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*Essay on External Imbalances within the Euro Area*

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A Project carried out on the Master in Economics, with the supervision of:

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## *Essay on External Imbalances within the Euro Area*

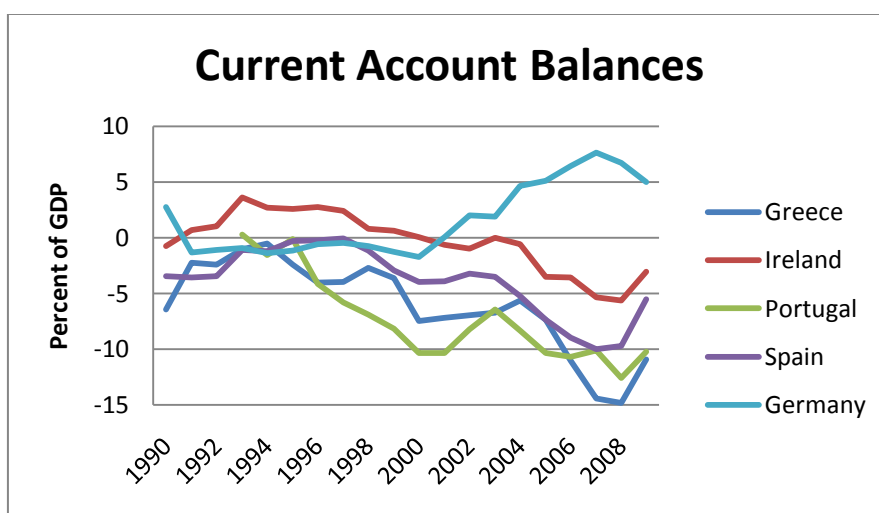
### *Abstract*

Current accounts of individual members of the Euro Area were not expected to dramatically diverge, however during the last decade they have sharply diverged as peripheral Member States are experiencing very high and unprecedented current account deficits. This paper tests the relationship in the medium and short run between the current account and i) Fiscal policy and ii) inward Foreign Direct Investment, two elements suggested as partial causes for the large external imbalances.

## **I - Introduction:**

The recent Sovereign debt crisis directed our attention towards the large and persistent current account deficits presented by peripheral Euro Area countries. Even though the Euro was considered a success by most politicians, after its launch it has been noticed an unprecedented divergence between individual Member States external accounts. At least since 2000 Greece, Ireland, Portugal and Spain (the so-called "PIGS", clearly not a favorable designation) have all<sup>1</sup> been running current account deficits, as shown in the figure below:

Figure 1.



Source: IMF.

As it can be observed, over the last few years the difference between the German and the peripheral countries' current account balances is much higher than in the Pre-EMU period. Since the European Monetary Union was established and the Exchange Rate Mechanism II was applied, the current account balances of the peripheral countries have been sharply deteriorating. The elimination of currency and liquidity risks and the

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<sup>1</sup> Except for Ireland in 2003.

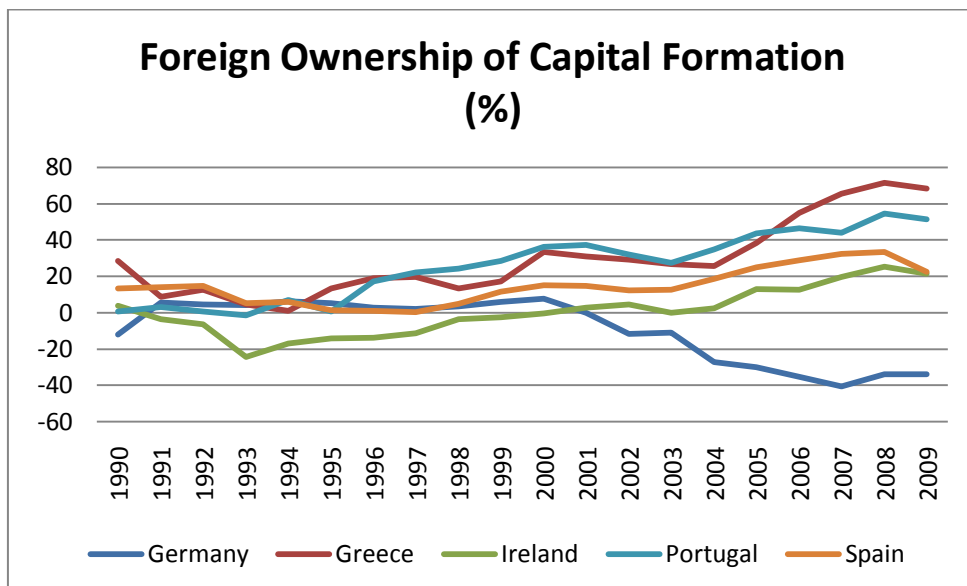
fostering of financial integration represented a major shock for the peripheral Euro Area countries (Lane, 2011), creating an environment suitable for a credit boom, a spree in private consumption and a decrease in private savings (Blanchard, 2007). As a consequence, over the last few years current account deficits reached alarming and unprecedented levels, raising the debate on the potential threats to the peripheral European economies and their viability within the Euro zone. Christodoulakis (2009) recalls that even though there is not a benchmark level at which a current account deficit would cause an economy-wide crisis, the Balance of Payments crisis in Latin America took place with CA deficits between 6 and 8% of GDP. Due to the fact that these current account deficits have not only been large but also persistent, peripheral Euro Area Member States experienced a rapid accumulation of external debt. According to the Economist (2011), Greece currently has a total external debt of 180% of GDP while Portugal, the last Euro Area country to request a bail-out, has already outstanding debts to foreigners that are larger than twice its national income. To better understand the implications that such large external deficits may have on the countries' individual Economies, Figure 2 shows the ratio of the current account deficit to total investment<sup>2</sup> in six of the original Euro Area countries. This ratio can be perceived as an indicator of risk associated with the easiness of the country's financing from abroad.

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<sup>2</sup> It is useful to recall the basic identity:

$I = S_p + S_g - CA$ , which tell us that total investment is equal to the sum of domestic savings (private and public) and external savings, represented by the negative current account. This way this ratio tells us the share of domestic investment that is financed by external savings.

Figure 2. Foreign Ownership of Capital Formation.



Source: World Bank, OECD and own calculations.

As it can be seen in Figure 2, there is a clear upward trend in the post-EMU period, especially during the 2003-2008 period for the peripheral Member States. Although this indicator does not have an explicit interpretation for Germany, since it is running a current account surplus, it is still interesting to see the large difference relative to the other Member States. Greece, Portugal and, to a lesser extent, Ireland and Spain are in a very difficult situation. In these countries the financing of investment depends crucially on the availability of international credit. A pull-out by international investors would have disastrous consequences for the present and future of these troubled economies.

External imbalances were not expected to diverge sharply within the Euro Area, as the Stability and Growth Pact does not even contain explicit references regarding the

individual Member States' current account balances. As the deficit-prone Member States are also the ones falling behind in terms of per capita income, they may be forced to undertake structural reforms to boost competitiveness and foster growth, as there is no autonomous monetary and exchange rate policy.

### **Why should we care about the Current Account of an individual Member State of the EMU?**

Another important discussion arises from this debate. Under a common currency what is foreign and what is domestic? As Ingram (1973) states, under a monetary union a deficit or a surplus in an individual Member State Current Account becomes "blurred", since short run imbalances among Member States could be financed through financial markets, without any action by the monetary authority. Then, why should we pay attention to the Current Account balance of an individual Member State of the EMU when these statistics are not even available for any of the American Federation states, such as Massachusetts or Illinois? Markets do distinguish between these monetary unions, as seen during the recent sovereign debt crisis. It is no coincidence that the countries under attack over the last year had also extremely weak foreign positions. Besides this, European corporate bonds usually include a country risk component, while in the US firms are not differentiated by the State in which they operate. In a recent paper, Giavazzi and Spaventa (2010) try to answer this intriguing fact with two major points. Firstly, there is a higher labor mobility within the US than within the EMU. Secondly, the EMU is not a federation as the US, but an association of fully sovereign states. There is not Union legislation regarding national budgets and

taxation, with each Member State remaining a separate jurisdiction. Even though that under a common currency the notion of an individual Member State's foreign position becomes somehow "blurred", it is not enough to completely dismiss that concept.

So even though there is no exchange rate risk, Euro Area countries with large Current Account deficits should definitely worry. Why? Jaumotte and Sodsriwiboon (2010) enumerate three main points to answer this question. Firstly because it may reflect domestic distortions, such as the low net savings caused by transitory asset pricing booms (as in Spain) or fantastic growth expectations<sup>3</sup> (Portugal in 1995-2001). Secondly because gradual adjustment can be extremely hard, as external deficits due to a lack of competitiveness and/or overheating would require a period of slow growth during its rebalancing. Thirdly, if financing becomes extremely expensive (Greece, Ireland and Portugal case over the last year) there can be an abrupt, instead of gradual, adjustment.

### **Why was this disregarded before?**

Even though such imbalances could be a threat to the sustainability of the Euro Area, policymakers did not pay much attention to it at the time the EMU was established. Blanchard and Giavazzi (2002) considered that the large Current Account deficits within the EMU were "benign" and after analyzing the Greek and the Portuguese case, they conclude that their national authorities should not worry and take any measures to reduce their external deficits. Using an intertemporal model they show that for a Euro Zone converging country foreign borrowing was optimal. Current

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<sup>3</sup> For an extensive analysis of the Portuguese situation during the first 10 years of the EMU see Blanchard (2007(1))

account deficits were a natural side-effect of the catching-up process. However, while Greece and Spain could fit this approach, the same does not happen with Ireland and Portugal. When Ireland started running Current Account deficits its per capita income was already above the Euro Area average, while the Portuguese per capita income has become rather stagnant since 2001, despite Portugal has been having an average current account deficit around 10 percentage points of GDP. The public debate over the dangerous implications of large external imbalances to the individual Member States' economies and to the Euro Area as a whole only begun when current account deficits achieved persistent and alarming levels over the last few years. Blanchard (2007) completely changed his opinion, stating that Portugal and Spain should worry and act as soon as possible as the implications of such large deficits would be disastrous. With no monetary authority, the peripheral Member States may be forced to leave the union in order to perform a massive devaluation.

This paper tests two hypotheses suggested by previous studies as partial causes for the large external imbalances within the Euro Area. The first one considers that such large imbalances are a result of fiscal profligacy while the second one argues that the divergence in external accounts between Member States is also related with differences in the sector destination of inward Foreign Direct Investment.

The structure of this paper is as follows: Section II will explore previously suggested partial causes for the large and persistent current account deficits while section III will empirically test them. Section IV sums up and concludes.

## **II - Fiscal Policy and The Role of Inward FDI**

This section explores two theories for the divergence in external positions advanced by previous studies: low public savings and differences in inward FDI patterns.

### **Fiscal Policy and the Current Account**

This has been a very discussed subject over the last thirty years. Theoretically, the main channels through which fiscal policy can affect the current account are:

- Direct impact on aggregate demand: As the Government accounts for a large share of the domestic demand, following a Keynesian framework a fiscal expansion will tend to boost aggregate demand, increasing imports and deteriorating the trade balance.
- The real exchange rate: Fiscal policy can also have an impact on the real exchange rate (and consequently on the trade balance) by changing the relative price of non-tradables. A higher level of Government consumption is likely to appreciate a country's real exchange rate due to the fact that such consumption tends to fall more on non-tradables than on tradables (De Gregorio et. al, 1994). This real appreciation can shift private consumption towards and production away from tradables, damaging the current account balance.
- Interest rates and country risk premia: According to Abbas et. al (2010), a "controlled" fiscal balance can reduce interest rates including on debt hold by foreigners, improving the current account balance. However, at the same time, lower country risk premia can also trigger higher capital inflows, which can

stimulate aggregate demand and put an upward pressure on domestic prices, worsening the current account balance. Therefore, the net impact will depend on specific characteristics of each economy.

In terms of empirical testing, there is a large spectrum of methods used. Most studies use simple panel regressions and estimate the medium-run relationship between the fiscal balance and the current account, finding evidence that larger fiscal deficits are associated with higher external deficits. Estimates suggest that the increase of the fiscal deficit by 1 percentage point of GDP is associated with a current account balance worsening between 0.2 to 0.4 percentage points of GDP (Gruber and Kamin, 2005; Jaumotte and Sodsriwiboon, 2010; Lee et. al., 2008). However all these estimations consider panels composed by advanced and developing countries. When similar estimations are conducted only for developed (Chinn and Prasad, 2003) or just European countries (Abiad et al., 2009) this relationship between the current account and the fiscal balance seems not to be statistically significant. A recent approach is the one followed by Abbas et. al (2010), which uses a panel VAR technique to estimate the relationship between government consumption and the current account. Their results suggest that there is a negative relationship between both indicators, even though the authors also use a dataset which includes countries in different stages of development.

Figures 3 and 4 present the medium term relation between the current account and two fiscal policy indicators, the fiscal balance and the growth rate of government consumption for eleven of the twelve original Euro Area Member States (Luxembourg will not be considered throughout this paper). As the presented relation is a medium-run one, all observations are 4-year non-overlapping averages from 1982 to 2009.

Figure 3. Current Account vs. Fiscal Balance

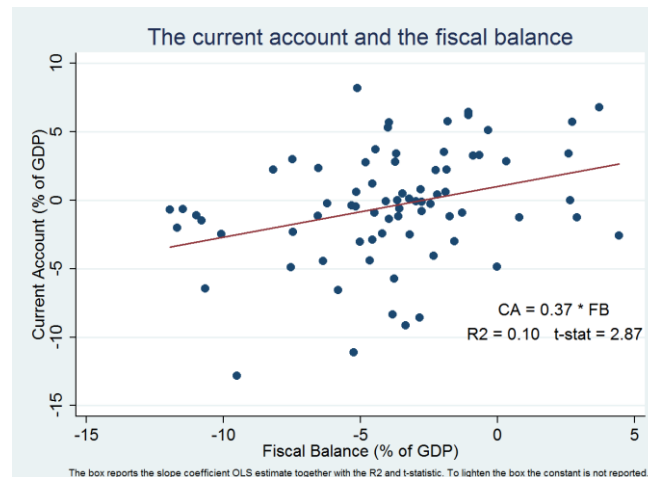
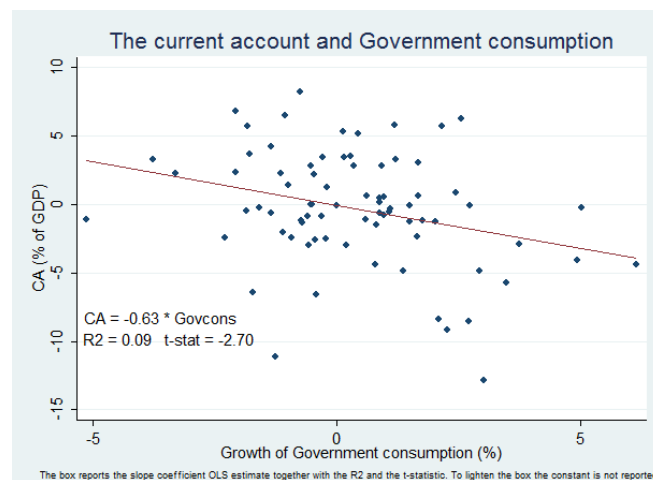


Figure 4. Current Account vs. Government Consumption



Source (for both Figures 3 and 4): OECD, IMF, AMECO and own calculations.

Figure 3 suggest that there is a positive and significant relationship between the fiscal balance and the external account. Figure 4 shows that the current account and the growth of government consumption are negatively related, in line with the theory presented above.

The estimation of the relationship between Fiscal policy and the current account would be very interesting not only to understand what happened before but also to

analyze the relationship of the external account and the only remaining autonomous macroeconomic policy instrument of Euro Area Member states.

### **The Pattern of Inward Foreign Direct Investment**

This theory suggests that the divergence in external accounts within the Euro Area can be partially attributed to differences in the pattern of inward FDI destination between Northern and Southern individual Member States. Christodoulakis (2009) presented a theoretical model in which he states that inward Foreign Direct Investment in the Euro Area has been mainly directed to the tradable sector in the North and to the non-tradable sector in the South. This way, inward FDI tends to increase the traded output relatively to the non-traded output, improving the current account balance in the Northern countries. In the opposite direction, in the Southern countries it shifts the composition of output towards the non-tradable sector (as for instance, construction). This reduces traded output and boosts aggregate demand, raising the price level and appreciating the Real Exchange Rate. This way the differentiation in the structure and the composition of the Economy in terms of Foreign Direct Investment can explain part of the divergence in current account balances within the Euro zone. In order to test this theory, Table 1 shows the difference of the ratio between the tradable sector and the non-tradable sector capital-labour ratios<sup>4</sup> (both computed relatively to 1995) with the Euro Area average for nine<sup>5</sup> Euro Area Member States from 1995 to 2005.

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<sup>4</sup> Industries were classified according to a division presented in Schmillen (2010). The industries considered to belong to the Tradable sector were: (1) Agriculture, hunting, forestry and fishing; (2) Mining and quarrying; (3) Total Manufacturing; (4) Transport, storage and communication; (5) Finance, Insurance, Real Estate and Business Services. The industries considered to be non-tradable were: (1) Electricity, Gas and Water Supply; (2) Construction; (3) Wholesale and Retail trade; (4) Hotels and

Table 1. Difference of the ratio between Tradable and Non-Tradable sectors' Capital-labour ratios with Euro average.

Country/Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Austria	0	0.02	0.05	0.06	0.08	0.11	0.12	0.14	0.16	0.17	0.18
Belgium	0	0.02	0.05	0.07	0.09	0.10	0.10	0.12	0.14	0.14	0.15
Finland	0	0.04	0.05	0.00	-0.02	-0.04	-0.05	-0.05	-0.07	-0.09	-0.11
France					0.09	0.08	0.06	0.06	0.06	0.06	0.07
Germany	0	0.03	0.05	0.06	0.06	0.05	0.04	0.05	0.05	0.05	0.06
Italy	0	-0.01	-0.04	-0.06	-0.07	-0.07	-0.12	-0.15	-0.17	-0.18	-0.17
Netherlands	0	-0.02	-0.02	0.01	0.00	0.00	0.01	0.03	0.03	0.02	0.01
Portugal	0	-0.06	-0.12	-0.15	-0.24	-0.25	-0.18	-0.17	-0.18	-0.15	-0.16
Spain	0	-0.01	-0.01	0.00	0.02	0.02	0.01	-0.02	-0.03	-0.03	-0.03

Source: EU KLEMS, Eurostat and own calculations

From the table above we cannot observe a clear distinction between Northern and Southern Member States as Christodoulakis (2009) would predict, due to the Finnish and French situations. If we consider the year of 2005, what we can easily distinguish are peripheral from central countries. In Finland, Italy, Portugal and Spain the ratio between the tradable and non-tradable capital-labour ratios seems to have worsen relatively to the Euro Area average.

Figure 5 presents the long term correlation between inward FDI and the current account balance for each country group for the period 1982-2009. The results show that in both groups inward FDI and the current account balance appear to be positively related, although in neither the coefficient is statistically significant. However the relationship seems to be stronger in the North than in the South. Even though these

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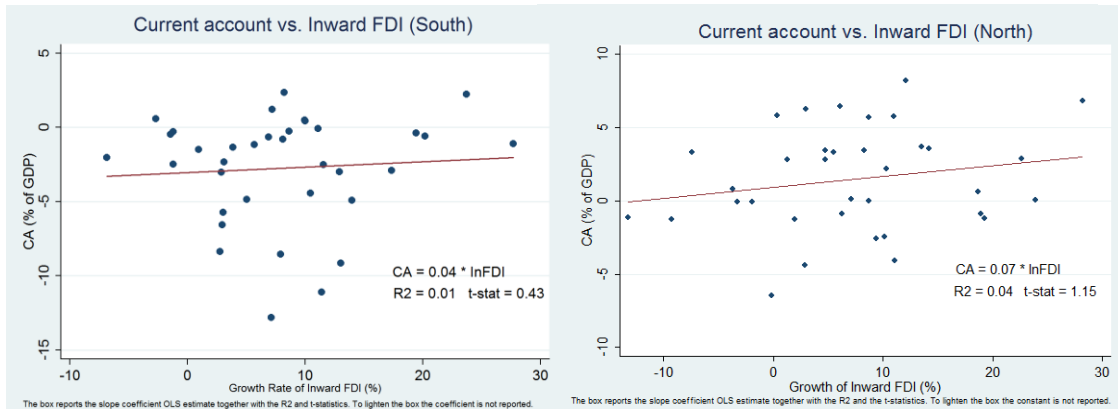
Restaurants; (5) Public administration and Defense; (6) Education; (7) Health and Social work; (8) Other community, social and personal services.

The average capital-labour ratio for the tradable sector was computed as a real Gross Value Added weighted-average of the capital-labour ratio (relative to 1995) for each of the tradable sector industries. The same method is used for the average non-tradables capital-labour ratio.

<sup>5</sup> These ratios are not available for Greece and Ireland. The EU KLEMS database does not have data of the Greek industries capital inputs and the Eurostat does not collect the real GVA for Ireland.

results do not suggest a negative relationship between inward Foreign Direct Investment and the current account balance for the Southern countries, the fact that this relationship is stronger in the Northern Member States still does not dismiss the possibility that the divergence in external accounts between both groups can be partially attributed to inward FDI.

Figure 5.



Source: IMF and UNCTAD.

### III - A Quantitative Analysis

#### Medium-Run Estimation

To look at the relation between the above mentioned variables and the current account in the medium term in the original Euro Area Member States<sup>6</sup>, the following specification was run:

$$\left(\frac{CA}{GDP} * 100\right)_{i,t} = \alpha_t + \beta \left(\frac{FB_{i,t}}{GDP_{i,t}} * 100\right) + \gamma(inFDI_{i,t-1} * Nor_i) + \theta(inFDI_{i,t-1} * Sou_i) + \delta X_{i,t} + \varepsilon_{i,t} \quad (1)$$

<sup>6</sup> Except Luxembourg.

The dependent variable in (1) is the current account balance measured in percentage points of GDP. A positive observation corresponds to a surplus and a negative one to a deficit. Since we are estimating a medium term relationship, we use 4-year non-overlapping averages of the current account balance constructed over the period 1982-2009 in order to filter high-frequency fluctuations, giving a maximum of seven observations per Member State. This data-averaging method has been used by Abiad et al. (2010), Chinn and Prasad (2003), Gruber and Kamin (2003), Jaumotte and Sodsriwiboon (2010) and Lee et al. (2008), as well as most of the control variables used. According to the specification, the current account balance in percentage points of GDP of country  $i$  in time  $t$  depends on a common time effect<sup>7</sup>, the fiscal balance in percentage points of GDP of country  $i$  in time  $t$ , two crossed terms between the lagged growth rate of inward FDI as share of GDP expressed in percentage points and a dummy to determine if the country belongs to the Northern or the Southern group and on a group of control variables included in the vector  $X_{it}$ . In the basic specification are used seven control variables: Firstly, the country's Net Foreign Asset position expressed in GDP percentage points measured in the year before the period of reference of the current account balance<sup>8</sup>. A country's NFA affects the current account balance as it affects its net investment income directly. Secondly, the lagged growth rate of real PPP-adjusted GDP per capita expressed in percentage points as used in Abiad et. al (2010). According to Blanchard and Giavazzi (2002), catching up Euro Area economies should

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<sup>7</sup> No fixed effects were used in both the short and medium term estimations. Although it would allow to capture time-invariant features of each country, however, according to Barro (1997), Lane (2000) and Chinn and Prasad (2003), the use of fixed effects relies on time-series information within countries, eliminating the cross-sectional information. Since the cross-section information is still very important and most of the independent variables show large variability across countries, the regressions did not include country-fixed effects.

<sup>8</sup> For instance, if the current account is being evaluated in the period 1994-1997, the NFA observation corresponds to the value observed in the year of 1993.

run current account deficits, since external borrowing would be optimal. This way we should expect a coefficient with a negative sign. The third control variable is the contemporaneous old-age dependency ratio, computed as the ratio between the total number of persons aged 65 or more and the working-age population (and then multiplied by 100). According to Lee et.al (2008), a higher share of economically inactive dependent population reduces private saving and consequently decreases the current account balance.. The fourth control variable is the country's contemporaneous openness or trade integration, computed as the sum of exports and imports, expressed in percentage points of GDP. According to Chinn and Prasad (2003), the openness ratio can reflect the ability that more open economies have to generate foreign exchange earnings through exports might be a sign of capacity to reduce its external debt. Finally the last variable included in the control set is the contemporaneous growth of Unit Labour Costs expressed in percentage points. This variable represent the country's competitiveness. Higher values mean that the labour costs of producing one unit of output have increased, causing a loss in competitiveness. In additional specifications several changes are made: Firstly, the contemporaneous ULC term is replaced by a lagged one (II); secondly, it is included the growth rate of Government consumption as a share of GDP expressed in percentage points (contemporaneous - III - or lagged - IV), in order to better evaluate the relationship between Fiscal policy and current account balance. The final specification (V) includes a dummy variable that takes the value of 1 if the country is considered a financial center and 0 otherwise. This paper considers that the countries with higher financial development within the Euro Area are Ireland and the Netherlands. Table 2 presents the results of the medium-run pooled OLS estimation of the basic and alternative specifications:

Table 2: Current Account in percentage points of GDP (Medium Run)

Variable	(I)	(II)	(III)	(IV)	(V)
Fiscal Balance	0.46** (0.18)	0.42** (0.18)	0.45** (0.18)	0.48*** (0.17)	0.53*** (0.18)
Inward FDI North(-1)	0.22*** (0.07)	0.22*** (0.07)	0.21*** (0.08)	0.23*** (0.07)	0.27*** (0.07)
Inward FDI South(-1)	0.10 (0.06)	0.10* (0.06)	0.10 (0.06)	0.14** (0.07)	0.14* (0.07)
Growth of GDP pc.(-1)	-0.79** (0.32)	-0.77** (0.34)	-0.70* (0.36)	-0.87** (0.39)	-0.76* (0.40)
NFA	0.04** (0.02)	0.04** (0.02)	0.05*** (0.02)	0.04** (0.03)	0.04** (0.02)
Old-age Dep. Ratio	0.33 (0.30)	0.29 (0.30)	0.15 (0.31)	0.29 (0.29)	0.51** (0.24)
Openness	0.07** (0.03)	0.06** (0.03)	0.05* (0.03)	0.06** (0.03)	0.03 (0.03)
Growth of ULC	0.10 (0.12)	-	0.11 (0.12)	0.14 (0.14)	0.21 (0.14)
Growth of ULC(-1)	-	-0.002 (0.10)	-	-	-
Gov. Consumption	-	-	-0.45* (0.24)	-	-
Gov. Consumption(-1)	-	-	-	-0.58** (0.27)	-0.48* (0.28)
Financial Center	-	-	-	-	4.08** (0.28)
N	59	59	59	59	59
R <sup>2</sup>	0.61	0.61	0.64	0.65	0.68

Note: Values between parentheses correspond to robust std. errors. \*|\*\*|\*\*\* denote significance at 10, 5 and 1 percent level respectively. Shapiro-Wilk W test does not reject the null hypothesis that the Residuals follow a normal distribution for any estimation.

Notice that the fiscal balance is statistically significant throughout all conducted regressions and its coefficient remains rather constant. The estimated coefficients suggest that in the medium run a 1 percent of GDP improvement of the fiscal balance is associated with an average of 0.5 percentage points of GDP increase of the current

account. However, since both variables are contemporaneous problems could arise from endogeneity, which would bias the estimate and make it non interpretable. The usual step should be to replace the contemporaneous variable by a lagged term. However, low correlation between contemporaneous and lagged values of the fiscal balance make the latters poor instruments for the firsts, as also stated by Chinn and Prasad (2003). It should also be noticed that this very highly significant correlation between the fiscal balance and the current account balance differs from the ones obtained by Abiad et. al (2009) and Chinn and Prasad (2003). Their results regarding only industrial or European countries suggest that the relationship is non-significant. However they do not provide any explanation for that phenomenon. When the growth of government consumption is added to the equation, both contemporaneous and lagged, it always shows a negative and significant coefficient, as expected and accordingly to De Gregorio et. al (1994) results. In terms of the effects of inward FDI in the Northern countries, the positive coefficients estimated were very similar and extremely significant during all regressions. An increase of the inward FDI stock by 1 percent is related with a current account balance improvement of around 0.23 percentage points of GDP. In the Southern Member States, the relationship also appears to be positive and it is significant in three out of five estimations. Even though the Northern countries show a larger coefficient than the Southern ones, which helps explaining the divergence between individual Member States' external positions, these results do not support Christodoulakis (2009) theory, since the coefficient on the Southern countries is not negative. An explanation for this is that possibly it is the internal investment that is being misdirected to the non-tradable sector in the Southern Euro Area, and not the foreign one. In terms of the control variables, the NFA coefficient does not change much during all regressions,

being statistically significant in all. The growth of real per capita GDP is also significant in every estimation and shows a negative coefficient, according to what Blanchard and Giavazzi (2002) predict. Converging Member states tend to run smaller current account balances, since foreign borrowing appears to be optimal. Openness shows a positive and significant coefficient (as expected), except in the last regression, which is also the only one (V) in which the old-age dependency ratio is statistically significant, even though it seems positively correlated with the dependent variable, opposite to what was expected. An explanation for the coefficient not being negative could be that since most European countries have retirement ages of 65-67 years old, a higher dependency ratio (Ratio of people aged 63 or older to working-age population) does not translate immediately into a higher share of inactive persons. When this variable is replaced by the age-dependency ratio (which includes young and old), it also exhibits a positive and highly significant coefficient, which is also surprising. Only when it is replaced by the dependency ratio (ratio of population to labour force) as in Blanchard and Giavazzi (2002), it shows a negative and non-significant coefficient. The financial center variable shows a large positive and significant coefficient, in the same line with the result obtained by Lee et. al (2008).

### **Short-Run Estimation**

Once the medium term relationship is established, it is also useful to estimate the link between the current account balance and both fiscal policy and inward Foreign Direct Investment in the short-run. This way, the basic specification is given by:

$$\left(\frac{CA}{GDP} * 100\right)_{i,t} = \alpha_t + \beta \left(\frac{FB_{i,t-1}}{GDP_{i,t-1}} * 100\right) + \gamma(inFDI_{i,t-1} * Nor_i) + \theta(inFDI_{i,t-1} * Sou_i) + \delta X_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

Since what we are now estimating is a short-run relationship, the data set is composed by yearly data and only considers the "Euro period" (1999-2009). In order to avoid endogeneity, all independent variables are lagged one year. The short-run estimation has several control variables in common with the medium-run estimation: the growth rate of Real PPP-adjusted per capita GDP, the old-age dependency ratio, openness and the growth rate of ULC. The new control variables added are: the output gap, expressed in percentage points of potential GDP, in order to control for the business cycle; and the growth rate of real oil prices (in Real Euros) expressed in percentage points, since all Euro Area countries are net oil importers shifts in oil prices could negatively affect the current account balance. In an alternative specification (II), the growth rate of ULC is replaced by the growth rate of the Real Effective Exchange Rate (REER), based on ULC, and expressed in percentage points. The higher this indicator is, the greater is the loss of competitiveness relatively to its trading partners. In estimations III and IV it is respectively added the lagged growth rate of Government consumption as a share of GDP (expressed in percentage points) and the financial center dummy. In estimation V, the old-age dependency ratio is replaced by the age dependency ratio, (ratio of population aged 0-14 and 63 or older to working-age population, multiplied by 100). Table 3 presents the results of the short-run pooled OLS estimations.

Table 3: Current Account in percentage points of GDP (short-run)

Variable	(I)	(II)	(III)	(IV)	(V)
Fiscal Balance (-1)	0.89*** (0.14)	0.90*** (0.15)	0.86*** (0.14)	0.88*** (0.15)	0.83*** (0.16)
Inward FDI North(-1)	0.02 (0.04)	0.04 (0.04)	0.02 (0.04)	0.05* (0.03)	0.05 (0.04)
Inward FDI South(-1)	0.02	0.03	0.02	0.05	0.05

	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)
Growth of GDP pc. (-1)	-0.40	-0.39	-0.43	-0.41	-0.40
	(0.30)	(0.30)	(0.29)	(0.27)	(0.37)
Old-age Dep. Ratio (-1)	0.58***	0.62***	0.58***	0.81***	-
	(0.11)	(0.11)	(0.12)	(0.10)	
Openness(-1)	0.07***	0.07***	0.07***	0.03**	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Growth of ULC(-1)	-0.94***	-	-0.77**	-0.81***	-1.10**
	(0.29)		(0.33)	(0.30)	(0.46)
Output Gap (-1)	-0.22	-0.26	-0.23	-0.32	-0.18
	(0.28)	(0.29)	(0.26)	(0.27)	(0.38)
Growth of Real Oil P.(-1)	1.17***	1.35***	1.30***	1.48***	1.32***
	(0.15)	(0.34)	(0.15)	(0.33)	(0.48)
Growth of REER(-1)	-	-0.10	-	-	-
		(0.10)			
Gov. Consumption(-1)	-	-	-0.18	-0.23*	-0.27
			(0.17)	(0.14)	(0.16)
Financial Center	-	-	-	7.10***	3.93**
				(1.18)	(1.60)
Age Dep. Ratio (-1)	-	-	-	-	-0.74
					(0.52)
N	96	96	96	96	96
R <sup>2</sup>	0.71	0.69	0.72	0.80	0.66

Note: Values between parentheses correspond to robust std. errors. \*|\*\*|\*\*\* denote significance at 10, 5 and 1 percent level respectively. Shapiro-Wilk W test does not reject the null hypothesis that the Residuals follow a normal distribution for any estimation.

The results are clear and rather constant throughout all estimations. The Fiscal balance variable is extremely statistically significant and with a high positive coefficient. This coefficient is even larger than the one presented in the medium term regression, suggesting that fiscal policy would have a larger impact on the current account in the short run. The growth of government consumption appears to be once more negatively related with the current account balance, even though it is only significant (at 10%) when we also include the financial center dummy. In the short run

the growth of real per capita GDP does not appear to be related to the current account, contrary to what happens in the medium run. Openness and the growth of ULC are statistically significant and their coefficient have the expected signs. Two intriguing puzzles also emerge from the last three specifications, regarding the old-age dependency ratio and the real oil price. The first case was already discussed above, even though now it is extremely significant. However, when it is replaced by general age-dependency ratio this positive effect disappears. The new coefficient is negative and not statistically significant. The fact that the real oil price has a positive and statistically significant coefficient is also a surprise, since we are only considering Euro Area Member States and neither one of them is an oil net exporter. Therefore, the real oil price should have a negative and not positive coefficient. In terms of the effects of inward FDI, once again it does not appear to support Christodoulakis (2009) theory. In all specifications, the coefficient on the Southern countries inward FDI was positive, even though it was also always not statistically significant. The coefficient for the Northern Member States is only statistically significant on the fourth regression and remains positive, supporting the theory that in the North inward FDI is being directed to the tradable sector. The fact that its coefficient is much smaller than in the medium run estimation also suggests that the effects of inward Foreign Direct Investment are stronger in the medium than in the short term, what can make sense since production could still take some time to adjust.

## **IV - Conclusion**

Even though that in a currency union the concept of current account becomes somehow "blurred", it should not be ignored as large imbalances could have dangerous consequences on the individual Member States economies and to the viability of the euro. The common currency helped peripheral countries to keep their investment levels despite lower private savings by improving their access to other Member States' savings. Fiscal Policy appears to be related to the current account balance both in the short and medium run. Higher public savings are associated with a higher current account balance. Inward Foreign Direct Investment appears to have contributed to the divergence in the Euro Area individual Member States' external accounts, since it seems to have a positive effect on the current account balance in the Northern countries and none on the Southern Member States. This result suggests that inward FDI has been mainly directed to the tradable sector in the North, while in the South it is possible that the non-tradable sector has been attracting most of the internal (and not foreign) investment.

The path of adjustment for Member States with large current account deficits seems clear and extremely difficult. With no exchange rate policy, the options are not that many. Fiscal policy appears to be a valid instrument, especially a fiscal consolidation strategy based on the expenditure side, according to the results obtained in this paper. The Government could also perform a fiscal devaluation, a neutral tax-swap between Employer's payroll taxes and consumption taxes, in order for labour to become cheaper for domestic firms and boost competitiveness. Franco (2010) showed that this policy can only be successful if followed by wage moderation. Structural reforms to

enhance productivity in both the tradable and non-tradable sectors must also be on the agenda. Structural reforms on labour and product markets (this last especially on the non-tradable sector, in order to enable lower inflation rates) are crucial to reduce these large external imbalances.

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## Data Appendix.

### Sources:

Current Account Balance	IMF
Fiscal Balance	AMECO
Government Consumption	OECD
Real PPP-adjusted per capita GDP	OECD
NFA	Updated and extended version of dataset constructed by Lane and Milesi-Ferretti (2007)
Old-age Dependency Ratio	World Bank
Age Dependency Ratio	World Bank
Openness	World Bank
ULC	OECD
Real Exchange Rate (vs. IC36)	AMECO
Inward Foreign Direct Investment Stock	UNCTAD
Output Gap	IMF
Oil Price	ECB
GDP Deflator	Eurostat
Capital and Labour inputs (industry detailed)	EU KLEMS
Real Gross Value Added (Industry detailed)	Eurostat