Adjustment within the Euro Area: Is it all about competitiveness?
Daniel Gros
No. 127 / January 2016

Abstract

The key problem afflicting the eurozone today seems clear: the periphery experienced a large loss of competitiveness during the boom years. In order for these economies to recover, they must restore their competitiveness, ideally by increasing productivity. This contribution shows, however, that the story line is not that straightforward. The drivers of competitiveness might have been more macro than micro in nature. The relationship between productivity and competitiveness is sometimes the opposite of what one would expect; and the link between competitiveness and exports is also much weaker than generally believed.
# Table of Contents

Introduction........................................................................................................................3

1. Benchmarking competitiveness .........................................................................................4

2. Wage moderation in Germany: Policy or the market? .......................................................6

3. Productivity as a driver for competitiveness? .................................................................7

4. Macroeconomic drivers of competitiveness ..................................................................9

5. Competitiveness as a driver of trade performance? ........................................................10
   5.1 Time series evidence for the euro area periphery ......................................................10
   5.2 Cross-section evidence ...............................................................................................11
   5.3 Competitiveness and external adjustment ..................................................................13

Conclusions ........................................................................................................................14

References ............................................................................................................................16

# List of Figures

Figure 1. Real harmonised competitiveness ULC indicator in euro-area countries
   (in total economy deflated).................................................................................................4
Figure 2. Unit labour costs in 1995 and in 2010 ..................................................................6
Figure 3. Phillips curve Germany after start of EMU ...........................................................7
Figure 4. Labour productivity (cumulated growth rate 1996-2008) .....................................8
Figure 5. Productivity and competitiveness across member states ....................................9
Figure 6. Change in private final consumption, 1999-2007 ................................................10
Figure 7. Exports of goods and services (as % of EU exports) ..........................................11
Figure 8. ULC and exports, average growth rates, 1996-2008 .........................................12
Figure 9. The real exchange rate and the cyclically adjusted trade balance in the eurozone 14
Adjustment within the Euro Area: Is it all about competitiveness?

Daniel Gros*

CEPS Special Report No. 127 / January 2016

Introduction

Seven years after the start of the great financial crisis and about five years after this financial crisis mutated into the euro crisis, the countries in the euro area’s periphery still struggle with a challenging combination of high debt, high unemployment and only sluggish growth. The difficulties that Greece is experiencing to start growing again are the most visible expression of this general malaise.

This contribution addresses only one key aspect of the problems in the periphery, namely the importance of the changes in competitiveness, both during the boom and the bust. The euro crisis has of course also left other problems, for example a large debt overhang. But even this important issue becomes easier to address once growth returns, allowing the periphery to deleverage (Sinn, 2015).

Conventional wisdom has it that the divergences in competitiveness prior to 2008 were due to a combination of two elements:

1. Wage moderation in Germany
2. Divergences in productivity

The conclusion from this conventional wisdom is clear. Adjustment in the periphery requires a combination of Teutonic wage restraint, coupled with structural reforms in order to increase productivity. However, the evidence that these two elements were the key driving forces is surprisingly weak. In particular, it seems that wage restraint in Germany did not result from policy, but rather was the outcome of a labour market that reacted naturally to the high unemployment in the country up to 2005-06.

* Daniel Gros is Director of CEPS. An earlier version of this paper was prepared for the 14th Munich Economic Summit on “Competitiveness and Innovation: The Quest for Best”, co-organised by CESifo and the BMW Foundation Herbert Quandt, 21-22 May 2015, and published in CESifo Forum, Vol. 16 (3):18-25 (www.cesifo-group.de/ifoHome/publications/docbase/details.html?docId=19173034).

He gratefully acknowledges useful comments and suggestions received from Stefano Micossi, who recently completed a related contribution to the “Rebooting Europe – Step 2” project organised by the Centre for Economic Policy Research (CEPR). CEPS has published this latter paper on its website as a companion piece to the present study (see “Balance-of-Payments Adjustment in the Eurozone”, CEPS Policy Brief No. No. 338, January 2016).
Moreover, the link between productivity and competitiveness is also affected by macroeconomic mechanisms and the correlation between the two was the opposite of one would normally expect. The final leg in the conventional story line, namely that an improvement in competitiveness would lead to an increase in productivity, is not supported by the data.

This contribution starts with some simple considerations of how to benchmark competitiveness. It then turns in section 2 to examining the German labour market, suggesting that there has not been any politically inspired wage restraint during the early years of monetary union. Section 3 then asks the apparently simple question whether an increase in productivity should lead to an improvement in competitiveness (and finds that this has not been the case). Section 4 looks at the macroeconomic drivers of competitiveness, at least those that were preponderant during the boom years. Section 5 asks to what extent competitiveness has been a driver of trade performance and finds again some surprising relationships. Section 6 concludes.

1. Benchmarking competitiveness

The starting point of the conventional wisdom is that the first decade of the eurozone was associated with a large divergence in competitiveness. The evidence adduced is usually some variant of the chart shown in Figure 1 below.

*Figure 1. Real harmonised competitiveness ULC indicator in euro-area countries (in total economy deflated)*


*Source:* ECB Statistical Warehouse and author’s own computations.
It is actually not so easy to say, however, whether the observed movements during 200-2008 represent a divergence away from an equilibrium or a convergence towards a new equilibrium. This depends essentially on the choice of the base year. It is implicitly often assumed that the start of EMU is the best base, but this does not seem to be the case (Gros & Alcidi (2010).

In Figure 1 the bias induced by the choice of a single year as the base, has been avoided by using as the base the average over the period 1995-2010. This approach assumes that for each country unit labour costs have been in equilibrium, on average, over the 15 years up to 2010. This seems more appropriate than simply picking one year as the base.

Interestingly, the figure shows the existence of a node in 2003, rather than in 1999-2000. This highlights the fact that 1999-2000, which is usually taken as the base year, might not have been an equilibrium itself. 2003 appears to be the year with the smallest cross-country differences if one takes the long-term average as the equilibrium concept. Prior to 2003, Germany seems to have been ‘uncompetitive’ and after 2003, some countries like Ireland and Spain, where bubbles started to emerge, have experienced a significant loss in competitiveness. Choosing the base period carefully is important. Most analyses that use 1999-2000 as the base conclude that the divergence of the countries now in difficulties have lost about 25-30% in terms of unit labour costs relative to Germany. Using 2003 as the base year yields a substantially smaller estimate of the divergence, namely about 15%.

The purpose of these simple considerations was not to show that 2003 is unambiguously the proper base year, but simply to show how difficult it becomes in practice to measure divergences in competitiveness.

Moreover, there is clear evidence that the divergences of the competitiveness indicators observed until the onset of the euro crisis constitute a mirror image of the divergences that existed during the early 1990s.

Figure 2 shows a scatter plot of the competitiveness indicator of euro-area member countries in 1995 and in 2010. It is apparent that there is a strong correlation between the two. Countries that had a high (relative) labour-cost indicator (notably Germany and Austria) in 1994 then experienced a strong increase in competitiveness (a fall in their relative unit labour costs) and those countries with the best position in 1994 now have the highest cost. The implication of this way of looking at the data is that the case for the popular narrative that the introduction of the euro was to blame for the following problems is not as strong as widely believed.
Figure 2. Unit labour costs in 1995 and in 2010

As in Figure 2, the original ULC index has been re-scaled by using its long-term (1995-2010) average.

Source: ECB Statistical Warehouse and author's own computations.

Even after these considerations concerning the base from which to measure divergences in competitiveness taken into account, a key question remains: What determined these large movements in relative unit labour costs which took place during the first years of EMU?

2. Wage moderation in Germany: Policy or the market?

A key part of the conventional narrative is that Germany entered EMU supposedly with excessively high wages. The evidence for this is that, at the time, i.e. 1999-2000, Germany had a current account deficit and a higher unemployment rate than the euro area average. See for example Sinn (2005 and 2007) for this view.

But during the following years, German wages (and unit labour costs) declined relative to its partners. It is often argued that this was due to a political choice. But the evidence suggests that in reality this was a market-driven phenomenon in the sense that the Phillips curve did work in Germany as can be seen in the figure below, which shows the link between (pan-) German wage increases and the unemployment rate. There is a rather tight relationship with only one outlier (2009), when the fear of a long-lasting recession produced agreements without wage increases. But the recession proved to be short-lived (for Germany), and unemployment did not increase, partially because of the specific provisions for temporary short term work.
A key implication of this relative stability of the Phillips curve in Germany is often overlooked: the stability of the link between unemployment and inflation implies that a policy of wage moderation was not responsible for low-wage growth. The real driver of Germany’s competitiveness gains was the high unemployment rate during the early part of the 2000s. A politically-inspired push to competitive wage deflation would have shown up in (nominal) wage increases lower than that warranted by the Phillips curve. But this was not the case. During most of the period 2000-2008, actual wage increases were very close (sometime higher, sometimes lower) than the ones predicted by the Phillips curve.

A Phillips curve can only represent some correlation between two variables. But more in-depth investigations, which take into account factors like inflation, import and export prices and productivity confirm essentially this finding (Quaas & Klein, 2010, p. 14).

This finding suggests already a key conclusion: changes in competitiveness are determined by macroeconomic variables.

3. Productivity as a driver for competitiveness?

A further key element of the conventional narrative is that the periphery needs to become more productive. Higher productivity growth should lead to better ‘competitiveness’. In other words, higher productivity growth should lead naturally to lower relative unit labour costs.
But reality seems to be different. The data as shown in Figure 4 from the boom period until 2008 show higher productivity associated with higher unit labour costs.

*Figure 4. Labour productivity (cumulated growth rate 1996-2008)*

![Labour productivity chart](image)

*Source:* Own calculations based on figures from European Commission (AMECO).

The figure also shows that during the boom years, measured labour productivity was higher in some peripheral countries, including even Greece, than in Germany.

What would be the concrete economic mechanism by which an increase in labour productivity leads to higher unit labour costs? This can happen obviously only if wages increase by more than productivity. But this is possible, indeed likely, if the increase in productivity also leads to an increase in demand and thus, via a tightening of the labour market, to higher wages.

A concrete example can illustrate how this can come about: Consider a country that experiences an (exogenous) increase in the rate of growth in labour productivity. If this shock is expected to be permanent, the permanent income of workers will increase. This implies that the population will feel richer and will desire to consume more. Higher consumption would lead to a tighter labour market and thus potentially, via a Phillips curve relationship, to wage increases outstripping, at least initially, the gain in productivity.

The increase in demand due to the perceived gain in permanent income might also lead to a stronger housing demand and higher house prices, which strengthen domestic demand further, as happened in Ireland and Spain.

Moreover, an increase in overall productivity (TFP growth) would make investment in the country more attractive and foster capital inflows. The counterpart to these inflows would be
current account deficits. This mechanism seems to have operated in particular in the new member states.

The fact that during the boom years the correlation between productivity and competitiveness (ULC) was positive (and the opposite of what the conventional wisdom assumes) does of course not imply that an increase in productivity will always lead to a loss of competitiveness. During the boom years (up to 2007-08), it was more likely that workers (and enterprises) did consume and invest more than they could, based on current income (which is based on current productivity), because financial markets were more likely to provide the financing necessary for consumption and investment expenditure to outstrip the growth of current income.

Closer inspection of the data for productivity and relative until labour costs depicted in Figure 4 above shows that two interpretations are possible as shown in Figure 5 below. The overall correlation between the two variables apparent in Figure 4 disappears if one looks at three sub-groups: 1) the ‘old’ EU-15 countries, 2) the new member states from Central Europe and 3) the new member states from further East, mainly the Baltic countries. Viewed in this way, one can identify a negative relationship within the last two groups, but not among the ‘old’ member countries. The cross-country relationship thus suggests that one has to be extremely careful in making any general statement about the link between productivity and competitiveness.

Figure 5. Productivity and competitiveness across member states

Source: Author’s own calculations based on figures from European Commission (AMECO).

4. Macroeconomic drivers of competitiveness

The preceding section showed that the correlation between productivity and competitiveness has actually the opposite sign of what one would expect. One might thus ask: What were the drivers of the large changes in competitiveness up to 2008?
The answer seems to be that changes in domestic demand determined the strength of the local economy and thus the local labour market. Figure 6 shows that there has been a strong, positive correlation between private consumption growth and loss in competitiveness (ULC).

Figure 6. Change in private final consumption, 1999-2007

The evidence so far thus suggests that the divergences in competitiveness up to 2007 were not due mainly to a German policy of wage restraint and low productivity in the periphery. The key driver seems to have been relatively strong domestic demand growth in the periphery (compared to Germany) which led to tight labour markets and thus, high wage and price increases. There is not enough space in this contribution to go deeper into the reasons for the strong increase in domestic demand in the periphery. But it seems that in some cases strong domestic demand was actually a consequence of high productivity.

5. Competitiveness as a driver of trade performance?

An implicit element in the conventional narrative is that competitiveness is a key driver of trade performance. But the evidence for this proposition is also surprisingly weak, whether one takes time series or cross-section data. However, there seems to be some link between the external adjustment and competitiveness.

5.1 Time series evidence for the euro area periphery

It is usually argued that the combination of domestic boom and high wage growth made exports of the peripheral countries uncompetitive, thus leading to large current-account deficits. However, the raw data do not bear out this view. A priori one would expect the peripheral countries to lose market shares until about 2008 or 2009-10, and then gain some market shares once wages started to fall after the euro crisis started.

However, the data presented in Figure 7 do not conform to this view. This figure shows that for Greece and Portugal, the shares of national exports (of goods and services) in overall EU exports (which constitutes a rough measure of market share) were essentially flat during the
boom years. For Spain and Ireland, one observes only a very small reduction, which is not what one would have expected in view of the large changes in competitiveness over this period. It is also interesting that euro crisis did not lead to large changes either.

Figure 7. Exports of goods and services (as % of EU exports)

Source: Author’s own calculations based on Eurostat data.

5.2 Cross-section evidence

Looking at cross-section evidence (instead of the time series presented above) yields an even more surprising picture: During the boom years, higher (unit labour) costs were associated with higher export growth!
Figure 8. ULC and exports, average growth rates, 1996-2008

Source: Author’s own calculations based on AMECO data (European Commission).

Why would a gain in competitiveness (i.e. a fall in relative unit labour costs) be associated with lower export growth?

The general explanation of the surprising correlation found in Figure 8 is that any partial relationship between a quantity and the price can be either a positive or a negative sign, depending on the dominant source of disturbances during the period of observation. The demand curve is generally stable, but if the supply curve shifts, one will find a negative slope, and vice versa, if supply is stable and demand shifts around.

A more detailed explanation of the unexpected relationship between export growth and unit labour costs has to start with the modern theory of international trade, which implies that every country exports an array of differentiated products whose demand, at least in the short to medium run, is not completely elastic. In the short run, one can take the number of varieties or products as given and exports can thus change only if exporters slide along the demand curve for their products (this is incorporated in most empirical estimates with the so called ‘Armington assumption’). However, in the medium to long run, the number of varieties or products a country produces can increase, implying that exports can increase without any need for export prices to go down, because the foreign demand curve shifts outwards as the supply in the home country expands. The most impressive example of this phenomenon has been China whose exports have increased ten-fold over the last decade, although measured competitiveness has deteriorated as wages in China have increased much more than elsewhere. One would thus expect that countries that are growing strongly because of higher productivity can also increase their exports without any gain in competitiveness because the supply curve of exports shifts outwards.

More generally, it is well known that the observed relationship between exports and unit labour costs depends on whether demand or supply shocks were more important during the
period under observation. The positive relationship between ULCs and exports found until 2008 could thus be interpreted as a sign that during that period demand shocks (shifts in the demand curve) were dominating the observations.\(^1\)

A study by the ECB also concludes “This in turn suggests that current account imbalances are not simply the result of heterogeneous cost competitiveness.” \(^2\)

### 5.3 Competitiveness and external adjustment

The link between the trade balance and competitiveness was (and remains) a particularly important issue for the euro area since the euro crisis was fundamentally a balance of payment crisis. A key question for policy-makers during the adjustment was thus whether an improvement in competitiveness could be relied upon to produce an improvement in the current account or trade balance. This seems to have been the case, although it is often argued that membership in the common currency area makes the adjustment more difficult because a large downward adjustment in domestic prices is much more costly than a simple devaluation of the exchange rate.

Figure 9 below shows for the euro-area countries the relationship between the change in the real effective exchange rate and the change in the cyclically adjusted trade balance (both over the time period 2008-13). This figure uses the trade balance corrected for the cycle because it is clear that the trade balance will improve if domestic demand and thus imports fall. But the aim of the exercise is to look for an independent effect of competitiveness on the trade balance. The correlation coefficient is close to 50\(^\%\), which is surprisingly high. But it is also apparent that Greece constitutes an outlier as it achieved a large improvement in its competitiveness, but a relatively small improvement in its cyclically adjusted trade balance.

Without Greece, the correlation between the change in the REER and the cyclically adjusted trade balance increases to close to 70\(^\%\).

Figure 9 also shows that the CEECs, indicated by orange dots, are somewhat special in the sense that almost all of these dots lie above the trend line. This implies that their adjustment was larger than one would expect given the link between the trade balance and the real effective exchange rate for euro-area countries on average.

---

1 Data from the period after 2008 does not shown any clear correlation between competitiveness and exports, suggesting that supply and demand shocks were equally important.

2 See ECB (2012). The fact that this study could not find any link between measures of competitiveness and imports contributed to this conclusion.)
Changes in competitiveness have thus contributed to the adjustment of current accounts within the euro area. Surprisingly, competitiveness seems to have played a less important role outside the euro area (Gros, 2015). The correlation between changes in competitiveness and the trade balance (adjusted for differences in domestic demand) is much lower among the EU member countries that are not part of the euro area. The case of the UK is here particularly important given the emphasis of the UK authorities on the benefits of its floating exchange rate. The UK is an outlier as much as Greece because its trade balance has not improved despite a large gain in competitiveness.³

The evidence for the proposition that an improvement in competitiveness fosters the external adjustment is thus stronger than the evidence of a close link between exports and competitiveness – at least inside the euro area.

Conclusions

Policy discussions often suggest that countries somehow ‘choose’ to become more competitive or uncompetitive. But this does not correspond to reality. Wages and prices are set in markets. Governments have very little control over them. And the evidence that public sector wages,  

³ This, at first sight surprising, result is compatible with the finding of Bayoumi et al. (2011) that no measure of competitiveness or the real exchange rate has a significant impact on extra euro area export volumes. But the impact of competitiveness on intra-euro area exports is statistically significant. Bayoumi et al. (2011) also confirm that the coefficients on foreign demand are always highly significant.
the one variable that government can at least partially control, have a significant influence on private sector wages is rather limited.\textsuperscript{4}

Viewing competitiveness as an endogenous ‘symptom’, rather than an autonomous factor has two implications:

First, if excessive domestic demand was the problem during the boom year, the solution should now be on its way. International capital markets have curtailed credit to all peripheral countries. The sharp fiscal retrenchment everywhere in peripheral Europe has contributed further to a sharp deceleration, often even an outright fall, in domestic demand in these countries. If labour markets are flexible, this should result in lower wages. This is the key condition: flexibility of labour markets on the way down as much as on the way up. European Commission (2015) finds that most of the measured losses of competiveness up to 2008 have by now been corrected.

Secondly, the appropriate policy response to a loss of competitiveness (that is judged to be ‘excessive’) should be to focus on domestic demand, not on wage developments or specific aspects of the labour market. In the case of Spain, for example, it would have been necessary to restrain the pace of housing construction during the boom years (for example, by auctioning off only a limited number of building permits), rather than try to meddle with the labour market in the midst of a domestic demand boom.

\textsuperscript{4} See ECB (2009) and Lamo at al. (2008) for empirical studies, which find econometrically significant effects, but the orders of magnitude remain so small that any politically feasible autonomous change in public wages would have only a negligible impact on private sector wages.
References


Quaas, Georg and Mathias Klein (2010), “Is the Phillips Curve of Germany Spurious?”, Universitat Leipzig, 10 November (http://mpra.ub.uni-muenchen.de/26604/). S


ABOUT CEPS

Founded in Brussels in 1983, CEPS is widely recognised as the most experienced and authoritative think tank operating in the European Union today. CEPS acts as a leading forum for debate on EU affairs, distinguished by its strong in-house research capacity and complemented by an extensive network of partner institutes throughout the world.

Goals

- Carry out state-of-the-art policy research leading to innovative solutions to the challenges facing Europe today
- Maintain the highest standards of academic excellence and unqualified independence
- Act as a forum for discussion among all stakeholders in the European policy process
- Provide a regular flow of authoritative publications offering policy analysis and recommendations

Assets

- Multidisciplinary, multinational & multicultural research team of knowledgeable analysts
- Participation in several research networks, comprising other highly reputable research institutes from throughout Europe, to complement and consolidate CEPS’ research expertise and to extend its outreach
- An extensive membership base of some 132 Corporate Members and 118 Institutional Members, which provide expertise and practical experience and act as a sounding board for the feasibility of CEPS policy proposals

Programme Structure

In-house Research Programmes

Economic and Finance
  Regulation
  Rights
Europe in the World
Energy and Climate Change
Institutions

Independent Research Institutes managed by CEPS

European Capital Markets Institute (ECMI)
European Credit Research Institute (ECRI)
Energy Climate House (ECH)

Research Networks organised by CEPS

European Climate Platform (ECP)
European Network of Economic Policy Research Institutes (ENEPRI)
European Policy Institutes Network (EPIN)