

# The Economic Rationale of an EMU Fiscal Capacity

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## Abstract

This paper explores the economic rationale of an EMU fiscal capacity. It explains that the EMU's architecture suffers from two structural weaknesses: a tendency to develop imbalances and an inherent deflationary bias. The analysis shows that the external imbalances developed during the first decade of the EMU were driven by the large demand shock brought forward by financial integration, rather than by differences in relative competitiveness. The analysis provides evidence that, when capital flows stopped, the adjustment was significantly driven by an important fall in aggregate demand in deficit countries, with large output and employment gaps. Results suggest that the main leverage of the efforts to regain relative competitiveness, reducing unit labour costs, was massive labour shedding. In the absence of a common instrument for demand management, the natural tendency towards an asymmetric path of adjustment, between deficit and surplus countries, determines an inevitable deflationary bias in the whole area. The paper then shows how a common fiscal capacity would have been designed, had it been in place since the beginning. Its key feature is the link with the relative (intra-EMU) external positions of the participating countries. This would have reduced external imbalances, periodically correcting them without a drag on aggregate demand; it would have also reduced the need for the system to exclusively rely on financial markets, thus reducing systemic risks; and it would have also provided an instrument for stabilization against common shocks. Its absence has undermined the stability of the monetary union.

Keywords: EMU; Fiscal Union; Capital Flows; Balance of payment; Employment.

JEL codes: E42; E63; F32; F33; F34; F42; F55

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<sup>1</sup> The opinions expressed in this paper are the author's alone and do not reflect those of the European Commission.

## 1. Introduction

Seven years after the outbreak of the financial crisis the Euro Area (EA) has not yet recovered its pre-crisis level of real GDP, unlikely most other advanced economies in the world. The Great Recession has hit all major economies, but its effects on the EA have been comparably stronger and more prolonged. It experienced a double-dip recession, the first of which was common to all advanced economies, while the second was very much specific to the currency union. The road to the recovery has been characterised by an increasing risk of deflation, which has posed serious threats and forced the European Central Bank (ECB) to adopt unconventional measures with the explicit aim of avoiding a deflationary spiral.

Against this background, and in order to explain the macroeconomic performance of the EA, an exhaustive analysis of the situation must look beyond the current trends and dig into the specific characteristics of the Economic and Monetary Union's (EMU) architecture. The establishment of the EMU was a peculiar case of an unprecedented divorce between the main monetary and fiscal authorities (Goodhart, 1998). This was meant to be a first step in the integration process, which would have led to a complete economic and political union. The incompleteness of the union, however, was fatally exposed once the financial crisis hit and it has often been pointed out as key explanation for the long recession, for economic (De Grauwe, 2013; Obstfeld, 2013), political (O'Rourke and Taylor, 2013; Spolaore, 2013), and institutional reasons (Acocella, 2014a).

From its creation to the beginning of the financial crisis the EMU achieved moderate growth<sup>2</sup> and convergence among participating countries; from the financial crisis onwards, however, it has rather had stagnating growth and increasing divergences. Nevertheless, contrary to the common narrative, it can be argued that the financial crisis did not represent a proper asymmetric shock for the EMU. The crisis provoked as an immediate consequence a fall in output which was pretty similar across the whole area. All countries fell into recession in the same year (2009) and growth rates in each country in the years before and after 2009 were quite similar. The Great Recession, in the end, was not a typical asymmetric shock. Notwithstanding we observe increasing divergences among EMU countries and this suggests that a source of asymmetries does exist.

## 2. The "twin divergences"

Since the beginning of the EMU, and until the outbreak of the crisis, the external positions of countries in the EA were diverging considerably. Important deficits were gradually accumulated in part of the union, with corresponding surpluses in the rest. The Euro Area as a whole had a rather balanced external position. The imbalances accumulated confirmed the hypothesis that under a fixed exchange rate regime among economies with different business cycles, and without

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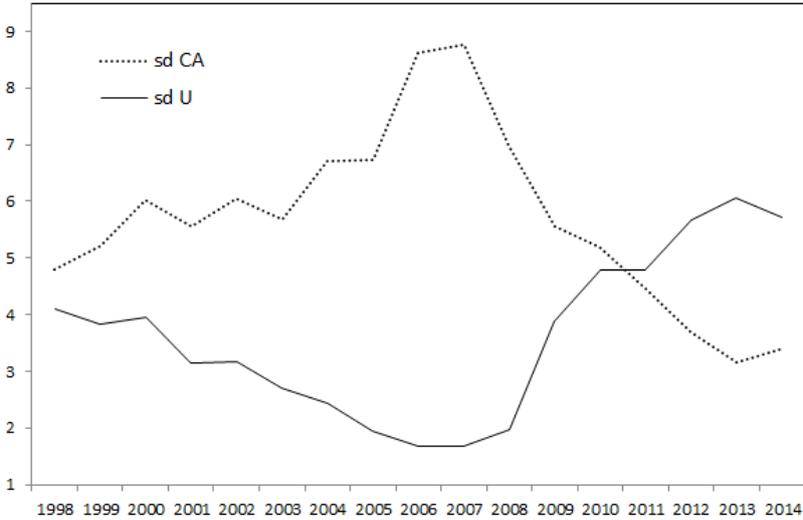
<sup>2</sup> Average growth rates in the EA were 2.3 per year from 1999 to 2007, compared to 2.9 for the US, 3.0 for other advanced economies, 6.2 for emerging countries and 4.4 for the world as a whole. They have been slightly negative since 2008 (-0.1), while for the rest of the world they have been positive (1.1 for the US; 5.1 for other advanced economies; and 3.3 for the world as a whole).

a full coordination of economic policies, even the minimum structural divergences in business cycles are likely to amplify divergences in the balance of payments (Friedman, 1953; Kaldor, 1971) and these differences are likely to persist (Fleming, 1971; Berger and Nitsch, 2010).

The external disequilibria of the current accounts reflected corresponding internal disequilibria between savings and investments (Eichengreen, 2010). Surplus countries were systematically generating an excess of savings, with a level of investment around 20% of GDP and a level of savings around 25% of GDP. The opposite happened in deficit countries, where these figures were inverted, showing a symmetric "excess of investments". At the same time, however, the participating countries were converging in a number of other aspects. Some had argued that growing external imbalances, within the Euro Area, were a healthy signal of an efficient allocation of capital across the area (Blanchard and Giavazzi, 2002). Countries with lower income per capita were catching up, and unemployment rates were converging.

A key stylized fact of the EMU is the symmetric relation between external imbalances and convergence in employment outcomes: the growing divergences in the current account balances within the EMU were mirrored by decreasing divergences in the unemployment rates, as the following figure shows. Once the process reversed and the external imbalances started to narrow, unemployment rates diverged again.

**Figure 1: Divergences ( $\sigma$ ) in current account and unemployment rates in the EMU, 1998-2014**



Source: own calculations on IMF WEO database, April 2015.

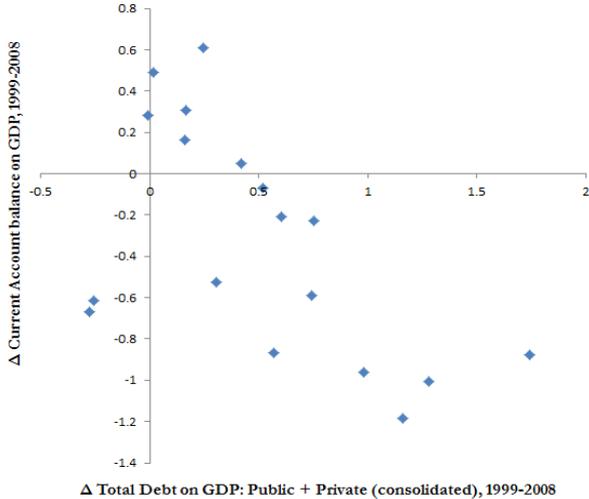
During the first period, up to the crisis, the EMU relied on what the literature had called the "private insurance channel": growing financial integration was channelling the excess of savings from surplus to deficit countries through financial markets. Some had suggested that a monetary union among countries keeping their fiscal autonomy could compensate the lack of a common fiscal capacity through such a transfer mechanism brought forward by financial integration (Mundell, 1973; Eichengreen, 1992). The absence of exchange rate risks promoted financial integration among EA economies, thereby increasing capital flows. With the establishment of the monetary union, an important signalling function of the exchange rate was lost (Michie, 2000;

Tornell and Velasco, 2000), without being replaced by any other common institution. As Acocella (2014b) explains, in this case markets have difficulties in delivering the right signals of imbalances, underreacting or overreacting, and cannot properly correct them. This can even cause further imbalances, as free mobility of capital can create bubbles which mask them (p.17).

Capital flows accounted for around 12% of Euro Area GDP in 2001, and they skyrocketed until 42% in just six years (Lane, 2013). This acted as an internal system of transfers, operating through the private sector by financial markets (Hale and Obstfeld, 2014), instead than through the long-advocated common fiscal capacity (Pasimeni, 2014). The functioning of the EMU became itself a kind of large asymmetric shock, even if a relatively gradual one (Krugman, 2012). This triggered an important demand shock in the area.

The relation between current account imbalances and financial integration is one of the major features of the pre-crisis global environment (Lane and Milesi-Ferretti, 2012), however, its speed and relevance increases in a currency union, where the smoothing role of the exchange rate disappears. Massive capital inflows have the power to foster asset booms, easy credit and excessive investments in the receiving countries (Vianello, 2005; Lane and Milesi-Ferretti, 2014). As a result, two different growth patterns emerged across the Euro Area: an export-led growth model in the core and a debt-led growth model in the periphery (Stockhammer, 2013). The two were closely interdependent (Hein, 2012).

**Figure 2: Debt-led vs export-led growth models in the Euro Area, 1999-2008**



Source: own calculations on IMF and Eurostat data.

The functioning of such a mechanism is illustrated by the two specular dynamics of private indebtedness in deficit countries and banks’ exposure in surplus ones. Credit booms and asset-price bubbles in the deficit countries provided banks in surplus countries with strong incentives to increase their exposure. There is evidence (Hale and Obstfeld, 2014) that after the euro’s introduction banks in surplus countries increased their borrowing from outside of the EMU in order to increase their lending to the deficit countries within the EMU. This behaviour dramatically fuelled imbalances and increased the fragility of the whole banking sector.

A single monetary policy for the whole area could not be tailored on the diverging needs of the participating countries. It meant that interest rates could not move according to the requirements of different domestic conditions (Currie, 1997), with inflationary booms in some countries not shared by other countries that rather experienced stagnation periods. When there are divergences in inflation rates a common nominal policy rate set by the common central bank implies lower real interest rates in higher inflation countries, therefore "stoking up demand" in these countries, and reinforcing the divergences (Arestis and Sawyer, 2011).

### 3. Supply or demand?

The explanation of external imbalances accumulated in the Euro Area prior to the crisis has often put cost competitiveness at the centre, arguing that the divergences in unit labour costs (ULC) were the main driver of such imbalances. However, the mechanism described above seems to suggest that it was rather a gradual but large demand shock what drove the divergences in the external positions of the Member States.

We try to investigate this question by running a regression of the current account balance on domestic demand and on unit labour costs, in order to see which of the two factors explains better the changes in the external positions. The specification takes this form:

$$\Delta CA = \alpha + \beta \Delta \log (DD) + \gamma \Delta \log (ULC) + F_i + F_t + \varepsilon$$

Where CA is the current account balance in percentage of GDP, DD is domestic demand at 2010 constant prices, ULC is nominal unit labour costs<sup>3</sup>,  $F_i$  are country fixed effects, and  $F_t$  time fixed effects.

**Table 1: Estimated current account equation in the EA, 1999-2014**

|            | Dependent variable = CA |                        |                         |                        |
|------------|-------------------------|------------------------|-------------------------|------------------------|
|            | OLS Panel               |                        | OLS Prais-Winsten AR(1) |                        |
|            | (1)                     | (3)                    | (5)                     | (7)                    |
| Sample     | EA                      | EA                     | EA                      | EA                     |
| Years      | 1999-2014               | 1999-2014              | 1999-2014               | 1999-2014              |
| ULC        | -0.146<br>(-0.04)       | -1.471<br>(-0.41)      | 3.130<br>(0.92)         | 2.350<br>(0.69)        |
| DD         | -43.410***<br>(-16.29)  | -45.896***<br>(-16.39) | -40.743***<br>(-15.93)  | -42.596***<br>(-15.85) |
| Constant   | 0.851***<br>(5.66)      | 161.479***<br>(2.63)   | 0.735***<br>(5.20)      | 126.292**<br>(2.16)    |
| R-sq       | 0.490                   | 0.498                  | 0.497                   | 0.506                  |
| Obs        | 270                     | 270                    | 270                     | 270                    |
| Country FE | v                       | v                      | v                       | v                      |
| Time FE    |                         | v                      |                         | v                      |

<sup>3</sup> Ratio of compensation per employee to real GDP per person employed.

Note: The table reports the estimates of OLS Panel and Prais-Winsten AR(1) regressions. Dependent variable is the change in the current account balance in percentage of GDP. The annual data are from Ameco. Values in parentheses are t-statistics. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 1 summarizes the results for the equation explaining changes in the current account balance with changes in domestic demand and ULC. The role of domestic demand is statistically significant at the 1% level in all specifications of the model, while the same is not true for ULC. The results hold true when we control for time fixed effects, or when we use the Prais-Winsten estimator, and also when we use both. The Prais-Winsten estimator takes into account panel heteroskedasticity, panel autocorrelation, and contemporaneous correlation (HPAC) (Beck and Katz, 1995), and is more efficient in cases where the number of time observations is close to the number of cases (countries) (Chen et al, 2009)<sup>4</sup>.

These results suggest that demand fluctuations are more important than relative competitiveness in explaining the current account imbalances in the EA. They also confirm what had been pointed out in the recent literature on current account in the Euro Area: the hypothesis that intra-EMU trade imbalances were caused not so much by changes in relative cost competitiveness, but rather by demand shocks (Storm and Naastepad, 2014). Di Mauro and Forster (2010) also argue that over the last twenty years the correlation between unit labour costs and export growth has been decreasing. Several studies had proved that, particularly in the Euro Area, changes in relative cost competitiveness were not the significant determinant of current account imbalances (Gabrisch and Staehr, 2013; Gaulier and Vicard, 2012). Divergences in unit labour costs were more a consequence than a cause of demand shocks triggered by capital flows.

In order to further analyse this relation, it is worth investigating whether there is any diverging path among surplus and deficit countries within the Euro Area. The imbalances accumulated up to the crisis divided the area in two main groups of countries, with opposite stances<sup>5</sup>. We run the same regression splitting the Euro Area in deficit and surplus countries.

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<sup>4</sup> The Prais-Winsten estimator with panel-corrected standard errors (PCSE) yields standard errors that are robust to 2 types of violation of the standard OLS assumptions. 1st the SE are robust to each country having a different variance of disturbances. Secondly, they are robust to each country's observations being correlated with those of other countries over time. The control for within-panel serial correlation is an additional feature that allows for assuming 2 types of autocorrelation coefficients: a single coefficient that is common to all countries; and different autocorrelation coefficients that are specific to each country. This additional feature enables us to avoid the inefficient estimate problem that arises when the data follows an autoregressive process (Ugur, M. (Ed.). (2013). *Governance, Regulation and Innovation*. Edward Elgar Publishing).

<sup>5</sup> Several classifications have been attempted to define these two groups, based on geographical criteria (core vs periphery), financial problems (stressed vs non-stressed), or trade balances at a certain point in time (surplus vs deficit at the beginning of the crisis). This last criterion is more objective, but it seems more correct to apply it to the cumulative stance developed up to 2007. In other words, the division of EMU countries in the two groups of surplus and deficit, used in this paper, is based on the cumulative CA balance up to the crisis.

**Table 2: Estimated current account equation in EA Deficit and Surplus countries, 1999-2014**

Dependent variable = CA

|            | OLS Panel  |            |            |            | OLS Prais-Winsten AR(1) |            |            |            |
|------------|------------|------------|------------|------------|-------------------------|------------|------------|------------|
|            | (1)        | (2)        | (3)        | (4)        | (5)                     | (6)        | (7)        | (8)        |
| Sample     | EA Deficit | EA Surplus | EA Deficit | EA Surplus | EA Deficit              | EA Surplus | EA Deficit | EA Surplus |
| Years      | 1999-2014  | 1999-2014  | 1999-2014  | 1999-2014  | 1999-2014               | 1999-2014  | 1999-2014  | 1999-2014  |
| ULC        | 7.851*     | -57.981*** | 6.139      | -59.568*** | 10.090**                | -43.550*** | 9.047**    | -43.523*** |
|            | (1.90)     | (-5.98)    | (1.47)     | (-6.16)    | (2.54)                  | (-6.00)    | (2.25)     | (-6.09)    |
| DD         | -47.266*** | -45.777*** | -49.596*** | -49.755*** | -44.727***              | -33.742*** | -46.313*** | -36.692*** |
|            | (-15.76)   | (-5.43)    | (-15.52)   | (-5.68)    | (-15.37)                | (6.628)    | (-14.92)   | (-5.37)    |
| Constant   | 0.916***   | 1.665***   | 172.332**  | 105.885    | 0.816***                | 1.231***   | 120.980    | 88.745     |
|            | (4.63)     | (0.299)    | (1.99)     | (1.58)     | (4.29)                  | (5.58)     | (1.43)     | (1.62)     |
| R-sq       | 0.594      | 0.286      | 0.599      | 0.298      | 0.599                   | 0.303      | 0.604      | 0.321      |
| Obs        | 165        | 105        | 165        | 105        | 165                     | 105        | 165        | 105        |
| Country FE | v          | v          | v          | v          | v                       | v          | v          | v          |
| Time FE    |            |            | v          | v          |                         |            | v          | v          |

Note: The table reports the estimates of OLS Panel and Prais-Winsten AR(1) regressions. Dependent variable is the change in the current account balance in percentage of GDP. The annual data are from Ameco. Values in parentheses are t-statistics. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 2 summarizes the results for the two groups of countries. The coefficient for domestic demand is still statistically significant at the 1% level in all specifications, for both surplus and deficit countries. However, ULC are significant at the same level only in surplus countries. The same results hold true when we control for time fixed effects. They show that demand factors were certainly determining current account positions in both parts of the EA; however improved relative competitiveness played a role only in surplus countries.

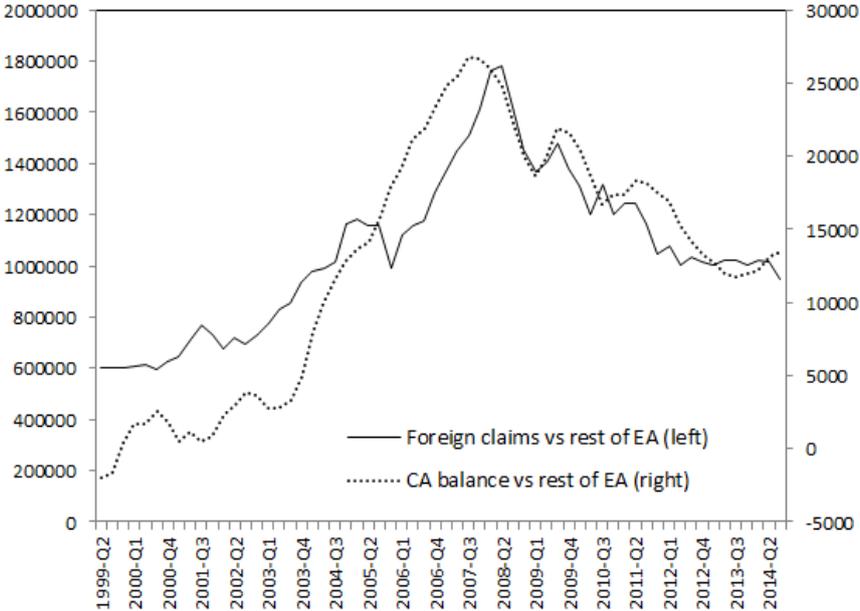
This may suggest that the demand shock was the key driver of external imbalances within the Euro Area, but efforts to improve relative competitiveness in surplus countries were also contributing. The results confirm the findings by other studies (Diaz Sanchez and Varoudakis, 2013) who found that, in deficit countries in the Euro Area, unit labour costs play a "negligible" role in explaining growing external imbalances.

#### 4. Germany's Current Account

The impact of the mechanism of the "private insurance channel" on the external positions of the EA countries can be better explained by analysing the case of Germany: the country which ran the largest current account surplus channelled its excess of savings through the increasing exposure of its banking sector towards the rest of the EA. A first, stylized fact is shown by the

similar trends of the exposure of the German banks and the country's current account balance towards the rest of the Euro Area.

**Figure 3: Exposure of German banks and German Current Account balance vis-à-vis the rest of the EA (1999-2014, quarterly)**



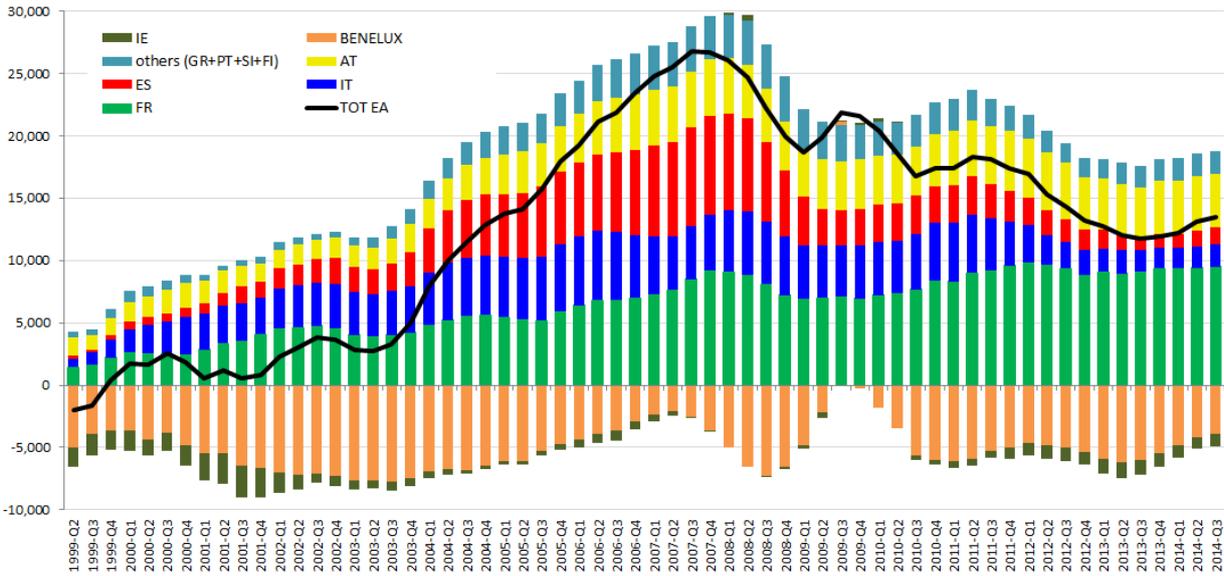
Source: own elaboration on data from the Bank of International Settlements and the Deutsche Bundesbank.

The same applies to the bilateral relations between Germany and each other Euro Area country. At the inception of the EMU Germany had a rather balanced CA position towards the rest of the area. It started developing an important surplus from 2003 to 2007, whose main sources were France, Italy, Spain, and Austria. At the same time, it had a deficit towards Benelux countries. In 2008 the German surplus towards the EA started decreasing, driven in particular by shrinking demand from Italy and Spain. France and Austria, on the contrary, continue running persistent deficits towards Germany. With the exception of end-2009, Germany's CA position with Benelux remained a stable deficit, throughout the whole period.

Over the whole period since the inception of the EMU Germany had a cumulated surplus towards France, Italy, Spain, Austria, Greece, Portugal, Finland and Slovenia, and a cumulated deficit towards the Netherlands, Belgium, Luxembourg and Ireland<sup>6</sup>. If we take a closer look at the bilateral relations of the banking sectors with these countries, we observe that the trends in the CA balance reflect those of banks' exposure versus each country.

<sup>6</sup> Bilateral data available only for these 12 countries.

Figure 4: Evolution of German Current Account balance towards other EA countries



Source: own elaboration on data from the Deutsche Bundesbank.

The current account balance of Germany vis-à-vis each other EA member state<sup>7</sup>, may be determined by changes in relative competitiveness and by relative changes in domestic demand in Germany and in each other trade partner. A regression analysis can help understand better the role played by each factor. The dependent variable in the analysis is the bilateral current account balance of Germany vis-à-vis each EA expressed in percentage of Germany's GDP (CA).

In order to capture the change in domestic demand due to investments, we use gross fixed capital formation (GFKF) on GDP, and in particular the difference between this share in Germany and in each trading partner. The sign of the coefficient associated to this factor can tell us if higher (lower) investments were actually leading to deficits or surpluses, between Germany and each other country. A measure of the exposure of the banking sector towards each other country (EXP), can shed some light on the importance this channel had (or not) in determining the bilateral current account positions. This is measured relative to German GDP. As a measure of relative competitiveness, we use the real effective exchange rate (RE) based on unit labour costs (ULC), and in particular the difference between the German rate and the one of each trading partner. In some specifications, we also include the long term government bond yields (Maastricht definition – average), and in particular the difference between the German rate and the one of the partner.

<sup>7</sup> Data are available for 12 countries: France, Italy, Spain, Austria, Greece, Portugal, Finland, Slovenia, the Netherlands, Belgium, Luxembourg and Ireland.

**Table 3: Determinants of bilateral Germany's current account balance, 1999-2014, quarterly**

|            | Dependent variable = $CA_{DE}^j / GDP_{DE}$ |                     |                     |                     |                     |                     |                     |                     |                      |                     |                     |                      |                     |                      |                      |
|------------|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|----------------------|---------------------|----------------------|----------------------|
|            | (1)   | (2)                 | (3)                 | (4)                 | (5)                 | (6)                 | (7)                 | (8)                 | (9)                  | (10)                | (11)                | (12)                 | (13)                | (14)                 | (15)                 |
| EXPOSURE   | .296***<br>(17.27)                          | .300***<br>(17.84)  | .301***<br>(17.03)  | .306***<br>(17.61)  | .344***<br>(19.06)  | .201***<br>(11.68)  | .179***<br>(9.75)   | .162***<br>(9.24)   | .128***<br>(7.22)    | .127***<br>(7.15)   | .228***<br>(13.42)  | .175***<br>(10.92)   | .191***<br>(9.78)   | .209***<br>(11.54)   | .208***<br>(11.50)   |
| REER       |   |                     | -.000<br>(1.06)     | -.000<br>(1.28)     | -.000*<br>(2.58)    |                     |                     | .001***<br>(-10.63) | -.001***<br>(-10.56) | -.001***<br>(-9.63) |                     |                      | -.000***<br>(-3.72) | .001***<br>(3.89)    | .001***<br>(3.99)    |
| INVEST     |   | -.228***<br>(-5.64) |                     | -.227***<br>(-5.62) | -.380***<br>(-8.20) |                     | -.152***<br>(-6.97) |                     | -.143***<br>(-7.05)  | -.185***<br>(-6.90) |                     | -.256***<br>(-12.65) |                     | -.310***<br>(-12.72) | -.346***<br>(-11.99) |
| INT.RATE   |   |                     |                     |                     | -.005***<br>(-6.53) |                     |                     |                     |                      | -.001*<br>(-2.40)   |                     |                      |                     |                      | -.001***<br>(-2.15)  |
| Constant   | -.017***<br>(-7.14)                         | -.022***<br>(-8.73) | -.015***<br>(-4.97) | -.020***<br>(-6.21) | -.029***<br>(-8.36) | -.008***<br>(-3.53) | -.007***<br>(-3.11) | -.014***<br>(-6.64) | -.013***<br>(-6.14)  | -.014***<br>(-6.52) | -.021***<br>(-8.69) | -.024***<br>(-10.92) | -.018***<br>(-7.41) | -.028***<br>(-11.66) | -.029***<br>(-11.99) |
| R-sq       | 28.68                                       | 31.98               | 28.78               | 32.13               | 35.81               | 28.68               | 31.95               | 22.08               | 23.03                | 23.92               | 30.55               | 34.70                | 26.33               | 39.52                | 40.37                |
| Obs        | 744   | 741                 | 744                 | 741                 | 730                 | 744                 | 741                 | 744                 | 741                  | 730                 | 744                 | 741                  | 744                 | 741                  | 730                  |
| Countries  | 12  | 12                  | 12                  | 12                  | 12                  | 12                  | 12                  | 12                  | 12                   | 12                  | 12                  | 12                   | 12                  | 12                   | 12                   |
| Country FE |   |                     |                     |                     |                     | v                   | v                   | v                   | v                    | v                   | v                   | v                    | v                   | v                    | v                    |
| Time FE    |   |                     |                     |                     |                     |                     |                     |                     |                      |                     | v                   | v                    | v                   | v                    | v                    |

Note: The table reports the estimates of OLS Panel regressions. Dependent variable is the change in the bilateral current account balance of Germany vs each partner country within the EA, in percentage of Germany's GDP. The quarterly data are from Deutsche Bundesbank, Bank of International Settlements, Ameco and Eurostat. Values in parentheses are t-statistics. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

The specification takes this form:

$$\frac{CA_{DE}^j}{GDP_{DE}} = \alpha_1 + \alpha_2 \frac{EXP_{DE}^j}{GDP_{DE}} + \alpha_3 (RE_{DE}^{ULC} - RE_j^{ULC}) + \alpha_4 \left( \frac{GFKF_{DE}}{GDP_{DE}} - \frac{GFKF_j}{GDP_j} \right) + \alpha_5 (IR_{DE} - IR_j) + F_j + F_t + \varepsilon$$

In this specification,  $F_j$  represents country fixed effects, and  $F_t$  time fixed effects.

The results show an important and significant effect of the banks' exposure and of the difference in investments on the bilateral current account balance. Real effective exchange rates and interest rates are significant, but with very low coefficients. The results tell that the exposure of the German banking sector towards each other EA country has actually been significantly associated with the German current account balance with the other member of the EMU (positive and significant coefficients). At the same time, the comparatively lower level of investments made in Germany was the other relevant and significant determinant of the bilateral current account surpluses (negative and significant coefficients). Time fixed effects suggest that these relations are independent of any specific policy change that might have occurred.

These results confirm the hypothesis that intra-EMU trade imbalances are caused not so much by changes in relative cost competitiveness, but rather by demand shocks and in investments in particular. The lower the investments in Germany compared to the trading partner, the higher the bilateral surplus, and vice versa. Danninger and Joutz (2007) similarly studied the determinants of Germany's export performance, finding that it was mainly linked to trade relationships with fast growing countries, rather than on improved relative cost competitiveness, which actually "played a comparatively smaller role in explaining the brisk export growth" (less than 2% of German export growth).

Secondly, the significant effect of the banking sector's exposure on current account balance provides an illustration of the role played by the "private insurance channel". The larger the capital outflow from Germany to each trading partner, the higher the bilateral surplus, and vice versa. The sizeable excess of savings transferred by the banking sector from Germany to other EMU countries, in a context of growing financial integration, were sustaining aggregated demand in the other countries, and therefore their imports from Germany, in a kind of vendor-financing operation.

## 5. The adjustment

The mechanism of the "private insurance channel" was at the core of the EMU functioning, allowing for those transfers from surplus to deficit countries that could not occur through any common institutional or policy arrangement, as a common fiscal capacity. A key difference between a transfer system exclusively based on financial markets and one based also on a common institutional setting is that the former behaves in a more pro-cyclical way. As a matter of fact this mechanism was broken by the financial crisis, which, even if originated in the US, challenged the solidity of the EMU's architecture: capital flows from surplus to deficit countries

came to a sudden stop (Lane, 2013). The "private insurance channel" instead of acting as a stabiliser suddenly contracted. Its resilience and the sustainability of a monetary union based on it proved weak. Imbalances built until that point became a source of concern. Current account deficits were not backed anymore by intra-EA transfers, even if in the form of private capital flows; therefore they became unsustainable. The Euro Area then faced an urgent rebalancing problem.

The burden of the adjustment fell mainly on deficit countries, under bigger pressure to restore equilibrium in the external balance. In the absence of those capital flows which had sustained and fuelled so far the external imbalances, these countries had to drastically compress domestic demand, in order to reduce imports. Current account imbalances considerably narrowed and deficit countries reduced their current account deficits by 80% between 2007 and 2013, a reduction equal to 0.7% of world GDP (Lane and Milesi-Ferretti, 2014). The narrowing of external imbalances has been achieved even more rapidly than their accumulation, and it has been associated with a comparable rise in intra-EMU divergences.

A more detailed analysis of the adjustment process can help us understand how this occurred. We can investigate the relevance of cyclical factors in this adjustment, and to this end we test the impact of a cyclical indicator, like the output gap, on the current account stance. At the same time, and as suggested by the "twin divergences", it is interesting to study to what extent unemployment is associated to the current account positions. Therefore, the equation to be estimated is the following:

$$\Delta CA = \alpha + \beta \Delta Y^* + \gamma \Delta U + F_j + F_t + \varepsilon$$

Where CA is the current account balance in percentage of GDP, Y\* is the output gap, U is the unemployment rate, F<sub>j</sub> are country fixed effects, and F<sub>t</sub> time fixed effects.

**Table 4: Estimated equation of CA balance on output gap and unemployment, 1999-2014**

|              | Dependent variable = CA |                     |                         |                      |
|--------------|-------------------------|---------------------|-------------------------|----------------------|
|              | OLS Panel               |                     | OLS Prais-Winsten AR(1) |                      |
|              | (1)                     | (3)                 | (5)                     | (7)                  |
| Sample       | EA                      | EA                  | EA                      | EA                   |
| Years        | 1999-2014               | 1999-2014           | 1999-2014               | 1999-2014            |
| OUTPUT GAP   | -0.175**<br>(-2.51)     | -0.175**<br>(-2.51) | -0.190***<br>(-2.80)    | -0.189***<br>(-2.80) |
| UNEMPLOYMENT | 0.496***<br>(3.97)      | 0.468***<br>(3.71)  | 0.454***<br>(3.94)      | 0.425***<br>(3.66)   |
| Constant     | 0.091<br>(0.66)         | -85.580<br>(-1.32)  | 0.094<br>(0.74)         | -92.589<br>(-1.53)   |
| R-sq         | 0.192                   | 0.199               | 0.204                   | 0.213                |
| Obs          | 254                     | 254                 | 254                     | 254                  |
| Country FE   | v                       | v                   | v                       | v                    |
| Time FE      |                         | v                   |                         | v                    |

Note: The table reports the estimates of OLS Panel and Prais-Winsten AR(1) regressions. Dependent variable is the change in the current account balance in percentage of GDP. The annual data are from IMF-WEO April 2015. Values in parentheses are t-statistics. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 4 summarizes the results of the estimated equation. Both the output gap and the rate of unemployment help explain the external imbalances in the EA in a statistically significant way. The coefficient associated to the unemployment rate seems bigger.

Now it would be useful to understand if this relation between these factors and the current account balance is a stable characteristic of the system over time, or if the change imposed by the crisis has played a role. To disentangle this effect, we split the sample in two periods, a first one, from the inception of the EU until the outbreak of the crisis (1999 to 2008), and a second one, covering the adjustment period (2009-2014).

**Table 5: Estimated equation of current account balance on output gap and unemployment, pre-crisis (1999-2008) vs adjustment period (2009-2014)**

| Dependent variable = CA |                   |                     |                   |                     |                         |                    |                   |                     |
|-------------------------|-------------------|---------------------|-------------------|---------------------|-------------------------|--------------------|-------------------|---------------------|
|                         | OLS Panel         |                     |                   |                     | OLS Prais-Winsten AR(1) |                    |                   |                     |
|                         | (1)               | (2)                 | (3)               | (4)                 | (5)                     | (6)                | (7)               | (8)                 |
| Sample                  | EA                | EA                  | EA                | EA                  | EA                      | EA                 | EA                | EA                  |
| Years                   | 1999-2008         | 2009-2014           | 1999-2008         | 2009-2014           | 1999-2008               | 2009-2014          | 1999-2008         | 2009-2014           |
| OUTPUT GAP              | -0.125<br>(-1.09) | -0.193**<br>(-2.06) | -0.101<br>(-0.86) | -0.215**<br>(-2.24) | -0.145<br>(-1.30)       | -0.172*<br>(-1.95) | -0.121<br>(-1.07) | -0.201**<br>(-2.22) |
| UNEMPL                  | 0.332<br>(1.56)   | 0.365**<br>(2.02)   | 0.331<br>(1.56)   | 0.399**<br>(2.18)   | 0.307<br>(1.55)         | 0.439***<br>(3.12) | 0.308<br>(1.56)   | 0.457***<br>(3.25)  |
| Constant                | -0.173<br>(-0.93) | 0.481**<br>(2.02)   | 189.718<br>(1.35) | -293.217<br>(-1.04) | -0.167<br>(-0.93)       | 0.454**<br>(2.35)  | 175.219<br>(1.30) | -314.847<br>(-1.33) |
| R-sq                    | 0.042             | 0.270               | 0.052             | 0.281               | 0.044                   | 0.291              | 0.055             | 0.305               |
| Obs                     | 152               | 102                 | 152               | 102                 | 152                     | 102                | 152               | 102                 |
| Country FE              | v                 | v                   | v                 | v                   | v                       | v                  | v                 | v                   |
| Time FE                 |                   |                     | v                 | v                   |                         |                    | v                 | v                   |

Note: The table reports the estimates of OLS Panel and Prais-Winsten AR(1) regressions. Dependent variable is the change in the current account balance in percentage of GDP. The annual data are from IMF-WEO April 2015. Values in parentheses are t-statistics. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 5 summarizes the main results of the regression, with the split into two periods. First of all, we note that in the adjustment period, compared to the pre-crisis years, the explanatory capacity of the model, composed only by these two elements, increases substantially; the R-sq is multiplied by a factor of six. Then, the coefficients associated with the two explanatory variables, output gap and unemployment rate, are statistically insignificant in the pre-crisis period, but the systematically become significant during the adjustment period, under all estimation used (panel or Prais-Winsten) and regardless of the controls for time fixed effects.

These results have strong implications for the hypothesis we wanted to test. First, we find confirmation that the outbreak of the crisis has changed something in the functioning of the EMU, and in particular on the underlying determinants of the current account positions of the Member States. Second, while unemployment rates and output gaps do not seem to have been significant drivers of the accumulation of external imbalances, they do play a key role in

explaining the subsequent adjustment of those imbalances. This confirms the cyclicity of the adjustment in the Euro Area (Tressel and Wang, 2014). The reduction of external imbalances within the EA implied an important fall in aggregate demand, through a reduction of imports in deficit countries. Third, in the adjustment period, the relative importance of unemployment seems to increase, even over the cyclical fluctuations.

The analysis of changes in ULC can help explain this finding. Even if external imbalances had mainly been driven by demand shocks, rather than changes in relative cost competitiveness (Di Mauro and Forster, 2010; Gaulier and Vicard, 2012; Diaz Sanchez and Varoudakis, 2013; Gabrisch and Staehr, 2013; Storm and Naastepad, 2014), a big effort was done in deficit countries to regain relative competitiveness by reducing relative unit labour costs (ULC).

As expected (Minsky, 1992), after a decade of massive capital inflows, accompanied by easy access to credit, booming asset prices, comparatively higher growth and inflation rates, deficit countries found themselves with prices and unit labour costs out of line with those in surplus countries. The combination of large negative net foreign asset positions and markets pressure forced these countries to reduce relative prices in order to reorient spending towards domestic goods and services, and production to the tradable sector. Being in a currency union, devaluation had to be achieved through a fall in domestic prices relative to trading partners (Kang and Shambaugh, 2015).

For this reason the adjustment focused also on reducing unit labour costs. In order to better disentangle the main drivers of this adjustment, we can estimate the elasticity of unit labour costs to the distinct components, of real output (GDP), total employment (L) and nominal compensation per employee (W), for the Euro Area as a whole, and for the two sub-groups of surplus and deficit countries. The equation to be estimated takes this form:

$$\log ULC = \alpha + \beta \log GDP + \gamma \log L + \eta \log W + F_i + \varepsilon$$

where  $F_i$  are country fixed effects. The objective is to estimate the relative values of the coefficients associated with the main components of ULC: ( $\beta$ ) relative to real GDP, ( $\gamma$ ) relative to total employment, and ( $\eta$ ) to the nominal compensation per employee. Table 6 summarizes the results for the ULC equation. All coefficients are statistically significant at the 1% level in all specifications. The results show that in the Euro Area as a whole, the three components have a similar impact on the evolution of ULC (column 1), however in the post crisis period (column 3) the coefficient associated to changes in total employment ( $\gamma$ ) becomes much more relevant compared to the pre-crisis period (column 2).

If we analyse separately deficit and surplus countries, we observe that this substantial change is driven by what happened in deficit countries: the coefficient ( $\gamma$ ) associated to changes in total employment becomes much higher for deficit countries, in the post crisis period, when the adjustment takes place (columns 5 and 6) compared to what happens in surplus countries (columns 8 and 9). The stronger effect of changes in total employment on ULC is evident also in surplus countries, suggesting that higher flexibility of labour markets is driving the adjustment in both directions. However, the change is bigger in deficit countries.

**Table 6: Unit Labour Costs in the Euro Area**

(Full, Deficit, Surplus) - (1999-2014, 1999-2008, 2009-2014) - (Panel, Prais-Winsten AR)

Dependent variable = LogULC

|            | Panel regression      |                       |                       |                       |                       |                       |                       |                       |                       | OLS Prais-Winsten (AR(1)) |                        |                       |
|------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|------------------------|-----------------------|
|            | EA Full               |                       |                       | EA Deficit            |                       |                       | EA Surplus            |                       |                       | EA Deficit                |                        |                       |
|            | (1)                   | (2)                   | (3)                   | (4)                   | (5)                   | (6)                   | (7)                   | (8)                   | (9)                   | (10)                      | (11)                   | (12)                  |
| LogGDP     | -0.936***<br>(-92.23) | -0.967***<br>(-87.69) | -0.980***<br>(-66.58) | -0.928***<br>(-80.48) | -0.967***<br>(-88.43) | -0.974***<br>(-46.92) | -1.002***<br>(-39.17) | -0.967***<br>(-26.74) | -1.025***<br>(-51.97) | -0.989***<br>(-183.06)    | -0.987***<br>(-161.61) | -0.987***<br>(-72.71) |
| LogW       | 0.966***<br>(203.37)  | 0.985***<br>(161.97)  | 0.970***<br>(99.10)   | 0.963***<br>(177.46)  | 0.987***<br>(163.53)  | 0.967***<br>(64.37)   | 0.963***<br>(79.82)   | 0.939***<br>(39.07)   | 0.980***<br>(115.16)  | 0.997***<br>(281.32)      | 1.000***<br>(263.41)   | 0.987***<br>(97.56)   |
| LogL       | 0.939***<br>(100.71)  | 0.939***<br>(90.35)   | 1.019***<br>(82.78)   | 0.927***<br>(77.03)   | 0.928***<br>(86.11)   | 1.016***<br>(63.52)   | 1.027***<br>(47.98)   | 1.022***<br>(32.48)   | 1.043***<br>(48.99)   | 0.994***<br>(150.22)      | 0.997***<br>(105.26)   | 1.002***<br>(75.00)   |
| Constant   | -1.428***<br>(-26.34) | -1.337***<br>(-21.16) | -1.860***<br>(-28.46) | -1.311***<br>(-18.65) | -1.222***<br>(-18.25) | -1.799***<br>(-21.83) | -1.874***<br>(-17.22) | -1.949***<br>(-11.88) | -1.937***<br>(-16.57) | -1.530***<br>(-29.21)     | -1.459***<br>(-22.35)  | -1.622<br>(-17.35)    |
| R-sq       | 0.606                 | 0.651                 | 0.021                 | 0.665                 | 0.707                 | 0.001                 | 0.521                 | 0.557                 | 0.011                 | 0.998                     | 0.999                  | 0.997                 |
| Obs        | 304                   | 190                   | 114                   | 192                   | 120                   | 72                    | 112                   | 70                    | 42                    | 180                       | 108                    | 60                    |
| Years      | 1999-<br>2014         | 1999-<br>2008         | 2009-<br>2014         | 1999-<br>2014         | 1999-<br>2008         | 2009-<br>2014         | 1999-<br>2014         | 1999-<br>2008         | 2009-<br>2014         | 1999-<br>2014             | 1999-<br>2008          | 2009-<br>2014         |
| Country FE | v                     | v                     | v                     | v                     | v                     | v                     | v                     | v                     | v                     | v                         | v                      | v                     |

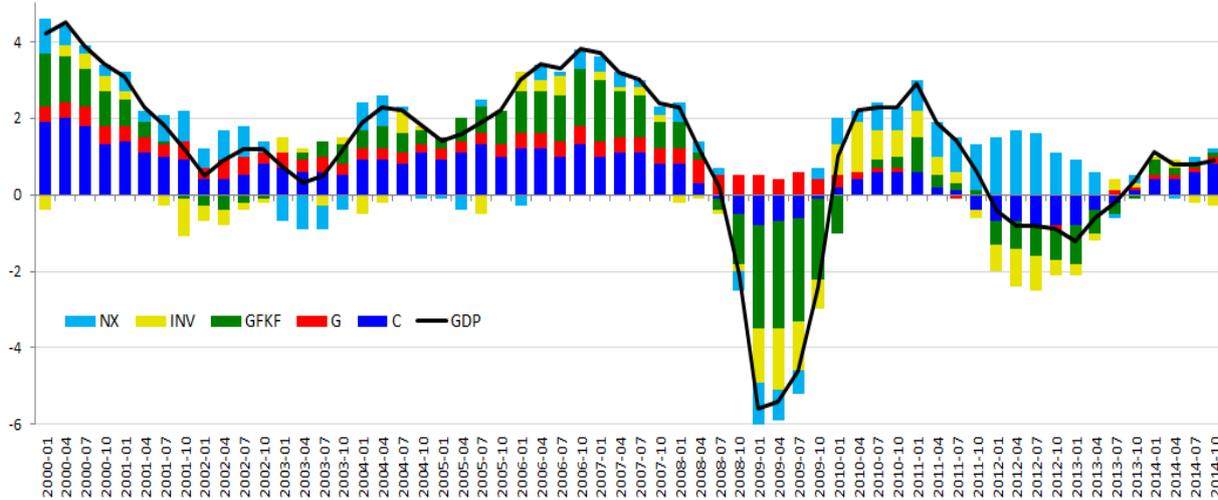
Note: The table reports the estimates of OLS Panel and Prais-Winsten AR(1) regressions. Dependent variable is the change in the Unit Labour Costs. The annual data are from Ameco. Values in parentheses are t-statistics. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

The same model can be estimated with the Prais-Winsten estimator (columns 10, 11 and 12). The new estimation confirms the same results, supporting the hypothesis that labour shedding has been the main driver of the adjustment in ULC in deficit countries. This is in line with what had been argued by Kang and Shambaugh (2014), who found that the reduction of unit labour costs in deficit countries has largely come from falling employment.

This pattern of adjustment has had an impact on the functional distribution of income. In particular, policy measures removing rigidities and improving flexibility in the labour markets have often been associated with a decline in the overall wage share in the economy. This, in turn, has an impact on aggregate demand in the Euro Area. Being the EA a large domestic market, its relatively limited trade openness implies that the benefits of overall wage moderation in the entire area on the international competitiveness may not offset the costs caused by a fall in domestic demand. The negative effects on overall aggregate demand of a reduction in the adjusted the wage share confirm this hypothesis (Lavoie and Stockhammer, 2013).

The key problem is that each country could have an incentive to moderating wages (removing rigidities, reducing ULC, decreasing wage shares), thus reducing domestic demand, in order to gain relative competitiveness, but at the EA aggregate level this determines a deflationary spiral (Stockhammer et al, 2009). The illustration of this phenomenon is given by the decomposition of GDP growth of the Euro Area by expenditure component:

**Figure 5: Contributions to year-on-year volume growth of GDP by expenditure component, in the Euro Area (2000-2014, quarterly)**



Sources: own elaborations, on ECB data.

The two falls of GDP in the Euro Area were associated with very different situations: in 2008 and 2009 the EA experienced a deep recession, like all other major economies in the world, and all expenditure components of GDP fell significantly, gross fixed capital formation and changes in inventories in particular. The private sector was deleveraging, then for a short period of time the public sector took over and partially compensated the fall in demand with countercyclical fiscal policies, which became the only source of growth.

Between 2011 and 2013, instead, the recession was very much specific to the EA, household consumption and investments by firms fell significantly, government spending did not play any countercyclical role, the only component supporting growth in the EA was net export. In other words, the second largest domestic market in the world turned into an export-led economy. This paradox leads some authors to argue that this growth model makes it impossible for the euro to challenge the dollar as an international currency<sup>8</sup> (Germain and Schwartz, 2014).

## 6. An inherent deflationary bias

When the financial crisis triggered a worldwide collapse in aggregate demand and a sudden stop to the "private insurance channel", the EMU found itself deprived of any common instrument for demand management: an extremely limited common budget, no "built-in" fiscal stabilizers, and an explicit no-bail-out clause. Any reaction had to be operated at national level, but fiscal rules implied that a premature "exit strategy" had to be initiated (Acocella, 2011).

The original EMU architecture assumed that an ECB mandate to pursue price stability and fiscal rules preventing excessive government deficits would ensure macroeconomic stability (Godley, 1992; Obstfeld, 2013). The building criteria did not take full account of unemployment as a key indicator and "an all-out threat to monetary stability" (Dornbusch, 1996), nor of the current account positions in the convergence criteria (Arestis and Sawyer, 2011)<sup>9</sup>.

The focus was on fiscal rules, which determined a constraint on fiscal policies in the overall fiscal stance of the area, for two main reasons. First, the "overdone insistence on fiscal criteria" (Dornbusch, 1997) implies that EMU countries are permanently under pressure to maintain their fiscal balance. But, as a consequence, this requires a similar pressure to increase either net exports or net investments<sup>10</sup>. This in turn means that savings or imports have to fall, or investments or

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<sup>8</sup> Germain and Schwartz (2014) explain that until the Euro Area can run a current account deficit with the global economy, it is impossible for the euro to challenge the dollar in this regard. They argue that the euro-zone is not politically capable of running the kind of deficits required to underpin an international currency.

<sup>9</sup> The overarching legal bases of the EU, the Treaties, subordinate the objective of full employment to the one of price stability. The two objectives are not on an equal footing, the second being pursued "without prejudice to" the first. The guiding principles give prominence to keeping fiscal balances under control and warn against the risks of balance of payments disequilibria. In order to comply with these principles, national policies have to deploy their policy tools towards maintaining relative competitiveness and avoid expansionary fiscal policies. The Common Provisions of the Treaty on European Union (TEU) mention in Article 3 the aim of full employment, however the Treaty on the Functioning of the European Union (TFEU) explains that the "primary objective" of the "single monetary policy and exchange-rate policy shall be to maintain price stability" and only "without prejudice to this objective" they "shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the TEU". Moreover "the Member States and the Union shall entail compliance with the following guiding principles: stable prices, sound public finances and monetary conditions and a sustainable balance of payments". (Articles 119 and 127).

<sup>10</sup> The "sectoral financial balances" approach (Godley, 1999) explains that at any point in time the sum of the sectoral balances of the private domestic sector, the government budget and the external one has to be zero: (G-

exports have to rise. Restrictive monetary and fiscal policies, then, imply that a fall in income remains the main policy leverage to achieve balance (Arestis, 2000; Michie, 2000). Second, since at the EMU level there is no common fiscal policy, no fiscal capacity, nor the possibility to run budget deficits, national governments are the only entity allowed to run budget deficits, but they have to do so in a currency they do not control (Arestis and Sawyer, 2011, De Grauwe, 2013), therefore they become more exposed than others to sovereign debt crises.

A contraction of demand, as the one generated by the global shock of 2008, reduces tax revenues and puts pressure on public finances. If, as required by the rules, the immediate response consists in spending cuts and/or higher taxes, domestic demand further contracts and fiscal policy becomes fully pro-cyclical (Currie, 1997). If this happens at the same time in countries that intensively trade among themselves, even external demand shrinks (Stockhammer et al, 2009). The prolonged fall in aggregate demand can also hamper potential output through hysteresis effects (Blanchard and Summers, 1986).

Within the EA there were quite different patterns of adjustment of external imbalances; deficit countries reduced their imbalances by more than 80%, while the overall external position of surplus countries remained broadly unchanged (Lane and Milesi-Ferretti, 2014). This is due to the different nature of the pressures deficit and surplus economies are subject to, once a sudden stop in the underlying capital flows between them occurs. In the absence of incoming transfers or exceptional financial assistance, large external deficits become unsustainable, while this is not necessarily the case for surpluses, since they do not depend on foreign investors to finance domestic consumption and investments (Blanchard and Milesi-Ferretti, 2012).

This analysis is far from being a new one: the "secular international problem" of balance of payment imbalances that "throw the main burden of adjustment on the country which is in the debtor position on the international balance of payments" was at the core of John Maynard Keynes' reflection on a more stable international monetary system (Keynes, 1940). Adjustment is "compulsory for the debtor and voluntary for the creditor", as Keynes put it.

The problem of the asymmetric pressure to rebalance faced by surplus and deficit countries is also at the core of the EMU macroeconomic performances and greatly affects its growth model. On one side, prolonged divergences in the balance of payments between countries in the monetary union imply that unused surpluses keep aggregate demand on a sub-optimal level. On the other side, the efforts by deficit countries to adjust their external balances through deflationary measures generate contractionary pressures on the whole area. This creates a deflationary bias in the system and prevents it from achieving sustained growth and full-employment.

This case is particularly relevant for the EMU, today. First of all, countries in a monetary union lack the potential contribution of the exchange rate to the adjustment process, having to fully rely on the internal adjustment of relative prices and wages. This implies that the process becomes

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$T) + (X-M) + (I-S) = 0$ . This implies that if the government deficit is to be permanently limited, then the external balance and the net investments balance have to face similar pressures.

then considerably more painful (Lane and Milesi-Ferretti, 2014). Secondly, if the economy is close to a liquidity trap, like it happens today, interest rates already close to the lower bound cannot decrease to balance increased savings. Therefore, large surpluses in some countries reduce aggregate demand and output in the others. If, moreover, the room for expansionary fiscal policies is limited, as it is the case in the EMU, the burden of the adjustment on deficit countries becomes even more painful (Blanchard and Milesi-Ferretti, 2012).

The institutional incompleteness of the EMU and the partial macroeconomic arrangements made the system biased towards low growth and high unemployment. If (1) the pressure for adjusting is asymmetric; (2) there are no common institutions to promote and coordinate demand management; (3) the response can only be provided at national level; and (4) the margins of manoeuvre left to national governments are mainly towards restrictive policies; then the whole area has an inherent deflationary bias, which determines subdued growth rates in good times, or longer stagnations and recessions in the worst cases.

**Table 7: Average annual GDP growth and unemployment rates**

|  | GDP growth |           | Unemployment |           |
|--|------------|-----------|--------------|-----------|
|  | 1999-2007  | 2008-2014 | 1999-2007    | 2008-2014 |
| World                                    | 4.4        | 3.3       | -            | -         |
| Euro area                                | 2.3        | -0.1      | 8.7          | 10.3      |
| United States                            | 2.9        | 1.1       | 5.0          | 7.9       |
| Other advanced economies <sup>11</sup>   | 3.0        | 1.3       | 5.1          | 5.1       |
| Emerging market and developing economies | 6.2        | 5.3       | -            | -         |

Source: IMF, WEO April 2015.

In the absence of common institutional arrangements to promote and coordinate expansionary policies in the whole area, the EMU faced a cruel trade-off: growth with imbalances, or balance without growth. Either it had to rely on the pre-crisis growth model, when financial integration was substituting the missing common fiscal capacity, channelling resources from surplus to deficit countries, and fuelling unprecedented imbalances. Or it had to impose restrictive policies at national level, with the aim of consolidating public finances and achieving balanced external positions, at the price of a drag on growth. In the worst case scenario, if deflationary policies are prolonged, it may also face the even more unpleasant situation of imbalances without growth. The system lacks an instrument capable of defusing this dangerous mechanism.

<sup>11</sup> Other advanced economies excluded US and EA, GDP-weighted average.

## 7. What kind of fiscal capacity?

The fact that the pre-crisis growth model was conducive to large imbalances and the inherent deflationary bias of the system are at the basis of the present concerns about the capacity of the EMU to deliver growth and jobs in a sustainable way. It had been argued that a common fiscal capacity was unavoidable (Kenen, 1969; Eichengreen et al, 1990; Solow, 2005), that a monetary union was "unattainable" without fiscal integration and not just fiscal harmonisation (Kaldor, 1971; Feldstein, 1992), and that its absence was the "major design failure" of the EMU (Eichengreen, 2000; De Grauwe, 2013).

In the EMU, economic cycles are less synchronized than in more complete federations, therefore a common fiscal capacity would have played an important role and fiscal centralization would have also enhanced private risk-sharing mechanisms (Poghosyan et al, 2015). Moreover, over the long run a common budget tends to reduce the risk of idiosyncratic fiscal policies at Member State level, since the larger is the share of spending responsibilities at central level, the lower is the likelihood that large fiscal imbalances arise at the local level (Cottarelli, 2013). Fiscal centralization also allows for better coordination of fiscal policy in response to common shocks and for a larger countercyclical response at the central level (Cottarelli and Guerguil, 2015).

The lack of such a common mechanism of fiscal capacity is more worrying if we consider the two inherent characteristics of the EMU architecture previously described: the permanent risk of a deflationary bias and the tendency to generate imbalances. The two problems are linked to each other through the balance of payments constraint. When the economic integration of a currency union is driven by capital flows channelled through financial markets, balance of payment disequilibria are likely to arise. If imbalances are to be adjusted, and the natural pressure to adjust is asymmetric between deficit and surplus countries, then few options remain in a monetary union: foreign financial assistance, which is often accompanied by moderation of domestic demand, and the internal adjustment of relative prices, which reinforces the deflationary trend. For this reason, the design of an alternative adjustment mechanism, like a common fiscal capacity, should have been based on the relative external positions of the participating countries.

This idea, as we have anticipated, is not new. Keynes' plan for an international clearing union of 1942 was conceived precisely on the basis of this underlying analysis, in view of the Bretton Woods monetary arrangements. Keynes was concerned about the asymmetric consequences of a mercantilist strategy in a fixed-exchange rate system and with their impacts on effective demand and employment. The building up of balance of payments imbalances increased the risk of having to apply deflationary measures in deficit countries to adjust and restore competitiveness. This would in turn create periodic falls in aggregate demand and prevent the system from achieving full-employment.

The absence of an organized system of international payments was the key institutional weakness Keynes wanted to address with his plan, which aimed at building the necessary institutions to prevent a disorderly international system (Piffaretti, 2009). He suggested the introduction of an international clearing union (among national central banks) to apply to international payments the

same institutional arrangement governing payments within nations, centred on a system of banking clearing (Piffaretti, 2009).

He proposed an international closed system of payments that, within a currency union, ensured symmetric rebalancing between deficit and surplus countries, with restrictions on speculative capital flows, limits on holding international reserves, and the possibility to adjust the exchange rate to reflect changes in efficiency wages. This system would have been capable of ensuring full employment in all countries (Keynes, 1942). If this plan was too ambitious<sup>12</sup> to be applied at a global level, its relevance for a smaller but tighter international monetary system like the EMU is evident. The European Commission, therefore, took this view into account in a series of technical reports issued during the seventies, in preparation of the monetary union.

The “Marjolin Report” (EC, 1975) developed an analysis of the conditions to be fulfilled to create a monetary union in Europe. It acknowledged the need for a central authority “with a relevant important budget”<sup>13</sup>, and for “centralized fiscal and social security systems ensuring a certain degree of redistribution”. It stressed the necessity of closer political and financial integration and went even further proposing a “Community Unemployment Benefit Fund”.

Another report by the European Commission (the “MacDougall Report”, EC, 1977) conducted an analysis of the role of public finances in the European integration, with a particular focus on the stabilisation effects of a common budget. It highlighted that inequalities between countries in the Community were not higher than regional inequalities within countries, and that the redistributive function of the national budget at regional level reflected corresponding positions of the regions in their balance of payments on current account.

The report found that within countries between one half to two-thirds of a short-term loss of primary income in a region due to a fall in its external sales was automatically offset through lower payments of taxes and insurance contributions to the centre, and higher receipts of unemployment and other benefits. It also studied the extent to which inter-regional income differences within countries were reduced by central or federal public finances, in eight case studies (Germany, UK, France, Italy, USA, Australia, Canada and Switzerland). It found that around 40% of the differences were reduced by internal fiscal transfers, through the common national budget.

In recent years, several authors have highlighted the relevance of the original intuition by Keynes of the link between coordinated fiscal policies and relative positions in the balance of payment (Piffaretti, 2009; Hein, 2012; Bagnai, 2014; Whyman, 2015). The key issue is the operation of the international adjustment mechanism, and whether that mechanism is automatic or coordinated, and also sufficiently compatible with overall aggregate demand to provide full employment

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<sup>12</sup> Keynes himself defined it an "ideal scheme, complicated and novel and perhaps Utopian", but also "a measure of financial disarmament" (Keynes, 1940, in Piffaretti, 2009).

<sup>13</sup> The Report even quoted examples of what was meant by “relevant”: the proportion of the “Bund” in Federal Germany, around 13% of GNP; and the proportion of federal expenditures on GNP in Canada, about 16%.

(Kregel, 2009). This requires international policy coordination (Guttman, 2009; Lane and Milesi-Ferretti, 2014).

Hein (2012) highlights the need that countries running permanent current account surplus expand domestic demand and thus increase imports (or appreciate their currencies), so that the whole burden of adjustment is not carried by the deficit countries, but most of all this would sustain aggregate demand, which will be needed in the future, not only in the short run but also in the long run. If structural divergences among EMU countries determine external imbalances, there is a need for a fiscal capacity to support the rebalancing and the long term equilibrium of the external positions.

Whyman (2015) explains in detail the relevance of these ideas for the present EMU situation: the reliance on export-led growth, the asymmetric nature of the adjustment, and the consequent deflationary bias, all increase the threat to its sustainability. Only if creditors are encouraged to increase the economic activity, then their imports from deficit countries, could a higher level of aggregate demand be restored, and full employment sustained. A decrease in current account surpluses, through a combination of real exchange rate appreciation and higher domestic demand in surplus countries, can lead to higher output in deficit countries (Blanchard and Milesi-Ferretti, 2012).

The relevance of Keynes' analysis for the definition of a common fiscal capacity in the EMU translates into the link between relative positions in the external balance of participating countries and their contribution to a common budget. This is the way a common fiscal capacity ensures that relative intra-EMU surpluses are used to sustain overall aggregate demand and do not have the perverse effect of exporting unemployment to the neighbours. It is a form of built-in automatic rebalancing mechanism, which guarantees intra-EMU equilibrium, symmetry, aggregate demand and full employment.

The advantages of a common fiscal capacity linked to the relative, intra monetary union, external positions of the participating countries, are multiple. First, such a scheme tends to reduce the external imbalances; in Keynes' words it is "a measure of financial disarmament" that if it was maybe too ambitious at a global level, it seems nevertheless desirable in the relations within an economic and monetary union. Second, it periodically corrects those imbalances in a symmetric way, ensuring that surpluses do not remain unutilised and that the absorption of deficits does not pose a drag on aggregate demand. Third, it reduces the need for the monetary union to exclusively rely on the efficiency and stability of financial markets to promote integration. By doing so, it considerably reduces systemic risks. Fourth, it provides an instrument for stabilization against common shocks. Fifth, it substitutes an inherent deflationary pressure in the system with an expansionary stimulus, propaedeutic to full employment.

## **8. Simulation of a common fiscal capacity**

In order to simulate how such a fiscal capacity would have been operating, we need to disentangle the relative, i.e. intra-EMU, external positions of each country. This is important in order to make

the composition of the budget independent from the overall external position of the EA. In this way, the overall external stance of the EA does not influence the size of the common fiscal capacity, built on national contributions. Since data on intra-EMU current accounts are not fully available for the entire sample, we use data on the trade balance, as the best proxy.

**Table 8: Trade balance of each country vis-à-vis the rest of the Euro Area, 1999-2013 (Million €)**

|             | 1999    | 2000    | 2001    | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008     | 2009    | 2010    | 2011     | 2012     | 2013     |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|----------|----------|----------|
| Austria     | -10,648 | -9,066  | -8,788  | -6,540  | -10,337 | -15,944 | -16,651 | -17,549 | -21,504 | -24,701  | -21,270 | -21,783 | -28,510  | -24,705  | -23,233  |
| Belgium     | 18,023  | 16,686  | 14,130  | 9,790   | 21,173  | 20,140  | 19,863  | 21,331  | 26,343  | 23,992   | 17,695  | 16,428  | 17,438   | 4,458    | 13,739   |
| Cyprus      | -1,162  | -1,307  | -1,458  | -1,546  | -1,801  | -2,720  | -2,839  | -3,285  | -4,231  | -5,128   | -4,085  | -4,362  | -4,120   | -3,677   | -3,229   |
| Estonia     | -557    | -308    | -168    | -568    | -765    | -1,507  | -1,407  | -2,721  | -2,970  | -2,757   | -1,019  | -1,366  | -1,240   | -2,279   | -1,914   |
| Finland     | 4,040   | 4,812   | 3,440   | 4,216   | 1,926   | 56      | -1,929  | -442    | -1,477  | -2,959   | -3,098  | -5,069  | -6,625   | -6,505   | -6,093   |
| France      | -12,666 | -20,230 | -22,977 | -21,502 | -31,203 | -42,136 | -55,320 | -57,574 | -83,890 | -103,388 | -90,631 | -95,893 | -116,319 | -115,192 | -116,903 |
| Germany     | 38,485  | 36,553  | 40,309  | 56,052  | 75,528  | 104,606 | 114,243 | 68,171  | 94,978  | 84,229   | 52,572  | 43,951  | 27,651   | 7,550    | 2,270    |
| Greece      | -10,912 | -9,807  | -9,528  | -10,753 | -15,830 | -19,599 | -21,085 | -22,451 | -28,263 | -31,217  | -24,574 | -18,197 | -15,845  | -12,453  | -11,857  |
| Ireland     | 19,863  | 18,576  | 19,312  | 23,279  | 26,268  | 29,176  | 30,784  | 26,976  | 28,138  | 29,330   | 33,518  | 31,828  | 32,848   | 31,307   | 25,483   |
| Italy       | 128     | -3,756  | -4,037  | -7,636  | -12,376 | -14,997 | -12,611 | -13,764 | -9,956  | -5,171   | -12,667 | -21,451 | -18,792  | -5,195   | -6,104   |
| Latvia      | -770    | -795    | -923    | -1,113  | -1,373  | -1,641  | -1,851  | -2,855  | -3,898  | -3,109   | -1,243  | -1,707  | -2,559   | -2,715   | -2,999   |
| Lithuania   | -396    | -107    | -495    | -815    | -841    | -1,168  | -901    | -2,083  | -3,592  | -2,290   | 9       | -634    | -214     | 16       | -2,516   |
| Luxembourg  | -2,640  | -2,885  | -1,458  | -2,286  | -2,054  | -2,551  | -1,839  | -969    | -3,678  | -4,275   | -2,629  | -5,924  | -8,724   | -7,839   | -6,945   |
| Malta       | -748    | -1,109  | -1,304  | -865    | -1,156  | -1,329  | -1,429  | -1,445  | -1,635  | -2,133   | -1,759  | -1,711  | -2,245   | -2,941   | -2,304   |
| Netherlands | 55,787  | 63,734  | 65,210  | 62,644  | 77,836  | 93,160  | 115,286 | 128,570 | 143,730 | 184,116  | 143,176 | 175,625 | 205,705  | 201,064  | 195,381  |
| Portugal    | -11,007 | -10,020 | -9,639  | -9,788  | -12,406 | -13,919 | -18,011 | -19,031 | -22,171 | -27,201  | -22,715 | -21,663 | -16,973  | -12,001  | -12,164  |
| Slovakia    | -229    | 313     | -310    | -268    | 192     | 233     | 1,409   | 2,507   | 4,415   | 5,278    | 5,818   | 6,182   | 5,831    | 5,487    | 4,100    |
| Slovenia    | -965    | -1,116  | -1,157  | -1,299  | -1,840  | -5,472  | -3,293  | -3,647  | -4,087  | -4,940   | -1,953  | -1,259  | -1,032   | -881     | 14       |
| Spain       | -15,481 | -15,960 | -15,139 | -18,409 | -27,155 | -38,596 | -44,106 | -49,242 | -63,101 | -53,006  | -21,312 | -14,946 | -14,012  | -3,725   | 775      |

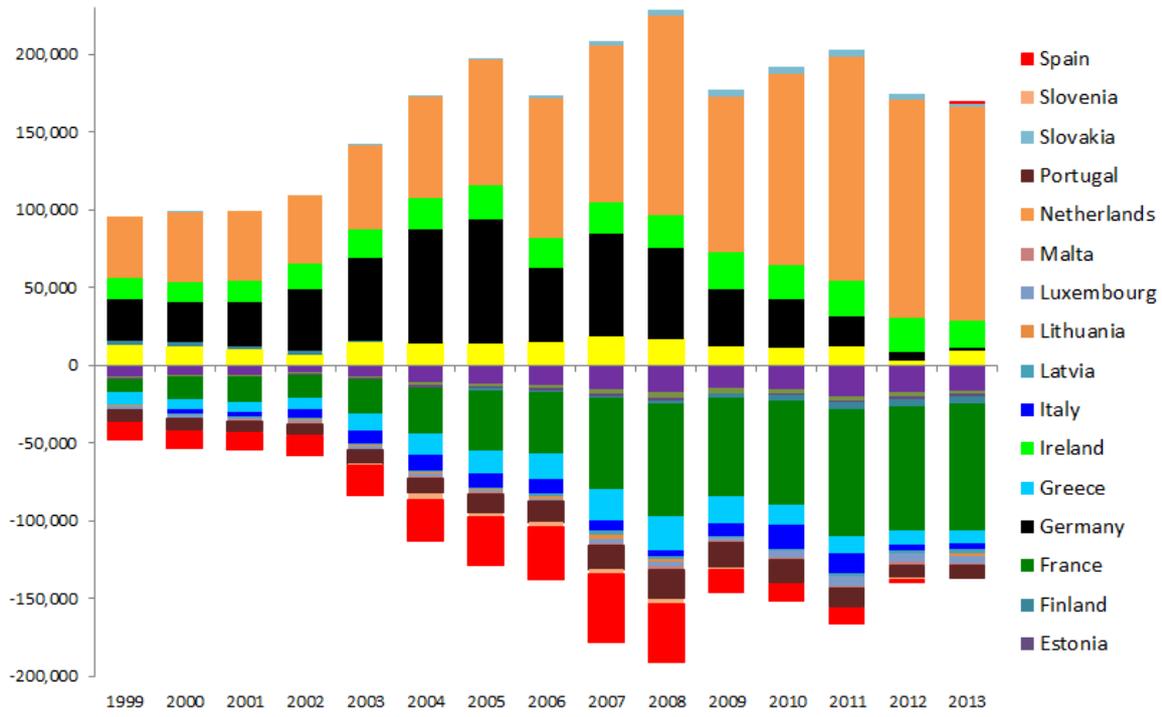
Source: IMF, DTS, 2015.

The question then becomes how much of the relative positions had to be "sterilised" by the respective contributions to or by the budget. The Mac Dougall Report (1977) went along this line in measuring the public finance outflow/inflow at regional level, within each country, in parallel with the relative current account position of each region. The analysis showed that inflows to relatively poor regions were on average equal to 70% of their current account deficits, while outflows from relatively richer regions were on average equal to 95% of their current account surplus. This had an overall stabilisation effect, by reducing per capita income differences, of 40%.

Given that levels of disparities in income per capita across the Eurozone are not higher than those registered within countries, a similar order of magnitude might be estimated for a common fiscal capacity at EMU level to have a similar stabilisation effect of 40%. If we apply the same methodology of the MacDougall Report to the EMU, we might have a first idea of the order of magnitude of the intra-EMU fiscal transfers that would have been needed to achieve the same stabilisation effect, as within countries.

In a prudent calculation, by applying the lower of the two ratios suggested by the MacDougall Report (70%) to the relative trade balance of each country, we could estimate what the contribution to (or by) a hypothetical common budget would have been for every country, each year:

**Figure 6: Simulation of the net transfers for each country (billions of euros)**



Source: Own calculations on the basis of IMF, DTS data.

Countries contributing to the overall EA aggregate demand through their net deficits in intra-EMU trade would have benefitted from the common fiscal capacity, while those benefitting from intra-EMU trade, having net relative surpluses, would have contributed to the common budget. The size of the transfers would have increased in parallel to the increase in intra-EA trade imbalances and it would have stabilised since 2008.

It is interesting to observe the specular positions of Germany and Spain: the two countries were driving the growth in intra-EMU trade and capital flows until 2008, but since then Germany has reduced its surplus towards the rest of the EA, and Spain has reduced its deficit, achieving even a net positive balance in 2013. This implies that Germany would have been significantly contributing to the common fiscal capacity only during those years in which it was benefitting the most from exporting to other EMU countries, and Spain would have benefitted from the budget in proportion to its share of imports from the other countries, i.e. in proportion to its contribution to the external demand of the others. After the adjustment in intra-EMU trade achieved by the two countries, their incidence on the total budget would have been very small in 2013.

On the other hand, the two other biggest sources of intra-EMU trade imbalances, France on the deficit side, and the Netherlands on the surplus side, have not adjusted their positions. Therefore, in the last years, these two countries would respectively be the largest beneficiary and the largest contributor to the fiscal capacity, which would have implied for the Netherlands a contribution of around 130 billion euro, and for France a benefit of around 80 billion euros, in 2013.

## 9. Conclusion

This paper has tried to illustrate the economic rationale of an EMU fiscal capacity, without touching upon the political rationale for having, or for not having had, it. The functioning of the EMU during its first decade caused major asymmetries and imbalances. These were amplified by the shock originated by the global financial crisis, but the system was and still is deprived of the instruments to cope with them.

The pre-crisis growth model was based on the "private insurance channel", which was at the same time the *glue* keeping the monetary union together and a major source of imbalances. It operated as a *de facto* substitute for the missing fiscal capacity, channelling the excess of savings generated in countries with growing trade surpluses towards those with increasing trade deficits and indebtedness. A single nominal interest rate implied lower real interest rates in higher inflation countries, generating incentives for capital to flow there, further inflating the bubbles. This unprecedented rise in cross-country capital flows drove an enormous demand shock, which caused the large external imbalances.

The analysis then shows that the external imbalances were driven by the large demand shock brought forward by this mechanism, especially in deficit countries, rather than by differences in relative competitiveness. Divergences in unit labour costs were more a consequence than a cause of demand shocks triggered by capital flows. The paper then illustrates the role played by the intra-EMU financial integration on the development of external imbalances, by analysing the case of Germany's current account vis-à-vis the rest of the EA. The analysis demonstrates that the lower the investment rate in Germany compared to the trading partner and the larger the capital outflow from Germany to each trading partner, the higher the trade surplus, and vice versa.

Once capital flows channelled by financial markets suddenly stopped, the need for rebalancing materialised. External imbalances rapidly narrowed; the analysis shows that the adjustment was significantly driven by an important fall in aggregate demand in deficit countries, with large output and employment gaps. Even though external imbalances had not been primarily caused by relative competitiveness, having accumulated large negative net foreign asset positions and threatened by markets pressure, deficit countries had to reduce relative prices by reducing unit labour costs. The analysis shows that the main leverage of the adjustment was labour shedding.

Different patterns of adjustment of external imbalances between surplus and deficit countries implied that the efforts by the latter to adjust their external balances through deflationary measures generated inevitable contractionary pressures on the whole area. The "secular international problem", of balance of payment imbalances that "throw the main burden of adjustment on the country which is in the debtor position on the international balance of payments", fully materialized, suddenly making Keynes' worries (1942) very relevant again.

These two key features of the EMU's architecture, its tendency to generate imbalances and an inherent deflationary bias, are linked to each other through the balance of payment constraint. Removing this constraint required a common fiscal capacity the EMU has never had. Limiting

the building up of those imbalances required that the design of such a fiscal capacity be linked to the relative, intra-EMU, positions of the Member States in the balance of payments. This would have automatically reduced the imbalances, periodically correcting them without a drag on overall aggregate demand; it would have also reduced the need for the system to exclusively rely on the efficiency and stability of financial markets, thus reducing systemic risks; it would have provided an instrument for stabilization against common shocks; and it would have substituted the inherent deflationary bias of the system with an expansionary stimulus, propaedeutic to full employment.

The paper then presents a simulation of this fiscal capacity, had it been in place since the beginning of the EMU. Would have such an instrument been able to avoid the long period of recessions and divergences in the EMU? This is hard to say, since a proper counterfactual does not exist. What seems evident, however, is that its absence has undermined the stability of the monetary union.

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