

Current Account Imbalances in the Euro Area

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Rising and persistent global imbalances have been the focus of a lively debate among policymakers and academic economists in recent years. Most of the controversy has concentrated on the large US current account deficit and its main counterpart, the large current account surpluses of countries in Asia. Europe has not attracted much attention in this debate, most likely because European countries and the European Union as a whole have a long tradition of keeping their current accounts relatively close to balance (Ahearne and von Hagen 2005). But current account developments in Europe deserve attention for several reasons. For starters, current account imbalances in EU countries and in particular among those of the Economic and Monetary Union (EMU) have grown considerably in recent years. It is natural to wonder whether these imbalances can be explained by fundamental economic factors or whether they point to a potential unsustainability of the common currency.

This chapter explores the determinants of the current account balances of both the overall euro area and individual EU member countries, and also considers both intra- and extra-European Union current account

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balances. We interpret current account balances as the counterpart of capital flows and ask to what extent they are attributable to economic convergence among countries with different per capita incomes.

After this brief introduction, we show some stylized facts on current account balances in the euro area. Then we present evidence that capital tends to flow from high- to low-income euro area economies and that these flows have increased since the creation of the single currency in Europe. We close with a brief forecast of likely challenges based on our analysis.

Stylized Facts

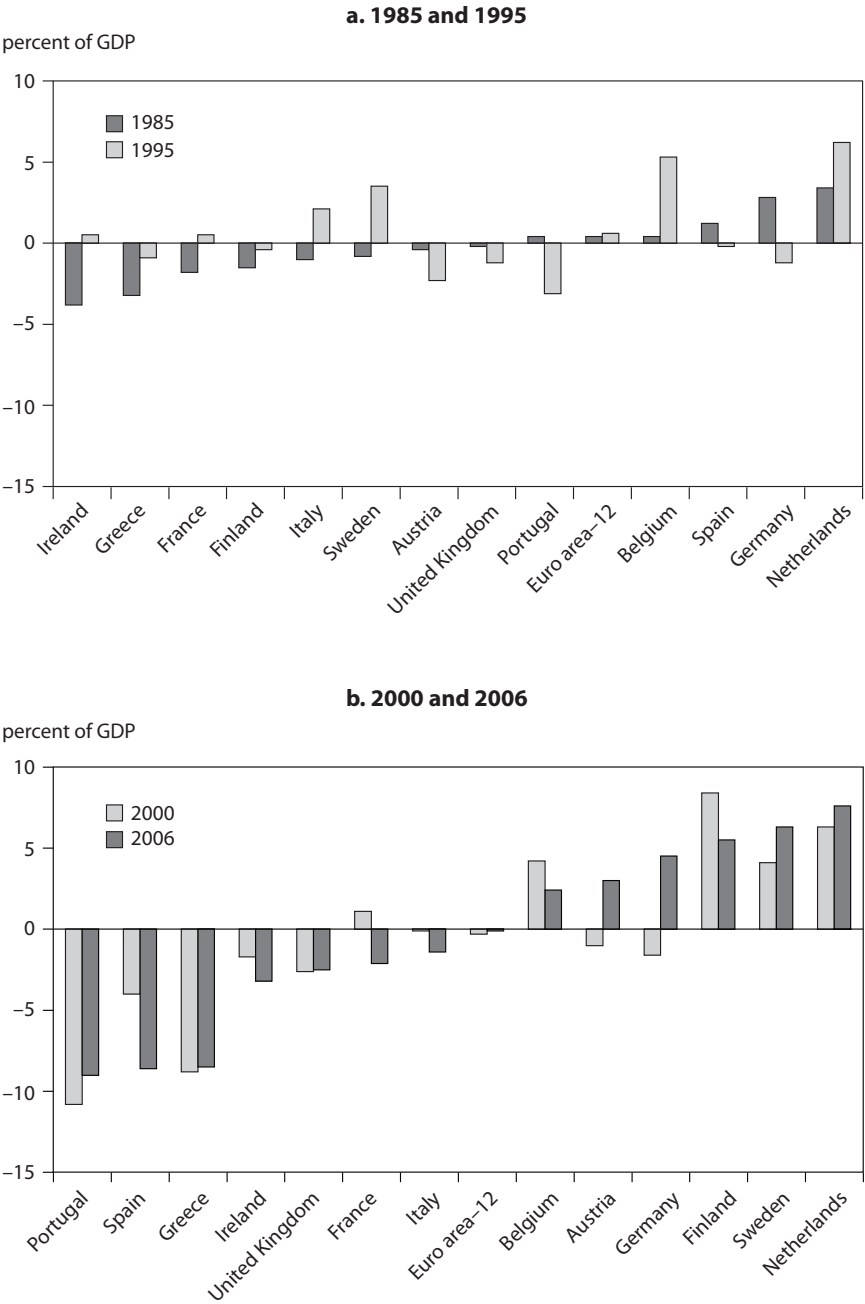
In this section we present some of the main stylized facts about individual EMU member countries' current account balances. Figure 2.1 shows these balances for the euro area as a whole and for individual EU countries in selected years since 1985.

As an aggregate, the euro area tends to be financially self-contained and contributes little to the absorption of current account imbalances in other parts of the world. Current account balances have typically been small over this 20-year period (with 1995 being a noticeable exception), notwithstanding the fact that some EU countries have sizable current account imbalances. Germany, for example, has recorded annual surpluses of around \$100 billion in recent years, and its surplus is estimated to have reached 4¼ percent of GDP in 2006. This has brought the country back to its traditional position of surplus, as was the case in 1985. Finland, Sweden, and the Netherlands have run even larger surpluses relative to GDP in the past six years. In contrast, Portugal's current account deficit was nearly 10 percent of GDP in 2006, while deficits in Greece and Spain exceeded 8 percent of GDP. All three countries have had sizable deficits since the start of the EMU.¹

Figure 2.2 shows the evolution of EMU current account balances. Belgium-Luxembourg, Finland, Germany, and the Netherlands have consistently run surpluses during the past five years. Germany registered small current account deficits averaging about 1 percent of GDP during most of the 1990s before swinging into surplus in 2002, and this surplus has widened steadily over recent years as the country's exports have outpaced its imports. Recent years have also seen a marked increase in the current account surplus of the Netherlands, while Finland's surplus has nearly returned to its level at the beginning of EMU after growing to nearly 10 percent in 2001.

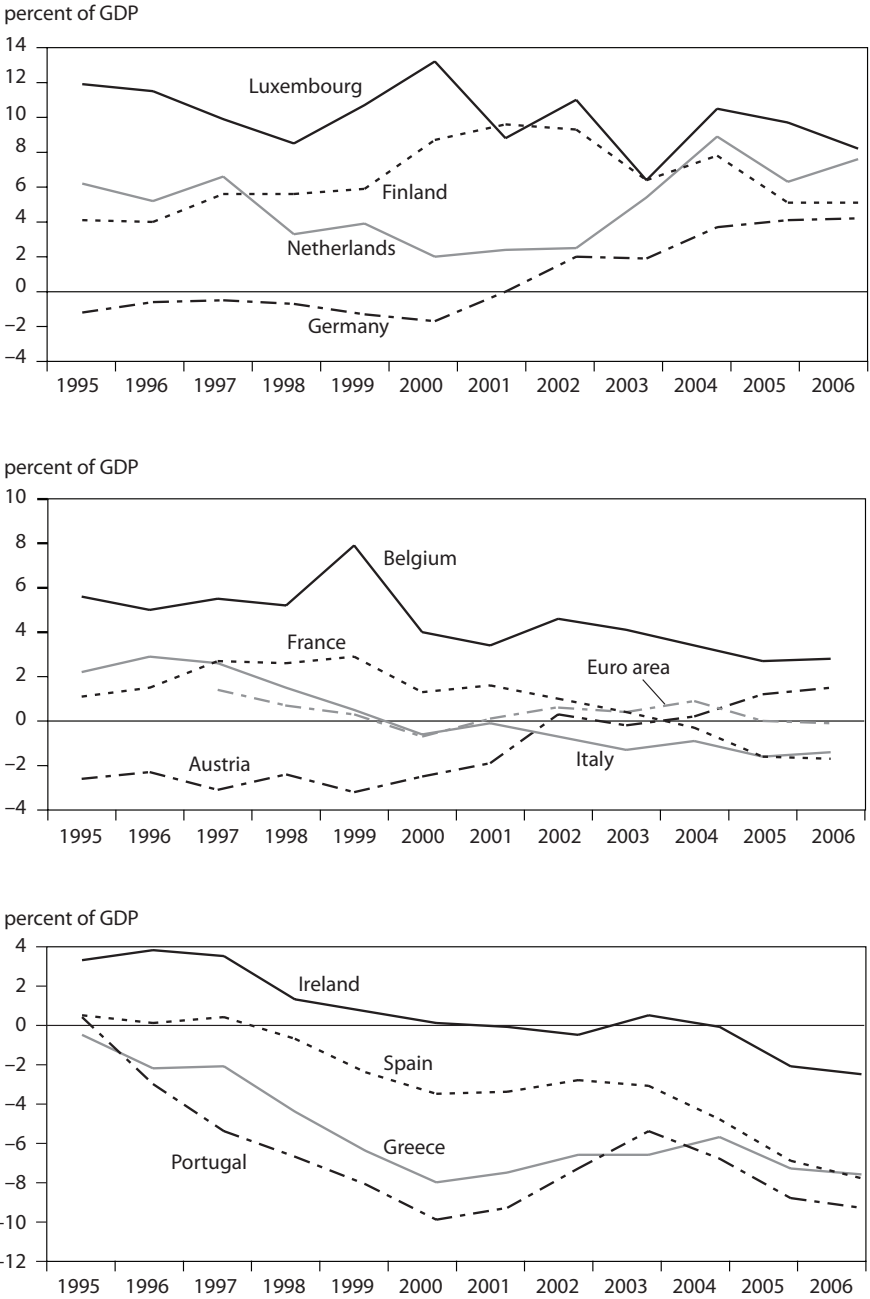
1. See Blanchard and Giavazzi (2002) for a discussion of Greece and Portugal in this regard.

Figure 2.1 European current account balances



Source: International Monetary Fund, *World Economic Outlook*, September 2006.

Figure 2.2 Current account balances under Economic and Monetary Union, 1995–2006



Source: International Monetary Fund, *World Economic Outlook*, September 2006.

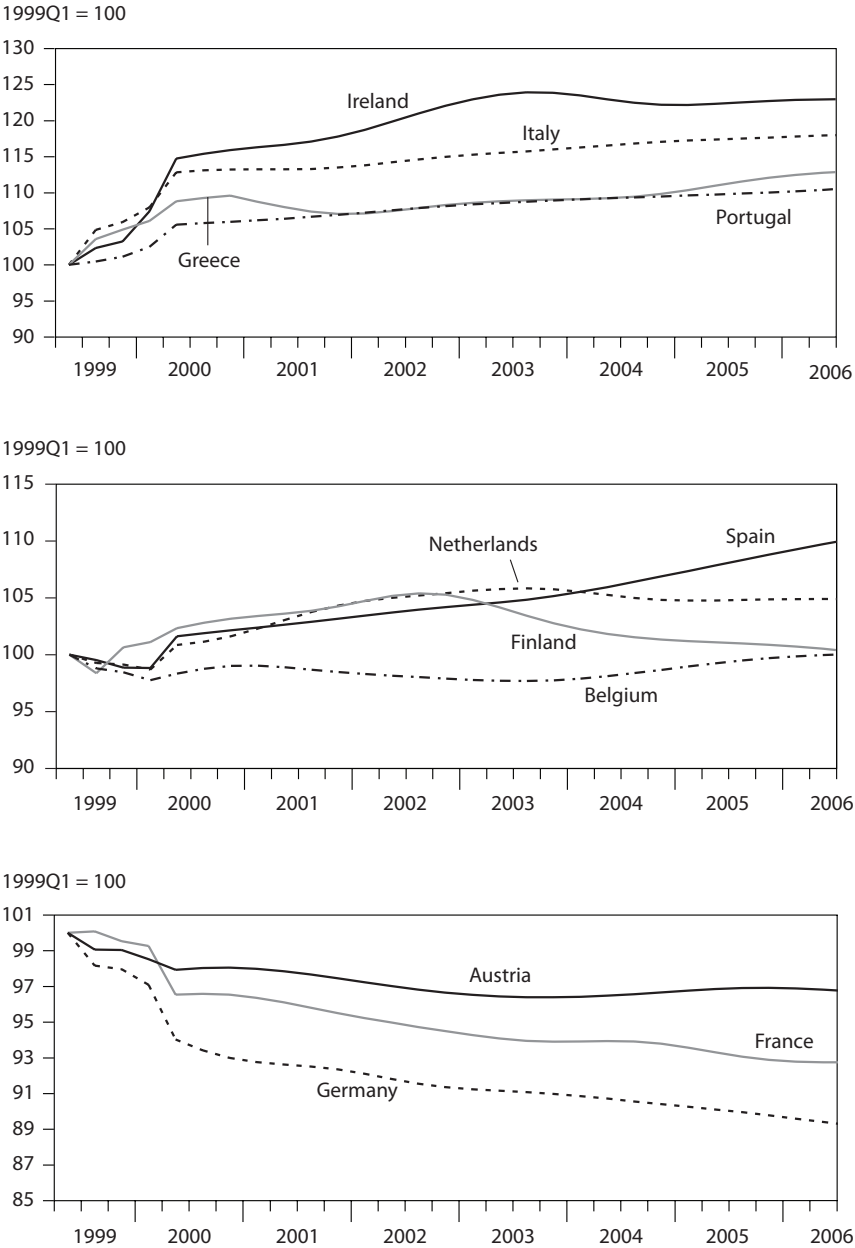
At the other end of the spectrum, Greece, Portugal, and Spain have consistently run current account deficits in the past five years, and their deficits have widened significantly both under EMU and during the run-up to the EMU. All three countries had current account positions close to balance around the mid-1990s. Recent years have seen an especially sharp decline in Spain's current account balance from roughly 3½ percent of GDP in 2003 to an estimated 8¼ percent in 2006.

Current account deficits of the magnitudes now seen in Greece, Portugal, and Spain are unprecedented among euro area countries, with the exception of Ireland in the mid-1980s and Portugal in the 1970s (European Commission 2006). Current account deficits of more than 8 percent of GDP are also large compared with advanced non-euro area economies. Sustained current account deficits accrue to the net international investment position; net external liabilities relative to GDP have soared to nearly 80 percent in Greece, 60 percent in Portugal, and 40 percent in Spain.

One interpretation of the evolution of EMU current account balances is that the increased dispersion of current account positions has been driven by trade flows that reflect shifts in relative competitiveness in the euro area (see, for example, Blanchard 2006b; European Commission 2006; and Wolfgang Münchau, "Why Internal Imbalances in the Euro Area Matter," *Financial Times*, November 8, 2006). On this account, aggregate demand was too strong in some countries and too weak in others, resulting in persistent differences in inflation rates across countries. In fact, the size and persistence of inflation differentials at the national level are the most widely recognized and documented facts relating to the start of the EMU. As a result of persistent differences in inflation across countries, euro area economies have experienced sizable swings in the real exchange rates vis-à-vis their peers, as shown in figure 2.3. In turn, the changes in competitiveness associated with these movements in real exchange rates may have played a role in bringing about the large swings in current account balances. The relationship between real exchange rate developments and current account balances portrayed in figure 2.4 appears to confirm that euro area countries that have gained (lost) competitiveness relative to other euro-area countries during EMU are now running large current account surpluses (deficits).

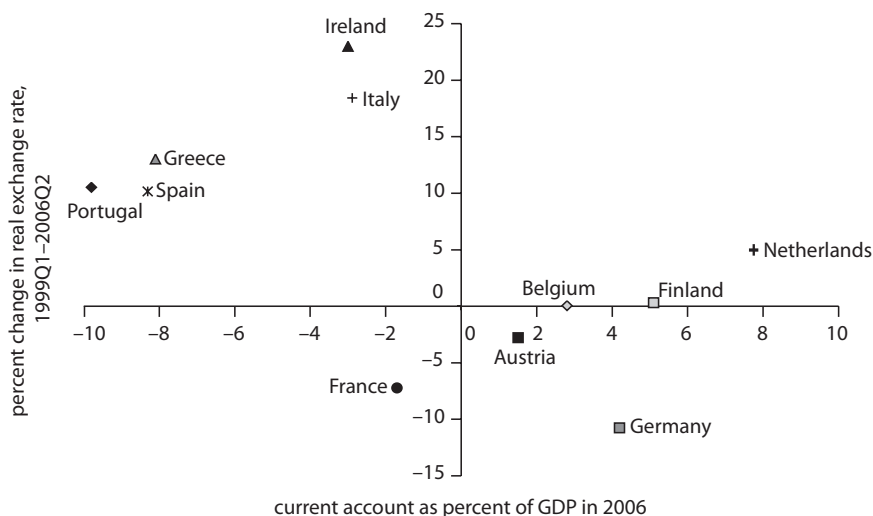
In particular, Blanchard (2006a) ascribes Portugal's economic boom in the late 1990s to the sharp drop in interest rates and heightened expectations for faster convergence that resulted from participation in the EMU. Rapid economic growth and a decline in unemployment led to an increase in wage growth to a rate substantially above the growth in labor productivity. As a result, competitiveness deteriorated sharply, export growth weakened, and Portugal's trade and current account deficits widened markedly. Ahearne and Pisani-Ferry (2006) document that in 1999–2005, cumulative growth in Portugal's gross exports was as much as 10 percentage points below the euro area average. Greece, Italy, and Spain also experienced relatively sluggish growth in gross exports over this period.

Figure 2.3 Intra-euro area real (CPI) trade-weighted exchange rates, 1999Q1–2006Q2



CPI = consumer price index
Source: Authors' calculations based on European Commission's Eurostat data.

Figure 2.4 Real exchange rates and current account balances



Sources: European Commission, Eurostat database; International Monetary Fund, *World Economic Outlook*, September 2006.

Some commentators have linked the strong performance of German exports in recent years to gains in competitiveness associated with a rate of inflation that has been persistently below the euro area average (Ahearne and Pisani-Ferry 2006; Münchau, *Financial Times*, November 8, 2006). According to this view, wage restraint, facilitated by a decline in unionization in Germany's labor market, has kept growth in unit labor costs well below the euro area average, boosting the competitiveness of German exporters. Revealingly, two-thirds of the 1.2 percent annual average growth in German GDP over the period 1999–2005 came from net exports, with only one-third from growth in domestic demand (Ahearne and Pisani-Ferry 2006).

The policy implication from this perspective is that, in order to achieve internal balance, deficit countries in the euro area need fiscal contractions to slow aggregate demand and that the surplus countries ought to boost aggregate demand. One problem with this prescription, however, is that Germany and the Netherlands until recently had trouble meeting their obligations under the Stability and Growth Pact and have little room for maneuver with regard to fiscal policy. Most of the adjustment would thus have to come from the deficit countries.

An important question is how the large current account deficits in Greece, Portugal, and Spain are being financed. The European Commission (2006) documents that a large part of the net financial inflows into these countries under the EMU took the form of bank loans. For Greece,

net portfolio inflows have also been important. Outflows of foreign direct investment have generally exceeded inflows in all three countries. For example, German banks' lending abroad exceeded their foreign borrowing to the tune of about 2½ percent of GDP annually during 1999–2005. In contrast, in 1992–98, German banks were significant net borrowers from the rest of the world.

One hypothesis is that by eliminating exchange rate risk, the creation of the single currency in Europe has boosted financial flows from high- to low-income countries in the euro area (financial flows from high-income euro area countries to low-income countries outside the euro area have not increased). Of course, the EMU has coincided with other efforts to promote increased financial integration in Europe.

Net Financial Flows and the EMU

In this section we examine in more detail the pattern of net financial flows between the EU-15 countries and other EU countries.² According to neo-classical growth theory, current account imbalances reflect capital flows, thus capital should flow from rich countries to poor countries. The latter have lower levels of capital per worker (this explains in part why they are poor) and this scarcity of capital relative to labor should mean that returns to capital are high. Savers in rich countries should therefore consider poor countries profitable places in which to invest.³

We present some simple econometric evidence on the determinants of capital flows between EU-15 countries and between these and non-EU-15 countries. Ideally, we would use individual country data on intra- and extra-EU-15 current account positions to measure financial flows, but these data are not readily available; as a proxy for current account balances, we use intra- and extra-EU-15 trade balances.⁴ Our main aim is to examine whether capital tends to flow from rich to poor EU-15 countries and whether the creation of the single currency in Europe has affected such flows.

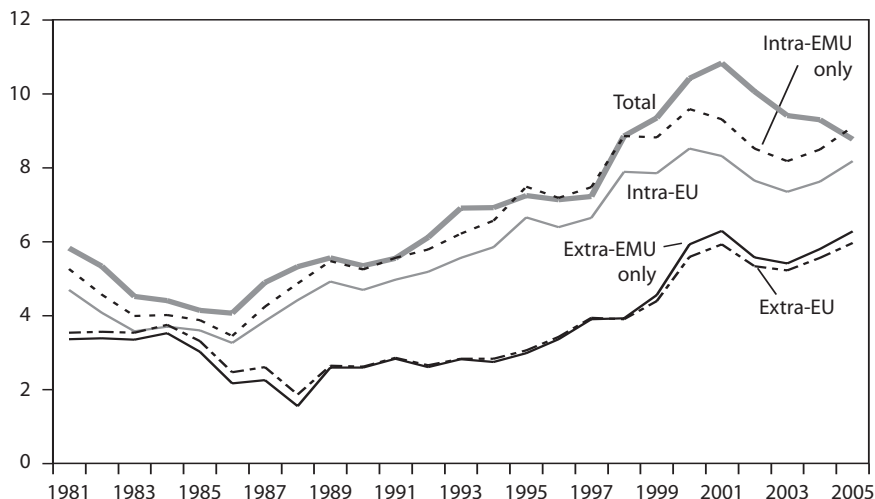
2. The EU-15 countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

3. In reality, however, surprisingly little capital flows from rich countries to poor countries (Lucas 1990). Several explanations have been put forward, including differences in human capital between rich and poor countries as well as failures in international capital markets that might account for the lack of flows. However, none of these candidates can come near to explaining quantitatively the observed shortage of capital flows relative to what economic theory would predict.

4. Based on the AMECO data used below, the correlation between total trade balances and current accounts is above 0.91 for all countries except the United Kingdom (0.73) and Ireland (−0.16).

Figure 2.5 Dispersion of trade balances, 1981–2005

standard deviation,
percent of GDP



EMU = Economic and Monetary Union

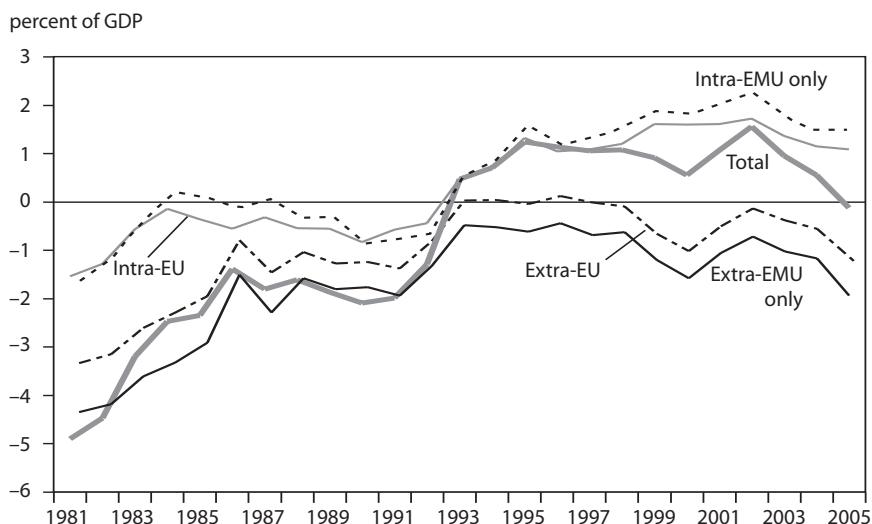
Source: Authors' calculations.

Data

We use annual individual country data on both intra- and extra-EU-15 exports and imports of goods over the period 1981–2005 (we do not include exports and imports of services because of a lack of reliable data). Our sample covers the EU-15 countries (with Belgium and Luxembourg aggregated because of the former monetary union between the two). We consider intra-EU-15 trade balances (calculated as a country's exports to other EU-15 countries less its imports from other EU-15 countries), extra-EU-15 trade balances (a country's exports to non-EU-15 countries less imports from non-EU-15 countries), and total trade balances (the sum of intra- and extra-EU-15 trade balances). We also focus on the subset of EU-15 countries that are members of the euro area (12 countries excluding Denmark, Sweden, and the United Kingdom). All data are from the European Commission's annual macroeconomic (AMECO) database.

Figure 2.5 plots over time the dispersion across countries of each of the five different types of trade balances, defined as the unweighted cross-section standard deviation. The dispersion in trade balances trended upward during the 1990s and then accelerated somewhat after 1999. The observation of widening differences among the current account balances of EU member states is also found in Blanchard (2006b), who compares the

Figure 2.6 Average trade balances, 1981–2005



EMU = Economic and Monetary Union

Source: Authors' calculations based on the European Commission's annual macroeconomic (AMECO) database.

total current account of each country with the rest of the world and shows that the dispersion also increases among OECD countries.

Figure 2.5 shows that the dispersion of intra-EU trade balances is consistently larger than that of extra-EU trade balances and that the former has risen faster than the latter since the mid-1980s. Separating euro and non-euro countries among the EU-15 makes no significant difference.

Figure 2.6 shows the behavior of the (unweighted) average of trade balances over the past 25 years, indicating that the average EU-15 country had a trade surplus against its EU partners since the mid-1990s and a slight deficit against non-EU countries since the start of the EMU. We also counted the number of years in which a country's trade balance against its EU partners had the same or the opposite sign from its trade balance against the rest of the world. Greece had the same sign on both balances in all 25 years, Portugal in 23 years, and Spain in 21 years. In contrast, Germany and the Netherlands had opposite signs on the two balances in all 25 years. Countries consistently running deficits against their EU partners tended to borrow from those and from the rest of the world. In contrast, Germany and the Netherlands tended to borrow from the rest of the world and lend to other EU countries, thus positioning themselves as financial intermediaries in Europe.

Table 2.1 Correlation between intra- and extra-EU trade balances, 1981–2005

Country	1981–2005	1981–98	1999–2005
Belgium and Luxembourg	–0.14	0.09	–0.61
Germany	–0.39**	–0.03	–0.88***
Greece	–0.03	–0.59***	–0.52
Spain	–0.35*	–0.48**	0.77**
France	0.60***	0.68***	0.96***
Ireland	0.67***	0.81***	0.02
Italy	0.79***	0.80***	0.61
Netherlands	–0.96***	–0.84***	–0.85***
Austria	0.14	–0.49**	–0.33
Portugal	–0.55***	–0.47**	0.84**
Finland	0.49***	0.51**	–0.12
Denmark	0.04	0.02	–0.51
Sweden	0.49**	0.65***	–0.83**
United Kingdom	0.16	0.14	–0.65

Note: *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Table 2.1 shows the correlation coefficients between the intra- and extra-EU trade balances for our sample countries. For Germany, Spain, the Netherlands, and Portugal, the correlation is significantly negative—that is, an increasing trade deficit with respect to other EU countries tends to be compensated for by a shrinking deficit with respect to the rest of the world. For the other countries, the correlation is positive.

Table 2.2 reports the results of bivariate causality tests between intra- and extra-EU trade balances. Generally, dynamic correlations between the two are small and insignificant. In Spain and Portugal, we find causality running from the extra- to the intra-EU trade balance, with a negative effect of the former on the latter. In Finland, there is causality in the same direction but with a positive effect. In Spain, Austria, and the United Kingdom, we find causality from the intra- to the extra-EU balance, with a positive effect in the case of Spain and the United Kingdom and a negative effect in the case of Austria.

Trade Balances and Per Capita Income

We run some simple ordinary least squares (OLS) regressions to examine the determinants of trade balances in individual European countries. We are particularly interested in any possible relationship between trade balances (and therefore financial flows) and per capita income. The dependent variable in our regressions is the ratio of the trade balance to GDP.

Table 2.2 Causality tests between intra- and extra-EU trade balances

Country	Intra → extra	Extra → intra
Belgium	0.73	0.55
Germany	0.47	0.19
Greece	0.57	0.24
Spain	0.05	0.01
France	0.89	0.34
Ireland	0.65	0.73
Italy	0.63	0.86
Netherlands	0.33	0.43
Austria	0.03	0.39
Portugal	0.27	0.02
Finland	0.17	0.01
Denmark	0.80	0.23
Sweden	0.35	0.02
United Kingdom	0.06	0.93

Note: Table entries are the p-values of an F-test of the significance of two lags of the potentially causal variable in a regression where two lags of the causal variable are used. All regressions are in first differences.

We consider two variations of the dependent variable, corresponding to the different measures of the trade balance for EU-15 countries discussed above: intra-EU-15 trade balance to GDP and total trade balance to GDP.

The main explanatory variable is real per capita GDP. We also create three dummy variables: The EMU dummy is equal to 1 for EMU member countries after the start of the monetary union;⁵ the non-EMU dummy is set to 1 for non-euro area countries from 1999 on; and DKSEUK is 1 for the countries that do not participate in the EMU, Denmark, Sweden, and the United Kingdom. We interact the main explanatory variable with these dummies to see whether the introduction of the euro changed the determinants of net capital flows. (We also included a dummy variable for German unification, but this turned out not to be statistically significant.)

Our results are presented in table 2.3. We report three specifications for each dependent variable. The first specification (shown in column A) uses only the dummies and GDP per capita as explanatory variables. The second (column B) adds the general government balance as a ratio of GDP and the real price of oil in US dollars. The former is motivated by the effect of public-sector deficits on the current account in conventional macro models; the latter is motivated by the fact that EU countries (except the United Kingdom) are dependent on oil imports. The third specification

5. We chose 1999 as the starting date for all euro area members except Greece, which did not join until 2001.

Table 2.3 Determinants of trade balances in European countries**a. Dependent variable: Intra-EU trade balance**

Variable	Specification A	Specification B	Specification C
Constant	-9.19*** (1.22)	-6.38*** (1.74)	-8.25*** (1.38)
Dummy EMU	-13.48*** (2.64)	-14.35*** (2.65)	-2.02 (1.35)
Dummy non-EMU	-9.36 (11.03)	-8.28 (10.93)	-4.55 (3.12)
Dummy DKSEUK	5.04 (3.69)	4.30 (3.65)	6.21*** (1.53)
GDP per capita	0.55*** (0.07)	0.45*** (0.08)	0.58*** (0.06)
(GDP per capita)*EMU	0.55*** (0.12)	0.58*** (0.12)	0.17*** (0.06)
(GDP per capita)*non-EMU	0.32 (0.39)	0.27 (0.39)	0.25** (0.11)
(GDP per capita)*DKSEUK	-0.40** (0.16)	-0.37** (0.16)	-0.47*** (0.08)
Fiscal balance		0.26*** (0.08)	0.10*** (0.03)
Real oil price		-0.0001 (0.004)	-0.02*** (0.01)
Time dummies	No	No	Yes
Method	OLS	OLS	GLS
Adjusted R ²	0.35	0.37	
Number of observations	350	350	350

(table continues next page)

(column C) adds time dummies to the model and uses a generalized least squares (GLS) estimator accounting for panel heteroskedasticity and first-order autocorrelation of the residuals.

Looking at the data in table 2.3a, column A, we find that trade surpluses in the European Union are a positive function of per capita income in the EU-15 and that the relationship is strongly statistically significant. Generally, countries with a larger per capita GDP have larger intra-EU trade balances. Before the start of the EMU, the effect of a rising per capita GDP on a country's intra-EU trade balance was 0.55; afterward this positive coefficient becomes notable and significantly stronger for the euro area countries after the beginning of EMU. Because the effect is significantly weaker for the nonparticipating countries (Denmark, Sweden, and the United

Table 2.3 Determinants of trade balances in European countries
(continued)

b. Dependent variable: Total trade balance

Variable	Specification A	Specification B	Specification C
Constant	-17.09*** (1.26)	-11.49*** (1.76)	-15.09*** (1.71)
Dummy EMU	-15.60*** (2.73)	-17.50*** (2.69)	-2.55 (1.70)
Dummy non-EMU	-13.60 (11.40)	-13.43 (11.11)	-8.13** (4.12)
Dummy DKSEUK	7.03* (3.81)	5.97 (3.71)	12.44*** (2.30)
GDP per capita	0.91*** (0.07)	0.74*** (0.08)	0.89*** (0.07)
(GDP per capita)*EMU	0.58*** (0.13)	0.66*** (0.12)	0.15** (0.07)
(GDP per capita)*non-EMU	0.41 (0.40)	0.38 (0.39)	0.36*** (0.14)
(GDP per capita)*DKSEUK	-0.45*** (0.17)	-0.39** (0.16)	-0.73*** (0.10)
Fiscal balance		0.35*** (0.09)	0.16*** (0.04)
Real oil price		-0.01** (0.004)	-0.03*** (0.01)
Time dummies	No	No	Yes
Method	OLS	OLS	GLS
R ²	0.53	0.56	
Number of observations	350	350	350

DKSEUK = Denmark, Sweden, and United Kingdom; EMU = Economic and Monetary Union; GLS = generalized least squares; OLS = ordinary least squares

Notes: GLS estimator accounts for heteroskedasticity between countries and country-specific autocorrelation of residuals. Standard errors in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Kingdom), we conclude that it is not merely a general effect for all EU countries. Instead, the estimates indicate that the EMU has significantly changed the direction of capital flows in the euro area. There is thus a marked difference between the EU countries that formed the monetary union and those that decided not to join.

The remaining specifications show that this result is robust. Fiscal balances have a significantly positive effect on the intra-EU trade balance. In the simplest specification, a rise in the fiscal balance by 1 percent of GDP

raises the intra-EU trade balance by 0.26 percent of GDP. The inclusion of time dummies and use of a GLS estimator reduce that effect to 0.10 percent of GDP. Since the government balance might be considered endogenous relative to the trade balance (e.g., because governments might pursue a current account target for fiscal policy), we also estimated models using an instrument for the government balance based on two lags of the government balance and two lags of the total trade balance as well as using the lagged balance as an explanatory variable. In both cases, the government balance retained a positive coefficient, but its marginal significance level dropped below 10 percent.⁶

The real price of oil has a negative impact on the intra-EU trade balance, which is significant only in the GLS estimation in column C. Adding these controls does not change the main result regarding the effects of per capita GDP and the EMU and non-EMU effects.

Table 2.3b confirms the same results for total trade balances: The effect of per capita GDP on total trade balances increases for the euro area countries with the beginning of the EMU, while it decreases for the non-euro area countries. The effect of fiscal balances on total trade balances is positive and significant: A rise in the fiscal balance by 1 percent of GDP raises the trade balance by about 0.2 percent of GDP. This indicates that only about 1 percent of Portugal's trade deficit of 12.6 percent in 2005 can be explained by its general government deficit of 5.6 percent; Spain's trade deficit (8.6 percent of GDP in 2005) would have been even larger had the country not had a government surplus of 1 percent of GDP.⁷

These results suggest that the EMU has increased capital market integration in Europe, with the result that capital flows are now more in line with what neoclassical growth theory predicts. As capital flows from high- to low-per capita GDP countries, these flows can be expected to promote economic convergence among the euro area countries. This means that the allocation of capital is becoming more efficient in Europe and that the observed current account imbalances indicate that the monetary union works well. By implication, a fiscal expansion in the surplus countries would tend to absorb more of their domestic savings and slow capital flows to poorer countries, thus rendering the EMU less efficient.

Given the simplicity of our estimated equations, these results are suggestive rather than definitive. Nonetheless, our reading of the results is that the monetary union seems to have made a difference in that high-

6. We also estimated models using instruments for the government budget balance for the extra-EU trade balance and the total trade balance. The results were similar and are not reported.

7. De Santis and Lührmann (2006) and Chinn and Prasad (2003) find that relative per capita income has a positive effect on the current account balance in a large panel of countries from 1970 to 2003. They also employ squared relative income as a regressor. Following their papers, we used squared per capita income as an additional regressor in the models for the intra-EU, extra-EU, and total balances but did not find a significant effect.

income EMU countries have become lenders to their low-income countries within EMU much more than on a global scale. This shows that monetary union has greatly increased capital market integration among the participating countries. More efficient capital allocation in the region is a major benefit from monetary union.

Conclusion

We have documented a growing dispersion in current account balances among countries in the euro area since the early 1990s. The differences in current account positions widened significantly following the creation of the EMU. We have shown that the union has changed the pattern of capital flows in Europe; specifically, it has increased the tendency of capital to flow from relatively rich to relatively poor countries in the euro area. This trend suggests that the observed current account imbalances are a sign of the proper functioning of the euro area rather than a sign of improper macroeconomic management.

The results also carry an important message for the new member states of the European Union, which have experienced sizable capital inflows over the past decade. Our results suggest that they should expect another significant increase in capital inflows upon adopting the euro, as their per capita incomes are much smaller than those of the incumbent members. Managing large capital inflows will be one of the principal challenges of joining the monetary union for these countries.

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