Following the introduction of the euro, investors did not believe that the no-bailout clause would ultimately be adhered to. This led to a convergence of nominal interest rates within the euro area, which in turn stimulated credit demand and boosted wages and consumption in the peripheral countries. As many of these countries consumed more than they produced, imports from Germany and elsewhere increased. At the same time, strong wage growth eroded the competitiveness of the peripheral countries, which weighed on their exports, eventually leading to an all-time high of current account imbalances in the EMU in 2007.1

If a country runs a current account deficit, it has to attract sufficient funds from outside to finance the deficit. If funds dry up and the country has its own national currency, a devaluation of the currency may help to raise funds, as domestic assets become relatively more attractive to foreign investors. If a country is unable to attract sufficient funds while running a persistent current account deficit, it will draw down its currency reserves, eventually triggering a sudden stop of financing by investors. This causes an abrupt economic adjustment with severe economic consequences. In EMU, by contrast, member countries share a common currency, which ensures them almost unlimited access to that currency. In the eurosystem, cross-border payments can be financed and processed even if a country does not attract sufficient private funds. The underlying mechanism was tested in the course of the sovereign debt crisis.

When the private sector stopped financing the peripheral countries, the eurosystem had to assume that role. The eurosystem did so mainly involuntarily through the interbank payments system (TARGET2), leading to sizeable intra-euro claims and liabilities of national central banks. The euros that deficit countries could debit to the eurosystem enabled them to continue running intra-EMU deficits. Since imbalances in TARGET2 cannot run forever, and private investors are unlikely to return on a pre-crisis scale, current account imbalances have to unwind eventually.

To examine how this process might occur, we take a closer look at bilateral current account balances within the EMU. We focus on the bilateral current accounts of Germany with the peripheral countries of Italy, Spain, Portugal and Greece, which represent the major share of intra-EMU imbalances. We find that rebalancing within the EMU has progressed to some extent. Following the start of the financial crisis in late 2007, rebalancing has been achieved mainly at the expense of domestic demand in the peripheral countries, which has also affected imports from Germany. To date, fiscal support for the deficit countries and the provision of generous central bank funding have helped to smooth the adjustment process.
Rebalancing Underway

Since 1999, intra-EMU exports have been a main driver of German economic growth. Figure 1 shows the bilateral current account balances of Germany vis-à-vis the GIPS countries (Greece, Italy, Portugal, Spain) during the past four years. We have left out Ireland, since restructuring the bank-dominated Irish economy requires a different type of adjustment. The question arises as to the extent to which a reduction in bilateral current account balances with the peripheral countries has affected German exports.

Figure 1 shows that while the overall German surplus has only shrunk by 20%, the surplus vis-à-vis the GIPS countries has declined by more than 60% since the outbreak of the financial crisis in late 2007. Total German current account surpluses initially followed the same downward trend but started widening again in 2009, possibly due to growing demand from emerging market countries. Figure 2 shows that orders from the non-EMU countries started outpacing those from EMU countries around the same time. The demand for German goods and services from outside EMU has increasingly compensated for the lack of demand from within EMU. The German economy remains export dependent but is reshuffling its export destinations.

Figures 3 and 4 show Germany’s bilateral current account balances with the GIPS countries since the introduction of the euro. The decline in German surpluses since the outset of the crisis has been driven mainly by the bilateral accounts with Spain, Portugal and Greece. The current account vis-à-vis Italy has remained relatively stable.
The current account deficits of the peripheral countries are the mirror image of German current account surpluses. Table 1 assumes this perspective and shows that the peripherals have substantially reduced their current account deficits with Germany over the past four years.

We consider two periods separately, i.e. the aftermath of the financial crisis and the time since the outbreak of the sovereign debt crisis. In the first period, starting after the financial crisis broke out in 2007, the current account deficit of Spain vis-à-vis Germany fell rather abruptly until 2009. In Portugal and Italy, the current account deficits towards Germany declined by some 20%, whilst in Greece the deficit even increased between 2007 and 2009. In the second period, i.e. from Q4 2009 until Q4 2011 (the most recent observation), Spanish readjustment slowed markedly, whilst readjustment accelerated in Italy and Portugal. In the same period, the Greek debt crisis triggered a deficit reduction of more than 80%. Although all four countries have achieved some rebalancing of their current accounts vis-à-vis Germany, the path of adjustment differs. But where do these differences derive from? What drives a country’s bilateral current account with Germany? What role do the austerity and support packages play in this context? We address these and related issues in the following.

### Slump in Domestic Demand

One of the points most often stressed in the current debate is that the deficits of the peripheral countries derive from a lack of competitiveness compared to the rest of the EMU, which weighs on their relative export strength. In order to achieve rebalancing, deficit countries are expected to become more competitive and boost their export base while reducing their dependency on imports. However, in the short to medium term, a narrowing of the current account deficit may be much easier to achieve by a reduction in aggregate domestic demand and the resulting decline in imports. A rise in foreign demand may furthermore help to raise exports. We formulate our hypothesis accordingly, i.e. “changes in bilateral current accounts can be explained by changes in domestic and foreign aggregate demand.”

Our regression equation is derived from the accounting relationship between a country’s net exports and its domestic and foreign demand. For example, German imports to Spain should be a function of domestic demand in Spain and Spanish exports to the rest of the world:

\[ M_{DE,ES} = f(DD_{DE}, X_{DE,Row}) \]

\[ X_{DE,ES} = f(DD_{DE}, X_{ES,Row}) \]

If we neglect bilateral re-exports between Spain and Germany, we can express the German current account vis-à-vis Spain as a function of German domestic demand and German exports to the rest of the world, plus Spanish domestic demand and Spanish exports to the rest of the world:

\[ (X - M)_{DE,ES} = f(DD_{DE}, DD_{ES}, X_{DE,Row}, X_{ES,Row}) \]

In explaining the bilateral current account, we abstract from exports to the rest of the world, since domestic demand is considerably more economically relevant than demand from the rest of the word, even for the export-oriented German economy:

\[ (X - M)_{DE,ES} = f(DD_{DE}, DD_{ES}) \]

In a basic log-log regression, the German bilateral current account is thus explained by German domestic demand and the domestic demand of the respective trade partner. We expect the German current account surplus to be positively correlated with domestic demand in the peripheral countries and negatively correlated with German demand. If relative prices were the main driver of current account balances, we would expect our regressors to be insignificant.

Table 2 shows the results of our OLS regression. The estimation is based on quarterly data, starting in 2002 for Greece and in 1999 otherwise; it runs until Q4 2007. All variables enter into the estimated equation in logs. The

### Table 1

<table>
<thead>
<tr>
<th>Period</th>
<th>Spain</th>
<th>Greece</th>
<th>Portugal</th>
<th>Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period 1: Q4/07-Q4/09</td>
<td>-56.1%</td>
<td>4.4%</td>
<td>-23.1%</td>
<td>-20.3%</td>
</tr>
<tr>
<td>Period 2: Q4/09-Q4/11</td>
<td>-16.1%</td>
<td>-82.3%</td>
<td>-41.3%</td>
<td>-46.0%</td>
</tr>
<tr>
<td>Total: Q4/07-Q4/11</td>
<td>-63.1%</td>
<td>-81.5%</td>
<td>-54.8%</td>
<td>-57.0%</td>
</tr>
</tbody>
</table>

Sources: Deutsche Bundesbank, DB Research.

German exports to Spain, in turn, are determined by Spanish domestic demand and Spanish exports to the rest of the world:

\[ M_{DE,ES} = f(DD_{DE}, X_{DE,Row}) \]

\[ X_{DE,ES} = f(DD_{ES}, X_{ES,Row}) \]


3 Estimations for Spain and Greece start in Q2 of the respective year in order to avoid taking logs of negative data.
Coefficients thus represent elasticities, i.e. a percentage change in the regressor leads to a percentage change in the regressant proportional to the coefficient. For all the peripheral countries considered, we observe a positive and highly significant coefficient for domestic aggregate demand. At the ten per cent level, German demand is significant only for Greece.4

Overall, the result suggests that imbalances are a consequence of excessive demand in the peripheral countries. Of course, this does not preclude the possibility that the bilateral current accounts have in addition reacted to changes in relative prices. The results are in line with Moec and Sidorov, who found that the import elasticity of domestic demand is greater than one for all peripheral countries and that since Q4 2007 the fall in imports exceeded the export gains in all peripheral countries.5 The rather large elasticities of aggregate demand in the peripheral countries relative to German aggregate demand suggest that rebalancing must, for the time being, come from a reduction in the countries’ domestic demand and hence the appetite for German imports, rather than an increase in German demand, which would likely not be sufficient to boost the peripheral countries’ exports.6

4 The strong impact of German demand on the Greek bilateral current account may reflect Greece’s high dependency on tourism, which made the country vulnerable to slumps in German demand.


6 For a detailed discussion of Germany’s external position, see Deutsche Bundesbank: Monthly Report, October 2011, pp. 41-59.

7 In Portugal, the boom of the late 1990s had already turned into a slump when the euro was introduced. For a more detailed discussion of Portugal’s adjustment path, see O. Blanchard: Adjustment within the euro – The difficult case of Portugal, in: Portuguese Economic Journal, Vol. 6, No. 1, 2007, pp. 1-21.
The usual way to rebalance domestic and external demand would be a currency depreciation, which would immediately reduce the (external) value of a country’s demand. Since nominal depreciation within a currency union is not possible, prices and wages must decline to rebalance the economy (internal devaluation). The adjustment process following the fiscal crisis of the Baltic states in 2008/2009 provides a recent example of how external balance can be achieved under a fixed exchange rate regime. In the peripheral countries, rigidities may hinder a swift rebalancing, in particular with regard to exports, implying that either domestic demand has to bear the brunt, i.e. requiring a slump of GDP growth, or funds have to be provided through the eurosystem to smooth the process. Due to the ECB’s full allotment regime, peripheral countries have almost unlimited access to euro reserves and hence time for a smooth rebalancing.

Key Role of Private Consumption

To examine more precisely what drives the adjustment process in the peripheral countries, we reran our regression above, decomposing domestic demand into private consumption, government expenditures and private investment (results not reported). From our analysis we find that in Portugal and Greece private consumption is an important driver of the current account. By contrast, in Italy consumption was not a significant explanatory variable for the deficits, which could just mean that Italians consume mainly domestic goods. In Spain, all three components of aggregate demand proved highly correlated, so robust estimation results could not be obtained.

Figure 7 shows the share of private consumption in aggregate demand for the GIPS countries. In all of these countries, the share of private consumption has increased over recent years, although consumption measured in euro terms has fallen. Particularly in Greece and Portugal consumption ratios have continued to rise in recent years. The volatility of consumption is traditionally lower than that of the other components of aggregate demand, which helps explain this development. Private consumption has declined more slowly than the other components of aggregate demand, such as government expenditure, which in the case of Greece collapsed in late 2009. Since private consumption in Greece and Portugal is the biggest driver of the current account deficits of these countries, it is not surprising that this development reduced the pace of rebalancing. To narrow the current account deficits with Germany, a further decline in consumption will be necessary.

Delayed Adjustment in Greece and Portugal

The austerity packages that have been imposed on Greece and Portugal by the Troika (EU Commission, ECB, IMF) and the reforms by Italy and Spain will affect the external positions of these countries through various channels. For the time being, the packages immediately lowered domestic demand. From our regression results and what we know about the respective import elasticities, it might be expected that the downward shift in aggregate demand went in line with a narrowing current account and a strong reduction in imports. However, analysis reveals that this has not been the case for all the countries investigated.

Based on our regression until 2007, we made out-of-sample forecasts for the bilateral current account and calculated a 95% confidence interval around the estimate until the end of 2011. Figures 8 to 11 compare our forecast with the actual bilateral current account balances for each country. The reported figures are mixed: in Italy and Spain aggregate demand determines the current account deficits quite accurately over the whole period.

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8 For a detailed comparison of the adjustment path of the Baltic states with the eurozone peripherals, see A. Lindner: Macroeconomic adjustment: the Baltic states versus euro area crisis countries, in: Inter-economics, Vol. 46, No. 6, 2011, pp. 340-345.

9 Italy’s imports-to-GDP ratio is among the lowest in the EU (see European Commission, op. cit.).

Current account deficits are in line with what we would have predicted on the basis of actual domestic and German demand. In Portugal and Greece, the results are only in line until the acceleration of the sovereign debt crisis in 2010. From then on, actual current account deficits left the forecast interval band and lagged behind the forecast development by several months. A possible explanation is that the impact of austerity programmes, support packages and structural reforms has temporarily increased the import elasticity of German goods to domestic demand. In fact, in both countries receiving external support, i.e. Greece and Portugal, German imports picked up temporarily in 2010/2011 before they declined again.

Gaining Competitiveness – A Short- and a Long-term Cure

So far, our discussion has centred on the role of aggregate demand and its components in the rebalancing process. Inter alia, we have shown that shifts in aggregate demand can have a strong and immediate effect on a country’s
rent account directly. On the other hand, migration potentially lowers domestic demand and thereby reduces demand for foreign goods and services. Net emigration could thus help improve the current account by lowering consumption, especially in a situation where wages are sticky. However, in the long run, a “brain drain” might adversely affect competitiveness.

To ensure a country’s long-term growth and prosperity, it will not be advisable to control its current account by keeping demand suppressed – at least not over a prolonged period of time. Instead, structural reforms, in particular labour market and education reforms, have to be implemented. This would raise investments, i.e. strengthening the supply side, and ensure sustainable growth.

Gains in competitiveness benefit a country’s current account in two ways: the more obvious effect is that an increase in competitiveness helps to boost exports. But it also lowers the price of domestic goods relative to foreign goods and thus helps to reduce imports, i.e. to the extent that foreign goods are substituted by domestic goods. Both effects can be relevant in the short term. In the longer term, competitiveness helps to attract investments and to expand the industrial base, which in turn increases the potential for exports.

The effect of gains in competitiveness should be analysed with care, though. In particular, existing industrial structures and bilateral trade links should be taken into account, since the composition of exports to and from a specific country cannot be changed easily in the short term. To this end, Table 4 explores gross and net bilateral trade balances as well as the decomposition of German net exports into major items. The peripheral countries mainly demand machinery and transport equipment, of which goods related to motor vehicles again comprise the biggest share. The last line shows that Italy and Spain managed to export machinery and transport equipment to Germany equivalent to at least half of their corresponding imports. In Portugal, that ratio is less than 40% and in Greece only 10%. The data reflect that Italy has a national car industry and that Portugal and Spain are used as production hubs by German car manufacturers.

In Portugal, the gain in competitiveness over the last few years has promoted exports, which has helped re-

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11 J. Matthes (op. cit.) makes a similar point.
moderising the economies and establishing a competitive export industry. ¹³

Conclusion

All peripheral countries have narrowed their current account deficits with Germany to some extent in recent years. Rebalancing has been achieved mainly at the expense of domestic demand. Domestic demand slumped at the end of a prolonged boom phase which was induced by the availability of cheap credit. More recently, abrupt fiscal adjustment has put further pressure on domestic demand, which has translated into current account adjustment with a time-lag.

Although all four peripheral countries have achieved some rebalancing of their current account vis-à-vis Germany, the path of adjustment differs:

- Italy seems to be on a solid course to closing its current account deficit vis-à-vis Germany. The country did not experience a pronounced boom and bust cycle, which makes the readjustment process less painful.
- Spain experienced an abrupt rebalancing. The export channel substantially contributed to the narrowing of the current account deficit. However, as long as the fallout from overconsumption and overinvestment weighs on it, the economy is set to contract even further.
- The relative success of the Portuguese export sector has not led to a substantial narrowing of the deficit vis-à-vis Germany, presumably due to the dependency on German prefabricated products.
- Having experienced the harshest austerity package, Greece reduced its current account deficit with Germany only recently but has not progressed far enough.
- German exports to the EMU were hit, too. However, demand from outside EMU largely compensated for this.

Further adjustment needs to involve gains in competitiveness in the peripheral countries and a shift in domestic demand from consumption to investment. A buoyant German economy can certainly support the adjustment process, but further structural changes in the euro periphery will be necessary to achieve rebalancing.

¹³ A. Stobbe, P. Pawlicki: Greece, Ireland, Portugal – More growth via innovation, DB Research, EU Monitor, 27 January 2012, Frankfurt am Main.