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WIFO Working Papers, No. 453

August 2013

#### **Abstract**

Right from the start of the European currency union, trade imbalances could be observed in the current accounts and trade balances of the euro countries. The business cycle upswing reaching into 2008 and the strong inflow of cheap money led to a strong economic expansion especially in the periphery of the euro area. Traditionally abundant wage increases in these countries persisted. In the more export oriented economies in the core of the euro area, however, hardly any wage increases could be observed due to the lacklustre internal demand. As a consequence, those countries gained further in competitiveness in comparison to the periphery. This led to an increase in foreign trade imbalances. With the sharp drop of economic activity in 2008 and the swift dry-up of cheap financial means this process was interrupted. Since, labour unit costs of Spain, Portugal and Greece evolved much more muted than the average of the euro area. As a result, imports of those countries stagnated while exports increased at the same time which led to a nearly balanced external trade in 2012.

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JEL classification: F15

Key words: external imbalances, euro area, current account

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#### 1. Introduction

The introduction of a common currency was seen as the coronation of the economic process of integration in Europe. Right from the start there were critical voices warning that structural differences of the member states could lead to problems in the economic cohesion within the community. Economists had divergent opinions concerning the possible consequences of a currency union at the given heterogeneity of their members. Some of them regarded the differences as too big while others saw them as small or easy to over come.

Frankel und Rose (1998) tried to show that even in the case that the necessary optimum currency area criteria are not fulfilled from start on, they will emerge nearly automatically by endogenous economic forces. According to economic theory, economic shocks — which can stem from third countries as well — can have different consequences for member countries, which can no longer be individually counter balanced by an autonomous monetary policy. With a common currency an important parameter of economic policy intervention is deactivated. Even worse, the interaction of business cycle and structural forces imbalances can lead to problems in the medium or long term as well. At the European level, the perils of permanent economic imbalances between member states were taken seriously very late. Based on two regulations "on enforcement measures to correct excessive macroeconomic imbalances in the euro area" (EU-Reg. 1174/2011) and "on the prevention and correction of macroeconomic imbalances" (EU-Reg. 1176/2011) the community started a surveillance process in order to correct future aberrations at an early stage.

This article should locate external economic imbalances stemming from a difference in the economic structure of and their development over time. These imbalances were mainly based on different competitiveness conditions between countries. The common currency and over-optimistic expectations concerning future economic developments led to an accumulation of imbalances till the great recession in 2008.<sup>2</sup>. With the outbreak of the crises — which was not triggered by these imbalances themselves — problems became immediately apparent as the financial backing of imbalances dried up swiftly.

#### 2. Causes and consequences of euro area imbalances

Geographic, demographic and cultural<sup>3</sup> peculiarities of countries lead to differences in their economic structure. These can be either differences in the product range, level and distribution of income or the process of reaction to a changing economic environment. Such differences for their own do not entail automatically imbalances, as long the economic

<sup>3</sup> Here, political conditions are subsumed as well.

<sup>&</sup>lt;sup>1</sup> A good documentary evidence of the divergent views among German economists concerning the possible success of a common currency in Europe is Der Spiegel (1997).

<sup>&</sup>lt;sup>2</sup> See for instance Ederer (2010).

development under such conditions can be regarded as sustainable<sup>4</sup>. This sustainability can either be achieved by the market process or economic policy interventions. In case of both mechanisms fail, imbalances can emerge.

This paper investigates the economic imbalances between member states of the euro area, which show up in foreign trade parameters<sup>5</sup>. One of these parameters is the balance of current accounts. This statistics records financial flows stemming from foreign trade with goods and services, the compensation of production factors (labor and capital) and current transfers (money flows without a counter business like international member fees, traffic fines, money gifts, ....). In case of that this statistics shows a deficit this must be balanced by a proper financial inflow – either in form of a credit from abroad or by a decrease in deposits or assets held in foreign countries. As trade in commodities and services usually makes up for the largest component in the current account, this statistics is widely used as an indicator for international competitiveness. Permanent deficits hint to problems of sales of domestic products in foreign countries (exports too low) or that domestic economic subjects prefer foreign products over domestically produced ones (too high imports).

In economies with their own currency, the foreign exchange rate plays a decisive role in the balancing process. In case of a deficit in the current account a depreciation of the home currency offers a possibility to decrease the price of domestically produced products abroad and to increase imports. This leads to an improvement of the balance. <sup>6</sup> In a currency union this instrument is no longer available.

Alternatively, according to economic theory adaption processes start more or less automatically which improve the international competitiveness by the implementation of innovations or a moderation of wages. If not, uncompetitive enterprises will shut down. This goes also for enterprises only producing for domestic markets if their products are prone to be replaced by imports. If this happens on a large scale this is called an adaption recession. At the latest if foreign investors are not willing to finance trade deficits any longer, import flows go back leading to a more balanced current account.

In the course of the European integration, the confidence existed that the mere knowledge of these consequences will lead to discipline in the wage bargaining process and other economic parameters. A belief which turned out to be fatal, later on. It became apparent that the imbalances which already existed at the beginning of the monetary union aggravated more and more till the outbreak of the great recession.

<sup>&</sup>lt;sup>4</sup> In this context, the term "sustainability" does not refer to the depletion of natural resources but draws on the long term financiabilty of obligations.

<sup>&</sup>lt;sup>5</sup> Speculative price bubbles depict an economic imbalance, too, but here only such between countries are explored.

<sup>&</sup>lt;sup>6</sup> In the case of low price elasticities of imports and exports, a depreciation of the home currency can deteriorate the current account in the short run as well (Marshall-Lerner condition).

<sup>&</sup>lt;sup>7</sup> For possible reasons of non-functiong adaptation mechanisms see Breuss (2011).

#### 3. Detection and measurement of trade imbalances

Economic agents tend to extrapolate recent developments in their expectations for the future. This implies a misinterpretation of short- and medium-term economic trends as long-term sustainable developments. An example for this is the existence of price bubbles on housing markets. The longer and more stable recent price rises have been, the higher the chance that they enter into the plans of economic agents as permanently sustainable.

The opposite case is a frequently phenomenon, too. Long term developments are regarded as short term inferences which are expected to accommodate automatically in coming periods. As an example of this an unbalanced current account or a public deficit can serve. Usually such accounts are balanced in the short run only incidentally and periods of deficits are followed by periods of surpluses. In the long term average, however, the account should be balanced. It can be frequently observed that economic agents regard such deficits as just short living and not as a signal of persistent imbalances.

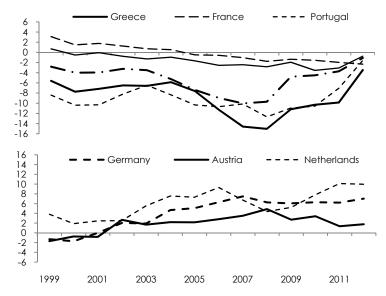
These both phenomena lead to the fact that economic imbalances are regarded either as short term events which will vanish automatically or long-term sustainable as in the past no correction mechanism could be observed.

The problems which became apparent with the great recession and which are called the "euro crisis" have two reasons. Firstly, some countries experienced a price bubble in the housing sector, which led to a boom in the construction industry and a massive indebtedness of private households. The domestic demand spurred by this — like in the USA — an economic boom reaching into 2008. The burst of this bubble in 2007 and 2008 reduced the value of collaterals for banks in a magnitude which forced them to ask for government help in many countries. The loss in asset value of private households led to revisions in consumption plans with severe consequences for the business cycle. This was the case in Spain, Portugal, Ireland, The Netherlands and partly in Italy.

Secondly, fears have proven true that some member states in the periphery of the European Union will lose competiveness without the instrument of a devaluation of their currency. Traditional wage bargaining processes there led to ongoing high wage increases making their products more expensive than their international competitors. As a consequence, exports of these countries performed below average und imports increased markedly due a crowding-out of domestically produced products. In spite of this these countries have shown a brisk economic performance till the great recession in 2008 which was spurred by a vivid domestic demand partly based on the housing boom there.

Inflation rates in these countries were continuously above the euro area average what dampened interest rates in real terms. Public expenditures and affluent wage increases - contributing to soaring household's disposable income – bolstered the economic upswing. In many cases countries which lost permanently competitiveness before the crises where the same as those experiencing a house price bubble. These were Portugal, Spain, Italy, Greece und Cyprus.

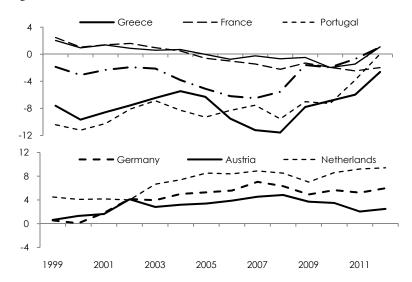
Figure 1: current account



Source: IMF, OeNB, WIFO calculations

In the following, the focus is on imbalances resulting from a loss in competiveness. The usual indicator for this is the current account. In fact, the included trade balance allows an even better evaluation of competitiveness, as it covers just traded goods and services with foreign countries, but the "euro crisis" concerns more the financiablity of current account deficits as a whole. Deficits stemming from factor income and transfers require coverage, too. For this reason both balances are considered here.

Figure 2: Trade balance



Source: IMF, OeNB, WIFO calculations

The exchange rate of a countries currency is an important feature of the price determined competiveness. Price changes vis-à-vis a foreign country can be split-up in domestic price increases and changes in the nominal exchange rate. The real exchange rate index covers both components, by considering not only changes in the nominal exchange rate but also the difference of domestic price changes between both trading partner countries. As countries have typically trading relations with more than one country the real effective exchange rate weighs all trading partners by their market share. Ideally, only price changes of traded products should enter into the calculation. As direct price data usually are not available, labor unit costs are used instead, which are calculated as ratio of wages and the production value. If product prices are constant an increase of labor unit costs leads to a reduction of profits which impedes the possibility of the enterprise to increase or maintain its competiveness by investments. A drawback of this approach is that wages just form one component of producer prices. If it can be assumed, however, that expenses for intermediate consumption are influenced strongly by prices of raw materials — what would effect all countries within the common currency area more or less the same way — this drawback seems to be acceptable. Consequently, an increase in the real-effective exchange rate implies a decrease of competitiveness and should therefore be reflected in the current account and trade balance, respectively.

Greece - France - Portugal Germany Austria Netherlands 

Figure 3: Real effective exchange rate

Source: European Commission. Deflated by relatively unit labor costs against 24 trading partners.

Due to the common currency, changes in the nominal foreign exchange rate are no longer possible within the euro are. Only price dynamics within each country relative to others determine the real effective exchange rate. These domestic price components can be the genuine trading prices, the inflation rate or labor unit costs, as in our case. Figure 4 shows the development of labor unit costs in certain European countries and Table 1 gives their components like wage increases per head etc.

- France - Portugal Greece 140 Italy 130 120 110 100 90 Germany Austria Netherlands 140 130 120 110 100 90

2005

Figure 4: Labor unit costs of the total economy

Source: European Commission

2001

1999

Table 1: Productivity, wages and labor unit costs

2003

	Produc	Productivity <sup>1</sup> )		Wages and salaries per employee <sup>2</sup> )				Unit labour costs			
				Nominal		Real <sup>3</sup> )		Nominal		Real <sup>3</sup> )	
	1999/	2009/	1999/	2009/	1999/	2009/	1999/	2009/	1999/	2009/	
	2008	2012	2008	2012	2008	2012	2008	2012	2008	2012	
	Average annual change in percent										
Greece	+ 2.1	- 1.1	+ 4.4	- 1.7	+ 1.2	- 3.9	+ 2.3	- 0.6	- 0.9	- 2.8	
Spain	+ 0.1	+ 2.5	+ 3.5	+ 1.1	+ 0.1	- 0.4	+ 3.4	- 1.4	- 0.0	- 2.9	
France	+ 0.9	+ 0.3	+ 2.9	+ 2.2	+ 0.9	+ 1.1	+ 2.0	+ 1.9	+ 0.0	+ 0.8	
Italy	- 0.0	- 0.9	+ 2.6	+ 0.8	- 0.1	- 0.9	+ 2.6	+ 1.7	- 0.1	- 0.0	
Portugal	+ 0.8	+ 1.1	+ 3.7	+ 0.3	+ 0.7	- 0.9	+ 2.8	- 0.7	- 0.1	- 1.9	
Germany	+ 1.1	- 0.2	+ 1.2	+ 2.0	- 0.2	+ 0.6	+ 0.1	+ 2.2	- 1.3	+ 0.7	
Austria	+ 1.3	- 0.3	+ 2.2	+ 2.0	+ 0.3	- 0.2	+ 1.0	+ 2.3	- 1.0	+ 0.1	
Netherlands	+ 1.1	- 0.4	+ 3.4	+ 1.5	+ 0.9	+ 0.2	+ 2.2	+ 1.9	- 0.2	+ 0.6	

2007

2009

2011

 $^{1}$ ) Real GDP per employment.  $^{2}$ ) Compensation per person in dependent employment.  $^{3}$ ) Deflated by private consumption deflator

Source: European Commission, WIFO calculations.

As labor unit costs are calculated as ratios with wages in the numerator and productivity in the denominator, wage hikes do only increase labor unit costs if productivity growth is lagging behind (see the box concerning the "Derivation of labor unit costs"). Contrary, if productivity grows stronger than wages, labor unit costs decrease. All together, labor unit costs can serve as a good yardstick for excessive wage increases able to be carried over to product prices. Especially for comparing two countries they have proven to be a good tool. Is to be compared with all trading partners, real effective exchange rates are the better choice.

Box 1: Derivation of labor unit costs

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labor\ unit\ costs = \frac{gross\ compensation\ of\ employees}{production}
per - head\ wages = \frac{gross\ compensation\ of\ employees}{number\ of\ employees}
productivity = \frac{production}{number\ of\ employees}
From\ this\ follows:
productivity = \frac{per\ - head\ wages}{labor\ unit\ costs}
respectively
labor\ unit\ costs = \frac{per\ - head\ wages}{productivity}
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As productivity measures the relation between labor input and production output, it can be derived as ratio between wages per head and labor unit costs. The presentation of labor unit costs as a fraction of wages per head and productivity allows a closer look into the causes of changes in competiveness. Doing so, it can be analyzed if an increase in the real-effective exchange rate is caused by low productivity or high wage rises. This can be very informative for economic policy decisions.

#### 4. Evolution of imbalances before the crisis

In 1999 the member of the euro area introduced a common currency. This fixed the nominal exchange rate between member countries irrevocably. The abolishment of monetary autonomy was rather new for many of those countries, but for others just a formalization of exchange rate policy already practiced for many years. The depreciation of the home currency vis-à-vis trading partners was frequently used by countries in the periphery of the later euro area, like Spain, Italy and Greece, in order to reestablish competitiveness after periods of high inflation. Other countries, like the Netherlands and Austria, pegged their currencies already for many years to the German mark, in order to foster or

<sup>&</sup>lt;sup>8</sup> If available, using wages per hour even improves the explanatory power of this measure.

maintain stable trading relations to this important market. With this peg both countries implicitly obliged themselves to orientate their productivity growth and wage bargaining towards Germany.

With the entrance into a currency union the rate of conversion in the starting period plays a decisive role. If it is fixed inadequately at the very beginning, internal adaption processes are necessary in order to avoid the emergence of imbalances due to differences in competitiveness which show up in current account imbalances later on. It is clear that foremost small countries have to adapt stronger as they posses a lower economic weight.

In the upper part of Figure 1 current account positions of Greece, Portugal, Spain, Italy and France are given. It can be clearly seen that already from the start of the monetary union in 1999 Spain, Greece and Portugal experienced a considerable current account deficit whereas France and Italy exhibited small surpluses. In Portugal the deficit was already 8% of GDP in 1999. The current accounts of Germany and Austria showed a small deficit of around 1½% and The Netherlands a surplus of 4%. A similar picture emerges if only trading activities which are part of the current account are considered; they are given in Figure 2.

Figure 3 shows the real-effective exchange rate index of the observed countries weighed according their 24 most important trading partners. As no figures can be given in absolute terms (for this an index has to be constructed from growth rates) nothing can be said about whether already from the start of the European Monetary Union existing imbalances were based on inadequate conversion rates between national currencies and the euro.

The unit labor costs representing the domestic prices changes on which the calculation of our real-effective exchange rate index is based are given in Figure 4. An increase indicates that the included gross wages were rising stronger than the related value of the production. In the upper part of the graph it can be observed that from 1999 onwards in several countries they experienced a significant increase. In Portugal and Greece, where the deficit in the trade balance right from start of the EMU accounted for 10½% and 7½% of GDP, respectively, labor unit costs increased till 2008 by around 25%. As this increase was far higher than in the other countries, external imbalances headed-up further. The strongest boost in labor unit costs with an increase of 35% within the observed time span could be observed in Spain. However, its trade deficit was just at 2% of GDP in 1999. The deterioration of the labor unit costs position led to an increase in the deficit to 6½% of GDP in 2008.

Likewise, in Italy (+26%), France (+20%) and the Netherlands (+22%) a decisive increase in labor unit costs could be observed over the first decade of the monetary union. But all those countries generated surpluses in 1999. The Netherlands showed a surplus in the trade balance of 4½% of GDP and the others ½% each. The steadily growing labor unit costs in Italy and France put more and more strain on the trade balance over the years and their surpluses turned into deficits. The Netherlands, however, surprisingly achieved an expansion of its surplus during this time to 9% of GDP till 2008.

<sup>&</sup>lt;sup>9</sup> Greece joined the monetary union two years later in 2001 but had to fix its exchange rate vis-à-vis to the euro already before for some time.

Relatively moderate was the increase of labor unit costs in Austria between 1999 and 2008 with +9%, whilst in Germany they nearly stagnated (+½%). This low increase compared to other trading partners increased their competitiveness within the euro area considerably and consequently their surpluses in the trade balance grew to 5% and 7% of GDP, respectively.

As already outlined, labor unit costs can be decomposed in gross wages and output. In order to analyze the causes of differences in the changes of labor unit costs, Table 1 gives the average annual changes of the components between 1999 and 2008, and 2009 till 2012. As relative changes of trading prices are in the focus of interest, nominal labor unit costs — as the ratio of nominal per-head wages and productivity — are given in this table. Contrary, real labor unit costs take account of the different domestic price changes (like the national inflation rate) but are not interesting when analyzing the international competiveness in a common currency.

From Table 1 it can be seen that productivity in the various countries evolved quite differently. Astonishingly, productivity growth was highest in Greece before 2008 with an average increase of 2.1% per year. It was followed by Austria (+1.3%), Germany and the Netherlands (both 1.1%), France (+0.9%) and Portugal (+0.8%). In Spain (+0.1%) and Italy (0.0%) productivity stagnated during this time.<sup>10</sup>

As nominal labor unit costs in some countries grew stronger than productivity, price determined competitiveness – as measured by labor unit costs – deteriorated in comparison with their main trading partners. This was the case especially in Spain where per-head wages increased on average by 3.5% per year between 1999 and 2008 what led for the same period to an increase of labor unit costs of 3.4% per year. In spite of the large productivity growth in Greece, labor unit costs increased by 2.3% as per-head wages rose 4.4% per year. The majority of countries experienced an annual increase of 2% to 3% of labor unit costs between 1999 and 2008 with no change in relative competitiveness in-between them. Clearly higher was Spain with +3% and considerably below Austria with +1% per year. In Germany labor unit costs even stagnated (+0.1%). Based on this results Germany and Austria gained in the first decade of the monetary union considerably in competitiveness within the euro area, while Spain lost most.

#### 5. Development of imbalances after the crisis

The external imbalances partly existing right from the start of the monetary union aggravated considerably in 2007 and 2008. Incurred deficits resulting from trade in goods and services were deliberately funded by cheap financial means from abroad. When this source abruptly dried up with the outbreak of the great recession in 2008, problems linked to these imbalances became apparent torrentially at the same time. The banking system within the monetary union slipped into distress and public budgets of those countries which recorded high deficits had severe problems to get affordable financial means on international markets. With the cooperation of the IMF, the European community prepared rescue

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This does not automatically mean that economic growth was low too, but just that employment increased or decreased at the same pace.

packages for ailing member states not without demanding structural reforms there. Austerity packages mainly aimed at reducing the public wage bill. The signaling effect of this and the spreading recession put pressure on per-head wages in other sectors of the economy, too. In Greece, per-head wages were reduced by 1.7% each year, between 2009 an 2012. Indeed, productivity shrank during this time span by 1.1% a year but less than per-head wages. Consequently, nominal unit labor costs went down 0.6% each year.

Of a similar magnitude was the reduction of unit labor costs with 0.7% a year in Portugal. Yet, productivity could be raised during this time but the increase observed in the years before shrank down to 0.3%. In Spain, productivity increased soared up to 2.5% a year. Consequently, labor unit costs decreased strongest amongst the observed countries by 1.4% annually, despite of an increase in wages per-head of 1.1% (after +3.5% in the years before the crisis). In Italy, France and the Netherlands the increase of labor unit costs was below 2%. Only in Austria and Germany they exceeded 2% per annum implying a loss of competitiveness within the euro area.

The effects of a step-by-step decrease of differences in the price determined competitiveness among member states since 2009 materialized quite rapidly in the balances of the foreign trade and service statistics and the current accounts respectively, as can be seen in Figure 1 and 2. Usually the decrease of deficits in foreign trade comes from a reduction of imports due to an adjustment regression weighing on domestic demand. In Greece, Spain, Portugal and Italy there could be observed a drop in 2009, but in the following years a stagnation or even an increase could be observed.

The improvement in the external balances mainly originated from an increase in exports from 2009 onwards (see Figure 2), what hints to improved competitiveness of these countries. Despite the freeze of the exchange rates between countries in nominal terms between EMU member states, real effective exchange rates recently regained their adjustment function which were absent in the years before the crisis. Only in France labor unit costs continued their upward trend even after the crisis and hence its current account balance did not improve but worsened, instead. In Germany, The Netherlands and Austria no change in labor unit costs could be observed in 2010 and 2011. Only in 2012 a small increase could be registered. Whereas The Netherlands could bolster their surplus in both external balances, it stagnated in Germany and decreased in Austria.

The analysis shows that external imbalances have been decreasing considerably since the crisis in 2008/2009. As a promising result, the improvement of imbalances in most countries of the periphery came from exports instead of lower imports due to the ailing domestic demand. The adjustment process seems to work now much more efficiently than at the start of the currency union. Nevertheless, it will be a long way till the economic structure of these countries will be sufficiently competitive to keep up with international trade. The large pile of foreign dept accumulated in past years does not just require a balanced foreign trade but surpluses for many years in order to reduce these obligations.

<sup>&</sup>lt;sup>11</sup> In Spain, productivity increase was mainly based on the shrinking construction industry where productivity dynamics – especially in residential construction - are usually low.

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