency parities were fixed within the euro area. The remaining 19 percentage points of the country's depreciation were due to pure price adjustments within the euro area, with most of the gains coming from higher price dynamics abroad, rather than price compression at home.

Unfortunately, the crisis countries are not in the same position as Germany. Firstly, given the definition of price stability by the ECB and the long tradition of low inflation rates in Germany, it will be difficult to trim domestic inflation significantly below the euro-area level to regain competitiveness. Secondly, since they are borrowers rather than lenders, they do not have the time for a gradual adjustment of more than a decade.

While there is some uncertainty about the size of the adjustment, the realignment required by Greece and Portugal is likely to be much larger than that needed by Ireland. Their pre-crisis current account deficit-to-GDP ratios were about three times as large as Ireland's. EEAG (2011) estimated that Greece would need a real depreciation of between 16.5 percent and 33 percent.³⁰ OECD purchasing power parity estimates suggest that Greece would need a depreciation of 31 percent to reach the price level of Turkey,³¹ a country that enjoys similar specialisation advantages. Of course, a slightly higher inflation target for

²⁷ For an extensive discussion of this problem see in particular EEAG (2011), Chapter 3.

²⁸ On that continent it is commonly dubbed 'original sin', to stress the profound macroeconomic consequences of being unable to borrow in domestic currency.

²⁹ Prime minister Valdis Dombrovskis in a speech given to the Munich Economic Summit, May 2010.

³⁰ See EEAG (2011), p. 119.

³¹ According to OECD purchasing power parity for GDP (see OECD online database http://stats.oecd.org/Index.aspx?datasetcode=SNA_TABLE4).

the ECB, which we have argued in favour of in earlier reports, would bring some relief.³² However, any relief provided via this channel will necessarily be quite limited.

Remarkably, although the European economy has been in crisis for several years now; there is, with the exception of Ireland, little sign of any real depreciation to date in the crisis-hit countries; or if the process has begun, its impact has been minimal according to the data available at the time of this writing. Looking at the GDP deflator, the measure of the price level for domestic output, Spain depreciated by only 0.5 percent and Portugal by just 0.3 percent from 2008 to the second quarter of 2011. Greece appreciated by 1 percent, while Italy appreciated even further by 1.4 percent. As previously, all data refer to changes in the GDP deflator relative to the respective euro area trading partners.³³ Stronger depreciations will have to be realised in the years to come.

An argument often put forward in political debate is that the crisis countries should be able to 'grow' out of their foreign debt problems, rather than overcoming them by way of real depreciation. Unfortunately, this argument does not hold, in particular if 'growth' is supposed to be generated by deficit spending and loose public budget constraints (a definition often adopted by politicians when speaking of the need to foster 'growth').³⁴ In this case, more demand would come at the cost of larger government debt accumulation. Moreover, without real depreciation, economic recovery tends to increase imports. The trade deficits, which in all crisis countries except Ireland have been contributing to the current account deficits, are therefore most likely to increase, resulting in further accumulation of foreign liabilities in that case.

Sweden in the early 1990s, discussed in Chapter 4, provides a vivid illustration of the importance of real exchange rate depreciation and net export growth in order to come out of a sovereign debt crisis without a long period of stagnation. Given that a realignment of exchange rates is not possible, periphery countries will have to go through a period of diminished nominal income growth, if not nominal income shrinkage, to correct unsustainable domestic and foreign debt levels. This will be necessary to strengthen the competitiveness of their exports and keep their imports down.

³² See e.g. EEAG (2003), p. 42, or EEAG (2006), p. 36.

³³ See European Commission (2011).

³⁴ Productivity growth would instead be useful, as it would enable real depreciation to take place without wage and income cuts.

It could be that some countries with excessive realignment needs will find it too difficult to go through the real depreciation required within the euro area and may contemplate the option of leaving the euro area and reintroducing a national currency that is allowed to depreciate against the euro. Sometimes this possibility is discussed in terms of a temporary exit ('taking a sabbatical from the euro'). In our view, it is essential that the decision of whether or not to stay in the euro area be left to individual countries, and should not automatically imply that these countries also have to leave the European Union.

An exit from the euro would make the currency denomination of debt contracts within and outside the country an even larger issue, since a large and quick depreciation would amount to a correspondingly large increase in the value of debt in terms of domestic output if the debt remained denominated in euros. However, as we pointed out in EEAG (2011), Chapter 2, an essential advantage of an external depreciation after exiting the euro consists in the automatic redenomination of the internal bank debt of private agents. With both an internal and an external devaluation, balance sheets would be distorted to the extent that agents hold foreign debt, but only an internal devaluation with falling domestic prices would aggravate the position of companies as their real assets would lose value, while their bank debt would remain unchanged.

Changing the denomination of the external debt would, in principle, be desirable, but is technically more complex, and arguably has greater consequences. In the euro area, public debt contracts are written under national law, but external private debt is written under foreign law. At least for private contracts, the burden of the external debt cannot be lowered by nominal depreciation. In any case, experience with country defaults suggests that countries depreciating their external debt might be bracing themselves for years of limited access to international financial markets, and may encounter high risk premiums.

A default would, of course, be a huge burden for the creditor countries, which would have to write off some of their claims. If only Greece and/or Portugal were to default, this burden would be relatively small and surmountable. However, there is the risk of further bandwagon effects and destabilising expectations which, if not contained, would impose negative externalities on other countries by causing bank runs and large-scale bankruptcies by financial institutions like

pension funds and insurance companies. This could trigger an economic crisis, which could potentially result in a deep international contraction. The political ramifications for the euro project, and hence for the future of the European Union, are impossible to predict.

The euro area therefore has the choice between Scylla and Charybdis. There will either be a prolonged period of pain, stagnation and internal political friction in the periphery countries or a financial and political crisis in the euro area that challenges its very existence. While we are unable to choose between these options, we recommend that the euro area countries and the ECB make active efforts to keep crisis-stricken countries on board by providing liquidity support to help them overcome their internal problems and to carry out the reforms that would facilitate the process of real depreciation, such as increasing labour market flexibility, liberalising firm entry and exit and privatisation. This support must not, however, be open-ended and turned into large transfers of resources between solvent and insolvent countries in the euro area. This raises yet another dilemma. A situation could emerge whereby Europe has to choose between government debt restructurings for several countries with potentially devastating effects on the financial system and a deep downturn in the short run on the one hand and massive transfers which may not in the end be politically viable and which may threaten the political cohesion of the euro area on the other.

EEAG (2011), Chapter 2, specified a detailed crisis procedure with well-defined support for the affected countries, distinguishing between liquidity crisis, impending insolvency, and full insolvency. Basically, we emphasised the need to provide generous liquidity help (of the kind provided by the Eurosystem or the rescue funds) to countries that have reasonable prospects of overcoming a crisis for a fixed period of two years to complement reform efforts and policy corrections. If liquidity turns out to be insufficient, or if the realignment needed is too large for the country, the report emphasised the need to offer help with a gradual process of debt restructuring.

We argued that, year by year, the then maturing government bonds could be subjected to a haircut of up to 50 percent and be converted into new government bonds secured at a rate of 80 percent by the community of states (with a limit for the accumulated guarantees and public loans of 30 percent of GDP). In

economic terms, this proposal boils down to insuring a country's creditors against default, albeit with a deductible: the first 60 percent of a potential default loss is born by the creditor, and the remaining 40 percent is born by the community of states, if necessary. The main idea of the proposal is to specify implicit upper bounds on losses incurred by creditors in order to limit the interest rates that states would have to pay for new government debt and to facilitate access to capital markets.³⁵

While problems of credibility of the rules affect many of the proposals for restructuring mechanisms, including ours, it is worth noting that any 'fiscal compact' which simply denies the possibility of a large crisis in some regions of the union, and hence does not foresee the procedures to deal with it, is incomplete, ineffective and dangerous. In practice, such a 'fiscal compact' will, at best, amount to a replay of the same, failed approach of the Maastricht Treaty, with an overdose of wishful thinking. This is all the more so as it was agreed at the EU summit launching the fiscal compact that the earlier decided write-down of the Greek debt should be regarded as unique and exceptional, and that voting procedures within the ESM which is to replace the EFSF are to be changed so that decisions on financial support no longer requires unanimity but only a qualified majority.

At the time of writing, serious reform efforts are underway in the crisis-hit euro area countries. These efforts need to be sustained and complemented at a union level, avoiding politically unpalatable transfers, but without sparing help with liquidity for a well-defined time span when fundamentals justify it. Most importantly, it is necessary to rapidly reach a consensus on a desirable and sustainable institutional reform for the euro, providing a much-needed sense of direction for individual countries.

2.6.2 Euro-standard bills

Even in recent years, when credit risk was no longer underestimated, the institutional setup of the Eurosystem has maintained a fundamental dichotomy between government bonds and private assets that

³⁵ The effect this has on interest rates depends on when default is expected to take place and the maturity of the bond. Consider a ten-year bond and a probability of default of 50 percent. If default is expected to occur in ten years and thus only on the principal, a spread of less than 3 percentage points is needed to compensate for the default risk. If default is expected within a year, the spread is about twice as high.

bear a national risk premium, and ECB funds that are available to all countries regardless of their creditworthiness and default probabilities. As discussed at the outset of this chapter, this implies that, as investors may massively move from the riskier to the safer national assets within the euro area, the effective interest rates that countries have to pay for ECB refinancing credit are lower the higher the default probability is for local banks and the lower the collateral these banks provide to their NCBs. As long as ECB lending does not account for market risk premiums, the usual brake in the system is missing and capital flights can become extremely large. Section 2.4 looked at the alarming capital flight that has taken place from the crisis countries in recent years.

The ECB has addressed the crisis with a growing number of non-standard interventions and by reducing collateral requirements (see Table 2.1). Recently, it even offered a tender for three-year refinancing credit amounting to almost 500 billion euros.³⁶

These measures constitute an attempt to stimulate real private investment financed with borrowed funds and bank purchases of government bonds. In other words, they are motivated by the desire to reduce the consequences for the private and public sector of an increasing level of sovereign risk. Yet, unless concrete reforms take place simultaneously that improve the country's credibility in the eyes of the markets, the ECB policy runs the risk of becoming an attempt to fill a bottomless pit.

In reforming the architecture of the euro area two mistakes are to be avoided. The first mistake consists of creating artificial conditions leading to a mispricing of credit risk. The damage done by years of risk underestimation is clear not only in the euro area, but also at a global level. A homogenous Eurobond, or blanket cross-border guarantees for national debt (even if they were feasible) would not be a good idea for the reasons explained in some detail in EEAG (2011) and reconsidered above. Compressing credit risk creates mechanisms that favour the emergence of large imbalances within the euro area. With imperfect policy credibility, confidence factors may nonetheless lead to disruptive pricing spirals, eventually undermining public and private debt sustainability due to self-fulfilling expectations. Creating an institutional

system capable of stemming confidence crises is consequently a priority for the new architecture of the euro area.

The second mistake consists of overlooking a fundamental requirement for the smooth working of a monetary union, namely the existence of a class of assets sufficiently homogenous to provide the common safe assets in the area, required for monetary operations and any kind of exchange requiring safe collateral.

Let us consider possible benchmarks for a reform, starting with a review of the US system. Unlike the European Union or the euro area, the United States is a federal state with a common legal system and other tools to enforce central rules to be obeyed by local states. The federal government has complete power over a very large share of fiscal resources, both on the taxing and the spending side. The bills and bonds issued by the federal government are the safe assets at the core of open market operations by the central banks, and provide the ideal instrument for collateralised transactions at both a private and a public level.

The US Federal Reserve System is comparable to the Eurosystem of central banks. The US system is split into 12 districts, each with its own District Federal Reserve Bank, or 'District Fed'. Each district is of a size comparable to that of a state in the euro area, but the districts bear no geographical or legal relation to US states. In fact, the District Feds are owned by private commercial banks. If residents of one district want to purchase goods and assets in net terms from other districts, Target-like liabilities are bilaterally booked in the Interdistrict Settlement Account with regard to those District Feds where the money is flowing to. Unlike in the euro area, the Target-like liabilities have to be settled once a year (every April) with marketable assets. These marketable assets are held in a clearing pool administered by the Federal Reserve Bank, and according to the net liabilities that have built up; the ownership shares in the clearing pool are reallocated between the District Feds. The interest income earned by the pool of assets is reallocated accordingly. Before the crisis, these assets used to consist of gold-backed Treasury Bills of the highest quality. During the crisis, and in conjunction with the adoption of non-standard policies, Asset-Backed Securities (ABS), which are of lower quality but pay higher yields, were also included in the clearing pool.

³⁶ This was the largest infusion of credit by the ECB into the banking system to date and met high demand albeit hardly increased net liquidity provision by the ECB as, at the same time, it crowded out main refinancing operations and was accompanied by a substantial increase in the use of the ECB deposit facility.

The need to settle Target-like balances with marketable assets has arguably provided a brake preventing the accumulation of major cross-district imbalances in the US system to date, because the banking system of a district reaps no advantage by drawing a Target-like credit, given that its interest cost is the same as that charged by the local commercial banks for borrowing the funds in the interbank market. If the residents in a district want to acquire goods or assets in net terms from other districts, they must sell an appropriate amount of assets in exchange (including the 'sale' of certificates of debt or debentures). In Europe, Target liabilities do not have to be settled; they may stay on the books and cannot be called due by the NCBs holding the Target claims. The interest on these liabilities is the ECB's main refinancing rate, which is substantially lower than the interbank rate for the crisis-hit countries. At the time of writing, for example, the ECB refinancing rate is 1 percent, while the interbank lending rate to Italian banks is around 5 percent (and Italian government bonds offer yields of about 6–7 percent due to their longer maturity).

There is, of course, in principle nothing wrong with preserving the central bank's ability to pursue explicit policies of liquidity support to banks, whether this liquidity support gives rise to accounting records in Target, or simply substitutes intermediation between two German/French/Dutch banks in trouble. The US example does not highlight any need to limit the ECB's capacity to use certain instruments, when there are good reasons for using them.

The main lesson to be learnt from the US concerns the smooth working of a common monetary policy and payment system, distinguishing ordinary operations from non-standard operations. This problem lies at the heart of a desirable reform of the euro area architecture, where the ECB council is currently deciding on monetary policy and accepting assets with quite different risk and prices as homogenous collateral, with discounts that do not reflect market discounts. Both the conduct of a single monetary policy, and the virtuous coexistence of independent states giving rise to country-specific risk, requires the creation of a class of assets with prices that are, to a large extent, insulated from local imbalances.

When considering an initiative of this dimension, the creation of a Eurobond would be consistent with the creation of the euro. A Eurobond would guarantee the same interest rate for all euro area countries and would gradually bring all of them into the same rat-

ing category by converting their outstanding old debt into Eurobonds. In the end, government bonds would have an interest rate that differs from the ECB refinancing rate only by the difference in maturity, making the arbitrage incentive disappear.

However, unlike in the United States, the coexistence of independent states in the euro area implies that a homogenous Eurobond with a single interest rate for government bonds would distort the pricing of risk, creating an incentive to over-borrow and over-lend. The allocation of capital in the euro area would be determined by a common institution mutually guaranteeing the investment of distinct individual borrowing states. The perils of this approach are highlighted in EEAG (2011) and shortly discussed again in Section 2.3 of this chapter: these consist of distorted allocation of capital and production, affecting growth and welfare across borders, as well as hampering growth at the aggregate euro area level.

Even if, one day, the euro area were to become a common political entity with the requisite legal and actual enforcement devices, a Eurobond enabling individual states to borrow at the same interest rate would not be advisable. Surely, the common European state would have to possess the right to borrow itself, but that would not be the same as Eurobonds. After all, even the United States has no instrument that would allow individual states to borrow at the same interest rates. Apart from worrisome implications for the redistribution of wealth risks and interest costs among the current European nations, which are likely to give rise to political conflict, policies that equate the interest rates for government bonds create incentives to increase public debt levels (and indirectly private debt levels), de facto re-establishing the pre-2008 situation, whereby the convergence of interest rates caused a misallocation of resources in the euro area. The countries benefitting from low interest rates are likely to pursue expansionary fiscal and financial policies, rather than using the interest advantage to finance structural reforms in the economy and ensure a sustainable path for their public finances. The danger of cross-country imbalances, large capital movements sustaining uncompetitive equilibriums and persistent current account imbalances will once again be high.

Before the United States was able to solve this problem it underwent a difficult period of state defaults in the nineteenth century, which ultimately made it clear that no interstate rescue programs would be available.

This experience then led to the formulation of strict budget rules, limiting the state debt to a minimum. We are afraid that Europe will also have to suffer painful experiences before the requisite fiscal discipline can be achieved. In the wake of the EU Summit on 8 December 2011 in particular, the euro area countries are trying to limit the problem of excessive public borrowing by introducing a fiscal union with political controls over state budgets based on the idea that the ultimate roots of imbalances are fiscal.³⁷ While this may seem reasonable and in keeping with the tradition of the euro's institutional development, it is hard to believe that, having failed in the past, the same approach will work in the future.

On the one hand, there have been multiple sources of imbalances: some of the countries now facing financing external debt problems actually used to run low public deficits and low public debt-to-GDP ratios in the first few years of the euro. On the other hand, the key problem is that it is not possible to set the debt constraints in stone and enforce automatic correction mechanisms. Thus, while the agreements of the EU Summit of December 2011 are to be welcomed in the sense that they re-establish, at least partly, an agenda for stronger ties within Europe, they may not take us very far on their own. Even if member countries do write debt constraints into their constitutions, it is doubtful that this constitutes a safeguard against a violation. After all, some euro area countries do not even have a Supreme Court that could enforce such constitutional rules, while others give their citizens only limited possibilities to appeal to the Supreme Court.

The concrete danger is that the failure of the Stability Pact in the past will merely be repeated. There are two strong reasons to believe that this would indeed be the case. Firstly, although sanctions (fines) are intended to become automatic, a qualified majority can subsequently still stop them. Hence, these decisions are still *political*. Past experience shows the unwillingness of finance ministers to punish their peers, which is easy to understand, as each finance minister realises that s/he may be in a similar situation in the future, making lenience with sinners a good investment in the future. Secondly, a fine, which a country can borrow to pay for and then hope to be bailed-out by others, is not a very frightening disincentive to irresponsible behaviour.

³⁷ See European Council (2011b).

It is therefore highly probable that the fiscal compact does not go far enough in combining massive support to crisis countries with a monetary union that is sustainable in the long run. A more ambitious fiscal compact, transferring sanction decisions from the political to the judicial sphere (the European Court of Justice) as we suggested in our 2003 report, along with the introduction of non-pecuniary sanctions, such as loss of voting power in the Council, would ultimately be required.³⁸ However, such developments appear highly unlikely in the foreseeable future.

Europe obviously needs a true fiscal compact. Without it, no currency union with independent states is possible, especially in a situation where, as a result of the crisis, virtually all European states have experienced an increase in their debt. Once debt become unsustainable in a large region within the euro area, the pressure on other member states to come up with rescue packages involving more than liquidity support (as well as on the ECB to monetise public debt) – although in violation of the no-bail-out principle – is bound to become very strong. This course of events could sow discord and disruption in Europe.

The alternative of moving towards a US-like system seems more likely to provide stability in the long run. A major pillar of such a system would be a class of homogenous short-term assets providing the common collateral for monetary policy and the annual cross-border settlement of Target balances. The need to settle the Target credit with the safe asset would eliminate the automatic provision of subsidised credit via the payment system, without, of course, preventing the possibility of providing credit via other forms of interventions. This is likely to create a disincentive for countries to draw Target credit, and for leading private banks to offer higher interest rates for (international) interbank loans. In that way, the proposed arrangement would work against capital flight, instead of stimulating it.³⁹

An important question, however, is how to construct such a class of homogenous short-term assets in the absence of a strong and large federal fiscal system without, at the same time, violating the 'liability prin-

³⁸ See EEAG (2003), Chapter 2, Calmfors and Corsetti (2003) and Calmfors (2005).

³⁹ Please note, however, that enforcement is also likely to become an issue here. What if an NCB is not able to settle its Target credit with safe assets in a time of crisis? Would it be excluded from ECB credit lines? This seems unlikely. However, it would likely make the NCBs more cautious in providing liquidity against bad collateral. If inter-governmental rescue operations came as a replacement for Target credit, political decisions would be more open, transparent and discretionary rather than concealed, intransparent and automatic.

ciple"? Most proposals for Eurobonds or Eurobills are motivated by precisely this question; indeed, they explicitly recognise the need to avoid the cross-subsidisation of the risk of independent jurisdictions within the euro area.⁴⁰ They tend to either limit the amount of Eurobonds or Eurobills that a country can issue in terms of its GDP, or earmark tax revenues, de facto giving the community instruments a senior status. The main idea of these proposals is to approximate the US architecture, by creating the analogue of US federal bonds via a set of guarantees and collateralised borrowing, a possibility difficult to envisage unless a common European state is formed.

Following this very logic, however, there is a simpler and arguably more practical way to pursue the same goal that avoids the risk of over-borrowing when creating a joint liability. The idea is as follows: each country issues short-term treasury bills satisfying strict common standards, which are to be jointly supervised, so as to share the same risk profile. These bills would be collateralised with future tax revenue or real estate and standardised. Although each state would still retain full responsibility for servicing its own debt, in the new regime these nationally differentiated bills with strict common standards would trade within a few points from each other, providing the common financial asset for the ordinary operations of the ECB. They could also be used as collateral to settle financial flows between private agents.

Governments would retain full responsibility for servicing the bills. In fact, they would be committed to service them in full, before ordinary government bonds could be serviced. With such a new fiscal compact, these national bills, which could be dubbed 'euro-standard' bills, would circulate together with ordinary bonds, both priced by the markets. No government should be allowed to issue more 'euro-standard' bills than an amount consistent with the expectation that the issuing state itself will be able to service them, which for transparency's sake could be set as a limit in percent of GDP. Country-specific risk would thus primarily drive the price of ordinary bonds, providing at the margin the right signal and incentive to governments to take corrective actions should they stray from the path of debt sustainability. The risk of a state-specific bankruptcy giving rise to interest premiums would not contain any implicit borrowing subsidy as potentially implied by a Eurobond system.

A sufficiently large pool of bills with similar characteristics would make it possible to draw a clearer distinction between standard monetary policy operations, cross-settlement, and non-standard operations in support of the payment and financial system. In a system whereby, having learnt the lessons taught by the current crisis, European governments apply more rigorous principles of policy sustainability, it is not inconceivable that euro-standard bills would circulate widely and become highly substitutable for each other.

Several fairly complex issues would have to be tackled in the transition to such a new institutional setting. There are well-known problems related to diluting existing debt instruments by introducing new ones with seniority status. The fact that we suggest short-term bills rather than long-term bonds will limit this danger and make it possible to define exceptions from the so-called 'negative-pledge clauses' that prevent countries from issuing bonds senior to those already circulating in the market. These transition issues are common to other, related proposals.

Euro-standard bills are not a solution to all of the challenges currently faced by the countries in the euro area. For instance, they provide no vehicle for creating a cap on interest rates to stem an expectations-driven crisis. Their introduction could nonetheless favour the process of rebuilding policy credibility that in some European countries, most notably Italy, has primarily affected the interest rates paid on debt instruments with short maturity. It could also be combined with other schemes, and eventually ease the transition to forms of closer fiscal integration.

2.7 Conclusions

The euro was primarily and essentially a political initiative, motivated by the ultimate goal of enhancing pacific coexistence and prosperity in Europe after the horrific experiences of two world wars. This ultimate goal is invaluable. The method followed to date to achieve this goal, however, may have created the premise for a major setback.

European integration has proceeded by pushing forward incomplete institutions that readily become dysfunctional when confronted with rapidly changing economic reality. From a treaty comes a crisis, which leads to a new treaty, or a patch-up of the old one. Technical glitches and mistakes are either not under-

⁴⁰ Brunnermeier et al. (2011) and Hellwig and Philippon (2011).

stood by the governments signing the treaties, or perhaps ignored, with the idea that political agreements can always find a way out of a crisis. This method is acceptable as long as the rules are not too dysfunctional, and there is a model of adjustment that works.

The question is whether the economies adopting the euro locked themselves into a system with no feasible adjustment mechanism. As a result of the capital flows the euro triggered, countries in the core of the euro area have run surpluses and have maintained low inflation, and countries outside the core have run deficits, or have large enough debts to be easily pushed into unsustainable macroeconomic dynamics. The euro was introduced at a time when credit risk was utterly under-priced at a world level, and this contributed to under-pricing in Europe. In a similar way that low income, unskilled people in the United States could easily obtain mortgages to buy homes, governments and households in the periphery of the euro area could tap international financial markets. The result was a build-up of explicit and implicit liabilities, accompanied by inflation differentials that amounted to a major misalignment of prices.

To correct these misalignments, periphery countries will have to become more competitive by becoming cheaper. However, this would mean that these countries' debt levels will increase in real terms. As for Latin American countries burdened by dollar-denominated debt, or for Baltic and Central European states burdened by euro-denominated debt, a devaluation creates destabilising balance sheet effects. For all practical purposes, from the vantage point of each country in the union, the euro is a foreign currency.

When the global crisis hit in 2008, internal imbalances led markets to question the stability of the periphery, accelerating the process whereby brewing tensions turn into a full-blown disruptive economic storm. Massive capital flight forced governments to raise the interest on their debt and induced commercial banks to draw refinancing credit from their NCBs, planting the seeds of controversial fiscal issues in the event of a break-up.

The situation in the euro area has been allowed to develop into such a deep crisis that there are no easy solutions to it. Instead, very difficult trade-offs may have to be made. Providing large-scale help to the crisis-hit countries can avoid an immediate financial crisis, but entails large risks if liquidity problems turn out to be solvency problems, as this will imply losses

for tax payers in the countries footing the bill. Such losses could lead to a political reaction in these countries, killing support for the euro in the long-term. Internal devaluations in the crisis-hit countries will be long and painful, and risk creating political resentment against the European Union. Although the consequences are difficult to predict, the exit from the euro area of a crisis country such as Greece could speed up adjustment in that country, but is likely to exacerbate the situation for others. Closer fiscal integration is a way of enabling massive support for crisis countries, but the fiscal compact does not deliver it and political support for true fiscal integration is unlikely in the foreseeable future.

Systems that effectively discipline Target credits are good for the future – making support decisions become more transparent and discretionary – but it is less clear what implications they have in the short run. By having the ECB no longer offer credit at below-market interest rates to countries facing capital flight, on the one hand, monetary conditions in these countries would be more restrictive, deteriorating overall demand. On the other hand, it would increase incentives for private capital from abroad to invest in these countries, thereby reducing capital flight and fostering overall supply.

The development of the euro crisis is impossible to forecast. Our hope is that the euro area will be able to 'muddle through', but we fear that the process will, at best, be long and painful. At worst, policymakers will face a situation whereby they have to choose between massive interventions, which could prevent an immediate financial crisis, but lead to the euro's demise in the long run because of its political ramifications, and a stricter stance, which could be viable in the long run but may lead to an acute financial crisis and deep economic distress in the immediate future.

In this chapter we have attempted to define a feasible solution to the problem of creating a class of highly substitutable, high quality assets to carry out day-to-day monetary policy and keep the payment system running smoothly. This is one element for the euro area's continued survival. Anticipating the economic problems associated with a common Eurobond, our proposal is to introduce *euro-standard bills*, issued by each government, and for which each government will be solely responsible. These bills, however, will satisfy strict requirements that each state will commit to enforce, subject to joint supervision, with the

new fiscal compact. Once the regime is in place, these new assets, collateralised and with seniority status, should trade within a few points of each other. They can be used for refinancing operations and the international settlement of Target balances. By bringing the Eurosystem closer to its US Federal Reserve counterpart, the proposed euro-standard bill system would contribute to monetary and financial stability in Europe.

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