
The Eurozone Crisis and the Competitiveness Legend*

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Abstract
To come

I. Introduction

The crisis that has immersed the Eurozone since late 2009 is sometimes seen as vindicating the early skeptics. In Asia, the crisis cast a dark spell on efforts at monetary integration that followed the 1997–98 crisis. Jumping to such a conclusion requires an analysis of what has gone wrong. Similarly, treating the crisis requires having first reached a diagnosis. Surprisingly, perhaps, there is no agreement on the diagnosis. In fact, the conventional wisdom is that the crisis has been driven, in part at least, by competitiveness losses in periphery countries, which led to unsustainable current account imbalances. This view has been widely adopted by many officials and academics and is routinely presented in the media.

* This paper was supported by a PEGGED grant from the European Commission. I thank Sergio Sola for research assistance and the participants at the September 2012 Asian Economic Panel meeting in Lund for interesting comments and suggestions.

The main goal of this paper is to show that this interpretation is misleading and based on a faulty use of data. Whatever happened to external competitiveness and current accounts has been a consequence, and a side show, of excessive spending in some countries. Excessive spending, in turn has different causes in different countries: unsustainable fiscal policies in some countries (Greece, Portugal) and housing bubbles fueled by unsustainable credit growth elsewhere (Ireland, Spain). For the Asian debate, the lesson is that the quality of domestic policy management—macroeconomic policies but also policies concerning the financial sector—becomes crucial for monetary integration as interdependence rises. This is a lesson that will not surprise readers of McKinnon (1991).

The misleading narrative goes as follows. High inflation coupled with a common currency has made some countries uncompetitive, which next led to external deficits. Facing the need to bring their inflation rates below those of the rest of the Eurozone, these countries have had to accept slow growth. Slow growth, in turn, has resulted in a deterioration of already unsustainable budget deficits. Markets rightly concluded that the situation would not be manageable, hence the crisis. The key structural weakness was the impossibility of using exchange rates to mitigate the adverse effects of the unavoidable adjustment. Seen from Asia, this view translates into a stern warning against attempts to fix exchange rates or even to seek regional exchange rate stability.

The competitiveness narrative, however, combines two analytical limitations. First, it does not explain why inflation has been higher in some countries than in others; in essence inflation is taken as exogenous, which is not convincing. A complete analysis must include an explanation of inflation differentials. Second, it confuses simultaneity and causality. Inflation, current account deficits, and budget deficit increases in some countries do not tell us anything about whether inflation caused external and/or budget deficits, or the other way round, or whether some additional exogenous evolution affected all these variables simultaneously.

The competitiveness view matters because it has led to influential policy recommendations, some of which have been implemented already. Thus labor costs are being slashed to claw back lost competitiveness. A more radical policy implication is that, given the size of the gap, some countries will not be able to recover competitiveness, so they would be better off leaving the Euro Area and depreciating their new currencies. The first prescription accepts prolonged social misery, the second one advocates for actions that are certain to provoke deep turmoil with incalculable consequences. Such drastic policy implications run against the salt of economics as a field designed to improve welfare. Of course, tough adjustment is sometimes unavoid-

able but one would expect that such policy prescriptions be based on actively investigated evidence, not superficial observations. This is reminiscent of the programs imposed on Asian countries during the 1997–98 crisis.

This paper argues instead that the crisis originated and developed because public and/or private debts had become a legitimate source of concern. Inflation differentials and current imbalances did build up, but they were the predicted manifestation of the Walters critique.¹ According to this view, countries that started with above-average inflation rates faced lower-than-average real interest rates once nominal rates converged as implied by the adoption of a common currency. Low, even negative, real interest rates in turn encouraged a credit boom, which boosted private spending, a first source of current account deficits. The credit boom was predictably followed by a bust and the need to bail out banks, which led to large public debt increases. In other countries, budget deficits emerged, largely in an exogenous fashion. The end result everywhere was the perception that public debts had become unsustainable. The absence of a reliable lender of last resort convinced markets that some countries were likely to default, hence the sovereign debt crisis.

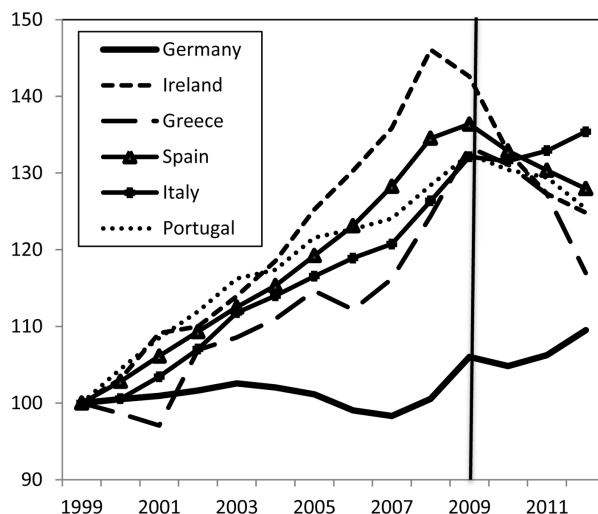
The paper is organized as follows. Section 2 lays out the facts, showing that different measures of competitiveness led to different results. In particular, it argues that the familiar comparison of the evolution of labor costs since the creation of the euro is particularly misleading. Section 3 decomposes the evolution of effective exchange rates country by country, to conclude that the nominal appreciation of the euro explains most of remaining overvaluations. Section 4 informally deals with the identification question: What is exogenous and what is endogenous? Given the short period since the creation of the euro, formal causality tests are impossible. Indirect evidence supports the view that labor costs have responded endogenously to the demand shocks that led to the Euro Area crisis. The concluding section briefly recaps the main results.

2. The facts

The widely held view that some euro area countries face a serious loss of competitiveness is entirely and uniquely based on one version or another of Figure 1. The figure displays nominal unit labor costs $U = WL/Y$, where W is nominal compensation per employee, L the number of employees, and Y is real GDP. It shows a widening gap until 2009, the year when crisis pressure built up (indicated by the vertical line). Nominal comparisons are justified by the fact that the countries share the same

¹ For an evaluation of the Walters critique, see Mongelli and Wyplosz (2009).

Figure 1. Unit labor costs in Germany and in the crisis countries (index: 1999 = 100)



Source: AMECO online. European Commission.

currency, which is seen as implying that bilateral cost comparisons offer an accurate picture of relative competitiveness. This figure has led to an almost universal conclusion that the crisis was caused by a loss of competitiveness in the southern Euro Area countries. Is this diagnosis as compelling as it looks?

A direct comparison of nominal labor costs raises two different questions. First, how can the evidence be interpreted? Does the evidence matter because it is an exogenous shock? Second, is the comparison meaningful or should we be looking at more refined concepts of competitiveness?

Regarding the first question, labor costs can be seen as exogenous and meaningful within the Euro Area if goods markets are well integrated and labor markets are segmented. This assumption is only superficially reasonable. It is true that labor market institutions are deeply national, involving domestic trade unions and wage bargaining processes driven by domestic factors, both economic and political. Wage bargaining, however, is known to be deeply related to economic conditions in general (see, e.g., Mortensen and Pissarides 1994). This has been shown to imply, among many other things, that goods market integration has effects on labor markets, even if the overall impact depends on a myriad of factors, as surveyed in Bertola (2008), which also looks at the various effects of adopting a common currency. The effects may also change over time as national labor market institutions endogenously respond to changing conditions (see, e.g., Calmfors 2001). These con-

siderations suggest that the co-movements apparent in Figure 1 are not necessarily exogenous and need to be explained. They also provide some clues to the rapid reversal observed after 2009.

The second assumption is clearly unacceptable. It implicitly amounts to claiming that the Euro Area countries only compete with each other. While intra-Euro Area trade often represents the largest part of overall trade, individual countries have different specializations and trade with different parts of the world. It also ignores the fact that the evolution of the nontraded goods sector, where much of wage slippages have occurred, has little to say about external competitiveness. These two arguments suggest that nominal labor costs do not tell us much about external competitiveness. Ideally, we would like to look at each country real effective exchange rate (REER) measured by comparing the domestic traded good price index and an index of average traded good prices in the partners countries converted in domestic currency when these countries are not part of the Euro Area.

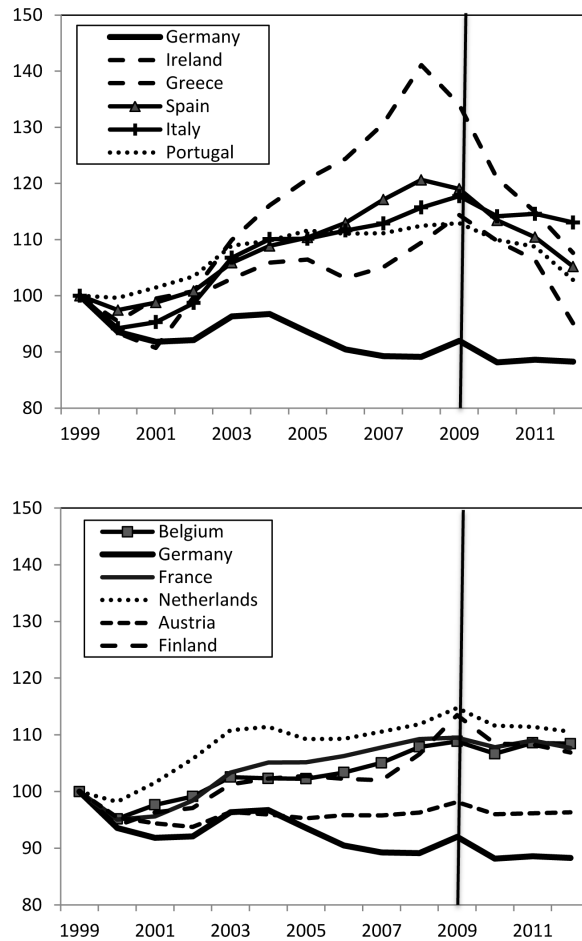
Lack of internationally comparable traded goods price data precludes the use of such a REER, unfortunately. This paper therefore sticks with nominal labor costs but relies on a REER that compares each country's costs to average costs in its partner countries, including those outside of the Euro Area. Figure 2 accordingly presents REER for each country based on nominal unit labor costs EU/U^* where E is the effective exchange rate of a country, U its nominal labor costs, and U^* the average unit labor costs in partner countries, using the same geometric weighting schemes for E and U^* .² The leftmost chart presents REERs of the crisis countries and the rightmost chart presents those from the largest remaining countries using the same scale for comparison purposes.

Figure 2 seems to confirm the evidence suggested by Figure 1, because an important gap emerges after 1999 between the crisis countries and Germany. The figure, however, suggests that REERs have depreciated considerably after 2009 and are almost back to their 1999 levels. The reversal suggests that labor markets are considerably more responsive than hitherto believed and that exit from the Euro Area is hardly warranted any more. The figure also suggests that Germany is an outlier, relative to both crisis and non-crisis countries, perhaps with the exception of Austria.

This presentation of REERs is potentially misleading, too, however. By normalizing all REERs to be 100 in 1999, the year when the euro was created, it implicitly

2 The partner countries are the 35 other industrialized countries in a sample that includes the 27 EU countries, Australia, Canada, Japan, Mexico, New Zealand, Norway, Switzerland, Turkey, and the United States. Double export weights. (AMECO code: XUNRQ.)

Figure 2. Relative unit labor costs (index: 1999 = 100)

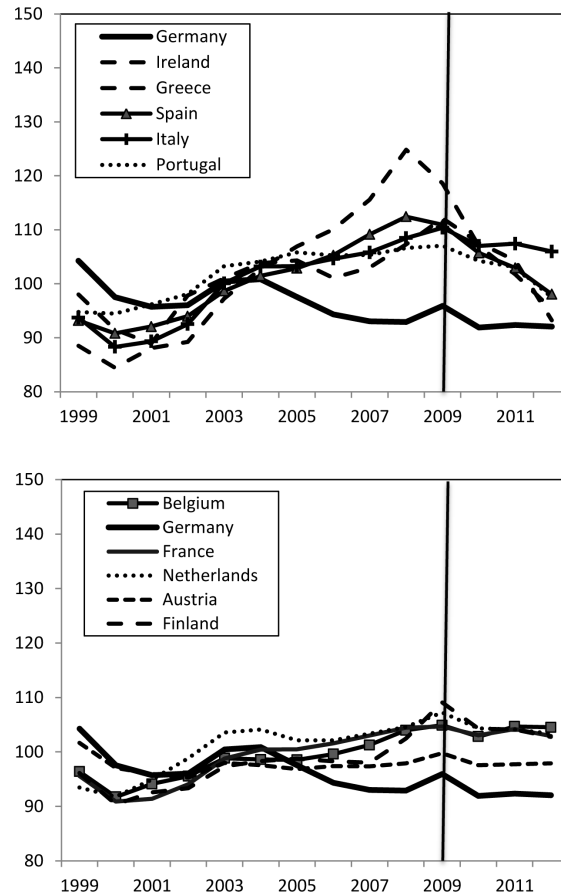


Source: AMECO online. European Commission.

assumes that all exchange rates were in equilibrium at that point in time. In contrast, casual evidence suggests that some countries (Portugal is a case in point, as is Greece when it joined in 2001) adopted undervalued conversion rates and Germany accepted an overvalued exchange rate. If that assessment is correct, we should expect real appreciation for the former countries and a real depreciation in Germany.

This is exactly what happened as seen in Figure 3, which uses the same data as Figure 2, but normalizes the REERs by setting them at 100 over the whole period 1995–

Figure 3. Relative unit labor costs (index: 1995–2012 = 100)



Source: Same data as Figure 2.

2012 covered by the data set.³ Crucially, the figure shows that by 2012 the REERs of Greece and Ireland are below their sample averages and that no REER index is higher than 105, except for Italy at 106. Of course, some countries may have had overvalued exchange rates during the whole period, so this not proof that no exchange rate remains overvalued. Just looking at data cannot provide an answer to that question. But this is also true about the world-famous Figure 1, which suffers

³ Based on the spreadsheet, it appears that the normalization is implemented over the full set of 11 countries and 15 years (as compared with country by country over the full time period, or year by year across the panel of countries). Text should confirm, or clarify that this is the implementation.

from the additional implicit and arbitrary assumptions mentioned here. The impression conveyed by Figure 3 may be misleading, but, in this respect, Figure 1 is much more so.

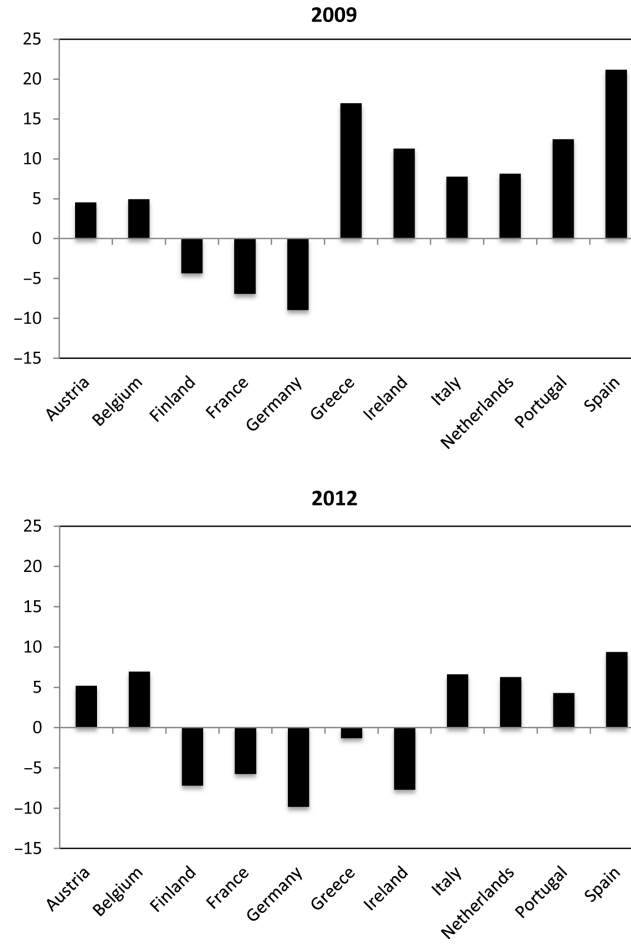
Any attempt at deciding whether a country has an over or undervalued currency inevitably requires estimating the equilibrium exchange rate. This is done formally in Section . In this section, an informal attempt is made using the assumption of purchasing power parity (PPP). PPP is a controversial concept but massive research efforts have led to the consensus view surveyed in Taylor and Taylor (2004): PPP does not hold in the short run but cannot be rejected in the long run, at least for countries at similar stages of development. The estimate by Frankel and Rose (1996) that the half-life of deviations from PPP last about four years has survived considerable subsequent work. Because southern Euro Area countries may have started out less developed than the core countries PPP may not hold as well for that group of countries well. In that case, there would be even less of a case for overvaluation, an issue to which I return to in Section 4.

The 14-year-long sample period used to normalize the REERs in Figure 3 may be seen as somewhat short. An alternative data set provides REERs for Euro Area countries dating back to 1960, but they compare each country to a narrower sample of countries, namely, the 15 first EU member countries. The left-hand chart in Figure 4 shows the implied overvaluation in 2009, the right-hand chart does the same for 2012, comparing the index in each year to the sample average of 100 meant to capture the equilibrium REER under the PPP assumption. The data suggest some overvaluation for the crisis countries (and the Netherlands) in 2009. The right-hand chart suggests that this overvaluation has been more than corrected by 2012 for Greece and Ireland, and partly corrected for Portugal and Spain, with no improvement for Italy. According to this analysis, no country has an overvaluation that exceeds ten percent, a relatively mild magnitude. It also implies that Germany's undervaluation has increased between 2009 and 2012.

3. Sources of misalignments and the asymmetry problem

The previous section showed that the massive loss of competitiveness in the crisis countries, when properly measured by the REER and compared with its long-run equilibrium rather than to an economically arbitrary base year, is vastly overblown and largely corrected by 2012. But the evolution of the REER measured by relative unit labor costs may be the outcome of diverse economic events such as real wages, employment and growth, the nominal exchange rate, and prices. This section briefly looks at a decomposition of the change in REERs between 1999 and 2009.

Figure 4. Deviations of REER from average over 1960–2012



Source: AMECO online. European Commission.
 Note: REER based on nominal unit labor costs relative to 15 EU countries.

The REER used so far is EU/U^* —the ratio of domestic nominal unit labor costs U to the average of foreign labor costs U^* converted into the same currency via the nominal effective exchange rate E . Denoting $u = U/P$ and $u^* = U^*/P^*$, respectively, the real domestic and foreign labor costs, the REER can be written as:

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Table 1. Decomposition of increase in REER, 1999–2009 (percent)

	Total REER = EU/U*	u/u*	EP/P*	E	P/P*	P
Crisis countries						
Greece	14.4	2.6	11.5	11.7	-0.1	38.6
Ireland	34.1	13.0	18.6	15.6	2.6	26.4
Italy	17.7	5.6	11.5	12.3	-0.8	26.8
Portugal	13.0	1.9	10.8	6.9	3.7	30.1
Spain	19.0	-2.7	22.3	10.3	10.9	40.1
Non-crisis countries						
Austria	-1.9	-2.2	0.3	7.1	-6.3	16.7
Belgium	8.8	0.6	8.2	9.1	-0.9	22.5
Finland	13.5	9.6	3.5	11.9	-7.5	16.3
France	9.5	2.9	6.4	10.7	-3.9	20.8
Germany	-8.0	-2.5	-5.7	11.4	-15.3	8.9
Netherlands	14.8	2.4	12.0	8.8	3.0	26.3

Source: AMECO online. European Commission.

Note: u/u^* is the ratio of domestic and foreign real unit labor costs WL/PY (code QLCDQ); E is the nominal effective exchange rate (code XUNNQ); P/P^* is the ratio of domestic and foreign GDP deflators (code: PVGDQ); P is the domestic GDP deflator (code PVGD).

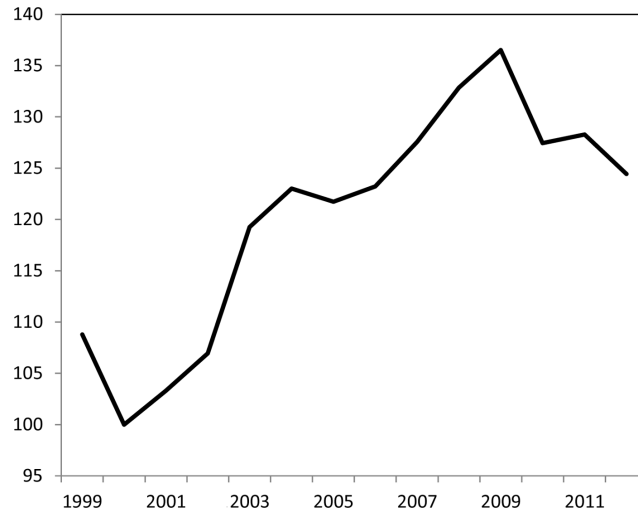
Table 1 provides a decomposition of the change in the REER into changes of u/u^* and of EP/P^* . Then the change of relative prices EP/P^* (another popular REER measure) is decomposed into changes in the nominal exchange rate E and in P/P^* , that is, relative inflation rates. With the exception of Ireland and Finland and in a smaller way Italy, relative *real* unit labor costs have not drifted significantly and do not explain much of the REER appreciation where it occurred. Because u represents the labor share of income, the view that labor costs have been allowed to mushroom after adoption of the euro in countries like Greece or Portugal is simply not borne out by the data. Except for Ireland, wherever competitiveness has been hurt, the main cause of increase in the REER is an appreciation of the GDP deflator based real effective exchange rate EP/P^* .

Decomposing EP/P^* further, it appears that the main cause of real appreciation is not inflation differentials but a nominal appreciation. Since its creation, after an early depreciation, the euro has appreciated, peaking in 2009, as shown in Figure 5.⁴ The evolution of national nominal effective exchange rates varies from one country to another because of different geographical trade patterns. This explains that some countries, chiefly Ireland (which trades heavily with the United Kingdom), underwent stronger appreciation than others like Portugal, which were more integrated into the EU. Among the crisis countries, inflation differentials have been negligible except for Spain, probably an effect of its construction boom. Yet inflation differen-

⁴ The 25.5 percent euro's effective appreciation between 1999 and 2009 exceeds that of the countries shown in [error reference source not found], because national effective rates use trade weights that include the other Euro Area countries whereas the Euro Area as a whole only trades with the rest of the world.

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Figure 5. Nominal effective exchange rate of the euro (index: 2000 = 100)



Source: AMECO online. European Commission.

Note: The exchange rate is computed as a trade-weighted index relative to 35 industrialized countries (code XUNNQ).

tials set apart the non-crisis from the crisis countries, which may seem inconsistent. A plausible interpretation is that the trade partners of the crisis countries on average displayed higher inflation than those of the non-crisis countries. This interpretation is compatible with the evolution GDP deflator inflation; the last column shows that the crisis countries generally exhibit significantly higher inflation rates than the non-crisis countries, especially Spain and Greece.

Finally, Table 1 confirms that Germany is a clear outlier. This is the case on every single dimension of this decomposition. Germany’s real depreciation is an important reason behind the popular view that the crisis countries have suffered massive competitiveness loss. The fact is that Germany achieved a large gain in competitiveness since euro creation. Given the size of its economy, it cannot fail to have an effect on all other Euro Area countries. Does it mean that the Euro Area has a “German problem” and that Germany should undertake to correct its undervaluation? One benefit of economic integration is that it enhances competition, not just in the goods and financial markets but among the economic systems broadly defined to include wage and price setting institutions. In that sense, the fact that the largest economy is virtuous is a positive development. It puts pressure on all other countries to follow suite and contain their own costs.

At the same time, the situation is asymmetric. Consider a two-country monetary union with similar-sized economies that suffer from a high level of structural unemployment. Now imagine that one country is reducing its labor costs, but not the other one. This is a classic asymmetric shock as discussed in the Optimum Currency Area literature. If each country had its own currency, the virtuous country would see its exchange rate appreciate, so that its efforts would accrue in the form of improved terms of trade (and other domestic effects like low real interest rates and higher employment), with no effect on the other country, at least to a first degree of approximation. If they share the same currency, the common exchange rate appreciates, but less. This means that the non-virtuous country's external competitiveness is eroded and the virtuous country enjoys a competitiveness advantage. Strong demand for the virtuous country production translates into a current account surplus and, eventually, inflation. Over time inflation will produce the same real exchange appreciation as in the absence of the common currency. If this country is willing to tolerate a higher inflation rate, it has nothing to do, just wait and accrue the benefits of its virtue. The other country sees its current account worsen and faces low demand, hence a contractionary effect. If the situation lasts (i.e., inflation rises slowly in the virtuous country), the other country's external debt rises and its public finances deteriorate as growth slows down. This can become a crisis.

The asymmetry means that the onus of action is on the country that has not reduced its production costs. This country has not done anything wrong, it simply shares its currency with a highly virtuous country. This non-co-operative outcome is undesirable for both countries: inflation in the virtuous country, a risk of crisis in the other country.

The asymmetry problem has been well known for a long time. During the Bretton Woods conference, Keynes famously wanted the IMF rules to be symmetric in the fixed-exchange rate system. He lost. The IMF developed an assistance program that imposes conditions on the non-virtuous countries, but none on the virtuous countries. At least, the Bretton Woods agreement allowed the non-virtuous countries to depreciate. The current situation in the Euro Area bears more than a resemblance to the Bretton Woods agreements, including conditional loans from the European Financial Stability Facility and its successor the European Stability Mechanism, with important differences. One obvious difference is that depreciations are not possible within the Euro Area, so the non-virtuous countries face a much steeper hurdle. Another difference is that the link between private and public debts is now much tighter than in Keynes' times, and both debts have grown considerably. This makes the situation considerably more crisis-prone and the costs of the asymmetry much larger. The third major difference is that Euro Area countries do not have access to a

lender of last resort. Even though the European Central Bank will be drawn eventually into playing this role, the delay is costly. Finally, most Euro Area countries have no room left for fiscal policy actions.

At the cost of oversimplification, this section has shown that competitiveness losses occur when the euro appreciation is not offset by a reduction in labor costs. Put differently, countries that did not cut relative labor costs in the face of a strong appreciation of the euro—or in the case of Spain, did not cut enough labor costs in the face of a strong appreciation—are those that suffered competitive losses. Since 2009, the combination of relative labor cost reductions and a weaker euro explain why competitiveness is nearly re-established. The adjustment process, however, has been highly asymmetric, involving large increases in unemployment in the crisis countries while Germany enjoys some of its best years.

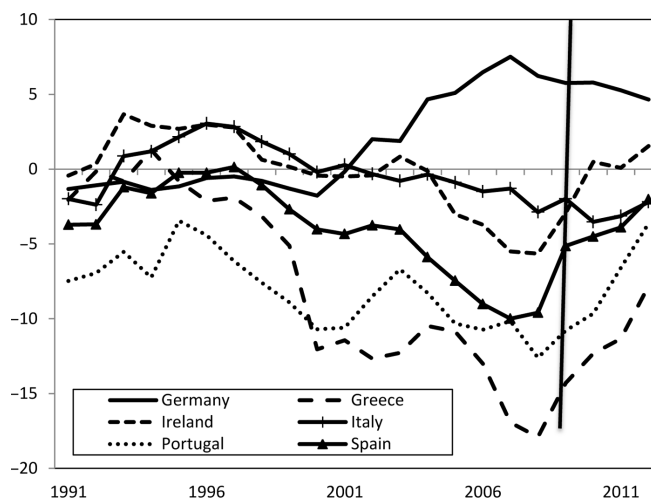
Asymmetries have long been a concern in East Asia, especially given that the wide difference in country sizes implies that a “German problem” could be hard to handle if it concerns one of the larger Asian economies. The European experience confirms that asymmetries can become a serious issue when exchange rates are stabilized. There is a sharp qualitative difference, however, between fixed exchange rates and a currency area. Indeed, under its previous fixed-exchange rate arrangement, the European Monetary System has made it possible to accommodate competitiveness shocks.

4. Simultaneity and causality

The analysis so far has looked at competitiveness from the viewpoint of relative unit labor costs. Proponents of the overvaluation view bring to bear some additional evidence, however. They note the simultaneity of REER appreciation and deepening current account deficits in the years leading to the crisis, which is visible from Figure 2 and Figure 6. The partial correlation between these two variables is highly negative and significant.⁵

The simultaneity of current account imbalances and changes in competitiveness in Euro Area countries cannot be declared causal, as is well known. Both developments could be caused by a common third factor or could be occurring simultaneously for unrelated reasons. The issue must be treated explicitly. Unfortunately,

⁵ Although highly significant, in a panel estimate over 1995–2012 for the 11 Euro Area countries displayed in previous figures the partial $\partial(CA/GDP)/(\partial REER/REER) = -3.62$ is small; it implies that a 10 percent real depreciation is associated with a deterioration of the ratio of current account to GDP of less than 0.4 percentage points.

Figure 6. Current accounts (percent of GDP)

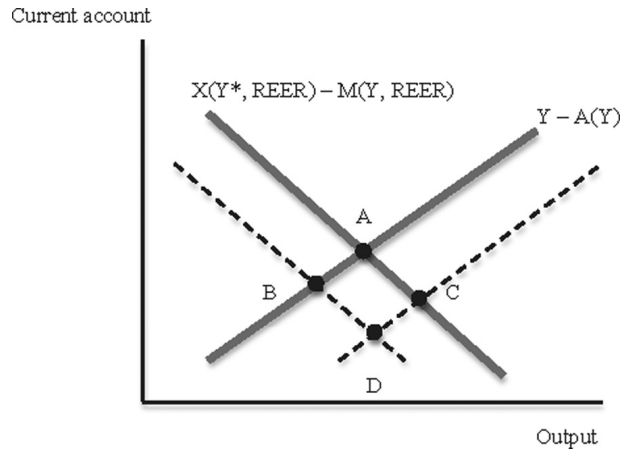
Source: AMECO online. European Commission.

causality tests are generally weak and, in the case at hand, the horizon—the first eight years of the euro—is far too short. We simply cannot hope to be able to formally study the causal link between current accounts and competitiveness since the creation of the euro. The only possible approach must be indirect, testing implications of possible causality assumptions.

The deterioration of current account positions in the crisis countries is undeniable. The issue is whether this is the outcome of an exogenous competitiveness loss or whether other exogenous disturbances have both hurt competitiveness and worsened the current account. A roundabout approach to causality is to bring in more information to bear. In particular, the evolution of output may help to identify the nature of the shock. Large general equilibrium models may provide indications of how shocks are transmitted to output, the current account, and the real exchange rate. An intuitive shortcut is to use the elegant graphical analysis from Dornbusch (1980). It emphasizes the two-way link between the current account and output and their joint determination, as shown in Figure 7.

The upward schedule shows a first relationship between aggregate income Y and total national spending $A(Y)$. Under the assumption that the propensity to spend is less than unity, an increase in income leads to higher national net saving (i.e., the current account). The identifying assumption is that net saving is independent of

Figure 7. The Dornbusch model



the real exchange rate. The downward sloping schedule also represents the current account, now defined as net exports, the difference between exports X and imports M broadly defined. An increase in income raises spending and therefore imports, hence the negative slope of the schedule. Importantly, both exports and imports depend on the real exchange rate; under generally accepted assumptions (e.g., the Marshall-Lerner condition) a real appreciation reduces exports and increases imports.

Starting from point A , representing the situation before adoption of the euro, the question is what could have provoked the subsequent divergence in current accounts. This framework suggests three possible exogenous shocks. The first one is that labor costs have been allowed to rise—for instance, through generous pay increases in the public sector. The identifying assumption implies that the Net Export schedule is the only one to move down. An adverse competitiveness shock takes the economy to point B .

The second shock of interest is an exogenous increase in domestic demand $A(Y)$ —for instance, because cheap credit becomes abundant and demand for credit is next fueled by an asset bubble. If competitiveness is unchanged, the net export schedule remains unchanged and it is the Net Saving schedule that shifts downward; the economy moves from point A to point C . The analysis can be enriched by assuming a Phillips curve mechanism, so that the positive output gap produced by the exogenous demand shock results into rising labor costs and a competitiveness loss. In that case, the Net Export schedule shifts downward, bringing the economy from A to D .

The third shock is an exogenous decline in foreign demand. This is captured by a downward shift in the Net Export schedule and the economy moves to point *B*. Graphically this resembles the first case, that of a competitiveness loss. A Phillips curve effect would result in an improvement in competitiveness, with a partially off-setting upward shift of the Net Export schedule.

This analysis provides a way to (informally) test which shock occurred. The test consists in checking which correlation occurs, if any:

Competitiveness shock: $\text{cov}(CA, REER) < 0$, $\text{cov}(CA, Y) > 0$, $\text{cov}(REER, Y) < 0$.

Domestic demand shock: $\text{cov}(CA, REER) < 0$, $\text{cov}(CA, Y) \leq 0$, $\text{cov}(REER, Y) \leq 0$.

Foreign demand shock: $\text{cov}(CA, REER) > 0$, $\text{cov}(CA, Y) > 0$, $\text{cov}(REER, Y) > 0$.

Table 2 shows how these variables have changed over the period 1999–2009, from the creation of the euro to the dawn of the crisis. For each country, the table displays the average current account balance, the average output gap (deviation from trend GDP), and the total change in relative unit labor costs as displayed in Figure 2. The countries are listed in order of declining average output gap. The last row shows sample correlations among the three variables.⁶ Overall, the Dornbusch “test” suggests that exogenous demand shocks prevailed.

Focusing on the crisis countries, the case of a domestic demand shock is strong: We observe large current deficits, sizeable positive output gaps, and REER appreciation. The exception is Italy, where the average output gap is positive but small and the current account deficit is small as well, while competitiveness has been seriously eroded; this can be the result of various combinations of shocks, for example, an adverse competitiveness shock and a positive foreign demand shock.

As for the non-crisis countries, the situation is varied. Germany’s sharp competitiveness gains are associated with large current surpluses but GDP has been mostly on trend. One possible interpretation is that Germany faced a combination of favorable competitiveness (the effect of labor market reforms and of explicit wage moderation in the early 2000s) and adverse demand shocks (e.g., fiscal retrenchment). Austria displays a similar pattern. The pattern observed in Belgium, Finland, and the Netherlands corresponds to a positive external demand shock.

⁶ A longer sample period would have allowed a VAR investigation.

Table 2. The Dornbusch test

	Average current account (% of GDP)	Average output gap (%)	Total REER change (%)
Ireland	-1.9	3.3	34.1
Greece	-12.5	2.1	14.4
Finland	5.5	1.6	13.5
Spain	-6.0	1.5	19.0
Portugal	-9.8	1.0	13.0
Netherlands	6.3	0.9	14.8
France	0.0	0.7	9.5
Italy	-0.8	0.7	17.7
Austria	1.9	0.5	-1.9
Belgium	3.8	0.5	8.8
Germany	3.3	0.1	-8.0
Correlation	CA and output -0.4	CA and REER -0.3	REER and output 0.8

Source: AMECO online. European Commission.

The important result of this section is that the most convincing explanation of the crisis that occurred after 2009 is a domestic demand shock. This shock, in turn, may have different causes. In Greece and Portugal fiscal policy has been mostly easy during this period. Ireland and Spain have undergone a credit boom and housing price bubble; when the bubble burst, both countries have had to bail banks out. In all these cases, the real exchange rate appreciation and the current deficits appear as consequences of these shocks, not as autonomous shocks as often asserted.⁷

The result that the crisis countries have been subject to a domestic demand shock and not to an exogenous loss of competitiveness implies that the austerity policies applied since the onset of the crisis should reverse the competitiveness and external imbalance problems. Indeed, as the crisis countries have entered into a protracted recession, competitiveness has been about restored (Figure 1) and the current deficits are fast disappearing (Figure 6).

The rapid reduction of relative labor costs may come as a surprise to the presumption that European labor markets are highly rigid. The lack of wage flexibility and the limited extent of labor mobility have long been identified as a reason why Europe is not an optimum currency area. This conclusion may have to be qualified in view of the rapid correction observed for the real exchange rates and the so far casual observation that labor is moving. These observations also undermine the frequently held view that the crisis countries may be better off leaving the Euro Area.

7 Another interpretation considers that the exogenous shock has been capital flows that triggered domestic borrowing and spending (Sinn 2012). Regarding the effects, this is equivalent to a domestic demand shock. This is again a causality issue. Capital flows are normally understood to be endogenous, however. Why, for example, would capital have flowed to Spain and not Germany?

5. Conclusion

Like any crisis, the European sovereign crisis has been interpreted in various, sometimes incompatible, ways. This paper has shown that the view that exogenous competitiveness shocks are the root cause of the crisis is based on a superficial observation of the key facts. The paper concludes that the crisis is linked to demand shocks. Either because they were the result of unsustainable public spending, or because they were fed by unsustainably rapid credit growth that led to housing price bubbles whose bursting forced governments to bail out failing banks, these demand shocks brought about rapid increases in public debts. As suggested by de Grauwe (2011), Euro Area member countries have issued public debts in a “foreign currency” in the sense that they have no control on their central bank. In such a situation, financial markets may consider that rapidly increasing indebtedness is unsustainable, triggering a full-blown crisis.

This interpretation of the crisis is relevant to the debate on monetary integration in East Asia. The conclusion should not be that a monetary union among sovereign countries is impossible. The implications are subtler. First, both public and private budget constraints must be respected; of course, this is always the case but violations of the constraint become easier when a national central bank can allow the currency to depreciate or when it intervenes as lender in last resort for banks and for the government. Second, a monetary union amounts to a loss of monetary policy sovereignty but it does not require further sovereignty transfers. In particular, fiscal discipline can be achieved through national institutions (see Wyplosz 2012). Third, the Optimum Currency Area literature has noted the importance of labor mobility and market flexibility. The European crisis provides both an illustration of this criterion and a surprise. Labor costs have been allowed to diverge. Even though this was the consequence of policies that built up excessive demand, a correction was needed. The surprise is that the correction has been rapid, suggesting that even the rigid European labor markets can adjust in a crisis situation. Put differently, the monetary union has imposed labor market flexibility.

Finally, if the Euro Area survives, the most likely scenario, it will indicate that monetary unions are more robust than hitherto believed.

References

- Bertola, Giuseppe. 2008. Labour Markets in EMU—What has Changed and What Needs to Change. Brussels: *Economic Papers* 338.
- Calmfors, Lars. 2001. Wages and Wage-Bargaining Institutions in the EMU—A Survey of the Issues. *Empirica* 38(4):325–351.

- de Grauwe, Paul. 2011. The Governance of a Fragile Eurozone. Unpublished paper. Leuven: University of Leuven.
- Dornbusch, Rudiger. 1980. *Open Economy Macroeconomics*. New York: Basic Books.
- Frankel, Jeffrey, and Andrew Rose. 1996. A Panel Project on Purchasing Power Parity: Mean Reversion Within and Between Countries. *Journal of International Economics* 40(1–2):209–224.
- Mongelli, Francesco Paolo, and Charles Wyplosz. 2009. The Euro at Ten: Unfulfilled Threats and Unexpected Challenges. In *The Euro at Ten—Lessons and Challenges*, edited by Bartosz Mackowiak, Francesco Paolo Mongelli, Gilles Noblet, and Frank Smets, pp. 24–57. Frankfurt: European Central Bank.
- Mortensen, Dale T., and Christopher A. Pissarides. 1994. Job Creation and Job Destruction in the Theory of Unemployment. *The Review of Economic Studies* 61(3):397–415.
- Taylor, Alan, and Mark Taylor. 2004. The Purchasing Power Parity Debate. *Journal of Economic Perspectives* 18(4):135–158.
- Wyplosz, Charles. 2012. Europe’s Quest for Fiscal Discipline. Unpublished paper. Geneva: The Graduate Institute.