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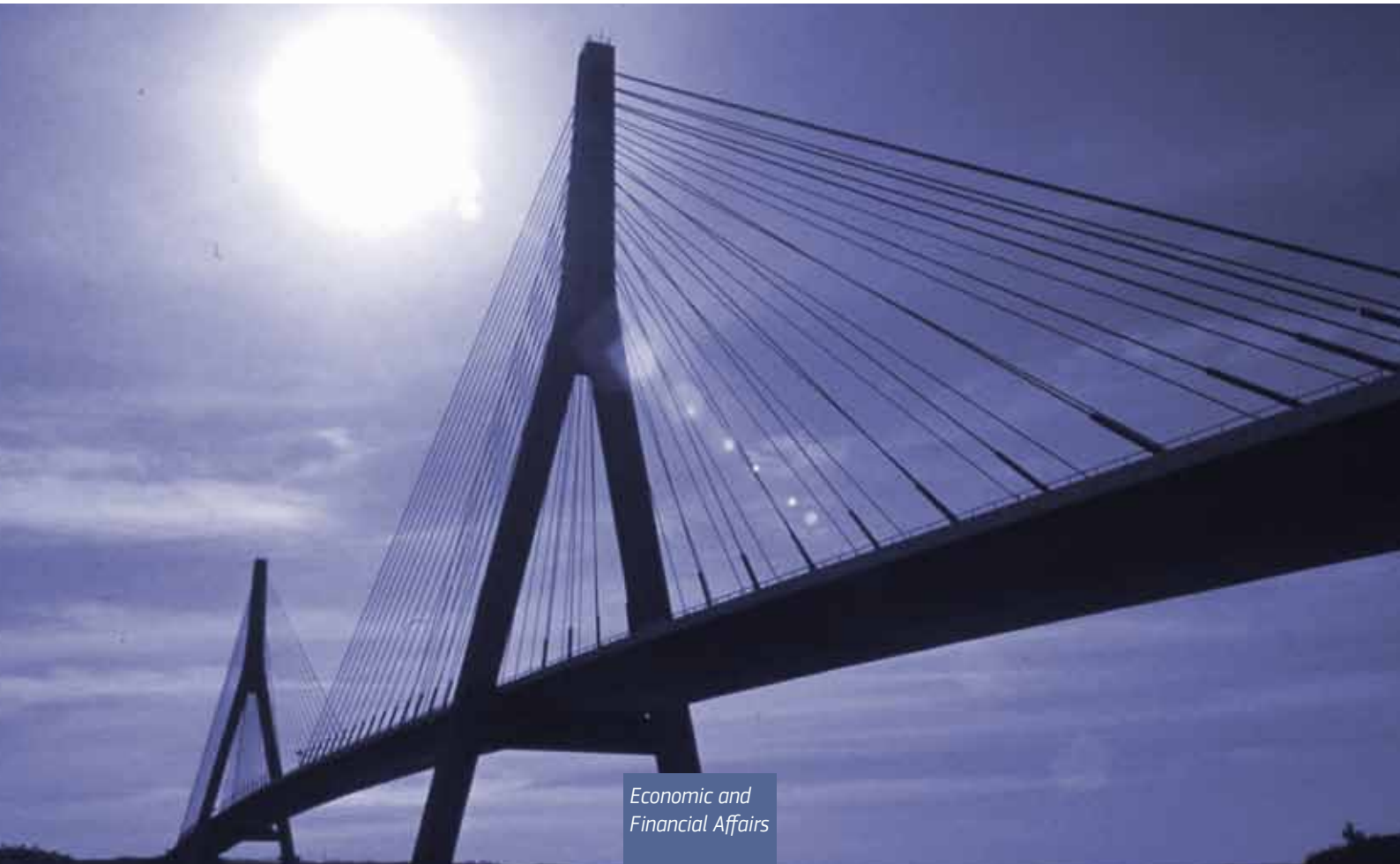

Economic and Financial Affairs

European Commission
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INTRODUCTION AND MAIN FINDINGS

Macroeconomic imbalances in the euro area and in the EU expanded significantly in the run-up to the financial crisis. The imbalances manifested themselves in significant and persistent divergence in the current accounts and net external positions of EU Member States. Although the current account of the euro area (and the EU) as a whole remained broadly balanced, current account deficits deteriorated significantly in some Member States, while surpluses increased substantially in others. From a macroeconomic perspective, the deficits in the euro area were thus financed by the surpluses in Germany, Netherlands, Belgium, Finland, Austria and Luxembourg. Outside the monetary union, Denmark and Sweden ran important surpluses as well. France and the UK also played a role in intermediating financial flows to deficit countries. At the same time, accumulation of external imbalances was observed on a global scale. For example, the United States ran persistent current account deficits exceeding 5 per cent of GDP in some years, while China and Japan registered persistent surpluses, averaging 4 and 5 per cent of GDP, respectively.

The build-up of the large current account surpluses and deficits in the EU and the euro area coincided with several major developments on both European and global levels. *First*, the introduction of the euro reduced sovereign risk premia across the euro area and promoted financial market integration in the EU. *Second*, the global environment of low interest rates increased risk appetite among financial investors, led to severe underpricing of credit risks and initiated a global credit boom. *Third*, through increasing the size of the single market, EU enlargement increased competitive pressures and, at the same time, opened up opportunities to reap efficiency gains. *Finally*, the expansion in world trade linked to the rise of emerging economies also created challenges for EU Member States.

The high costs in terms of output and employment of unwinding these imbalances underline the importance of monitoring and tackling macroeconomic imbalances. The necessary adjustment of large current account deficits, which has been associated with compression of domestic demand, has implied high costs for domestic economies, but the spillovers to other countries through financial, trade and confidence channels have also been large. Among the improvements made in economic governance as a response to the crisis, the EU has established a policy process to undertake surveillance on macroeconomic imbalances – the Macroeconomic Imbalance Procedure (MIP). Its aim is to identify, prevent and correct harmful imbalances by ensuring that appropriate policy responses are adopted in Member States in a coordinated manner. The issues that fall under the scope of MIP are wider than the external accounts, but current account deficits and surpluses feature prominently in the procedure. On the global level, similar discussions were conducted in the context of G20 and resulted in a number of commitments on specific actions to lower the large economies' external imbalances.

The surveillance in MIP covers both current account deficits and surpluses. However, the nature, importance and urgency of the policy challenges differ significantly depending on the Member States concerned. Given the vulnerabilities and magnitude of the adjustment required, the need for policy action is particularly pressing in Member States showing persistently large current account deficits and competitiveness losses. Persistent surpluses may be justified by fundamentals. Nevertheless, large and persistent current account surpluses can also be caused by market failures or policy settings that constrain domestic demand and investment opportunities. However, current account surpluses do not raise concerns about the sustainability of external debt or financing capacity.

The objective of this report is to analyse the persistently large current account surpluses in a number of the euro area (and EU) countries. An understanding of the drivers and nature of surpluses is key to establishing how they should be treated in the process of macroeconomic surveillance. In particular, the report looks for a response to the following questions:

- What have been the drivers of persistently large surpluses? Would it be in the self-interest of the surplus countries to reduce their surpluses?

- Is there causality or nexus between surpluses and deficits in the euro area (and the EU)? Should the policy response to reduce the large deficits be coordinated with policy actions to reduce the surpluses?

- Is there an on-going sustainable rebalancing in the euro area (and the EU)? Will the euro area (and the EU) continue to have a broadly balanced current account in the future?

Main findings of this report

The rationale for the surveillance on current account surpluses

Current account deficits and surpluses are not necessarily macroeconomic imbalances in the sense of *developments which are adversely affecting, or have the potential to affect the proper functioning of economies*, of the monetary union, or on a wider scale. Deficits and surpluses are a natural consequence of economic interactions between countries. They show to which extent a country relies on borrowing from the rest of the world or how much of its resources it lends abroad. In this way, external borrowing and lending allows countries to trade consumption over time: a country with a current account surplus transfers consumption from today to tomorrow by investing abroad. In turn, a country with a current account deficit can increase its consumption or investment today but must transfer future income abroad to redeem its external debt. Deficits and surpluses can thus simply be the result of an appropriate allocation of savings, taking into account different investment opportunities across countries. Differences in economic prospects lead to differences in saving behaviour, with brighter expectations reducing the tendency of economic agents to save and hence contributing to the accumulation of deficits. In particular, countries with a rapidly ageing population may find it opportune to save today (*i.e.* run surpluses) to smooth consumption over time.

Current account deficits and surpluses are part of the adjustment process in a monetary union. They absorb asymmetric shocks in the absence of independent monetary policy and nominal exchange rate adjustment. Market-driven changes in cost and price competitiveness facilitate adjustment, with competitiveness losses taking place in overheating economies and gains in countries in cyclical downturn and with high unemployment. Besides cyclical swings, structural factors also play a role. Catching-up countries with higher growth prospects tend to run current account deficits as they borrow resources from abroad, which also leads to trend appreciations in their real exchange rates. Such 'downhill' financial flows from the core EU economies to the periphery are a normal feature of savings looking for the highest return. External imbalances, however, may be problematic if they become entrenched, either due to structural shifts in the economy or due to mispricing of the risks and overestimating the expected returns.

Surpluses can be the result of distortions due to incorrect expectations, mispricing of risks, market distortions or if they reflect misguided policy interventions or weaknesses in financial supervision. These market or policy failures imply a misallocation of resources and a build-up of imbalances and vulnerabilities in both surplus and deficit countries. The misallocation of resources will entail welfare losses also in the surplus countries. In these cases, it would be in the self-interest of the surplus countries to reduce their surpluses, by removing the obstacles hampering their domestic demand. The large valuation losses sustained by some surplus countries since the start of the financial crisis due to inefficient investment of their excess savings signal that the expectations on future returns on investment were inflated and imply a reduction in the expected consumption opportunities and a welfare loss. To avoid these inefficiencies it is important to ensure that financial markets make decisions on the basis of properly risk-adjusted returns on investment and that appropriate macro-prudential supervision is in place to prevent excessive concentration of risks in both capital-originating and -receiving countries. The predominance of debt instruments in financing deficits in vulnerable countries was a particular factor that contributed to the concentration of risks.

The negative implications of excessive current account deficits and surpluses affect both the country concerned and its partners. This is particularly so in a monetary union, where the single exchange rate and the common monetary policy cannot respond to adjustment needs of individual economies. If a large share of a monetary union increases savings or reduces investment, and therefore increases its surplus and exports capital, the current account deficit in the rest of the monetary area will most likely deteriorate: either through bilateral financial flows, or through the impact on the common exchange rate. Unless the real effective exchange rate appreciates in the surplus countries due to relatively stronger increases in wage and price levels, the nominal exchange rate of the euro will tend to appreciate. This may have competitiveness and deflationary effects on the rest of the area, particularly in countries whose exports are more price-sensitive. In this respect, the current accounts of the euro area countries as a whole, but also of each one of them individually, are issues of common interest.

Current account surpluses in the euro area (and the EU)

There is substantial heterogeneity among the eight countries discussed in this report. Although there are insights for the group of surplus countries as a whole, the conclusions drawn for each one of them do not necessarily apply to the other. Thus, a more focused analysis for each of them would be necessary to conclude on the favourable or damaging nature of the surpluses. This constitutes the grounds for surveillance of current account surpluses under the MIP. A conclusion on whether a given surplus should be considered an imbalance, or excessive imbalance, in the sense of the procedure can never take place simply on the basis of its size.

It is not possible to establish causality between deficits and surpluses in any pair of countries; but deficits and surpluses in the euro area (and EU) are closely connected due to intensive cross-border trade and financial links. In particular, the excess savings of the surplus countries financed deficits in the euro-area periphery. Moreover, some of the core economies, particularly Germany and France, intermediated large financial flows from non-EU investors into the EU periphery countries. In the absence of adequate financial supervision, which would have helped to identify and limit the risks involved, this resulted in credit-driven booms, reductions in savings and excessive investment in non-productive activities in the periphery, and excessive risk concentration in the financial systems of the core countries. A spatial correlation analysis confirms that, in the EU, a country is more likely to run a deficit in its financial account if its major financial partners run surpluses, and vice versa. On the other hand, spillovers through bilateral trade relations are dominated by positive interactions between countries closely integrated in supply chains: a country is more likely to run a trade surplus, if its major partners also run surpluses. There is no evidence that the export performance of the surplus countries significantly crowded out the exports of the euro-area periphery.

Most of the increases in the surpluses and deficits were driven by the convergence in interest rates due to the introduction of the euro and developments in the European and global financial markets. These developments changed the relative cost of capital among economies. At the backdrop of a global decline in interest rates, the convergence of nominal interest rates due to the EMU-related disappearance of country risk premia in the euro-area periphery and the removal of existing credit constraints induced assets and housing booms in the EU peripheral economies. At the same time, real interest rates diverged, as inflation was higher in the periphery than in the core. This spurred fast but largely unsustainable growth, propped by excessive borrowing from abroad, which also resulted in a misallocation of resources in these economies. On the other hand, the interest rate convergence and capital outflows reduced domestic consumption and investment in the surplus countries. A model-based decomposition of the German trade surpluses indeed confirms that the shock to international financial flows was the main driving force in the build-up of surpluses, while the contribution to the surplus of wage restraint and labour market reforms in Germany was much more moderate.

External developments compounded the effects of intra-euro-area factors in the emergence of large deficit and surpluses inside the EU (and the euro area). External factors appear to have been more

relevant for the intra-EU imbalances than is usually appreciated. They include the rapidly evolving competition from emerging countries, enlargement of the EU, increases in commodity prices, recycling of oil-producers' income and changes in the pattern of global demand and they had different impacts on individual Member States. They were, on the whole, more favourable for the exports and terms of trade of the core EU economies, partially due to the product and geographic composition of their exports and stronger non-price competitiveness, while they put pressure on the export potential, and promoted imports of the periphery. In addition, the strengthening in the nominal exchange rate of the euro, to which the competitiveness of the surplus countries contributed, put further pressure on price competitiveness. Exports of the deficit countries have been more price sensitive and the composition of their exports has made them more vulnerable to shifts in the nominal exchange rates. Yet, the overall export performance of surplus and deficit countries was not fundamentally different and it was the relatively weak imports that were behind the surpluses, pointing to potential structural weaknesses in domestic demand.

Reducing surpluses would be in the self-interest of these countries, to the extent that surpluses are related to market failures and structural reform needs. While there is considerable uncertainty about the current account norms, or equilibrium levels for the external accounts, some of the surpluses recorded by some EU countries seem on the high side. There is no evidence pointing to a single specific market or policy failure, but there appear to be a number of structural features that might have contributed to the accumulation of surpluses. Addressing these structural reform needs would help to strengthen domestic demand in the surplus countries and contribute to rebalancing. In particular, policy measures aimed at improving the functioning of specific sectors, such as services, financial intermediation (including mortgages) and other non-tradables would improve growth prospects in the surplus countries. While these structural improvements are desirable in their own right, their positive spillovers on other euro-area economies could be tangible. Adjustment towards more moderate surpluses would thus be desirable from both national as well as euro area perspectives.

Rebalancing in the euro area

The rebalancing in the euro area and the EU is on-going and, in particular, the trade imbalances between surplus and deficit countries in the euro area have declined considerably. So far, most adjustment has taken place on the side of the deficit countries by deleveraging leading to a reduction in consumption and investment, though the improvements in their competitiveness have also played a role. The headline current account surpluses have fallen by less than deficits, thus leading to an increase in the euro-area aggregate surplus. However, the current account, and especially trade, surpluses with the high-deficit countries have dropped substantially, while the surpluses with non-EU countries have gone up indicating that surplus economies remain competitive vis-à-vis the rest of the world.

The euro-area current account does not need to be balanced and, in fact, its structural characteristics suggest it should have a moderate surplus. The EU is a very large, but open economy, with intensive trade and financial interactions with the rest of the world. In a monetary union, the adjustment mechanism through relative costs and prices depends on sufficiently flexible product and labour markets that allow efficient reallocation of resources. Having said this, the rebalancing inside the euro area (and the EU) cannot consist of policies which undermine the competitiveness of the EU, of the monetary union, or even of individual Member States in the global economy, or the objective of price stability.

Favourable conditions for stronger domestic demand are in place in most surplus countries. The different paces of fiscal consolidation, and the wage developments in line with the productivity and the economic situation in each country, help in calibrating the contribution to the rebalancing by the core and periphery economies. From the euro area perspective, the developments in two major surplus countries will be decisive. While wages are set to increase in Germany and the country is expected to reduce its surplus, subdued domestic demand combined with deleveraging pressures exert upward pressure on the Dutch surplus.

An increase in demand in the euro-area surplus economies would improve the trade balance of the euro area peripheral economies. However, the impact of such a development on the rebalancing of surpluses and deficits and on the economic activity of the deficit economies should not be overestimated. First, given the sectorial and geographical links, an increase in domestic demand of a big surplus country, such as Germany, has a much stronger impact on the exports of the neighbouring countries, including those with a surplus, rather than in the EU peripheral economies. However, this impact could be larger if the increase in demand also applied to the other surplus economies. Second, the impact would be stronger if such an increase in demand (and reduction in the trade balance) of the surplus countries took place in parallel with a weakening of the euro exchange rate.

On the way forward, it will be crucial to overcome financial fragmentation and to restore smooth 'downhill' financial flows to the euro area's periphery. The high levels of debt plaguing both public and/or private sectors in the vulnerable countries pose a constraint on capital flows. Therefore, the priority is to restore non-debt-creating inflows of capital, such as FDI, which would be used for productive purposes. This implies that a growth-friendly rebalancing is consistent with more moderate surpluses and deficits, at levels in line with fundamentals.

Appropriate financial regulation and supervision, as well as macro-prudential supervision, are key in reinstating confidence and preventing the emergence of harmful imbalances. This report documents the critical nature of intra-euro-area financial flows in the emergence of large surpluses and deficits. While the different levels of prosperity and investment returns means that capital should keep (or resume) flowing downhill from the core to the periphery countries, inappropriate expectations and excessive risk-taking may lead to imbalances and steer capital to less productive activities. The measures adopted by the EU on the regulation of financial markets and the implementation of the recently agreed single supervisory mechanism (SSM) help in avoiding mispricing of risks and these excessive imbalances.

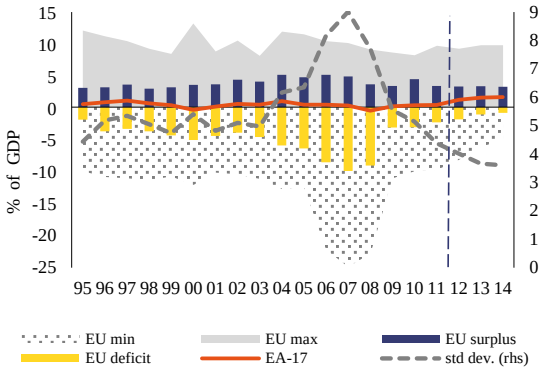
Structure of the report

The report is organised as follows. After this introduction and main findings, Chapter 1 analyses the developments in current account balances of surplus countries and their components. Chapter 2 then focuses on the net international investment positions and discusses in particular the returns surplus countries get from their financial investment abroad and considers the issue of valuation effects. Chapter 3 provides an overview of bilateral linkages particularly between euro-area countries; it discusses, in particular, the financial linkages based on a new data set on the bilateral financial links. Building on this, Chapter 4 analyses the drivers of large and persistent current account surpluses. Chapter 5 discusses the issue of rebalancing in the euro area so far and prospects for the future. The main text, which mostly focuses on cross-country issues and draws general conclusions, is accompanied by a number of boxes which discuss in more detail country-specific factors.

1. ANATOMY OF CURRENT ACCOUNT SURPLUSES

This chapter analyses the current account surpluses in EU Member States. It focuses on six euro area Member States: Austria, Belgium, Germany, Finland, the Netherlands and Luxembourg; and two non-euro area countries: Sweden and Denmark. ([1]) They have all had relatively large surpluses since the late nineties, with an average surplus of about 5 per cent of GDP in 2007 (Graph 1.1). Although there has been some reduction since 2008, surpluses remain relatively high. For 2012, the projections indicate an average surplus for these countries, as a group, of 4 per cent of GDP.

Graph 1.1: **Current account in the EU, 1995-2014**

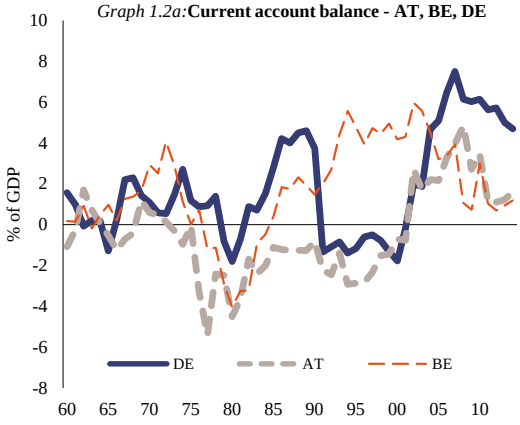


Note: Surplus countries - BE, DK, DE, LU, NL, AT, FI and SE; deficit countries - the rest of the EU; data from 2012 onwards - Commission forecasts

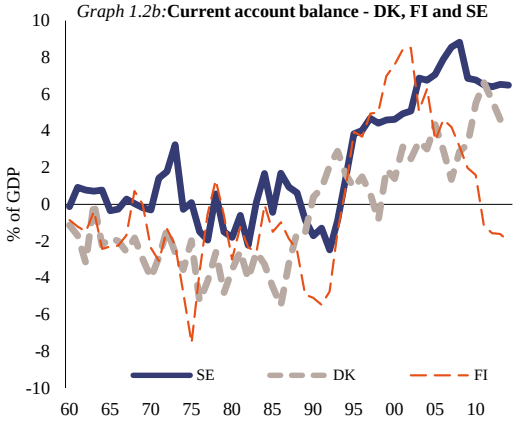
Source: Commission services

Some of these countries have posted surpluses for decades, while for others surpluses are a relatively recent phenomenon. The Netherlands, Germany and Luxembourg, and, to some extent, Belgium, have had long-standing persistent surpluses. An exception to this was a decade of deficits in Germany in the post-reunification years. On the other hand, Sweden, Finland, and Denmark, had moderate deficits until mid-nineties, while Austria shifted into surplus only after 2001 (Graphs 1.2).

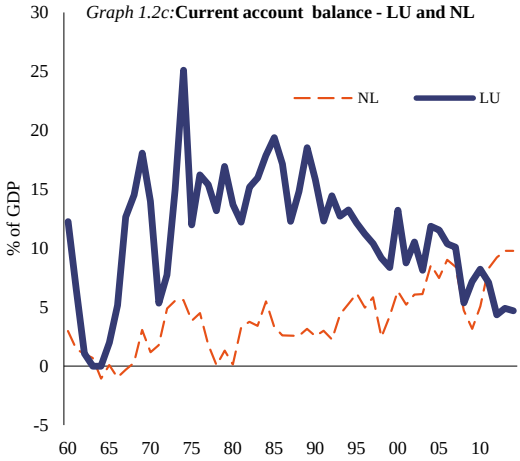
Graph 1.2a: **Current account balance - AT, BE, DE**



Graph 1.2b: **Current account balance - DK, FI and SE**



Graph 1.2c: **Current account balance - LU and NL**



Source: Commission services

([1]) These EU Member States will be referred to as "surplus countries" in the study, while the remaining Member States will be, for the sake of brevity, referred to as "deficit countries". The same division applies in the text relating only to the euro area.

Box 1.1: BoP, current account, financial account and NIIP

The **balance of payments** (BoP) is a statistical statement that summarises transactions between residents and non-residents during a given period. It comprises the **current account** (CA) that summarises non-financial current transactions (*i.e.*, transactions in goods, services, income and current transfers like private remittances), the **capital account** that summarises capital transfers (*e.g.*, a number of transfers from the EU budget) and the **financial account** that summarises transactions in financial assets and liabilities (*i.e.* in loans, bonds and other debt instruments, as well as in equity) both by the private and public sectors, including the monetary authorities. ([1]) ([2])

The CA balance is the difference between national disposable income (what a country produces, plus income earned on assets located abroad, plus net unrequired transfers received) and what it spends, *i.e.*: CA = (Y + IB + TR) – A, where Y is domestic product, IB is **net income balance**, TR is **net unrequired transfers from abroad** and A is domestic absorption.) The domestic product (Y), is the sum of private and public consumptions (C and G, respectively), domestic investment (I), and **net exports of goods and services** (X - M): Y = C + G + I + (X - M); while the domestic absorption A is the sum of consumptions (C + G) and investment (I): A = C + G + I. Therefore, the current account balance is CA = (X – M) + IB + TR, *i.e.* the sum of net exports, the net income balance and unrequited transfers. If **private saving** (S_p) is defined as the private disposable income minus private consumption (S_p = Y + IB + TR - T - C), and **public saving** is taxes (T) minus government consumption (S_g = T - G), ([3]) then it follows that CA = (S_p + S_g) – I = S - I. In other words, the current account equals the difference between **domestic savings** (S = S_p + S_g) and **investment** (I). Extending the accounting identities to an economy with several sectors, one gets the contribution of household, corporates and government (respectively subscripts h, c and g) to the current account: CA = (S_h - I_h) + (S_c - I_c) + (S_g - I_g).

A **surplus** in the current account means that the country is generating more savings that it is investing domestically. This means that the country is investing abroad, a net exporter of financial resources and, as a result, accumulating assets vis-à-vis the rest of the world. For each period, a current account surplus (plus the balance of capital transfers, KA) equals the **net financial assets** the residents acquired abroad (FA); and for a given current account **deficit** (again including the capital transfers), there is a **net accumulation of liabilities**, or sale of financial assets to the rest of the World. Therefore, CA + KA = FA. The progressive accumulation or decumulation of financial assets abroad, or, in other words, the progressive accumulation of current account surpluses (plus capital transfers), contributes to changes in the **net international investment position** (NIIP), *i.e.* the value of financial assets held by residents abroad less the domestic assets owned by non-residents.

The changes in the NIIP from one period to another do not exactly correspond to the current account surplus/deficit, even when capital transfers are considered. This is because the NIIP also changes because of **revaluation effects** (Val) and other accounting intricacies (Oth.): $NIIP_t$ = $NIIP_{t-1}$ + FA + Val + Oth. The revaluation changes include the increase or decrease in the market value of the assets abroad (*e.g.* a loss in value of the bonds issued by a distressed foreign government or firm, an increase in the market capitalisation of FDI, or changes in the exchange rates of the currencies the assets are denominated in) or of the domestic assets held by non-residents. Oth. covers changes in the assets abroad and the domestic assets held by non-residents related to other phenomena like migration, or relocation of firms' headquarters. Most often, revaluations and other are bundled together. If, over a number of years, the sum of the recorded financial account surpluses is above the change in NIIP during the same period, then it means that most revaluation effects have been negative (the net assets have lost in value); if the sum of the surplus is below the change in the NIIP, then most revaluation effects have been positive (the net assets have increased in value).

Note that NIIP affects the CA through net income flow. If a country has a negative (positive) NIIP, it transfers (receives) more dividends on equity and FDI and interest on debt abroad than it receives (paid). These are included in the CA balance as income transfers increasing (decreasing) the CA deficit. However, there is not a one-to-one link, since the remuneration rate of foreign assets and liabilities may differ considerably among assets and liabilities and across time.

([1]) It may be useful to clarify some frequent terminology confusion. Very often, the term current account is used as synonym of current account + capital account, while the term 'capital account' is often used to described the financial account. The capital account includes capital transfers, a category that is usually very small for advanced economies; however, for a number of EU countries benefitting from large net transfers from the EU budget, the capital account balance may amount to a few percent of GDP. The sum of the current and capital account balances is called net lending/borrowing vis-à-vis the rest of the World. The financial account registers the transactions in financial assets and liabilities, *i.e.* in loans, bonds and other debt instruments, as well as in equity, both portfolio and direct investment. This terminology confusion between capital accounts and financial accounts, and the scope of the current account is related to changes in the terminology of the balance of payments manual already in 1993 to align language with the UN's System of National Accounts (SNA) and the Eurostat's European System of National and Regional Acconts (ESA), but this terminology is not universally applied yet. In most of this report, the capital account is disregarded, and attention focuses on the current and financial accounts.

([2]) There is a technical issue that needs to be borne in mind when discussing current account figures. There are two sources of data on current accounts: (i) the balance of payments (BoP) statistics provide data on 'current account balances,' and (ii) the rest-of-the-world account of the national accounts (ESA) contains data on 'current external balances.' While these two items refer to the same concept, there are sometimes discrepancies between them. The differences stem from compilation practices, methodological issues, different data vintages and revisions, errors and omissions. The issue has been closely monitored by Eurostat, together with ECB and national statistical institutes. While many of the discrepancies have been successfully removed, the remaining ones are still sizeable. This report mostly uses BoP data. However, on occasion, the ESA accounts are also used, particularly when long-run series are needed or to ensure consistency with other data.

([3]) One assumes here to simplify, but without loss of generality, no transfers from the government to the private sector and that investment, the net income balance and the net unrequired transfer are entirely private.

Substantial differences among these countries have emerged since the onset of the crisis. Surpluses declined substantially in Austria, Belgium and Finland (the latter actually moved into a moderate deficit in 2011), but remained high in Germany, the Netherlands, Luxembourg and Sweden, and even increased in Denmark. The current account surplus-to-GDP ratio of the Netherlands is nowadays the largest in the EU, and the latest forecasts indicate it may further increase. ([2])

1.1. COMPONENTS OF CURRENT ACCOUNTS

All eight countries have recorded large surpluses in their trade account, which is the largest component of the current account. In line with the ups and downs of the global trade cycle, trade balances increased from the period 1995-9 to 2000-7 before falling during the crisis period (Table 1.1). The only exception was Finland, where the trade surpluses shrank continuously in these periods.

In particular, trade in goods contributed the bulk of the increase in current account surpluses. In Germany, net exports of goods, as a share of GDP, doubled from 1995-9 to 2000-7, when it reached 6 per cent. After a peak in 2007, it has decreased, but it remains at a high level. In the Netherlands, net exports of goods increased from 5¼ per cent of GDP during 1995-9 to 6¼ per cent of GDP during 2000-7, and close to 7 per cent of GDP during 2008-11. The net trade surplus in goods of Sweden, Finland and Denmark has also been high. After some decline after the onset of the crisis, it is forecast to increase in the period 201 2-14. The surplus in merchandise trade of Belgium hovered at around 3 per cent of GDP in 1995-2007 but it swung to a deficit of 2 per cent of GDP in 2008-11. Luxembourg and Austria have had deficits in trade in goods.

The trade surpluses mainly reflect trade in intermediate and capital goods. Germany in particular is a large producer of investment goods, sourcing intermediate inputs from other economies linked to its value-added chains (Graphs 1.4). Most of the other surplus economies have more or less important surpluses in trade of intermediate goods, while the contribution of consumption goods trade

([2]) See European Commission (2012a).

Table 1.1:

Current account (% GDP)

		BE	DK	DE	LU	NL	AT	FI	SE
Current account	**1995-1999**	5,2	0,8	-0,9	10,3	5,1	-2,3	4,8	3,5
	2000-2007	3,0	2,8	3,2	10,6	5,5	1,7	5,9	6,5
	2008-2011	-0,7	4,5	6,0	6,7	6,0	3,1	1,2	7,4
	2012-2014	***0,9***	***4,8***	***5,1***	***4,7***	***9,6***	***1,3***	***-1,7***	***6,5***
Balance, goods and services	1995-1999	4,4	4,0	0,8	10,5	6,0	-0,6	8,5	6,4
	2000-2007	2,9	5,1	4,2	30,7	6,8	3,2	7,0	7,0
	2008-2011	-0,6	4,5	5,5	42,6	8,0	3,6	1,8	6,4
	2012-2014	*1,2*	*3,8*	*4,9*	*29,5*	*10,1*	*3,7*	*-1,2*	*6,2*
Goods	1995-1999	4,0	3,4	3,1	-10,5	5,2	-2,9	9,4	6,8
	2000-2007	1,9	3,3	6,1	-10,5	6,3	-0,5	7,4	5,8
	2008-2011	-2,0	2,1	6,3	-11,0	6,6	-1,1	1,6	2,8
	2012-2014	*-1,1*	*1,5*	*5,9*	*-13,9*	*9,0*	*-2,0*	*-0,9*	*2,5*
Services	1995-1999	0,3	0,4	-2,3	20,4	0,6	2,3	-1,6	-0,5
	2000-2007	1,0	1,9	-2,0	39,8	0,4	3,6	-0,2	1,1
	2008-2011	1,4	2,4	-0,8	53,5	1,4	4,7	0,2	3,6
	2012-2014	*2,3*	*2,4*	*-1,0*	*43,3*	*1,1*	*5,7*	*-0,3*	*3,7*
Income balance	1995-1999	2,6	-1,9	-0,3	3,1	0,9	0,9	-2,4	-1,8
	2000-2007	1,8	-0,7	0,4	-16,1	0,5	0,5	-0,5	0,7
	2008-2011	1,7	1,8	1,9	0,2	-0,2	-0,2	0,3	2,3
	2012-2014	*1,1*	*3,0*	*1,6*	*-28,2*	*1,1*	*-1,3*	*0,4*	*1,8*
Current transfers	1995-1999	-1,6	-1,2	-1,4	-2,6	-1,6	-0,9	-0,6	-1,0
	2000-2007	-1,7	-1,8	-1,3	-2,6	-1,7	-0,7	-0,7	-1,1
	2008-2011	-1,8	-1,8	-1,4	-3,1	-1,7	-3,1	-1,0	-1,3
	2012-2014	*-1,4*	*-2,0*	*-1,4*	*3,4*	*-1,6*	*-1,1*	*-0,9*	*-1,5*

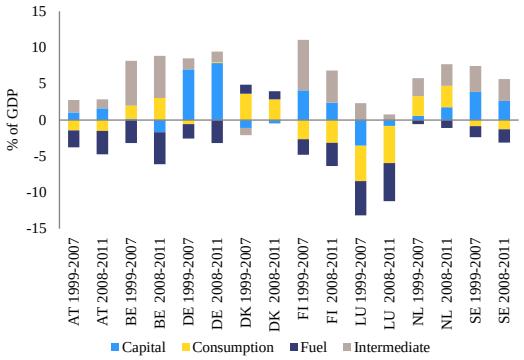
Note: Data from 2012 onwards - Commission forecasts.
Source: Eurostat and Commission services.

varies across countries. Luxembourg runs a trade deficit in all types of goods except intermediates. The contribution of net exports of fuels to trade balances has been large and negative in each of the eight countries, except Denmark. The composition of net exports is, moreover, rather stable over time, which is an indication of the structural nature of the strong performance of these countries.

The share of net exports of services in the surpluses has increased in most countries. This reflects the shift toward an outward-looking services-oriented economy. In Belgium, Denmark and Sweden, the service surplus has, to some extent, offset the declining trend in the balance of goods. For Austria, services have traditionally been the main component of the surplus, and in Luxembourg, the balance on services is enormous (above 50 per cent of GDP in 2008-11), reflecting the share of financial intermediation services in the economy (Table 1.1).

The main difference between the surplus and deficit countries has been in the performance of imports. Exports of goods and services grew by 8 per cent per year, on average, among the eight surplus countries during 1999-2007, compared with 7¼ per cent in the euro area as a whole. Exports in the countries with large deficits grew at similar rates. For example, in Spain, exports grew, on average, by 8½ per cent during the same period. The rapid growth of exports continued even after the crisis in the surplus countries. Following a short period of deceleration in 2008-9, exports have quickly recovered, growing by 13 per cent in 2011. In contrast, imports in the surplus countries, were relatively subdued. Imports at current prices grew at an annual rate of 7¼ per cent in 1999-2007 among the surplus countries. This growth rate is below the EU average of close to 8 per cent, and well below the imports growth of 10 per cent per year in the largest-deficit countries.

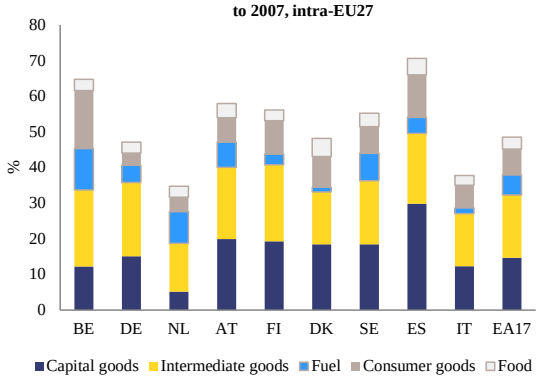
Graph 1.3: **Trade in goods - Composition of the trade balance**



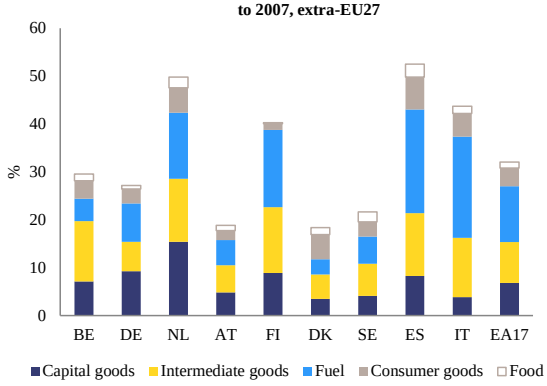
Source: Eurostat, Commission services calculations.

With some exceptions, net income inflows have been relatively small. Net income flows were often negative until the mid-2000s (Table 1.1). They increased during the following years to culminate at 1.5 per cent of GDP in 2006 for the whole group, reflecting a net international investment position (NIIP) of 16 per cent of GDP. However, while the NIIP grew (see Chapter 2) income inflows have remained low since 2008, reflecting low returns. Nonetheless, net factor income flows accounted for a significant part of the current account surpluses in countries which accumulated the most substantial NIIP positions, such as Belgium, Denmark and Germany.

Graph 1.4a: **Growth of imports in euro by type of goods, 1999 to 2007, intra-EU27**



Graph 1.4b: **Growth of imports in euro by type of goods, 1999 to 2007, extra-EU27**



Source: Comtrade.

Table 1.2:

Contributions of domestic and external demand to growth (%)

	1999-2007					2008-2014				
	Annual real GDP growth	Contribution to annual real GDP growth				Annual real GDP growth	Contribution to annual real GDP growth			
		Domestic demand	Net exports	Exports	Imports		Domestic demand	Net exports	Exports	Imports
BE	2.1	1.9	0.3	3.4	3.1	0.7	0.6	0.1	1.3	1.1
DK	1.8	2.4	-0.5	2.4	2.9	-0.1	0.0	-0.1	1.1	1.1
DE	1.6	0.6	1.0	3.1	2.0	1.1	1.3	-0.2	2.1	2.1
LU	4.7	3.6	1.1	12.0	9.8	0.6	1.9	-1.3	0.3	1.6
NL	2.2	1.7	0.5	3.7	3.1	0.0	-0.8	0.8	2.8	2.1
AT	2.4	1.5	1.0	3.7	2.8	0.9	1.0	-0.1	1.1	1.1
FI	3.5	2.9	0.6	2.8	2.5	-0.2	0.5	-0.7	-1.3	-0.5
SE	3.2	2.6	0.6	2.9	2.2	2.1	2.0	0.2	1.2	1.0
Surplus countries average	2.3	1.8	0.5	3.0	2.5	1.1	1.1	0.0	1.4	1.4
Deficit countries average	3.6	3.3	0.2	6.0	5.8	-0.4	-1.9	1.5	3.4	1.9

Note: Data from 2012 onwards - Commission forecasts. The demand contributions have been calculatated exluding inventories.

Source: Commission services.

All of the surplus countries posted net outflows of current transfers. However, the net transfers were rather stable and small in size, although they have increased somewhat over time (Table 1.1). They are related to contributions to the EU budget, ([3]) international aid and private transfers like migrants' remittances.

Many current account surpluses can be traced back to relatively weak domestic demand. The developments in the trade balance of the surplus and deficit countries are reflected in the contribution to growth of net exports. Real GDP growth performance in the pre-crisis years was considerably higher in the group of deficit countries (around 3½ per cent) than in the surplus countries (2¼ per cent) (Table 1.2). Domestic demand contributed less to growth in the surplus countries: the contribution to real GDP growth of domestic demand was only 1¾ per cent in the surplus countries, compared with 3½ per cent in the rest of the EU. The contribution of net exports to growth was 0.5 per cent in the surplus countries and 0.2 per cent in the rest of the EU. This means that the difference between the two groups of countries was much more due to lower domestic demand than net export performance. This contrast is very pronounced in Germany, which was actually the only surplus country where the contribution of domestic demand to growth was below the contribution of net exports.

([3]) Note that, while the contributions to the EU budget are current transfers (outflows), some of the inflows from the EU budget are recorded as capital transfers on the capital account. Therefore the net current transfers between Member States and the EU budget are not indications of being net contributor or net recipient to the EU budget.

1.2. FINANCIAL INVESTMENT OF CURRENT ACCOUNT SURPLUSES

The instrument decomposition of the financial account sheds light on the way the surpluses were channelled abroad. While net financial flows appear to be highly volatile across time and heterogeneous across countries, a number of patterns can be observed. From 2001 to 2008, the current account surplus of Germany and Luxembourg were channelled abroad mainly by the so-called 'other investment' flows, in particular inter-bank loans. This reflects the importance of financial corporations in intermediating domestic savings and investing them abroad. Austria followed the same pattern later, in 2006. Among the high-surplus countries, the Netherlands was the most important net provider of FDI in terms of its GDP. The Nordic countries mainly invested their surplus through portfolio instruments, a fact that appears to be related to the relevance of their social security surpluses (for detailed data on the bilateral financial flows between EU Member States see Chapter 3).

Table 1.3:

Financial account, instrument decomposition

		Current account balance	Net lending/ borrowing (CAB+KAB)	Direct investment (net)	Portfolio investment (net)	Other investment (net)	Official reserves (net)	Net errors and omissions
AT	95-99	-2.3	-2.4	-0.5	-1.1	-1.1	0.0	0.4
	00-07	1.7	1.5	0.6	-1.5	1.8	-0.4	0.9
	08-11	3.1	3.1	2.6	-2.3	2.8	-0.1	0.1
BE	95-99	5.2	.	.	.	.	.	.
	02-07	3.0	2.5	-1.3	4.2	-0.5	-0.2	-0.7
	08-11	-0.6	-0.9	-3.8	-3.9	7.1	0.1	-0.2
DE	95-99	-0.8	.	1.9	-0.5	-1.8	-0.1	.
	00-07	3.2	3.2	-0.3	-0.6	4.3	-0.1	-0.7
	08-11	6.0	6.0	1.4	1.5	2.9	0.0	-0.5
DK	95-99	0.8	0.8	.	.	.	.	1.6
	00-07	2.8	2.8	0.1	4.9	-2.1	0.1	0.2
	08-11	4.5	4.6	2.6	-1.6	-1.8	4.4	2.1
FI	95-99	4.8	4.8	2.3	1.2	0.2	-0.1	1.3
	00-07	5.9	6.0	0.8	3.3	0.8	-0.2	1.4
	08-11	1.3	1.4	2.3	-0.1	-4.4	-0.1	4.1
NL	95-99	5.1	4.8	2.6	3.8	-3.0	-0.8	2.3
	00-07	5.5	5.1	3.3	0.2	-0.1	-0.1	0.9
	08-11	6.1	5.7	3.8	-3.7	4.6	0.1	0.3
SE	95-99	3.5	.	-2.8	6.0	-1.4	-0.7	.
	00-07	6.5	6.4	2.4	3.1	-1.0	0.1	1.4
	08-11	7.5	7.3	2.5	-4.6	4.8	0.9	3.8
LU	95-99	10.3	10.2	.	.	.	.	.
	02-07	10.6	10.3	39.1	-184.2	162.9	0.0	1.5
	08-11	6.6	6.0	-1.0	-49.6	55.4	0.2	0.2

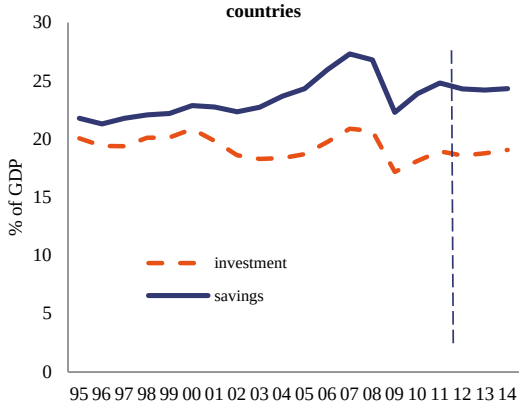
Source: Eurostat, Deutsche Bundesbank.

The financial crisis significantly changed the way surpluses were invested. Other investment remained or became the most important source of net financial outflows in Belgium, the Netherlands, Sweden, Germany and Austria. However, while before the crisis funds were almost exclusively channelled abroad through private financial flows, without involving major public lending flows, this reversed after 2008 (Table 1.3). As a result of higher risk aversion, private capital outflows from surplus countries retreated or reversed. A sizeable part of the financial flows between the high-surplus countries and the rest of the euro area are now intermediated through the monetary authorities (see below Section 2.1 on the role of the TARGET2 payment system in allowing a smooth retreat of private capital from the EU vulnerable countries).

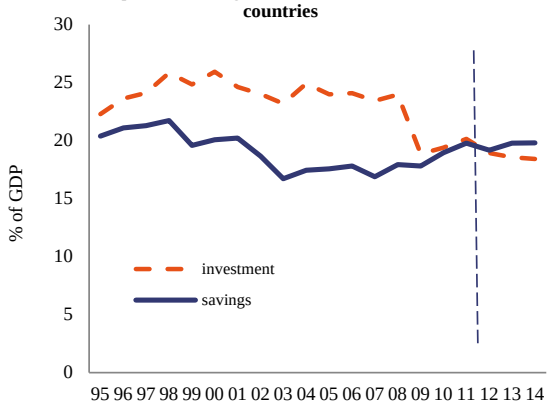
1.3. SAVINGS, INVESTMENT AND CURRENT ACCOUNT SURPLUSES

The mirror image of subdued domestic demand is relatively high national saving (Graph 1.6)**.** When the aggregated savings of firms, households and the government exceed domestic investment, a country lends to the rest of the world, *i.e.* it exhibits a current account surplus. In 1999-2007, the national savings rate (in per cent of GDP) in the group of surplus countries increased by 4.8 percentage points, and reached a comparatively high level of 27 per cent of GDP in 2007. However, the investment rate did not increase in this period (Graph 1.5a). Moreover, during the crisis years, saving and investment rates sharply declined. Savings have meanwhile recovered, while investment remains relatively subdued, thus contributing to a substantial surplus.

Graph 1.5a: **Savings and investment: EU surplus countries**

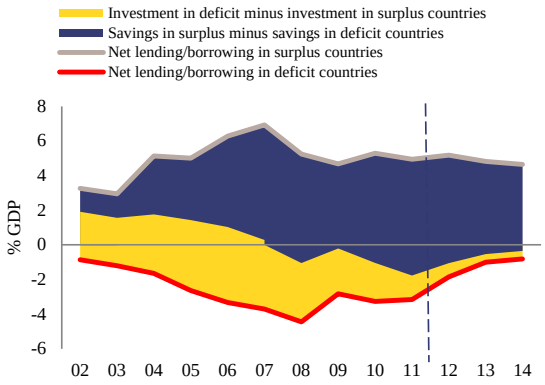


Graph 1.5b: **Savings and investment: EU deficit countries**



Note: Data from 2012 onwards - Commission forecasts
Source: Eurostat and Commission services

Graph 1.6: **EA differentials in savings, investment and in net lending/borrowing**

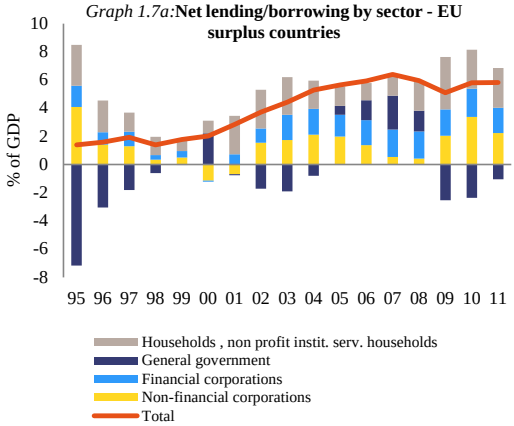


Note: Data from 2012 onwards - Commission forecasts

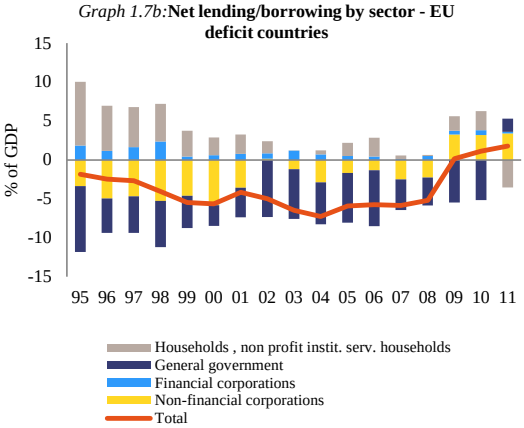
Source: Eurostat.

These developments stood in stark contrast with the behaviour of savings in deficit countries (Graph 1.5b). Over the whole period, the savings rate was considerably higher in surplus countries than in the deficit-countries group, where it, moreover, declined in late-1990s and early-2000s. Investment rates were not so different between the two groups, although they were trending slightly downwards in deficit countries. The crisis then led to a correction in investment rates, in particular in those economies with the largest deficits, but leaving the overall savings rates broadly stable. Thus, the correction in the deficits in the vulnerable countries resulted mainly from a fall in the investment level (including residential construction).

Graph 1.7a: **Net lending/borrowing by sector - EU surplus countries**



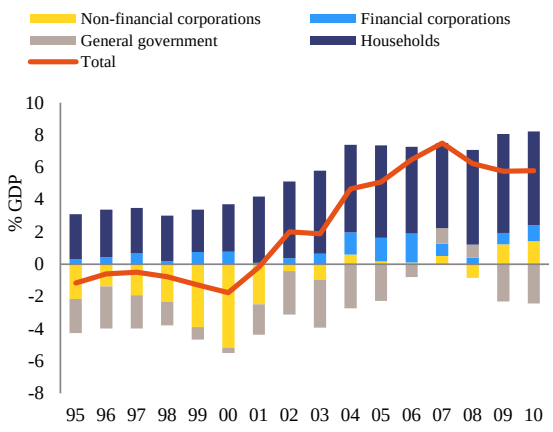
Graph 1.7b: **Net lending/borrowing by sector - EU deficit countries**



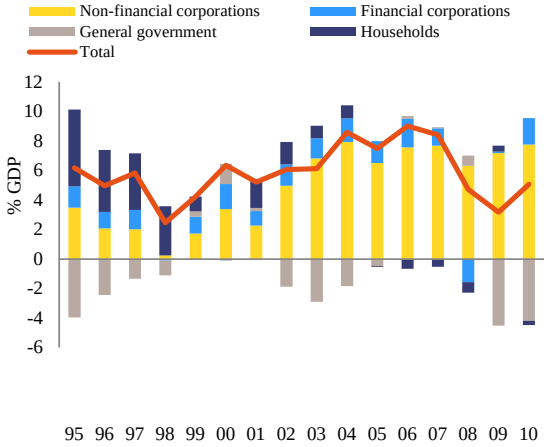
Source: Eurostat

Developments in corporate and public sectors were the driving forces behind the accumulation of surpluses. While net lending by households remained stable, corporate and

Graph 1.8a: **DE - Net lending/borrowing decomposition**



Graph 1.8b: **NL - Net lending/borrowing decomposition**



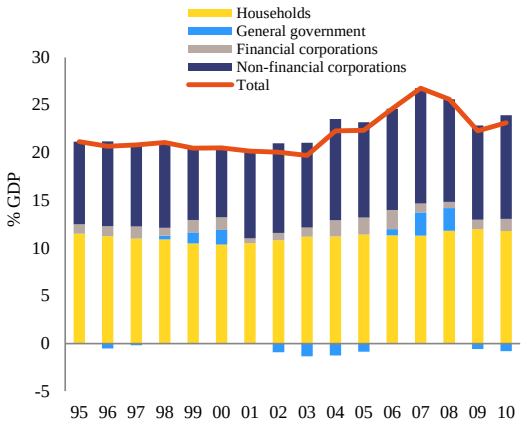
Source: Eurostat

government net savings were increasing in the eight surplus countries until 2005 and 2007 respectively (Graph 1.7). In the crisis period, private sector savings continued to grow while the government position deteriorated. In the deficit countries, a decline in household and public sector savings led to a deterioration in the national savings rate, despite an increase in corporate savings. In 1999-2007, the national savings rates declined by 2 percentage points. During and after the crisis, the improvement in the savings rate was a result of sharp adjustment by households while the corporate sector reduced its saving. The borrowing needs of the governments increased substantially with the crisis, although there has since been a correction.

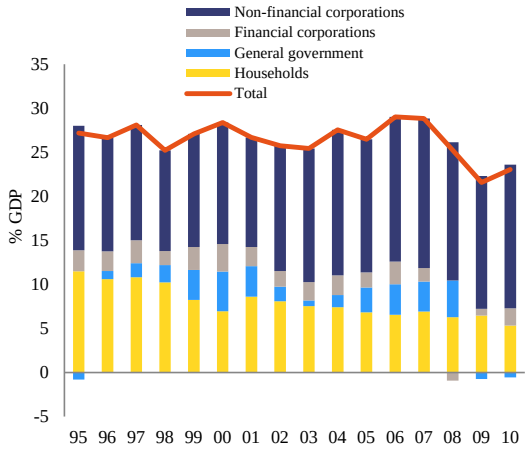
The behaviour of the non-financial corporate sector in some of the surplus countries deserves closer attention. The developments in the aggregate for the surplus countries were to a large extent driven by the business sector in Germany and the Netherlands (Graph 1.8). From 1999 to 2007, the German current account increased by 9 percentage points of GDP: more than half of this change can be attributed to higher financial balance of the corporate sector, mostly non-financials. Similarly, the non-financial corporate sector in the Netherlands became a strong net lender in the pre-crisis period (from 0.5 per cent of GDP in 1999 to 7.7 per cent in 2007), overcompensating for the fall in household net lending (2 per cent of GDP). In Finland, the high net savings of the corporate sector declined, explaining the decline in the Finnish current account surplus. In Austria, the corporate sector was a net borrower for most of the period considered, but its position was gradually improving and contributed around half of the improvement in the current account from 1999 to 2007 (5 percentage points of GDP).

The increase in corporate lending in Germany and the Netherlands mainly reflects higher savings but also a fall in corporate investment. As of early 2000s in Germany, and even earlier in the Netherlands, corporate savings (undistributed earnings) were on an upward trend and increased by about 6 points of GDP until the peak in 2007 (Graphs 1.9). By contrast, developments in corporate investment accounted for a smaller part of the increase on their lending position. The decline in investment rates was more pronounced during the first years of the monetary union, as a result of the increase in the relative cost of capital in the core euro area countries vis-à-vis the periphery. Thus, German firms (and corporates in other surplus countries) reinvested a smaller share of their increased profits in replacing and expanding their capital stock, and used their funds to repay debt without increasing significantly distributed profits. In the other surplus economies, the corporate sector (both financials and non-financials) has been a large net lender.

Graph 1.9a: **DE - Savings rate decomposition**



Graph 1.9b: **NL - Savings rate decomposition**

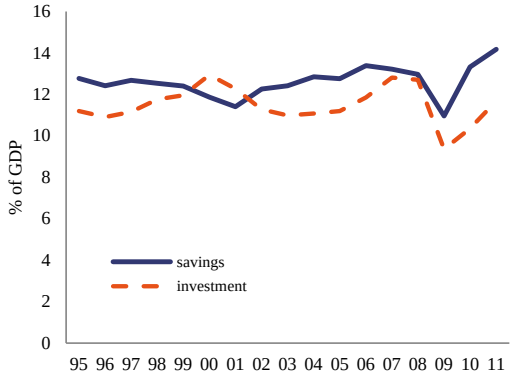


Source: Eurostat

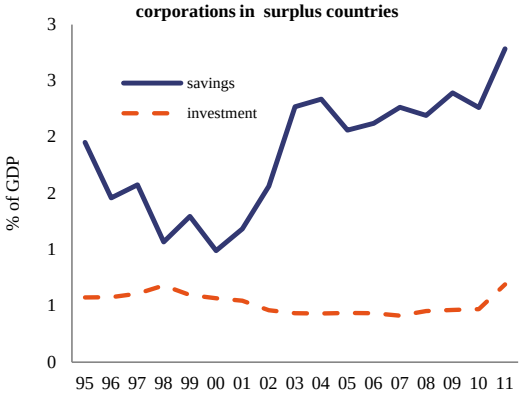
The contribution to the current account surplus by households varied considerably across countries. While households' savings contributed to the surpluses in Germany, Belgium, Austria and to some extent also in Sweden, their contribution was negative in Finland and Denmark. This was particularly the case before the onset of the financial crisis and can be partially related to housing price increases and rising households' indebtedness. ([4]) Similarly, Dutch households' net savings declined over time and turned slightly negative in the immediate post-crisis years.

([4]) For a discussion of the housing price increases and the related households' indebtedness, see the in-depth reviews for Denmark, Finland and Sweden (European Commission 2012b, 2012c, 2012d).

Graph 1.10a: **Savings and investment: Non-financial corporations in surplus countries**



Graph 1.10b: **Savings and investment: Financial corporations in surplus countries**



Source: Eurostat

Fiscal policy has also played a non-negligible role in current account developments. During the pre-2007 crisis period, fiscal consolidation, on the back of a global trade boom, helped in decreasing fiscal deficits substantially. For instance, in Germany and in the Netherlands, the governments' savings-investment balances contributed to the improvement in the current account as of 2004-5. In these countries, the public sector even became the main driver, ahead of the corporate and households sectors, of changes in the current account surplus (Graph 1.8).

1.4. MAIN CONCLUSIONS AND POLICY IMPLICATIONS

The decade preceding the onset of the financial crisis was marked by a widening in the surpluses and deficits of the EU Member States; while the dispersion of imbalances has declined in recent years, deficits and surpluses remain

relatively large. A closer look at the anatomy of the current account surpluses provides a number of findings.

- First, there is substantial heterogeneity among the eight countries discussed in this report. Although there are insights for the group as a whole, the conclusions drawn for each one of them do not necessarily apply to the others. A conclusion on the benign or damaging nature of the surpluses cannot be simply based on the level of the current account balance but requires more detailed country-specific analysis.

- The accumulation of current account surpluses and deficits has only to a small extent resulted from differences in the export behaviour of countries. It stemmed mainly from different import and domestic demand dynamics.

- Much of the build-up in surpluses can be traced back to relatively weak domestic demand in the eight countries, driven by weak investment and high savings. While households have traditionally been net lenders in most economies, their savings were high in the surplus countries. Particularly Germany stands out in this respect. In addition, the large surpluses in, for example, Germany and the Netherlands have been driven by the non-financial corporate sector (as a result of firms' competitiveness and higher savings, but also declining investment).

- The surplus countries relied to a large extent on debt instruments such as inter-bank loans or debt securities when investing their excess savings. FDI also played important role in several of the surplus countries, most notably the Netherlands.

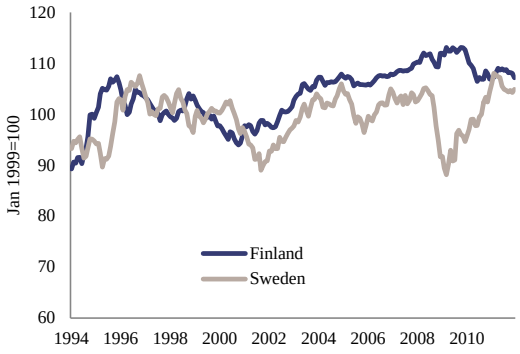
Box 1.2: Sweden: Does exchange-rate flexibility matter?

Sweden has consistently recorded large current account surpluses averaging more than 7 per cent of GDP over the last ten years. A relevant question which arises when analysing the Swedish current account concerns the role of flexible exchange rate. Although the Swedish exchange rate is flexible, the krona has been a relatively stable currency since mid-1990s. The exchange rate has not shown any particular trend neither in effective terms nor vis-à-vis the euro (and previously the ECU). The large devaluation in 1992 helped to start an export-led recovery, but no longer-lasting boost for exports has originated from the currency since then. In 2011, the krona exchange rate was close to its long-term average levels. It remains to be answered whether the short-term gyrations in the Swedish currency related to the global cycle were crucial for Sweden to retain its export strength.

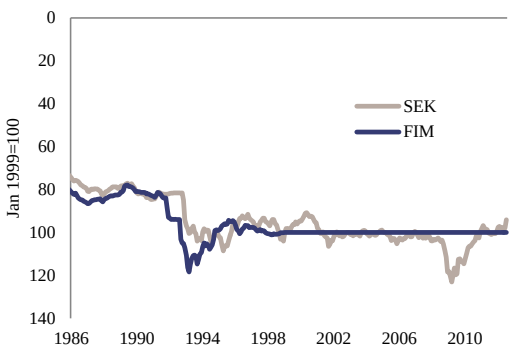
Like Sweden, Finland experienced a strong currency depreciation in 1992 and a severe economic crisis in the mid-1990s. Like Sweden, it is also an export-oriented economy with a large share of high-tech exports, such as IT and telecommunications. Finland recorded high current account surpluses in 1995-2007, but its current account turned into deficit in 2011.

The exchange-rate flexibility does not seem to have provided any specific long-term advantage for Sweden over Finland. The creation of the euro in 1999 did not lead to lasting divergence between the Swedish and the Finnish currencies. As the Swedish krona evolved in parallel to the Finnish marka prior to the euro, it also evolved in parallel to the euro after 1999, except for a marked, but temporary, deviation in 2008-9. In nominal effective terms, the Swedish krona was somewhat weaker in 2001-10, but the difference was not large and it has been erased in the last two years. Sweden and Finland did not deviate from each other in terms of price and cost competitiveness. Given very similar development in consumer prices and ULCs, the real effective exchange rates (both HICP- or ULC-based) do not suggest any long-term divergence in the competitiveness of the two countries.

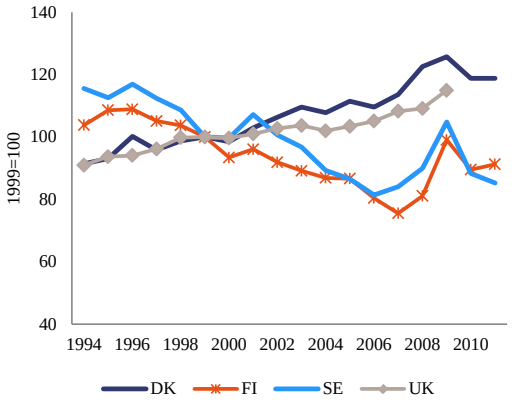
Graph 1a: **NEER**



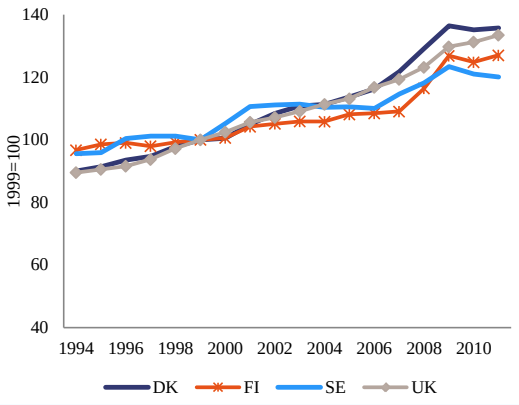
Graph 1b: **Bilateral exchange rate vs. EUR/ECU**



Graph 2a: **ULC manufacturing, 1999=100**



Graph 2b: **ULC total economy, 1999=100**



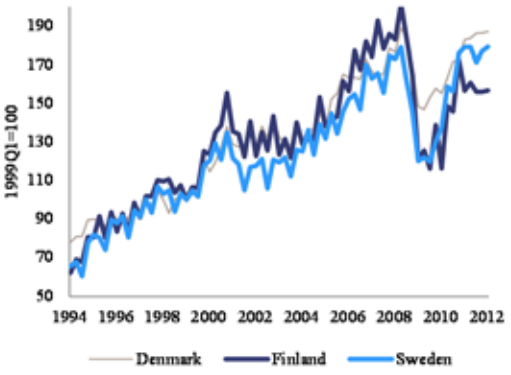
The adoption of the euro did not result in any significant divergence between Sweden's and Finland's export performance. The exports of goods, both in volume and in euro, evolved similarly for both countries after 1999, though the Finnish

(Continued on the next page)

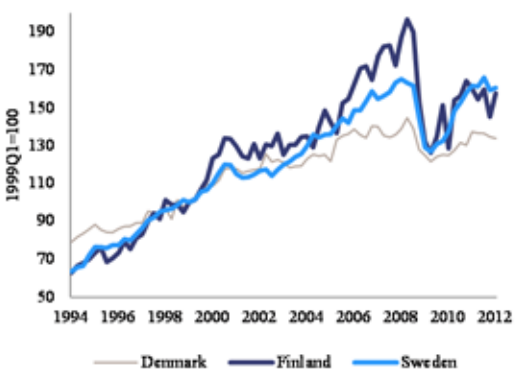
Box (continued)

exports were somehow more dynamic until 2008. The crisis hit the exports of both countries sharply, although the drop was somewhat deeper in Finland. In volumes, in particular, Finland lost more markedly than Sweden where the krona's depreciation cushioned the negative impact of the slump in external demand on the Swedish exports. Also the recovery was more pronounced for Swedish exports which regained the pre-crisis level by 2011, while Finnish exports have not fully recovered yet. It is debatable whether the Swedish krona's depreciation was crucial for the export revival; the Danish exports have also recovered to the pre-crisis level, despite its de facto fixed exchange rate to the euro. From a longer-term perspective, however, exports in volume and market shares in Finland and Sweden have achieved equal gains in 1999-2011.

Graph 3a: **Exports of goods, euro values**



Graph 3b: **Exports of goods, volumes**



As for other large-surplus countries, subdued imports appear to have been more important than exports in explaining the stronger current account surplus. First, both Finland and Sweden have suffered from a declining surplus in merchandise trade since the burst of the IT bubble in 2001, but the decline was stronger in Finland due to a higher growth in imports in the boom period prior to 2008 and a weaker recovery in exports after 2009. The faster growth of nominal imports in Finland in 2004-8 can be partly attributed to rapidly rising energy prices, but also to more dynamic household consumption and lower savings rate. Looking at the sectoral decomposition of net lending, the strong net creditor position of Swedish households contrasts with the debtor position of Finnish households. Second, Sweden has been able to compensate the loss in the net merchandise trade, by expanding a surplus in services, which in 2011 reached about 3.5 per cent of GDP. Again, this diverging development is to be attributed to import performance, as the growth in imports of services was more restrained in Sweden in 2004-8, while exports enjoyed a comparable expansion in both countries. The lower imports of services of Sweden may reflect the fact that only in 2011 Sweden opened up the market and facilitated access for service providers from other Member States. Finally, the robust current account in Sweden in recent years also reflects a positive and increasing investment income stemming from high FDI-related net inflow of dividends as well as well-performing portfolio investment.

To conclude, it does not seem that the exchange-rate flexibility of Sweden altered significantly the size and persistence of current account surpluses through the trade channel, in particular when compared with Finland. The exchange rate has been relatively stable since mid-1990s and export performance has been strikingly similar to that of Finland who adopted the euro in 1999. The flexible exchange rate may have played a minor role during the recession in 2008-9 in kicking off a recovery in exports, but this effect was temporary. In the long-term, the volatility of the exchange rate might have rather had an effect in triggering precautionary savings by households and corporations. Apart from that, several structural factors appear to have been important in explaining a stronger external performance of Sweden: namely, higher private pension savings , a diversified export structure, lower energy import dependency and higher FDI intensity.

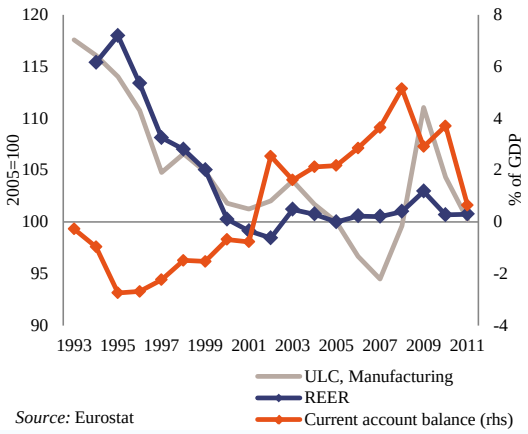
Box 1.3: From a deficit to a surplus: the case of Austria

Austria's current account was in deficit throughout most of the 1990's but it turned from a deficit of 1 percent of GDP in 2001 to a surplus of around 2.5 percent of GDP in 2002 and has remained positive since then. The surplus progressively improved until it approached 5 percent of GDP in 2008. Thereafter, it declined to 1.1 percent of GDP in 2011.

On the one hand, the adjustment in external balance in the early 2000's was caused by unfavourable domestic demand developments. Unemployment was on the rise, employment growth was flat, hence consumption growth was restrained. More importantly, there was an aggravation of the investment slump. All of this accounted for a standstill in domestic demand. Against this backdrop, although slowing down, exports held up comparatively well, and together with declining imports helped prop up overall GDP growth and turn the external balance to a significant surplus .

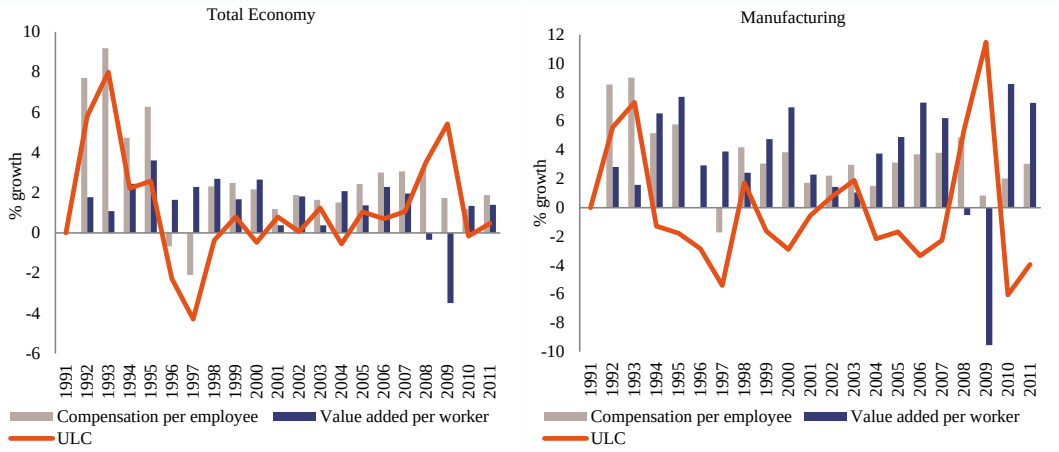
On the other hand, these developments only precipitated the transition from deficit to surplus. The sharpness of this adjustment, remarkable as it is, should be seen in the perspective of a sustained trend of a narrowing of the external deficit which set off in the second half of the 1990's as the Austrian economy was continuously undergoing important changes which created the conditions for a rather durable positive external balance. There are two important aspects which can shed light on the drivers of this adjustment: Austria's foreign trade and the sectoral composition of lending/borrowing.

*Graph 1:***Austria - Trends in cost competitiveness**



Source: Eurostat

*Graph 2:***Drivers of competitiveness**



Source: Eurostat.

Austria has typically run a deficit in goods trade and a surplus in services. Prior to 1997 the trade in all major categories of goods was in deficit. From then on the balance in manufactured products started to improve gradually but steadily. From 2001 on this also involved machinery and transport equipment. These trends suggest important structural changes and diversification in Austria's industry as they took place against the background of favourable cost competitiveness developments. The total economy ULC deflated real effective exchange rate with respect to 36 industrialised economies

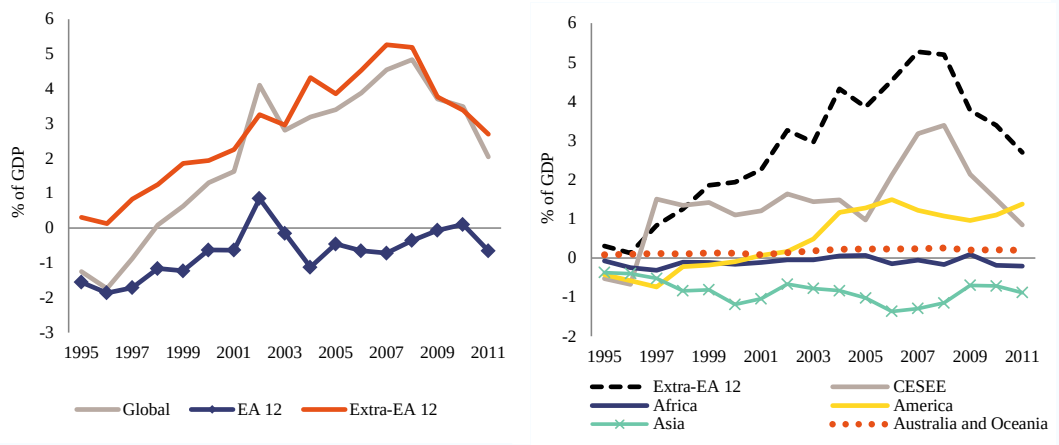
(Continued on the next page)

Box (continued)

depreciated by 14.7 percent over 1995-2002 and stayed roughly stable since then. The bilateral exchange rate against Austria's most important trading partner, Germany – the destination of about 40 percent of its exports in the second half of the 1990's and about a third over the last decade, as well as against France and the Benelux, all together accounting for another 8-9 percent of Austria's exports was essentially constant over the 1990's. Thus cost competitiveness was driven by relative ULC's. After 1995 wages went through adjustment and moderation, while manufacturing productivity growth has on average been outstripping wage growth until the crisis driving ULC's down.

Important diversification has been taking place in services trade too. While the importance of tourism has remained remarkably stable, other types of services have been gaining stronger footing since the late 1990's. The share of non-tourism services exports has doubled since the mid 1990's and their importance for preserving the surplus matches that of tourism of late. These developments have not been concentrated in any particular category of services, but has rather involved a wide array of business related services.

Graph 3: **Austria - Net exports by region**



Source: OeNB

In parallel to the product structure, Austria has been diversifying the geographic structure of its foreign trade. The advances in competitiveness in the 1990's helped improve net exports to the EEC/Eurozone partners. More importantly however, Austrian exporters made decisive strides to benefit from the opening up of the Eastern European countries. Transatlantic trade also gained in importance over the last decade.

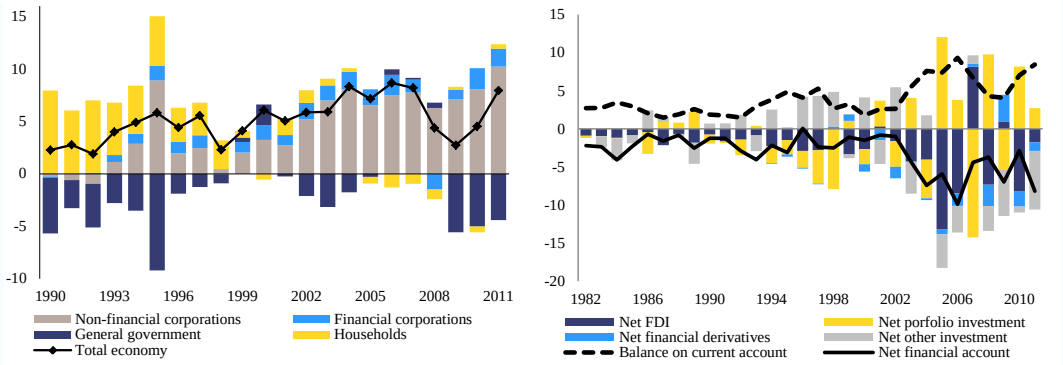
The perspective of the sectoral balances can also suggest explanations for Austria's transition from deficit to surplus. The sectors that contributed most significantly for the switch were nonfinancial corporations and the general government sector. The former have consistently improved their competitiveness and profitability, most notably through productivity increases and wage moderation as well as through output diversification, which has narrowed their borrowing requirement over the long-run. The government sector went through significant consolidation in the run-up to setting-up the EMU. The savings-investment balance was even slightly positive over 2001-2008. However significant net capital transfers (mostly to nonfinancial corporations), have kept the overall fiscal balance negative, although less so than in the 1990's. Households and the financial sector consistently maintained positive balances on aggregate, helping smooth the fluctuations in the other two sectors.

Box 1.4: **Breakdown of the Dutch current and financial account**

Highly integrated in the world economy in terms of both trade and financial flows, the Netherlands is almost a textbook-case of open economy. Over the past few decades, sectoral financing and leverage strategies that were prompted by institutional settings and incentives in a globalising world led to the quite distinct pattern of financial flows and balance sheet positions shaping the persistent Dutch current account surplus.

The trade balance, in particular for goods, accounts for the largest part of the persistent and substantial Dutch current account surplus. Apart from a small structural component stemming from natural gas, the positive goods balance has increasingly mirrored the contribution of re-exports (imported goods which are exported after no or virtually no further processing), reflecting the links of the Dutch economy into global production chains and the benefits deriving from its geographical position. More recently, a rising services account surplus and growing income from outward direct investment have played a more prominent role.

*Graph 1:***Breakdown of the Dutch current and financial account**



Source: Eurostat. *Source:* De Nederlandsche Bank.

A key issue that stands out in the breakdown of the Dutch current account by institutional sector (as shown in Graph1 left) is the shift that has taken place from households to non-financial corporations as main contributors to the surplus, which occurred from approximately 1999 onwards. This shift to a large extent reflects the pivotal role played by the housing market in shaping the households' balance sheet. Apart from the expected rise in the value of their assets, which has contributed to a long upward trend in house prices, households also expected higher income owing to the growing participation rate of women in the labour market, which explains the very strong growth in housing investment. In addition, rapid financial innovations have given households much easier access to credit. Moreover, households were encouraged to take up mortgage debt through tax-incentives (the tax deductibility of mortgage interest payments). The downward trend in interest rates, coinciding with a phase of EU market integration boosted by monetary union, supported the trend towards higher household financial leverage. However, house prices have been declining since 2008, increasing vulnerabilities among homeowners, although these are mitigated by their strong net financial asset position (which partly reflects high pension savings in the mandatory funded second pillar schemes). Although house price declines up to now can be regarded as moderate by both historical and international standards, amid persistent uncertainty the outlook for the housing market remains unfavourable with a negative impact on the real economy via wealth and confidence effects and also, indirectly, on the financial sector.

Firms, by contrast, have moved from their traditional position of borrowing funds to running financial surpluses, thus lending on to other sectors of the economy. Net capital formation of Dutch corporations fell from 4.2% of GDP in 1989 to 0.9% of GDP in 2010. The trend fall in the investment ratio over such a long period seems to have occurred also across other euro-area countries, possibly partly related to capital-saving biases in new technologies. The mirror image of persistent sluggish domestic capital formation has been the increase in FDI outflows since 2000, directed at purchasing either existing capital equipment abroad and/or acquiring financial stakes in foreign companies (see Graph 1 right). Technological innovations, regulations allowing free movement of capital in the EU and the elimination of exchange rate risk within the euro area, are all factors which triggered (un-hedged) cross-border capital flows. Investment earnings in the form of profit remittances (through intra-firm dividends, interest payments or royalties that are repatriated by the subsidiary to the parent company as well as retained earnings reinvested at the foreign operation) have also grown substantially. Inward FDI flows also expanded, seemingly attracted by the favourable geographical location, historical ties and a traditionally strong competitive position of the Netherlands, but also owing to its credible institutional setting and legal framework. Moreover, its favourable tax system allows non-financial corporations to channel FDI and redirect income flows, via entities in the Netherlands (mainly special financial institutions), between a company in one country and subsidiaries or affiliates in other countries. The significance of FDI could be even larger than official data on remittances of profits show (see also box 2.1). On balance, the emergence of a persistent savings surplus in the Dutch non-financial corporate sector appears to owe much to the increasing importance of (financial) globalisation, monetary

(Continued on the next page)

Box (continued)

integration and the favourable tax treatment of repatriated foreign income in the Netherlands (Vandevyvere, 2012). Looking forward, dynamics initiated in the wake of the crisis, such as changes in risk attitudes, the on-going deleveraging in the global banking sector, the adoption of more careful funding strategies by non-financial corporations, and, finally, a risk of a persistent downward shift in the economy's growth path, may all reinforce accumulation of substantial corporate savings (Ruscher and Wolff, 2012).

2. ANATOMY OF EXTERNAL POSITIONS OF SURPLUS COUNTRIES

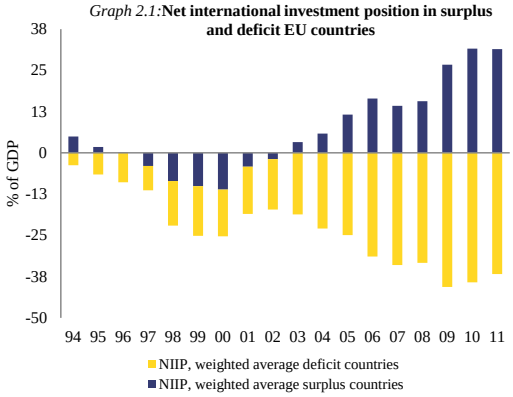
This section analyses the foreign asset and liabilities of the surplus economies. Running persistent surpluses results in the build-up of net external assets which should deliver future income streams. This section, therefore, focuses on the net international investment position (NIIP), which is a measure of the external wealth of a country, and on its components. ([5]) The analysis of NIIP offers several insights: *First*, it captures the progressive accumulation of deficits or surpluses into liabilities and assets. *Second*, it highlights specific concentrations of assets and liabilities, and the related potential risks, including excesses of financial investment (or borrowing) into a specific instrument and geographic location. *Third*, it captures valuation effects reflecting losses or gains on foreign investment.

The composition and evolution of external assets is key to understanding cross-border interlinkages and the ex-post benefits from past current account surpluses. This is particularly important in the light of the recent decline in asset prices. Indeed, several of the EU surplus countries have recorded large positive NIIP and experienced large valuation losses. Overall, the NIIP of the six euro area surplus countries reached over 16 per cent of their GDP by end-2006. However, in 2007-11, they posted total net valuation losses of more than EUR 300 billion, corresponding to over 7 per cent of their 2011 GDP. ([6]) The increase in their NIIP over this period was thus considerably lower than the accumulated surpluses.

2.1. NIIP IN SURPLUS COUNTRIES

The surplus economies have built up large international investment positions reflecting their large surpluses. The build-up of net assets started only in the second half of 1990s. Before that, the eight countries discussed in this report were not very different from the rest of the EU. The NIIPs of most EU countries (at the time) were close to zero or negative during this period; exceptions were Belgium, Ireland and Luxembourg, which recorded positive net external assets. The group of eight surplus countries had a negative NIIP of close to 10 per cent of GDP in 1998. Since then, their NIIP has risen constantly, reaching over 30 per cent of GDP in 2011 (Graph 2.1). Conversely, the other EU countries generally accumulated a negative NIIP, reaching 40 per cent of GDP in 2009. However, there are large differences among the deficit countries, with very large net liabilities of close to annual GDP in Greece, Portugal, Spain and Cyprus.

Graph 2.1: **Net international investment position in surplus and deficit EU countries**



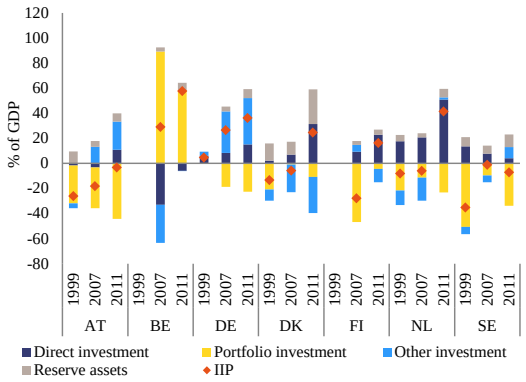
Source: Eurostat.

The surplus countries do not form a homogenous group and their NIIPs differ significantly. In 2011, the NIIP of Luxembourg was as high as 85 per cent of GDP, even after a significant drop since the onset of the crisis, induced by holding losses. Belgium had net external assets valued at almost 60 per cent of GDP. In spite of large surpluses, Germany and the Netherlands had much more moderate levels of NIIP, at 36 per cent and 41 per cent of GDP, respectively. Finland had a slightly positive NIIP (8 per cent of GDP), after having recorded a highly negative position a few years before, and Austria still had a marginally debtor position (3 per cent of GDP). The two non-euro area surplus economies among the group of large-surplus economies differ markedly, with Denmark being a net creditor (amounting to 24 per cent of GDP) and Sweden a net debtor (7 per cent of GDP).

([5]) The NIIP captures the stock of foreign assets held by residents of a country net of domestic assets held by non-residents. It includes debt instruments such as bonds or loans as well as equity, foreign direct investment and financial derivatives, as well as monetary gold.

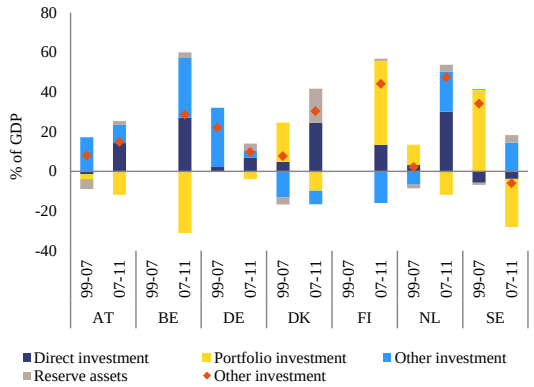
([6]) Germany alone posted even larger valuation losses, which were partly compensated by net gains in other surplus economies.

*Graph 2.2:***Net IIP by component**



Source: Eurostat.

*Graph 2.3:***Change in net IIP by component**

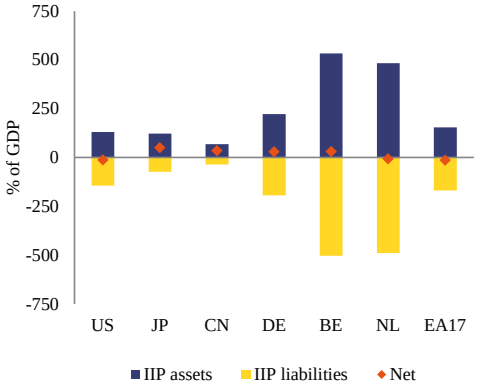


Source: Eurostat.

The NIIP of most of the eight surplus countries are not exceptional by international comparison. Graph 2.4 shows that the NIIPs of Japan or China, as a percentage of GDP, are higher than those of Belgium or Germany. In this comparison, the NIIP of other of the surplus countries such as Austria, the Netherlands or Sweden can be seen as relatively low.

The net positions conceal very large gross stocks of foreign assets and liabilities, which render the net positions susceptible to large valuation changes. Although the euro area as a whole has a relatively small negative external position (-11½ per cent of GDP in 2011), its external gross assets and liabilities are among the highest in the G20, pointing to its high degree of integration in global financial markets. ([7]) This also applies to most of the surplus countries when taken individually. After 1999, gross cross-border assets and liabilities expanded in most of them. The cross-border holdings of assets and liabilities increased in particular in Germany, Austria, Sweden and Denmark, where they doubled in nominal terms between 1999 and 2009. The growth in holdings in Belgium and the Netherlands was smaller, reflecting the fact that they were already well integrated into world financial markets due to their role as investment bases for multinational firms.

*Graph 2.4:***International comparison of gross holdings of foreign assets and liabilities, 2007**



Source: IFS, WEO, Eurostat.

It is predominantly the non-bank private sector which holds the largest stocks of net foreign assets. ([8]) These assets usually include outward FDI or direct (inter-company) lending, while financial investments by private pension funds and insurance companies also play a significant role. Moreover, the private sector further increased its net and gross holdings in most countries during the crisis. On the other hand, the net positions of banks (monetary financial institutions) varied across the surplus countries, with the Belgian and German banks being net creditors, while the rest being net debtors. During the crisis, the net positions of the financial institutions typically deteriorated. The

([7]) The gross external assets of the euro area include the positions of its Member States and of the ECB with non-euro area countries (the gross asset and liabilities among the euro area countries are consolidated) and are therefore directly comparable to those of the US and other G20 countries.

([8]) Here, the private sector refers to the 'other' (non-bank, non-government) sector according to the balance-of-payments classification, which covers households, non-financial corporations and non-monetary financial intermediaries (including insurance companies and pension funds).

Table 2.1:

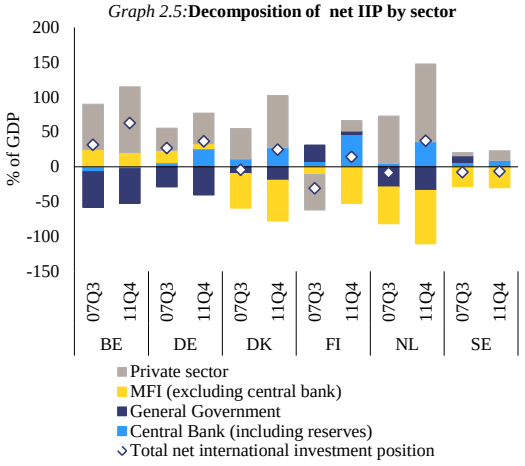
International investment position, assets and liabilities by instrument

% of GDP		2000	2006	2011	2000	2006	2011	2000	2006	2011
			Assets			Liabilities			Net	
Direct investment	AT	14	54	75	16	56	64	-3	-2	11
	BE	.	115	203	.	147	209	.	-33	-6
	DE	26	34	42	24	27	27	1	7	15
	DK	41	43	67	41	38	36	0	5	31
	FI	42	44	57	20	32	34	23	12	23
	LU	.	2448	3863	.	2576	3843	.	-128	20
	NL	79	113	126	63	78	75	16	35	51
	SE	50	63	72	38	54	68	12	8	4
Portfolio investment	AT	59	103	81	87	131	126	-28	-28	-44
	BE	.	154	140	.	68	82	.	86	58
	DE	.	74	72	.	82	94	.	-8	-23
	DK	53	87	96	64	87	107	-12	0	-11
	FI	42	98	110	206	133	114	-164	-35	-4
	LU	.	5445	4720	.	5664	5472	.	-220	-752
	NL	123	178	171	146	207	194	-23	-28	-23
	SE	57	95	90	100	114	124	-42	-19	-34
Other investment	AT	52	88	97	55	82	75	-3	6	22
	BE	.	177	146	.	204	146	.	-27	0
	DE	56	85	100	56	60	63	0	25	37
	DK	43	55	57	55	74	86	-12	-20	-29
	FI	27	48	101	41	42	112	-14	5	-11
	LU	.	3032	3375	.	2550	2582	.	482	793
	NL	78	134	140	92	140	138	-14	-6	2
	SE	33	53	70	44	62	61	-11	-9	9

Source: Eurostat, as of 28 September 2012

public sectors have been net external debtors, with the exception of Sweden and Finland, given the large stock of assets managed by their social security organisations. The net foreign liabilities of public sectors were larger in countries such as Germany, the Netherlands and Belgium, whose sovereign bonds became popular among foreign investors, including non-European investors, due to their high rating and liquidity. Prominent among the holders are the non-EU central banks that run fixed or managed-float exchange rate regimes resulting in the accumulation of euro-denominated safe assets.

Graph 2.5: **Decomposition of net IIP by sector**



Note: Austria excluded due to missing data.

Source: Eurostat.

Surplus countries relied to varying degrees on FDI, portfolio debt or equity, as well as unsecuritised (inter-bank) loans, as vehicles to invest their excess savings abroad (Table 2.1). Their preferred instrument was also linked to the geographical destination of investments. These differences help explain *ex post* some of the differences in returns on net foreign assets across the surplus countries and the losses they had to bear due to the impact of the financial and debt crises.

In all surplus countries except Belgium, the stocks of FDI abroad exceed direct investment by foreign investors in the home economy. The surplus countries' firms used FDI to penetrate new markets or to achieve efficiency gains through splitting the value chain of the production. FDI investments thus followed an increasing trend throughout the 2000s. This means that many firms replaced domestic investment, which therefiore declined, by investment abroad. At the end of 2011, the net positions in FDI were particularly high in the Netherlands (51 per cent of GDP) and Denmark (31 per cent of GDP), but also in Finland (23 per cent of GDP), Luxembourg (20 per cent), Germany (15 per cent of GDP) and Austria (11 per cent of GDP). ([9])

In contrast, all of the surplus countries, with the exception of Belgium, have a negative net stock of portfolio investment. This means that the stocks of domestic portfolio debt and equity owned by foreign investors exceed the gross holdings of foreign portfolio assets by residents. This can be explained by the relative attractiveness for foreign investors, in particular those from outside the EU, of corporate and government bonds, as safe investment instruments, but also to a lesser extent of private equity. In Luxembourg, given its position as international financial centre, the net portfolio investment position stood at a staggering -600 per cent of GDP in 2011 (*i.e.* as net debtor). For other countries, these positions are much more moderate.

The net creditor positions in 'other investment' vary significantly. ([10]) Alongside Luxembourg, with a net stock of 'other investment' of close to 8 times its annual GDP, it is in particular Germany and Austria, which have accumulated substantial net positions. For other surplus countries, net positions are either small or loans from abroad exceed loans extended to foreigners.

Several surplus countries saw a substantial increase in the net creditor position of their central banks in recent years. Whereas the Belgian and Austrian central banks recorded some deterioration in their external assets in 2002-7, the net external assets of the German, Dutch and Finnish central banks remained broadly stable until financial market tensions in the euro area started to intensify. In the meantime, the external creditor position of the central banks of the euro area surplus countries increased significantly during the subsequent years, with the German, Dutch, Luxembourgish and Finnish central banks recording the largest increases. The improvement was driven by the rapid expansion of intra-Eurosystem claims (the so-called TARGET2 balances) of these central banks (see Box 2.1).

The net external assets of financial corporates have declined considerably in recent years, alonside increases in net external assets of central banks. This reshuffling in the sectorial composition of NIIPs results from the fact that transfers of central bank deposits into these countries and the associated increases in their TARGET2 claims were mainly related to deleveraging by local banking sectors from other parts of the euro area (Germany, Luxembourg) or increasing inflows of foreign funding into local financial sectors (Netherlands, Finland). Moreover, a significant deterioration in the NIIP of the general government sector in AAA-rated Germany and Finland indicates that some central bank deposit inflows and the related increase in TARGET2 claims might also be related to the acquisition of German and Finnish government

([9]) These figures might give a somewhat distorted picture for countries like Luxembourg or the Netherlands, where an important part of direct investments takes place because of tax optimisation strategies of multinational companies through so-called special purpose vehicles (SPVs). This is also apparent in the very high stocks of inward and outward investment, which is largely composed of inter-company loans and/or undistributed (and reinvested) profits. The influence of such transaction also extends to to the portfolio and other investment categories.

([10]) 'Other investment' mainly consists of cross-border loans (to a large part inter-bank and intra-bank loans) but also comprise offical loans and intra-Eurosystem balances.

Box 2.1: TARGET 2 balances and external funding flows

One of the basic tasks carried out by the European System of Central Banks (ESCB) shall be "to promote the smooth operation of payment systems." ([1]) To this end, the Trans-European Automated Real-time Gross settlement Express Transfer system (TARGET) for the settlement of large-value payments in euro became operational on 4 January 1999, just after the introduction of euro. The first-generation TARGET system was built by linking together the different existing national structures and defining the minimum set of harmonised features. Between November 2007 and May 2008, the second generation of the system (TARGET2) was progressively introduced. It replaced the decentralised structure of the first generation by the "Single Shared Platform" (SSP) which is jointly provided and operated on behalf of the Eurosystem by the Italian, French and German central banks. TARGET2 offered new liquidity management features making it possible for multinational banks to further consolidate their internal processes by grouping their accounts and thus pooling the available intraday liquidity for the whole banking group.

Apart from the settlement of Eurosystem central bank operations, the TARGET2 system enables commercial banks to settle payment transactions in central bank money by crediting/debiting their current accounts at the respective national central banks. At the same time, cross-border transfers of central bank deposits through the TARGET2 system also generate counter-balancing credit claims (intra-Eurosystem balances) between each national central bank and the ECB, which are automatically aggregated and netted out at the end of each day, and result in a single net bilateral position. If a national central bank is a net claimant from these transfers, the claim appears as an asset on the ECB on its own balance sheet under the entry "Intra-Eurosystem claims" and vice versa. Accumulated net claims or liabilities resulting from cross-border TARGET2 payments (TARGET2 balances) are included in the monetary authority's contribution to the international investment position of a given country whereas their (transactional) changes are recorded in the balance of payments, in the category "other investments: loans/currency and deposits."

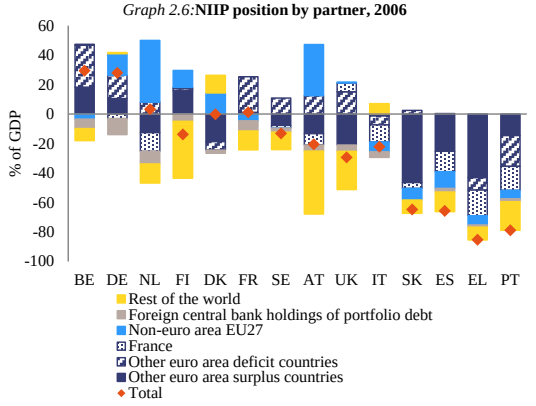
([1]) Article 127 of the Treaty on the Function of the European Union (TFEU).

bonds by non-residents, as an illustration of a flight to safety.

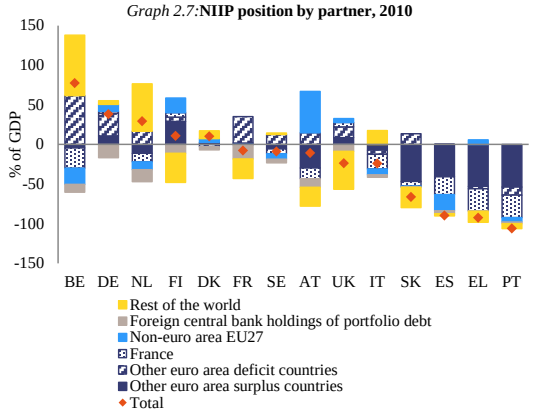
Increasing intra-Eurosystem claims of surplus euro area countries thus partially reflect capital flight to these countries. As a response to intensified financial market tensions in the euro area, the Eurosystem expanded its liquidity support to the local banking sector by offering full-allotment under its refinancing operations and by gradually broadening the range of eligible collateral. Consequently, the Eurosystem's euro-denominated lending to euro area credit institutions related to monetary policy increased from less than EUR 500 billion in summer 2007 to above EUR 1.2 trillion in summer 2012. Increased central bank liquidity allowed banking sectors in the crisis-hit countries to repay their external liabilities (foreign capital flight) or to acquire foreign assets (domestic capital flight). Central bank deposits and the related TARGET2 claims have been accumulated by the euro area surplus countries which acquired substantial foreign assets in the run-up to the crisis and are at the same time viewed as safe havens due to their strong external position. As the ECB is a direct counter-party to the TARGET2 positions of national central banks, Eurosystem refinancing allowed the surplus countries to partly substitute their exposure to some fragile foreign financial markets with a claim on the ECB; the exposure of the large-surplus economies to the vulnerable euro area economies has, therefore, been to some extent mutualised among all euro area countries.

The holdings of assets originating from other euro area countries form an important part of the NIIP of the surplus countries, though their relative importance varies. The geographical pattern of financial interlinkages involving surplus countries will be analysed in greater detail in the next chapter of this report. For the sake of the discussion of valuation effects in the next section, it is nevertheless useful to briefly look at the split of the NIIP of surplus countries by region. Moreover, these holdings further increased since the onset of the crisis due to deficit countries reducing their holdings of debt securities issued in surplus countries. Similarly, net positions vis-à-vis the rest of the world have grown in most cases, in particular in Belgium and the Netherlands. An inspection of the geographical composition of the NIIP also highlights the role of some of the surplus countries as financial intermediaries between different regions. This is particularly the case for Luxembourg and the Netherlands.

Graph 2.6: **NIIP position by partner, 2006**



Graph 2.7: **NIIP position by partner, 2010**



Source: Own calculations based on BIS, Eurostat, IMF, OECD and national sources.

Notes: Euro area surplus: AT, BE, DE, DK, FI, LU, NL, SE. Euro area deficit: excludes FR.

2.2. RETURNS ON FOREIGN INVESTMENT

A key empirical question in assessing the optimality of large surpluses is whether the financial investments abroad of the surplus economies actually deliver the expected returns. On the one hand, foreign assets generate a stream of income payments such as interest or dividends. Similarly, foreign liabilities require income payments to their holders abroad. These income flows, measured as a share of the stock of outstanding assets or liabilities, show the external *yields*. On the other hand, the value of the net stocks of foreign assets can change through holding gains or losses. Investors are ultimately concerned not only about the yield but also the expected price change for any given asset. In order to see whether net investment abroad was actually vindicated by both yield and price effects *ex-post*, it is thus important to consider the *total returns* on foreign assets and liabilities, including both the income on and price change of net assets. ([11]) It should be noted that the behaviour of returns is important not only for countries with excess savings: differences in total returns on assets and liabilities can genetare large net gains or losses even for countries with balanced external positions but large gross stocks of foreign assets and liabilities.

The net foreign investments of surplus countries displayed very different performance in terms of their returns. In most cases, the spreads between total returns on foreign assets and liabilities were rather modest over the period 2003-10, both for equity as well as debt. However, Austria and Germany recorded non-negligible negative spreads for equity, and Sweden experienced negative spreads for equity as well as debt. This implies that the total returns on investments abroad at best slightly exceeded the returns foreign investors made on investments in the surplus countries. The returns on equity typically slightly exceeded the yields while the reverse was the case for debt. The overall positive valuation effects thus added to the yields on equity, but yields on debt were somewhat reduced by negative valuation effects, particularly in the post-crisis period.

Before the crisis, total returns received on foreign assets and paid on foreign liabilities of surplus economies were considerably higher than external current yields alone. Table 2.3 shows that this was essentially due to high total returns on equity, in turn driven by their soaring

([11]) External current yield derives from dividing receipts or payments on the income balance by the market value of external assets or liabilities as reflected in the NIIP. Abstracting from measurement errors and classification issues, current yield is, therefore, equivalent to the average dividend yield (for equity) or current yield (for debt, *i.e.* coupon payments divided by the market value of debt) on external asset and liability portfolios. Valuation effects reflect price changes, *i.e.* the change in the market value of external asset and liability stocks beyond financial transactions (*i.e.*, financial account transactions). Total returns combine the two concepts and, therefore, measure the realized return from purchasing an asset at the beginning, and selling it at the end of a period. The notions of implied external current yield, valuation effects and total return in this report thus conceptually conform to their equivalents in bond and stockmarket indices.

prices. Moreover, the spreads between total returns on equity assets and liabilities were wider and in many cases negative: the prices of shares of domestic companies owned by foreigners or the value of direct investment in the domestic economy were increasing faster than similar investments by domestic residents abroad. After the crisis, the fall in returns can be attributed mainly to declining equity valuations, while yields remained stable. ([12]) The spreads in current external yields were small, though generally positive before the crisis, as the remuneration rates varied relatively little across countries and across instruments. As expected, yields on equity assets and liabilities were typically higher and more volatile than those on debt instruments.

Overall, the crisis brought a collapse in total returns on equity. This was particularly pronounced for the assets of Austria and Sweden**.** As the steep declines hit both stock markets and companies' foreign affiliates without exception, total returns on foreign equity assets and liabilities were both affected to a similar extent and the resulting spreads did not change fundamentally in magnitude. Still, total returns on equity experienced sign changes, indicating a reversal of fortune in the prices of foreign equity assets versus liabilities. Debt instruments, which typically account for a higher portion of gross external assets and liabilities, likewise experienced a strong decline in total returns. In most cases, this impact extended to foreign liabilities. The notable exception was Germany, whose total return on external debt liabilities held up, while sustaining low returns on assets. The difference between yields and total returns points to the importance of adverse valuation effects in the crisis period, in particulary for Germany, as discussed below.

Table 2.2:
External current yields

	Equity			Debt		
	Assets	Liabilities	Spread	Assets	Liabilities	Spread
Average 2003-2006						
BE	4.2	5.0	-0.7	3.4	3.4	0.0
DK	6.3	6.2	0.1	3.9	3.4	0.5
DE	5.0	4.5	0.5	3.8	3.6	0.2
LU	3.1	3.7	-0.5	3.0	1.9	1.1
NL	5.8	4.7	1.1	3.3	3.4	-0.1
AT	6.0	6.8	-0.8	3.9	3.7	0.2
FI	6.3	5.2	1.1	3.6	3.6	0.0
SE	8.1	6.6	1.5	3.8	3.8	0.0
Average 2007-2010						
BE	3.8	4.8	-1.0	3.6	3.2	0.3
DK	6.6	5.5	1.1	3.8	3.1	0.7
DE	5.1	4.9	0.2	3.7	3.2	0.5
LU	2.9	3.5	-0.6	2.9	2.1	0.8
NL	4.5	4.7	-0.2	3.2	3.4	-0.2
AT	4.7	3.8	0.9	3.7	3.8	-0.1
FI	n.a.	n.a.	n.a.	3.0	3.2	-0.2
SE	8.2	6.5	1.7	3.7	3.4	0.3
Average 2003-2010						
BE	4.0	4.9	-0.9	3.5	3.3	0.2
DK	6.4	5.9	0.6	3.9	3.3	0.6
DE	5.0	4.7	0.3	3.8	3.4	0.3
LU	3.0	3.6	-0.6	3.0	2.0	1.0
NL	5.2	4.7	0.5	3.3	3.4	-0.1
AT	5.4	5.3	0.1	3.8	3.7	0.0
FI	n.a.	n.a.	n.a.	3.3	3.4	-0.1
SE	8.1	6.6	1.6	3.7	3.6	0.1

Source: Commission services calculations.

Table 2.3:
Total returns on equity and debt

	Equity			Debt		
	Assets	Liabilities	Spread	Assets	Liabilities	Spread
Average 2003-2006						
BE	8.6	12.1	-3.5	3.8	3.8	0.0
DK	13.8	15.6	-1.8	2.4	3.7	-1.3
DE	9.9	11.6	-1.7	3.4	2.4	1.0
LU	11.2	9.4	1.8	5.2	4.2	0.9
NL	11.0	10.6	0.4	3.0	2.8	0.2
AT	14.0	21.0	-7.0	3.4	2.9	0.6
FI	12.9	10.8	2.1	3.6	2.4	1.2
SE	13.2	19.9	-6.7	8.0	7.8	0.2
Average 2007-2010						
BE	3.0	-0.7	3.6	3.9	4.2	-0.3
DK	2.7	0.1	2.6	0.5	0.5	-0.1
DE	-1.2	0.9	-2.1	0.6	1.5	-1.0
LU	-2.0	0.2	-2.1	0.8	-0.2	1.0
NL	0.8	-0.7	1.5	1.7	2.4	-0.7
AT	1.4	3.1	-1.6	3.8	3.8	0.0
FI	n.a.	n.a.	n.a.	-1.8	-2.4	0.5
SE	3.1	0.8	2.3	-3.5	-0.7	-2.8
Average 2003-2010						
BE	5.7	5.5	0.2	3.9	4.0	-0.1
DK	8.1	7.6	0.5	1.4	2.1	-0.7
DE	4.2	6.1	-1.9	2.0	2.0	0.0
LU	4.4	4.7	-0.3	3.0	2.0	1.0
NL	5.7	4.8	1.0	2.4	2.6	-0.2
AT	7.5	11.7	-4.1	3.6	3.3	0.3
FI	n.a.	n.a.	n.a.	0.9	0.0	0.9
SE	8.0	9.9	-1.9	2.1	3.5	-1.4

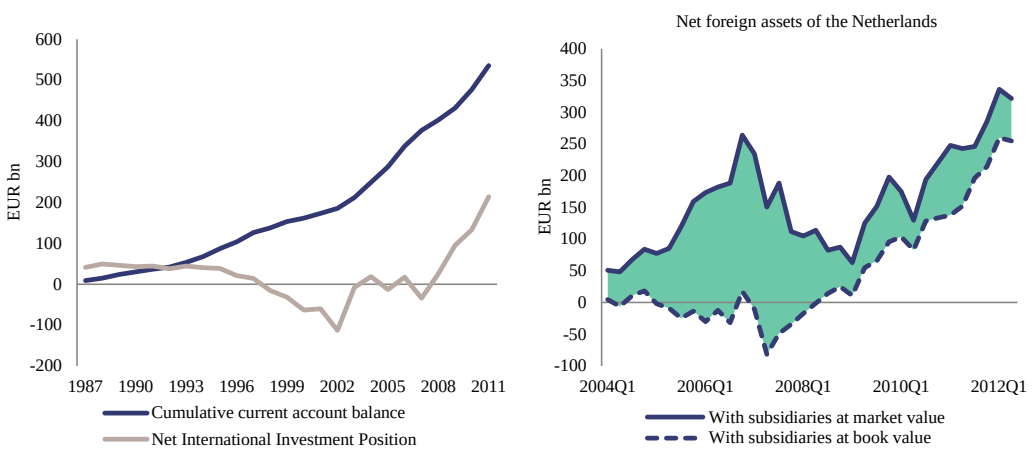
Source: Commission services calculations.

([12]) Note that the computation of yields on FDI also includes reinvested earnings and undistributed profits, which are accounted for as paid-out dividends that are immediately reinvested. The common yield on FDI may thus differ from some definitions of dividend yield. However, this also means that the decisions of firms whether to retain profits or pay out dividends does not effect the calculated external yields and valuation effects.

Box 2.2: Sizeable valuation losses in the Netherlands

The NIIP of the Netherlands has been subject to significant negative valuation effects which have contributed to dampening the effect of the current account surpluses, especially during the pre-crisis period (Graph 1). This can be explained by a number of factors. *First*, part of the explanation comes from the steady appreciation of the guilder and, subsequently, the euro. *Second*, another economic cause lies in the fact that foreign direct investors in the Netherlands have outperformed Dutch direct investors abroad, causing foreign holdings in the Netherlands to have risen more sharply in value. Also, Dutch foreign assets have tended to be largely in debt and FDI whereas Dutch liabilities vis-à-vis foreigners have been more heavily directed towards portfolio equities (with higher returns). These 'performance' and 'composition' effects presumably played an important role in the 1990s. And, finally, apart from exchange rate and price effects, one of the main other economic factors that influence the net external position of the Netherlands concerns write-offs on paid goodwill (reflecting lower than expected future profits of the company that has been taken over), leading to a lower value of direct investment.

*Graph 1:***The cumulative current account balance of the Netherlands and the net external position, in billions of euro (1987 – 2011) and statistical distortion of net external assets (2004 – 2011)**



Source: De Nederlandsche Bank (DNB)

In addition, statistical factors related to the way in which holdings are valued play a role. Although the balance of payments best practice guidelines recommend the recording of assets and liabilities at market value as often as possible, most countries value them at 'book value' in view of practical difficulties associated with determining a market price. However, when the acquired assets are sold and the associated market value is revealed, potential accounting-related book profits or losses may arise. Since foreign subsidiaries are recorded at book value (the value entered in the books of the Dutch parent company), whereas the stocks that foreign investors hold in Dutch stock-market-listed companies are rated against market value (the value recorded at the end of the year), an increase in stock prices will lead to an increase of foreign liabilities, whereas the book value of foreign participations does not change, even if their market value increases, and, by consequence, the net external position is underestimated. Graph 1 (right) illustrates that these underestimations can be very significant. In the period 2004-2009, the difference was often higher than EUR 100 billion, sometimes twice this amount. Stock market conditions played an important role in this respect: the more optimistic the investors, the greater the price effect, i.e. the greater the gap between market and book value. A second source of statistical errors and omissions concerns the phenomenon of 'capital evaporation', due to misreporting or underreporting of income. Specifically, foreign affiliates of a parent (typically a multinational corporation) may have reinvested their earnings without either reporting these earnings as a payment of foreign investment income to the parent or reporting the investment as new FDI by the parent. In other words, the earnings reported by a foreign affiliate need bear no relation to the true financial contributions made by the affiliate to the parent. Through transfer pricing and other mechanisms, profits and earnings can be shifted among the parent and the affiliates almost at will, in response to tax or regulatory incentives; because market-based benchmarks for determining arms-length prices are often lacking, transactions (and the recording in the balance of payment) may be distorted. Finally, as the net IIP is estimated on the basis of sample surveys, sampling errors may play a role. Corrections therein or a change in the sample employed can equally have an impact on the recorded external wealth of a particular country.

2.3. VALUATION EFFECTS

The differences betwen total returns and current yields were due to sizeable valuation changes. While the NIIP reflects accumulation of external deficits or surpluses, ([13]) its evolution depends also on valuation effects. ([14]) That is, if a country experiences large valuation gains on its holdings, its NIIP would improve even if it has a current account deficit. A good example of the importance of valuation effect is the evolution of the NIIP of the U.S., which has been only moderately negative despite persistent current account deficits. ([15])

The NIIP of surplus countries were affected by valuation effects to a different extent in the pre-crisis period. ([16]) This followed *inter alia* from the differences in the overall size of gross foreign assets and liabilities, their composition in terms of instruments and their geographical structure. While the net foreign asset positions of Luxembourg and Finland improved beyond what the cumulated financial flows would imply, others suffered smaller or larger valuation losses. In percent of GDP, the largest valuation changes occurred in Sweden, the Netherlands, Belgium and Denmark. In Germany, the cumulated valuation effects were marginal. In the case of Luxembourg, Belgium and the Netherlands, the extent of valuation gains/losses was influenced to an important degree by the very large gross positions of these countries, particularly with regard to portfolio investment. As a consequence, even limited price changes induced large valuation effects. Finland's external position, on the other hand, crucially depends on the performance of Nokia shares. As these are widely owned by foreign investors, the portfolio investment liabilities of Finland move in line with shifts in price of Nokia shares. The NIIP of Finland worsened dramatically in late 1990s as a result of the rising value of Nokia's stock, which increased foreign portfolio liabilies. Conversely, drops in share prices reduce the value of foreign portfolio liabilities and lead to improvements in the overall NIIP.

The crisis has had a sizeable impact on the external positions of some of the surplus countries through valuation effects (Graph 2.8). Some countries sustained considerable losses. Net debt valuation effects were partly due to the 'other investment' component, which mainly comprises inter- and intra-bank loans. But the main impact has been due to losses on portfolio investment (*i.e.* bonds, bills, and equity stocks).

German holding losses from the second half of 2007 through to 2011 were by far the largest in the EU. Until the start of the crisis, the current account surpluses roughly translated into one-to-one improvements in the German net external position. In 2011 however, German NIIP was EUR 550 billion (over 20 percent of German GDP in 2011), lower than what cumulated surpluses since 2007 would imply. ([17]) The magnitude of German

([13]) Technically, in the absence of valuation effects, NIIP changes would reflect the financial account balance, which is very close to the current account balance for developed economies. Due to their conceptual quasi-equivalence, this section uses both balances interchangeably.

([14]) The value of the outstanding stocks of foreign assets and liabilities can change because of exchange rate movements or changes in the prices of the financial assets or liabilities. Moreover, write-downs or write-offs of assets, for example in the case of default of the debtor, can affect the value of overall stock.

([15]) This phenomenon is sometimes referred to as 'dark matter.' A contrasting case is that of the Netherlands, displaying a negative NIIP for an extended period of time despite accumulation of large current account surpluses – this phenomenon is often dubbed as the 'Dutch black hole.' Such persistent valuation effects are relatively rare and dominated by unpredictable valuation changes (Gourinchas, 2008).

([16]) It should be noted that the computations of valuation effects can be affected by errors and omissions, which can be rather sizeable in some countries. The computations in this report are based on financial account balances, which means that, to the extent errors and omissions come from the compilation of the financial account, valuation effects might be overstated.

([17]) These figures refer to data as of September 2012. German valuation losses over this period are composed as follows: EUR 393 bn on assets (FDI, PI and OI) and EUR 165 bn on financial derivatives. These losses have been compounded by valuation increases of EUR 105 bn in liabilities owed to non-residents (FDI, PI and OI), and mitigated by valuation gains of EUR 95 bn on central bank reserves. Net errors and omissions imply that aggregate valuation losses would be EUR 75 bn lower when computed on the basis of current account rather than financial account balances. Note, however, that data revisions in November 2012 point to total accumulated valuation losses of EUR 650 bn rather than the EUR 566 bn shown in this report. Such strong statistical discrepancies pose difficulties to computing exact figures, but do not change the magnitude of German valuation losses.

Table 2.4:

Average valuation effects per annum, % of GDP

		2000-2004			2005-2006			2007-2010		
		Equity	Debt	IIP	Equity	Debt	IIP	Equity	Debt	IIP
Assets	AT	-0.9	1.3	0.2	6.1	-0.3	6.3	-0.8	0.4	0.3
	BE	.	.	.	9.3	1.2	9.2	5.1	0.2	5.8
	DE	.	.	.	2.9	1.5	4.8	-1.9	-1.0	-2.3
	DK	-4.0	-0.6	-3.4	4.6	-0.5	5.0	0.3	-0.3	0.9
	FI	-2.6	-0.1	-2.6	5.5	0.3	5.7	-0.3	1.8	2.2
	NL	-2.7	-2.8	15.7	6.9	2.9	32.0	-2.0	-1.2	28.5
	SE	-4.5	-0.9	6.9	7.6	4.7	20.2	0.7	-2.5	18.1
	LU	.	.	.	331.6	140.8	478.3	-29.3	24.1	4.7
Liabilities	AT	-0.1	-1.4	.	9.5	0.2	.	-0.1	2.0	.
	BE	.	.	.	8.5	2.2	9.6	-6.7	-0.5	.
	DE	.	.	.	3.5	-1.4	2.5	-1.2	1.3	1.4
	DK	-1.5	0.4	-1.1	5.4	-0.6	4.9	-0.9	-0.2	-1.1
	FI	-23.1	-0.8	-24.1	10.9	0.6	10.9	-6.3	1.6	-5.0
	NL	-4.9	-1.3	16.7	13.8	3.6	40.0	-8.2	3.0	26.2
	SE	-4.3	1.6	10.2	9.9	5.6	23.3	1.3	-0.6	19.5
	LU	.	.	.	349.2	128.1	.	31.5	-15.6	.
Net	AT	-0.9	2.7	1.5	-3.3	-0.4	-3.5	-0.7	-1.7	-1.6
	BE	.	.	.	0.8	-1.1	-0.4	11.8	0.7	13.4
	DE	.	.	-0.5	-0.6	2.9	2.4	-0.7	-2.3	-3.7
	DK	-2.5	-0.9	-2.3	-0.8	0.1	0.2	1.2	-0.1	2.0
	FI	20.5	0.8	21.5	-5.4	-0.3	-5.2	6.0	0.2	7.3
	NL	2.2	-1.5	-1.1	-6.8	-0.7	-8.0	6.3	-4.2	2.3
	SE	-0.2	-2.5	-3.3	-2.3	-1.0	-3.1	-0.6	-1.9	-1.4
	LU	.	.	.	-17.6	12.6	9.2	-60.8	39.7	-8.3

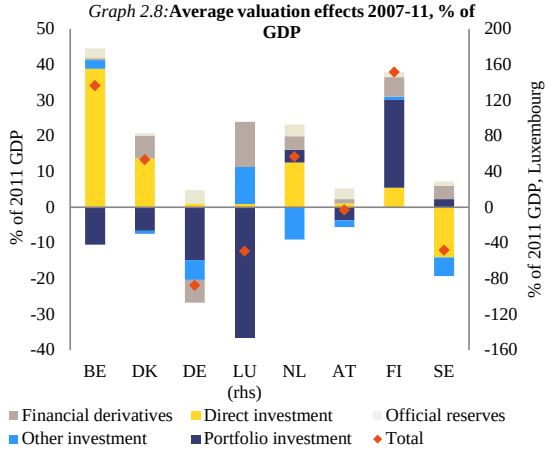
Source: Commission services calculations, based on Eurostat, IMF.

net valuation losses since 2007 thus roughly corresponds to the annual GDP of a mid-sized economy like Belgium. The largest part of these losses had already been realised in 2007-8, as a result of the implosion of the US subprime mortgage debt market. Graph 2.11 shows that euro area financial institutions were by far the largest international holders of asset-backed commercial paper and also sustained the largest losses. Germany was among the hardest hit due to its very high holdings of these securities. ([18])

In contrast, the valuation changes improved the net external position in Finland, Belgium, the Netherlands and Denmark. In some cases, however, this improvement in the NIIP was driven by relatively larger declines in the value of liabilities owed to foreigners, in particular equity. Such dynamics help to absorb shocks to the domestic economy through sharing the costs with foreigners. The implications for domestic consumption and investment are not clear though as the value of foreign assets stagnated or in some cases even declined. The distribution of holdings of foreign assets and liabilities also plays a role in this respect. For example, the decline in Nokia stock will not benefit Finnish households at large, which nonetheless can be exposed to the declines in value of foreign equity or debt securities held by domestic investment funds.

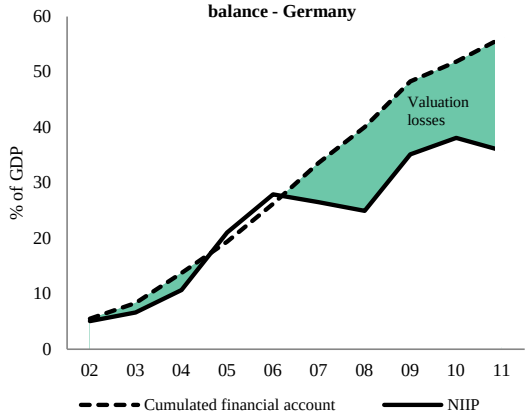
([18]) Committee on International Economic Policy and Reform (2012)

Graph 2.8: **Average valuation effects 2007-11, % of GDP**



Source: Eurostat.

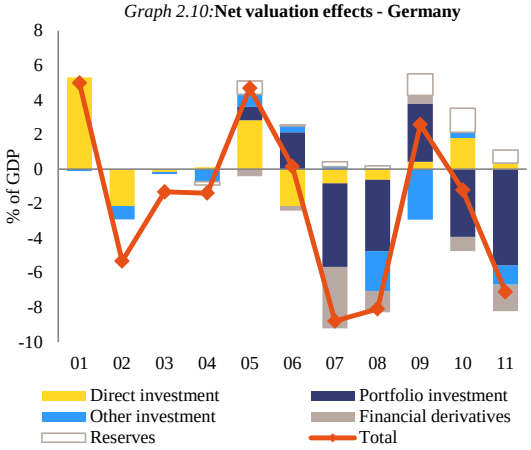
Graph 2.9: **NIIP vs cumulated financial account balance - Germany**



Source: Eurostat

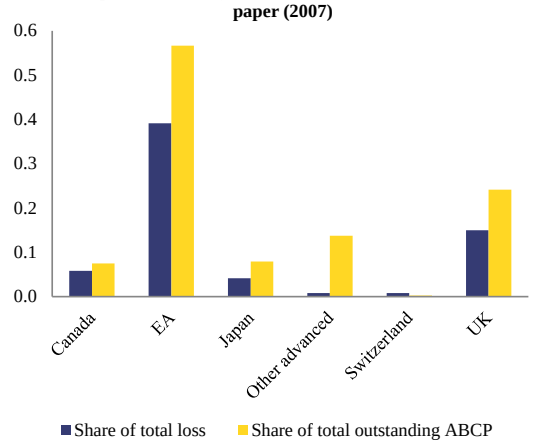
Estimates indicate that the recent adverse valuation effects in surplus countries mainly stemmed from the core euro area, the UK, and non-EU economies. For Germany, net valuation losses in the US were particularly large, which points again to the high past exposure of German banks in US securities. In contrast, surplus countries do not seem to have suffered much from net valuation losses on their holdings in the largest deficit countries. ([19]) Estimates indicate that France instead bore the brunt of valuation declines in peripheral countries' assets. ([20])

Graph 2.10: **Net valuation effects - Germany**



Source: Eurostat.

Graph 2.11: **Holdings of U.S. Asset-backed commercial paper (2007)**

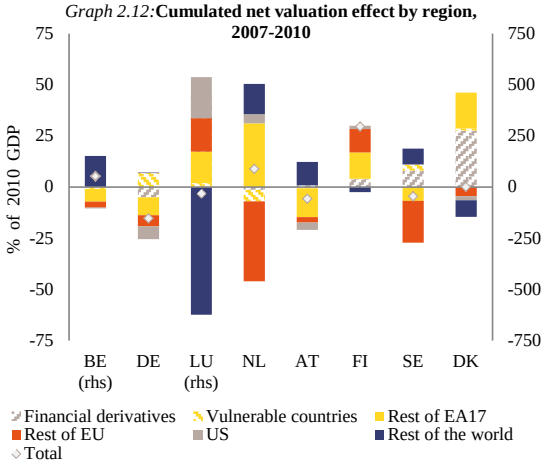


Source: Committee on International Economic Policy and Reform (2012), based on Gourinchas, Rey and Truempler (2012).

([19]) Note however that the restructuring of the Greek sovereign debt at the beginning of 2012 is not yet reflected in the data discussed in the report.

([20]) The estimates are based on a methodology similar to Gourinchas, Rey and Truempler (2012), drawing on bilateral IIP data presented in the next chapter. Note, however, that these valuation effect estimates need to be taken with a grain of salt: In particular Belgium, Luxembourg and the Netherlands seem affected by large swings in equity valuation effects, which come from the the importance of direct investment in special financing vehicles in these countries.

Graph 2.12: **Cumulated net valuation effect by region, 2007-2010**



Source: Commission services calculations (for further details see Box 3.1).

From the macroeconomic surveillance perspective, it is relevant that valuation changes in the EU do not seem to be persistent. The direction of the valuation effects has been changing in most of the surplus countries over the past decade: for the group as a whole, the autocorrelation coefficient for the series of annual valuation effects is insignificant at all lags. ([21]) In this direction, Habib (2010) concluded that there does not seem to be a systematic drift in external positions associated with valuation effects in the euro area countries. Valuation effects, therefore, do not seem to persistently mitigate the impact of current account balances in euro area economies.

2.4. MAIN CONCLUSIONS AND POLICY IMPLICATIONS

The accumulation of current account surpluses leads to an accumulation of net external assets. However, as for the current account, the surplus countries form a rather heterogeneous group. While some of them have large stocks of net foreign assets, others feature very mild or even negative NIIP. This reflects their respective histories of surpluses, but also other features. The external assets and liabilities positions of several of them are driven by very specific idiosyncratic features. In the case of Luxembourg it is its role as an international financial intermediation centre, while the Netherlands, and to some extent also Belgium, attract FDI inflows from large multinational corporations. Finland's external position has been largely driven by changes in the valuation of Nokia's stock, which is widely held by foreign investors.

The analysis of the returns on foreign investments in this chapter has produced several findings:

- Recent experience in surplus countries illustrates a central point: valuation effects can chip away large parts of domestic savings which were invested in foreign assets. In particular, the German loss of EUR 550 billion since 2007, mainly outside the EU, illustrates these risks. The large and mostly permanent losses on net holdings of foreign assets suffered by some of the surplus countries translate into lower wealth for their residents and correspondingly lower current or future consumption. This suggests that an increase in their domestic demand and a reduction in their current account surpluses could have been dynamically efficient.

- The same conclusion can be reached when analysing investment-related earnings. Since the crisis hit, yields on net external assets have suffered significantly, though this effect was different from one country to another.

- In recent years, there has been a substantial reshuffling in the asset portfolios of the surplus countries, with the net external assets of financial corporates declining considerably, while the NIIPs of national central banks improved considerably as the Eurosystem partially mutualised the exposure of the large-surplus countries to the euro area periphery.

This by no means questions the role of cross-border financial flows in improving the allocation of resources to maximise the productive use of capital or in achieving better international risk-sharing. It does, nevertheless, underline the fact that cross-border investment of savings bears risks that can be magnified by weaknesses in financial market supervision. It is important to ensure that savers and investors make decisions on the basis of properly risk-adjusted returns on investment and that appropriate macro-prudential supervision is in place to prevent

([21]) Also in the case of the Netherlands, the positive valuation effects made up for the losses accumulated in 2000-06.

excessive concentration of risks in specific sectors. Consequently, an answer to this challenge rests in creating appropriate conditions for financial markets to efficiently allocate the available resources, and avoid booms and busts that are driven by inappropriate expectations and excessive risk-taking.

3. INTERLINKAGES WITHIN THE EURO AREA

This chapter analyses the nature and strength of trade and financial interlinkages within the euro area and the EU. The analysis of trade linkages is based on bilateral trade flows among the EU countries, in particular trade between the countries with current account surpluses and those with deficits. The analysis of financial linkages is based on a newly constructed dataset of bilateral flows, which allows differentiation between debt and equity flows, and gives a better understanding of the intermediation role some countries play in channelling savings to investments in other countries.

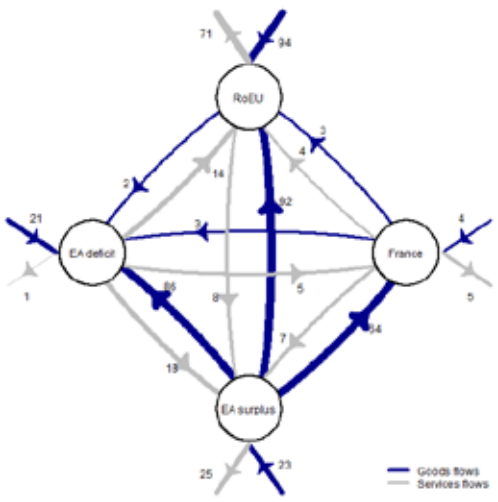
The available data demonstrate the close trade and financial links between the surplus and deficit countries in the EU. The analysis shows that trade and financial links are of critical relevance in transmitting imbalances among countries. That is, changes in demand in one country have repercussions on the demand, and hence economic activity, of other countries, while exogenous changes in financial markets in one country also have an impact on investment and consumption in other countries. Increasing current account surpluses in some countries imply financial flows to other countries, which may cause excessive credit growth and increase in asset prices.

3.1. TRADE INTERLINKAGES IN THE EURO AREA

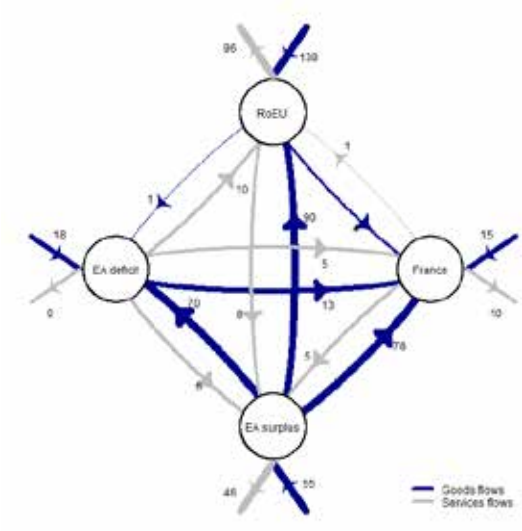
Trade flows in the euro area have accelerated since early 2000s, reflecting both global trends and economic integration in the EU. The sum of total exports and imports in the euro area countries increased from 73 per cent of GDP in 2000 to 81 per cent in 2007 and to almost 89 per cent in 2012. The share of intra-euro area trade has also increased rapidly and total exports and imports of goods within the euro area grew from 41 per cent to 45 per cent of GDP between 2000 and 2012.

A closer look at trade in goods provides several insights. *First*, trade deficits (and more generally, current account deficits) are the result of bilateral trade deficits with both the surplus countries and the rest of the world (Graphs 3.1 a and b). *Second*, surpluses are mainly a result of trade with the deficit countries and with the rest of EU. Bilateral surpluses with the euro area periphery account roughly for one-third of the overall net exports of goods in the surplus countries. *Third*, the surplus countries are the main trading partner for the euro area deficit countries, but the reverse does not apply. This asymmetry has implications for the rebalancing in the euro area: trade spillovers to the euro area periphery, from an increase in demand in the surplus countries, are relatively limited because the positive effect of an increase in imports of the

Graph 3.1a: **Net goods and services flows, before crisis (average 2004-2006, EUR bn)**



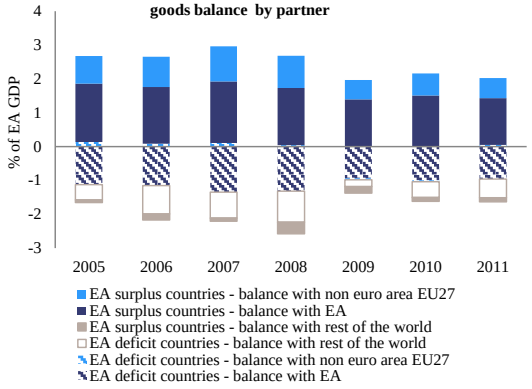
Graph 3.1b: **Net goods and services flows, after crisis (average 2009-2010, EUR bn)**



Source: Commission services calculations.

surplus countries is spread across a number of other countries. *Fourth*, the pattern of trade has remained rather stable in the wake of the crisis. The main direction, as well as relative strength, of goods flows remains very similar, both in terms of gross and net flows. ([22])

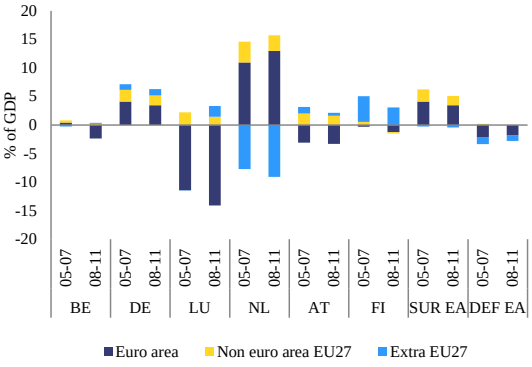
Graph 3.2: **EA surplus and deficit countries, goods balance by partner**



Note: deficit countries stands for non-surplus euro area Member States (*i.e.* IE, EL, ES, FR, IT, PT, CY, MT, SI, SK, EE).

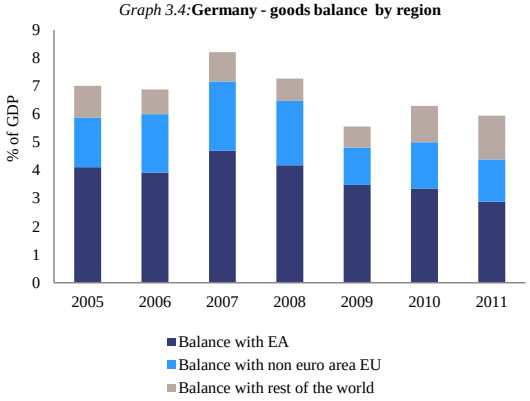
Source: Eurostat and national sources.

Graph 3.3: **Goods balance by region**



Source: Eurostat, Commission services.

Graph 3.4: **Germany - goods balance by region**



Source: Deutsche Bundesbank.

There are, however, significant differences among the surplus countries, reflecting their specific geographic positions or trading and financial relationships. For example, the Netherlands records substantial trade deficits with non-EU countries, which are more than compensated for by surpluses with the EU. This is largely due to the role of Rotterdam as an entry point for a large share of goods heading towards other countries. Germany, on the other hand, posts surpluses with all these country groupings, with around half of its surplus with the euro area and the rest evenly split between non-euro area and non-EU economies. ([23]) Although trade patterns are broadly stable, the geographical composition of surpluses changes over time. For example, Germany's merchandise trade surplus vis-à-vis the rest of the euro area increased significantly in the years preceding the crisis, but it has almost halved since 2007. The surplus vis-à-vis the rest of the EU, which had increased very rapidly following the 2004 enlargement, has also decreased in the last few years. In contrast, the surplus vis-à-vis the rest of the world had developed more moderately before the crisis, but has increased significantly

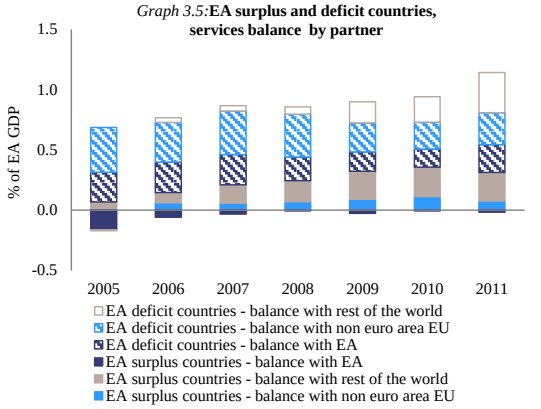
([22]) The flowcharts in this chapter show the trade and financial flows among several regions in the EU, and with the rest of the world (the outside arrows). The direction of arrows shows the direction of the gross flows or the net balance. The regions include the euro area surplus countries discussed in this report (*EA surplus*), the euro area peripheral countries including Greece, Italy, Ireland, Portugal and Spain (*EA deficit*), the remaining EU countries, including new Member States which joined the EU since 2004 (*RoEU*), and *France*, which is considered separately because it is an important intermediator of financial flows to the periphery and has been both a surplus and deficit country during the last decade.

([23]) Note that trade statistics by partner country differ according to their source; In particular, Eurostat figures are based on the "community concept" (which, for instance, attributes imports to the country of origin), while national sources may use the "national concept", which may attribute imports instead to the country of consignment, or disregard "goods in transit". The arising statistical discrepancies are frequently referred to as "Rotterdam effect". These discrepancies are quite important for individual surplus countries. However, when considering surplus countries as an aggregate, the differences between bilateral balances from the national and community concept are fairly small.

since 2007 and represented around one-third of the German surplus in 2011.

Trade in services follows a geographical pattern that is very different from merchandise trade. *First*, surplus economies have deficits with their euro area partners, surpluses with the non-euro area countries and even larger and increasing ones with the rest of the world. *Second*, deficit countries have surpluses with all their partners in the EU, and increasingly also outside Europe. In fact, the strongly increasing surpluses in services with the rest of the world compensated for the weakening net exports of services to the EU. In many cases, the strong performance is due to tourism, but other services are also increasingly relevant. *Third*, although the services trade is still much smaller than goods trade, the services have helped the deficits countries to mitigate the impact of goods trade and primary income deficits.

Graph 3.5: **EA surplus and deficit countries, services balance by partner**



Note: deficit countries stands for non-surplus euro area Member States (*i.e.* IE, EL, ES, FR, IT, PT, CY, MT, SI, SK, EE).

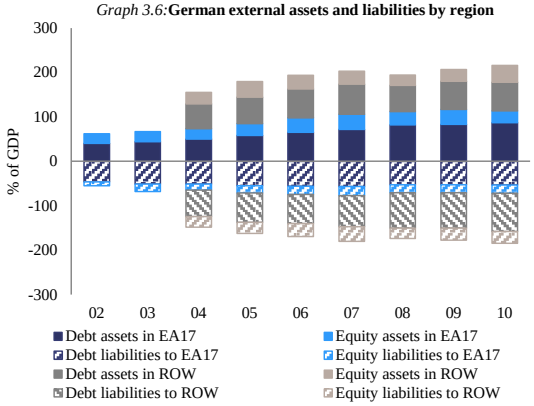
Due to reporting asymmetries, the balance of bilateral surpluses and deficits inside the euro area does not sum up to zero. It is reasonable to expect that the data reported for deficit countries better reflects the reality. This is particularly because their trade mostly consists of traditional services such as tourism, while for surplus countries financial services, which are more difficult to trace geographically, play a larger role.

Source: Eurostat.

3.2. FINANCIAL INTERLINKAGES IN THE EURO AREA

While trade linkages have a direct impact on demand, financial linkages operate through their impact on the availability of credit, FDI, asset values and confidence. Like trade flows, cross-border financial flows have expanded rapidly. For example, German overall cross-border asset holdings increased in 2004-7 by over 60 percentage points of GDP, with the increase in holdings of euro area assets accounting for two-thirds of this. Liabilities holdings increased somewhat less: around 40 percentage points of GDP for total liabilities, out of which around one quarter was accounted for by euro area liabilities (Graph 3.6). ([24]) A significant part of these flows was channelled through the banking system (Graph 3.7).

Graph 3.6: **German external assets and liabilities by region**

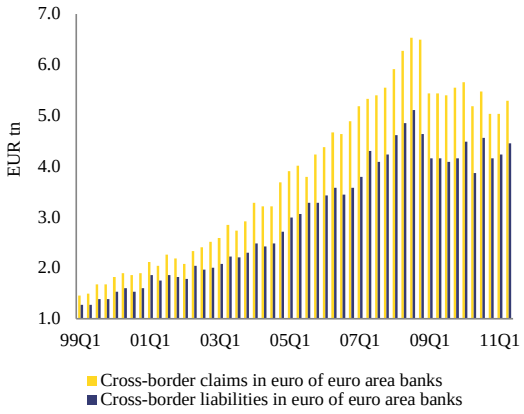


Source: Eurostat and Commission services calculations (for more details check box 3.1).

The period following the establishment of the monetary union saw progressive increases in cross-border financial flows among the euro area (and EU) countries. While the rise in financial flows has been a global phenomenon, the increase was higher in the euro area. This was due to reductions in transaction costs and also increased substitutability between different financial assets, although these effects varied across classes of assets. ([25]) The degree of integration in euro area bond markets was particularly high. While essentially all segments of financial markets experienced this euro bias, cross-border holdings of bonds within euro area were twice as high as with other countries. This phenomenon was also present, albeit somewhat weaker, in equity holdings in the euro area. ([26])

([24]) Intra-euro area holdings of assets and liabilities over the period 2000-7 expanded by a factor of 2.6 and 3.4 respectively.
([25]) Coeurdacier and Martin, 2007, Jappelli and Pagano (2010).
([26]) Lane (2006) and Lane and Milesi-Ferreti (2007).

Graph 3.7: **Cross-border euro-denominated assets and liabilities of euro area banks**

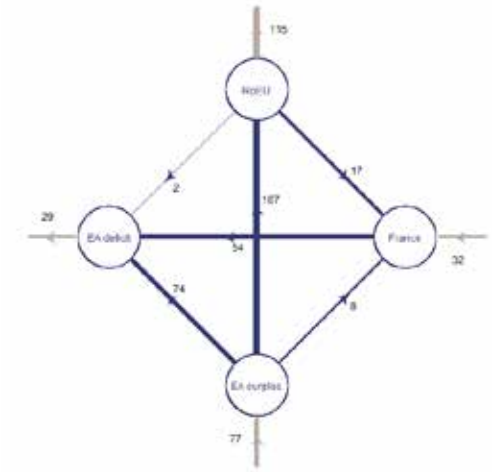


Source: Committee on International Economic Policy and Reform (2012), based on Bank for International Settlements, Locational Banking Statistics, Table 5A.

Bilateral financial flows in the run-up to the crisis

A new dataset of bilateral financial stocks and flows allows an evaluation of the financial linkages between the surplus countries and the rest of the euro area and particularly the deficit countries. The data set covers FDI, portfolio investment and other investment among all EU countries between 2000 and 2010. ([27]) Publicly available balance of payments statistics usually do not contain the geographical split of financial account data. ([28]) Therefore, the dataset used for this analysis was compiled from several sources. The data on bilateral IIP stocks come from the database compiled by Waysand *et al.* (2010), which was updated to cover the period 2002-10. The data on FDI flows come from the OECD database. Flows of portfolio investment and other investment are derived from stock data coming from the CPIS and BIS locational statistics, respectively. The changes in stocks are corrected for valuation effects (for a more detailed description of the methodology underlying the data see Box 3.1). ([29])

Graph 3.8: **Net Financial flows (direct investment, portfolio investment, other investment) - Average 2004-06, EUR bn**



Source: Commission services calculations.

The analysis in this report uses an innovative approach to account for financial flows which are intermediated by other countries. The analysis is complicated by the existence of offshore financial centres and large financial intermediaries, both outside and inside the euro area. For example, the large financial flows with Luxembourg and the UK demonstrate the importance of international financial centres in intermediating capital. Thus, assessing a financial link between two countries solely on the basis of their direct bilateral flows would result in an underestimation of its strength. Therefore, the analysis in the report takes into account indirect flows by employing input-output techniques on the matrices of bilateral financial flows.

As regards intra-euro area flows, a salient feature of the pre-crisis period was the extent of financial flows from the euro area core towards the periphery. Graph 3.8 shows this pattern of financial flows from the surplus countries discussed in this report, and France, to the deficit countries in 2004-6. The surplus countries' net financial flows to the group of deficit countries

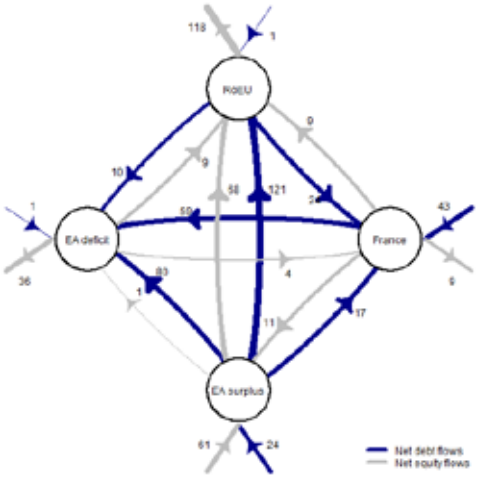
([27]) The data omit flows in financial derivatives (which are rarely reported on a gross basis), and official currency reserves of the Eurosystem. The data set does, however, allocate intra-Eurosystem flows to Member States (see Box 3.1).

([28]) The Eurostat's balance of payments database contains the financial account data split by several partners including the euro area, the EU, rest of the world, and several large economies such as the US, Japan, China or Russia. However, the data is available only for a relatively limited number of Member States.

([29]) It is important to note that the flows of portfolio investment and other investment are derived from data on stocks, and that there is some margin of error around the data, in spite of the care in the construction of the dataset.

amounted to around EUR 75 billion annually, corresponding to two-thirds of the latter's current account balance. In addition, the annual flows of capital from France to the euro area periphery amounted to another ca. EUR 55 billion. These net flows took predominantly the form of debt, mostly inter-bank loans or bonds, while deficit countries recorded modest net outflows of portfolio equity investment to surplus countries (Graph 3.9). ([30])

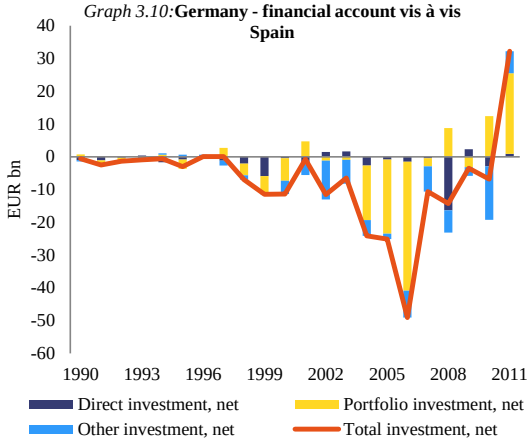
Graph 3.9: **Net Debt (portfolio debt + other investment) and Net equity (portfolio equity + direct investment) flows - Average 2004-06, EUR bn**



Source: Commission services calculations.

The most important bilateral financial relationship in terms of net flows, in the years preceding the crisis, linked Germany and Spain, the two countries with the largest surplus and deficit in nominal terms. ([31]) Also in terms of gross intra-euro area flows, capital exports from Germany to Spain were among the strongest, roughly similar to financial flows from France to Germany. Graph 3.10 shows that also in this case, the bulk of the flows took the form of debt financing. Financing via the short-term inter-bank market played an important role, but Spain stands out among the deficit countries by its large portfolio debt inflows, mostly accounted for by the purchases of Spanish covered bonds (*Cedulas*) issued to finance the expansion in the housing market.

Graph 3.10: **Germany - financial account vis à vis Spain**



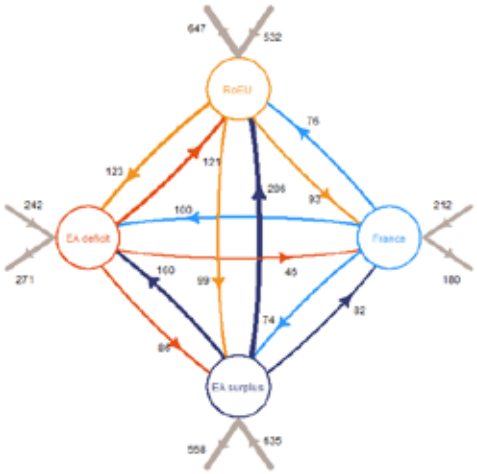
Source: Deutsche Bundesbank.

There has been a strong euro bias in financing current account deficits in the euro area's periphery. Net inflows from the rest of the EU financed a rather small share of the euro area periphery's deficits, while the deficit countries actually were net investors in non-EU countries. The euro area core countries financed the periphery deficits with their own savings, but also intermediated financial flows from the rest of the world. This is particularly apparent from the situation of France, whose financial system received net inflows from the rest of the world and non-euro area Member States and channelled them to the deficit countries. Some of the surplus countries, in particular Germany, played a similar role. Chen *et al.* (2012) see this as a manifestation of the fact that while the euro area investors considered financial assets of different euro area countries as close substitutes, the external investors did not. The reasons for this phenomenon are not fully clear yet. Liquidity considerations, regulatory requirements (in terms of rating, currency, and liquidity of investment instruments) for both euro area and non-euro area investors, and the ECB's collateral rules might provide part of the explanation.

([30]) From the economic point of view, it is often important to distinguish between fixed-income instruments (like bonds and loans) and equity instruments, the remuneration of which is contingent on economic developments. Therefore, the discussion will largely use this split: portfolio debt and other investment will be treated together as debt, while portfolio equity and FDI form the equity category.

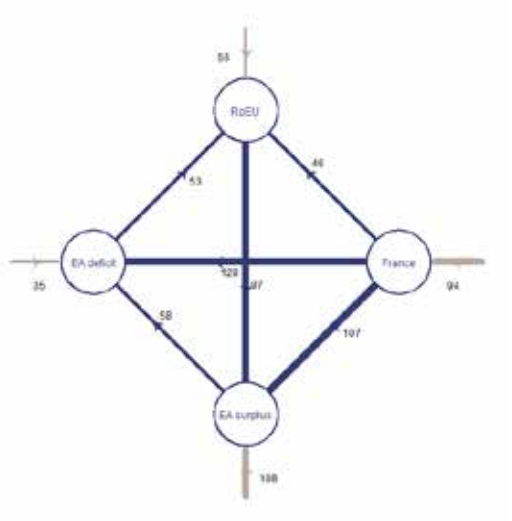
([31]) This refers to flows within the euro area, abstracting from financial flows with Luxembourg (which is very specific as a financial centre).

*Graph 3.11:***Gross financial (FDI+PI+OI) flows, (average 2004-06, EUR bn)**



Source: Commission services calculations.

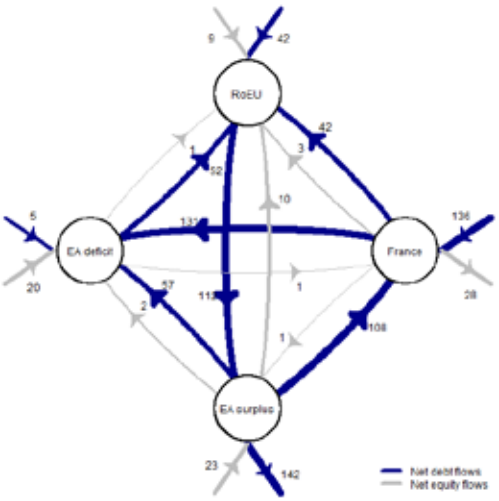
*Graph 3.12:***Net Financial (FDI+PI+OI) flows (average 2009-10, EUR bn)**



Source: Commission services calculations.

The surplus countries as a group also provided strong net financial outflows to non-euro countries. Inside the EU, these flows were clearly dominated by net investments going to the UK, mainly debt instruments. Investments in the Eastern EU Member States were large too, but predominantly took the form of FDI. This was particularly the case for financial flows out of Germany. The financial relations of surplus countries with non-EU countries were also very intensive. Portfolio equity accounted for a somewhat larger portion of the inflows from the non-EU countries. This stems from the scale of stock markets in the surplus countries and the attractiveness of their companies' to foreign investors. A large share of foreign capital came from foreign central banks buying highly rated sovereign bonds of the core euro area countries.

*Graph 3.13:***Net debt (PI debt + OI) and net equity (PI equity + FDI) flows (average 2009-10, EUR bn)**



Source: Commission services calculations.

The post-crisis retrenchment in financial flows

The crisis has radically changed the pattern of bilateral private financial flows, with regard to both their intensity and direction. The crisis resulted in a dramatic collapse in cross-border financial flows worldwide. The impact was particularly strong in 2008/09 after the bankruptcy of Lehman Brothers. Those EU countries with developed and highly integrated financial markets, relying mostly on banking flows, were among the hardest hit (Milesi-Ferretti and Tille, 2010).

Box 3.1: **Compiling bilateral financial flow data**

This report draws on a newly compiled dataset of bilateral financial stock (IIP) holdings and bilateral financial flows, which strives to estimate financial account flows in a consistent manner. This box explains how the data on bilateral financial stocks were compiled, and describes the methodology for computing implied bilateral financial flows.

Highlighting the importance of financial linkages in explaining European and global current account imbalances has been a mainstay of the policy and academic discussion (see, *i. a.*, Gourinchas and Rey, 2005, or Chinn and Ito, 2007). So far, however, empirical analysis was hampered by scant data on *bilateral* financial linkages: several studies have focused on specific components that have been collected by various institutions, such as foreign direct investment (FDI) flows by the OECD, cross-border bank assets by the BIS, or portfolio assets by the IMF. Milesi-Feretti, Strobbe and Tamirisa (2010) combined the various sources into bilateral stock (IIP) holdings, while Waysand, Ross and de Guzmán (2010) analysed intra-EU bilateral financial stocks in more detail. The database for this report follows a similar approach and combines data for FDI from Eurostat and OECD, portfolio investment from the IMF CPIS database, and other investment from BIS locational banking statistics. ([1]) Missing data were complemented with information from national sources, and imputation for data before 2003. ([2])

A database compiled in this manner reflects bilateral holdings as reported by the data sources. While the reported cross-border assets and liabilities reported by any two countries roughly match in most cases, there are some important cases where major inconsistencies arise (see Waysand *et al*., 2010, for an illustration). Such cases concentrate on major financial centres such as the UK, the Netherlands and Luxembourg, and are particularly pronounced for equity holdings. This feature is mainly due to cross-country differences in FDI valuations and the treatment of special financial (offshore) institutions. ([3]) Analysing data as reported, and thus with consistencies, has important virtues; but for deriving implied flow data, a consistent dataset of bilateral financial assets is key. The dataset used for this report is, therefore, complemented with information from national sources and Eurostat in order to establish bilateral stocks data that are broadly consistent and whose aggregates match what is reported in consolidated financial statistics.

Bilateral financial flow data, in contrast, cannot draw on comparably rich data sources. Only FDI flows exist on a consolidated basis, but still face numerous consistency problems due the same issues as for the stock data mentioned before (consistency in the data set was imposed by methods similar to one the described for stocks). Bilateral financial flows in portfolio and 'other' investment, in contrast, need to be derived from financial stock data. To that end, the analysis applies a methodology that is broadly similar to the concept followed in Gourinchas, Rey and Truempler (2011), albeit for a different purpose: For each of the ca. 70 countries and territories in the sample and each stock component (portfolio debt, portfolio equity, and 'other investment' components), aggregate valuation effects for a country's liabilities are computed (in local currency). These valuation effects are then applied homogenously to bilateral stock changes in the country's liabilities to infer the change in stocks that was induced by gross transactions rather than asset price changes. ([4]) The accuracy of this estimate rests on the assumption that foreign holdings in a country broadly share the same portfolio composition regardless of the residency of the creditor; or that at least the price changes for a particular asset class in a country are similar for all creditors. This assumption certainly holds true for exchange rate effects. Moreover, strong co-movements in stock markets, as well as the fact that bond spreads are more stable within than across borders imply that this assumption is not too far from reality. And indeed, the resulting data on financial flows broadly matches aggregate flow data as well as existing bilateral data from national sources. ([5])

([1]) The editors of this report gratefully acknowledge the help of Waysand and co-authors, who kindly shared their dataset, as well as the provision of locational banking statistics by the Bank for International Settlements.

([2]) Note that aggregate 'other investment' also comprises official and central bank flows. However, TARGET2 flows are not reported on a bilateral basis, as they arise between the ECB and national central banks. For the purpose of this report, the database construction assigned implied bilateral TARGET2 balances among Eurosystem members according to a portfolio concept.

([3]) However, lesser problems also abound, such as different reference dates for exchange rate conversions.

([4]) Note that in theory, such a treatment conforms to the 'net recording' paradigm in financial account statistics.

([5]) Again, important financial centres, such as Luxembourg, but also UK offshore islands or the Bahamas require special treatment as the important flows directed there are immediately matched by outflows in another investment instrument. Here, valuation effects have been much reduced to match aggregate flow data better, and national sources have been relied as far as feasible.

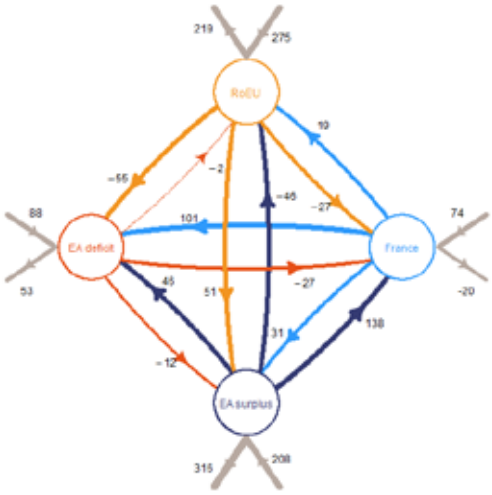
Net flows of private capital reverted as a result of capital flight and risk aversion. The net flows from the surplus to the deficit countries did not change in their overall size following the onset of the crisis (Graphs 3.12 and 3.13). This was partially due to the withdrawal of funds by the deficit countries and the replacement of private flows by intra-Eurosystem claims. ([32])

The gross flows substantially dropped in the wake of the crisis as regards both intra-euro

([32]) This stands in a rather stark contrast with financial flows to other EU deficit countries, which were not members of the euro area. Most prominently, the Baltics experienced a true sudden stop which initiated drastic adjustment as a result of which the current accounts of these countries turned into surpluses or moderate deficits.

area investment and with other countries. This can be seen in Graph 3.14, which shows total gross investment flows in the period 2009-10. ([33]) In fact, many of the bilateral gross flows reverted, *i.e.* countries were selling foreign assets they had previously acquired as means to generate liquidity. ([34]) This naturally affected mostly those periphery countries with high levels of indebtedness, whose sustainability or solvency was questioned by the markets. However, also the surplus countries experienced significant retrenchments in international financial inflows as well as outflows.

Graph 3.14: **Gross financial (FDI+PI+OI) flows, (average 2009-10, EUR bn)**



Source: Commission services calculations.

Accounting for indirect capital flows

Some surplus countries intermediated flows coming from third countries. The data on bilateral financial flows, presented in the preceding analysis, can be used to estimate the indirect flows passing through other countries. In this way, it is possible to derive adjusted bilateral flows that account for direct, as well as indirect, flows. This is done using an input-output approach, which is a standard method of analysing production structures and linkages within and between economies. However, this approach has not yet been used to analyse financial linkages among countries. This approach takes account of excess financial inflows in a country, which are then distributed to its financial partners according to their capital import shares. ([35]) It thus caters for situations in which a third country buys, for example, domestic corporate or sovereign bonds and frees a portion of domestic savings to be invested abroad. ([36])

In the pre-crisis period, the core euro area countries channelled savings to the peripheral countries directly. For example, Germany's financial outflows into Spain, Italy, Portugal or Greece were roughly in line with those adjusted for indirect flows. Some intermediation was already apparent in the case of Ireland. However, flows from Germany towards countries outside of the EU were heavily channelled through financial intermediaries in Benelux and the UK. As a result the observed flows towards these countries were considerably higher than the amount of financial resources that actually remained in these countries. Similarly, it becomes apparent that Germany was a net lender to countries outside the EU rather than a net borrower as the observed direct flows would indicate.

The overall pattern of the estimated direct and indirect flows has remained broadly stable in the post-crisis years. While the observed direct financial flows from Germany recorded important shifts in their direction and strength, the estimated flows, which also account for indirect flows, have changed much less, pointing to the reduced role of intermediation.

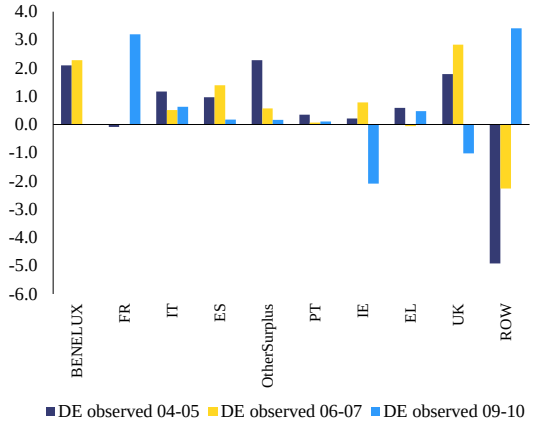
([33]) The year 2008 is excluded because market upheaval affected the bilateral flows fundamentally and the data are difficult to interpret.

([34]) Here, negative gross investment flows denote flows that lead to a decrease in an outstanding aggregate position. Technically, this can reflect, *e.g.* the sale of external assets, but also their non-rollover.

([35]) This approach considers gross domestic savings as the financial "input" and gross domestic investment as the "output". The input coefficients reflect the shares of gross savings destined to domestic investment and partner countries (in gross terms). Observed direct flows thus reflect the product of the input coefficient matrix and savings. In analogy to the standard input-output setting, cumulated indirect flows arise from the product with the Leontief inverse of input coefficients. The financial input-output analysis in chapter 5 likewise rests on its analogy to the standard input-output model.

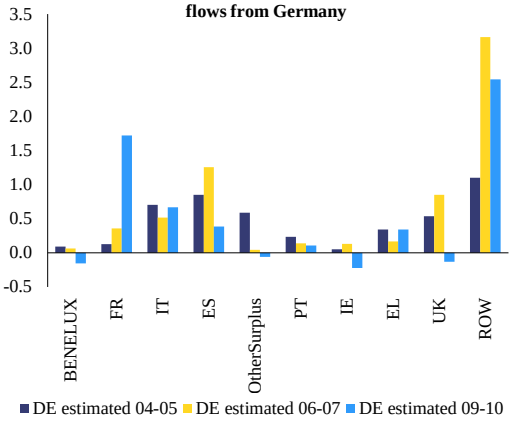
([36]) An input-output approach, however, may not fully capture situations whereby a financial intermediary in a country is used by another country to invest in a third country.

Graph 3.15: **Observed financial flows from Germany**



Source: Commission services calculations.

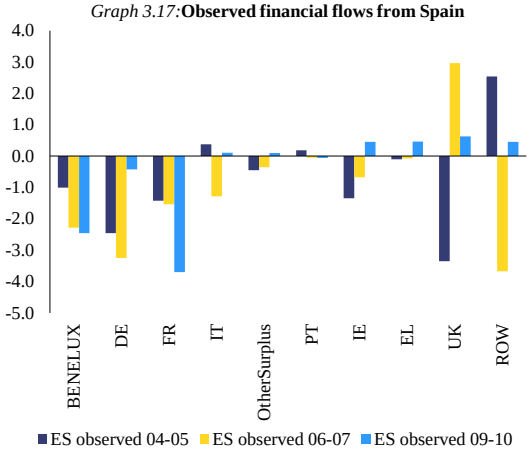
Graph 3.16: **Estimated direct and indirect financial flows from Germany**



Source: Commission services calculations.

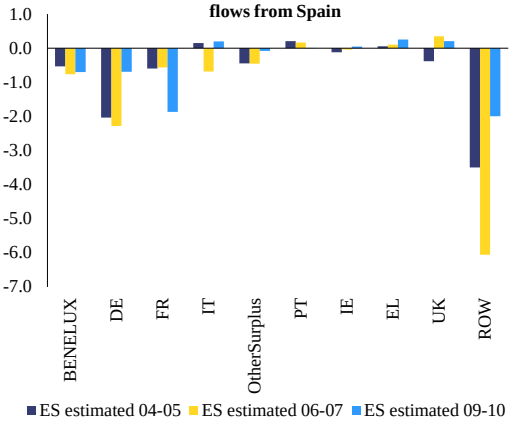
A look at observed and adjusted flows to and from Spain confirms this picture. It shows the important position of Germany as a source of financing and it indicates that Germany intermediated flows from elsewhere, in particular the non-EU countries. The Benelux, the UK, Ireland and also France also helped to intermediate funds coming mostly from the rest of the world. While flows from Germany virtually ceased after the eruption of the crisis, France continued to finance Spain, both directly and indirectly. The bilateral data shows that France roughly compensated for the fallout resulting from the withdrawal of financing from Germany to Spain in the crisis years.

Graph 3.17: **Observed financial flows from Spain**



Source: Commission services calculations.

Graph 3.18: **Estimated direct and indirect financial flows from Spain**



Source: Commission services calculations.

3.3. TRADE, FINANCIAL FLOWS AND EXTERNAL IMBALANCES

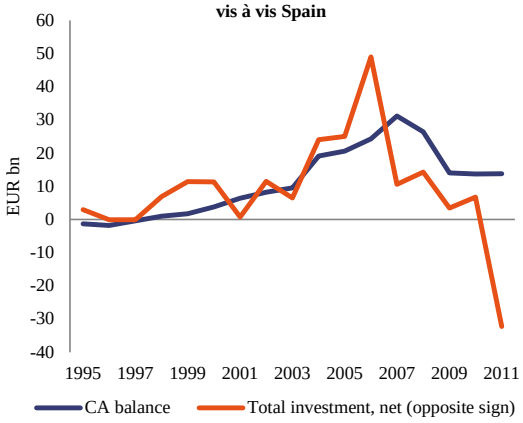
The bilateral net trade and financial flows in the EU do not overlap much: the trade and financial flows work through two distinct transmission channels. The sum of current account and financial account in each country is by definition zero ([37]), but this is not the case for bilateral flows. Thus, a specific country may have a balanced trade with another country, but could be a net importer of capital from that specific country. For example, while Germany recorded current account surpluses with both euro area and the rest of the world of roughly the same size, it had much

([37]) Except for accounting anomalies and the capital transfers.

larger surplus on its financial account with the euro area. Also, Waysand *et al.* (2010) show that the top net creditors/debtors of a country do not always correspond to its main trading partners, nor with its main financial partners as measured by the volume of gross financial flows. Bilateral financial flows are driven by direct and portfolio investments and cross-border operations of banks and are not necessarily related to the financing of bilateral current account balances (Bornhorst and Mody, 2012).

Both bilateral trade and financial flows contributed to the accumulation of imbalances. One could hypothesise that financial flows have grown in importance as drivers of current account imbalances of countries because of progress in financial integration and massive cross-border financial flows. Yet, the data on bilateral current account and financial account positions do not provide a clear conclusion. For example, Germany's capital exports to Spain exceeded the bilateral current account surpluses in the pre-crisis period by some EUR 36 billion (Graph 3.19). On the other hand, for other peripheral countries, the bilateral current account and financial account balances did not differ much. An econometric analysis in the following chapter explores the role of these two channels in the accumulation of imbalances in the euro area in the next chapter.

Graph 3.19: **Germany - financial and current account vis à vis Spain**



Source: Deutsche Bundesbank.

3.4. MAIN CONCLUSIONS AND POLICY IMPLICATIONS

This chapter has analysed bilateral trade and financial flows within the euro area as well as with the rest of the world. It shows that:

- The euro area countries, both those in surplus and those in deficit, are highly integrated in the world economy, as witnessed by strong gross trade and investment flows. However, there has been an important euro bias, particularly as regards cross-border financial flows.

- The surplus countries are the main trading partners for the euro area deficit countries, but the reverse does not apply. This asymmetry has implications for the rebalancing in the euro area: trade spillovers to the euro area periphery, from an increase in demand in the surplus countries, are relatively limited because the positive effect of an increase in imports of the surplus countries is spread across a number of other countries.

- The intensity and direction of financial flows with the non-EU countries also differ between surplus and deficit economies. The surplus countries, together with France, have been the main source of external financing for deficit countries. Most of this financing took the form of debt in the pre-crisis period. On the other hand, the deficit countries are only one among the many important financial partners of the surplus countries, which engage in intensive capital exports and imports with other EU countries as well as the outside world.

- Net flows of private capital reverted as a result of capital flight following the on-set of the crisis. However, the net flows to the deficit countries did not change in their overall size. This was partially due to the withdrawal of funds by the surplus countries and their replacement by intra-Eurosystem claims.

- Bilateral net trade does not provide a good indication of net bilateral financial flows. A specific country may have a bilateral trade surplus with another country, but invest the resulting surplus elsewhere. In the euro area, the surplus countries financed the periphery by

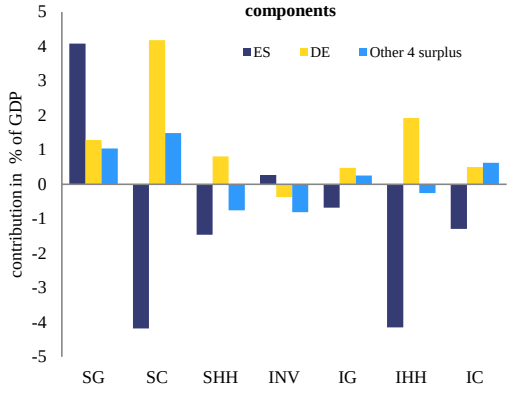
more than their bilateral trade balances, and effectively intermediated flows coming from the rest of the world.

Box 3.2: **Financial net-outflows from Germany**

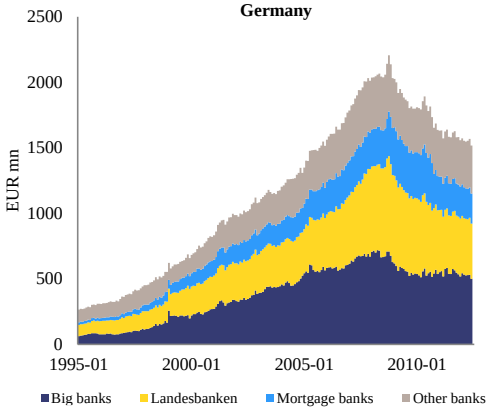
A deeper look into the composition of German financial outflows may provide additional insights about the financial flows to the deficit countries, and especially to Spain, in view of the important links between the two countries.

If German savings and investment positions are broken down into institutional sectors, it appears that all components of savings and investments contributed to the current account surplus that built up in 2000-7. Thus, it is *a priori* impossible to conclude whether the German surplus was a response to strong incentives to save or to disincentives to invest. The comparison with the average positions of other euro area surplus countries (like Belgium, Netherlands, Austria, Finland) shows that household behaviour was more supportive to the build-up of external surpluses in Germany than elsewhere. German households disinvested and increased savings, while households in other surplus countries invested and decreased savings (all relative to GDP). The change in the German corporate investment share was comparable to that of other surplus countries. The exceptionally large increase in corporate savings in Germany, however, suggests that businesses could have invested much more, but instead acquired financial assets abroad. The increased corporate savings might reflect deleveraging, but hardly suggest that German corporations were credit constrained by banks. ([1]) The lack of households' investment is widely ascribed to sluggish growth and stable house prices, following their post-unification boom.

Graph 1a: **Decomposition of German current account components**



Graph 1b: **Foreign assets by banking group in Germany**



Graph 1a:
Note: S := savings, I := investment, INV := change in inventories, G := government, C := corporations, HH := households, IHH is investment in dwellings, 4 other surplus is average of BE, NL, AT, FI.
Source: Commission services'calculations based on AMECO.
Graph 1b:
Note: The category "other banks" excludes foreign banks and special-purpose banks.

As regards the role of the financial sector, differences in the increases in foreign exposures across the different segments of the German banking sector could be indicative of the "foreign" bias in the business models of some of these segments. For example, there is evidence that the publicly-owned Landesbanken followed risky business strategies including the accumulation of large foreign exposures. Between 2007 and 2009, many German Landesbanken revealed sizeable losses on their investments abroad.

The German banking system consists of three main segments: private commercial banks, Landesbanken/Sparkassen and cooperative banks. ([2]) German sectorial banking data suggests that the pick-up in foreign lending activity was widespread across banking groups and not exclusively constrained to Landesbanken. For the different banking groups, shown in the Graph 1b above, foreign lending increased by a factor around three between 1999 and 2007. They differed in the form of assets they expanded on. Large commercial banks' external claims grew strongest on interbank credit, Landesbanken on bank debt securities, and mortgage banks on non-bank debt securities. While it is widely known that the large private banks and the German Landesbanken became very engaged in international business, the important share of German

([1]) The existing analysis doe not provide a conclusive answer to the question as to whether German banks curtailed credit in this period. On the one hand, Deutsche Bundesbank (2009) finds that German credit developments were as high as macroeconomic fundamentals would suggest. On the other hand, Gern and Jannsen (2009) report that estimated demand for bank credit in Germany was higher than actual demand between 2000 and 2003. Further evidence can be drawn from a Eurobarometer survey conducted in 2005 in which more than 80 per cent of the German SMEs interviewed reported that they had found it difficult obtaining bank funding. This was a much higher share than in any other EU Member State.

([2]) In Germany, the activity of private commercial banks is complemented by the publicly owned Landesbanken/Sparkassen sector and cooperative banks, which have their own central institutions. Mortgage banks and other specialised and foreign institutions also play important roles in specific market segments. The vulnerability of the Landesbanken segment has been highlighted inter alia by the German Council of Economic Advisors (2008) in a review of the German financial system.

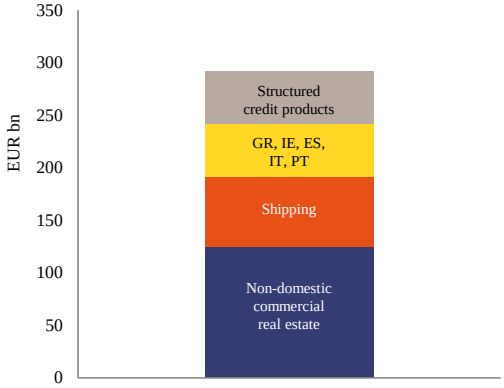
(Continued on the next page)

Box (continued)

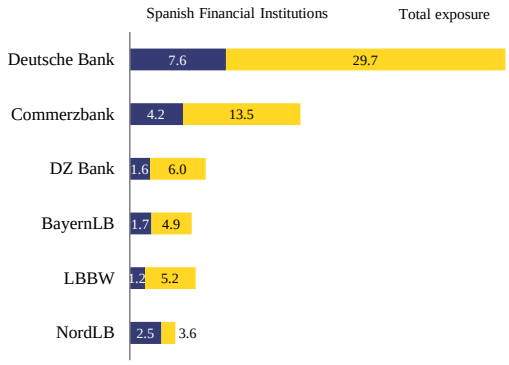
mortgage banks has so far received little attention. Mortgage banks have a large share in holdings of foreign debt securities and provide a much higher share of finance to non-banks than the big commercial banks or Landesbanken. Though the banking statistics do not offer a breakdown by country, it is interesting to note that the increase in foreign claims by mortgage banks coincided not only with a rising acquisition of US mortgage-backed securities, but also with the expansion of the Spanish covered bond market.

Information on banks' credit exposures thus does not point to significant differences across banking groups, which could be indicative of different business models being more prone to risk-taking in deficit countries. German banks' exposure to peripheral economies was cited as one factor by Moody's to motivate their downgrade of seven German banks in summer 2012 (three Landesbanken, one big commercial bank and three other larger banks). A sizeable share of the exposure to Spain was to Spanish financial institutions. The banks affected were not confined to one specific banking sector, *i.e.* the two largest commercial German banks were as affected as Landesbanken or other large banks. Exposure data from the EBA 2011 stress test does not give indications that particular forms of German banks were especially focused on business with Spain or other peripheral euro area economies. Correcting for HRE (a bank that has been put in public ownership), differences in the relative exposure are broadly equal for large commercial banks, Landesbanken and the other German banks in the EBA sample.

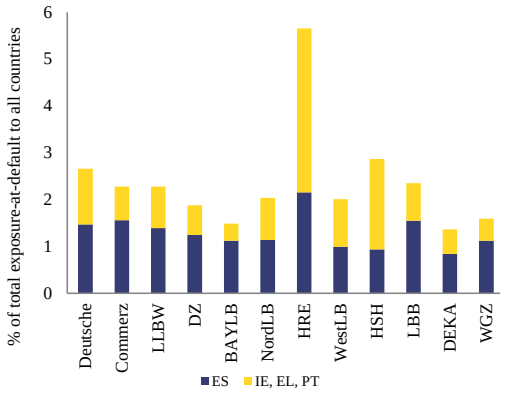
Graph 2a: **Moodys estimates of exposures of selected German banks, June 2012**



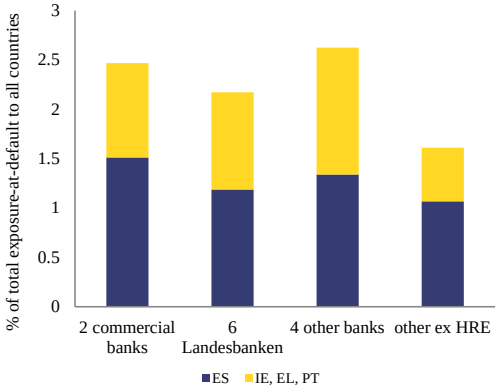
Graph 2b: **Selected German Bank exposure to Spain, EUR billion**



Graph 2c: **German banks' exposure to deficit contries**



Graph 2d: **German bank exposure to deficit countries averaged over banking market segments**



Source: Commission services calculations based on EBA, Moody's Investor Services (2012), Wall Street journal (2012).

4. DRIVERS OF PERSISTENT CURRENT ACCOUNT SURPLUSES

This chapter discusses the drivers of the current account surpluses, building on the analysis of external positions and the trade and financial interlinkages in the previous chapters. The focus is on determining to what extent surpluses reflect optimal economic decisions which can maximise the economic activity, jobs and welfare of Member States, and to what extent they reflect market failures or policy distortions. The discussion covers a number of potential factors that might have contributed to the divergence of current account balances and their spillovers.

Numerous papers relate current account surpluses and deficits across countries to their structural characteristics. Economic theory suggests that current account balances depend on economic fundamentals, including demography, relative level of income and economic growth expectations, medium-term fiscal policy stance, net foreign asset position and natural resources. Indeed, these factors appear strongly significant in a number of empirical investigations. ([38])

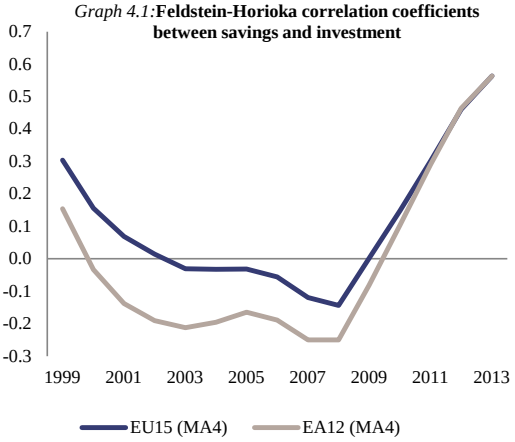
However, the largest surpluses in the euro area are, in general, above the level suggested by fundamentals. Some of this can be attributed to country- and euro area-specific factors. For instance, Barnes *et al.* (2010) argue that specific factors including financial integration in the euro area played an increasingly important role in the widening of surpluses and deficits. Furthermore, the deviation of the actual surpluses from a level that can be explained by fundamentals (in the panel *regressions*) increased in the period before the crisis. To analyse the underlying reasons, this chapter explores several possible drivers and their transmission: (i) financial factors related to the financial integration in the euro area and their impact on the national financial sectors and on saving; (ii) the impact of external shocks on the export performance of the Member States; (iii) price and non-price competitiveness; (iv) sectorial structures and their implications for savings and investment; (v) fiscal policy; and (vi) demographic trends. The relative importance of these broad concepts is then tested using econometric estimations and a dynamic stochastic general equilibrium model.

([38]) See, for instance, Chinn and Prasad (2003), Lee *et al*. (2008), or Gruber and Kamin (2007). These investigations do not usually account for possible differences among countries in terms of social preferences, influencing *inter alia* the overall discount rates and inter-temporal preferences. A country whose population shows a relatively greater 'patience' is likely to have, other things equal, greater excess savings and hence feature current account surpluses. For instance, in an economic experiment, Wang et al. (2010) found that, among a sample of 45 countries, German students show the highest 'patience' as 90 per cent of them preferred a higher payoff in the future to a lower immediate one. Similarly, Buetzer et al. (2013) found that imbalances in the euro area may partially reflect differences in social/cultural peferences.

4.1. FINANCIAL FACTORS

Financial integration was a key feature during the first decade of monetary union. Transaction costs for cross-border financial flows declined rapidly, largely due to the elimination of exchange risk, but also due to the convergence in regulatory conditions and financial infrastructure. This could have promoted surpluses by providing more investment opportunities abroad with what appeared as *ex ante* low default risk. These developments went hand in hand with a global decline in nominal interest rates and increases in cross-border financial flows.

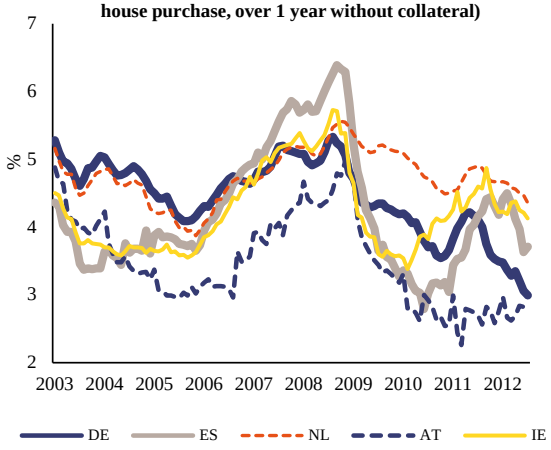
Graph 4.1: **Feldstein-Horioka correlation coefficients between savings and investment**



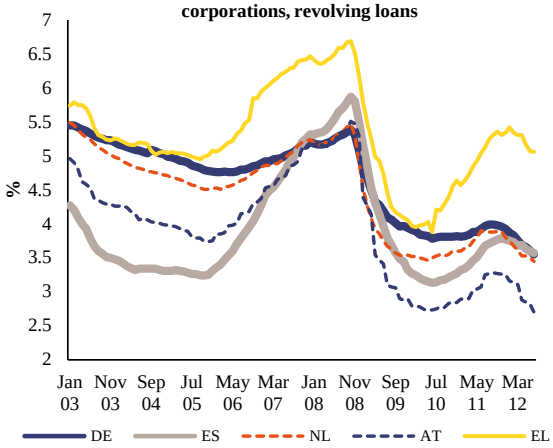
Note: 4-year moving averages of the correlation coefficient between savings and investment rates (as per cent of GDP) among 15 EU and 12 euro area Member States (as of 1999) over preceding four years.

Source: Commission services calculations based on Eurostat.

Graph 4.2a: **Interest rates to households (loans for house purchase, over 1 year without collateral)**



Graph 4.2b: **Retail lending rates to non-financial corporations, revolving loans**

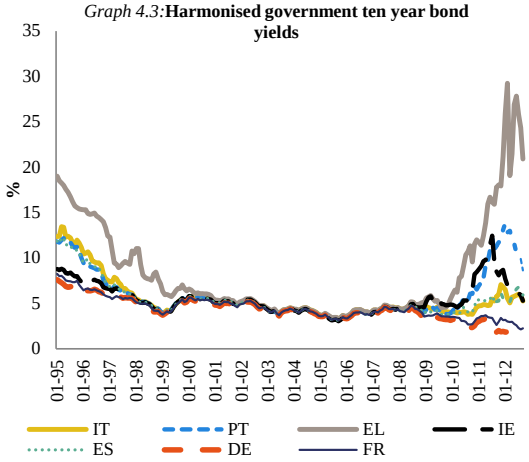


Source: European Central Bank.

Financial integration led to a decoupling between national savings and investment, with excess savings in the core countries channelled to the euro area periphery (Graph 4.1). The correlation between savings and investment rates in the euro area countries, the so-called Feldstein-Horioka coefficient, declined after the euro's introduction, ([39]) though it has increased sharply since 2010. At the time, this was seen as a sign of sound convergence directing financial resources to the uses promising the highest returns. ([40]) *Ex post*, this view appears as overly benign. The potential benefits of financial integration failed to arise because much of the available capital was put to unproductive uses. Strong capital inflows contributed to credit and house price booms in deficit countries, which lead to misallocation of resources and losses of competitiveness. Surplus economies, in contrast, saw an increase in their private savings rates and, in many instances, stagnating or even falling investment rates.

The issue is to what extent the structure and behaviour of the financial sector contributed to increasing surpluses. The financial structure in surplus economies may have played a specific role in promoting net capital outflows beyond developments in the real economy and fundamentals. On the one hand, the financial structure could have made financial institutions prone to mispricing risk and expected returns in deficit countries, and thus created 'pull' incentives to funnel savings abroad rather than to domestic investment. On the other hand, 'push' factors such as distortions in financial structures could have fostered savings and deterred credit-led investment at home.

Graph 4.3: **Harmonised government ten year bond yields**



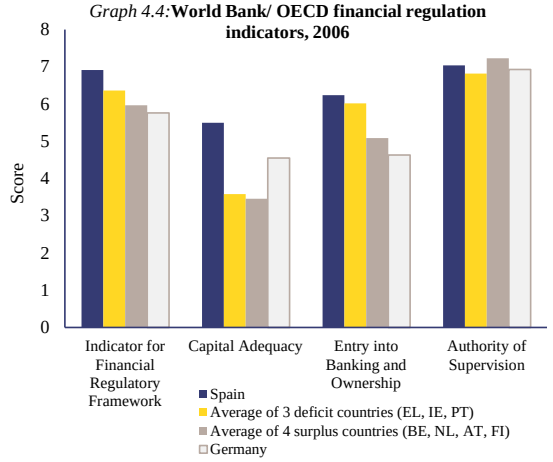
Source: Datastream, Eurostat.

The establishment of the monetary union encouraged financial market integration and led to convergence in nominal interest rates. The introduction of the euro expanded the pool of available highly-rated assets and lending partners to euro area banks. The convergence in nominal yields across Member States led to a rapid decline in the interest rates of deficit countries (Graph 4.2). However, divergence in inflation rates and the

([39]) Note, however, that Jappelli and Pagano (2010: 341) saw the reduction in the Feldstein-Horioka coefficient as part of an OECD-wide trend, and not specific to the creation of the euro.
([40]) Blanchard and Giavazzi (2002).

positions of each economy in the cycle persisted, causing real interest rates in surplus countries, and particularly Germany, to rise above the monetary union average, and even more above rates in the peripheral countries for most of the period since 1999.

Graph 4.4: **World Bank/ OECD financial regulation indicators, 2006**



Source: World Bank, OECD.

Bank lending rates in surplus and deficit countries may shed light on how the structural features of the banking systems contributed to the misallocation of savings. They would also be indicative of banks in deficit countries benefiting from capital inflows from surplus countries and passing on the benefits in terms of lower interest rates. Since bank retail markets in the euro area have been less integrated than other financial markets, differences in lending rates are not subject to immediate arbitrage opportunities, which allows these differences to persist. Before the crisis, actual differences in lending rates to both corporations and households were small. Deficit countries tended to have slightly higher lending rates, reflecting higher demand for loans and presumably higher credit risk in these countries. In contrast, Spanish lending rates tended to be at the lower end prior to the crisis. They were often lower than those in Germany, suggesting that German and Spanish lending rates were not aligned to their current account positions and did not adequately price the relative macroeconomic risks. ([41])

The crisis exposed deficiencies in EU banking regulation and its implementation. Inappropriate regulation did affect all EU Member States alike. EU banks are subject to rather uniform regulation, but there are differences in the implementation of rules across Member States. According to the World Bank aggregate indicator of financial regulation, some of the surplus countries, and especially Germany, showed signs of weaknesses in the supervisory and regulatory frameworks (Graph 4.4). ([42]) In particular, the regulatory structure proved *ex post* conducive to higher risk-taking, if one accepts the assumption that lending to banks in overheating economies abroad is riskier than lending to the domestic private sector in a slow-growing economy. ([43]) For example, the OECD banking data indeed show that Spanish bank assets were on average riskier than in other countries, judging from the ratio of risk-adjusted total assets that is used to compute regulatory capital ratios. On the other hand, this indicator may not be fully reliable as Ireland, where the banking crisis was particularly strong, had a ratio similar to those in surplus countries. Since Ireland and Spain registered a strong increase in the loan-to-deposit ratio, this may have sent better signals about emerging financial imbalances in deficit countries than capital ratios. While this appears obvious with hindsight, it should be noted that this indicator is endogenous to surplus banks providing wholesale

([41]) Note, however, that a part of the pre-2008 level interest rate difference (as well as the differences in their fluctuations) in Spanish vs. German house purchase loans are due to the fact that the majority of housing loans in Spain is based on floating rates, whereas fixed-rate loans predominate in Germany.

([42]) Note that regulatory capital ratios hardly provide an explanation for cross-border capital flows. Minimum regulatory capital ratios are legally binding objectives for any banks in the euro area and thus stay relatively constant. They mainly illustrate the different business models that the banks employ and possibly their degree of sophistication. Over time, the changes in capital ratios were too small to be indicative of an over-proportionally increasing banking leverage in deficit countries.

([43]) The perceived link between current account positions and the World Bank's financial regulation index is driven by one sub-index. The entry into banking and ownership component reflects competitive pressure and one would expect that high competitive pressure in the surplus countries would encourage risk-taking. A similar insight emerges from alternative financial regulation indicators compiled by IMF for a panel of 91 countries for 1973-2005. For the countries in the panel and for the year 2005, most euro area Member States were awarded the maximum scores and scores below the maximum evenly distributed across surplus and deficit countries.

financing to close the funding gap, and not only due to developments on the asset side.

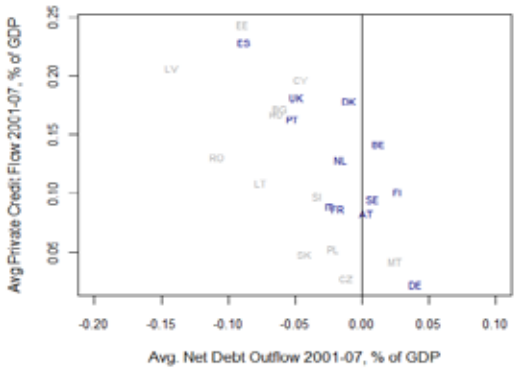
Banks in surplus countries did not adequately recognise that their exposure to the deficit countries was becoming riskier. If cross-border intra-banking flows nurture credit booms in deficit countries, banks in deficit countries should over time become more exposed to risk. Banks in other countries could be expected to apprehend the increased credit risk of banks in deficit countries and, in consequence, curtail lending; this would set in motion an adjustment in the imbalances before they became unsustainable and required an abrupt and disruptive correction. However, as noted above, standard aggregated soundness indicators for the banking system did not unambiguously point to higher, and over time, increasing risks in deficit countries. Hence, banks in surplus countries may not have recognised that their exposure to banks in deficit countries was becoming riskier. In addition, some deficit countries had much lower ratios of non-performing loans than many surplus countries at the time, which may be a reason why banks were prepared to expand credit to both households and corporates at relatively low rates. Inadequate assessment of risk exposure was not only confined to securities from euro area deficit countries – similar issues have been observed with losses on US and UK assets as well.

Even if German banks took on disproportionate risk, the question remains why risk and yield was then mainly sought abroad. For instance, the Landesbanken are widely seen to have capitalised on their state guarantees and implicit sector guarantees in order to expand debt activities that yielded a perceived positive income differential. By restraining Landesbanken in the retail market, the sectorial structure could have played a role in concentrating this expansion to foreign securities. However, such (in hindsight) risky expansion was not only confined to the Landesbanken sector: in contrast to most Member States, the bail-outs of German banks were almost exclusively triggered by large losses on foreign debt assets. In how far differential regulatory requirements may have played a role is unclear. Ongena et al. (2012) provide empirical evidence that tighter regulation in home markets induces lower lending standards abroad. Apart from potential deficiencies in the regulatory framework, the combination of low profitability in core business sectors and low domestic growth incited banks in surplus countries to expand their lending to banks abroad. Although the relationship between soundness indicators of the banking system and current account positions is not conclusive, there may be different incentives for banks to engage in domestic lending or lending to foreign banks. Low profitability and weak earnings prospects in core business fields can induce risk-taking and an expansion of activity into other market segments and abroad. Indeed, banks in surplus countries were somewhat less profitable than those in the deficit countries between 1999 and 2007. ([44])

The question remains as to whether a preference for foreign investment was also related to tighter lending conditions for domestic investment. While interest rates showed little differences across countries during the pre-crisis phase, countries displayed marked differences in lending flows over this period. Virtually all euro area Member States saw an expansion of private indebtedness, and this was particularly so in Spain and Ireland. The major exception was Germany, with private indebtedness increasing by only 6 per cent of GDP between 2000 and 2007, compared to an average of 51 per cent for the euro area. ([45]) These stark variations in lending could, *inter alia*, hint at differing lending standards at play in the various economies. It should be noted, however, that several surplus economies also experienced credit booms over that period (notably the Netherlands, Denmark and Sweden), while several deficit countries saw less private credit expansion than the euro area average. Still, the weakness in German credit is striking in view of its surplus (and net debt outflows) recording one of the strongest increases among all EU Member States over that period (see Graph 4.5).

([44]) See, e.g., Carbó et al. (2005).
([45]) These numbers refer to the change of indebtedness of households and non-financial corporations in per cent of GDP.

Graph 4.5: **Credit vs external debt flows, 2001-2007**



Note: Net debt outflow refers to the share of net financial transactions in portfolio debt and other investment (as a per cent of GDP).

Source: Eurostat, IMF.

Some evidence suggests that indeed loan growth in Germany was affected by tighter lending standards than elsewhere. Nehls and Schmidt (2003) find evidence of credit supply restrictions in Germany, as small and medium enterprises perceived access to bank financing as far more difficult than their peers in other Member States in the pre-crisis period. ([46]) Finally, Puri, Rocholl and Steffen (2009) find that the German savings banks most exposed to 2007-8 losses in the US through their affiliated Landesbanken tightened their lending standards more than others.

Competition in the domestic German banking sector has been markedly different from the rest of the euro area. In Germany, financial sector consolidation and the arrival of foreign firms happened later than in other euro area Member States (which is also related to 'banking entry and ownership' in Graph 4.4). Bank lending surveys indicate less competition-induced credit expansion in the German banking system than in the euro area throughout the decade ([47]). The academic literature is divided on the incidence of competition in German banking, ([48]) as well as in how far weak credit growth, rather than supply issues, was an artefact of weak loan demand. ([49])

Overall, the evidence on the structure of the financial sector affecting current account surpluses is limited. Aggregate indicators suggest that *ex ante* differences in financial competition and the regulatory framework have been small among EU Member States, including several deficit countries. However, the structure of the German financial sector displays more pronounced differences along some dimensions. The low growth environment and meagre domestic margins in the surplus countries might have fostered the acquisition of assets from abroad. Nonetheless, gross credit expansion to the private sector was broadly in line with the euro area average in most surplus countries, bar Germany. The rapid expansion in foreign assets held by German banks suggests that this exception was not due to soundness of their balance sheets. Several sources suggest that weak credit growth in Germany could have been linked to tighter domestic lending standards, but it is unclear in how this might just reflect sluggish credit demand.

4.2. EXPORT PERFORMANCE AND EXTERNAL SHOCKS

High current account surpluses are often associated with strong export performance. Exports by the surplus countries did indeed grow rapidly, although relatively subdued import growth played at least as important a role, as discussed in chapter 1. High export capacity, based on the performance of globally competitive manufacturing industries or services, is desirable in view of the growing worldwide competition pressures. However, if increased competitiveness reflects undervalued real exchange rates caused by wage and price distortions, the surplus could result from a sub-optimal allocation of resources.

Drivers of changes in export market shares

Most surplus countries increased their export market shares in goods over the period before

([46]) Eurobarometer No. 174 and 184 on access to finance. Cf. Canton et al. (2011)

([47]) See comparisons of bank lending survey data from ECB and Bundesbank, e.g. Maddaloni and Peydró (2011).

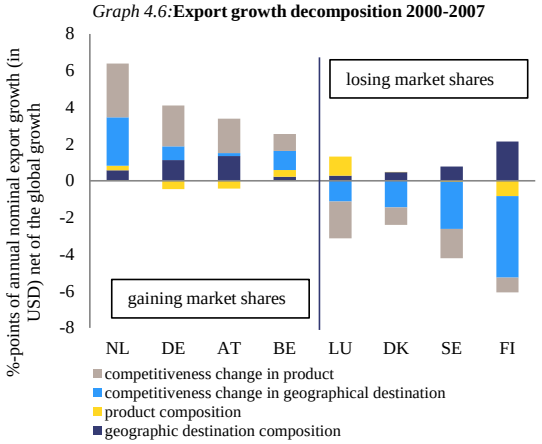
([48]) See Van Leuvensteijn et al. (2009) for an overview.

([49]) Raabe, Arnold and Kool (2006), for instance, attribute the evolution in credit to sectorial structure in loan-demanding industries.

the crisis, but all of them have lost market shares since then. While Finland, Denmark and Sweden saw their market shares ([50]) in global manufacturing exports shrink over the period 2000-7, Germany, Netherlands, Austria and Belgium increased their export markets. Although it was already a major global exporter, Germany managed to further increase its market share from 8.5 per cent to 9.4 per cent of world trade over the period 2000-7, faring very well compared to the market share decline in other large Western economies like the US. For the Netherlands, the share increased from 3.7 per cent in 2000 to 3.9 per cent in 2007. Austria was also successful in gaining market share, and as with Germany, this was largely due to becoming a hub for multinational production chains in an enlarged EU, building up trade linkages with the Eastern EU Member States while keeping strong ties with the Western EU and third countries. With the exception of Spain – which enjoyed a slight increase in market share – deficit countries saw their market shares shrink already before the crisis.

The surplus countries benefited from a favourable export structure, but this advantage appears to have vanished since the crisis. A shift-share analysis allows the factors behind changes in export market shares to be identified. ([51]) It separates the initial structural factors (the role of the geographical and product specialisation) from performance factors (reflecting the role of competitiveness). ([52]) Before the crisis, all surplus countries benefited from the positive effect of the geographical composition of their exports on their market shares, as their exports were mainly shipped to dynamic markets with a strong demand. This effect was particularly strong in Finland, Austria and Germany. However, they have lost this advantage since the crisis, as most of their exports go to other, now less dynamic European economies. Thus, the geographical specialisation of EU markets has been a detrimental factor since 2007. The product structure of surplus countries did not have a particularly strong effect before the crisis, but specialisation in relatively weak product segments has started to act as a drag for some of them since then.

Graph 4.6: **Export growth decomposition 2000-2007**



Note: 'Geographic destination composition' and 'product composition' capture the effect of the initial specialization in geographical markets and products, respectively. The other two items capture dynamic competitiveness factors in products and geographical markets, respectively.

Source: Commission services calculations based on COMTRADE

Competitiveness effects have played a significant role in Germany and Netherlands and to a lesser extent also Belgium and Austria. These factors, other than the initial export structure, are a reflection of these countries' performance in products and geographical markets and can be understood as reflecting both price competitiveness developments (typically a successful strategy when competing in markets for standardised goods or in lower-income markets) and non-price competitiveness (important when competing in higher-income destination countries or in differentiated products). However, even before the crisis, these factors drove market shares losses in Finland, Denmark and Sweden, thus

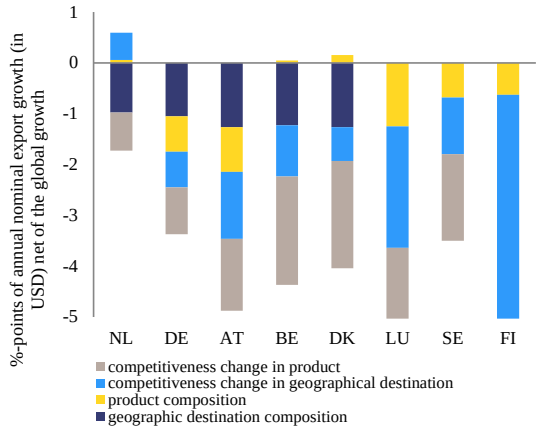
([50]) Based on the share in total world exports in goods; source: WTO.

([51]) The analysis decomposes total nominal export growth per country (net of the global import growth) into four components: (i) destination markets dynamism, (ii) product specialization dynamism, (iii) export growth to destination markets above their average growth, (iv) export growth in product markets above their average growth. The decomposition tells whether a country was initially specialised in geographical destinations and/or sectors with dynamic or sluggish demand as well as whether a country has increased or decreased its share in these geographical or product markets. See also Irigoyen *et al.* (2012).

([52]) The initial structure factors measures the dynamism of demand in destination countries and of the product mix. The performance or competitiveness factors reflects countries' export strategies within geographical and product markets. Note that competitiveness here is used in a very broad sense covering both price and non-price considerations.

partially offsetting the positive contribution of the initial export structure.

Graph 4.7: **Export growth decomposition 2007-2010**



Source: Commission services calculations based on COMTRADE. See notes for Graph 4.6.

The impact of external developments

External factors had a substantial and asymmetric impact on export performance of Member States and contributed to widening deficits and surpluses. In particular, there were three main external developments that affected current accounts. *First*, the fast rise of China and other emerging economies increased competition, but also led to increased demand in some goods. Initially, competition concerned the labour-intensive and low-tech segments, but progressively shifted to higher-value added ones too. Hence, the fast integration of low-cost emerging economies had a significant impact on market shares and accelerated the trend towards deindustrialisation and the move towards services in many advanced economies. *Second*, increasing commodity prices, chiefly oil, but also food, increased costs for many European industries and affected firms' profitability. At the same time, oil-exporting countries used an important share of their revenues to satisfy their domestic demand through imports from advanced economies, including in the EU. ([53]) *Third*, an additional important factor was the enlargement of the EU to Central and Eastern Europe. The inclusion of these dynamic economies in the EU's internal market fostered competition and offered opportunities for productivity gains from the reallocation of some activities towards the new Member States. ([54]) These external shocks have had very differentiated impact on individual EU economies, including their external positions (Chen *et al.*, 2012). Some EU countries managed to turn these challenges to their advantage and reap considerable benefits. For example, Germany and Austria have benefited from the new outsourcing opportunities in the enlarged EU.

China has posed a major challenge to both surplus and deficit countries. The extent of competition from China can be broadly captured by a comparison of export structures. An export similarity indicator, like the Finger-Kreining index ([55]), measures the overlapping of exports between China and the EU countries. Contrary to the widespread perception, the index shows that China has posed a challenge to both surplus and deficit countries. ([56]) That Chinese competition concerns almost all EU countries is due not only to China's size but also to its highly diversified exports. However, within this broad range, particularly intense competition is concentrated in a few sectors: mineral products, miscellaneous manufacturing (which includes furniture and toys), textiles and footwear. On the contrary, in some other sectors, such as chemicals or vehicles, overlapping is very low in relative terms. ([57]) The

([53]) See, for example, Beck and Kamps (2009).

([54]) On the impact of the EU accession on the acceding Member States' economies, see Keereman and Székely (2010).

([55]) The Finger-Kreining index of export similarity is calculated as:

$$s_{a,b} = \sum_i \min\left(\frac{X_{i,A}}{X_A}, \frac{X_{i,B}}{X_B}\right)$$

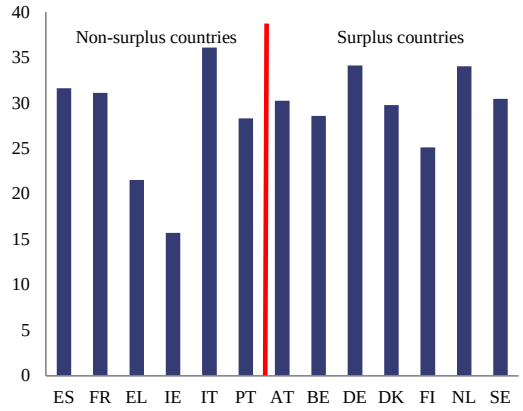
where: $X_{i,A}$: exports of good i by country A; X_A: total exports by country A; $X_{i,B}$: exports of good i by country B; X_A: total exports by country B. It should be noted that the results are sensitive to the level of disaggregation (see Schott, 2004). The index computed in this Chapter is based on a detailed set of approximately 6000 products.

([56]) Greece and Ireland are, in this respect, exceptions as they exhibit the lowest degree of overlapping with China across EU countries.

([57]) Note that the actual challenge in terms of competition in international markets needs to take into account the importance of each sector in total exports of a country. As a way of example, for the textiles sector (which is seen as one the sectors most affected by China breaking into international markets) Italy and Portugal show a high overlapping with China and a relatively high share in total exports while Spain and France show a similar overlapping degree with China but a low share in total exports. Greece is an example of country with low overlapping, although the share in total exports is relatively high.

broad range of products, covering both low-tech and high-tech goods, means that China competes with deficit, as well as surplus countries. For example, exports of high-tech goods in China already represent 34 per cent of China's total exports. This is above the shares of high-tech products for the Netherlands which stands at 28 per cent and Germany, Belgium, Denmark and Sweden, where it is around 20 per cent. ([58]) On the other end of the scale, one can find the exports of low-tech goods for which low prices from China play a key role in driving competition and that have a relatively high weight in exports of large deficit countries (37 per cent in Portugal, 23 per cent in Spain).

Graph 4.8: **Export similarity index: China vs EU countries**



Note: Finger-Kreining Index calculated over a breakdown of total exports to the rest of the World into 6000 products.

Source: Commission services based on COMTRADE.

However, some surplus countries, particularly Germany, benefited from demand from emerging and also oil-producing economies for machinery and investment goods. Chen et al. (2012) conclude that it was particularly the peripheral euro area countries whose exports competed with those of emerging countries, while the core countries led by Germany coped rather well. On the other hand, Breinlich and Tucci (2011) find that also in the case of Italian firms the increased demand from China broadly compensated for the higher export competition.

([58]) In Spain, they amount to 11 per cent and less than 8 per cent in Portugal.

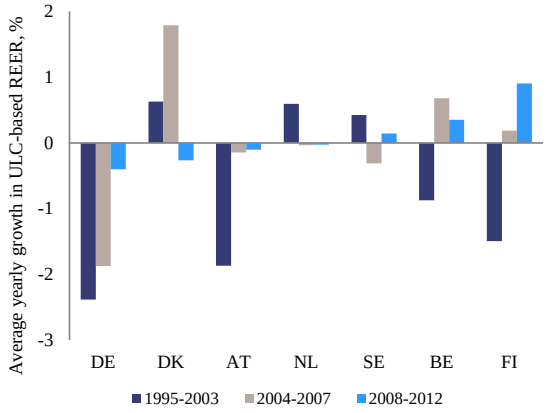
4.3. COMPETITIVENESS AND WAGE DEVELOPMENTS

Broad cost-competitiveness indicators

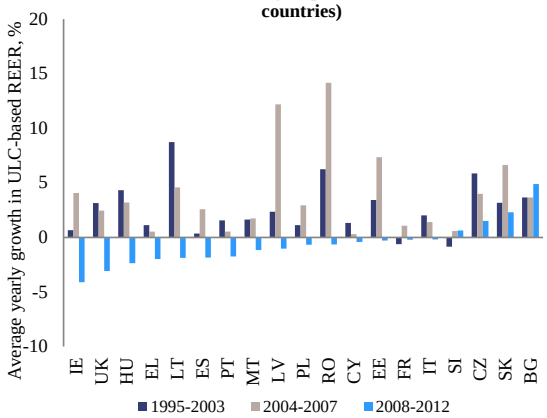
Real effective exchange rates (REER) showed diverging patterns in the period during which the current account imbalances were widening in the EU. The euro area surplus countries, with the exception of the Netherlands, recorded substantial depreciations in their REER based on unit labour cost (ULC) during the period 1995-2003 (Graph 4.9). In the case of Germany, this depreciation continued in the subsequent period, although at a much slower pace. The variations in REER have generally been smaller since 2008, which has also been related to dynamics in the other countries. The REER dynamics in the deficit countries differed considerably from other EU economies. Most of them recorded considerable appreciations in the period preceding the crisis, followed by corrections after 2008 (Graph 4.9).

The external value of the euro drove many of the developments in competitiveness before the crisis. The appreciation in the euro nominal effective exchange rate contributed significantly to the changes in REER in 1999-2007 (Graph 4.9) In most of the surplus countries, relatively moderate price and cost developments compensated for the nominal exchange rate shifts. On the other hand, deficit countries like Ireland, Spain or Portugal experienced rather dynamic ULC or consumer inflation which further compounded it.

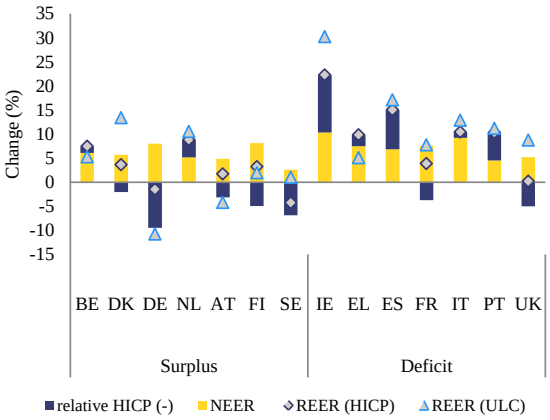
Graph 4.9a: **Surplus countries - REER based on ULC (relative to a group of 35 industrialised countries)**



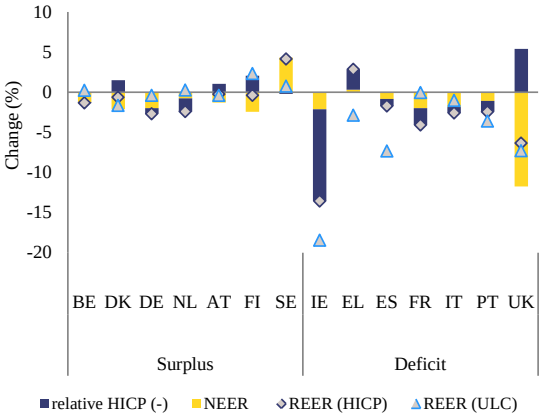
Graph 4.9b: **Non-surplus countries - REER based on ULC (relative to a group of 35 industrialised countries)**



Graph 4.9c: **REER decomposition (1999-2007)**



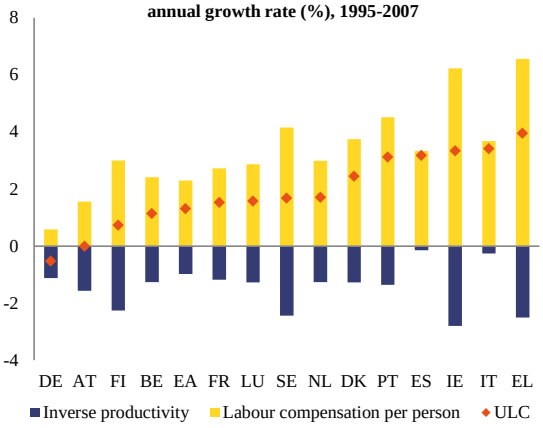
Graph 4.9d: **REER decomposition (2008-2011)**



Note: The change in the nominal effective exchange rate (NEER) minus the change in the relative harmonized consumer price index (HICP) gives the change in REER (plus compounding effects). The change in relative HICP is the domestic inflation rate vs the trade partners´inflation rate.
Source: Commission services.

ULC growth divergences across surplus and deficit countries emerged mainly from wage developments. The decomposition of ULC growth into labour costs and labour productivity contributions shows that cross-country differences came primarily from differences in developments of compensation per employee, while changes in labour productivity were more homogeneous before the crisis (Figure 4.10). However, poor productivity growth played an important role in some deficit countries. In the case of Spain, for example, the low productivity growth was driven by a reallocation of resources towards low-productivity sectors (*e.g.* construction).

Graph 4.10: **ULC, labour productivity and labour cost annual growth rate (%), 1995-2007**



Source: Sectoral Performance Indicators (SPI) database. Note: the variables refer to the whole economy.

Table 4.1:

Annual average differences between the growth rate in compensation per employee and wage benchmarks

Country	Benchmark 1 Price competitiveness			Benchmark 2 Productivity			Benchmark 3 Fundamentals		
	1995-2003	2004-2007	2008-2012	1995-2003	2004-2007	2008-2012	1995-2003	2004-2007	2008-2012
AT	-1.9	-0.2	-0.1	-0.9	-1.1	0.6	-0.3	-1.4	-1.6
BE	-0.9	0.6	0.3	0.0	-1.1	0.9	0.0	-0.7	-1.0
DE	-2.4	-1.9	-0.4	-0.3	-2.0	0.9	0.6	-2.0	-1.6
DK	0.6	1.7	-0.3	0.4	0.0	0.0	-0.3	0.4	0.0
FI	-1.5	0.1	0.9	-0.8	-0.4	1.3	-0.9	-0.6	-0.5
LU	.	.	.	-0.1	-2.6	2.1	0.4	0.5	-2.1
NL	0.5	-0.1	0.0	-0.4	-1.2	1.0	0.0	0.5	0.1
SE	0.3	-0.4	0.2	0.1	-0.7	-0.3	0.8	0.9	-0.5
Av. Surp.	-0.8	0.0	0.1	-0.3	-1.1	0.8	0.0	-0.3	-0.9
Av. Oth. EU	1.3	3.4	-0.8	-0.7	-0.4	0.0	0.2	0.5	-1.2

Note: non-weighted averages.
Source: Commission services calculations based on AMECO.

Wage developments: looking for a benchmark

Wage developments affect imbalances, as they influence cost competitiveness. Wages and other labour costs influence the prices of export-oriented industries; moreover, they have an impact on domestic demand which drives imports. Wage increases lead to ULC-based REER appreciation if they are not offset by productivity developments or mark-up reductions, or matched by similar increases in partner countries. However, wage developments are determined endogenously and rarely reflect fully exogenous shocks. Wage outcomes are determined primarily by the balance between domestic demand and supply of labour, but wage setting conditions and institutions have implications for wage outcomes too.

Particularly in monetary unions, competitiveness adjustment linked to different wage dynamics helps to cushion asymmetric shocks. Market-driven wage adjustments contribute to narrow cyclical divergences in monetary unions. For instance, a large and positive output gap leads not only to an increase in import demand, but also to wage growth and to a competitiveness loss, with implications on net exports and output. In a country experiencing negative output gaps, a decline in relative wages strengthens competiveness, and hence net exports and output.

To evaluate whether wages grew too quickly or too slowly in a country, one must determine appropriate benchmarks to which actual wage growth can be compared. Three benchmarks are used in this section; each of them is related to desirable macroeconomic outcomes: Benchmark 1 is based on maintaining cost competitiveness. Benchmarks 2 and 3 express balanced labour demand and supply, with wages growing in line with productivity and with macroeconomic fundamentals, respectively. Wage developments are assessed by taking the difference between the growth rate of compensation per employee and each of the three benchmarks. These differences suggest excess or sluggish wage growth. Table 4.1 presents the wage benchmarks for three different time periods (1995-2003, 2004-7 and 2008-11). For instance, the first column shows that, in 1995-2003, the real compensation in Austria (-1.9) grew, on average, by less than what would be needed to keep the REER constant ([59]).

([59]) Constant cost competitiveness is chosen for convenience and is not an end on its own: if a country has a stronger relative productivity growth in the tradable sector compared with partner countries and with its own non-tradable sector, then the REER could appreciate due to rising wages throughout the economy (especially if wage

The fourth column then shows that it grew by less than productivity during this period (-0.9) and the seventh column shows that it also grew by less than what would be predicted by the average historical macroeconomic trends. ([60])

The differences with the benchmarks show how wage developments have contributed to improvements in the cost competitiveness of the surplus countries:

- **The improvements in nominal cost-competitiveness of the surplus countries were significant in 1995-2003**, as illustrated by Benchmark 1. In this period, wages grew below what was needed to keep the REER constant in a number of surplus countries, although the heterogeneity among the 'surplus' group was considerable and increased in the following periods. Germany and Austria were the only two countries that recorded a lower wage growth than was needed to prevent the REER from depreciating in all three periods considered. In the period preceding the crisis, wage growth was, on average, aligned with maintaining the REER constant in the surplus countries, while it was too high in the remaining countries. In 2008-12, the average wage growth in surplus countries continued to be broadly in line with the REER maintenance while the average for the other countries shows that the wage growth contributed to depreciation of the REER.

- **Real compensation per employee grew well below productivity in most surplus countries before the crisis** (Benchmark 2). While before the crisis all surplus countries (with the exception of Denmark) recorded growth rates of productivity exceeding those of real compensation per employee, the reverse occurred in 2008-12. A comparison with other EU countries shows that real wages grew on average below productivity in both groups, but the difference was larger in the surplus countries in 1995-2003. In the subsequent period, the surplus countries saw lower wage growth than productivity growth compared to the remaining EU countries. Finally, after the onset of the crisis, wages grew on average 0.8 points per year above productivity in surplus countries, but grew in line with productivity in the others.

- **Nominal wage growth was more subdued before and during the crisis in the surplus countries than could be explained by the fundamentals** (Benchmark 3). Apart from Denmark and the Netherlands, all of the other surplus countries recorded a wage growth considerably below the level suggested by variations in fundamentals, such as the unemployment rate, productivity and inflation. Over the three periods, Austria, Germany and Finland experienced wage growth lower than could be predicted by average historical macroeconomic trends. Germany, in particular, recorded a very strong wage moderation in the period that preceded the crisis. This benchmark also shows stronger wage dynamics in non-surplus countries before the crisis, while afterwards the wage dynamics were more moderate than in the surplus countries.

Overall, post-2008 wage developments against the three benchmarks demonstrate their contribution to the intra-euro area rebalancing. Before the crisis, surplus countries recorded more subdued wage dynamics than after 2008, according to Benchmarks 1 and 2. On the contrary, Benchmark 3 shows more subdued dynamics in the period after the onset of the crisis. This may be explained by the relatively low levels of unemployment in surplus countries, compared to the rest of the EU. The averages show that all three benchmarks point to stronger dynamics in surplus countries than the other countries after 2008.

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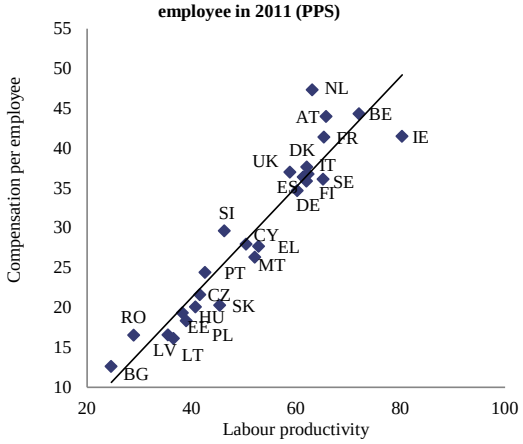
setting in the tradable sector impacts on wage setting of the overall economy and the wage setter productivity of non-tradable grows less than the one in the tradable sector) without significant implications for the export performance. Similarly, the correction of external imbalances may require decreasing rather than simply a constant REER.

([60]) This third benchmark is estimated by a macroeconomic wage regression that explains nominal compensation growth with inflation, growth in labour productivity and changes in the unemployment rate. The specification can be regarded as a reduced form for wages dynamics. Thus, this benchmark shows whether compensation per employee developments have been in line with average historical macroeconomic trends or have deviated from them due to temporary or structural factors.

More recent wage developments point to relative robust increases in compensation per employee in surplus countries. After subdued development in 2009, the growth rate in compensation per employee accelerated in most surplus countries (Graph 4.13). In Germany, after having reached negative rates in the first quarter of 2010, compensation per employee accelerated to peak at 3.6 per cent per year, in the second quarter of 2011. The growth rate in compensation decelerated thereafter but was still growing at 2.4 per cent in the second quarter of 2012.

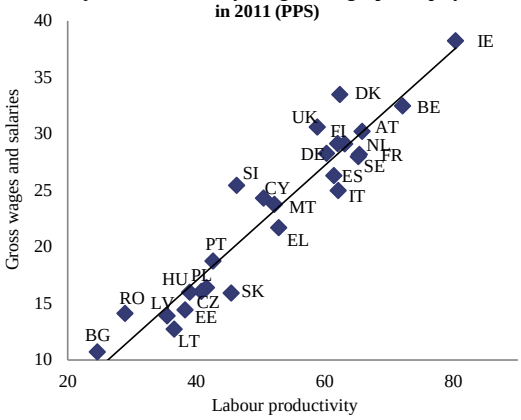
Graph 4.11: **Productivity and compensation per employee in 2011 (PPS)**



Source: Commission services.

Beyond their growth, the levels of compensation and productivity are also important in assessing trends. There is an alignment between the levels of compensation per employee and productivity across the EU member states (Graphs 4.11 and 4.12). The heterogeneity in wage levels thus generally reflects productivity differentials. Interestingly, Germany, which experienced a long period of wage moderation, stands just below the correlation line, indicating little misalignment between wages and productivity.

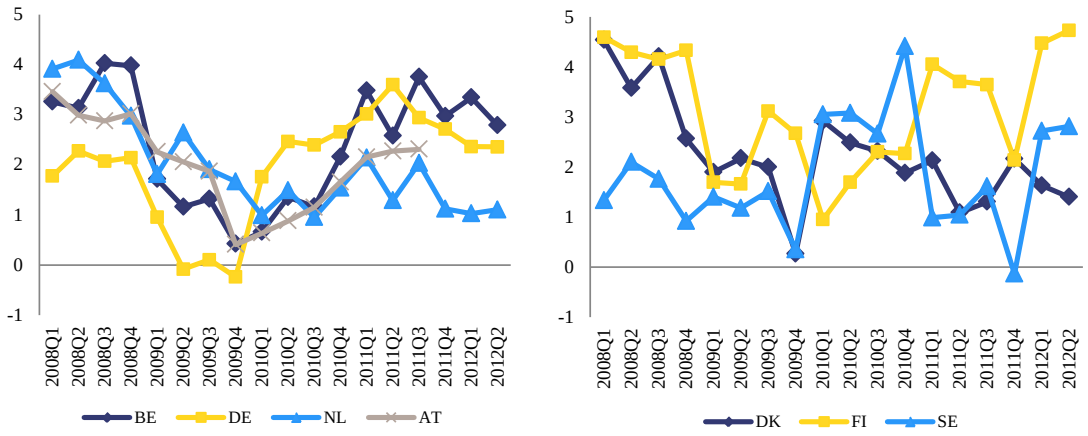
Graph 4.12: **Productivity and gross wages per employee in 2011 (PPS)**



Source: Commission services.

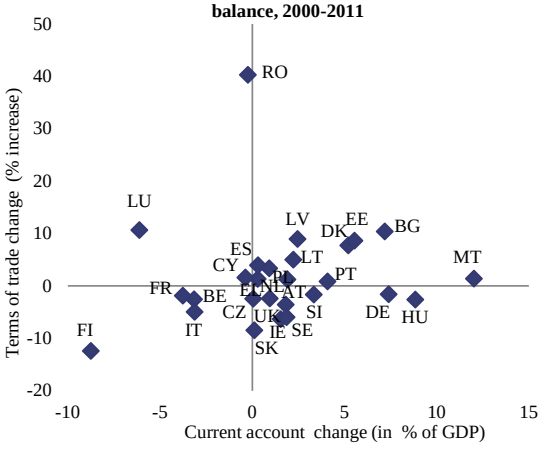
As a result of relatively subdued wage developments, wage shares declined in surplus countries, while corporate margins and savings increased. Graph 4.15 shows that the wage share declined gradually in the surplus countries in the period 2003-7. The same happened in the rest of the EU, though to a much smaller extent. A

Graph 4.13: **Recent developments in compensation per employee in surplus countries**

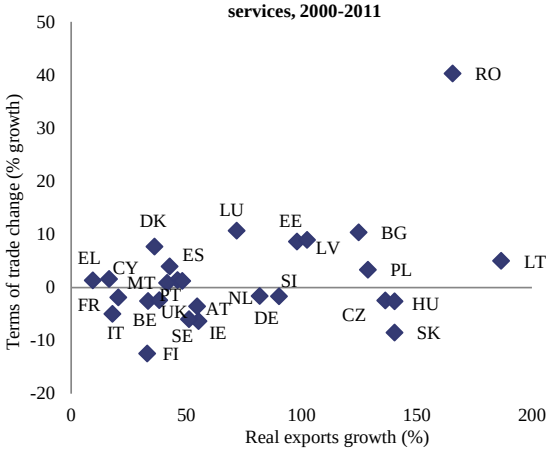


Note: No data available for LU.
Source: Eurostat.

Graph 4.14a: **Terms of trade and current account balance, 2000-2011**



Graph 4.14b: **Terms of trade and exports of goods and services, 2000-2011**



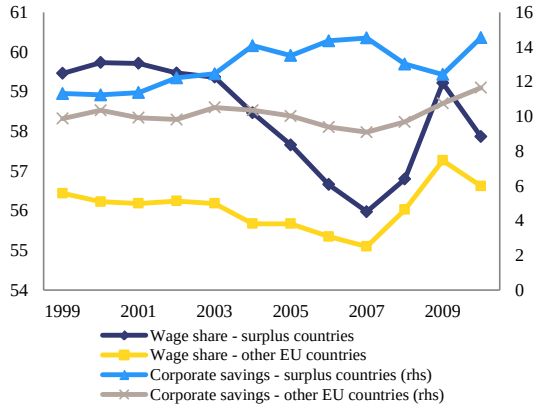
Source: Commission services.

reduction in wage shares leads to higher profit margins. While this resulted in an increase in corporate savings in the surplus countries, the reverse has occurred in the other countries. Therefore, while a representative firm in the surplus countries increased savings and reduced its debt, the sharp decrease in interest rates and higher wage costs incited a comparable firm in the EU periphery to borrow.

Policies and institutions directly affecting wage setting are not likely to be at the root of surpluses. Policies having an impact on the bargaining system are not likely to be the cause of accumulations of surpluses, since upward constraints and ceilings on wages are not common. Among the surplus countries, Germany is a case in point, with a sustained period of wage moderation lasting for an entire decade. However, as Box 4.1 describes, there have been a number of factors that can explain this development. Structural and institutional developments had implications for the relative bargaining power of workers and employers. Moreover, collective agreements started taking competitiveness into account explicitly in wage negotiations, and opt out clauses became common based on competitiveness concerns. The Hartz reforms contributed to the moderation in wages because of their impact in increasing labour supply and reducing reservation wages. Indeed, the period of wage moderation was protracted, which may also reflect some inertia in collective agreements, especially before the crisis.

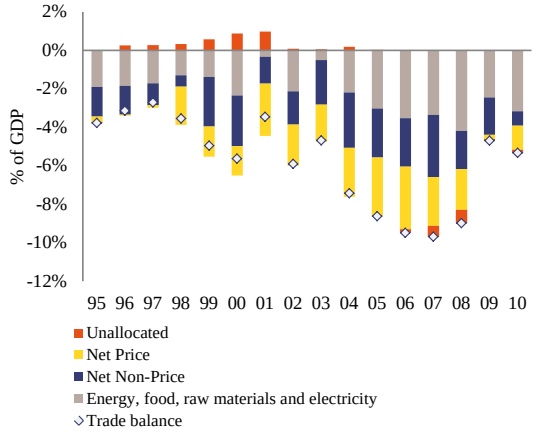
In a rebalancing context, policies with a direct bearing on labour costs should be discussed in a coordinated manner. One has to distinguish between policies that aim at tackling problems with the labour market function from those that have the primary goal of targeting competitiveness. Some policies should be discouraged, if not justified by fundamentals. This could be particularly the case of fiscal devaluations in countries with tight employment or reforms of wage setting aiming at fostering wage moderation in the surplus countries. For instance, fiscal devaluations should be discussed in multilateral settings to be judged on their own merits before a decision of implementation is taken.

Graph 4.15: **Wage shares and corporate savings ratio over GDP**

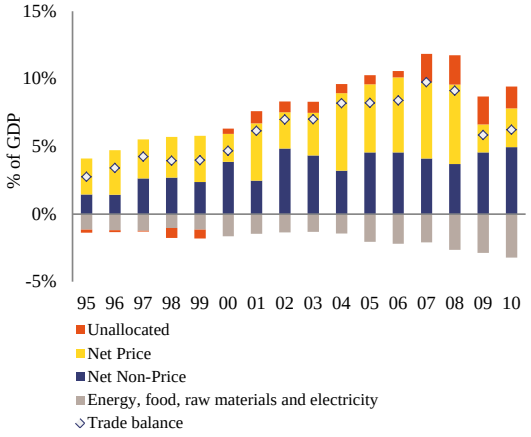


Source: Commission services.

Graph 4.16a: **Trade balance decomposition, ES**



Graph 4.16b: **Trade balance decomposition, DE**



Source: Commission services calculations based on Osbat, Özyurt and Karlsson (2012).

Non-price competitiveness

Non-price factors appear to have been even more powerful than price competitiveness in explaining export growth. The improvements in cost competitiveness in a number of surplus countries, and particularly in Germany, had an effect on exports and contributed to the growing trade surpluses. However, their exports appear to have been much more reactive to foreign demand and other factors than to price considerations. ([61]) Thus, the export success of surplus countries with decreasing or stagnant REERs up to the crisis (Germany, Austria, Sweden) is not exclusively due to relative prices. Deficit countries experiencing real appreciations, such as Spain, have also been able to maintain, and even improve, their export performance (Graph 4.16). This finding also indicates that cost considerations may not be enough to induce the rebalancing in the external trade balances.

The trade literature suggests that export performance cannot be fully explained by price indicators, such as REER, ULC or disaggregate indicators. Following Feenstra (1994) and Aiginger (1997), numerous studies investigated this issue and link it to apparent impact of quality. Osbat, Özyurt and Karlsson (2012) use a refined data set on trade in 5000 goods and service sectors to disentangle price and non-price competitive items on trade balances. Results show that price and cost advantages indeed explain a sizeable part of European surpluses (Graph 4.17). Nonetheless, both trade surpluses and deficits are affected by non-price competitiveness to a considerable degree. This not only extends to goods and services, but also to commodity imports. ([62])

In the case of Germany, both price and non-price factors seem to have driven the widening trade surplus over the past decade (Graph 4.17). For other surplus countries the impact of price effects is less pronounced. The worsening of deficit in the euro area periphery may mostly be attributed to a worsening of the commodity trade deficit and non-price competitiveness (Graph 4.16 exemplifies this for Spain). Germany, in contrast, is characterised by a high structural importance of non-price competitive sectors, but the part of trade balance stemming from price-competitive sectors has increased.

([61]) An export equation on REER and foreign demand shows that other, unknown, factors (that in a rough approximation could be identified as non-price competitiveness factors) have played a larger role in explaining exports growth than relative prices. See European Commission (2010c), in particular section 2.2.

([62]) Commodity imports are also characterised by rather inelastic demand. Changes in commodity prices therefore have the tendency to influence the value of surpluses but much less the imported quantities. However, this feature applies to all EU economies – the difference in the impact of commodity prices mainly depends on the varying degree of energy intensity, as may be inferred from Graph 4.17.

Box 4.1: **Understanding wage moderation in Germany.**

The trend increase in unemployment in Germany, which was a feature of the 70s, 80s and 90s, was halted only at the turn of the century. In the 90s, the increase in unemployment was partly a result of adverse supply and demand shocks that followed reunification. From the early 90s on, wage growth was slow both from an international perspective, and when compared to the earlier German experience. The wage moderation intensified over the last decade. While in the late 1990s, the real compensation of workers increased faster than the EU-15 average, from 2003 it stayed well below that benchmark. This contributed to improved competitiveness, by reducing unit labour costs (ULC), while the real effective exchange rate (REER) depreciated compared to the trading partners in the euro area. When REER developments are assessed against a larger group of competing economies competitiveness, REER improved much more moderately, given the strengthening of the euro exchange rate, and the improvement was much smaller than in the late 1990s.

Several factors contributed to the wage moderation in Germany. The industrial relations institutions, decentralisation of collective agreements and the Hartz reforms, as well as the enlargement of the EU to Eastern countries and globalisation, are among the most important factors.

The German wage bargaining institutions and the system of industrial relations helped the process of improving the functioning of the labour market. For several decades, the employees' participation in the management of larger companies has become the norm, with representatives of workers sitting on companies' supervisory boards. This practice, the so-called *Mitbestimmung* (or co-determination) has allowed for a better alignment of the interests of employers and employees, and encourages consensus seeking.

Since the 1990s, collective bargaining became more decentralised. More and more sector-level collective agreements – the guiding level in German collective bargaining – have included 'opening clauses,' that allow opt outs at the firm-level. A growing share of establishments covered by collective bargaining indeed use opt-outs – *i.e.* they are able to set more flexible working time or salaries. (Eurofound, 2010). Policy reforms in the 2000s, including the Hartz I-IV packages, played a key role in increasing the flexibility and job creation capacity of the labour market. First, they increased labour supply as they made unemployment benefits less attractive and shorter. Second, they improved matching by enhancing the work of the Federal Employment Agency as well as active labour market polices (ALMPs). Third, they allowed for more atypical employment, by liberalizing the use of fixed-term and temporary agency work. This supported the emergence of a low-wage segment with limited social contributions – which meant employment creation, amid limited wage growth.

The EU enlargement, low wage competition from the East Asia and Eastern Europe and technology improvements facilitated the externalisation of production. This reduced domestic investment while boosting productivity and profits. (Bonatti and Fracasso, 2012). However, contrary to public perception, outsourcing that resulted in increased imports of intermediate products for subsequent processing into exports may not have led to a net loss of employment. While the production of goods for export in 2006 absorbed less low-skilled labour in the primary and secondary sectors than in 1996, demand increased strongly for low-skilled work in the tertiary sector. Germany remained a net exporter of skilled labour, embodied in its exports. (Brautzsch and Ludwig, 2012).

Wage moderation was stronger in non-tradable sectors, in contrast with developments in the euro area periphery. While compensation of employees tended to grow hand-in-hand in tradable and non-tradable sectors elsewhere, compensation in the German non-tradable sector was remarkably muted. In the 2000s, this was likely enhanced by the labour market reforms incentivising the take up of low-paid and part-time employment –which is more widespread in a number of non-tradable, local, services– and has contributed to higher employment. Companies producing tradable goods cannot avoid using local non-tradable inputs, so their relative cheapening increases the international competitiveness of exporters as well.

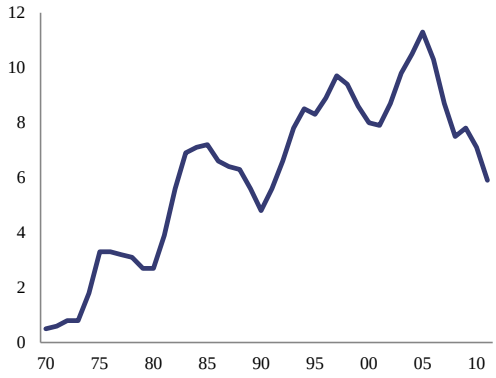
During the crisis the wage bargaining system played an important role in preventing employment losses. A number of companies used working-time accounts (*Arbeitszeitkonten*), that allow adaptation of working time to demand, with a similar effect to short-time work arrangements (*Kurzarbeit*, that allow reduction of working time and pay). All these factors contributed to the fact that, while economic activity declined by more than 5 per cent in 2009, companies mostly reacted through internal restructuring rather than firing workers – and unemployment stayed on its declining trend. However, the decline in the coverage of trade unions also contributed to wage moderation. The use of company-level agreements for work (*Betriebliche Bündnisse für Arbeit*), according to which employees accept flexibility or even reductions of pay for maintenance of jobs also mitigated the impact of the economic crisis, and of globalisation, while contributing to wage moderation. (Bogedan *et al*, 2011).

After 2009, wage dynamics started to pick up, as the labour market tightened. There has been an increasing shortage of skilled labour and more calls for 'wages better in line with productivity.' In May 2012 IG Metall concluded a collective agreement setting a 4.3 per cent wage increase for a 13-month period. This agreement is likely to set the benchmark for 3.3 million engineering workers nationwide As long as unemployment divergences among the EU last, one can expect to see a stronger wage dynamics in surplus countries, particularly in Germany, which could contribute to the intra-euro area rebalancing.

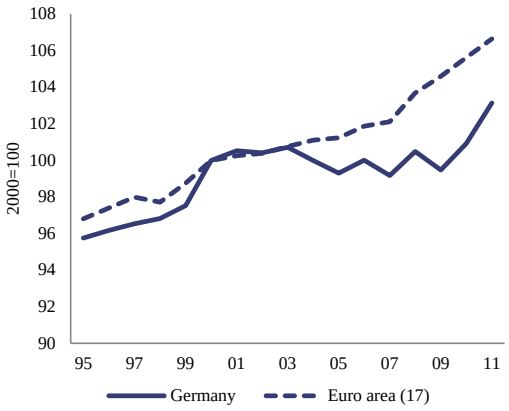
(Continued on the next page)

Box (continued)

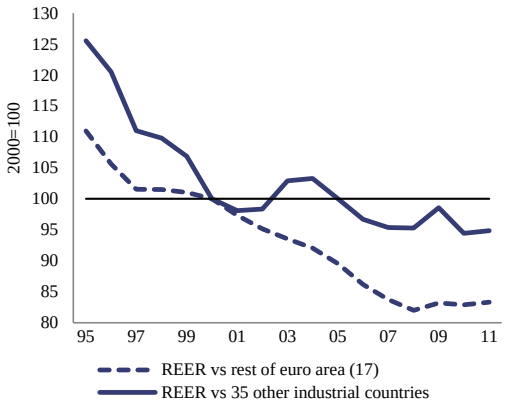
Graph 1a: **Unemployment rate in Germany**



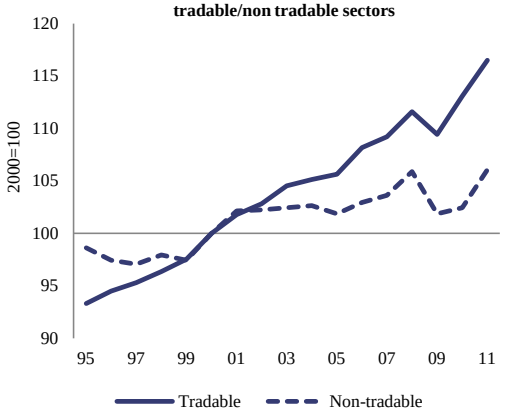
Graph 1b: **Real compensation per employee**



Graph 1c: **Real effective exchange rate in Germany**

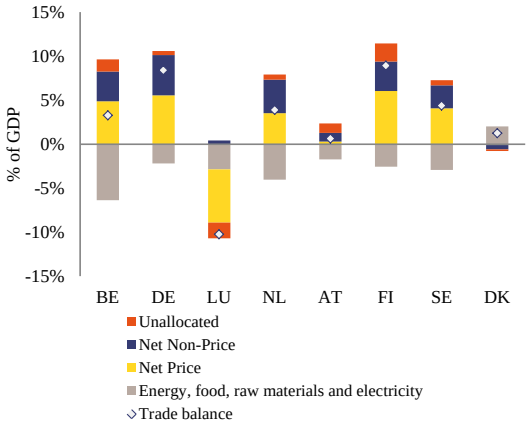


Graph 1d: **Nominal compensation per employee in tradable/non tradable sectors**



Source: Commission services and Eurostat

Graph 4.17: **Trade balance decomposition, 2006**



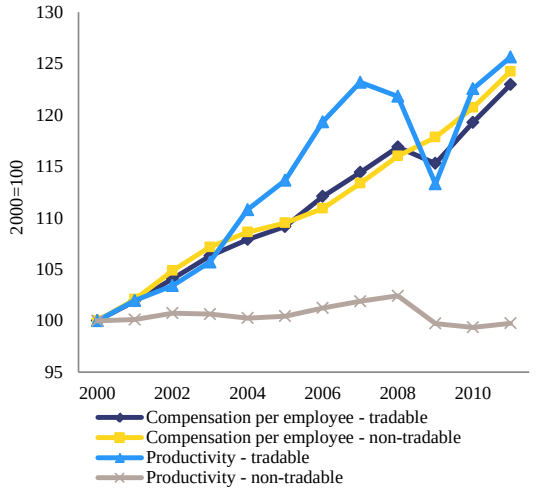
Source: Commission services calculations based on Osbat, Özyurt and Karlsson (2012).

4.4. SECTORIAL DEVELOPMENTS AND IMBALANCES

The dynamics between the tradable and non-tradable sectors in an economy influence the widening and unwinding of external imbalances. Moderate dynamics in non-tradable sectors are, over the medium term, conducive to reallocation of activities to tradable sector, thereby helping the adjustment of current account deficits or accumulation of surpluses. There is empirical evidence on the link between the dynamics of productivity in tradable and non-tradable sectors and the current accounts: large surpluses are linked to rapid productivity growth in manufacturing

compared to services. ([63]) In surplus countries, weak domestic demand, a highly competitive tradable sector and relatively low productivity in the non-tradable sector all seem to have encouraged an allocation of resources favouring exporting activities. Policies directed at strengthening domestic demand may, over the medium term, be conducive to a shift of labour from tradable to non-tradable sectors, thereby helping rebalancing the economy. ([64])

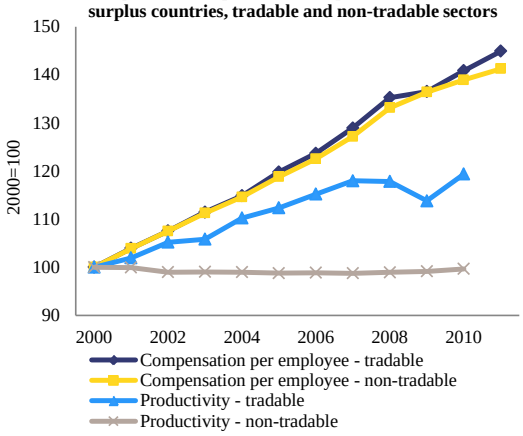
Graph 4.18: **Compensation and productivity in surplus countries, tradable and non-tradable sectors**



Source: Commission services.

Wages expanded less in surplus than in deficit countries in both tradable and non-tradable sectors before the crisis. Compensation per employee grew on average at the same rate in tradable and non-tradable sectors in the surplus countries until 2008. ([65]) In the non-surplus countries, compensation in both sectors also followed roughly the same pace (Graph 4.19), which was, however, clearly above the wage dynamics in the core euro area countries and also productivity growth. These cross-country dynamics contributed to reduced margins in the tradables sectors and crowded out the export-oriented firms in the deficit countries. After 2008, compensation was growing significantly faster in non-tradable sectors in the surplus countries, which may be conducive to a relocation of labour towards this sector, thereby helping rebalancing their economies. In the rest of the EU, there has been a slight deceleration in the growth rate of compensation in non-tradable and an increase in the growth rate of compensation in tradable sectors.

Graph 4.19: **Compensation and productivity in non-surplus countries, tradable and non-tradable sectors**



Source: Commission services.

Productivity in market services was also more dynamic in the surplus countries than in the EU periphery. Labour productivity in market services registered a moderately positive evolution in most surplus countries, which contrasts with its poor performance in other countries. In 2000-7, labour productivity in market services grew at an annual rate above 1 per cent in Sweden, the Netherlands, Luxembourg, and Belgium and above ½ per cent in all the other surplus countries. In contrast, it was negative in both Italy and Spain. The use of different measures of productivity, like multi-factor productivity, ([66]) shows that in 2007 the five

([63]) See Cova (2009) for the US, euro area and Japan. See Coricelli *et al* for Germany.

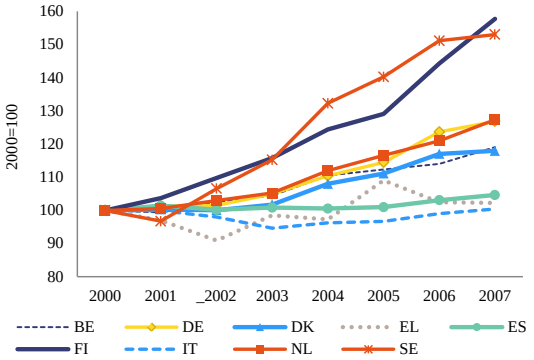
([64]) Balassa-Samuelson effects can make real appreciation of REER more benign. Under the hypotheses that (i) prices of tradables are set at international markets; and (ii) wages are equal across sectors, then wage increases in the sector with productivity gains (*i.e.* the tradable sector) will spread to the sector with relatively lower productivity gains (*i.e.* the non-tradable sector). As a consequence, the ULC in the non-tradable sector will rise and so will the REER (assuming of course that those increases are not matched or superseded in trading partners).

([65]) Note though that sectorial developments in Germany differed somewhat from other surplus countries (see Box 4.1).

([66]) More detail can be found in a study commissioned by the Directorate-General for Economic and Financial Affairs and performed by Ecorys on "Spill-overs from malfunctioning services markets and economic performance" in March 2012.

EU Member States with highest multi-factor productivity levels in market services were all in the group of surplus countries (Netherlands, Sweden, Denmark, Belgium, Germany), while Member States with the largest and most persistent deficits, such as Spain, were at the bottom of the productivity ranking. This suggests that, in general, surplus countries have more productive production structures and benefited more than non-surplus countries from the combined effect of new technologies and organisational changes, economies of scale and all other factors that can be behind multi-factor productivity (see Table 4.2).

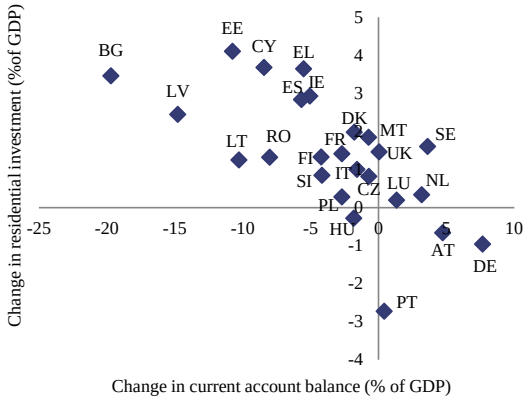
Graph 4.20: **Labour productiviy in manufacturing (per person employed, 2000-2007)**



Source: Eurostat

In the surplus countries, labour productivity growth in manufacturing outpaced productivity growth in services. Except for Luxembourg (where productivity in services grew faster than in manufacturing, which is linked to the size of the financial sector in the economy), productivity growth in services was lower than productivity growth in the buoyant manufacturing sector (see Figure 4.22). Some large deficit countries such as Spain show the same pattern, but it reflects the reallocation of resources towards the low productive construction sector rather than a dynamic and productive manufacturing sector (with a productivity growth considerably inferior than the one observed in surplus countries). Besides, the relative productivity gap between manufacturing and services was generally larger in surplus countries. Thus the dynamism of manufacturing productivity observed in surplus countries was not extended to the services sector.

Graph 4.21: **Residential investment and current account balance, 2001-2007**



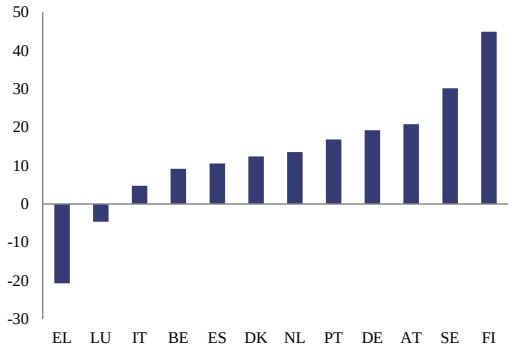
Source: Eurostat

Table 4.2:
Multifactor productivity index in market services, USA 1995=100

	Index: 1995	Index: 2007	Average annual MFP growth rate 1995-2007 (%)
ES	88	98	0.9
SI	55	65	1.5
DK	**110**	**135**	**1.7**
IT	68	85	1.9
AT	**71**	**90**	**2.0**
JP	53	70	2.4
DE	**95**	**131**	**2.8**
AU	82	115	2.8
FI	**77**	**108**	**2.8**
BE	**95**	**132**	**2.8**
SE	**103**	**144**	**2.9**
NL	**109**	**156**	**3.0**
CZ	46	67	3.1
US	100	145	3.2
HU	50	74	3.2
UK	79	120	3.5
FR	82	127	3.7

Source: Monteagudo and Dierx (2009)

Graph 4.22: **Relative labour productivity growth: manufacturing vs services (2000-2007)**

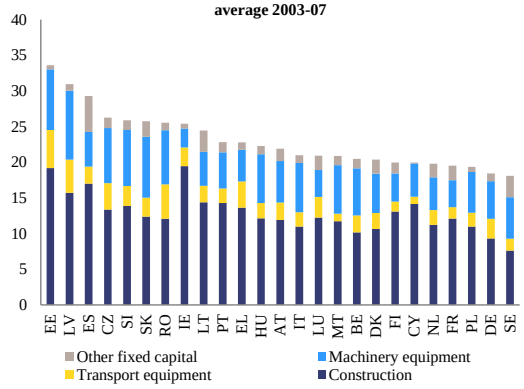


Source: Commission services calculations

Differences in sectorial composition are also reflected in the allocation of investment, which is a major determinant of the current account balance. Indeed, both surplus countries and deficit countries were characterised by offsetting divergences in saving and investment rates in the pre-crisis period, with Germany displaying the lowest investment rate in the euro area. Overall, this is in line with the hypothesis of overheating economies in the euro area periphery, against growth more closely aligned to potential in the core. A look at the composition of investment (Graph 4.23) reveals stark differences in the composition of investment between surplus and deficit countries, as well as new Member States. Investment in machinery and transport equipment in the surplus countries was more or less in line with the other economies, although it was exceeded by the modernisation effort in the new Member States. In contrast, construction investment in euro area economies with high current account deficits was considerably lower. ([67])

The driver of differences in investment between surplus and deficit countries thus was construction. Graph 4.23 shows that construction investment in the euro area periphery (and most new Member States) exceeded that of surplus countries by several percentage points of GDP. Sweden, Germany, Belgium, the Netherlands and Denmark displayed the lowest construction investment rates in the EU. This is relevant for understanding the relative growth of tradable and non-tradable sectors and external positions of countries. Investment in residential construction helps to satisfy housing needs, but contributes far less to the tradables sector. On the other hand, equipment investment serves for production and transport, and therefore should contribute to raising tradable production in the long term. This effect also partially extends to non-residential construction, such as public infrastructure.

Graph 4.23: **Gross fixed capital formation, % of GDP, average 2003-07**



Source: Eurostat.

Several surplus countries were characterised by house price booms, but strikingly low residential investment. Credit and housing booms have frequently been highlighted as major factors in the build-up of imbalances in the deficit countries. But the Netherlands, Sweden and Denmark also experienced credit booms and strong increases in house prices in the decade prior to 2008. Construction investment offers insights into why these booms had different effects on the external positions of these countries. Credit and house price booms in peripheral economies were associated with a strong increase in construction activity, while housing supply did not expand in core countries despite increasing demand (note that Germany is an exception, as both housing demand and supply have been weak since the post-unification boom and bust). Graph 4.21 relates housing supply with current account balances and indeed shows a negative association (with a level shift for new Member States). As long as the property transactions in a house price boom remain among residents while supply is inelastic, this

([67]) Note that the composition of investment in Italy does not fit the periphery pattern, and its composition matches that of the surplus countries. But Italy's external deficit was also considerably smaller than that of Greece, Ireland, Spain, and Portugal.

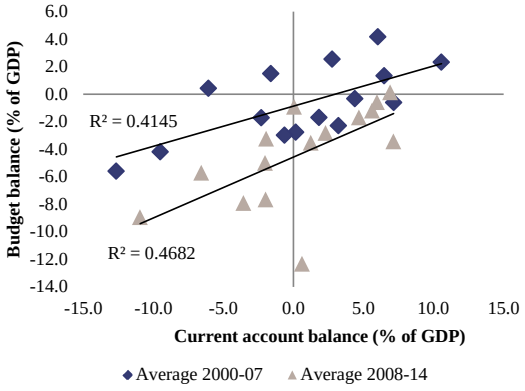
should not have any direct implications for the real external balance of a country – it merely represents the shifting of assets between residents, and does not change the domestic capital stock. If supply is elastic, in contrast, a house price boom will stimulate construction, with ensuing imports of materials and machinery. In contrast, residential construction will hardly affect the exporting capacity of a country and, therefore, should lead to worsening of trade balances. Inelastic supply (mainly due to building restrictions) thus prevented the credit and house price booms in the surplus countries from depressing their surpluses. In that sense, these surplus countries share features more similar to Germany than to the deficit countries.

Construction is also a prime factor in shifts of resource allocation between tradable and non-tradable sectors. In the deficit countries, much of the increase in non-tradable value-added and employee compensation can be attributed to construction activity. Wage spillovers from construction to other sectors also affected price competitiveness on the aggregate level, as well as relative prices in the tradable vs. non-tradable sector. In contrast, construction activity in surplus economies has been subdued, despite house price booms in several of them.

4.5. FISCAL POLICY AND CURRENT ACCOUNTS

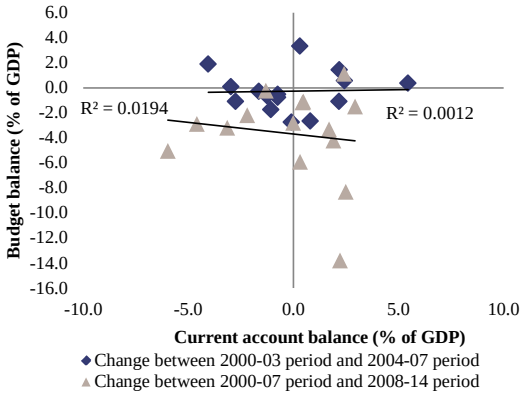
The fiscal stance is an important determinant of current accounts. Unless offset by dissaving of the private sector (the Ricardian effect), a reduction in the government deficit contributes to higher current account surpluses or smaller deficits. The idea that external deficits are driven by government deficits is known as the 'twin deficit' hypothesis. Graph 4.24 shows that average fiscal positions in surplus countries over the period 2000-7 were generally better than those in deficit countries and this relationship continues to hold. Empirical analyses confirm this positive relationship. For example, Abbas *et al.* (2011) find that an improvement in fiscal balance of 1 percentage point of GDP leads to an increase in current account balance in the range of 0.3-0.5 per cent of GDP; the econometric estimates in this report finds a similar effect of around 0.2 per cent of GDP. This effect is generally lower during periods when fiscal policy or current accounts are subject to big changes, and this is especially the case in advanced economies. On the other hand, current account changes appear to be stronger during fiscal contractions. In the EU, the association between changes in fiscal positions and changes in current accounts in the pre-crisis period appears relatively weak (Graph 4.25). In particular, the increasing current account deficits in the euro area periphery were generally driven by the worsening financial position of the private sectors, with the public sectors' saving-investment balances being negative, but roughly stable.

Graph 4.24: **Budget balance and current account in EU-15**



Source: AMECO.

Graph 4.25: **Budget balance and current account in EU-15**



Source: AMECO.

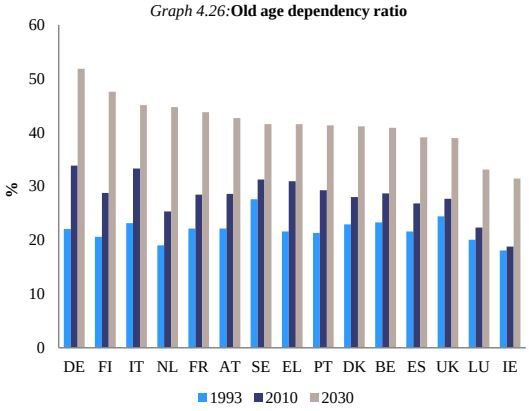
Large current account imbalances may lead to a mis-measurement of the structural fiscal deficit and complicate macroeconomic

management. Unsustainable current account deficits may result from domestic absorption booms, the expansion of the construction sector, and the related windfall revenues. The standard approaches to adjusting budget balances for the cycle fail to account for the temporary revenues during absorption booms, which may lead to an underestimation of structural deficits. Moreover, the abundance of credit may boost economic activity for several years, which may be misunderstood as an improvement in potential output. (see European Commission, 2006; and Lendvai *et al.*, 2011). In the case of surpluses, the true underlying cyclically-corrected balance can actually be better than what the estimates of structural balance indicate. Targeting macroeconomic policies to such estimated structural balances means that the fiscal policy becomes overly restrictive and a more expansionary fiscal stance will lead to smaller than expected deteriorations in the budget balance.

4.6. DEMOGRAPHIC TRENDS

Differences in the population structure and future ageing prospects across countries can contribute to divergences in their external positions. Expected future ageing induces individuals to raise precautionary savings over investment before the most numerous population cohorts retire, in order to avoid a drop in living standards once economic growth slows in line with declines in working age population (e.g. Brooks, 2003). Only when these cohorts have reached retirement, this effect would reverse. In an open economy that is ageing faster than its peers, such intertemporal consumption smoothing would translate into current account surpluses to be followed by deficits in the future. From this point of view, it is not only the current structure of population but in particular its prospects that matter. Accumulation of net foreign assets through current account surpluses thus reflects higher savings to prepare for the future impact of ageing. European countries are generally ageing at a fast pace, which will significantly affect their growth prospects. The ageing challenge is particularly large in several of the surplus countries, although some other EU Member States will experience similar demographic developments (Graph 4.26). The demographics thus can contribute to the current account surpluses in countries that are ageing faster than their partners. In this respect, migration trends also play role and can compensate for slow growth in native population. ZEW (2012) concludes that, on the basis of current demographic trends, the current account surplus will start decreasing in Germany after 2020 and turn negative after another decade.

Graph 4.26: **Old age dependency ratio**



Source: European Commission (2012d)

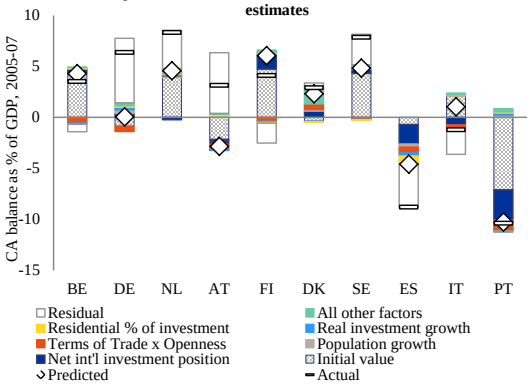
Demographic factors are empirically relevant for current account balances, albeit the size of the effect is small. Demographic factors have figured prominently in empirical research on current account balances. Most studies observe a significant effect conforming to expectations, in particular for industrialised economies (e.g. Higgins, 1998, Lee *et al.*, 2008, or Gruber and Kamin, 2007). However, such panel econometric studies find the importance of demographic factors for current account balances to be rather small compared to other factors. This is because the differences among the advanced European countries in terms of their ageing prospects are not large (Graph 4.26). While surplus countries such as Germany and the Netherlands are confronted with comparatively more dynamic ageing prospects, several other countries with persistent deficits are facing very similar developments (in particular Italy). Moreover, unlike current account developments, comparative European ageing prospects did not change considerably since the 1990s.

4.7. ECONOMETRIC ASSESSMENT OF CURRENT ACCOUNT SURPLUSES

Econometric analysis can help to verify whether the factors previously discussed help explain current account positions and their divergence in the euro area. While both theoretical considerations and empirical research point to several structural factors affecting the savings-investment balances, these structural determinants perform poorly in explaining the divergence of current account positions over the past decade. Cross-country panel econometrics along the lines of Chinn and Prasad (2003) confirms that, in general, traditional factors provide only a partial explanation for current account surpluses. It appears, therefore, that more transient economic factors may have played a more important role in explaining the European current account deficit and surpluses.

Looking at the determinants of current account levels, some of the traditional factors seem to play a role. The estimation results presented in Table 4.3 ([68]) show that both commodity imports and fiscal policy shaped current account balances over the period 1996-2010 in EU and OECD countries. Moreover, the results underpin the positive impact of net external assets on current account balances. ([69]) Part of the current account variation is also due to demographic differentials – rapidly aging economies tend to run surpluses. Moreover, a high share of manufacturing in value added tends to improve current account balances – a result that points to the importance of tradable production in view of rapidly expanding world trade. In these estimates, long-term real interest rates proxy the progress in financial integration and the convergence of capital costs, but do not seem strongly significant. This might essentially be due to the fact that long-term interest rates, based on the 10-year government bonds yields, are actually not a good proxy of lending conditions and credit provision. Nonetheless, the analytical model presented in the following section is less affected by statistical issues and finds the convergence in interest rates as a key factor driving the external position of Germany. The growth of competitiveness indicators such as terms of trade and unit labour costs display the expected negative impact on current accounts, but seem to help very little to explain current account patterns among industrial countries. ([70])

Graph 4.27: **Contribution to current account balance estimates**



Source: Commission services calculations.

([68]) The estimation is based on data from 30 EU and OECD economies since 1996 (see box 4.4 for implementation details). All explanatory variables used are lagged by order one in order to allay endogeneity concerns.

([69]) This is mainly explained by the relationship between net external assets and the income balance, which by design should display the same sign. Performing a similar estimation for trade balances as the dependent variable (thus omitting income balances) results in much lower importance of the NIIP.

([70]) Note that oil or commodity indicators are also important determinants of OECD current account balances. However, among euro area Member States, the variation of these indicators, and therefore their impact differential, is very small.

Table 4.3:

Estimation results for current account, period averages

	PIP	Std. Coef.	Std. Dev.	Sign Cert.
NIIP	1.00	0.38	0.07	1.00
Aging speed vs. world	1.00	0.25	0.06	1.00
Oil balance	1.00	0.44	0.08	1.00
Gov't structural balance	0.99	0.21	0.05	1.00
Manuf. share of GDP	0.98	0.20	0.06	1.00
Financial centre dummy	0.92	0.19	0.06	1.00
Output gap vs world	0.58	0.13	0.06	1.00
REER (ULC) growth	0.51	-0.11	0.05	0.00
Forecasted GDP growth	0.28	-0.10	0.06	0.00
Real long-term interest	0.21	0.07	0.05	1.00
Gov't cyclical balance	0.19	0.12	0.11	1.00
Domestic output gap	0.19	-0.07	0.07	0.09
Pop. growth vs. world	0.17	-0.07	0.07	0.01
Investment real growth	0.15	-0.05	0.05	0.00
Terms of trade x openness	0.14	-0.04	0.06	0.00
Relat. GDP (PPP) vs US	0.12	0.02	0.08	0.77
Residential invest. share	0.12	-0.02	0.06	0.10
Euro area dummy	0.12	0.02	0.06	0.84
Intercept	1.00	-0.53	NA	NA

Notes: Bayesian model averaging estimation.

PIP: Posterior inclusion probability of determinant (the higher this probability, the more important is a variable in explaining current account balances); Std. Coef.: posterior expected value of standardized coefficient conditional on inclusion (i.e., averaged over all models with a non-zero coefficient for the determinant); Std. Dev.: posterior standard deviation (standard error) of coefficient; Sign Cert.: percent of models that include the determinant in which the (expected value of) coefficient is positive.

Dependent variable: Current account balance as % of GDP; Average posterior number of included determinants: 8.65 (vs. a prior of 3); Averaged over 262144 models; Number of observations: 112; Posterior expected value of shrinkage factor (under hyper-g prior): 0.9734

Source: Commission services calculations.

The main empirical question, however, is which drivers account most for the European current account divergences since end-1990s. Table 4.4 presents the results of an estimation of determinants of the *changes* in current account balances since the 1990s. The results show that not much of the divergences in the euro area can be attributed to fiscal and structural factors. Indeed factors such as oil balances, aging speed, and catching-up effects matter for recent imbalances, but these results seem mainly driven by economies outside the EU. The impact of drivers on the build-up of imbalances in the EU has been quite diverse. Graph 4.27 shows contributions to current account balances in 2005-7 for those drivers that had most impact on current account balances in EU-15 Member States. The results show that persistence from 1990s values was important only in a few cases. The large adjustments in NIIP since 1998 have had their bearing on the Portuguese and Spanish current account balances (presumably via the large changes in their income balance). Only some surplus improvements seem to have been due to terms-of-trade improvements: the impact on the German and Italian current account was broadly similar. In contrast, the structure of investment is identified as an important determinant: fast investment growth is linked with stronger current account positions. The share of residential in total investment displays some pronounced differences in its contributions for booming deficit countries like Spain, while slightly contributing towards the widening of euro area surpluses. ([71]) Unit labour costs, fiscal balances, and the real interest rate do not appear as important determinants in Table 4.4. ([72]) Finally, note that the estimation tends to underestimate the current account balances of surplus economies. This is partly due to the conservative estimator used, but has also been a persistent feature for European current account surpluses (see *e.g.* Salto and Turrini, 2010). The estimation errors of current account balances are large and tended to increase for European economies. Graph 4.28 shows the dispersion of estimation residuals for an annualised version of the approach in Table 4.3. There seems to be a slight increase in residuals for the sample of 30 economies. The residuals of the EU Member State sub-sample, however, show clear divergence until 2008, and convergence thereafter. This implies that European current account imbalances are harder to pin down to 'fundamental' factors then elsewhere.

([71]) Note that estimating trade balances (rather than current account balances) with the data from Table 4.4 identifies the share of residential in total investment as the most important driver.

([72]) Interestingly, the real interest rate appears to have had a negative effect on current account developments since the late 1990s (Table 4.4). Note, however, that this might be expected if the interest rate reflects strong increases in credit demand.

Table 4.4:

Estimation results for changes in current account since 1996-98, period averages

	PIP	Std. Coef.	Std. Dev.	Sign Cert.
NIIP	0.99	0.36	0.10	1.00
Oil balance	0.99	0.34	0.10	1.00
Terms of trade x openness	0.86	-0.24	0.08	0.00
Investment real growth	0.48	-0.15	0.07	0.00
Pop. growth vs. world	0.39	-0.16	0.09	0.00
Relat. GDP (PPP) vs US	0.36	-0.19	0.10	0.00
Residential invest. share	0.36	-0.15	0.09	0.00
Aging speed vs. world	0.24	0.13	0.09	1.00
Financial centre dummy	0.23	0.11	0.07	1.00
Forecasted GDP growth	0.22	-0.10	0.08	0.00
Euro area dummy	0.17	-0.08	0.08	0.00
Real long-term interest	0.16	-0.08	0.09	0.02
Output gap vs world	0.15	-0.07	0.10	0.03
Domestic output gap	0.12	-0.04	0.10	0.24
Gov't structural balance	0.12	0.05	0.08	0.99
Gov't cyclical balance	0.12	-0.04	0.09	0.17
REER (ULC) growth	0.11	-0.03	0.08	0.10
Manuf. share of GDP	0.10	0.00	0.07	0.51
Intercept	1.00	-0.06	NA	NA

Notes: Bayesian model averaging estimation.

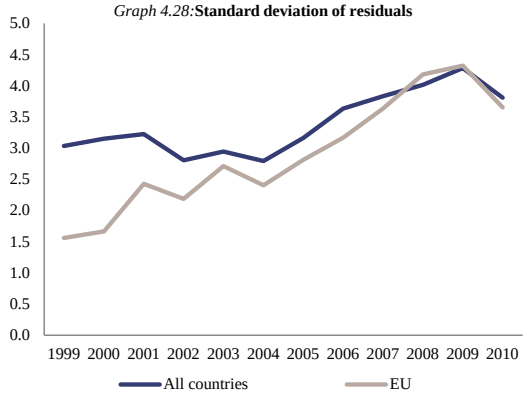
PIP: Posterior inclusion probability of determinant (the higher this probability, the more important is a variable in explaining current account balances); Std. Coef.: posterior expected value of standardized coefficient conditional on inclusion (i.e., averaged over all models with a non-zero coefficient for the determinant); Std. Dev.: posterior standard deviation (standard error) of coefficient; Sign Cert.: percent of models that include the determinant in which the (expected value of) coefficient is positive.

Dependent variable: Current account balance as % of GDP; Average posterior number of included determinants: 6.18 (vs. a prior of 3); Averaged over 262144 models; Number of observations: 112; Posterior expected value of shrinkage factor (under hyper-g prior): 0.94

Source: Commission services calculations.

The estimation results provide evidence on the importance of interlinkages among EU countries for the current account balances. The unexplained part of the estimation for the EU countries is spatially correlated with both trade and financial interlinkages across countries. As the residuals already account for country-specific current account determinants, this means that the patterns of bilateral links help to explain the current account balances across countries. Graph 4.29 shows the spatial correlation coefficients for EU estimation residuals under the matrices of export-import shares and bilateral financial account flows (based on the data presented in section 3). Under both cases, spatial spillovers are not very large in size, but fairly strong if the sample is restricted to EU countries. Based on a trade link matrix, spatial spillovers are strong and positive. That is, a country is more likely to run a surplus, if its major trade partners run surpluses. This result seems related to supply chain integration, and matches the geographic concentration of surpluses (note that EU surplus countries are contiguous). In contrast, financial spillovers are negative; a country is more likely to run a deficit if its major financial partners run surpluses, and vice versa. To sum up, three determinants seem to matter in explaining European current account imbalances: the structure of investment (in particular the share of residential investment), demographic factors (mainly population growth), and NIIP (through the income balance). The 1990s values of the current account balance help only partly in explaining current account imbalances, as do the dependency on oil and terms of trade, which had a broadly similar effect on all euro area countries. In contrast, it is hard to establish an impact of wage competitiveness factors, interest rates, and output gaps, perhaps due to statistical problems. Overall current account balances are also shaped by structural fiscal deficits and the importance of manufacturing, as well as demographic factors and commodity balances, but these factors explain little of the changes over the past 15 years.

Graph 4.28: **Standard deviation of residuals**

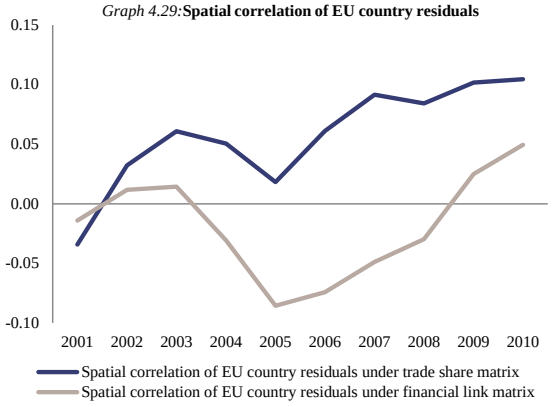


Notes:

For each year, the graph displays the standard deviation of residuals from an annualized version of the estimation of current account changes since the 1990s (Table 4.4). The blue line reports the standard deviation of residuals for a given year, while the grey line reports the standard deviation for the subsample of EU countries.

Source: Commission services calculations.

Graph 4.29: **Spatial correlation of EU country residuals**



Notes:

For each year, the graph reports spatial correlation coefficients ("Moran's I") for residuals from an annualized version of the estimation of current account changes since the 1990s (Table 4.4), over the preceding three years. The blue line reports spatial correlation via trade links (shares of bilateral trade in goods and services in the imports of each country). The grey line reports spatial correlation via financial links (bilateral financial account shares, cf. data in section 3).

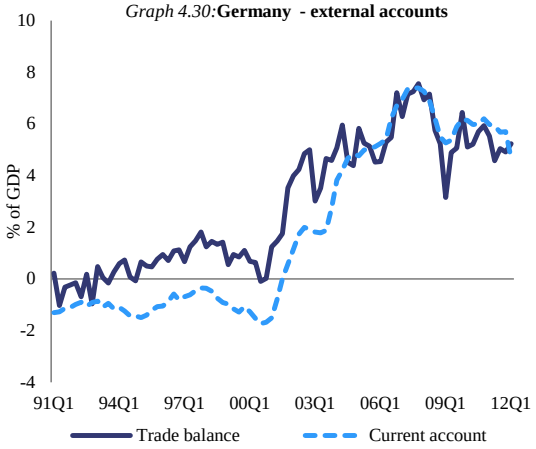
Source: Commission services calculations.

4.8. A MODEL-BASED ASSESSMENT OF GERMAN TRADE SURPLUSES

The relative strength of the several factors that contributed to the build-up of current account surpluses may also be assessed with the help of macroeconomic models. This section presents a historical decomposition of the trade balance for Germany into a number of more basic determinants (shocks) on the demand and supply side. The decomposition is based on a version of the QUEST model estimated on German data covering the period 1991-2012. ([73]) The focus of the analysis is on explaining the strong and persistent increase in the trade surplus at the beginning of the 2000s, which has survived the global recession of 2008-9.

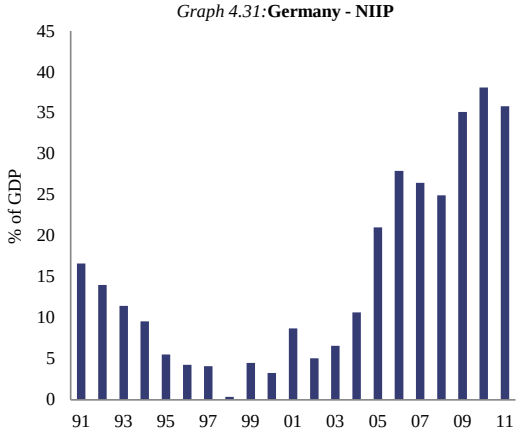
([73]) See Ratto *et al.* (2012).

Graph 4.30: **Germany - external accounts**



Source: Eurostat.

Graph 4.31: **Germany - NIIP**



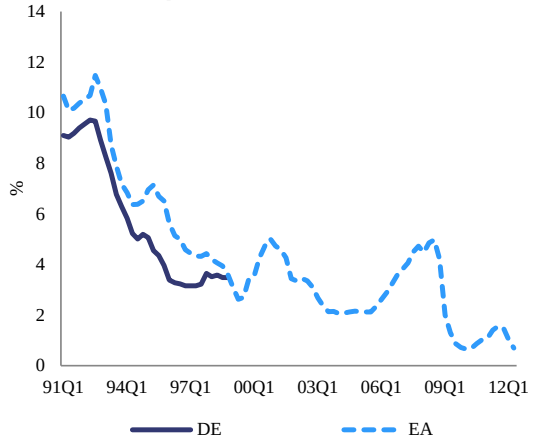
Source: Eurostat.

The model allows the testing of a number of hypotheses in an integrated and coherent framework to assess their empirical relevance. The estimates address seven different hypotheses, some of which were discussed in this chapter, namely: (i) financial market integration and interest rate convergence in the context of EMU; (ii) competitiveness gains through wage restraint; (iii) expanding world demand; (iv) tightening of firms financing conditions; (v) tightening of household financing conditions; (vi) high household savings, and (vii) fiscal policy.

- **Financial market integration and interest rate convergence**. Nominal rates in Germany were lower than in the rest of the euro area prior to EMU and converged to the same level

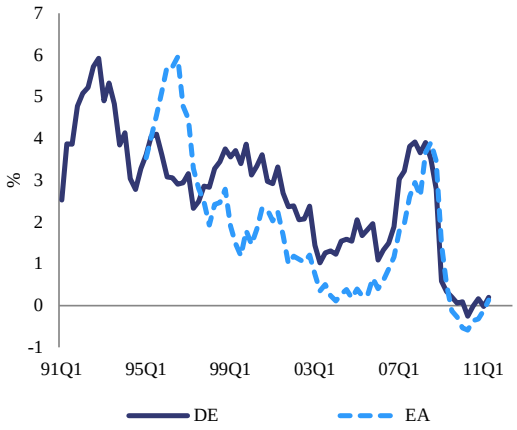
by 1999 (Graph 4.32). The convergence can be described as a narrowing of the country risk premia for the rest of the euro area, which corresponds to an increase in the relative risk, or the increase in the relative costs of capital from the perspective of Germany. Graph 4.33 also shows that, given inflation differentials, real interest rates in Germany were above the EMU average most of the time since 1999. The financial market hypothesis argues that the narrowing of country risk premia has caused net capital outflow from Germany to the rest of the euro area, weakening domestic investment and generating persistent surpluses in the trade balance (see, *e.g.*, Sinn, 2010). Negative consequences for domestic activity may have been amplified by labour market rigidities (*e.g.*, Sinn, 2006). ([74])

Graph 4.32: **Nominal interest rate**



Source: Eurostat, OECD.

Graph 4.33: **Real interest rate (GDP deflator)**

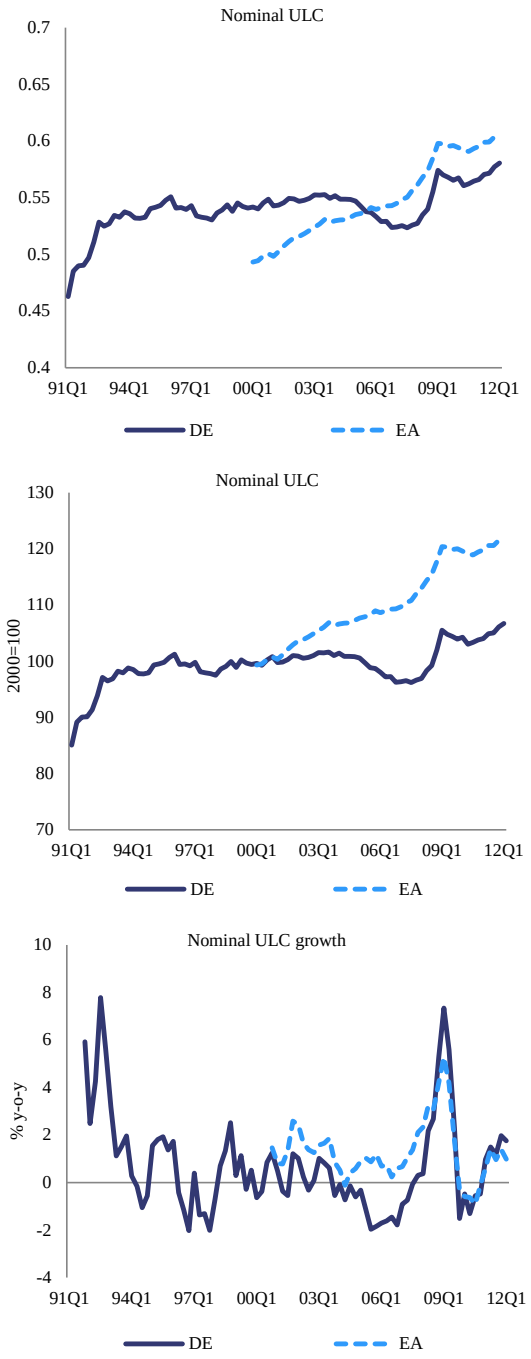


Source: Eurostat, OECD.

- **Competitiveness gains through wage restraint.** The second hypothesis suggests that wage restraint and labour market reform in Germany have been a major force behind its external surplus. Real devaluation in EMU associated with a decline in relative unit labour costs (ULC) has improved the trade competitiveness of German tradables relative to the rest of the euro area (Graph 4.34). However, the ULC decline may be the endogenous response to low demand and output growth rather than the consequence of exogenous shifts in labour supply.

([74]) Notice that the financial market hypothesis does not claim that Germany suffered from capital market liberalisation associated with the monetary union (lower transaction costs, disappearance of exchange rate risk) in income terms. To the contrary it claims that because of capital market restrictions prior to the monetary union there was a home bias of German savings driving down the return on capital. Capital outflows from Germany associated with EMU, while reducing German GDP increase German GNI (see CESifo, 2003).

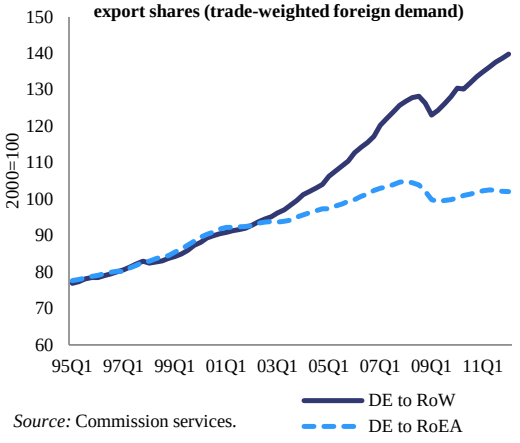
Graph 4.34: **Nominal unit labour costs**



Source: Eurostat

· **Expanding world demand**. The third hypothesis considers Germany's external surplus to be fundamentally driven by strong world demand, notably demand for investment goods from emerging economies. As discussed above, strong world growth may have added to intra-EMU imbalances given the different specialisation of EMU member economies (*e.g.*, Chen et al., 2012). Graph 4.35 shows that export demand has been driven mainly by strong demand growth in the countries outside of the euro area (RoW) and much less by export demand in the rest of the euro area (RoEA). Consequently, the RoW share in export demand has increased, whereas the share of the RoEA has declined.

Graph 4.35: **World demand weighted by German export shares (trade-weighted foreign demand)**



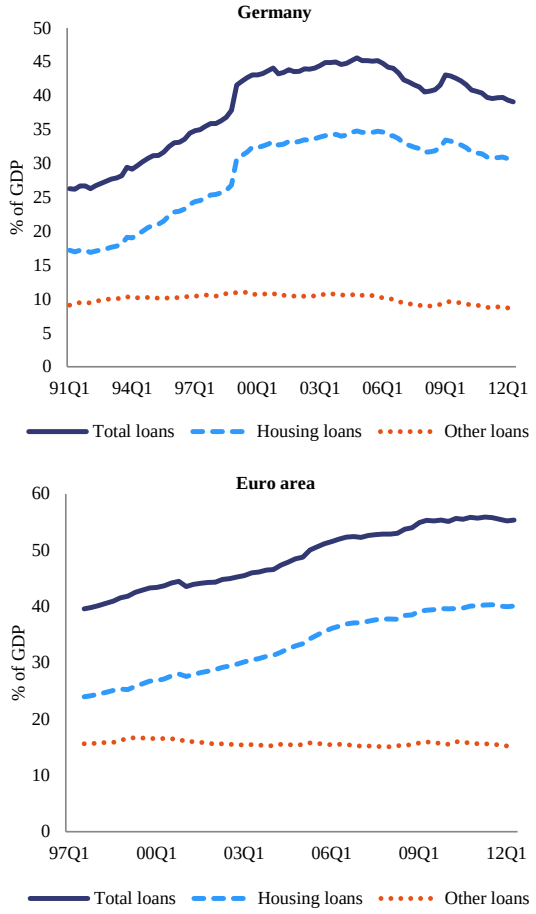
Source: Commission services.

· **Tightening of firms financing conditions**. Declining investment in the context of rising financing costs for domestic firms may be another factor behind growing net exports. The increasing gap between domestic savings and domestic investment would lead to net exports of savings and goods. The financing costs of firms depend on the cost of bank credit or the risk premium on corporate debt and equity that financial investors require. Shocks to corporate risk premia may therefore affect the trade balance. Some analysts have also argued that structural changes in the banking system increased capital costs in Germany with the consequence of low growth and rising trade surpluses in the early 2000s (*e.g.*, Broadbent *et al.*, 2004; Schumacher, 2006).

· **Tightening of household financing conditions.** Similarly to tighter financing conditions for firms, a tightening of financing conditions for domestic households may increase the trade surplus of a country by

dampening domestic demand for consumption or residential investment. The model captures this channel by allowing for the tightening of the borrowing constraint of households and variation in the financing costs of residential investment. Graph 4.36 shows that household borrowing as a share of GDP has declined in Germany in the 2000s after the increase in the 1990s.

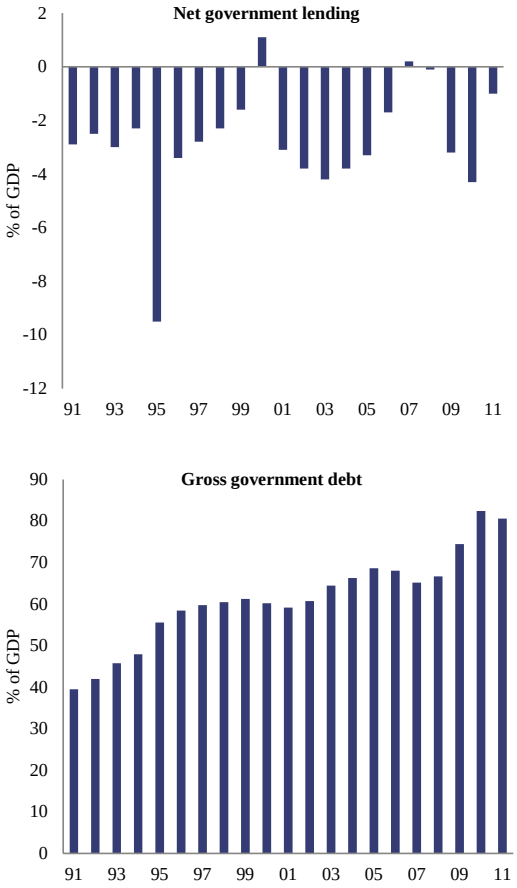
Graph 4.36: **Outstanding private household debt**



Source: Deutsche Bundesbank, ECB

- **High household savings**. A prominent hypothesis links Germany's trade surplus to an exogenous increase in household savings. An exogenous increase in household savings could derive from declining consumer confidence, precautionary savings in the context of increasing income uncertainty as one consequence of the Hartz reforms, or an increase in private savings against the background of population ageing and the introduction of a private pillar in the pension system (*e.g.*, Boersch-Supan *et al.*, 2001; Deutsche Bundesbank, 2011; Huefner and Koske, 2010).

Graph 4.37: **Germany - government balance and debt**



Source: Eurostat.

- **Fiscal policy.** The final hypothesis concerns the role of fiscal policy for aggregate savings and net export. The profile of government deficits and debt dynamics does not suggest a distinct 'twin surplus' pattern (Graph 4.37). Fiscal policy shocks may still matter, however, through the impact of the various fiscal instruments on public and private domestic demand and aggregate supply.

Drivers of the trade balance

The estimates suggest that the shock to international capital flows has been the main driving force in the build-up of the trade balance surplus. The decomposition of Germany's trade balance into its main drivers over the period 1997-2011 is presented in Graph 4.38. Interest rate convergence reduced domestic consumption and investment growth. Import demand has declined and export demand and the trade balance have increased. The impact of interest rate convergence on the trade balance operates mainly through the reduction in domestic demand and activity, which via lower factor demand also translates into a reduction in labour costs.

Strong world demand in the 2000s also contributed to Germany's trade surplus. The weight of world demand in the shock decomposition is less important than the contribution of the shock to international capital flows. Indeed, high world demand increased the demand for German exports (as already discussed, in particular of capital goods) and contributed to export growth and the rising share of exports to GDP. The positive impact on output growth and employment has increased domestic consumption and investment demand, however, and also led to higher import demand. At the same time, stronger demand has increased unit labour costs. Hence the growth effect of strong world demand is moderated by its impact on trade competitiveness, which illustrates the adjustment in the German economy, *i.e.* wage growth in response to strong activity. Strong domestic activity has also increased the demand for imports, so that growth spillover might be positive overall.

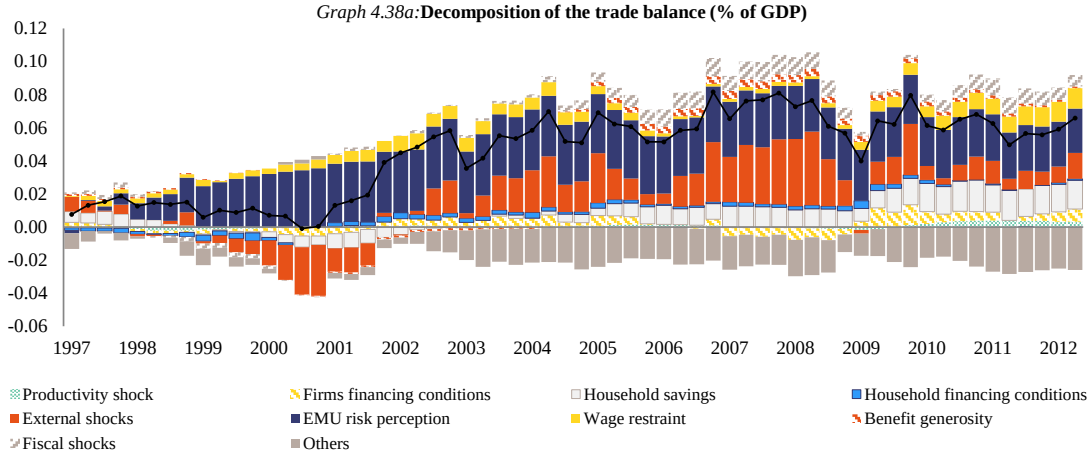
The exogenous contribution of wage restraint and labour market reform to the trade surplus is moderate. As discussed elsewhere in this report, the exogenous labour supply expansion and the reduction of the benefit replacement rate in the context of the Hartz reform contributed to the decline in unit labour costs and the increase in price competitiveness. Labour market reforms also increased domestic employment and household income, however, with a positive impact on domestic consumption and import demand. As a result, the growth prospects are benign for the labour market component. Instead of damaging the prospects for the rest of the euro area, growth spillover might be modest or even positive.

The contribution of firms' financing conditions varies with underlying shock to financing costs. The contribution has been positive in periods of elevated financing costs and, hence, weak domestic investment, and negative in times of lower financing costs and stronger domestic investment demand. The fluctuation in firms' financing costs in the estimated model does, hence, not explain a persistent trade balance improvement. The quantitative contribution of the factor in the decomposition of the trade balance is small.

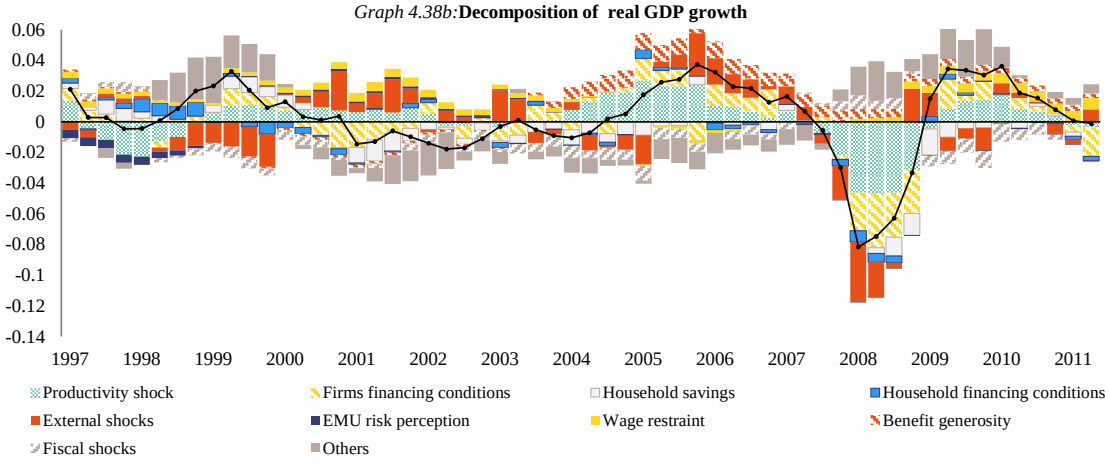
The tightening of household financing conditions that would have lowered consumption demand played no major role in the widening of the German trade surplus. The estimated model shows a softening of financing constraints during the 1990s and a moderate increase in the 2000s. Both episodes show up in Figure 4.38 as first reducing and then increasing the trade surplus. However, the quantitative contribution of this element in the shock decomposition is very small.

Exogenous shifts in household savings appear more important than a tightening of household financing conditions for the widening of the trade surplus. Their role also exceeds the contribution of wage moderation in recent years according to the decomposition. The shock to household savings has negatively contributed to GDP and labour cost growth, with negative impact on import demand and some positive impact on exports, given the competitiveness gain. The transmission to domestic demand is similar to the impact of EMU-related interest rate convergence. Higher savings lead to a reduction in domestic demand, which dampens labour costs by dampening labour demand. However, the estimated model does not give a more structural interpretation of the shocks, *i.e.* whether they are related to fundamentals such as demographic change, or whether they represent a genuine decline in consumer confidence. However, if the savings shock represented adjustment to fundamentals such as consumption smoothing against the background of population ageing, the case for corrective policy intervention would be rather weak.

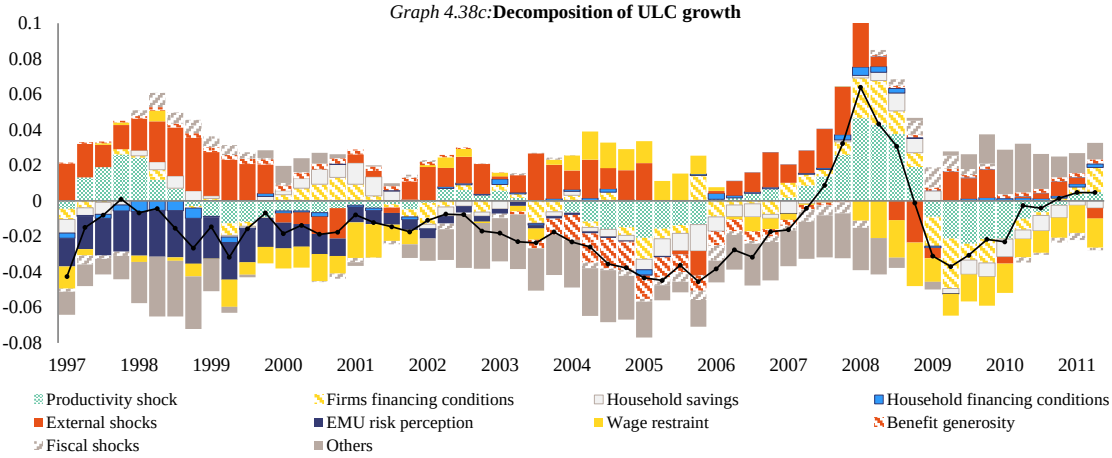
*Graph 4.38a:***Decomposition of the trade balance (% of GDP)**



*Graph 4.38b:***Decomposition of real GDP growth**

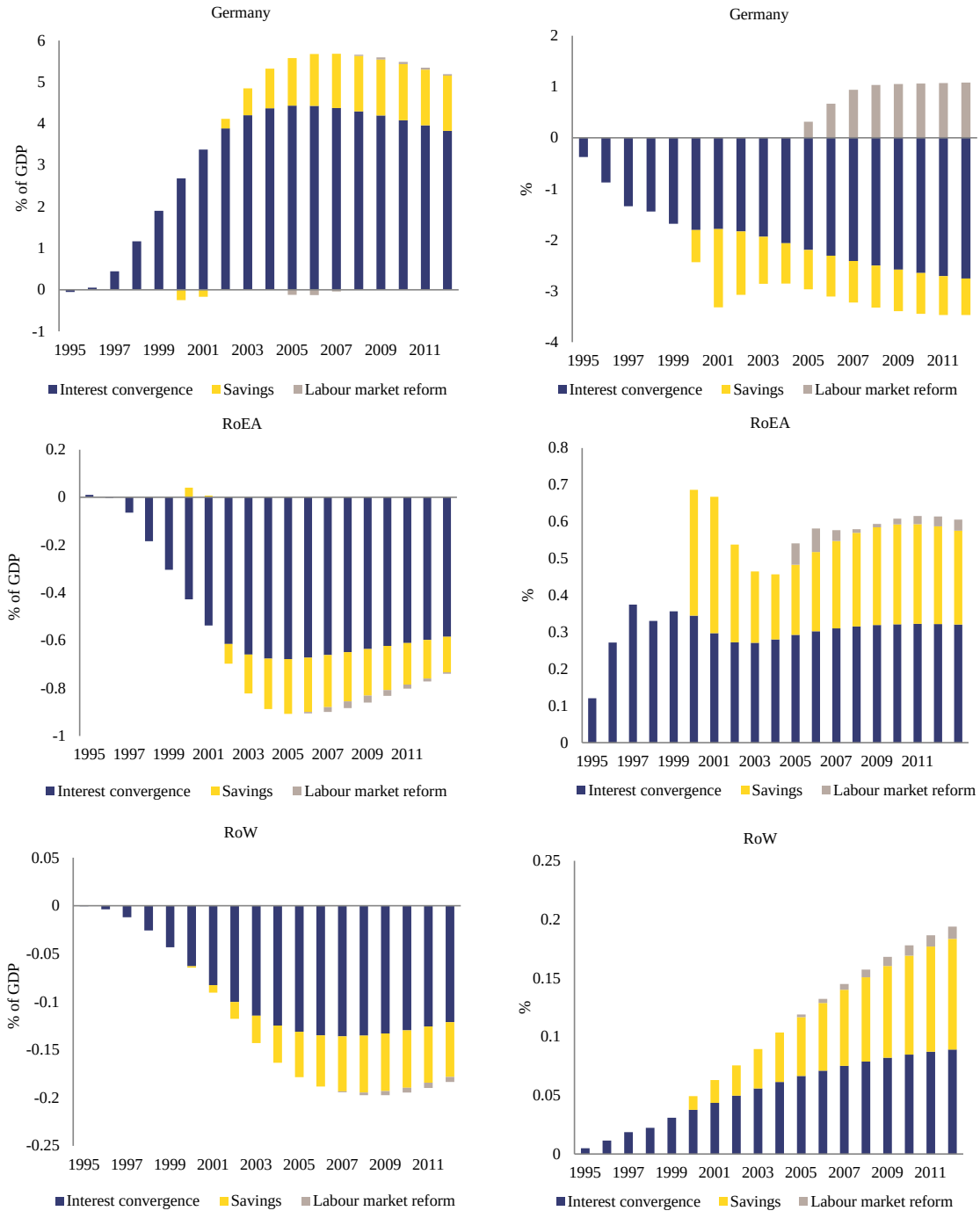


*Graph 4.38c:***Decomposition of ULC growth**



Source: Commission services.

Graph 4.39: **Spillover effects on trade balances (left) and GDP (right)**



Source: Commission services

The contribution of fiscal policy to the trade surplus is estimated to be minor. Figure 4.38 shows an only small positive contribution of fiscal shocks to the persistent trade balance surplus in the 2000s.

Spillovers from German surpluses

A three-region version of the QUEST III model with Germany, the rest of the euro area (RoEA), and the rest of the world (RoW) also provides insights on the spillover into other countries. As the euro area is an open economy, adjustment affects all three regions with the strength depending on economic linkages between them. Graph 4.39 shows the trade balance effects of the EMU-related interest rate convergence, the increase in household savings in Germany and the Hartz labour market reform on the trade balance. As in Figure 4.38, the trade balance effects are positive for Germany. The interest rate shock reduces investment in Germany, whereas the savings shock increases the supply of savings; both shocks increase the trade surplus. The labour market reform, which is modelled as reduction of the benefit replacement rate, lowers labour costs and improves trade competitiveness, with a temporary positive impact on the trade surplus.

The model shows substantial impact on the trade balances of the rest of the euro area and the rest of the world. All three shocks affect the trade balances of the rest of the euro area and the rest of the world negatively and the relative contribution of each shock is similar for both regions in absolute terms. Relative to GDP, the maximum joint impact of the three shocks on the trade balance of the rest of the euro area (0.8 per cent of GDP) is four times larger than the for the rest of the world (0.2 per cent of GDP), but the rest of the euro area accounts for (only) 14 per cent of world output compared to the 81 per cent of the rest of the world.

The impact of spillover on the rest of the euro area and the rest of the world is positive in GDP terms (Graph 4.39). In Germany, the interest convergence and savings shocks respectively reduce the domestic demand for savings and increase the domestic supply of savings, which both leads to higher capital export, reducing equilibrium interest rates and raising investment in the rest of the euro area and the rest of the world. The impact of the rest of the euro area and the rest of the world is positive in GDP terms. Initially, the rest of the euro area also gains from a euro depreciation, which weighs negatively on GDP in the rest of the world.

The labour market reform, which reduces wage costs and improves the competitiveness of German goods, has also positive GDP effects for the rest of the euro area and the rest of the world. The reason is the positive impact on GDP in Germany, which raises German import demand despite the change in relative goods prices between German and foreign goods. Hence, in all three cases the trade balance of the rest of the euro area and the rest of the world deteriorates, but GDP spillover is positive.

4.9. MAIN CONCLUSIONS AND POLICY IMPLICATIONS

This chapter has discussed several factors which have contributed to the widening of surpluses and deficits inside the euro area and the EU. No single factor provides a complete explanation to the increase in the current account surpluses, and the phenomenon needs to be understood as the result of several concomitant developments:

- The convergence in interest rates due to the introduction of the euro and financial market integration contributed significantly to the increases in the surpluses and deficits in the euro area, helped by inadequate macro-prudential supervision. The evidence that the structure of financial systems in surplus countries fundamentally contributed to the accumulation of surpluses and deficits is inconclusive. Nevertheless, a number of features like regulation, differences in the lending standards or differences in the profitability of banking systems may have promoted disproportionate risk taking abroad, materialising in excessive lending to the euro area peripheral economies.

- External shocks, including the increase in competition coming from China, other Asian countries and other emerging economies, had a substantial impact on the export performance of the EU economies. Though China directly competes with virtually all EU economies, it appears to have affected the deficit countries more. Moreover, a number of surplus economies, including Germany, benefited from

their ability to increase exports of investment goods to Asia.

- Export performance was driven by both price and non-price factors, and the relevance of the latter should be duly considered. In particular during the pre-crisis years, the surplus countries benefited from a favourable export structure as reflected in their product and geographical composition.

- Wage developments were, in general, very moderate in the surplus countries. In particular, for most of these economies, wage developments were below a number of benchmarks, including productivity growth. In recent years, however, wages in the surplus countries have been more dynamic than in the peripheral euro area economies, which will be contribute to the intra-euro area rebalancing. Overall, there is no evidence that wage developments are at the root of surpluses. In a forward-looking perspective, policies with direct bearing on labour costs should be discussed in a coordinated manner to prevent inappropriate developments that would hinder the rebalancing.

- The decreases in wage shares coupled with good export performance have boosted profit margins in several surplus countries which translated into higher corporate savings without much impact on investment. The reasons for this appear to be country-specific and remain to be better understood.

- The composition of investment reveals stark differences between surplus and deficit countries. While investment in equipment and transport machinery was similar, construction investment was much lower in surplus countries. Sweden, Germany, Belgium, the Netherlands and Denmark displayed the lowest construction investment rates in the EU. Construction appears as a prime factor in shifts of resource allocation between tradable and non-tradable sectors.

The relevance of these factors in the accumulation of surpluses has been confirmed in empirical analyses, on the basis of panel estimations and a model-based decomposition of the trade balance for Germany. The results from these approaches are largely complementary and confirm the importance of some of the discussed factors:

- The model-based results indicate that most of the increases in the surpluses and deficits in the EU prior to the crises were driven by developments in the financial markets, which changed the relative cost of capital among economies as well as the globalisation-related increase in world trade, while the contribution to the surplus of wage restraint and labour market reforms in Germany was much more moderate.

- The econometric estimates point in the same direction: the structure and growth of investment (which is strongly related to financing conditions) was an important determinant of current account imbalances. In contrast, they do not demonstrate much support for price factors (such as terms of trade or wage costs) in explaining European current account divergences. Demography and the importance of the manufacturing sector help to explain external balances in industrial economies, but hardly manage to explain the more recent increases in European current account surpluses.

- There is evidence on current account spillovers between EU Member States. A country is more likely to run a surplus, if its major trade partners run surpluses. This result is related to supply chain integration, and matches the geographic concentration of surpluses. These positive trade spillovers dominate, in the econometric analysis, a possible negative link between the surplus and deficit countries. There is no evidence that exports of surplus countries have crowded out the exports of the euro area periphery. In contrast, financial spillovers are negative; a country is more likely to run a deficit if its major financial partners run surpluses, and *vice versa*.

The empirical approaches, nevertheless, leave an important share of the divergence in current account positions in the euro area unexplained. The results also show that European current

account imbalances are harder to associate with 'fundamental' factors then elsewhere. This opens space for factors specific to the euro area as well as country-specific developments. For example, the DSGE analysis points to the importance of exogenous increases in savings of German households, and the associated weak demand, as a contributing factor to trade surpluses. However, it is not clear whether increased household savings are related to fundamentals such as demographic change, or whether they represent a decline in consumer confidence.

Box 4.2: **Consumption, saving and investment in Germany**

Strong export performance and weak domestic demand contributed to the accumulation of Germany's current account surpluses over the last decade. This development needs to be seen against the background of the mounting economic imbalances in the wake of reunification and the following adjustment process of the German economy. Wage increases above productivity and a strong Deutschmark caused a sharp loss of competitiveness in the early nineties that led to a swing of the current account balance into deficit. The resulting loss of confidence, together with increasing taxes and social contributions, rising unemployment and the collapse of eastern Germany's manufacturing sector, weighed on private consumption and investment. While the subsequent period of wage moderation helped to gradually restore competitiveness, it prolonged the dampening effect on household spending. Investment, for its part, was overshadowed by the adjustment of the construction sector, which had created large overcapacities after reunification. Since the mid-1990s, GDP growth and employment in Germany lagged behind those of other Member States that formed the euro area (European Commission, 2007; Jansen and Stierle, 2007).

While in most EU countries private consumption showed strong momentum in the decade up to the crisis, it almost stagnated in Germany (Graph 1a). Nevertheless, the consumption-to-GDP ratio in Germany has been above the euro area average in most years (Graph 1b). The substantial fall in employment, with full-time jobs subject to social contributions being worst hit, together with subdued growth and even a decline of real wages following the excessive increases during the reunification boom, are found to be the most important factors behind the sluggish consumption growth in the first half of the past decade. In 2006 and 2007, when GDP growth picked up and employment recovered, consumption was dampened by the impact of higher inflation and labour taxes together with cuts in social transfers on disposable income, and by one-off factors like the VAT increase in 2007 and the expiry of favourable depreciation rules for self-employed and family-owned companies (Eppendorfer and Stierle, 2008). The remarkable resilience of the labour market during the crisis years, with employment upholding even in 2009, provided the basis for a moderate pick-up of consumption in 2010 and 2011. The upward trend can be expected to continue, given the still robust momentum of job creation and recent considerable wage gains.

Correspondingly, as of the beginning of the last decade the savings ratio increased due to higher precautionary savings related to uncertainty about future income and job prospects in the context of the labour market reforms (Hartz reforms). The public debate about the sustainability of the German pension system might also have encouraged people to accumulate financial reserves, supported by public subsidies to increase private capital (Eppendorfer and Stierle, 2008). It is estimated that higher saving for retirement in response to ageing and to compensate future income losses due to the pension reform of 2001 and 2004 could explain a decline in the consumption-to-GDP ratio of about 0.5 percentage points since 2001. Other factors that pushed up savings include losses in household wealth due to the stock market declines after 2000 and sluggish real estate prices (OECD, 2010; European Commission, 2007).

Corporate savings rose with higher profits related to wage moderation and balance-sheet restructuring in response to the accumulation of debt liabilities in the aftermath of the 2000 stock market correction (European Commission, 2007). Weak domestic fixed investment and higher savings resulted in an increased net lending position of German corporations that, combined with higher households savings and a reduction in the government budget deficit, was reflected in higher investment abroad, including direct investments in the new Member States and banks' net lending abroad (OECD, 2010).

Germany's fixed investment, including both public and private, as a share of GDP fell markedly and below EU and euro area average after 2001 (Graph 2a). The following upswing in the investment-to-GDP ratio beginning in 2006 and, after the strong GDP contraction in 2009, again in 2010, was mainly due to the rebound in private investments accounting for almost 90 per cent of total fixed capital investments. On the other hand, public investment has been on a downward trend for a long time, temporarily interrupted in the post-reunification period and to some extent in the aftermath of the crisis due to the cyclical stimulus programmes (*Konjunkturprogramme*). Looking at investments by type of goods, the trend decline in the fixed investment ratio before 2006 is almost entirely attributable to the reduction of excess capacity in the construction sector. Fuelled by subsidies, the construction sector expanded excessively in the early 1990s in the wake of the post-reunification building boom, in particular in East Germany (Graph 2b). Investments in construction increased up to 14.5 per cent of GDP in 1994, and then dropped gradually to about 9 per cent of GDP in 2005, and hence well below euro area and EU average. This necessary adjustment, therefore, reduced the sector by about one-third in size and reduced annual GDP growth by about ¼ of one percentage point until 2006 (European Commission, 2007; Jansen and Stierle, 2007). The trend of construction investment has turned positive since 2006 with significant growth in 2010 and 2011. Investment in construction is expected to continue increasing on the back of low interest rates. In contrast, investments in equipment seem to follow a cyclical pattern and have usually been on, or even above, euro area and EU average (Graph 2c). Moreover, as in other countries a part of the declining share of fixed investment in German GDP can be explained by falling prices of certain investment goods such as IT equipment.

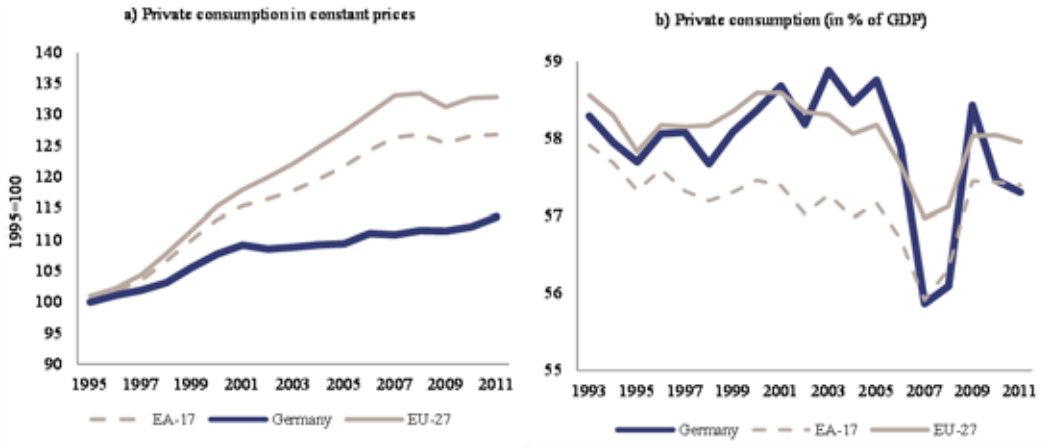
Even though the underperformance of German investments can be largely explained by adjustment in the construction sector, there still appears to be potential for further improving conditions for investment. The business tax reform of 2008 already increased the attractiveness of investments in Germany by reducing corporate tax rates which before were among the highest in the EU. However, business taxation could be further improved, in particular by reforming the trade tax (*Gewerbesteuer*) and reducing the favourable tax treatment of debt against equity in the financing of investments (*Sachverständigenrat*, 2007, 2009 and 2012). Moreover, the German financial sector now appears stable thanks to public

(Continued on the next page)

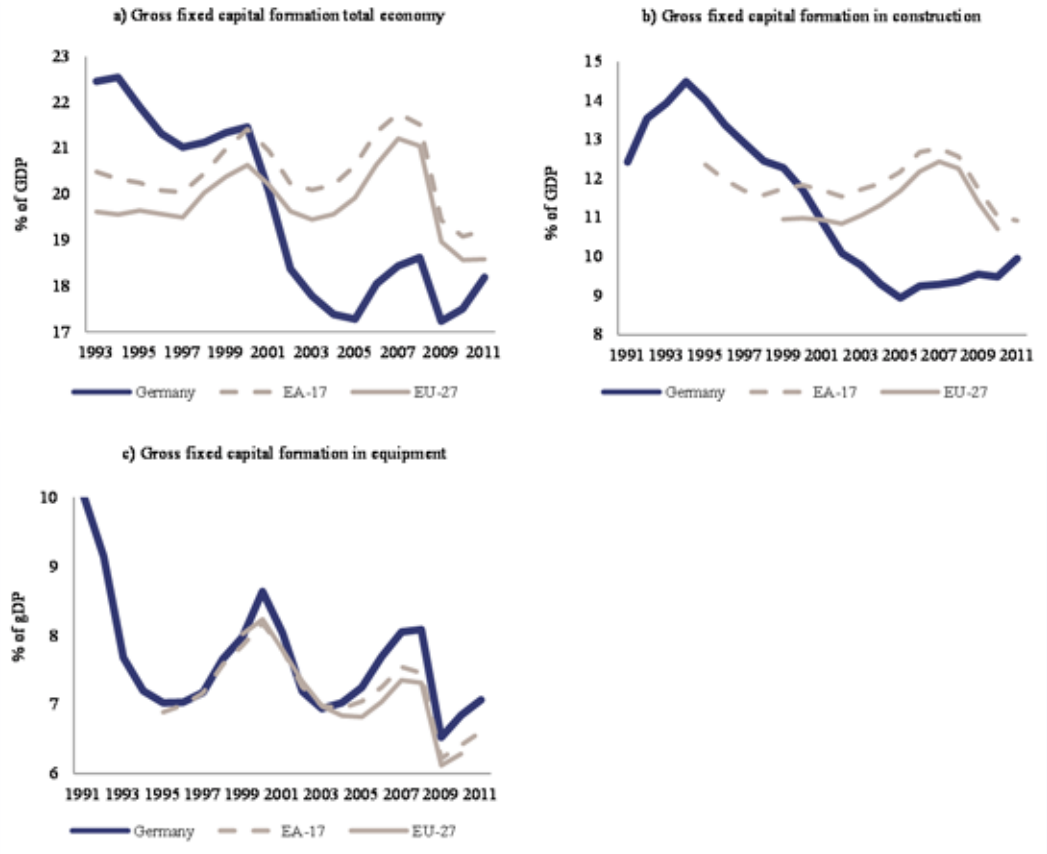
Box (continued)

support, a strengthened crisis prevention and management framework, the sector's own adjustment efforts and the rebound of the German economy. Nevertheless, weaknesses and inefficiencies in the German banking sector persist, in particular the structural problems of some Landesbanken, including the lack of a viable business model, weak governance structures and vulnerabilities due to strong dependence on wholesale funding. Obstacles for the financing of innovative, high-risk business start-ups have also been invoked as factors that have possibly impeded investments (European Commission, 2007; OECD, 2010).

Graph 1: **Private consumption**



Graph 2: **Investments**



Box 4.3: Japan's experience with a large current account surplus

For more than three decades, Japan's current account surplus has been consistently in surplus of above 1 per cent of GDP. From 2003 to 2010 Japan's current account recorded surpluses above 3 per cent of GDP, helped by a growing net inflow of income, and a trade surplus in a range of 1-2 per cent of GDP). In 2011, however, also due to the natural and industrial disaster that hit Japan, the current account balance declined to about 2 per cent of GDP, the lowest since 2001. The current account remained in surplus even if the trade balance turned negative for the first time in three decades in 2011. The trade balance is likely to remain negative in 2012 but the income surplus will most likely over-compensate the trade deficit.

Trade Balance: a structurally declining surplus

In the 1980s the Japanese current account surplus was mostly due to massive trade surpluses, driven by the effects of the US twin deficits and the strong US dollar. Moreover, Japan had a very high household savings rate, fostered by a culture of thriftiness and the fact that the baby boomers born in late-1940s and early-1950s constituted the prime labour force. Another structural factor to the trade surplus was the very high rate of vertical integration in the Japanese industry, which resulted in a low import content of exports, and in a high share of energy in overall imports at a time of falling energy prices.

In the early 1980s pressure mounted on Japan over its large and growing trade surplus. The pressure to have the yen appreciating materialised in the Plaza Agreement of 1985, and in the following two years the yen appreciated significantly against the US dollar and other Western currencies. However, as a result of the well-known J-curve effect, the net exports of goods and services peaked in 1986 at almost 4 per cent of GDP, more than ten times larger than the income surplus of the time. Subsequently, it declined to below 2 per cent of GDP by the end of the 1980s, on the back of strong domestic demand boosted by a housing and financial bubble.

The burst of the stock market and property bubble in 1990-91 marked a turning point for the Japanese economy. The ensuing crisis weakened domestic demand for a very long period. This had the effect of increasing the trade surplus despite a strengthening yen. The surplus only fell when the yen appreciation intensified up to 1995. After 1995, the level of non-energy imports began to rise steadily. One reason for this development was that subsidiaries of Japanese companies, notably in Asia were more and more integrated in the global value chains. However, the chronic weakness of domestic demand which worsened further because of the financial crisis of 1997-98 more than offset that effect.

The trade surplus increased again from 2002 to 2007, against the background of steady global growth and a mild depreciation of the Japanese real effective exchange rate (REER). In 2007 the trade surplus reached 2 per cent of GDP but subsequently declined as the REER increased sharply, in particular after Lehman. The trade balance finally became negative after the natural and industrial disaster of March 2011, when higher energy imports combined with lower exports as supply bottlenecks kicked in. For 2012, another trade deficit is expected as the strong yen, the slowdown in China and the euro area crisis dampen exports while energy imports remain high.

Income Account: a steadily increasing surplus

The Japanese net international investment positions (NIIP) was negligible at the beginning of the eighties and still below 10 per cent of GDP in 1987. As a result of the current account surpluses, Japan accumulated net foreign assets which were estimated at around 54 per cent of GDP at end-2011. Currently around one quarter of net foreign assets can be attributed to direct investment abroad, which has generated higher income per invested yen compared to other financial investments. Low-yielding foreign exchange reserves account for roughly 40 per cent of net foreign assets.

The income surplus gradually has increased since 1990. It doubled from 1990 to 1997, and doubled again until 2006. It reached a peak in 2007 (at 3.3 per cent of GDP) and remained high thereafter; the 2011 income surplus was 3 per cent of GDP.

Looking Forward

Even without the effects of the March 2011 disaster many economists expected the Japanese trade balance to turn into a structural deficit in the medium term due to domestic developments and declining competitiveness. The trade balance could return to a surplus in case of and lower energy prices and stronger global demand but likely only for a few years. A fast ageing society, demographic factors should push savings down. However, the overall impact on the current account is ambiguous as Japanese investment is on a downward trend, as Japanese firms prefer investing in East Asia, rather than domestically. Low investment in Japan is slowly eroding the competitive advantage and the relative strengthening of competitors in several sectors like consumer electronics implies declining market shares in the face of a narrowing technology gap.

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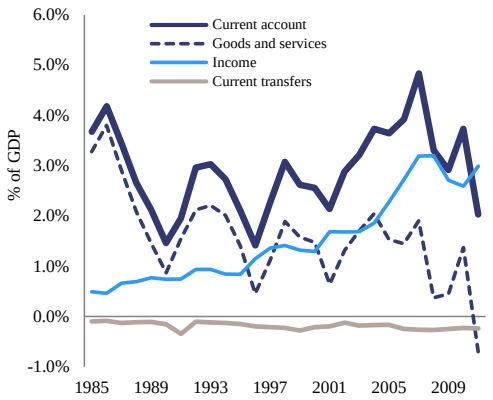
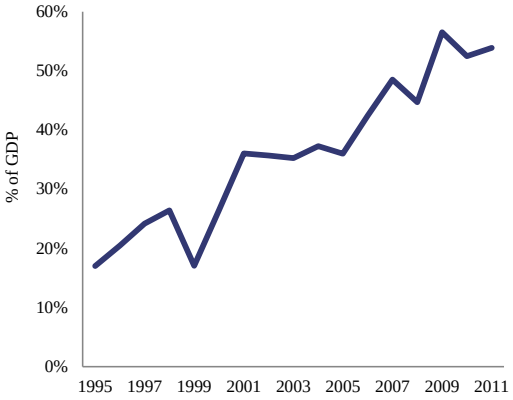
Box (continued)

Graph 1a: **Current Account Breakdown**



Graph 1b: **Net assets**



Source: Ministry of Finance, Cabinet Office

Box 4.4: **Econometric assessment - technical background**

The exercise aims at assessing the relevance of structural and policy factors affecting current account imbalances. The estimation in Table 4.3 concentrates on explaining the overall level of current account balances. The results confirm that demographic and fiscal variables (similar to IMF, 2012) matter for these overall levels along with structural specificities of the economy. The approach in Table 4.4 and Graph 4.27 assesses the importance of these factors for the development of current account balances since 1996-8, by estimating the changes in current account balances dependent on the changes in variables.

In principle, both estimation set-ups consist in estimating current balances dependent on variables proxying the various determinants discussed in the main text. The structural variables reflect factors that impact the savings-investment balances and have a long tradition in current account estimation: relative GDP per capita, population growth, aging speed, expected GDP growth ([1]) and oil balances. ([2]) Furthermore, two dummy variables indicate membership of the euro area and financial centres. In addition, the NIIP should have a bearing on the income balance. However, the focus rather on transitory factors that affect the current account: real interest rates and the output gap should affect the savings-investment gaps almost by definition. Competitiveness is captured by a terms of trade indicator (for price competitiveness) and ULC (for cost competitiveness). ([3]) The importance of tradable goods and services is proxied by the share of manufacturing in value added. Similarly the share of residential investment in total investment is meant to indicate how much investment is biased towards non-productive capital. The level of fixed capital formation also matters as an indicator of over- or under investment.

Several issues complicate the implementation of such a set-up. *First*, to address endogeneity issues, current account balances are estimated on variables that are lagged by one period, and thus predetermined. *Second*, in order to infer the effects of the varying determinants, the estimation abstains from capturing country-specific characteristics in fixed effects, or time lag structures (similar to Lee *et al.*, 2008). ([4]) The transitory variables do adjust over time, but slowly so. The variation in the annual data panel is thus mostly due to time series variation rather than cross-sectional variation. In order to compensate for this effect, an aggregation over non-overlapping three-year periods was carried out. ([5])

The sample is restricted to OECD countries. ([6]) The variables used thus imply a data sample with quite few observations (annual data for 31 countries from 1996-2010) and many correlated determinants – *i.e.* a sample running a high risk of estimation problems such as overfitting. This risk is tackled by the choice of estimation method: ([7]) Bayesian model averaging is applied to estimate models for each of the 262,144 combinations of potential explanatory variables, and aggregated their results according to their likelihood. The posterior inclusion probability (PIP) in Tables 4.3 and 4.4 specifies the resulting probability that either variable forms part of the true, data-generating model. ([8]) This aggregation induces data shrinkage, thus leaving more degrees of freedom to the estimation than under a straightforward least squares set-up. This data shrinkage is further enhanced by computing the individual models with endogenous shrinkage estimators that adapt to data quality. Both algorithms allay the risk of overestimating the contribution of explanatory variables, and thus how much of current account imbalances they can explain. ([9]) Indeed, these variables do not explain much of the data sample (as evidenced in Graph 4.27), but the conservative estimation set-up implies that estimation results hardly overstate their importance.

The spatial correlation coefficients presented in Graph 4.28 are based on the residuals of annualized version of the estimation from Table 4.4 (*i.e.* the same set-up, except for aggregating over time periods). They therefore assess remaining information from relating current account balances with those of other countries after having factored in country-specific variables.

([1]) These four variables are taken in their IMF (2012) formulation, namely: population growth: current population growth relative to world average; aging speed relative to world average: projected change in the dependency ratio over 20 years relative to world average (see Lane and Milesi-Ferretti, 2011); relative GDP per capita, in PPP with respect to US; expected GDP growth: 5-year-ahead growth forecast from the World Economic Outlook relative to world average.

([2]) Here, the formulation is similar to Salto and Turrini (2010), with the ratio of crude oil produced over crude oil consumed.

([3]) The output gaps, fiscal balances and REER indicators used here stem from the AMECO database, while the terms-of-trade times openness indicator is from IMF (2012).

([4]) Note, however, that the estimation does include the NIIP as an explanatory variable, which roughly captures past cumulated current account balances and therefore introduces a dynamic element into the estimation. While such specifications are frequently interpreted as equilibrium levels that establish a current account norm, the estimation here is mainly destined for inferring the importance of determining factors. Its estimators should therefore be rather interpreted as the typical current account balance that prevails for a country with similar characteristics.

([5]) The aggregated time periods employed are 1996-8, 1999-2001, 2002-4, 2005-7, 2008-10. The estimations presented here were checked under different aggregation periods and an annual panel data setup, with similar results.

([6]) Robustness checks with respect to the country sample included extending it to the BRICs and other emerging countries. Such an extended sample does not lead to differing implications for EU Member States. Note, however, that the standard deviation of residuals in Graph 4.27b is performed on residuals from such an extended sample with 38 countries.

([7]) See Ley and Steel (2012) for an overview of the methods applied here.

([8]) Note that the absolute level of PIPs is sensitive to the particular estimation set-up. Their interpretation therefore focuses on the relative, not the absolute differences of PIPs.

([9]) The implementation takes care to minimize the sensitivity to the formulation of Bayesian priors by using a hyper-prior formulation for model-specific shrinkage and specifying a beta-binomial prior on models with prior expected model size of three (see Feldkircher and Zeugner (2012) for a similar application to economic growth data).

5. REBALANCING FORM THE EURO AREA PERSPECTIVE

While the rebalancing of current accounts in the euro area and the EU is on-going, this has occurred mainly through a reduction in the deficits in the periphery. The reduction in surpluses has been relatively modest so far, and in some countries, in particular the Netherlands, the surpluses are projected to rise further. Up to now, the reduction in surpluses has reflected relatively weaker exports in view of sluggish foreign demand. However, the strengthening of domestic demand and of wages in the surplus countries, which are now growing faster than among the highest-deficit economies, will contribute to increase imports and reduce surpluses.

Looking forward, the key issues to consider are the size and pace of the rebalancing in the euro area (and the EU), and whether surplus countries should take steps to reduce their surplus and facilitate the adjustment in the deficit countries. The role of surplus countries in the intra-euro area rebalancing has been a matter of fierce discussions in policy and academic circles. The economic argument in favour of taking steps to reduce surpluses is based on the notion that excessive surpluses represent savings above their optimal level and/or depressed investment. This reflects firms' cautious investment policy, tight fiscal policy and households' pessimism – all causing surpluses to be above their optimal level. Taking steps to enhance domestic demand, and thus reduce surpluses, therefore, would be beneficial to the surplus countries on their own, as this would promote their economic activity and would help them to return to equilibrium. In addition, due to intensive trade and financial linkages, the increase in demand would improve economic activity in the deficit countries; this would also spill back to the surplus countries through higher asset values and confidence.

The argument against taking steps to reduce surpluses is often based on the notion that this could weaken the surplus countries and the EU (or the euro area) as a whole. In a situation of financial tensions inside the euro area, the reduction in the savings of the surplus countries could make the financing of the deficit countries even more problematic. Furthermore, any positive impact on deficit countries through trade would be relatively limited. Moreover, the economic situation in the deficit countries reflects weak fundamentals requiring structural reforms in these countries rather than lack of demand from the core euro area.

The issue of symmetric rebalancing or asymmetric adjustment, and the respective roles of deficit and surplus countries, is neither new nor specific to the euro area. Keynes's description of the adjustment pursued during the Great Depression was that such an adjustment was 'compulsory for the debtor and voluntary for the creditor' (Joshi and Skidelsky, 2010). ([75]) Besides the risk of incurring low returns on their accumulated surpluses, and in particular lower returns than domestic investment would bring, surplus countries do not have external financing needs, which implies that there is no automatic pressure through the financial markets for surpluses to be reduced.

5.1. SHOULD THE EURO AREA HAVE A BALANCED CURRENT ACCOUNT?

The euro area has had, but does not necessarily have to have, a balanced current account. The fact that the euro area has had a quasi-balanced current account for a number of years, before and after the crisis, may give rise to the view that reductions in surpluses would be accompanied by, or would lead to, improvement in deficits of other euro area countries. In other words, that there would be a direct relationship between the large deficits and the large surpluses, and that this quasi-balance situation for the euro area as a whole would remain in the foreseeable future. However, the euro area is not a closed economy and the sum of its surpluses and deficits can substantially differ from zero. The balanced external position of the euro area is rather a summation of balances of many interrelated, but distinct current accounts.

Given its structural characteristics, the euro area should have a moderate current account surplus. On balance, a number of the euro area's

([75]) The asymmetry of adjustment was addressed in the original IMF's Articles of Agreement, which contained the Scarce Currency Clause allowing trade discrimination measures against countries with chronic current account surpluses. However, it was quickly acknowledged that invoking such a clause would be very hard to implement (Eichengreen, 2009).

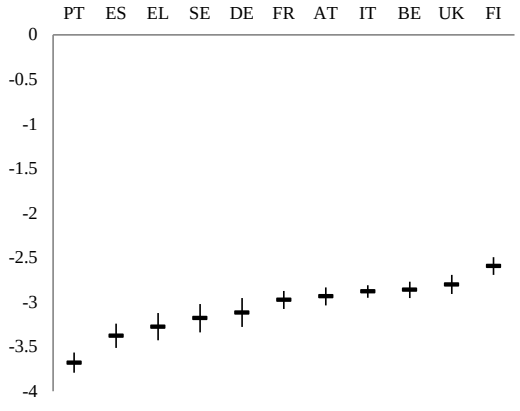
structural characteristics suggest that the appropriate overall saving-investment balance should be positive. They particularly include the ageing profile of the European population as a whole ([76]), the high levels of income per capita and the need for fiscal consolidation and deleveraging in the private sector in many countries. For example, the IMF (2012) estimates that an external position 'consistent with fundamentals and desirable policies' is of around 1½ per cent of GDP. Thus, there are reasons to believe that the reduction in deficits should be faster than the reduction in surpluses, as it has effectively been happening. ([77])

5.2. THE EURO EXCHANGE RATE AND REBALANCING

The real exchange rate of the euro area is likely close to its equilibrium level. The real effective exchange rate (REER) of the euro area based on ULC and computed against 36 industrialised countries ([78]) is around 1 per cent below its average since the launch of the euro in 1999. Similarly, the REER based on CPI and computed against 41 economies ([79]) is roughly 4 per cent below the long-run average. On the other hand, different measures of equilibrium REER based on econometric techniques point to some undervaluation of the euro. For example, the IMF (2012) estimated that the euro currently is up to around 5 per cent above its equilibrium value. On the basis of the available evidence, it is not possible to conclude that the euro is over- or undervalued. ([80])

A strengthening of the euro would likely be detrimental for the intra-euro area rebalancing. A strengthening of the euro would contribute to a reduction in the largest surpluses. However, the impact on the deficit countries could widen the intra euro area imbalances. Estimates of country-specific export price elasticities show that exports of a number of the surplus countries are relatively less price sensitive than those of the deficit countries (Graph 5.1). Nominal exchange rate movements could thus have a larger impact on deficit countries whose exports are more sensitive to price changes, either through a direct impact on price competitiveness or mark-ups of exporting companies. As a result, a strengthening of the euro could contribute to reducing surpluses somewhat, but it would also make the way ahead harsher for the deficit countries, all the more, as the trade imbalances of both deficit and surplus countries are increasingly with non-euro area (and non-EU) countries. Moreover, due to the differences in the geographical composition of exports and imports, changes in the nominal exchange rate of the euro would have, as they effectively have had, a different impact on the *effective* exchange rates. In 1999-2007, the nominal effective exchange rates of many of the surplus countries appreciated relatively less than in most of the other euro area, which coincided with their relatively better trade performance (Graph 5.2).

Graph 5.1: **Export elasticities**

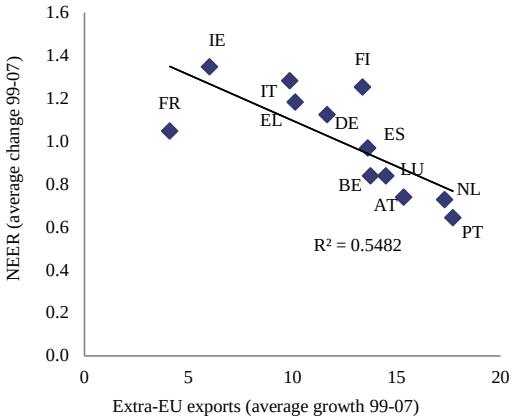


Note: the graph shows export price elasticities based on 1996-2000 weights; EL data are based on 1990-6 weights. The range (vertical bar) shows 95 per cent confidence interval.

Source: Imbs and Mejean (2010).

([76]) On the economic impact of ageing on the main macroeconomic aggregates, see European Commission (2012d); on the specific impact on government accounts, see European Commission (2012f).
([77]) For more on adjustment in vulnerable countries see Buti and Turrini (2012) and the European Commission (2012e).
([78]) These countries cover the EU and the OECD countries.
([79]) Also including emerging economies, such as China or Russia.
([80]) For a view on how a weakening of the euro would help solving the external sustainability issue of the more vulnerable euro area countries (but aggravate imbalances at a more global scale), see Darvas (2012). As argued by Lane (2013), since the current account position of the euro area is close to zero, it is unlikely that the euro exchange rate would move automatically in a direction that helps reducing the dispersion of intra-euro area deficits and surpluses.

Graph 5.2: **NEER and extra-EU exports, 1999-2007**



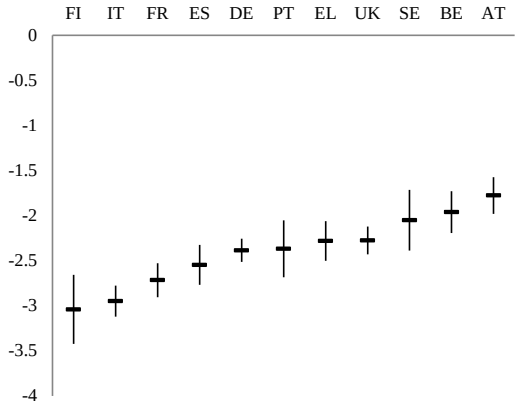
Note: due to data limitations, the data show exports to outside of the EU and not the euro area.

Source: Commission services.

Changes in the euro's exchange rate would also affect the imports of the EU countries differently. Estimates show that imports of large economies with a high share of intra-industry trade are more sensitive to price changes, as they can more easily substitute foreign goods with domestic ones (Graph 5.3). On the other hand, smaller economies tend to have lower import price elasticities because they produce less varieties and need to import what is not produced domestically. The appreciation of the euro would tend to boost relatively more the imports of large countries such as Italy, France or Spain, thus contributing to the worsening of the trade balance, than, for example, of smaller countries like Austria, Belgium or Sweden. The German import price elasticity appears to be roughly in the middle of the sample, possibly reflecting the fact that, despite its size, it is very well integrated in global supply chains, which tends to reduce price sensitivity of intermediate imports.

The differentiated impact of changes in the euro exchange rate makes the current accounts of the euro area countries as a whole, but also of each one of them individually, issues of common interest. In theory, if a large share of a monetary union increases savings or reduces investment, and therefore increases its current account surplus and exports capital, the current account deficit in the rest of the monetary area will most likely deteriorate, either through bilateral financial flows, or through the impact on the common exchange rate. Unless the real effective exchange rate appreciates due to increases in relative wage and price levels in the surplus countries, the nominal exchange rate of the euro would tend to appreciate, which could have, as discussed above, disproportionate competitiveness and deflationary effects on the rest of the area.

Graph 5.3: **Import elasticities**



Note: the graph shows import price elasticities based on 1996-2000 weights; EL data is based on 1990-6 weights. The range shows 95 per cent confidence interval.

Source: Imbs and Mejean (2010).

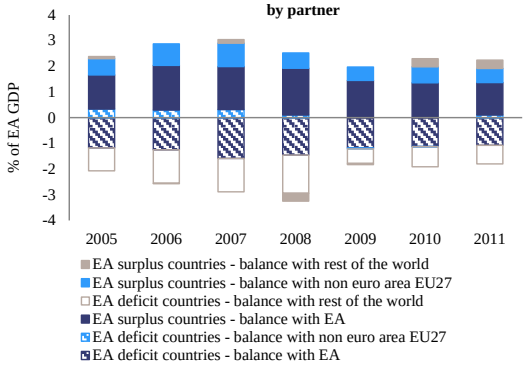
The fact that a stronger nominal exchange rate leads to an excessive appreciation of the real exchange rates in some members of the euro area is a natural feature of a currency union, where the overall monetary policy stance cannot reflect specific economic conditions in each Member State. This essentially calls for appropriate fiscal and structural policies to facilitate the necessary adjustment. Inasmuch as a strengthening (or a weakening) of the euro reflects the fundamentals of the euro area, as whole, such developments should not be seen as a problem. However, the spillovers through the euro exchange rate call for coordinated policy action if the current account balances driven by market distortions or policy failures have an impact on the external value of the euro.

5.3. PROSPECTS FOR CURRENT ACCOUNT SURPLUSES

While the surplus countries' overall position has not changed much in recent years, their bilateral trade surplus vis-à-vis the rest of the

euro area has declined substantially (Graphs 5.4 and 5.5). The reduction in surplus is particularly strong if only the group of vulnerable countries is considered. At the same time, the decline in the trade surpluses with the euro area was broadly compensated by higher surpluses with the non-euro countries and with the rest of the world. This suggests that the euro area rebalancing is not at the costs of the surplus countries' competiveness vis-à-vis the rest of the world.

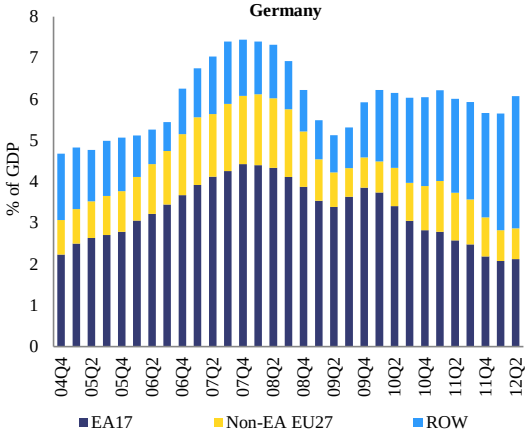
Graph 5.4: **EA surplus and deficit countries, current accoount by partner**



Note: deficit countries include non-surplus euro area MS (*i.e.* IE, EL, ES, FR, IT, PT, CY, MT, SI, SK, EE).

Source: Eurostat and national sources.

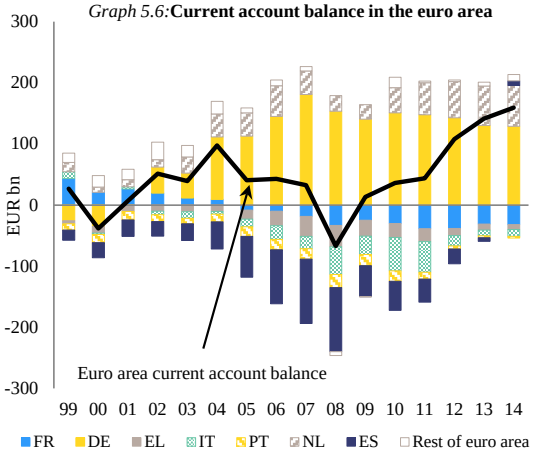
Graph 5.5: **Current account balance by partner-Germany**



Source: Eurostat. Note: four quarter moving average.

The changes in the composition of the financial account have been substantial. Financial flows from the surplus countries to the deficit countries have declined considerably and its composition has shifted from the private to the public sector. While the official flows have attenuated the sudden stop in private flows, the extent of the decline and its impact on credit conditions accelerate the adjustment of the deficit countries. The high levels of debt plaguing both public and/or private sectors pose a constraint on private financial flows, given doubts on the external sustainability of the deficit countries and on the solvency of some of their economic agents. Restoring 'downhill' capital flows to the euro area's periphery would reinvigorate growth and improve the deficit countries' debt dynamics. A priority is to restore non-debt creating inflows of capital, such as FDI, which would be used for productive purposes. At the same time, there will be substantial gross capital outflows related to a gradual repair of balance sheets. Overall, there might need to be net financial outflows (corresponding to current account surpluses) or only moderate net inflows (corresponding to small current account deficits but trade surpluses) to bring the debt levels down to more sustainable levels. A return to higher growth rates, stimulated by the healthy capital inflows, would be instrumental in smoothing this adjustment.

Graph 5.6: **Current account balance in the euro area**

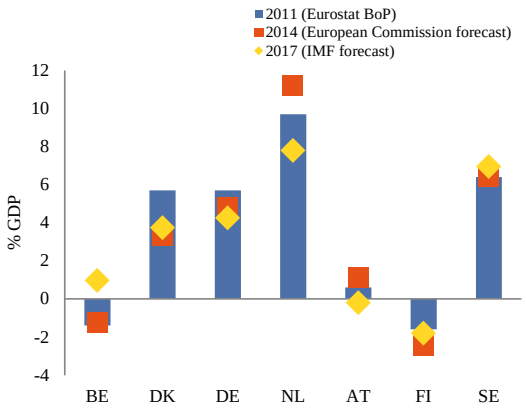


Source: Eurostat, Commission services.

The latest available forecasts suggest some reductions in surpluses (Graphs 5.6 and 5.7). Germany, the largest surplus country in the euro area, is expected to reduce its current account surplus by almost 3 percentage points of GDP from its peak in 2007 to 4.7 per cent of GDP in 2014. In the case of Belgium and Finland, the current account is expected to be about balance or even a small deficit in Finland, while the current account of Austria is projected to remain at a small surplus. An exception to this trend is the

Netherlands, where the very large surplus is forecast to further increase to almost 10 per cent of GDP.

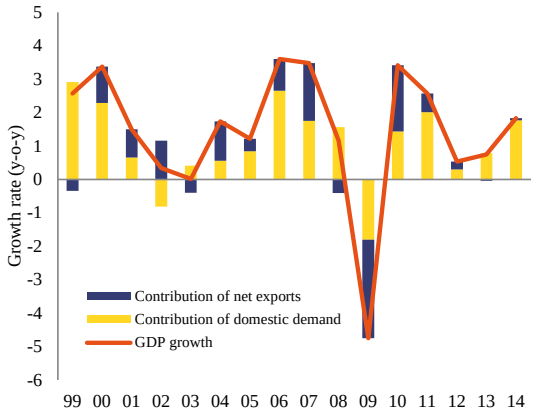
Graph 5.7: **Current account developements in EU surplus countries**



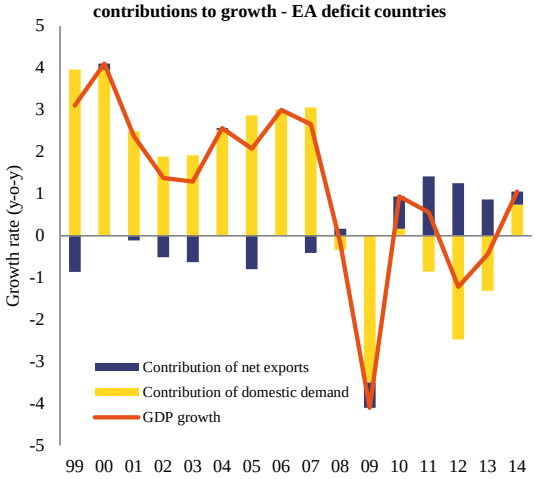
Source: Eurostat, Commission services, IMF.

These projected developments are supported by a number of factors, related to the external and domestic equilibriums in each country. Strong external demand would help to sustain robust export performance. Surplus countries have recently improved their trade and income balances with non-euro area countries, reflecting favourable developments in commodity prices, strong non-price competitiveness and continuing strong income flows. Looking forward, the sizeable stocks of net foreign assets of a number of surplus countries would contribute to income inflows, increasing disposable income and stimulating domestic demand. Moreover, growth in wages and disposable income, recovering confidence, and sound credit growth could help in rebalancing the compositions of final demand towards domestic consumption and investment.

Graph 5.8a: **External and domestic demand contributions to growth - EA surplus countries**



Graph 5.8b: **External and domestic demand contributions to growth - EA deficit countries**



Source: Commission services.

Box 5.1: **Competition in services and current account surpluses**

While the primary objective of productivity-enhancing reforms is to improve economic performance, they could have an impact on external imbalances. Reforms that foster competition and remove regulatory barriers in services may help reduce imbalances. But the effects of these policies operate through different channels, which can have opposite impact on external balances. The question is largely an empirical one, although there are a number of theoretical considerations that shape the direction of the final outcome. In particular, the relative strength of the various channels of transmission is likely to differ between surplus and deficit countries, both of which are often encouraged to undertake reforms targeting services sectors.

Targeting reforms at sheltered or underperforming services sectors to reduce current account surplus may be in particular warranted for two main reasons:

i) It will shift resources towards non-tradeable activities. Most services sectors are of a non-tradeable nature and reforms fostering competition will facilitate and encourage the reallocation of resources into these sectors, which will tend to reduce surpluses by shifting resources away from exporting activities. This shift will, in principle, be stronger the closer countries work to full capacity and will be less strong if idle resources abound (mainly labour, as services are labour-intensive). Thus, it could be expected that a liberalization of services would generate larger incentives to shift resources in, for example, Germany than in Spain. The effect on current account will, however, be mitigated by the fact that imports are also expected to decrease, given that manufacturing sectors import more than services sectors (this, however, would reinforce the corrective effect in deficit countries).

ii) The reforms will provide a stimulus to domestic demand through higher investment in this sector, consumption and imports spurred by increases in purchasing power of households. This investment boost will depend on confidence and access to credit, which are likely to be more favourable in surplus than in deficit countries.

There is another channel through which reforms in services sectors will affect trade balances: by increasing productivity in sectors that contribute as important inputs to the tradeable sectors, reforms will boost overall competitiveness. This competitiveness effect will increase surplus and correct deficits. To the extent that services sectors have generally lower productivity/efficiency in deficit than in surplus countries, productivity improvements are more likely to spill over to tradeable sectors and increase export performance, hence improving the trade balance. Also, exporters in surplus countries are generally more competitive than exporters in deficit countries which implies that the gains from improvements in inputs productivity (and cost reductions) are expected to be larger in deficit countries and more significant in decreasing the competitiveness gap. That is why this channel is expected to have a stronger effect on deficit countries and also contribute to closing the gap in external positions.

For surplus countries, the focus on the services sector is warranted by the fact that the reform needs in these countries are concentrated in those sectors. For example, business churn rates – the sum of firm birth and death rates – indicate weaker competition in services sectors in surplus countries, compared with other Member States (Graph 2). A higher churn rate is often associated with stronger competition as less competitive firms are replaced with new, more dynamic ones. Consistently across selected sectors, including manufacturing and services, surplus countries showed, on average, lower churn rates than non-surplus partners.

In particular, removing remaining regulatory barriers and further liberalising the sector via a full, more ambitious implementation of the Services Directive could have a rebalancing effect on trade flows. Lower level of product market regulation and administrative burden is often associated with higher productivity in services. ([1]) Information on existing restrictions before and after implementation of the Service Directive shows surplus countries such as Germany and Belgium as average reformers (Graph 1). These countries had more restrictions than most other Member States, and have kept a relatively large number of restrictions unchanged or with only partial improvements.

Past experiences indicate that further productivity gains in the non-tradable sectors of the surplus countries, and in particular in services, could indeed contribute to the reallocation of resources and generate higher investment. Productivity growth experienced in the services sectors in the EU in 1995-2007 has induced higher sectorial wages in all surplus countries (with the exemption of unskilled labour in Denmark) and thus made this sector relatively more attractive. Among the surplus economies, the wage effect was particularly large in Germany and Belgium, where productivity improvements drove the relative wages for skilled labour. In Germany, skilled wages increased, on average over the period by 1.25 per cent, and by 1.13 per cent for unskilled labour. For Belgium, the growth rates were 1.40 and 1.32 per cent, respectively. Productivity growth in services during the period is also estimated to have induced a price reduction of around 0.6 per cent, on average per year, over the same period in Netherlands, Belgium and Germany. In 1995-2007, the estimated effect of service sector productivity growth on annual GDP growth via induced additional investment ranged

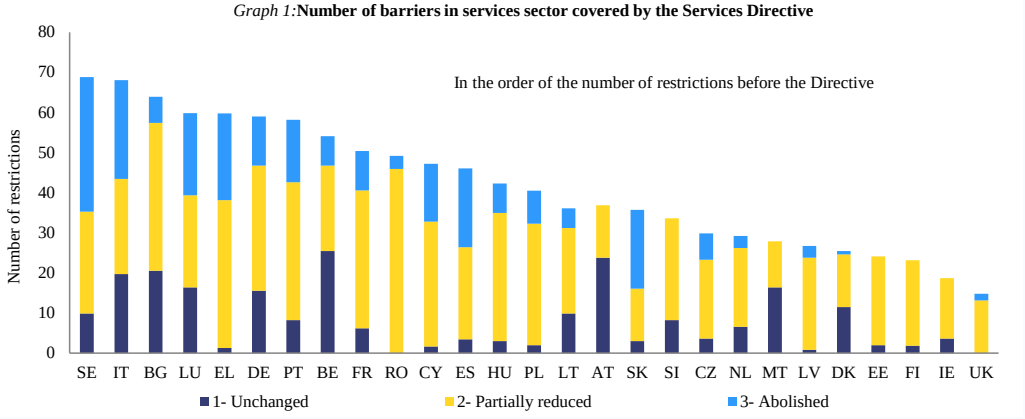
([1]) A 'malfunctioning index' in services sector that captures the gap between the multi-factor productivity in a services sub-sector of a country and that of the most productive country suggests that a 1 point increase in OECD PMR price control regulation (that ranges from 0 to 6) increases malfunctioning scores by an average of 0.13% (a 3.5% with respect to the sample mean). Similarly, increases in the index of licenses and permits regulation and in the antitrust exemption regulation have a significant impact in the malfunctioning of services sectors.

(Continued on the next page)

Box (continued)

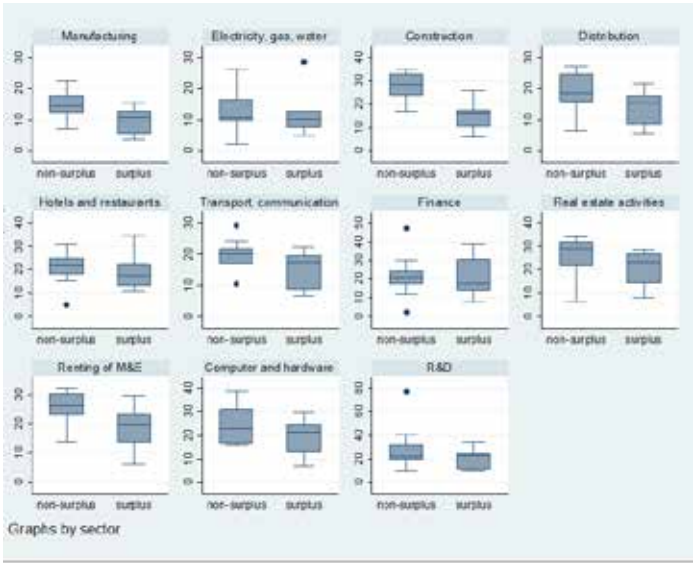
from an annual 0.24 per cent in Denmark, 0.29 per cent in Netherlands, 0.47 per cent in Germany, 0.64 per cent in Belgium. ([2])

*Graph 1:***Number of barriers in services sector covered by the Services Directive**



Source: Monteagudo et al (2012).

*Graph 2:***Churn rate (%) in manufacturing and various service sectors 2007***



* or latest year available. For data availability reasons surplus countries include AT,BE,DK,LU,NL,SE only. Non-surplus countries include CZ,EE,ES,HU,IT,LT,LV,PT,RO,SI,SK.

Source: Commission services based on ECFIN SPI database.

([2]) See ECFIN's external study on "Spillovers from malfunctioning services markets and economic performance", 2012.

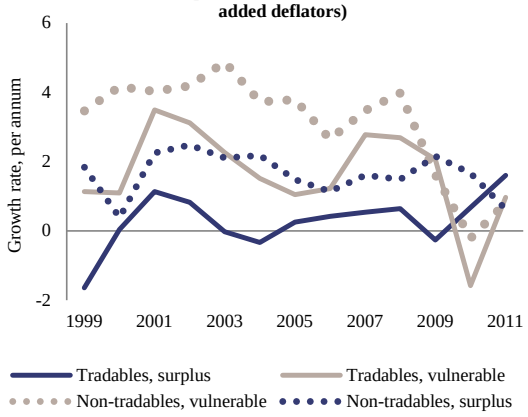
Most surplus countries are currently experiencing relatively tight labour markets and one could expect a market-driven acceleration in wage growth. It is neither in the interest of these countries, nor of the euro area (and the EU) as a whole that these developments

are offset by policy measures. In a rebalancing context, policies with a direct bearing on labour costs should be discussed in a coordinated manner. One has to distinguish between policies that aim at tackling problems with the labour market function from those that have a primarily goal to target competitiveness. This could be in particular the case of fiscal devaluations in countries with tight employment or reforms of wage-setting institutions aiming at wage moderation or repressing wage increases in the surplus countries. Measures that result in fiscal devaluations should thus be discussed in a multilateral setting, to be judged on their own merits before a decision of implementation is taken. This is in line with the Commission proposal for an ex ante discussion of major structural reforms before they are implemented by the Member States.

Liquidity in the surplus countries should allow their banks to expand lending and thus support domestic demand. Large TARGET2 claims by central banks in the euro area surplus countries reflect central bank deposit inflows during the recent crisis period. These have expanded the most in Germany, the Netherlands, Luxembourg and Finland. Thanks to abundant central bank liquidity, local banking sectors in some of these countries now appear to be in a suitable position to expand lending (while the German banking sector was also able to substantially reduce its reliance on the Eurosystem refinancing operations). However, persistent financial market tensions in the euro area, as well as increased capital requirements (Basel III, CRD4) might, on the other hand, dampen the potential for substantial credit expansion in the near future.

Adjustments in relative prices and reallocation of resources inside the surplus economies towards the non-tradable sectors bolster the external adjustment and make it more sustainable. Structural reforms to improve value-added and growth in non-tradable sectors would help to boost investment in these sectors and economic activity in general and also to strengthen the shift in the composition of growth towards domestic demand. Some of this adjustment has been taking place already. Prices ([81]) in the surplus countries in the tradable sector have edged up since 2009 and the growth rate has exceeded that in deficit countries (Graph 5.9). The adjustment in relative prices is expected to continue reflecting increases in wages and unit labour costs (Graphs 5.10 and 5.11). Policy measures to improve competition in the services sector could play a role in this respect (see Box 5.1).

Graph 5.9: **Price in tradable and non-tradable branches, surplus and vulnerable countries (value added deflators)**

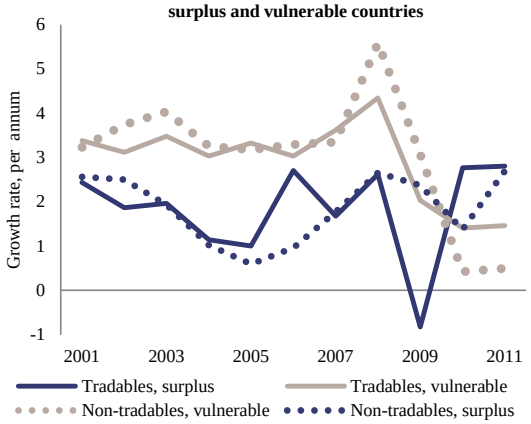


Notes: surplus countries include BE, DE, LU, NL, AT, FI; vulnerable countries include IE, EL, ES, IT, CY, PT, SI. Non-tradable sectors: construction, public administration, and market services other than trade, transport and communication.

Source: Commission services.

([81]) In this context the relevant price concept is the price deflator of the value added at basic prices. In a number of deficit countries, in recent quarters, the HIPC has exceeded the HIPC of the surplus countries. However, this has been heavily influenced by changes in indirect taxation. To the extent that indirect tax-driven consumer price increases do not lead to accelerating wages, they do not have a negative impact on cost competitiveness.

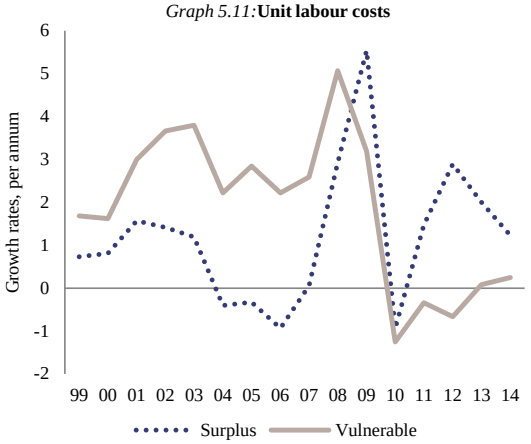
Graph 5.10: **Nominal compensation per employee, surplus and vulnerable countries**



Notes: surplus countries include BE, DE, LU, NL, AT, FI; vulnerable countries include IE, EL, ES, IT, CY, PT, SI.

Source: Commission services.

Graph 5.11: **Unit labour costs**



Notes: surplus countries include BE, DE, LU, NL, AT, FI; vulnerable countries: IE, EL, ES, IT, CY, PT, SI.

Source: Commission services.

Risks to the rebalancing prospects

Risks to the rebalancing and to the reduction in both surpluses and deficits are significant. There are several risks worth stressing.

- Weak confidence and low growth rates could fuel adverse loops, suppressing consumption and investment and hence reducing growth in both the surplus and deficit countries. Adverse developments in external environment could be a driving force behind this.

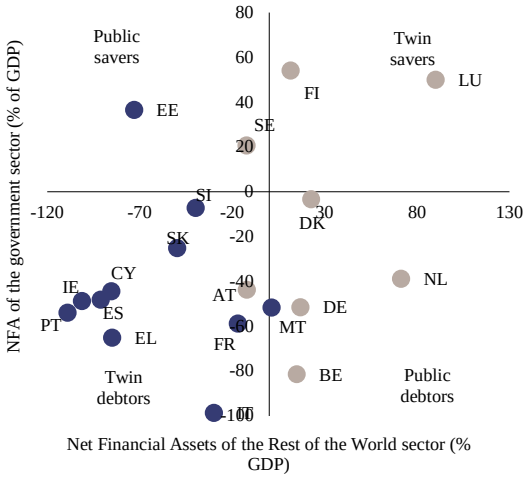
- Prolonged capital outflows could lead to unsustainable debt dynamics in the deficit countries and possible asset bubbles in the surplus countries.

- Wage increases in the surplus countries below those justified by their fundamentals could slow the adjustment considerably.

- Although some of the surplus countries need to proceed with fiscal consolidation, excessive fiscal restraint would reduce domestic demand, slow down the rebalancing process between deficit and surpluses, and reduce the contribution of surplus countries to this rebalancing.

- Deleveraging reduces domestic demand in both deficit and surplus countries. Surplus countries fall into two different categories. On the one hand, countries like Germany have a modest level of private (both households and firms) indebtedness, and there is scope to increase credit. On the other hand, countries like the Netherlands have a private sector debt ratio above levels that are usually deemed sound. (Graphs 5.12 and 5.13).

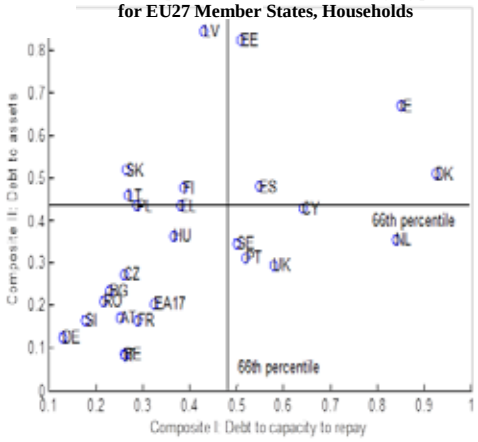
Graph 5.12: **Net financial assets, government and rest of the world**



Note: Net financial asset (NFA) positions are defined as net acquisition of financial assets less net incurrence of liabilities.

Source: Eurostat.

Graph 5.13: **Composite indicator on deleveraging pressures for EU27 Member States, Households**



Source: Commission services.

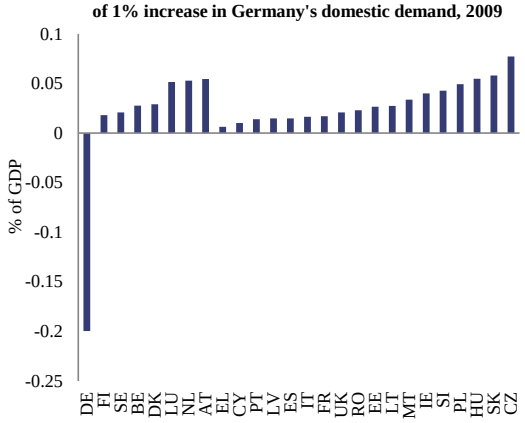
5.4. SPILLOVERS FROM STRONGER DOMESTIC DEMAND IN SURPLUS COUNTRIES

A key question is if and how lowering surpluses would help the adjustment in the largest-deficit countries. The two main channels - trade and financial, support each other in terms of reducing the current account deficits, but capture opposing spillovers in terms of economic activity in the deficit countries. The trade linkages operate through higher demand for goods from abroad, which raise exports of the deficit countries and hence their economic activity. The financial channel operates by reducing net financial flows and hence, investment, consumption, credit and economic activity. Both channels are two sides of the same coin: a decline in net capital inflows is by definition reflected in an improved current account balance. Less net capital inflows might either result from improved demand for a country's exports, or could constrain its imports through credit tightening. To estimate the spillovers via both channels, we analyse bilateral trade and financial flows using input-output matrices to account for the complex interactions between countries and sectors. More complex transmission channels and general equilibrium effects are included in assessments based on general equilibrium approaches such as the model used in Chapter 4. These additional analyses are typically conducted at a rather aggregate level and lack the sectorial and regional detail embedded in the input-output approach described in this section.

Trade spillovers

The impact of trade spillovers to deficit countries is positive, but relatively small. For example, 40 per cent of Germany's imports come from other euro area countries (8 per cent from the Netherlands, 7 per cent from France, 5 per cent from Italy, 3 per cent from Spain, and less than 1 per cent from Portugal and Greece each), 10 per cent from China, and 6 per cent from UK and the U.S. each. Germany represents more than one-fifth of total exports of Austria, Czech Republic, Poland and Hungary, around 10 per cent of exports from Spain and Portugal, and 6 per cent for Greece (Graph 5.15). While these figures could give a ballpark estimate of the impact of German demand on other countries, the actual impact could be much different when considering the full interaction among countries and sectors. In order to capture the full interaction of an increase in German imports, an input-output approach is used in a multiregional setting, based on the WIOD input-output tables. ([82])

Graph 5.14: **Improvement in trade balance as a result of 1% increase in Germany's domestic demand, 2009**



Source: Commission services calculations.

An increase in German demand would mainly benefit the exports of its closest trade partners, such as the neighbouring economies. Since a 1 per cent increase in German domestic demand will primarily benefit domestic production, its effect on the German trade balance will be lower: it amounts to roughly 0.2 per cent of GDP. Other countries' trade balances will benefit through increased

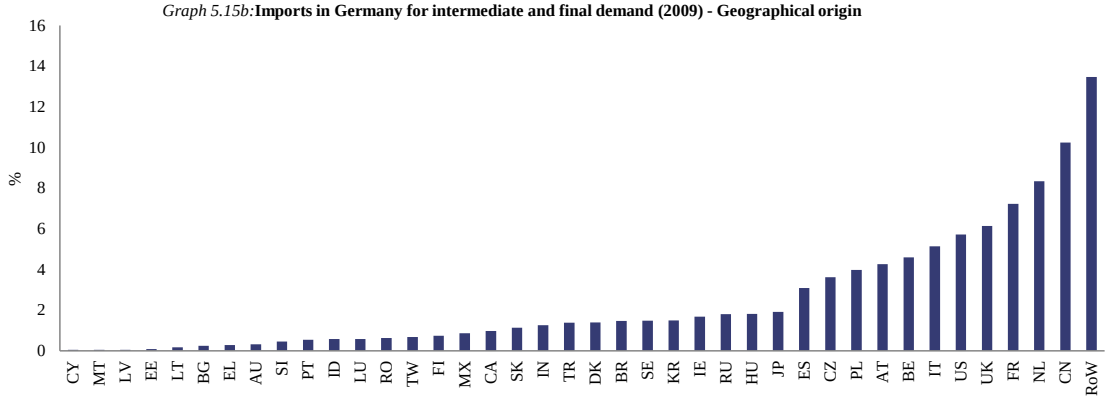
([82]) This approach also has shortcomings, particularly those stemming from the assumption of a Leontief production function which does not allow for substitution between factors.

exports of goods and services. The magnitude of this effect also depends on the import content of these exports as well as imports to cover domestic consumption. When accounting for these second-round effects, the countries that benefit most are those closely linked to Germany through intensive trade (Graph 5.15). The overall improvements in trade balances are thus the strongest for the Czech Republic with close to 0.1 per cent of GDP, followed by Slovakia, Hungary, Austria, and the Netherlands. The exports of the euro area deficit countries would increase by considerably less and the effect on their trade balances would be more muted: the trade balance of Spain, Italy and Portugal would improve by around 0.02 per cent of their GDP, and the Greek balance even less. The impact on France and the UK would be important in absolute terms, but comparable to that on Italy in terms of GDP. About half of the German trade balance deterioration would spill over to non-EU countries. The differing impact for countries such as the Czech Republic and Spain (which account for about the same share of German imports) stems from the tighter supply chain integration between Germany and its neighbours and from their supply of intermediate goods to satisfy the increase in German production. It should be noted, in particular, that other surplus countries, such as the Netherlands and Austria, are among the larger beneficiaries of the spillovers generated by German domestic demand and thus could further strengthen their surpluses. The impact on deficit countries, however, would be larger if all surplus countries were to increase their domestic demand simultaneously.

One of the elements that affects the extent to which other countries benefit and improve their export performance is the degree of similarity of their export structures compared to that of the surplus countries. Alongside the described, positive demand effect, deficit countries could further benefit from German rebalancing through yet another channel as the competition from German exports could decline. As a result of resources being shifted towards non-tradable sectors and/or increasing wages, the subsequent deterioration in price competitiveness could, other things equal, reduce direct competitive pressures from German exports both directly and in third markets. The impact depends on the sectorial overlaps between exports of the concerned countries. In the case of Germany, neighbouring countries and large countries such as Spain or Italy have export structures with a relatively high degree of overlap with German exports and could take advantage from less German competition in third countries. On the other extreme are small countries such as Greece, whose export structure largely diverge from that of Germany.

Graph 5.15a: **German imports as % of country exports**

Graph 5.15b: **Imports in Germany for intermediate and final demand (2009) - Geographical origin**

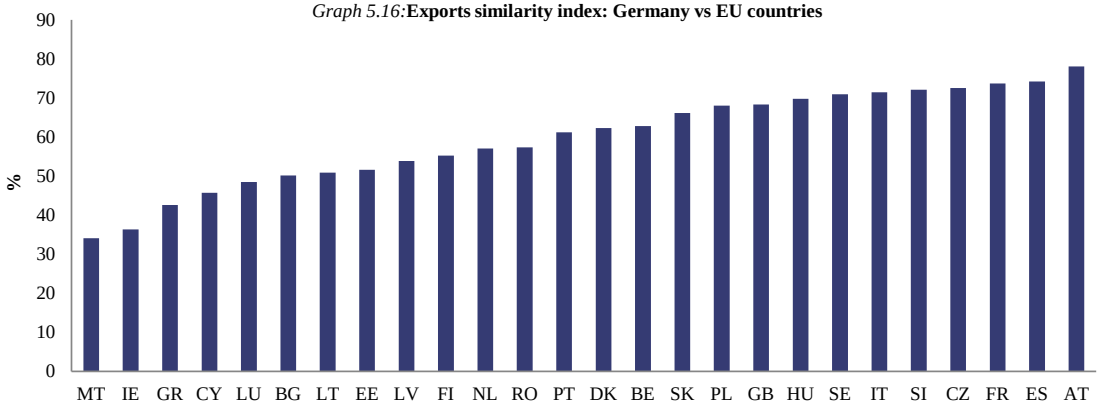


Graph 5.15c: **Increase in exports as a result of 1% increase in Germany's domestic demand**

Note: The increase in exports is calculated using the WIOD multi-regional Input-Output table. The table for 2009 is used. A new vector of final demand, in which final demand in Germany is increased by 1%, is used to calculate sectoral output in all countries and industries and, ultimately, new export figures by country. The model used is the standard Leontief expression:
$X = (I - A)^{-1} FD$
Where, X: output vector; A: matrix of technical coefficients; FD: new final demand consisting of final consumption expenditure by households, final consumption expenditure by non-profit organisations serving households (NPISH), final consumption expenditure by government, gross fixed capital formation and changes in inventories and valuables. Exports in country 'i' are sales of each industry to intermediate demand and to final demand in the rest of the countries.

Source: Commission services calculations based on WIOD Input-Output table.

Graph 5.16: **Exports similarity index: Germany vs EU countries**



Note: Finger-Kreining Index calculated over a breakdown of total exports into 279 products.
Source: Comission services calculations based on COMEXT.

Financial spillovers

While the interlinkages through financial flows are relatively well understood, the impact of a change in savings on these flows is more ambiguous. This is because in a world with free capital mobility, bilateral flows to one country can shift quickly and equilibriums are determined globally. That is, if Germany or other surplus countries lower their savings through increased consumption, and their outward financial flows then decline, then the impact on net flows to Spain (or other deficit countries) could be alleviated by higher flows from other countries. Nevertheless, in light of the euro bias and the sluggish financial flows to deficit countries from the private sector, this substitution effect may be relatively small at the moment. This is supported by the observation that the relative pattern in bilateral financial flows remained broadly stable before and after the beginning of the crisis, though the private and public nature of the flows changed. The analysis presented in this section is based on input-output matrices of bilateral financial flows and assumes, by construction, that all flows adjust proportionally in response to an exogenous change in net financial outflows from one country. This probably overstates the impact, as flows from other countries would adjust as well. However, it provides a benchmark to evaluate the plausible impact of a reduction in savings in the surplus economies. ([83])

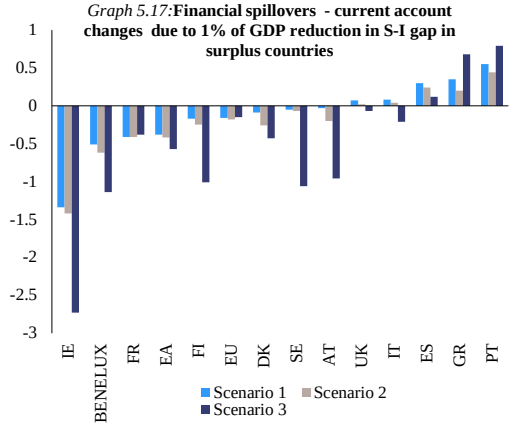
The results show relatively sizeable financial spillovers in the deficit countries from a decline in current account surpluses (Graph 5.17). The reason why the direct impact of financing is larger than trade is that the share of financing from surplus countries is larger than the share of exports to these countries. On the basis of the pattern of financial flows in 2006-7 *reducing* the German national saving by 1 per cent of GDP while keeping its investment stable (i.e. reducing its current account surplus by 1 per cent of GDP), would decrease net financial flows to Spain by 0.3 per cent of its GDP. The deficit in Greece and Italy would narrow by 0.4 and 0.3 per cent of GDP, respectively, while the Portuguese adjustment would have been marginal. ([84]) The overall impact would be stronger if all surplus countries reduced their excess savings by 1 per cent of GDP. Then, net capital flows will decline by 1.8 per cent of

([83]) It should be emphasised that this is a simple linear exercise, which assumes that all financial flows adjust proportionally in response to an exogenous shock in the form of a change in savings supply or investment demand. It does not take into account general equilibrium effects. Nevertheless, it allows taking into account the indirect financial flows as well as induced changes in saving-investment behaviour in the partner economies. For example, a reduction in current account surplus in one country has a direct effect on financial inflows into a partner country but also an indirect one through flows intermediated via other countries. In the case of intermediated financial flows, the exercise implies that, by design, an increase in capital flows is passed on the partner economies in proportion to the relative strength of past financial flows.

([84]) The linear exercise shows that the Irish deficit would have even increased slightly under such a setting. Ireland was the destination/source of important financial flows to/from Germany in this period, partly due to the outsourcing of German covered bond issuance to Ireland. The massive, but linear financial linkages in the data imply that even a small change in Germany would have resulted into considerable adjustment in Ireland, amplifying the impact of estimation errors in the financial flow data.

GDP in Greece, 0.6 per cent in Spain, 0.5 per cent in Portugal and 0.15 per cent in Italy. ([85])

Graph 5.17: **Financial spillovers - current account changes due to 1% of GDP reduction in S-I gap in surplus countries**



Source: Commission services calculations.

Note: Scenario 1: German saving rate reduced by 1% of GDP, keeping investment rate constant; Scenario 2: German investment rate reduced by 1% of GDP, keeping savings constant; Scenario 3: All surplus countries reduce saving rates by 1% of GDP, keeping investment constant.

Putting the trade and financial impacts together implies that reducing surpluses would benefit deficit countries, but the impact would be relatively small. Higher surpluses would increase exports of deficit countries, reducing their deficit and enhancing economic activity. However, at the same time, the lower savings of the surplus countries would reduce financial flows to deficit countries. Although deficit countries need lower flows given their improved current account position, the estimates on financial flows indicate larger adjustment the improvement in the current account from trade flows: this reflects the relatively larger importance of surplus countries in the financial than in the trade flows of the deficit countries. This also highlights that a decline in capital flows from surplus countries could, in principle, also reduce imports via depressing consumption and investment and thus counteract the impact of the higher exports on economic activity. However, the overall impact on economic activity would be positive where the impetus from exports is outweighing the effects from a decline in in consumption and investment relative to GDP.

([85]) As France also participated in the financing of the periphery's deficits, changes in its current account would also have an impact. The results which are not reported here show that the size of the spillovers would be important especially for Italy, Greece and the UK, but foremost for Ireland in its role as a financial centre.

5.5. MAIN CONCLUSIONS AND POLICY IMPLICATIONS

This chapter has reviewed the case for symmetric rebalancing and asymmetric adjustment in the euro area. In an economic and monetary union, the adjustment mechanism through relative costs and prices should operate symmetrically, helped by sufficiently flexible product and labour markets that allow the efficient reallocation of resources. This reduces the overall costs of adjustment and is in the interest of both surplus and deficit countries.

- The symmetric operation of adjustment mechanisms does not mean that the overall external position of the euro area needs to stay balanced. In view of its structural characteristics, the euro area could have a moderate current account surplus, which would also affect the nature of rebalancing in different countries. Moreover, it is important to realise that it is the developments in overall competitiveness and not only price competitiveness that determine the export performance. Relative price adjustments are therefore unlikely to achieve the whole of the needed adjustment.

- All in all, favourable conditions for adjustment in current account surpluses are in place in most, albeit not all, surplus countries. From the euro area perspective, the developments in two major surplus countries will be decisive. While Germany is reducing its surplus, subdued domestic demand and deleveraging pressures combined with tightening policy measures exert upward pressure on the Dutch surplus.

- The reduction in surpluses requires a domestic rebalancing within the surplus countries. In a development that is more symmetric to the largest deficit countries, the adjustment in relative prices and the relative wages between tradable and non-tradable sectors will contribute to increase domestic demand, investment and reduce excessive savings.

Structural reforms removing obstacles in services would contribute to this adjustment.

- There is no clear indication that the euro exchange rate would be under- or overvalued. A strengthening of the euro in exchange rate markets would be detrimental for the rebalancing of surpluses and deficit countries. Although it could contribute to reduce surpluses, it would also make the way ahead harsher for the deficit countries. This is all the more so as the trade imbalances of both deficit and surplus countries are increasingly with non-euro area (and non-EU) countries.

- The large trade and financial spillovers among the euro area countries need to be taken into account. However, the impact of an increase in domestic demand on the reduction of the deficits in the periphery should not be overestimated, as such demand would lead to exports by the deficit countries, but would also be shared among all world economies. However, this effect would be stronger if an increase in the domestic demand of Germany and other surplus economies were to avoid a strengthening of the euro nominal exchange rate.

- The restoration of 'downhill' capital flows from the 'core' towards the euro area's vulnerable countries will be crucial to promote their recovery, which, in turn, is indispensable to achieve external as well as fiscal sustainability. At the same time, the gradual repair of balance sheets will imply gross capital outflows. Therefore, a key priority is to restore non-debt capital inflows used for productive purposes, for example in the form of FDI. Appropriate financial regulation and supervision at the level of the euro area is key in this respect.

Box 5.2: **Global current account imbalances**

Global current account imbalances have long been in the focus of policymakers and analysts alike. Since the mid-1990's, current accounts of a number of major economies have been either in persistent and sizeable surplus or deficit. In many cases, they peaked just before the start of the crisis in 2006-7: China (+10.1 per cent of GDP), Germany (+7.4 per cent), Japan: (+4.9 per cent), US (-6 per cent) and Australia (-6. 2 per cent). Oil exporters such as Saudi Arabia ran a record 28.5 per cent of GDP surplus in 2005 and Russia registered a surplus of 18 per cent of GDPin 2000.

Overall, the crisis has led to a considerable narrowing of global imbalances, although part of the narrowing is likely cyclical. While Chinese current account surplus dropped to 2.8 per cent of GDP in 2011, it is expected to reach 4.3 per cent of GDP in 2017, according to the IMF. The US current account deficit is expected to evolve within the range of 3 to 3½ per cent of GDP. China and the US are expected to remain the main contributors to global imbalances in absolute terms in the near future. As the sharp drop of consumption relative to pre-crisis projections in the US and other deficit economies has not been offset by higher domestic demand growth in surplus economies (including China), the result has been a drop in global demand growth.

Global imbalances reflect a number of domestic distortions in respective economies. Weaknesses in the financial system led to low private savings and contributed to deficits in the US. Inadequate social safety nets and an undervalued exchange rate and restrictive financial conditions were among the main reasons behind the large surpluses in China. In some cases, domestic distortions also led to weak private investment (Japan) or public dissaving (India).

Policy efforts to reduce global imbalances

It will require further determined policy efforts at the global level to reduce global imbalances lastingly. This requires where necessary actions on fiscal, monetary and exchange rate policy, and financial and structural reforms. The reduction of structural fiscal deficits and actions to promote private savings are needed in advanced economies with current account deficits, such as the US. Other advanced surplus economies, like Japan, need to promote domestic demand through further liberalisation of service sectors, creating new industries and new markets. Emerging surplus countries, notably China, need to continue strengthening their social protection, to reduce market distortions, to reform corporate governance and to promote financial liberalisation reforms; this should be supported by allowing the exchange rate to be market-determined on the basis of fundamentals. Oil-exporting countries should continue to pursue productive public investment and encourage private investment.

There have been several attempts in the past to agree on a coordinated reduction of global imbalances. A major impediment to reach agreement is that there is no natural imperative incentive for a given country to reduce its current account surpluses. ([1]) Since 2010, the discussions on global imbalances have been conducted in the context of the G20. At the G20 Summit at Los Cabos, Mexico, in June 2012, G20 members agreed on specific actions to be taken in order to lower imbalances to more sustainable and desirable levels.

Global imbalances, adjustment and the EU (and euro area)

Despite its small overall current account surpluses, the EU, and the euro area, could be strongly affected by the adjustment of imbalances at the global level. Shifts in the positions of the other major economies in the world would have implications for exchange rates and the level and composition of production, and impact the European economies through trade and financial links (US is EU's main debtor while China is its main creditor). ([2])

The impact of global rebalancing on the EU would crucially depend on whether it would be symmetric and orderly or rather one-sided concentrated in the US. If both major deficit and surplus countries adjust at the same time and reductions in the US domestic demand are accompanied by reductions in net savings in emerging Asia, Japan, and oil exporting countries, the effect on Europe would be relatively small. If, however, the creditor countries fail to adjust, the brunt of adjustment would fall on the euro area: the exchange rate of the euro would appreciate, which would make more difficult the recovery in competitiveness of the deficit countries.

([1]) J. Williamson (2011) notes that that Keynes's original blueprint for a post-war monetary order contained elaborate proposals to pressure surplus countries into contributing to rebalancing. These were rejected by the US, which at the time regarded itself as a permanent surplus country.

([2]) See European Commission (2012g) and or Lane and Milesi-Ferretti (2007).

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