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Macroeconomic Imbalances – Germany 2014

4. INTERNATIONAL FINANCIAL FLOWS AND THE ROLE OF FINANCIAL INTERMEDIATION

Banks are important actors on the financing side of the German current account. Before the crisis, the banking sector strengthened its net lending position vis-à-vis the rest of the world, switching from a net debtor to a net creditor position. German banks' incentive to increase international exposure and accept risks in that time can be attributed to push and pull factors. Relevant push factors that have incentivised banks to search for higher return abroad were the weak growth performance of Germany, the low domestic profitability of the banking system and the re-orientation of business models by "Landesbanken". The introduction of the euro, low funding costs, diffusion of information and communication technologies, financial innovation and reliance on ratings were pull factors at work. In comparison to the internationalisation of banks observed in other countries in the pre-crisis period the German banks' increase in foreign investment was not outstanding, suggesting that the pace of global economic and financial integration decisively pulled the increase of German banks' foreign activity.

The financial crisis eventually disclosed the excessive risk-taking by German banks in their foreign investment positions. German banks were among the hardest hit during the Lehman crisis. Profitability of the aggregate banking sector turned negative in 2008 and 2009 and various banks requested and received public support to overcome losses. Germany provided substantial fiscal means to recapitalise banks, to establish bad bank schemes and to provide state guarantees to banks. Around half of the net investment position that banks had been built up from 1999 was eroded between 2007 and 2013. In this sense a misallocation of capital had occurred.

The impact of the banking crisis found reflection in the funding of current account imbalances. Deleveraging pressure and impaired foreign markets led German banks to retreat from foreign investment and the role of the Bundesbank in intermediating net financial flows abroad increased accordingly. Freezing of euro area money markets at the outset of the global financial crisis led to an increased reliance on the Eurosystem refinancing operations and an increase in TARGET2 balances, which increasingly replaced market funding. Although banks' sudden withdrawal from cross-border interbank lending, which was not limited to German banks, fostered banks' balance-sheet repair, it deepened fragmentation on banking markets, obliging foreign banks to borrow from the ECB while the German banking sector accumulated a large liquidity buffer.

The lower foreign lending by German banks in the last years has not led to any noticeable domestic credit expansion despite excess liquidity held by the banking sector and low lending rates. Recent survey results indicate that there are no serious credit constraints. Hence, the continuously weak credit growth appears to reflect the currently low credit demand rather than credit supply constraints It may be the consequence of ongoing and past adjustment to financial and real sector imbalances as crisis-related uncertainty and previous deleveraging in the corporate sector seem to have triggered a high level of precautionary savings and a low propensity to incur new debt.

This section analyses whether and why German banks have intermediated significant part of domestic savings to foreign rather than to domestic investments and to what extent shortcomings in financial intermediation or in the role that financial institutions have played lie behind Germany's remarkable net lending to the rest of the World. After a description of international financial flows, the possible reasons for the rising share of foreign claims in banks' portfolios before the financial crisis and the withdrawal thereafter are reviewed. The former may potentially signal a macroeconomic imbalance in form of excess risk taking in important parts of the German banking sector whereas the latter could be the consequence of the protracted adjustment required to resolve banks' viability. Of particular interest is whether, in the pre-crisis period and more recently, banks' perception of more profitable investments abroad induced a crowding out of investments in Germany or whether it reveals a lack of investment opportunities in Germany. While the combination of excess liquidity in banks, low lending rates and surveys not-indicating credit constraints makes it difficult to attribute the recent weakness in credit growth to bank supply factors, it is remarkable that

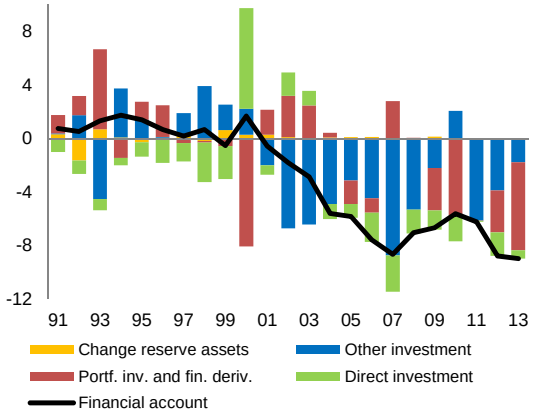
bank credit declined over the last decade from 107% of GDP in 2002 to just above 90% in 2013, whereas it increased in almost all other EU Member States.

4.1. ANATOMY OF GERMANY'S CROSS-BORDER FINANCIAL FLOWS

The financial account shows high capital exports via inter-bank and loans in the pre-crisis period and a comeback of portfolio investments and financial derivatives in recent years. During 2002-2007, the strong increase in other investment strikes the eye (see Graph 4.1). ([1]) This investment type dominates in the structure of Germany's capital export and mainly consists of cross-border loans between banking institutions. Financial corporations were the driving force behind both the accumulation of foreign assets and the reduction of German other investment liabilities, e.g. trade credits and bank deposits. This pattern should be understood in the context of German investments into US financial assets and into a strong exposure towards certain euro area countries (see European Commission 2012). The willingness of banks (MFI in Graph 4.2) to provide capital reversed abruptly in the wake of the financial crises. The period 2008-2013 is marked by a comeback of net capital exports via portfolio investments and financial derivatives, which had not contributed to building up of the current account surplus until 2007. The aftermath of the crisis was also marked by the increasing replacement of German banks' other investment by the TARGET2 claims of the Bundesbank. This was accompanied by claims of the general government resulting from EFSF loans as well as the funding of the European Stability Mechanism (ESM).

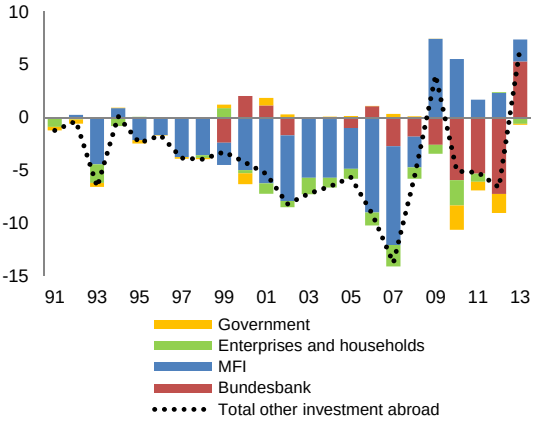
([1]) The financial account balance stood at 9.0% of GDP in 2013. This is somewhat higher than the current account balance due to a noticeable amount of statistical errors and omissions by 1.6% of GDP.

Graph 4.1: **Balance on financial account and components (% of GDP)**



Source: Bundesbank

Graph 4.2: **German other investment abroad by sectors (% of GDP)**

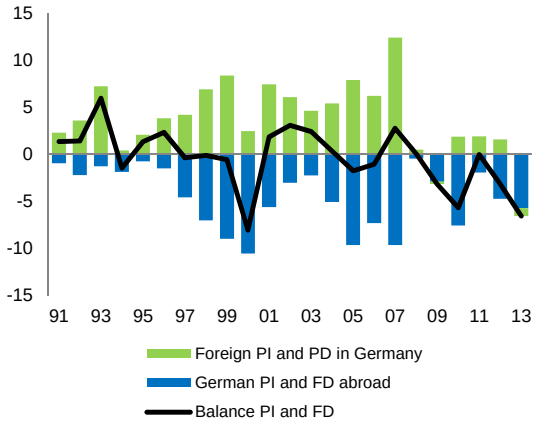


Source: Bundesbank

Net FDI abroad has played a limited role in Germany's capital exports but has been somewhat more pronounced in recent years. Net capital export via foreign direct investment (FDI) was as a whole uneven and moderate during the 2000s compared to the total financial account. ([2]) German FDI abroad was, however, comparatively stronger in the second half of the 2000s and driven in particular by equity capital acquisitions and re-invested earnings abroad. At the same time, foreign direct investment in Germany has been receding, with both equity capital investments and reinvested earnings having weakened after the crisis.

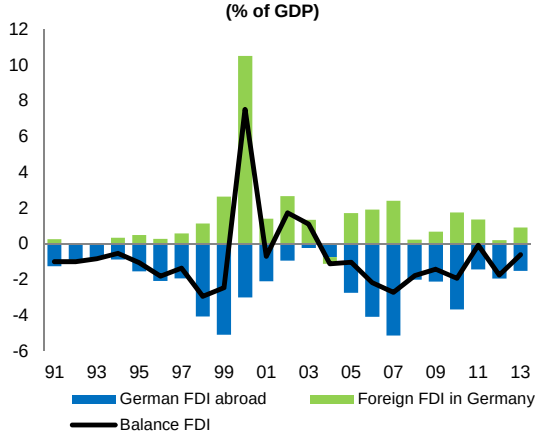
([2]) In 2000 an exceptionally huge acquisition of a German firm by a foreign investor took place. Taking this inward FDI into account, the balance of German FDI between 2000 and 2010 was only -0.2% per year on average.

Graph 4.3: **Inward and outward portfolio investment and financial derivatives (% of GDP)**



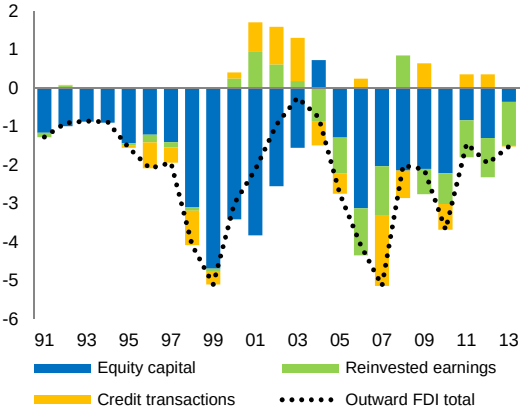
Source: Bundesbank

Graph 4.4: **Inward and outward direct investment (% of GDP)**



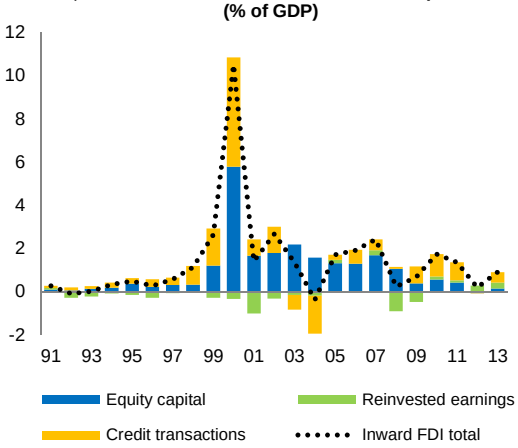
Source: Bundesbank

Graph 4.5: **Outward direct investment and components (% of GDP)**



Source: Bundesbank

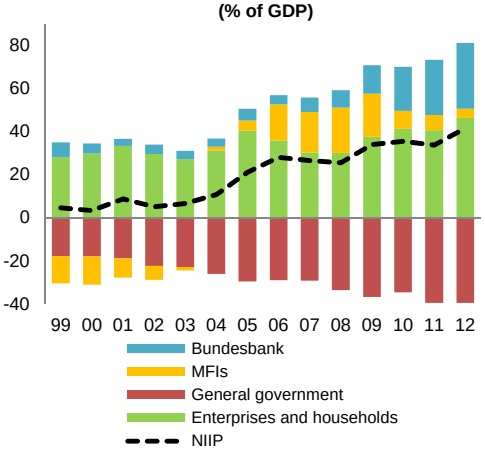
Graph 4.6: **Inward direct investment and components (% of GDP)**



Source: Bundesbank

Germany's net international investment position (NIIP) has increased more than 10-fold in a bit more than a decade. At the end of the year 2000, it stood at 3% of GDP. Mirroring the surpluses of the current account, a strong increase in the stock of German foreign claims followed and the NIIP reached 42% of GDP in 2012. If valuation losses had not occurred, the NIIP would have been roughly half time higher (see Box 4.1).

Graph 4.7: **Germany's NIIP by sectors (% of GDP)**

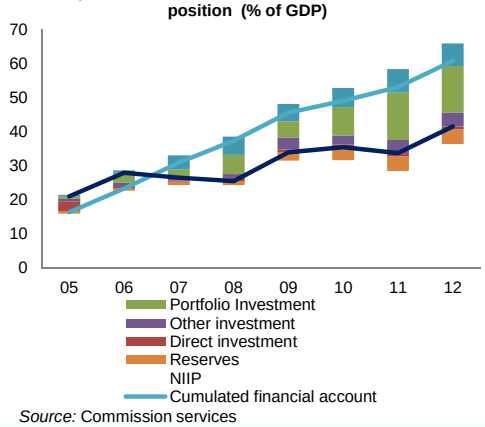


Source: Bundesbank

Box 4.1: **The impact of valuation changes on the NIIP**

The difference between the cumulated financial account and the NIIP position represents the valuation losses incurred by Germany, decomposed by instrument. All instruments have experienced losses in the period shown with the exception of reserves (Graph 1).

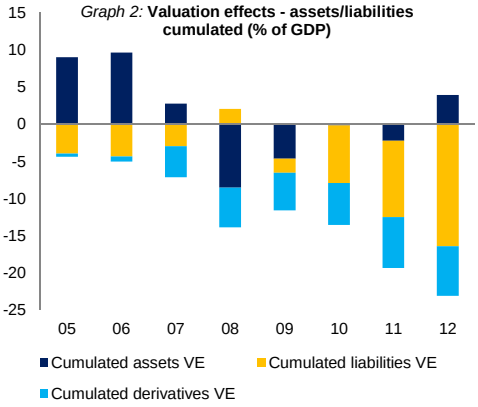
Graph 1: **Cumulated financial account and the NIIP position (% of GDP)**



Source: Commission services

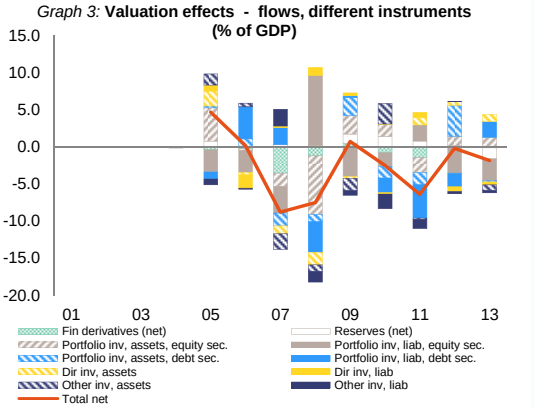
Graph 2 shows the exact same cumulated losses but this time decomposed in assets and liabilities (as well as derivatives). Positive (negative) numbers represent gains (losses) for Germany. Graph 3 shows the flows (non-cumulated) numbers for recent years.

Graph 2: **Valuation effects - assets/liabilities cumulated (% of GDP)**



Source: Commission services

Graph 3: **Valuation effects - flows, different instruments (% of GDP)**



Source: Commission services

At the start of the crisis in 2007, Germany saw big losses in its assets and financial derivatives position due to the collapse of the credit derivative market. In the year after that, big losses occurred in all asset positions, particularly markedly in equity. After that however, the valuation losses accrued (2010 and 2011) are due mainly to the increase in the debt liabilities and to a lesser extent to sustained losses on assets and financial derivatives. For the most part this reflects an increase in demand for debt issued in Germany (flight-to-safety) and is a mirror image of the declining interest rate on German bonds. The changes to the market value of the German net international investment position in 2010-11 are therefore very different to the earlier losses and account in cumulated terms for most of the losses (Graph 2). The contribution of losses on derivatives has also been important since 2008 and is also most likely irrecoverable. By contrast as German bond interest rate has somewhat picked up in 2013, the cumulative contribution of liabilities in the valuation effects will also decrease.

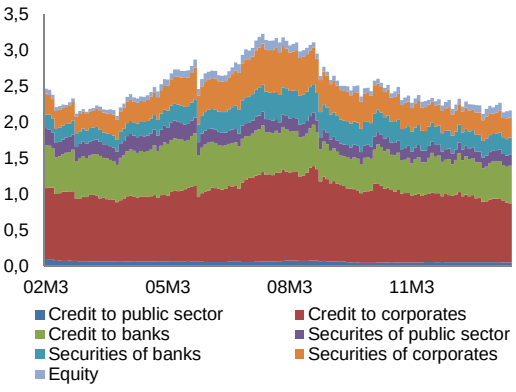
Since mid-2012, a partial repair of the financial fragmentation that was triggered by the crisis is taking place. Before the crisis, the banking sector strengthened its net lending position vis-à-vis the rest of the world, switching from a net debtor to a net creditor position. However, since the outbreak of the crisis around half of the net position that banks had been built up from 1999 has been eroded (see Graph 4.7). Net payment inflows through TARGET2 were to a large extent driven by "flight-to-safety" as non-residents increased their holdings of German government securities while the domestic financial sector reduced its exposure to other parts of the euro area. ([3]) The NIIP of the Bundesbank peaked in mid-2012 and has contracted considerably since. The NIIP of the general government sector also improved in recent quarters, suggesting that "flight-to-safety" flows have reversed again. The decomposition of the NIIP also shows a pronounced increase in gross foreign asset holdings of the household and enterprise sector since 2007, pointing to Germany's non-bank sector having today a strong net lending position, which leads it to build up substantial foreign assets. ([4])

4.2. THE INTERMEDIATING ROLE OF THE GERMAN BANKING SECTOR

The banking sector has a large role in Germany as the inter-sectoral allocation of savings and provision of external funding occurs predominantly through banks. In addition, the sectoral breakdown of net international financial flows demonstrates that banks are important actors on the financing side of the current account. Especially in the years 2001-2007 when the German current account surplus built up, lending by German banks to foreign borrowers accounted for the overriding share of net capital outflows. Other private actors than banks, i.e. corporations, private persons and other financial intermediaries, were also net exporters of capital in almost all years (Graph 4.2), but their share was until 2008 dwarfed by the capital outflows by banks.

Bank credit had a leading role for financing foreigners' current account transactions with Germany in the pre-crisis period. If the banking sector's capital net outflows are further broken down into investment category, it appears that "other investments" constitute the dominant part (Graph 4.9). That is, very little foreign investment by banks occurred through FDI or the acquisition of foreign securities. A similar picture emerges from the decomposition of financial outflows by financial instrument. On average over 1999-2006, banks provided credit to foreign borrowers amounting to 5% of GDP, peaking in 2006 and 2007 at 9% of GDP. Remarkably, on average about two third of this bank credit was short-term, suggesting an important role for money market transactions in the external funding.

Graph 4.8: **Foreign claims of consolidated German banks in trillion EUR**

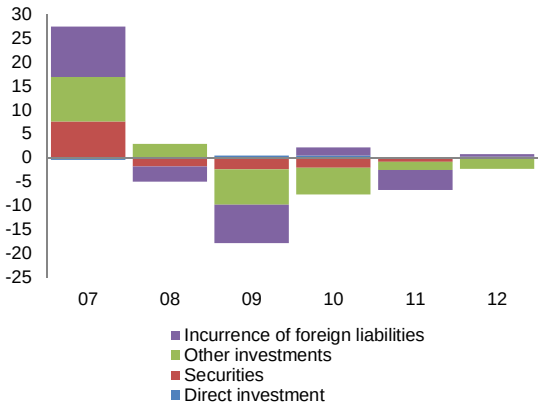


Source: Bundesbank

([3]) After having increased from less than EUR 130bn in early 1999 to above EUR 580bn by late 2008, claims of banks located in Germany on entities located in peripheral euro-area member states (EL, IE, IT, ES, PT, CY, SL) started declining rapidly, falling to below EUR 270bn by end-2012. They then remained broadly stable at around EUR 270bn throughout 2013.

([4]) In this investor group, institutional investors such as insurance companies and other financial intermediaries bear much more weight than non-financial corporations or households. The Balance of Payments statistics follows a different breakdown than the national accounts, distinguishing between monetary financial institutions (MFI = banks), government and other, with the latter sometimes labelled as corporations and private persons. The national accounts decompose into non-financial corporations, financial corporations (MFI and non-MFIs), government and households.

Graph 4.9: **Net acquisition of foreign assets by German banks, in % of GDP (net outflow: +)**



Source: Bundesbank

In the period when the German current account surplus became persistent, German banks retreated from their international engagements. In all years since 2008, German banks sold more foreign assets than they acquired and their foreign claims declined from a peak level of more than 3 trillion EUR in 2007 to about 2 trillion EUR in 2013 (Graph 4.8). Though the structural change is largely attributed to the financial crisis, it is notable that the peak in foreign claims was in spring 2008, i.e. half a year before the Lehman failure. ([5]) The ensuing financial disinvestment of German banks was spread over all asset classes, larger for credit positions than for securities and larger for claims against corporates and foreign banks than against the public sector (Graph 4.8). Credits to foreigners, being a key component of the other investments category, turned around markedly in the short-term market segment: They changed from an average capital outflow of 3.7% of GDP 1999-2007 to an average inflow of 2.6% of GDP 2008-2012. Long-term bank credit outflows declined more moderately from 2.2% to 0.1% over the same periods.

However, this structural break does not amount to a fundamental reduction of the role of German banking in channelling domestic savings abroad. The impact of banking crisis found reflection in the funding of current account imbalances. Over the last years, the role of the Bundesbank in intermediating net financial flows has increased considerably (see Graph 4.2). This does not imply significant changes in its official reserves, but is linked to the design of the TARGET2 payment system. ([6]) Freezing of euro area money markets at the outset of the global financial crisis led to an increased reliance on the Eurosystem refinancing operations which increasingly replaced market funding, in particular in banking systems of the most stressed euro-area countries. Via TARGET2 system, liquidity created in other parts of the euro area was up to mid-2012 to a large extent transferred to Germany in flight-to-safety flows implying higher TARGET2 claims of the Bundesbank (for more details on the TARGET2 system, see Box 4.2)

4.3. THE PRE-CRISIS PERIOD: PUSH AND PULL FACTORS

The environment German banks faced in the pre-crisis period may have induced them to increase international exposure and accept higher risk. The literature describes a number of forces at work when the German current account accumulated: the introduction of the euro, low funding costs and changes to banks' capital regulation. ([7]) The euro introduction is relevant because banks entered EMU with a strong home bias and the elimination of currency risk reduced risk premia on investments in other euro area Member States. Both banks and private non-bank debtors benefitted from lower risk premia, especially in countries that experienced rising asset prices and strong economic growth. German banks' foreign claims indeed increased over-proportionally, though from low shares in the pre-crisis period against some euro area countries that turned up as vulnerable later on, suggesting that German banks had helped finance the real estate booms and current account deficits in these countries. ([8]) A second set of reasons builds on global factors such as accommodative monetary environment, technological progress fostering

([5]) The market exit of US investment bank Bear-Stearns in March 2008 was a particularly relevant event in the financial crisis chronology.

([6]) See also Deutsche Bundesbank (2012b), Cecchetti, et al. (2012), and the literature quoted therein.

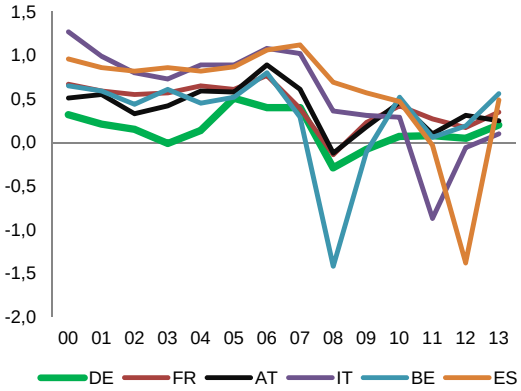
([7]) Part of the economic literature has labelled banks' decisions to search for investment opportunities abroad rather than on domestic markets as banking glut. See for example, Bernanke et al. (2011), Shin (2011), Bruno and Shin (2012), Noeth and Sengupta (2012).

([8]) For more detailed analysis on the German financial position against vulnerable Member States, see Bibow (2013).

lower information and communication costs and financial innovation. ([9]) The diffusion of information and communication technologies may have accelerated the integration of international trade and international finance alike. In this context, financial innovation in the form of structured securities allowed higher yields than conventional securities of equal ratings. In the search for yield, European banks, including German ones, have been important users of the new security class. A third point put forward in the literature related to the implementation of Basel II capital rules in the EU, which set incentives to circumvent the rules by establishing off-balance sheet structured investment vehicles. ([10])

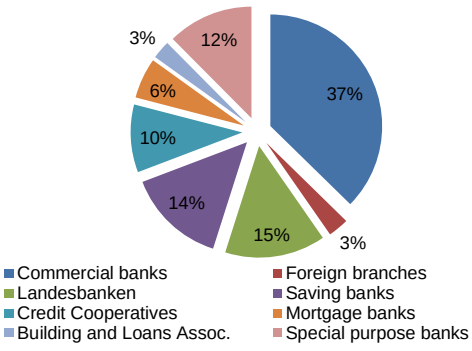
German-specific factors that may have incentivised banks to search for business abroad were the low profitability of its banking sector and the re-orientation of business models by *Landesbanken*. Taking standard measures of banks' profitability such as return on assets or return on equity, German banks turn out to be less profitable than their peers in other Member States (Graph 4.10). Differences in profitability are also pronounced across the different segments of the German banking market, which is traditionally structured across three pillars: private commercial banks, Sparkassen and *Landesbanken*, and credit cooperatives and their central institutions. To what extent the reason for the low profitability is due to the large number of banks and competition among them has been subject of debate. ([11]) Second pillar, savings banks, with roughly more than 1/3 market share in deposits, and the third pillar, the cooperative sector, with roughly 1/6 of deposits, are usually considered as less profit-oriented, for following also public interest objectives and solidarity among its members. Banks in these two pillars are numerous and most of them small and well-anchored in local retail business (Graph 4.11). They are intertwined with centralised institutions inter alia through ownership linkages, with the latter competing with private commercial banks. Despite the relatively low profitability and the relatively low number of assets per branch, the German banking sector's downsizing in terms of number of employees and branches was less strong than the euro area average between 2008 and 2012.

Graph 4.10: **Banks return on assets (in %)**



Source: OECD (2000-2007), ECB (2008-2012)

Graph 4.11: **Share in total assets and number of institutes across banking categories**



Source: Bundesbank

Low profitability on domestic markets creates incentives to invest abroad as returns might be higher, especially considering that the German growth performance in the early 2000s was one of the weakest in the EU. Thus, participating in higher growth elsewhere looked like a rational choice for banks, especially as they had to compete on increasingly integrated funding and ownership markets with peers domiciled in more prosperous domestic markets. This may have fostered the international orientation of German banks'

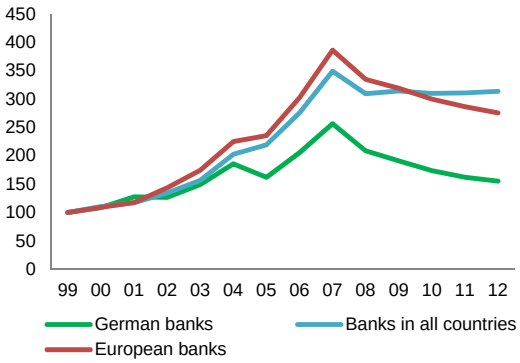
([9]) In this context, Bruno and Shin (2012) note that cross-border lending booms have taken place in very different countries, which suggests that EMU may not be the main determinant.

([10]) See Bernanke et al. (2011), Shin (2011), and the literature quoted therein.

([11]) See International Monetary Fund (2003), Sachverständigenrat (2008), Gilquin (2013).

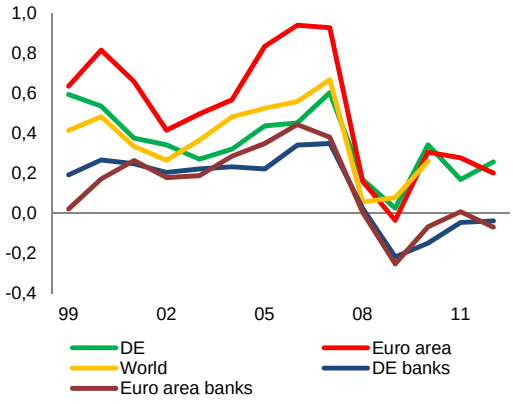
business models, especially after the launch of EMU. The long phasing-out period of government guarantees for *Landesbanken* may also have triggered foreign investment. Since refinancing costs would increase once the state guarantees were phased out in 2005, *Landesbanken* increased their capital market refinancing and accumulated excess liquidity for lending to foreign banks or buying foreign securities. ([12])

Graph 4.12: **Foreign claims of banks (1999=100)**



Source: BIS, Com. serv. calculations
Note: immediate risk basis

Graph 4.13: **Ratio of foreign investment to exports (annual flows)**



Source: Eurostat

The pace of global economic and financial integration may have decisively pulled the increase of German banks' foreign activity as much as the low profit prospects on domestic markets had pushed them. The pre-crisis expansion of German banks foreign claims does not look excessive when judged against the integration of global banking markets. Comparing German banks' foreign claims to those of all banks reporting to BIS shows that both grew broadly in tandem between 1999 and 2004 (see Graph 4.12). ([13]) Foreign claims of European banks outpaced those of German banks from 2002 onwards, reaching a peak of 4 times the 1999 level in 2007, compared to 2.5 for Germany. ([14]) Also when compared to the pace of trade integration over this period, the increase in German banks' foreign exposure does not look excessively strong. Between 1999 and 2007, Germany invested less per unit earned through trade than the euro area. Also German banks' foreign investment to export ratio was lower or comparable to its euro area counterpart (see Graph 4.13).

Returns from German investment abroad seemed to have slightly over-performed that of the euro area at large, the flip-side being higher risk-taking by German banks. When calculating the ratio between investment income as recorded in the capital accounts and the stock of the financial assets registered in the net international investment position the previous year, it turns out that over most years, German returns on foreign investments were at about 3% and therewith a few basis points higher than that of the euro area (Graph 4.14). The result from the total economy's positions is consistent with higher returns from the "other investment" account, which largely covers banks' activity and can serve as a proxy for banks' foreign profitability in the absence of headline data on banks' profits from foreign versus domestic operations. The yield was also higher than banks' return on total assets, i.e. from domestic and foreign sources, also if this established indicator of banks' profitability is corrected for the impact of provisioning (Graph 4.15). The high valuation losses in the German international investment position referred to in Box 4.1 motivates the perspective of higher returns as a sign of risk-taking. The enormous losses resulting from credit exposures to US markets and from avalanching refinancing costs on wholesale funding markets

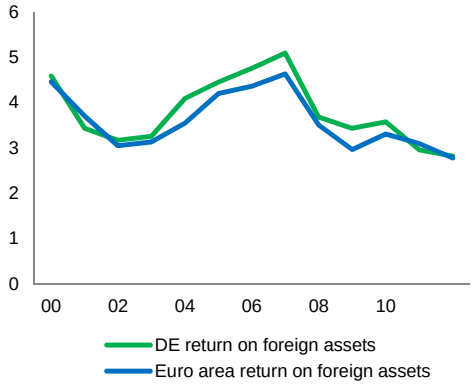
([12]) Hüfner (2010).

([13]) A statistical break in 2005 impedes the comparison. It is due to a large German bank being acquired by an Italian bank and German banks reorganising their CEEC claims. Between 2005 and 2007 the pace of German banks' foreign activity appears marginally lower than for all reporting banks.

([14]) The BIS definition of Europe is more encompassing than the EU. Most importantly it includes Swiss banks.

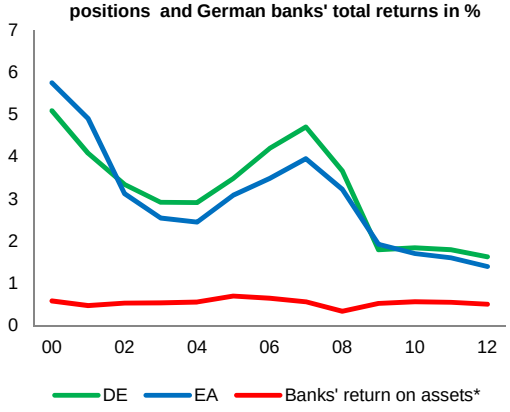
revealed that banks have underestimated the risks they took, likely due to strong reliance on credit ratings. The contrast between low rates charged on interbank loans and bonds issued by banks before the crisis and the drying out of liquidity on interbank markets and high yields on some banks' debt securities during the crisis suggest that investors considerably re-assessed their risks.

Graph 4.14: **Total foreign investment returns: investment income from capital account to previous year's asset investment position**



Source: Eurostat

Graph 4.15: **Return from foreign other investment positions and German banks' total returns in %**



* excluding provisioning
Source: Bundesbank, ECB,Com. serv. calculations

The financial crisis eventually disclosed the imbalance in form of excess risk-taking that German banks had accumulated in their foreign investment positions. ([15]) German banks were among the hardest hit during the Lehman crisis. Profitability of the aggregate banking sector measured as return on assets was negative in 2008 and 2009 (see Graph 4.10), largely driven by losses that accrued in the commercial banks, *Landesbanken* and mortgage banks. Even as early as summer 2007, IKB Deutsche Industriebank, a mid-sized bank in Germany, requested public support to overcome losses related to its exposure to US home markets. Eleven other banks followed suit, revealing the heavy maturity transformation these conduits were run with and the strong reliance on credit ratings in investment decisions. In order to stabilise the banking system, Germany provided almost 2.5% of GDP to recapitalise banks, established a bad bank scheme that covered 2% of GDP and provided state guarantees to banks amounting to more than 7% of GDP.

4.4. SINCE THE FINANCIAL CRISIS: DELEVERAGING PRESSURE LED TO A RETREAT FROM FOREIGN INVESTMENT

German banks radically shifted their international position with the financial crisis and the reduction in foreign positions suggests that deleveraging pressure may have played a major role. To some extent, the withdrawal from foreign activity can be seen motivated by impaired foreign markets, higher risks and weaker expected profitability, which is most evident with respect to the growth outlook in vulnerable Member States. Although banks' sudden withdrawal from cross-border interbank lending from 2008 onwards was not limited to German banks, the magnitude of the decline in foreign exposure is somewhat puzzling. It is among the weakest of all countries reporting to the BIS statistics. ([16])The absence of any cross-country correlation between the magnitude of the pre-crisis accumulation and correction in the aftermath of the financial crisis suggests that the correction of prior excess exposures is unlikely to be the sole explanation for the magnitude of the retreat from international lending.

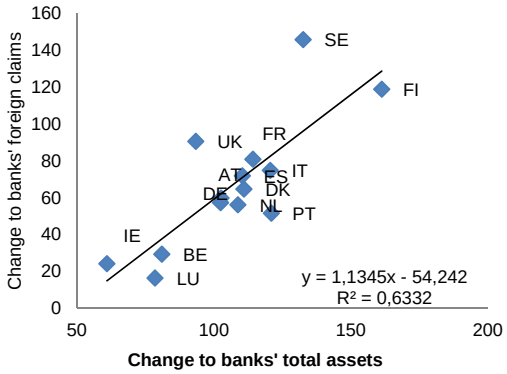
([15]) see European Commission (2009a) for an early analysis of the causes and consequences of the financial crisis, and European Commission (2009b) on how the crisis would impact on banking.

([16]) The decline in foreign exposure was much less pronounced for US, UK, French, Spanish and Italian banks. Other countries that recorded a comparable decline were Austria, Netherlands and Switzerland.

At the same time, there was a significant correlation between balance sheet shrinkage and overall international exposure, which supports the micro evidence that banks' deleveraging occurred initially via trimming down external positions (Graph 4.16). ([17]) German big banks and *Landesbanken* reduced their cross-border lending to non-German banks considerably in 2009; *Landesbanken* and mortgage banks contributed most to the decline in 2010/11 (Graph 4.17). The continuous shrinkage of total assets in these three banking categories throughout 2013 suggests that adjustment to structural imbalances in the financial sector is still ongoing.

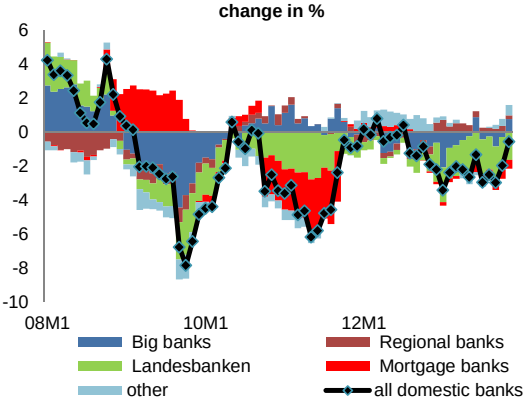
Public policy or the anticipation of public policy may have impacted on German banks' withdrawal from international credit. The observation that those countries that witnessed a comparable decline, namely Belgium, Netherlands, Switzerland and Austria were strongly hit by the financial crisis and implemented substantial public support packages gives some support to the notion that the design of public support measures may have had an impact too. ([18]) The literature emphasised a number of factors that have been at play. ([19]) For example, the significant write downs on international positions during the subprime and Lehman crises had led to a bias against activity on foreign markets among risk controllers. The justification for public support to banks, which were set up at national level, to support the domestic economy may have reinforced home bias. Moreover, banks received state aid under restructuring obligations, which often covered the requirement to off-load non-core activities. Selling parts of international business appeared for some banks a suitable approach to fulfil restructuring obligations. The restructuring of *Landesbanken* and the transfer of assets to the German bad bank scheme may have had a direct effect on the concerned banks' cross-border lending. ([20]) Stigma effects may also have played a role, especially when banks' exposures to vulnerable Member States' sovereigns and banks located in these countries were assessed as non-warranted. In stress tests, banks had an incentive not to reveal strong exposure to weak sovereigns, weak economies and banks located therein. Anticipation of investors' and possibly also of supervisors' preferences for low foreign exposure is likely to have contributed to the turnaround in banks foreign business strategies.

Graph 4.16: **Banks deleveraging and reduction in foreign claims, peak 2008Q1 (=100) to 2013Q2**



Source: BIS, ECB

Graph 4.17: **German banks 'supply of credit to non-German banks, contribution to annual change in %**



Source: Bundesbank

([17]) The empirical analysis of Düwel et al. (2011) finds that cross-border lending during the financial crisis declined with rising banks' risk aversion and a identify a threshold of banks' capital ratio above which an increase in risk aversion does not further reduce cross-border lending.

([18]) Note, however, that the time series used were not corrected for structural breaks in the bank population.

([19]) See CEPS (2010), Dewatripoint et al. (2010), Shoenmaker (2013).

([20]) For example, mortgage banks in October 2010 more than halved their lending to non-German banks while holding their lending to German counterparts constant. At the same time, a bad bank for Hypo Real Estate (HRE) was established.

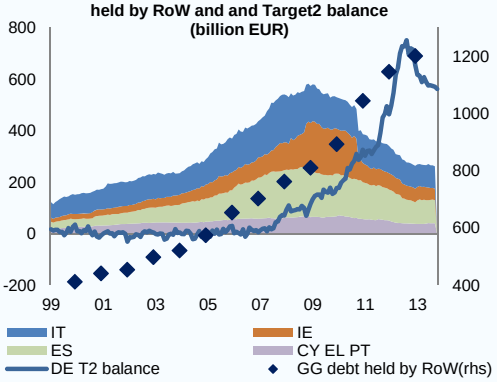
Box 4.2: The role of the Target2 balances

One of the basic tasks carried out by the European System of Central Banks (ESCB) is "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 the euro. Between November 2007 and May 2008, the second generation of the system (TARGET2) was progressively introduced. 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."

The TARGET2 balance of the Bundesbank remained broadly stable up to the eruption of the financial crisis in mid-2007, on average amounting to just about EUR 4.6bn between January 1999 and July 2007. Thereafter, as a result of increased liquidity provision by the Eurosystem and net TARGET2 payment inflows to Germany, it followed an upward trend, peaking at just above EUR 750bn in August 2012. In the most recent period, the TARGET2 balance of the Bundesbank has been declining, falling to EUR 510bn in December 2013, as a gradual stabilisation of the financial market situation in the euro area led to a reversal in liquidity flows.

Graph 1 : **Claims of German banks on vulnerable Member States, Government debt held by RoW and and Target2 balance (billion EUR)**



Source : Bundesbank, ECB

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

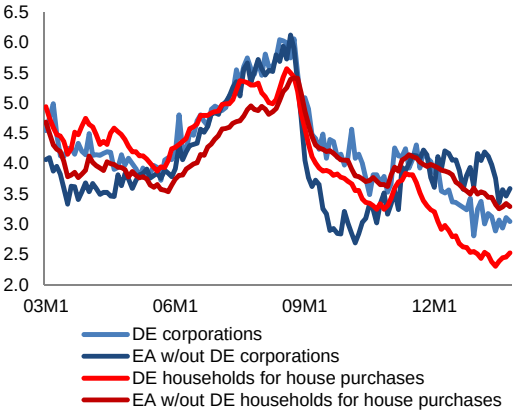
The implications of the shift in the behaviour of German banks vis-à-vis their external exposure for policy as well as for the external surplus are debatable. If the credit risks of the rapid pace of integration into global banking markets had been more correctly predicted, the losses that accrued with the banking crisis could have been avoided or at least been decisively smaller. A higher risk

premium charged on foreign credit may also have contributed to a less marked increase in the German external surplus. In this sense a misallocation of capital occurred and proper credit risk analysis of the funding provided to both financial and non-financial counterparts has come to the forefront as essential. Although banks' sudden withdrawal from cross-border interbank lending from 2008 onwards fostered banks' balance-sheet repair, it also deepened disintermediation and fragmentation on banking markets, obliging foreign banks to borrow from the ECB while the German banking sector accumulated a large liquidity buffer. ([21])

4.5. THE ROLE OF CREDIT DEMAND AND CREDIT SUPPLY IN GERMAN PRIVATE SECTOR DELEVERAGING

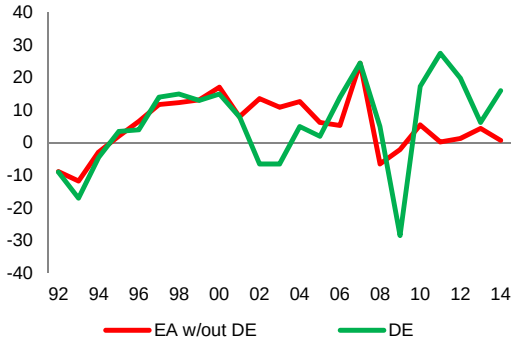
The lower foreign lending by German banks in the last years has not led to a noticeable domestic credit expansion despite excess liquidity held by the banking sector at the Bundesbank at low returns. Since banks play an important role in devising domestic savings between investment in Germany and financing the external surplus, analysis of bank lending developments in Germany appears an essential complement to the assessment of current account developments. Usually, one would expect high liquidity and low funding costs for banks to lead to a visible increase in lending to corporations and households. However**,** German banks' lending to the non-financial private sector grew only moderately over the last years, peaking at a mere 1.8% in July 2012 and then declined gradually, with hardly any growth in the second half of 2013. At the same time, headline data do not point to bank lending in Germany being particularly expensive or constrained through non-price factors. Interest rates on bank loans are among the lowest in the euro area (Graph 4.18) and surveys do not indicate Germans viewing themselves as exposed to credit constrains. The EC's investment survey in manufacturing (Graph 4.19), the ECB's bank lending survey (BLS) and the EC/ECBs Survey on Access of Finance of SMEs (SAFE) show that German respondents see financial factors as far more supportive than the euro area average. Recent vintages of surveys conducted by IFO and KfW among German firms reveal the most favourable assessment of access to credit since insertion of the surveys. Yet, lending volumes have remained broadly stable in nominal terms, falling to non-financial corporations and marginally expanding to households. The private loan-to-GDP ratio dropped by about 10 percentage points between 2008 and 2013, which is one of the highest declines among those Member States that did not encounter stress on sovereign debt markets.

Graph 4.18: **Interest rates on loans (1 to 5 years maturity)**



Source: Commission services

Graph 4.19: **EC investment survey: Financial factors supportive to investment in manufacturing, Balance of replies**



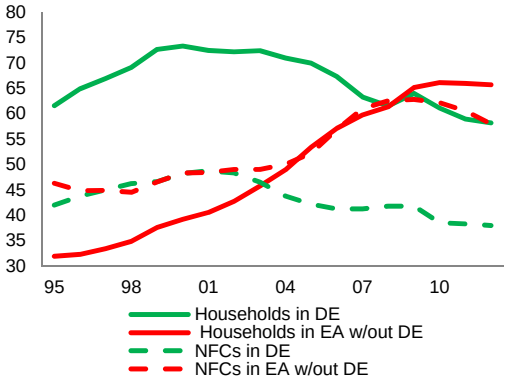
Note: Tighter conditions are visible in a lower index
Source: Commission services

For the pre-crisis years, there is some evidence that weak bank lending went hand in hand with sluggish economic growth and deleveraging in the non-financial sector. Interest rates on bank loans became among the lowest in the euro area

([21]) For an analysis of trends in financial integration in the EU, see European Commission (2013e) and earlier vintages of this series.

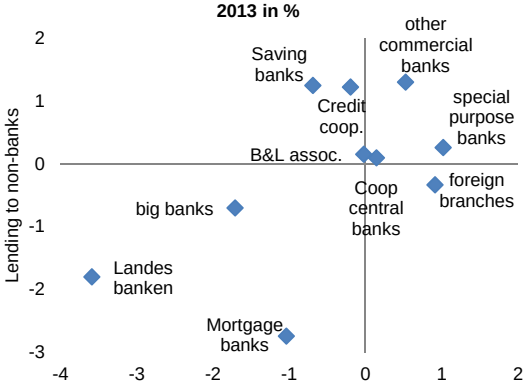
only over the last years. When harmonised interest rate statistics made cross-country comparison of retail rates first possible in 2003, German rates were slightly above the euro area average, which stands somewhat at odds with the low interest rates of German benchmark bonds. Replies to the EC's investment survey, the BLS and IFO reveal that the indication of fewer credit constraints in Germany than in the euro area is a rather recent phenomenon. The assessment of credit constraints was clearly more negative in the early 2000s. ([22]) Most research findings suggest that actual credit developments in Germany were in line with economic fundamentals. The relatively weak bank lending was instead related to weak investment in housing as a consequence of the post-unification construction boom, which had pushed lending to households to high levels (Graph 4.20). ([23]) A factor impacting especially on corporate investment and subsequently small demand for credit was the low equity base in large parts of the German corporate sector, which implied loans to corporates were perceived as risky. The introduction of risk-weights with the Basel II capital requirements enticed banks to review the riskiness of lending positions. ([24]) The rising attention to risk weights in conjunction with low equity positions and a subdued economic outlook seem to have initiated a deleveraging process in the German corporate sector. ([25]) The relatively high lending rates, the shift towards a corporate net saving position and the increase of the self-funding ratio may be indicative of this.

Graph 4.20: **Loans by households and non-financial corporations (NFCs) in % of GDP**



Note: net loan liabilities for NFCs, EA= BE, EL, ES, FR, IT, NL, AT, PT, FI
Source: Commission services

Graph 4.21: **Credit and assets across banking categories, contribution to total change 2011-2013 in %**



Source: Bundesbank

Continuously weak credit growth may reflect a heritage of ongoing and past adjustments to financial sector imbalances. The combination of excess liquidity in banks, low lending rates and surveys not-indicating credit constraints makes it difficult to attribute the recent weakness in credit growth to bank supply factors. Yet, it is striking that lending to non-banks declined strongest in those part of the banking system in which other assets also shrank, namely *Landesbanken*, mortgage banks and big banks (Graph 4.21). These were the banks most exposed to the imbalance in risk-taking that had been revealed by the financial crisis. Their opportunity to increase capital buffers through earnings depends on adjustments to their individual business models as well as on the pace of consolidation in the German banking sector. Thus, deleveraging pressure in the banking sector, especially in the part that received state aid, took

([22]) BLS and IFO start in 2003, SAFE in 2009. The EC investment survey asks about finance as a factor supporting investment in manufacturing since 1991.
([23]) The sectoral breakdown of the IFO indicator shows that the 75% of construction firms perceived credit as constrained in 2003-04.
([24]) Basel 2 led to the implementation of credit scoring techniques and other means to standardise credit risk for investments that were not rated by credit rating agencies.
([25]) See Sachverständigenrat (2008), Deutsche Bundesbank (2013f).

its toll on the supply of bank lending also in Germany.

The most apparent possible reasons for the weak credit demand are crisis-related uncertainty and corporate sector deleveraging pressures in the past, which triggered precautionary savings and a low propensity to incur new debt. Respondents to surveys may not consider themselves being credit constrained because demand for credit is low and supply constraints are therefore not binding. Flight to safety seems to have enticed wealthier households to substitute financial wealth through real estate, implying a smaller share of house purchases financed through bank lending. ([26]) Along comparable lines, the high self-funding ratio of German corporates may be the consequence of firms having faced financial constraints for implementing investment plans in the past and adjusted by boosting savings in order to reduce dependence on banks. As firms found that during the banking crisis high self-funding ratio paid off in making them resilient to financial turmoil, they may have become reluctant to take bank loans when at the same time banks are under deleveraging pressure.

([26]) See Deutsche Bundesbank (2013e).

5. GERMANY'S EXTERNAL POSITION AND TRADE PERFORMANCE

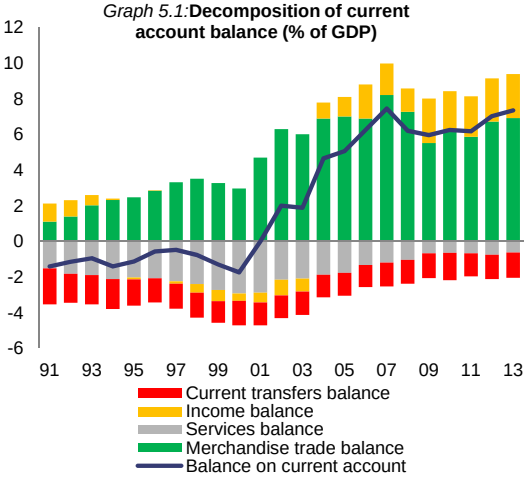
Following a decade of deficits in the aftermath of reunification, Germany built up a large current account surplus in the period until 2007 which has remained by and large unchanged at a level of 6-7 % of GDP. The strengthening of Germany's external position was largely driven by the strong export performance, but also by relatively subdued import growth in some years as well as the improvement in the income and services balances. Germany is more open than other large economies, benefitted from a favourable geographical specialisation and was able to gain market shares from other advanced economies before the crisis, but has since then performed less strongly. Export growth vis-à-vis the euro area before the crisis was supported by favourable price competitiveness, while Germany has re-gained price competitiveness towards the rest of the world since the crisis, which has facilitated the redirection of exports. Non-price factors such as product quality along with a comparatively high degree of innovation capability and business sophistication are also playing an important role vis-á-vis all trading partners. German companies' high degree of integration in global value chains also sustains its trade performance. Since the start of the crisis the current account surplus with other European countries has fallen, while the surplus vis-à-vis the rest of the world is on a steep increase. The decreasing trade surplus vis-à-vis the vulnerable countries reflected initially a sharp demand contraction in those countries, but German imports have risen more strongly in recent years, thereby contributing to rebalancing in the euro area. The current account deficit with China has dropped sharply in the last years, and the surplus vis-à-vis other emerging markets and developing countries as well as vis-à-vis the USA are growing.

High current account surpluses are often associated with strong export performance. A well-developed export capacity, based on the performance of globally competitive manufacturing industries or services, is highly desirable in view of the growing worldwide competition pressures. External demand and trade in goods, as well as the improvement in the income and services balances, are important elements for understanding Germany's external position. At the same time, while trade flows appear to explain a certain part of the strengthening of Germany's current account until the crisis (see Section 3.1), other elements appear to have been relatively more important, and in recent years trade flows would a priori have tended to reduce Germany's surplus. In this light, a further analysis of the anatomy of Germany's current account and export performance is warranted.

5.1. ANATOMY OF GERMANY'S CURRENT ACCOUNT

Germany's persistently high current account surplus reflects not only developments in the balance of merchandise trade. Following a decade of deficits in the aftermath of reunification, the current account balance rose sharply since 2000, reached a peak in 2007 (7.4 % of GDP), encountered a moderation to around 6% of GDP in the following years and has since returned close to its peak level (Graph 5.1). The large improvement in the current account by around 9 p.p. of GDP from 2000 to 2013 shifted Germany from a position of deficit country to currently featuring one of the largest current account surpluses of non-oil producing countries in the World. This development reflects in particular a noteworthy 5 p.p. of GDP increase in the trade surplus of goods up to 2007. In recent years, the gradual narrowing of the traditionally sizeable deficit in the services balance and the improvement in the income balance have become more important drivers of the current account (Graph 5.1).

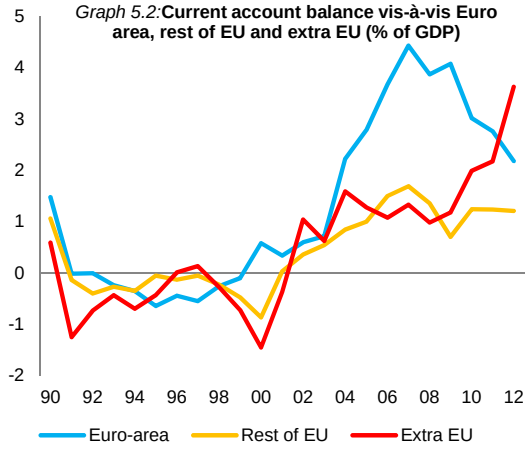
Graph 5.1: **Decomposition of current account balance (% of GDP)**



Source: Bundesbank, Eurostat, Com. serv. calculations

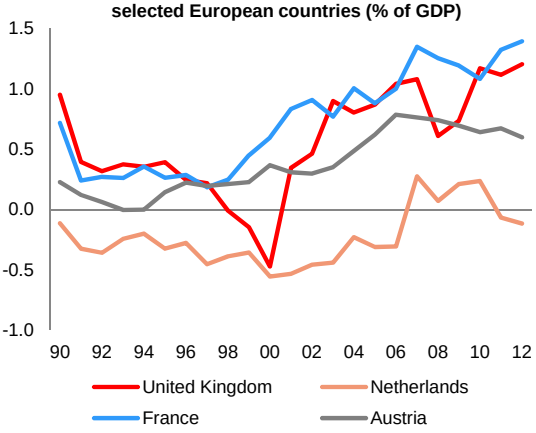
While the surplus with other European countries has fallen since the crisis, that with the rest of the World is on a steep increase (Graph 5.2). The surplus vis-à-vis the rest of the euro area increased significantly in the years preceding the crisis, explaining almost 60 % of the total current account surplus in 2007 (4.4 % of GDP). Since then, it has nearly halved in absolute terms and in 2012 represented less than one third of the total current account surplus (2.2 % of GDP). The development of the German current account vis-à-vis the euro area is largely explained by declining balances vis-à-vis Spain, Italy and the Netherlands, while the surplus vis-à-vis France continues to increase (Graphs 5.3 and 5.4). Germany's increasing trade deficit with the Netherlands, which to a large extent is due to an increasing deficit in oil products, has been partially offset by an improvement in the income balance, and the current account balance has turned again into deficit (Graph 5.5). The surplus vis-à-vis the rest of the European Union also reached a peak in 2007 and has generally also been receding in recent years, although it continues to rise vis-à-vis the UK. In contrast, the surplus vis-à-vis the rest of the World developed more moderately before the crisis, but has increased sharply in the last years, representing more than half of the total current account surplus in 2012 (3.6 % of GDP).

Graph 5.2: **Current account balance vis-à-vis Euro area, rest of EU and extra EU (% of GDP)**



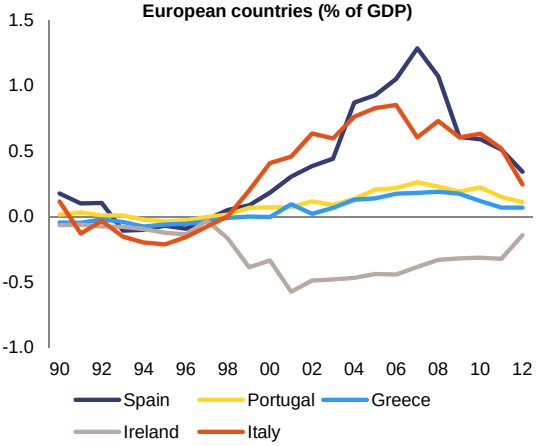
Source: Bundesbank, Eurostat, Com. serv. calculations

Graph 5.3: **Current account balance vis-à-vis selected European countries (% of GDP)**



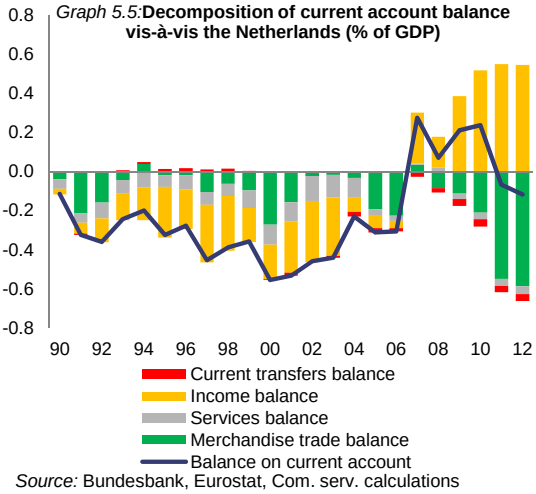
Source: Bundesbank, Eurostat, Com. serv. calculations

Graph 5.4: **Current account balance vis-à-vis selected European countries (% of GDP)**



Source: Bundesbank, Eurostat, Com. serv. calculations

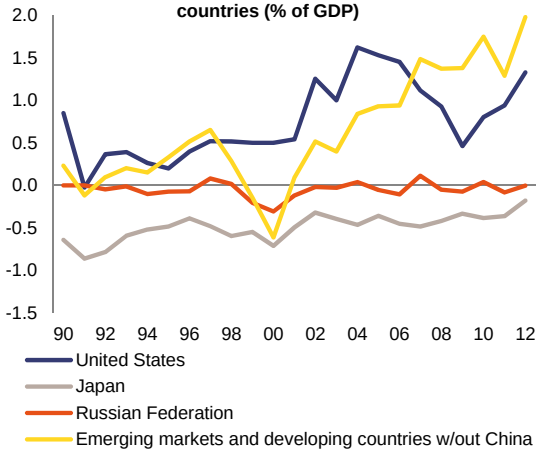
Graph 5.5: **Decomposition of current account balance vis-à-vis the Netherlands (% of GDP)**



Source: Bundesbank, Eurostat, Com. serv. calculations

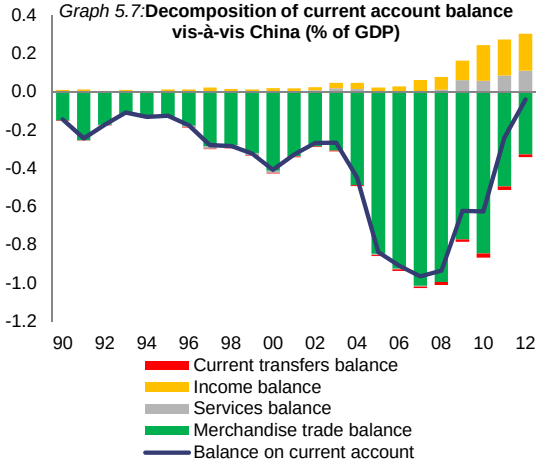
Germany's rising surplus vis-à-vis the rest of the World in the last years mainly reflects a growing surplus with the US and emerging and developing countries, combined with a sharp drop in the deficit with China (Graphs 5.6 and 5.7)**.** The increase in the current account balance vis-à-vis emerging markets and developing countries reflects at one and the same time higher merchandise trade surpluses, an increasing income balance and an improvement in the services balance. The current account vis-à-vis China was close to balance in 2012, mainly due to a sharply declining trade deficit but also to an increasing surplus in the income balance (Graph 5.7).

Graph 5.6: **Current account balance vis-à-vis selected countries (% of GDP)**



Source: Bundesbank, Eurostat, Com. serv. calculations

Graph 5.7: **Decomposition of current account balance vis-à-vis China (% of GDP)**

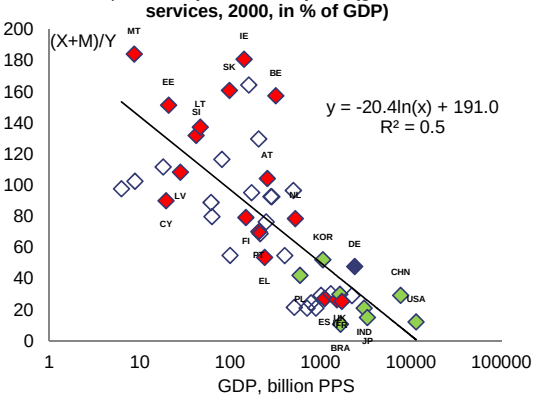


Source: Bundesbank, Eurostat, Com. serv. calculations

5.2. GERMANY'S EXPORT AND IMPORT PERFORMANCE

Germany is more open than other large economies and was able to win market shares from other industrialised countries until the crisis, but has since then performed less strongly. Germany is one of the most open economies world-wide in size adjusted terms (Graph 5.8) ([27]). Germany's export market shares in goods and services rose at the beginning of the last decade, notably vis-à-vis OECD countries (Graph 5.9). Market share losses in the last years are partly driven by relative price developments and reflect the increasing integration of emerging and developing economies in world trade. ([28])

Graph 5.8: **Exports and imports (goods and services, 2000, in % of GDP)**

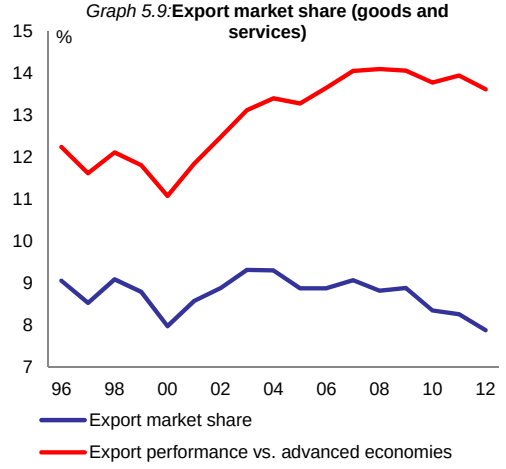


Note: Highlighted dots represent EA countries and selected large economies
Source: AMECO

([27]) Germany's trade-to-GDP ratio is significantly higher than that of other large economies and grew from 33.2 % in 2000 to 44.3 % in 2008 (see OECD, 2011b).

([28]) Germany's export market shares in goods, computed using the UN COMTRADE data, decreased by more than 2 p.p. in the period 2007-2012 (from 10.7 to 8.6 %).

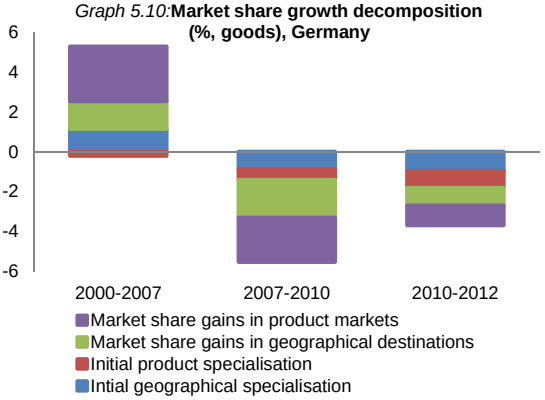
Graph 5.9: **Export market share (goods and services)**



Source: AMECO, Eurostat, Com. serv. calculations

Germany has benefitted from a favourable geographical specialisation and competitiveness gains, but it has lost market shares in the last years, albeit less than other advanced economies. A decomposition of merchandise exports growth rates into initial specialisation and competitiveness factors (*shift-share analysis*) ([29]) shows that Germany benefited from a favourable geographical composition, which however made a negative contribution to export growth during the crisis, reflecting the less dynamic growth of European destination markets (Graph 5.10). Germany was able to gain market shares in geographical and product destinations before the crisis, but its advantage in terms of geographical specialisation and competitiveness gains appears to have vanished since the crisis. Vehicles, machinery, chemicals and pharmaceuticals accounted for almost half of total German exports in 2012. Yet, although traditionally being considered as a driving force behind Germany's overall strong export performance, product specialisation has made a negative contribution to export growth according to this analysis, in particular in recent years. ([30]) Compared with other EU countries, competitiveness effects played a significant role in the case of Germany before the crisis, but Germany's performance deteriorated in the crisis-hit global environment (Graph 5.11).

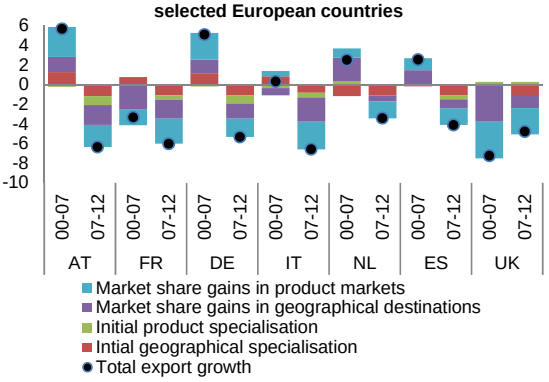
Graph 5.10: **Market share growth decomposition (%, goods), Germany**



Source: UN Comtrade (nominal USD), Com. serv. calculations

Note: Market share growth is proxied by the difference between the annual (arithmetic average) growth rates of German exports and the world exports.

Graph 5.11: **Market share decomposition (%, goods), selected European countries**



Source: UN Comtrade (nominal USD), Com. serv. calculations

Note: Market share growth is proxied by the difference between the annual (arithmetic average) growth rates of German exports and the world exports.

Germany's trade performance benefits from strong trade links with neighbouring countries, but also with other major economic regions. Bilateral trade flows with European peers shows strong spill-over effects from Germany's trade links with its closest neighbours, including via close ties with Central and Eastern European countries. As an example of Germany's ability to

([29]) The shift-share 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 (*initial specialisation*) as well as whether a country has increased or decreased its share in these geographical or product markets (*competitiveness*). See also European Commission (2012b).

([30]) This is mainly due to the low demand growth for vehicles and machinery in 2007-2010. Demand for vehicles, machinery and chemistry was high in 2010-2012, but still lower than the average product demand growth.

build trade linkages with all major economies, trade intensity with China increased rapidly in the last decade. In 2012, 5.7 % of German exports went to China compared to 1.6 % in 2000 and imports have been growing at rapid pace over the last decade (Table 5.1). German exports have benefitted strongly from increasing demand for machinery and equipment by China and the oil producing countries (Chen et al., 2013). This was generally not the case for euro area current account deficit countries, which contributed to the increasing external imbalances in the euro area. However, exports to China are expected to grow less strongly in the future, as Chinese demand gradually shifts from investment to consumption goods and German automobile manufacturers establish more production plants in China (Deutsche Bundesbank, 2013g).

German companies are increasingly integrated in global value chains, including in Eastern Europe. The German industry has increasingly specialised in the costumer-oriented final stages of production and shifted production to countries with lower labour costs, notably in Asia and Eastern Europe (see for example Sinn, 2003). The strong increase in German exports was therefore accompanied by a growing share of value added in exports produced in low-wage countries. ([31]) Companies may also have shifted production to get closer to the markets. A study on the German-Central European supply chain finds that Germany is less exposed to final demand in European countries than what would be expected from bilateral trade relations, due to its high degree of integration in global value chains (International Monetary Fund, 2013). Vertical specialisation leading to new trade patterns is particularly evident in the automobile industry.

The increasing integration of German companies in global value chains is reflected in the increasing import content and the decreasing local content of German exports. According to Commission services' estimates, in 2008 the share of intermediate imports in German exports was 29 %, similar to other large countries such as France, Italy or Spain. ([32]),([33]) The share of total imports in exports was around 40 % in 2008 (Federal Statistical Office). The domestic value added content in German exports decreased over time and at 73 % in 2009 was slightly lower than in other large countries (OECD/WTO, 2013).

The traditionally negative trade balance in services narrowed significantly in the last decade. This reflects a reduction in the deficit of travel and other services and a rising surplus in the balance of merchanting (transit trade) ([34]) (Graph 5.12). The reduction in the travel-related deficit in the last decade reflects lower expenditure in business travel abroad and a higher number of foreign tourists in Germany. Merchanting grew strongly in the last decade and has gradually become a more important driver of the current account balance, albeit the balance of merchanting decreased in 2013. ([35])

([31]) Timmer et al. (2013) argue that exports growth overestimates the related income growth of countries that rely heavily on imported intermediates, in particular for Germany and small open economies.

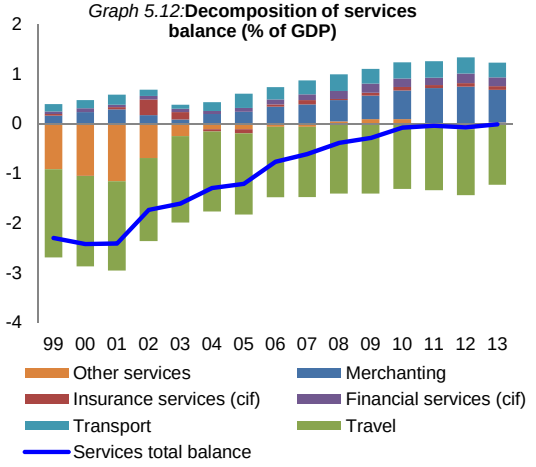
([32]) Commission services' estimates using WIOD Input-Output tables. The import content of exports refers to the intermediate inputs of foreign origin which are, both directly and indirectly, embedded in the goods and services exported by a country. Imports of final goods and services are not considered in this estimate. The import content in German exports declined in 2009, the last year considered, as in most Member States.

([33]) The OECD (2011b) estimates a share of imports in German exports of 27.2 % in 2005 from 20.4 % in 1995, using the OECD's harmonised Input-Output Database STAN. Stirböck (2006) also finds an increasing marginal import content of German exports, while the marginal propensity to import for domestic demand increased only slightly. She also finds that the marginal propensity to import is higher for imports from third countries than for imports from euro area countries.

([34]) Merchanting is the purchase of goods by a resident from a non-resident seller and the subsequent resale to another non-resident without the good entering or leaving the merchant's economy. The mark-up in value of the good acquired and sold is recorded as merchanting services. For an analysis on the impact of merchanting on the current account of small open economies, see E. Beusch et al. (2013).

([35]) Because merchanting firms usually reinvest their earnings abroad, this practice tends to raise national savings in the home country without increasing domestic investment.

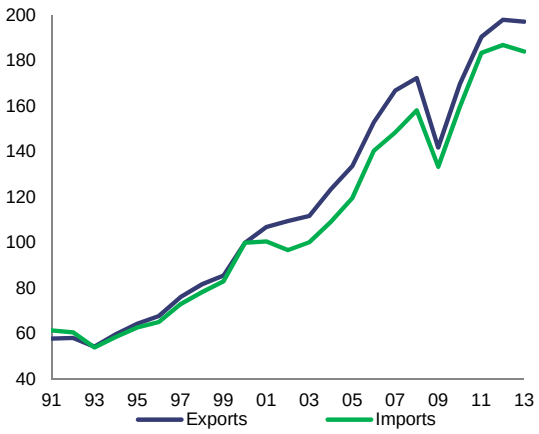
Graph 5.12: **Decomposition of services balance (% of GDP)**



Source: Bundesbank, Eurostat, Com. serv. calculations

Germany's exports did indeed grow rapidly, but relatively subdued import growth in some years also played a role for the surging trade surplus, including in recent years. Exports and imports of goods rose at a similar pace during the 90s, while imports grew less strongly than exports at the beginning of the 2000s, a period of weak domestic demand, and to a lesser extent again in 2007, even recording negative growth rates in nominal terms in 2002 (Graph 5.13). In recent years, the pace of import growth has slowed, both in price adjusted and nominal terms. This also reflects the low gross fixed capital formation, which is particularly import heavy. Moreover, while exports to China have grown strongly in recent years, import growth from China is well below the pre-crisis rate, which has a large impact on the trade balance (Table 5.1).

Graph 5.13: **Exports, imports (2000=100, goods)**



Source: Bundesbank, Eurostat, Com. serv. calculations

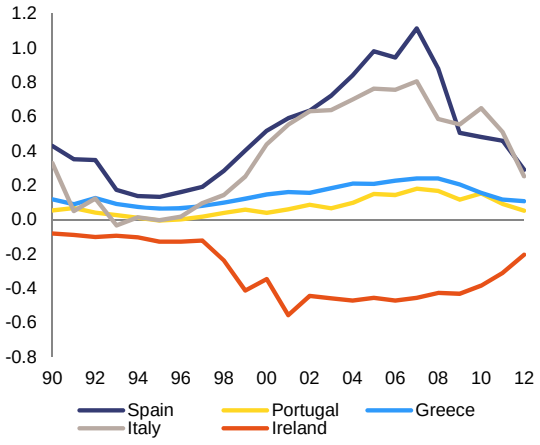
The decrease in the German trade surplus vis-à-vis the vulnerable countries reflected initially a sharp decrease in German exports, but more recently imports have been growing. Following the pre-crisis boom, demand contraction in these countries reduced sharply their imports from Germany (Table 5.1 and Graph 5.14). German imports from these countries had grown less than exports also before the crisis. In recent years, imports have risen more strongly, thereby contributing to the rebalancing vis-à-vis the vulnerable countries. The trade balance vis-à-vis the euro area as a whole has followed a similar, but more attenuated path over time. In the last years, the rise in German imports contributes to the declining trade balance vis-à-vis the euro area.

Table 5.1:
Change in German exports and imports vis-à-vis selected countries (% change)

	German exports			German imports		
	2000-2007	2007-2009	2009-2012	2000-2007	2007-2009	2009-2012
Euro area	59.8	-17.0	19.6	41.4	-13.2	32.4
United States	22.0	-25.8	69.3	5.4	-14.5	35.1
China	223.0	24.7	79.4	208.0	1.9	35.8
Emerging markets and developing countries w/out China	100.6	-12.6	50.4	52.8	-13.5	50.6
Japan	-0.1	-16.4	59.4	-6.7	-22.4	18.4
Russian Federation	313.5	-27.7	82.5	101.1	-12.7	71.1
Spain	80.0	-34.0	-0.5	30.2	-5.9	21.0
Portugal	35.6	-25.2	-1.1	-26.0	-12.5	37.8
Greece	71.7	-16.3	-29.1	30.4	-15.8	3.4
Italy	45.0	-20.2	8.6	26.6	-14.7	28.2
Ireland	72.9	-41.4	26.7	61.6	-19.7	-27.3
Aggregate (ES, PT, EL, IT)	57.1	-25.4	2.4	22.9	-12.1	25.8

Source: Bundesbank, Commission services calculations

Graph 5.14: **Trade balance (% of GDP, goods)**



Source: Bundesbank, Eurostat, Com. serv. calculations

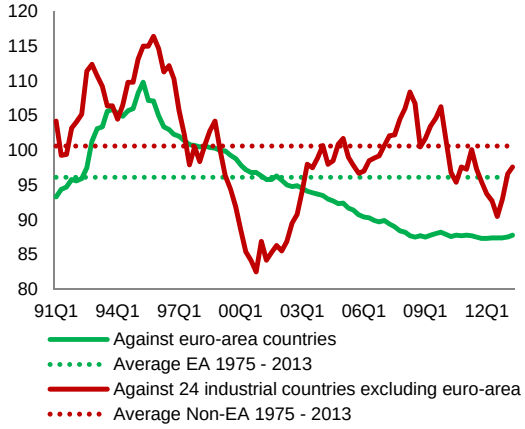
5.3. PRICE COMPETITIVENESS

Germany's price competitiveness ([36]) stood at a favourable level throughout the 2000s. According to the real effective exchange rate (REER) deflated by total sales in trading partner countries, Germany's price competitiveness stabilised in the 2000s at a level well below its long-run average. This underpinned German exports, ([37]) but price competitiveness trends also masked diverging developments. Against the euro-area countries, price competitiveness strongly improved and since the beginning of the 2000s has been steadily stronger than the long-term average. Within a currency union, good price developments are decisive. Prices of tradable goods increased less strongly in Germany than in partner countries from the mid-90s until 2008. In the wake of the crisis, the price dynamics of tradable goods declined in other member states, in particular in vulnerable countries, and have been moving along with German tradables. As a consequence, price competitiveness has stabilised at a favourable level (see Graph 5.13), which is compatible with the declining trade surplus with the euro area. With regard to non-euro area countries, also nominal exchange rates are decisive. Price competitiveness reversed vis-à-vis non-euro area industrial economies in the 2000s due to the considerable appreciation of the euro, but Germany's competitive edge was overall still stronger than its long-term average until the crisis. Since 2008, price competitiveness has recovered, which has coincided with the redirection of German exports towards third countries.

([36]) There are different definitions of competitiveness (for a brief summary see for instance Aiginger (2008) and Deutsche Bundesbank (2013h)). This analysis focuses on factors that influence demand for goods and services. In principle, the price, quality and the variety are decisive for the demand decision. As indicator for price competitiveness, usually real effective exchange rates are taken into consideration with a decline indicating an improvement in the competitiveness position.

([37]) Estrada et al. (2013) find that an increase in relative prices (relative price of tradeables and unit labour costs) tend to be associated with increasing current account deficits in the case of euro area countries, while the relation between external imbalances and price competitiveness weakens in the case of other developed countries.

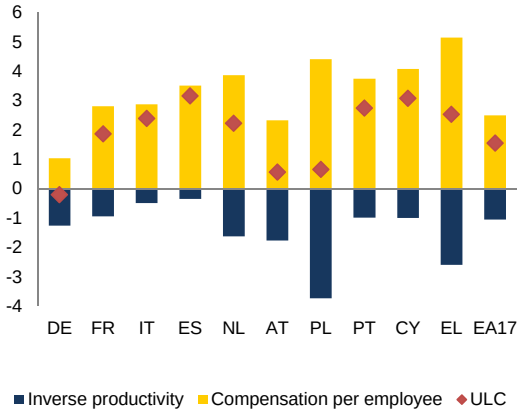
Graph 5.15: **Germany's price competitiveness based on deflators of total sales (99Q1=100)**



Source: Bundesbank

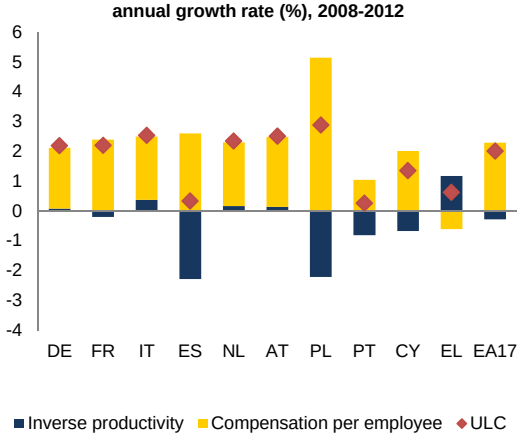
Unit labour cost developments have significant explanatory power for Germany's competitiveness towards the rest of the euro area. On the basis of unit labour costs, the REER against non-euro area countries (EER-21 group) shows the same pattern as for other standard deflators, indicating that nominal exchange rate movements outweigh price effects. Within the euro area, however, labour costs are a key driver of prices of goods and services. Hence, the rising gap in nominal unit labour costs compared to other member states before the crisis clearly improved Germany's cost and price competitiveness, also due to wage growth being above productivity in many other countries. What emerges in the post-crisis period is a much larger similarity between Germany and most other European peers, notably the surplus economies (Graphs 5.16 and 5.17), which again suggests that more synchronous cost and price developments between Germany and its euro area peers have helped to reduce trade imbalances.

Graph 5.16: **ULC, labour productivity and labour cost annual growth rate (%), 2000-2007**



Source: AMECO

Graph 5.17: **ULC, labour productivity and labour cost annual growth rate (%), 2008-2012**



Source: AMECO

5.4. NON-PRICE COMPETITIVENESS

Quality of goods and services as well as the product range also decisively determine competitiveness. Prices alone do not tell much about the desirability of goods and services. Despite having a comparatively high price, a certain good can still be relatively cheap if quality outweighs the negative price effect. The same argument applies to the variety of products if close substitutes are lacking and, hence, a certain good becomes relatively rare. Quality and variety, or in other words technological knowledge, is in turn affected by various conditions like education of workers, infrastructure or institutional settings.

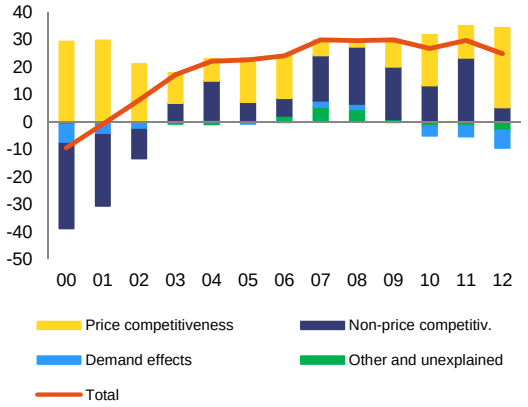
Table 5.2:
World Economic Forum Competitiveness Indicators - Ranking of Germany

	Global Competitiveness (overall index)	Basic requirements [1]	Efficiency enhancers [2]	Innovation and sophisticated factors [3]	Countries considered
2013-2014	4	9	8	4	148
2010-2011	5	6	13	5	139
2006-2007	8	9	17	3	125
2004-2005	6	10	14	3	104
			Growth competitiveness	Business / Current competitiveness	Countries considered
2003-2004	-	-	13	5	102/101
2001-2002	-	-	17	4	75
2000	-	-	15	3	59/58
1999	-	-	25	6	53/58

Source: World Economic Forum (2013 and previous issues), Cesifo DICE Report 3/2005 (database global competitiveness)
Note: Weight in overall index (2013 report): [1] 20% [2] 50% [3] 30%

Non-price competitiveness has gradually become more important in sustaining Germany's export performance. Among the G7 group of comparably developed countries, a decomposition of the difference of export market shares into price and non-price contributions shows that Germany's gain in market shares towards the G7 (excluding Germany) has been driven by both components over the last decade. ([38]) Notably, the impact of non-price factors has turned positive and its relative importance has grown since the beginning of the last decade and in some recent years has dominated price factors (Graph 5.18).

Graph 5.18: **Germany's export market share vs. G7 excl. DE (cumulated, in pp.)**



Source: Calculations based on Benkovskis and Wörz (2014)

Competitiveness indicators give an idea, which factors might have been conducive. The *World Economic Forum's (WEF) competitiveness indicator* consolidates a set of various factors that are likely to explain the competitiveness of a country in a harmonised way which allow for an international comparison and ranking. ([39]) According to Estrada et al. (2013), it seems to have significant power to explain current account positions. Table 5.2 displays the ranking of Germany's competitiveness according to the *WEF*. Germany has been particularly good at business sophistication and innovation over the 2000s and in recent years, which should be positively linked with product quality and variety. In the most recent assessment, also infrastructure and higher education and training are outstanding.

Factors that support medium-term growth have been less favourable, notably with regard to efficiency enhancing factors. In the most recent assessment, three such efficiency enhancers are relatively weak. Labour market efficiency shows the lowest ranking (41 out of 148 countries) among all twelve subcategories under consideration, followed by financial market development (29) and goods market efficiency (21). This group also comprises technological readiness, market size as

([38]) Compared to all trading partners, Germany has been losing nominal market shares during the last decade. This, however, applies to all G7 countries, while emerging market countries increased their nominal export performance (see Benkovskis and Wörz, 2014).

([39]) Since 2004, the overall index comprises three subcategories which in total are based on 12 pillars: Basic requirements (Institutions, Infrastructure, Macroeconomic environment, Health and primary education), Efficiency enhancers (Higher education and training, Goods market efficiency, Labour market efficiency, Financial market development, Technological readiness, Market size), Innovation and sophisticated factors (Business sophistication, Innovation). Previously, two different competitiveness indicators have been constructed: Growth competitiveness (structures, institutions and policies supporting economic growth over the medium term) and Current or Business competitiveness (Company operations and strategy ranking, Quality of the national business environment ranking). Owing to index revisions, a year-to-year comparison should be interpreted with caution.

well as higher education and training, which are in contrast quite favourable. Still, Germany is doing rather well with regard to efficiency enhancers when comparing with other large EU economies (UK, FR, IT, ES, NL, AT).

The overall picture, however, still confirms an overall high non-price competitiveness of the German economy. In particular in those categories that, according to Estrada et al. (2013), seem to have the highest explanatory power for current account performance, the German economy is comparatively well-placed. These authors identify four factors that are outstanding with regard to their explanatory power for current account performance: Goods market efficiency, technological readiness, business sophistication and innovation capabilities – with Germany being in a high international position, in particular for the two last-mentioned.

The assessment of overall favourable competitiveness according to the *WEF* indicator is broadly supported by the *IMD* and the *World Bank.* (40) The *IMD Competitiveness Yearbook 2013* ranks Germany at the ninth rank out of 60 countries in 2013, well ahead of comparable EU peers. Although this is the best grade ever granted by this institution, it is still a somewhat less favourable assessment than by the *WEF*. The World Bank regularly assesses the business regulations for domestic small and mediums-size enterprises in its *Doing Business* report. With regard to the ease of doing business, the World Bank (2013) ranks Germany 21 out of 189 countries under consideration, which also compares well with other EU economies.

(40) A recent analysis on competitiveness of euro area countries based on these and other indicators can also be found in Bundesministerium der Finanzen (2013b).

6. POLICY CHALLENGES

The analysis of this review shows that Germany's large and persistent external surplus stems primarily from a lack of domestic demand, which in turn poses risks to the growth potential of the German economy. The surplus reflects a low level of both private and public sector investment combined with subdued private consumption growth over a longer period of time. In the perspective of more than a decade, the relatively weak impetus from these key components of domestic demand has resulted in growth that has been less strong than what could have been attained with a more balanced growth pattern. Germany's international competitiveness is an asset both for itself and for the EU's economy as a whole, so anything that Germany does or can do to improve it is for the common good.

As shown by Germany's low and falling trend growth, however, the heavy reliance in the past on external demand to drive growth may not have secured Germany's future economic potential. The capacity of the economy to grow in the future, provide jobs and ensure rising living standards in an era of ageing and fierce global competition depends on tapping more into domestic sources of future growth. For this reason, Germany's overarching challenge is to identify and implement measures that help strengthen domestic demand and the economy's growth potential. Higher investment in physical and human capital, further strengthening of the supply of labour and promoting efficiency gains in all sectors of the economy, including by unleashing the growth potential of the services sector, are therefore central policy challenges.

More efficient corporate taxation and improved framework conditions could strengthen private investment incentives. Corporate tax reforms over the last decade have improved conditions for investment, but the efficiency of corporate taxation could be further enhanced by reducing the tax bias towards debt-financing, minimising the administrative burden for businesses and addressing inefficiencies in the trade tax that arise from the inclusion of non-profit elements in the tax base. It would be useful for Germany to review the effects of its tax system, e.g. if it unduly favours the accumulation of retained earnings and discourages companies from paying out dividends. It is essential to be cautious with regard to policy steps that may have a negative impact on investment, while continued incentives for energy-efficient building refurbishment would promote investment in dwellings and at the same time help to meet energy and climate policy objectives. Cutting bureaucracy and removing bottlenecks, such as insufficient risk capital for start-up companies, would also facilitate private investment. In line with Germany's policy intentions, a cost-effective strategy for the *Energiewende* could have a longer-lasting positive effect on investment, both by boosting construction investment directly related to energy infrastructure and by reducing the policy-related uncertainty that has weighed on business confidence. In the same vein, continued contribution to policy actions that help dissipate uncertainty throughout the euro area, including in relation to the future architecture of EMU, would positively contribute to investment activity. Since firms' sales expectations are a key driver of investment decisions, bringing an end to the weakness in intra-EU import demand would help further boost German companies' confidence.

Germany's intention to step up public investment is welcome, but additional measures appear needed to deal with the accumulated backlog. In view of the sound public sector balance sheet, Germany would be well-advised to use the window of opportunity to invest in sound future-oriented projects that yield a sufficient rate of return. In particular, it will be important to uphold and further strengthen recent increases in public infrastructure investment. Further steps are indeed being planned by the new federal government with a view to reinforcing public investment. Yet, these plans at the federal level fall short of the estimated additional annual investment needs of ½ to 1% of GDP for the public sector as a whole, implying a need for further steps over the coming years to maintain and modernise its public infrastructure.

The biggest investment needs are at the municipal level, which strengthens the case for ensuring the sustainable funding of public infrastructure as part of the envisaged reform of fiscal relations. The federal government has taken steps in recent years to partly compensate municipalities for social expenditure. Additional transfers are planned to this end over the upcoming

legislative term, which should increase municipalities' fiscal space for investment. However, existing investment planning and financing mechanisms and ad-hoc transfers have not prevented a public sector investment gap from emerging. The planned review of the allocation of revenue and expenditure competences between the federation, *Länder* and municipalities is an opportunity to tackle this issue and provide policy clarity well ahead of the expiry in 2019 of the current provisions for the fiscal equalisation system and special transfers from the federal budget under the Solidarity Pact II.

Efforts to support human capital formation and ensure the economy's potential to innovate need to be maintained. Germany has increased education spending in recent years and federal and *Länder* governments have agreed to increase public and private spending on education and research to 10% of GDP by 2015. Achieving this target should be a priority. Besides the investment in educational infrastructure, the federal government also strengthened its education and research expenditure between 2010 and 2013 and plans a further increase over the next four years. With a view to catching up with the most innovative economies, even more ambitious follow-up targets could be considered, for example building on the proposals of the expert commission on research and innovation appointed by the federal government.

Challenges to potential growth arise from demographic developments and shortages of skilled workers. Higher contributions from both capital accumulation and productivity growth would help to cushion the effect of ageing on potential growth. Since capital and labour are mutually dependent in the production process, policy steps to prevent a lack of skilled workers in the future appear important to uphold investment and reduce the risk of slow technological progress. In line with the country-specific recommendations under the 2013 European Semester, targeted measures could contribute to enhancing human capital and facilitate the work of women through better early childhood education and all-day schools as well as continued efforts to provide sufficient childcare facilities. Continuing to attract foreign skilled workers would be conducive to higher investment and potential growth in the medium term and facilitating the access of educationally disadvantaged groups to higher education could also be given further priority.

In parallel, efforts appear needed to further reduce disincentives to work, with a view to supporting labour supply and raising the income of workers, notably those at the bottom of the income distribution. Looking ahead, good conditions on the German labour market and the risk of increasing tightness would make a further reduction of the comparatively high tax burden on labour a timely policy choice, e.g. by a regular adjustment of the personal income tax brackets to inflation. The favourable fiscal conditions of mini-jobs could also be reviewed, with a view to removing possible distortions that may discourage people from increasing the number of hours they work, or companies from choosing other types of contract. As recommended to Germany under the European Semester, the reduction of disincentives for second earners and low-skilled workers to increase their working time remains a priority, which would also contribute to raising domestic demand on a sustainable basis.

Raising social insurance contribution rates in the future would again widen the tax wedge and reduce net disposable incomes. Additional benefits and early retirement options for certain groups of pensioners financed through the statutory pension insurance, as proposed by the new federal government, imply that the contribution rate cannot be further reduced as foreseen and will need to be increased in the medium term. This raises the challenge of dispelling doubts about the long-term sustainability of the pension insurance, which in the past affected saving and consumption decisions. By the same token, additional efforts to improve the efficiency of healthcare remain important to curb cost increases. To tackle these challenges, the potential to shift the tax burden away from labour to more growth-friendly sources should be fully exploited, as recommended to Germany.

Appropriate conditions should be secured in order to enable wage growth to further contribute to domestic demand, following an increase in real wages in recent years. The favourable economic and labour market conditions can be expected to be reflected in social partners' wage agreements. Together with better incentives

to work for low-skilled workers or second earners, this would contribute to a balanced development in the income distribution in the future. In the coalition agreement, the new government has announced plans for a general minimum wage. In detailing the proposal, it will be important that the level and scope of the minimum wage take into account the potential impact on employment. Further efforts to develop the services sector may enhance domestic demand in Germany. Improvements in services productivity could have a positive effect on wage dynamics in the services sector.

Generally, mapping out initiatives that can ensure investment and productivity growth in Germany's services sector is a challenge with large potential gains. Steps to strengthen business dynamics would help the sector to fully contribute to Germany's long-term growth, including by the elimination of unjustified protections for sheltered services. Increasing efficiency in the services sectors would support investment and would over time, via the gradual reallocation of resources towards higher-value added services, support the emergence of a higher proportion of better-paid services jobs.

In the German banking sector, sufficient loss absorption capacity and addressing impediments that may hamper further consolidation remain key challenges. Swift implementation of the new capital requirements and follow up to the results for the German banks of the forthcoming comprehensive capital needs assessment are essential. Going forward, the prospects of low interest rates, competition on domestic markets and the ability of German firms to tap capital markets directly will continue to challenge the sector's profitability. This could weigh on German banks ability to increase capital buffers. Against this background, the bigger German banks have a strong incentive to remain active on international markets and reduce home bias, which would contribute to reversing the fragmentation of the EU banking market and have favourable effects on the intermediation of savings into investment in the EU. For smaller banks, consolidation through mergers may be an option to realise scale economies, in particular in case the sourcing of profitability from domestic business does not continue. German banks have been more exposed in the last years to financial turmoil than to economic activity, and they may therefore find it appropriate to put relatively more emphasis on their role in intermediating domestic savings to the real economy and relatively less on the acquisition of claims against other financial intermediaries. A more diversified income generation in retail oriented banks would help to reduce the strong profit dependency on interest margins.

An increase in aggregate demand in Germany would first and foremost contribute to raising medium term growth domestically, but it would entail the additional benefit of helping the incipient economic recovery in the euro area. Potential risks to growth in the euro area remain. Countries remain at different positions in the adjustment process, which limits their ability to contribute to growth. Spillovers from higher domestic demand in Germany could support overall aggregate demand in the euro area. Increased domestic demand in Germany does, however, not automatically imply increased imports from vulnerable countries. Improved competitiveness should help companies in vulnerable countries to take advantage of an impetus to aggregate demand in the euro area from the side of Germany. An increase in German public and private investment would also have a lasting effect on actual and potential growth domestically, while at the same time providing a positive spill-over to growth in Europe.

ANNEX

Box A.1: A model-based analysis of trade balance drivers: a detailed interpretation of the shock decomposition

The model includes Germany, the rest of the euro area and the rest of the world and has been estimated on quarterly data for the period 1995q1-2013q2. The model's dynamic general-equilibrium structure provides a framework to jointly assess the relative importance of alternative hypotheses about the causes of Germany's external surplus over the estimation horizon. The potential drivers include factors such as interest rate convergence in EMU, export market growth, labour market reform, changes in private saving behaviour, and fiscal policy. ([1])

Standard macroeconomic models interpret fluctuations of economic time series such as the trade balance as generated by macroeconomic shocks to demand and supply equations. The term 'shock' to a certain variable (e. g. TFP (technology), savings, investment, wages etc.) indicates a deviation of that variable from the average response to its direct determinants. In this section we explain for each component how the selected shock should be interpreted in the context of the model. Without shocks to behavioural and technological relationships, the 'model economy' would settle down on a steady state growth path. Economic shocks can have a lasting impact on the economy because they are either themselves persistent (for example demographic or technology shocks) or because it takes time for the economy to adjust to shocks.

Shock decompositions therefore allow us to trace fluctuations of variables to specific sources. In the process of estimating the model the econometrician not only estimates structural parameters, but also uncovers shocks which affect individual structural equations. The historic evolution of individual economic time series can be fully decomposed into contributions of present and past shocks. This allows to quantify the relative importance of certain economic developments.

Not all shocks are equally important. In the case of Germany we can identify six types of shocks which allow us to nearly fully decompose the evolution in the trade balance. In the context of the QUEST model, these shocks should be interpreted in the following way:

Productivity-enhancing technological progress:

It is assumed that output is produced with a Cobb Douglas production function and technical progress is characterized by a random walk process, which means that the rate of technical progress fluctuates randomly around a trend. A positive technology shock increases the technological level permanently. A negative technology shock indicates a lower than average increase of TFP (in extreme cases the rate of innovation can become negative at the macro level, due to composition effects). The technology component in the shock decomposition in each period, show the combined effect of all current and past technological innovations. Positive bars show the effect of above average productivity growth on the trade balance. These effects are generated by the model through competiveness gains, accompanied by lagged adjustment of domestic demand (smaller initial import growth relative to export expansion).

External demand and trade:

Imports and exports are modelled as functions of the terms of trade as well as foreign and domestic demand. Shocks to trade either represent shifts of preferences of domestic households or firms for foreign goods and services (imports) or of foreign households for German goods and services (exports). Alternatively there can be shifts in exports due to deviations of foreign demand due to (temporary) demand shocks or permanent supply shocks. Shocks which either increase exports or reduce imports have a positive effect on the trade balance on impact. The size of the impact depends on second round effects on domestic demand and the terms of trade.

([1]) For details see Kollmann, R. Ratto, M., Roeger, W., in 't Veld, J., Vogel, L. (2014), What drives the German current account? And how does it affect other EU member states?, European Economy Economic Papers (forthcoming)

(Continued on the next page)

Box (continued)

Labour market and social security:

Wages are determined by employment and a reservation wage, which is itself a function of productivity and unemployment benefits. In addition there are counter cyclical dynamics of wages due to nominal and real frictions. Also an average wage mark-up is estimated. Fluctuations of wages which cannot be accounted for by these wage determinants are interpreted as wage mark-up shocks. In addition to this shock we also identify a Hartz reform impact on wages. The Hartz reform shock is directly observed since it is based on an unemployment benefit replacement indicator, which takes into account level and duration of benefit entitlements. Both the Hartz reform and a reduction in the wage mark-up have a direct negative effect on wages and have therefore similar macroeconomic effects and in particular increase the trade balance mainly via their effect on cost competitiveness.

Private savings and consumption:

In the model, consumption is determined by the permanent income model. Crucial here are fluctuations in the estimated parameter for the rate of time preference, which determines the ratio of consumption to financial wealth plus the present discounted value of current and future (net wage and transfer) income. The question arises whether a plausible interpretation can be given to episodes of "excess savings" based on factors which are not captured in the model. Two possible candidates could play a role, namely first precautionary savings in periods characterized by high levels of uncertainty or demographic factors which affect the savings behaviour of households. For example, an expected future increase in the dependency ratio will generally lead to an increase in the savings rate as households try to smooth consumption over time. The gradual increase of the savings rate starting in early 2000 suggests that rising awareness of adverse demographic trends leading to the Riester pension reform (2002) could be an important reason. Second, to the extent that a reduction in real wages is perceived as permanent, the savings rate of households would increase as households adjust their consumption to match the reduced level of income. In any case, an increase in the savings rate (reduction in the rate of time preference) leads to an improvement in the trade balance because of a reduction in domestic demand.

Corporate Investment:

Corporate investment is determined by the profitability of investment (in the model this is the PDV of profits generated by the investment over its lifetime) relative to the cost of raising funds, which is expressed by the real interest rate (defined as the policy rate and a constant equity premium). What the standard macro model does not capture are fluctuations in risk premia. Since risk premia tend to be counter cyclical, the standard investment model underpredicts the cyclical variation of employment. There could also be other shocks to investment such as fluctuations (either cyclical or persistent) in credit constraints to firms or tax reforms. All these factors affect the cost of capital. An increase in capital cost (deteriorating financing conditions) reduces investment and therefore increases the trade balance.

Fiscal policy:

Government revenues and expenditure are endogenously determined in the QUEST model. Revenues are generated by multiplying average tax rates with their respective tax bases and concerning expenditure it is assumed that government consumption, investment and transfers respond systematically to cyclical and budgetary conditions but are also subject to discretionary measures. These we denote as fiscal shocks. A discretionary tightening (or a negative fiscal shock) is thus a situation where spending is low given cyclical conditions and the fiscal space.

Box A.2: A Current account norm for Germany

Identifying current account determinants through panel regressions across many countries are a widely used tool for assessing external balances. ([1]) The literature assesses which part of a country's current account balance can be explained by 'fundamental' determinants (such as resources or demographic factors) and temporary/policy factors (such as the fiscal balance). The common feature of such regressions is that they primarily consider the savings-investment perspective of the current account (through determinants such as ageing), complemented by the trade perspective (through factors such as terms of trade).

The general feature of such panel regressions is that they are in 'reduced form' and thus data-driven, which leaves a substantial part of current account balances unexplained. ([2]) This is particularly relevant for Germany: all recent estimations of this kind have identified a particularly large residual for the German case. Interpretations of such residuals differ: a 'normative' strand of the literature interprets the unexplained part of the current account as the deviation of the actual current account from what is justified by fundamentals. In contrast, the 'positive' viewpoint attributes these residuals to factors that have not yet been accounted for (which may be 'soft' factors, such as culture or peculiar policy settings). ([3]) Despite such semantic differences however, the main objective of the literature is to estimate the current account that is explained by 'hard' fundamentals. Table 3.2 shows that for the German case, the literature finds that such fundamentals explain or justify a German current account of between 1 and 2.5% of GDP. ([4]) None of these panel attempts have been able to explain much of the more recent German surplus by fundamental characteristics.

The estimation here provides an illustration of the panel regression approach. It follows the latest strand of such attempts (spearheaded by IMF, 2012), which aim to provide multilateral consistent estimates of current account balances. The methodology accounts for the fact that since world current account balances net out to zero, they are influenced by cross-country *differences* in temporary and fundamental factors. For instance, the variable ageing is frequently cited as a motive for high savings and low investment in Germany. However, what matters for the current account balance is not whether Germany is ageing, but how much faster it is ageing compared to its trade and financial partners. In the same vein, fiscal tightening in Germany may contribute to its current account surplus only as far as it goes faster than in the rest of the world. In principle, such an impact may derive from a prudent German fiscal stance contrasted with imprudent fiscal policy elsewhere.

Technically, the estimation here is a panel regression for 63 countries that models current account balances as a function of a wide array of determinants, closely following IMF (2013). The set of countries covers more than 90% of the world and it is estimated for a period between 1986 and 2012 (total number of observations 1263). The variables used here encompass those of IMF (2013), except for commodity terms of trade and institutional set-up (which are marginally significant). In addition, this estimation includes construction investment as % of GDP, credit growth, and REER change (all lagged, and with respect to the rest of the world). ([5]) Each of these determinants compares the country factor in % of GDP to the GDP-weighted world average (e.g. the German structural fiscal balance minus the world structural fiscal balance).The estimation provides an elasticity for each factor that allows to compute its contribution in explaining the current account balance for each country in the sample. These elasticity estimates display a non-negligible degree of statistical uncertainty that is similar to other studies in the field. ([6]) This partly stems

([1]) See Salto and Turrini (2010) for a literature overview.
([2]) This contrasts with more theory-driven 'structural' approaches, which explain all of current account balances from a theoretical viewpoint.
([3]) Under the positive view, the explained part of current account balance for a country can be understood as the 'typical' balance given the country's characteristics.
([4]) Note that research on the fundamental drivers of the current account has a relatively long tradition. In contrast, research on policy and cyclical drivers of current account balances is less established.
([5]) Data sources are AMECO, OECD, IMF, Worldbank, Eurostat, UN, Penn World Tables, EIU, Bruegel, International Comparison Programme, CBOE, Lane and Milesi-Ferrretti (2007), and Chinn and Ito (2007).
([6]) The standard error of the estimation is 3.6 (% of GDP), which is very close to most broad panels over the sample period used.

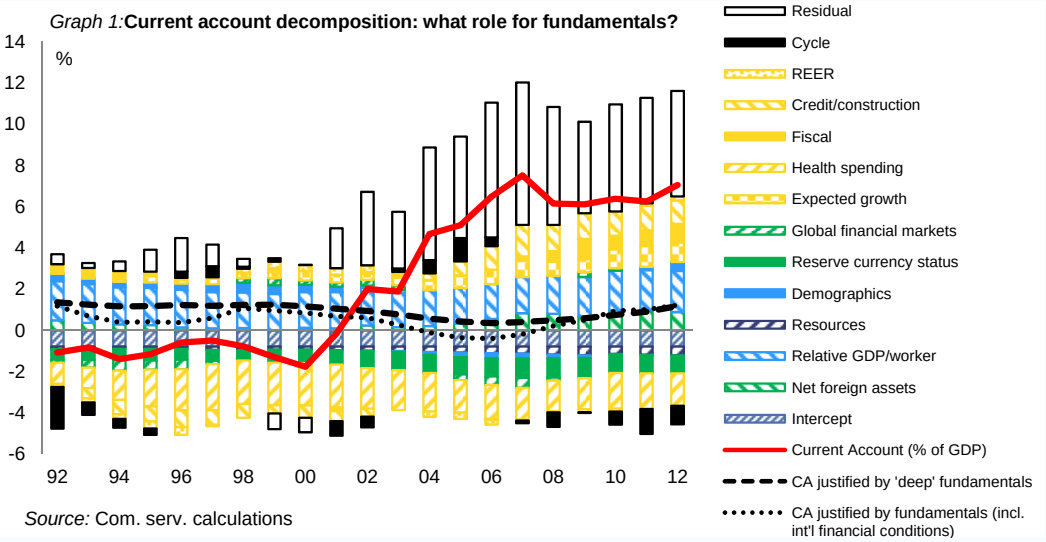
(Continued on the next page)

Box (continued)

from the fact that estimation residuals are particularly large for the current account imbalances between 2003 and 2008, while they are narrower for recent years.

The estimation shows that the underlying economic reasons for the persistently very high surplus in recent years remain unclear. The German current account surplus appears in recent years to be far higher than what is implied by structural characteristics of the German economy. As shown in Table 3.2, most attempts to explain Germany's current account surplus agree that the part that cannot be explained by policy or structural factors has grown to an unprecedented level in recent years. Graph 1 below presents the decomposition of the German current account into its different components, that includes amongst others how much of the current account can be explained by fundamentals. The contributions of the relevant components can be summarized as follows:

Graph 1: **Current account decomposition: what role for fundamentals?**



Source: Com. serv. calculations

1. At 7%, the German surplus is actually lower than its **cyclically adjusted** level, which according to the estimates was close to 8% in 2012. ([7]) This is due to the fact that although Germany has effectively closed its output gap, its partners remain below their respective potential output. There is therefore room for an increase in the German surplus as demand recovers in its partner countries (component shown in black in Graph 1).

2 Estimates of contributions macro variables that are either **policy-related** or are the result of **economic behaviour** are shown in yellow. The analysis shown here considers the following policy variables: the REER, public health expenditure (a proxy for social infrastructure), construction investment, domestic credit, as well as fiscal policy and last the level of expected GDP growth (a proxy for underlying potential growth). These are considerably diverse in nature, and only some of them are directly controlled by public policies. All, however, are effectively controlled by the economic agents of each country. The analysis shows that their contributions to the surplus tend to cancel each other out. As in most European countries, health spending has a negative contribution. Unlike most European countries, the other policy variables have an equally large positive contribution to the German surplus. Importantly, for the period after 2007, for which the surplus persists at the high level, the contributions of credit (private sector indebtedness, and investment in construction) as well as expected growth increase in relevance. Germany being different to other countries in these respects, goes some way towards explaining the high levels of the surplus. In total, the policy factors explain more than 1 pp. of the German surplus, with credit/construction as the major component that differentiates it from other euro area Member States. Note also that the estimates for the cyclically adjusted

([7]) Even when other methodologies and output gap data are considered, the cyclical effect on Germany always adds to the current account level but never more than 1% of GDP.

(Continued on the next page)

Box (continued)

and policy gaps components offset each other almost entirely. The whole 7% remains therefore still to be explained.

3. The **fundamental** current account surplus, i.e. the level that is justified by the underlying economic conditions is universally estimated to be positive (Table 3.2). Here there are differences in the way that different methods define "fundamentals" in this context. The analysis undertaken here differentiates between the 'deep' factors (demographics, resources, relative GDP/worker, and the constant ([8]) - shown in blue in Graph 1) and international financial factors (an index of financial volatility, reserve currency status and net foreign assets, shown in green in Graph 1). International financial factors are determinants that the country either cannot influence or can only influence partially. Given the country's inability to affect them some studies consider them part of the fundamentals. ([9]) The analysis here takes a stricter view in the definition and shows that the 'deep' or equilibrium factors can explain at most 3 pps. ([10]) **Demography** warrants particular attention, as it is often quoted as the main justification for higher than normal savings in Germany. Results shown imply that ageing, does not contribute more than half a percentage point to the total surplus. This result is in line with most cross-country empirical studies which have identified demographic factors as a driver of current account balances. Importantly however, none of these studies can attribute more than 2 pp. of the German surplus to demographic factors.

4. Last, by far the largest component, almost 4 pps, is the one that remains **unexplained**. In other words, neither the position on the business cycle (Germany's or its partners), nor policy choices or underlying economic needs, explain the level of the surplus.

The results presented in Graph 1 are qualitatively in line with other attempts to examine the German surplus. Table 3.2 in the main text summarises the results of what others have shown. The important agreement in these results is that the surplus justified by fundamentals is never shown to be above 2.5%.

([8]) The constant arises technically from the estimation set-up and reflects its sample composition. In most studies cited here, the constant has a similar magnitude.

([9]) Note that the fundamental determinants of current account balances applied here encompass the 'fundamental' factors employed by the established academic literature on the topic (see Table 3.2 for references). In contrast, there is less consensus in the literature on the appropriate set of policy (or non-fundamental) current account determinants.

([10]) Note that adding the international financial factors to the deep parameters would bring the value of the fundamental CA for 2012 a little closer to 3%.

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