CURRENT ACCOUNT IMBALANCES IN THE EURO AREA

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Abstract

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While the current account balance for the euro area as a whole has been in balance, divergences in current account positions among the euro-area members have widened since the introduction of the common currency euro. During the last 13 years Portugal, Greece and Spain have run large and persistent current account deficits, whereas Luxembourg, the Netherlands, Finland or Germany have displayed during the same period large and persistent surpluses. However, there is no unambiguous agreement among economists, whether this divergence of current account positions of the euro-area countries mirrors growing intra-euro-area imbalances (Gros, 2012) or just reflects proper functioning of the European integration process (Schmitz and von Hagen, 2009). Therefore, the aim of this paper is to estimate equilibrium current account position for each of the original 12 euro area countries so that it is possible to assess whether the divergence of intra-euro current account balances could be explained on the basis of economic fundamentals or it just reflects misallocation of resources and thus macroeconomic imbalances. The equilibrium current account balance is estimated using a panel-econometric technique for a sample of 30 industrial countries, which represent euro-area member states and their main business partners, over the period 1993–2011. Economic fundamentals affecting the equilibrium current account position are selected on the basis of the saving-investment balance, the trade balance and the net income balance, to ensure that we take into an account all theoretically important explanatory variables. We find that the main determinants of current account norms in our sample are fiscal balance, a country's net international investment position, oil balance and a country's stage of economic development. The major part of the euro-area countries exhibits current account positions close to their equilibrium levels with the exception of the Netherlands and Finland which have persistently higher surpluses, while Portugal and Greece run larger current account deficits than is their norm.

current account norm, euro area, external balance, panel analysis

Even if the current account position of the whole euro area has been merely in balance, current account positions of so called core countries and periphery[1] (Mongelli, 2002) started to drift apart. One possible explanation for the permanently diverging current account positions between the core and periphery can be the catching-up process of the peripheral countries (see Ahearne et al., 2007; Holinski et al., 2012; and Ghosh and Ramakrishnan, 2006). In particular, the different current account positions can be seen as a sign of properly integrated financial markets that enable better international allocation of capital and economic convergence across countries (so-called Feldstein-Horioka hypothesis). Therefore, it is an equilibrating mechanism if countries with lower per

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1   As a periphery Portugal, Ireland, Greece and Spain are considered, whereas the rest of the euro area countries belongs to the core.

capita income and higher expected productivity and growth rates attract foreign investment. The higher productivity of invested capital ensures future economic growth and repayment of accumulated foreign liabilities. Moreover, at the same time it can be expected that the catching-up countries may tend to consume more and save less in case of the anticipation of higher induced growth in the future (Holinski *et al.*, 2012).

Another possible explanation of the evolution of current account balances is the fact that current accounts mirror shifts in countries' competitiveness (see Ahearne *et al.*, 2007; Holinski *et al.*, 2012; European Commission, 2012). According to this view, persistent differences in inflation between the core and peripheral countries or rising unit labour costs are associated with changes in competitiveness. In other words, countries that have lost competitiveness run current account deficits, whereas countries that have gained competitiveness have current account surpluses. This could lead to a vicious circle, because current account deficits lead to accumulation of net foreign liabilities and a country has to pay interest on its foreign debt. Moreover, if these interest payments are not offset by a trade surplus, they further increase the level of foreign indebtedness. Consequently, this could lead to an unsustainable external debt position. As Holinski *et al.* (2012) point out, the only way out of this vicious cycle is via achieving a positive trade balance. Thus, when studying external macroeconomic balance, levels and dynamics of current account balance are of particular interest.

Hence, the aim of this paper is to estimate current account norms (i.e. equilibria) for the original 12 euro-area countries and to assess whether the divergence of intra-euro current account balances could be explained on the basis of economic fundamentals or whether it mirrors macroeconomic imbalances. The equilibrium current account balance is estimated using a panel-econometric technique for a sample of 30 industrial countries, which represent euro-area member states and their main business partners, over the period 1993–2011.

This paper is organized as follows. In the first part, we review the existing literature on current account. In the second part, we describe the methodology that explains the current account norms. In the third part, we present and discuss some interesting results. The last section is Summary.

LITERATURE REVIEW

The topic is related to various approaches in the literature dealing with current account estimations both actual and norms. The first strand focuses on consumption smoothing applied to the modelling of current account dynamics, joint dynamic behaviour of the current account and investment, and determinants of current account balance, while the second strand estimates current account norms.

Consumption smoothing applied to the modelling of current account dynamics is presented by Goh, 2007; Cashin and McDermott, 2002; Ghosh, 1995; Ghosh and Ostry, 1995; Obstfeld and Rogoff, 1995, etc. In general, these models combine the assumptions of high capital mobility and the permanent income theory of consumption to a small open economy in order to predict what would happen to capital flows if agents behaved in accordance with the permanent income theory. More in detail, the aforementioned studies examine the impact of changes in capital mobility and the current account's capacity to estimate external balance. The current account can be seen as a mean of smoothing consumption over time under the conditions of the output, investment, and government expenditure changes.

Joint dynamic behaviour of the current account and investment is studied by Glick and Rogoff (1995) or Nason and Rogers (2002). Glick and Rogoff (1995) use the inter-temporal model based on SVARs of the current account and investment and find that a permanent country-specific productivity shock has a larger effect on the current account than on investment. However, country-specific technology shocks affect more investment than they affect the current account. The results are replicated by Nason and Rogers (2002) who identify empirically structural shocks. They find that investment augmentation is accompanied with current account deficits and that the current account exhibits a persistent response to movements in country-specific shocks.

Particular determinants of current account balance as public and private investment and saving are identified by, for instance, Masson *et al.* (1998) or Edwards (1995) who point out the link between saving and income growth, terms of trade and demographic structure. Similarly, Obstfeld and Rogoff (1995) turn to models that illustrate the key elements influencing saving-investment balances in the world economy.

The aforementioned contributions are extended by the literature on current account norms that explain their optimal level that can be used as a benchmark for actual current account evaluation. A study representing this approach is the paper of Jaumotte and Sodsriwiboon (2010) that focuses on current account imbalances in the southern euro area countries. They are concerned with medium-run determinants showing that the decline in the current accounts coincided with a large decrease in private savings rates and a much more moderate increase in investment rates. Consequently, their findings indicate that the 2008 current account deficits of most southern euro area countries exceed norms, though with substantial variation across countries. In other words, they point out the problem of incongruity between macroeconomic fundamentals and actual current account. With an increasing discussion on the heterogeneity inside the EU (see Rozmahel *et al.*, 2013; Kouba and

Grochová, 2013) we find necessary to extend the analysis on the whole EU.

METHODS AND RESOURCES

Since the aim of this study is to estimate current account norms (i.e. current account equilibria) for the original 12 euro area countries, we have created a dataset consisting of these countries and their main business partners. A dataset consists of the group of 30 industrial countries (IC30)[2] over the period 1993–2011. To eliminate the effect of short-run and cyclical variations in the data, non-overlapping four-year averages[3] of all relative variables entering into the analysis have been computed. For this reason we employ variables that have medium- and long-run impact on current account. Therefore, we exclude short-run effects that can be caused, for instance, by real effective exchange rate, price level, etc. Since there are only five observations available for each country in the sample, we employ a panel regression analysis that takes into account both time-series dimension and cross-sectional dimension and exhibits so higher power than time series techniques.

In order to estimate current account norms (ca), expressed as a ratio of a country's current account position relative to GDP, below listed standard explanatory variables (based on Lee *et al.* 2008; Chinn and Prasad, 2003; and Rahman, 2008) are used. Whenever it is plausible, the following current account norm determinants are constructed relatively to the rest of the IC30 group, to capture the relative structural differences among the countries analysed.

- Fiscal balance (fiscal) – a higher general government balance (i.e. government surplus) raises national savings and thus increases under the condition of incomplete Ricardian equivalence (Rahman, 2008) current account balance. Contrary, a larger government deficit reduces national saving and lowers the current account balance. Since fiscal balance can be both positive or negative, this variable is measured as the difference between a country's general government balance expressed as a ratio to GDP and the average general government balance of the rest of the IC30 group. An above-average general government deficit leads to higher account deficits and vice versa. Data source: AMECO and OECD database.
- Demographics (over_65) – according to the consumption smoothing approach, a higher share of economically inactive population reduces national savings and thus the current account balance. Therefore, the demographic variable is

calculated as the ratio of a country's population over 65 to the average ratio of economically active population (between 15 and 65 years) of the rest of the IC30 countries. And thus an above-average old-age dependency ratio reduces current account balance. Data source: AMECO database.

- Net international investment position (iip) – is defined as the difference between the stock of foreign assets and foreign liabilities hold by domestic residents. The effect of net international investment position on current account balance is ambiguous. A country with a positive net international investment position is a net borrower/investor; therefore it receives income on its foreign assets, which increases country's current account balance and its wealth. Nevertheless, wealthier countries can afford to run (finance) current account deficits over the medium term. Since there is no a priori evidence which of these two effects will outweigh, both the positive and the negative sign of a coefficient can be expected. This variable is constructed as the ratio of net international investment position to GDP, and in the regression is used with one-period lag in order to emphasise the effect of the past net international investment position on the current account position. Data source: IMF database and Lane and Milesi-Ferretti (2006) database.
- Oil balance (oil) – the difference between oil production capacities and oil consumption needs of a country structurally affects trade balance and thus current account balance. Higher oil prices hence translate into current account surpluses for oil exporters and current account deficits for oil importers. The oil balance variable is calculated as the difference between the values of produced and consumed oil relative to GDP. Data source: BP database.
- Per capita income (rgdp_ppp) – countries with relatively high per capita income tend to be at higher level of economic development and lend (invest) money abroad and thus exhibit current account surpluses. This variable is calculated as the ratio of a country's real GDP per capita expressed in USD relative to the average real GDP per capita in USD of the rest of the IC30. In general, an above-average per capita income implies current account surpluses. Data source: Penn World Tables.

Preliminary to the estimation process, all variables have been tested for unit roots using a test developed by Im, Pesaran and Shin (2003) and all variables have been found to be stationary, i.e. integrated of I(0). In order to estimate the current account norms and to obtain robust results, three different techniques are

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2   These IC30 countries are: Belgium, Bulgaria, Czech Republic, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Lithuania, Luxembourg, Hungary, Netherlands, Austria, Poland, Portugal, Romania, Slovakia, Finland, Sweden, United Kingdom, Australia, Canada, United States, Japan, Norway, New Zealand, Mexico and Switzerland.

3   In order to maintain a balanced panel and due to missing data for some countries in 1992, the first average has been computed only from three years instead of fours.

applied: pooled estimation, fixed effect estimation and random effect estimation. To choose an appropriate model for current norm estimation, we apply panel diagnostic tests that are reported in Tab. II. The impact of euro-area membership on the difference between the actual and equilibrium current account is verified using the two-sample *t*-test.

RESULTS AND DISCUSSION

The results in Tab. I and II show that the random-effect model has the highest explanatory power out of all three estimated models and all explanatory variables, with the exception of the demographic variable, are statistically significant (using robust standard errors) and have expected signs. Furthermore, as showed in Tab. II, random effects are preferred to pooled OLS (see Breusch-Pagan LM test) and also to fixed effects (see Hausman test). Moreover, in our case when only relatively short time series are available, fixed effects may capture temporary rather than structural differences from the predicted value for the current account (Salto and Turrini, 2010). Therefore, we favour the random-effect model specification to the others and use it later to estimate the current account norms for the original 12 euro area countries.

Estimated results of the preferred random-effect model in Tab. I show that the explanatory variables have the expected effects on current account norms: higher fiscal deficits weaken current account positions and thus are in line with the twin deficit hypothesis (i.e. fiscal deficits cause current account deficits); a country's positive net international position generates revenues from abroad and thus increases current account balance; oil exporting countries tend to have higher trade balance and thus higher current account balance than oil importing countries; and last but not least catching-up process coincides with a deterioration of a current account balance. These findings are in line with the concept of the intertemporal smoothing, the saving-investment balance and the catching-up process.

Nevertheless, in the case of random-effect estimation, the impact of old-age dependency is found to be negligible which is in contrast to results of other studies (see Lee *et al.*, 2008; Rahman, 2008; Jaumotte and Sodsriwiboon, 2010) that emphasize demographics to be an important current account determinant. A possible explanation for this phenomenon can be the fact that in contrast to other papers, we focus solely on a group of industrial countries, whereas others often have in their sample a mix of industrial and developing countries. And since old-age dependency ratio developments are

I: *Random-effects (GLS)*

	Coefficient	Robust Std. Error	z-ratio	p-value	
Const	−0.038	0.020	−1.87	0.061	*
fiscal	0.151	0.089	1.69	0.093	*
over_65	0.021	0.018	1.18	0.240	
iip	0.056	0.013	4.38	< 0.001	***
oil	0.415	0.109	3.81	< 0.001	***
rgdp_ppp	0.029	0.011	2.57	0.010	**
Wald test	137.340		p-value	< 0.001	
overall R-squared	0.684		Durbin-Watson	1.566	
Ramsey RESET test	0.870		p-value	0.420	
Schwarz criterion	−579.196				

Using 150 observations
Included 30 cross-sectional units
Time-series length = 5
Dependent variable: ca

II: *Panel diagnostics*

Test	Statistic	p-value
F-test for individual effect	4.184	< 0.001
Breusch-Pagan LM test	37.028	< 0.001
Hausman test	7.160	0.209
Schwarz criterion:		
pooled	−578.627	
FE	−544.374	
RE	−579.196	

very similar across industrial countries, this factor cannot explain the variability in current account positions of industrial countries.

To find out, whether the current account positions of the 12 euro-area countries are in line with their equilibrium values, or mirror macroeconomic imbalances, current account norms for all 12 individual euro-area countries are computed on the basis of the random-effect model and compared with the actual current account balances (see Fig. 1).

As can be seen from Fig. 1 actual current account positions and current account norms vary across the euro area countries. Luxembourg and Belgium have exhibited during the whole period analysed a positive country-specific current account norms that are close to their actual current account positions, whereas current account surpluses of the Netherlands and Finland have permanently exceeded their norms. We can then conclude that the observed current account positions of Luxembourg and Belgium are broadly in equilibrium, whereas the current account surpluses of the Netherlands and Finland can be expected to diminish, i.e. move closer to their norms, as has already happened in Finland during 2008–2011.

An exactly opposite effect of the euro-area membership can be observed on the one hand in Germany and Austria and on the other hand in France, Italy and Ireland. Germany and Austria used to have current account deficits, but since their euro-area membership, they have been running current account surpluses that are greater than their current account norms. In contrast, France, Italy and Ireland have switched from current account surpluses to current account deficits after the introduction of euro. Since on average current account positions of these countries approach zero and are broadly in line with their norms over the whole period analysed, there is no apparent evidence of growing external imbalances.

Another pattern can be observed in the case of Spain, Portugal and Greece. These three countries have been running persistent current account deficits. The speed of deterioration of actual current account positions of Greece and Portugal, however, has not been fully met by deterioration of their country-specific norms. This can imply that the difference between the actual and equilibrium current account positions in these countries reflects growing macroeconomic imbalances.
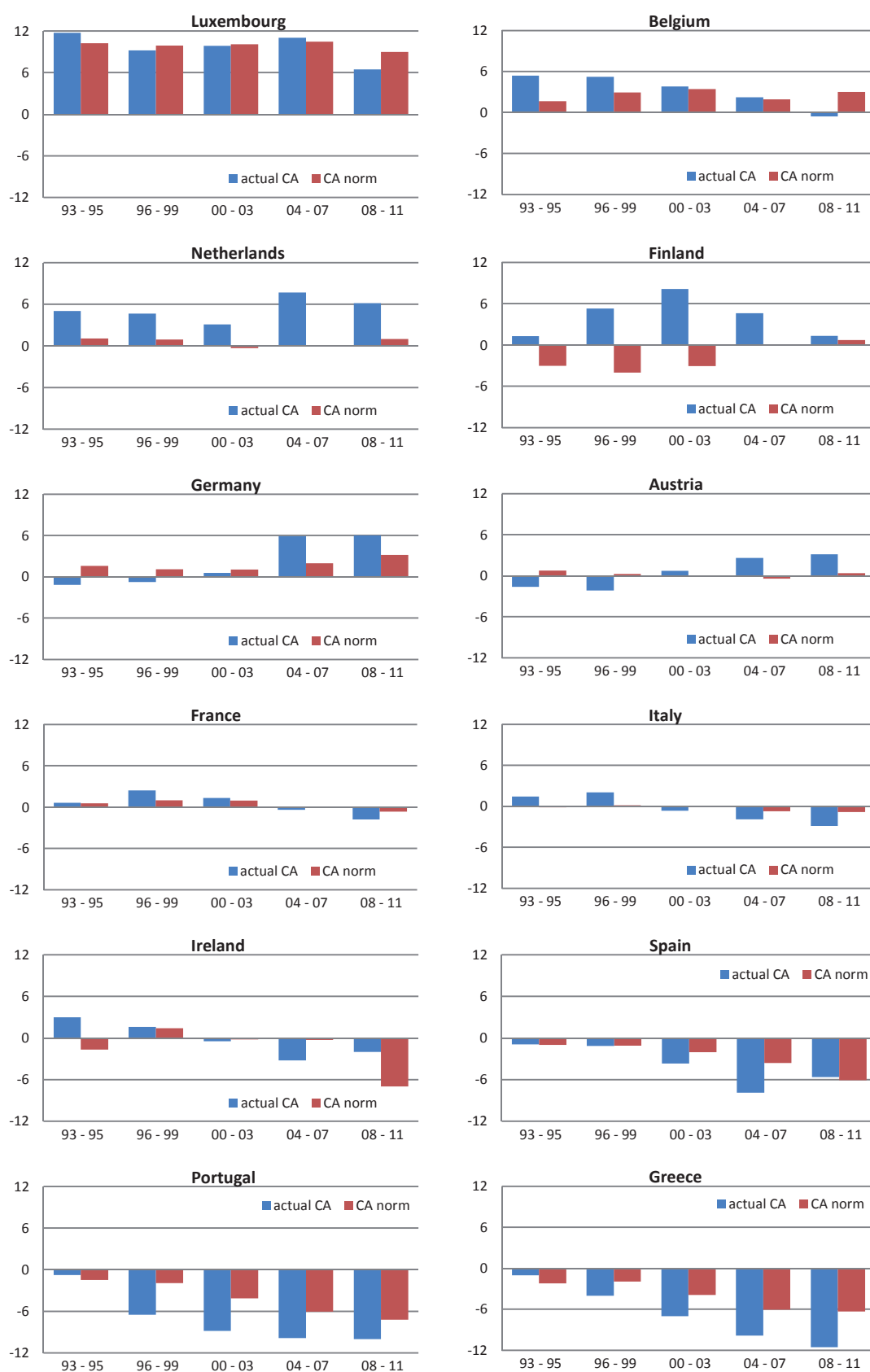
Three general patterns can be observed from Fig. 1. First, current account norms are time-variant, and respond to changing economic conditions. Next, current account positions tend to move around (and tend to revert to) their equilibrium values. Therefore, even if a country runs permanent current account surpluses (e.g. Luxembourg) or deficits that correspond to a country's current account norms, its macroeconomic stability is not endangered, because this situation matches its general economic conditions. However, three countries in the euro area can be identified which

persistently deviate from their current account norms and do not exhibit a tendency to revert to their equilibrium values: the Netherlands, Portugal and Greece. The Netherlands exhibit permanently higher current account surpluses than given by their norms, whereas Portugal and Greece (with the exception of the first period) run larger current account deficits than it corresponds to their economic fundamentals.

As can be argued from Fig. 1, the differences between actual current account positions and their underlying norms seem to have increased after the euro introduction. The difference between actual current account positions and current account norms is tested by t-test, i.e. the divergence/convergence process before and after euro introduction is examined. Nevertheless, result of two-sample t-test shows that there is no statistically significant difference between the means of difference between the actual current account position and the current account norm before and after the euro introduction (test statistic is 0.55, two-tailed p-value is 0.583, one-tailed p-value is 0.292). This indicates that current account imbalances across the euro area have not increased. Thus our results seem to be in line with an equilibrating process among the euro area countries (Schmitz and von Hagen 2009), rather than the thesis that diverging current account positions of the euro-area countries mirror growing intra-euro-area imbalances (Gros, 2012).

The conventional wisdom on current account balance is that current account surpluses are less problematic than deficits. Nevertheless, current account surpluses may indicate a problem with weak domestic demand and slower economic growth, which does not seem to be the problem of the Netherlands. Persistent current account deficits exceeding their norms, on the other hand, represent a serious problem to macroeconomic stability since they often result from competitiveness losses and resources misallocation, especially if affected countries have accumulated large net foreigner liabilities, as is the case of Greece and Portugal. Large net foreigner liabilities worsen risk profile of a country and may lead to a sudden stop of financing and to a severe economic downturn (Freund and Warnock, 2005), as has already happened to these countries.

The seriousness of the permanent current account deficits of Portugal and Greece (and partially of Spain) is stressed by the fact that the euro-area countries cannot use nominal devaluation or national monetary policy to adjust any more. The only possibilities remaining to the euro-area countries are productivity growth, respectively internal devaluation (i.e. reduction of costs relative to trading partners), fiscal consolidation and structural reforms enhancing market flexibility, however, the last two possibilities can negatively affect economic growth in short to medium run.

1: *Comparison of actual current account positions and norms (measured as % of GDP)*

SUMMARY

The aim of this paper is to estimate current account norms (i.e. equilibria) for the original 12 euro-area countries and to assess whether the divergence of intra-euro current account balances could be explained on the basis of economic fundamentals or whether it mirrors macroeconomic imbalances. Based on a panel of 30 industrial countries over the 1993–2011 period, we identify as the main determinants of current account norms fiscal balance, net international investment position, oil balance and per capita income, which is in line with the concept of the inter-temporal smoothing, the saving-investment balance and the catching-up process. Our main findings are that with the exception of the Netherlands, Portugal and Greece, the other euro-area countries exhibit current account positions close to their equilibrium levels or tend to revert to the equilibrium. However, current account surpluses of the Netherlands permanently exceed the norm and current account deficits of Portugal and Greece go below their equilibrium levels. Moreover, the divergence between current account positions and current account norms in the euro area has not increased across the euro-area countries after the euro introduction.

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