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Global and euro imbalances: China and Germany

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Keywords: Global imbalances, current account, capital account, saving and investment, international assets and liabilities, distribution of income; world banker

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Global and euro imbalances: China and Germany

Guonan Ma and Robert N McCauley¹

Abstract

We analyse global and euro area imbalances by focusing on China and Germany as large surplus and creditor countries. In the 2000s, domestic reforms in both countries expanded the effective labour force, restrained wages, shifted income towards profits and increased corporate saving. As a result, both economies' current account surpluses widened before the global financial crisis, and that of Germany has proven more persistent as domestic investment has remained subdued. The Chinese economy is an early-stage creditor country, holding a short equity position and long position in safe officially-held debt. Germany's balanced net debt and equity claims mark it as a mature creditor that provides insurance to the rest of the world, especially the euro area. China pays to lay off equity risk onto the rest of the world while Germany, by contrast, harvests a moderate yield on its net claims. In both economies, the shortfall of the net international investment position from cumulated current account surpluses suggests that total returns have been lower than current yields, owing to exchange rate changes, asymmetric valuation gains, and, in Germany's case, credit losses.

JEL classification: F15, F32

Keywords: Global imbalances, current account, capital account, saving and investment, international assets and liabilities, distribution of income; world banker

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1. Introduction

Fifty years ago, when cars were growing rear fins, Triffin (1960) flagged a source of instability in the international monetary system. Since Bretton Woods used the US dollar as international money, US short-term liabilities to the rest of the world needed to grow to finance global trade. Such growing liabilities would eventually exceed the US gold stock, undermining confidence in the dollar's peg to gold and setting off a run. (Salant and Henderson (1978) turned this into a speculative attack model.)

Kindleberger (1965) countered that the US was just serving as banker to the world, exchanging short-term liabilities for long-term assets. That left open the question of how a run on this bank could be handled: the international lender of last resort. In *Manias, panics and crashes*, Kindleberger cited central bank cooperation as allowing the Bank of England to meet such a run, given London's similar maturity mismatch (Kindleberger and Aliber (2005)).

This argument with Triffin became moot in the 1980s, when the US began to run current account deficits. Kindleberger interpreted these as a bank eating its own capital (its net foreign assets), undermining confidence in the bank's liabilities.²

Then, a neo-Triffin argument arose. Aliber saw the US as the nth economy, providing global consistency. If the N-1 economies ran current account surpluses, the US would run the corresponding deficit. If the N-1 economies sought too large current account surpluses, US manufacturing would suffer. An unsustainable rise in US international indebtedness would undermine the value of its external liabilities.³

In the event, although the US net international liability position has reached 28% of GDP, the US has not made net investment payments. This observation has led to a revival of the Gaullist phrase "exorbitant privilege", which was coined when the US current account was in surplus and originally referred to the capacity of the United States to buy European companies and factories with Treasury bills. That the US international assets yield more than its liabilities is often ascribed to the role of the US dollar. In fact, the difference nowadays arises from differences on the rate of return on direct investment into and out of the United States. The stock of direct investment in the United States is of more recent vintage than US direct investment abroad and grows with acquisitions that pay up for underperforming companies.

As a result we live in a world in which the largest economy accommodates the current account swings of the rest of the world, consistent with Aliber's reinterpretation of Triffin. For instance, after the Latin American crisis of the 1980s or the Asian financial crisis of the late 1990s, the US current account absorbed most of the change in others' current accounts. But because of the repeated game of

² Despite their different interpretations, Triffin and Kindleberger both focused on gross international assets and liabilities. Much current discussion of global imbalances focuses on net capital flows, that is, current accounts. Events have proven that international imbalances cannot be understood in net terms. See Borio and Disyatat (2011) and Shin (2012).

³ More recently, a fiscal neo-Triffin argument has gained adherents. The world accumulates US government (and agency?) securities as safe assets. But in a world growing faster than the US, if the US government meets the demand for safe assets, it would raise its debt unsustainably, undermining its safety.

non-US companies, yesterday Japanese, today Chinese, losing money on US firms and assets (Laster and McCauley (1994)), the arrangement involves little Triffinesque instability.

Thus, this paper can describe the evolution of current account surpluses in China and Germany in recent years in terms of their own internal economic dynamics and policies, in the context of increased international economic integration. Section 2 places these surpluses, the largest and second largest in the world, in the global context. Section 3 suggests that in both cases domestic reforms restrained wages, shifted income towards profits, increased corporate saving and widened the current account surplus. Section 4 compares China and Germany as creditor countries, providing a global perspective, examining the split between safe and risky assets, distinguishing the role of the official sector and analysing the returns on their net claims. The final section sets out the global and European policy setting and concludes.

2. Chinese and German surpluses in a global perspective

Global current account imbalances peaked in 2006 before the global financial crisis. That year, the countries and groups of countries shown in Graph 1 collectively ran surpluses and deficits in excess of 2% of global GDP each. These imbalances were larger than those seen in the cyclic peaks of the mid-to-late 1980s or the late 1990s.

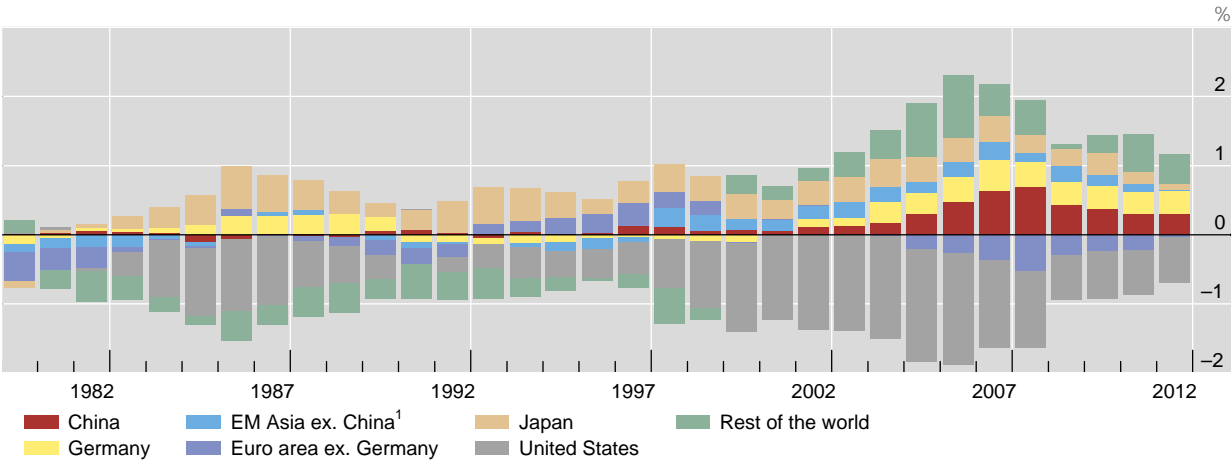
One consistent feature of global imbalances since 1984 has been the role of the US economy in running the largest deficit. Only the official transfers associated with the Gulf War and the slow growth of the US economy in the early 1990s interrupted this feature.

Less consistent has been the role of the Japanese surplus. This served as the most important counterpart to the widening US deficit in the early 1980s, only to diminish as the Japanese bubble in equities and real estate pumped up corporate

Current account balances

As a percentage of world GDP

Graph 1



¹ Hong Kong SAR, India, Indonesia, Korea, Malaysia, Philippines, Singapore and Thailand.

Source: IMF *World Economic Outlook*.

investment in the late 1980s. The Japanese surplus widened again after the bubble burst in the 1990s and Japanese firms shifted to investing well less than their cash flows. Most recently, the Japanese surplus has narrowed as ageing households have reduced their savings and higher energy imports have replaced nuclear power in the wake of the 2011 earthquake. Japan has begun to live on its net international investment income.

More inconsistent still have been the deficits and surpluses of emerging Asia other than China. They tended to run deficits before the Asian financial crisis of 1997-98 and surpluses since. In 2012, their surplus virtually disappeared on the back of weaker exports and less favourable terms of trade, or alternatively owing to a combination of lower saving and higher domestic investment.

What later became the euro area other than Germany ran deficits in the early 1980s in the early years of President Mitterrand's term, followed by approximate balance before the deficits leading up to the ERM crisis of 1992. There then followed surpluses before the substantial deficits after the inception of the euro and then again after the expansive fiscal response to the global financial crisis. Adjustment of spending and wages in the periphery eliminated the deficit of the euro area ex Germany by 2012.

The German surplus of the 1980s gave way to a deficit in the 1990s as construction spending in the east more than absorbed the flow of savings. Germany drew down a net international investment position built up after the Second World War to finance the reconstruction. After much domestic reform, the current account swung back into surplus in the 2000s, facilitated by the advent of the euro. In 2012, notwithstanding the adjustment of deficits elsewhere in the euro area, the German surplus was the largest in the world.

In a global context, the Chinese surplus is a very recent phenomenon and it has already narrowed substantially since the global financial crisis. It surged in the 2000s to above 10% of Chinese GDP and 0.7% of global GDP in 2007 but in 2012 narrowed to 2.3% of Chinese GDP and less than a quarter percent of global GDP.

Geographically, China runs its surplus mostly vis-à-vis other continents (notably North America), and runs deficits in Asia. By contrast, Germany runs its surplus both within and without the euro area. China serves as a final assembly stop of the whole Asian supply chain, while Germany exports both capital goods like machines and final consumer products like BMWs to both the euro area and outside.

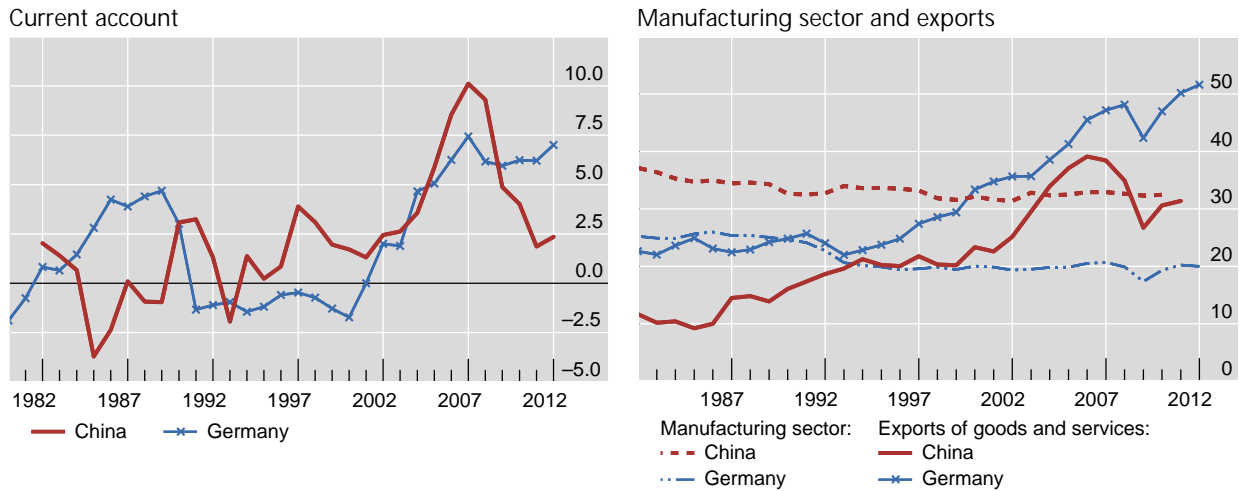
In sum, the German current account surplus now exceeds that of China both in dollar terms and as a share of own GDP.⁴ The German current account is almost three times larger than China's in relation to respective GDP (Graph 2, left-hand panel) and, as we shall see below, the German economy has depended more on net exports for its growth, especially since the global financial crisis.

⁴ Over the period 1970 to 2009, Aizenman and Sengupta (2011) found that the Chinese and German current account surpluses in relation to GDP responded nearly one-to-one to the lagged US current account deficit in relation to GDP. The shrinkage of the Chinese and US current accounts is broadly consistent with this finding but the behaviour of the German current account is not.

Current account, manufacturing sector and exports

As a percentage of own GDP

Graph 2



These surpluses both arose in the two economies that are quite open, with exports a third of Chinese GDP and half of German GDP (Graph 2, right-hand panel).⁵ Moreover, while Engel's Law leads us to expect a larger manufacturing sector in China's economy, the 20% share of manufacturing in Germany's advanced economy stands well above US, French and UK shares in the low teens.

3. Where did the surpluses come from?

Domestic reforms in China and Germany had parallel effects of restraining wages, leading to stable unit labour costs, rising profit share and current account surplus into the mid-2000s. Both economies' exports also benefited from international integration, China into the WTO and Germany in the euro area. Exchange rate movements have tended to narrow the Chinese more than the German surplus. Of the two economies, Germany's growth has recently depended more on net exports.

3.1 Reform restrains labour costs, boosts profits, savings and surpluses

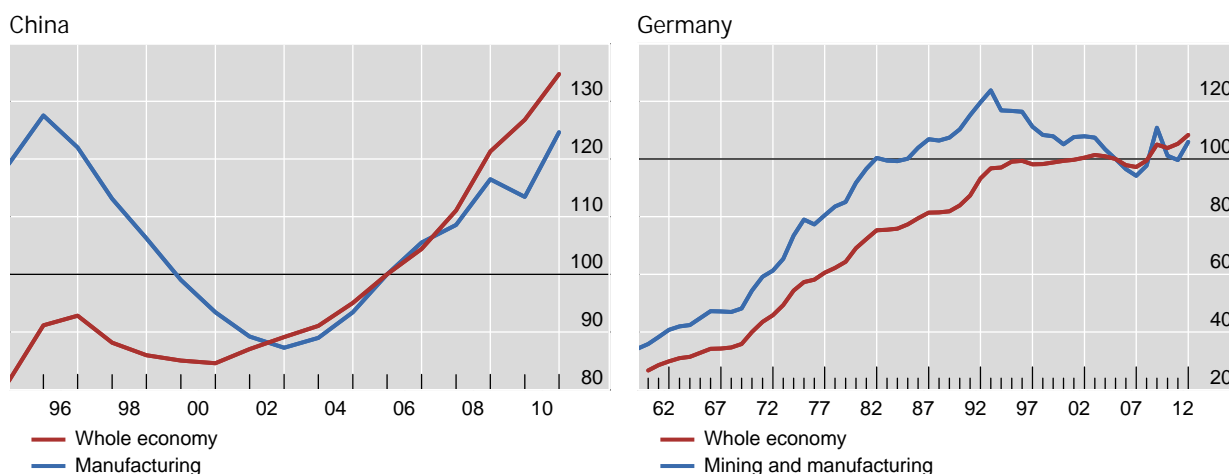
Though at very different levels of development, China and Germany implemented domestic reforms that had similar effects in terms of increasing the effective supply of labour. The Lewis model came into play in both cases: growing employment did

⁵ Everyone knows that China's large export processing sector imports parts and produces the latest Apple product. Recently released data from the OECD and WTO therefore surprise with the news that in 2009, China's value added as a share of its exports is 68%, similar to Germany's 72%. They compare to Japan's 80%. Multiplying the value added share by the export share yields an export value-added of 21% of own GDP for China and 37% for Germany. Thus the share of the German economy devoted to exports far exceeds that of the Chinese economy.

Unit labour costs

2005 = 100; in nominal terms

Graph 3



Sources: National data; authors' calculations.

not push up wages and much of the benefit of productivity growth went to profits. For China, surplus labour tied down on the farms and employed at inefficient state enterprises was released and attracted to labour-intensive export processing opportunities in the coastal areas. For Germany, it was a temporary return to the dynamics sketched by Kindleberger in *Europe's postwar growth* (1967).

Though having parallel effects, domestic reforms differed. In China, they included the break-up of the rural communes into the early 1990s, and Zhu Rongji's corporate restructuring in the late 1990s, which almost halved employment at state-owned firms (Ma et al (2013)). In Germany, after the initial boom of re-unification, labour leaders in the late 1990s agreed to hold wage growth below that of productivity (Flassbeck (2007)). This was followed up by the Schroder Agenda 2010 reforms, against the backdrop of German investment in central and eastern Europe. In particular, the Hartz and other reforms in the early to mid-2000s reduced the payroll tax for low-pay jobs and trimmed unemployment benefits in Germany (Hüfner and Klein (2012)).

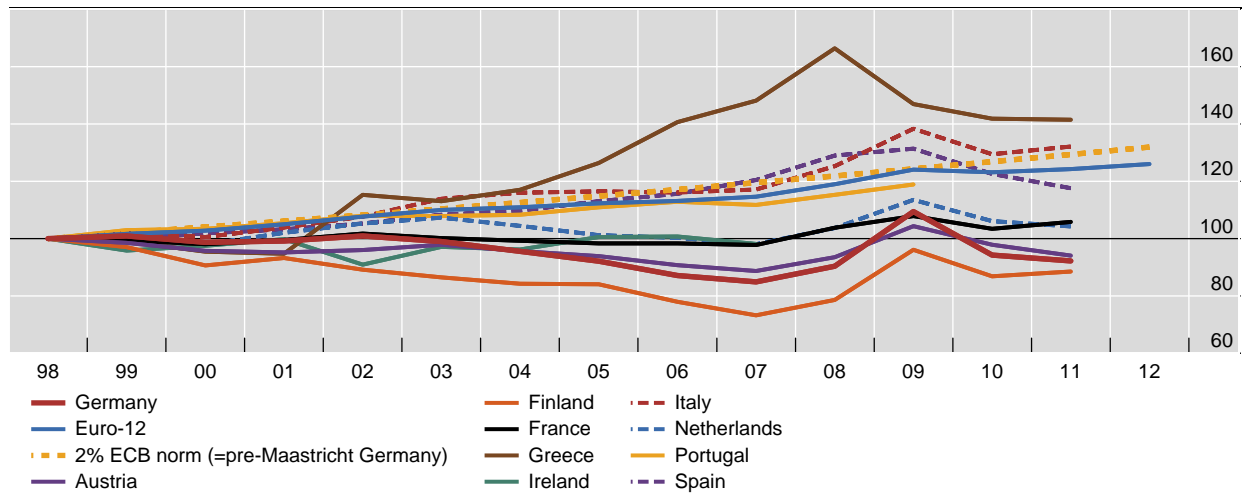
As a consequence, unit labour costs stagnated or fell from the late 1990s to the mid-2000s in China and Germany (Graph 3). This tended to strengthen the competitiveness of manufactured exports for both economies. With the introduction of the euro, the evolution of unit labour costs determined the competitiveness of the euro-area economies (Bibow (2007, 2012)). The often-plotted unit labour costs in the euro area from its inception shows that German unit labour costs fell, while those of other countries in the euro area rose considerably (Graph 4).

This evidence leaves open the question of whether the German economy enjoyed rapid productivity growth as a result of the reforms, or whether the domestic reforms that expanded the effective supply of labour (and the threat to move production east) served mostly to hold down nominal wages. In fact, Germany gained competitiveness within the euro area through 2007 notwithstanding its middling productivity growth (Graph 5, left-hand panel). What set Germany apart from the rest of the euro area was weak wage growth (Graph 5, right-hand panel).

Unit labour costs under the euro

1998 = 100; nominal, whole economy

Graph 4



Sources: Eurostat Ameco database; authors' calculations.

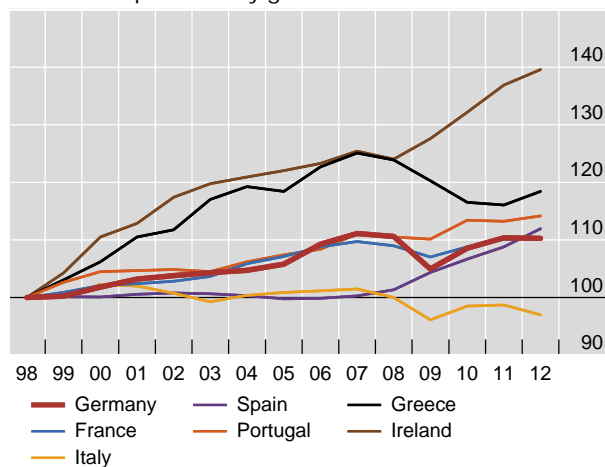
In both economies, the combined effect of these labour market developments was to shift the distribution of income away from wages and towards profits. The left panel of Graph 6 shows that the labour share in national income fell considerably in the 2000s in both economies. This is a matter of not only external competitiveness but also carries important implications for the structure of domestic absorption (Ma and Wang (2010)). A fall in the labour share tends to restrain private consumption and to boost the domestic saving rate. For a given level of domestic capital formation, therefore, the current surplus widens. One interesting observation is that, in contrast to China, a decline in Germany's labour share was not accompanied by a fall in its private consumption-GDP ratio in the same period (Graph 6: right-hand panel).

Productivity and wages in the euro area

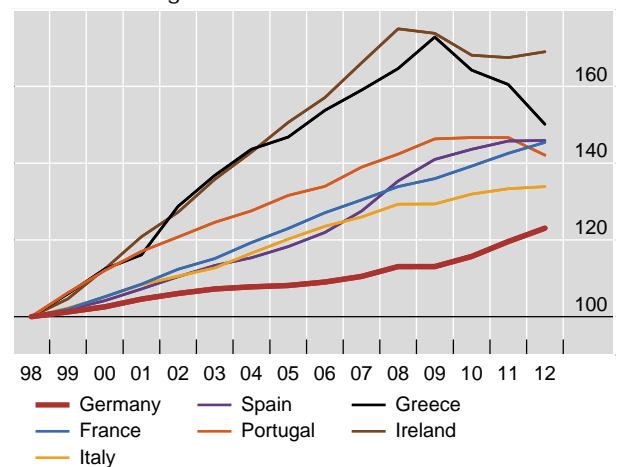
1998 = 100; whole economy

Graph 5

Cumulative productivity growth



Cumulative wage inflation

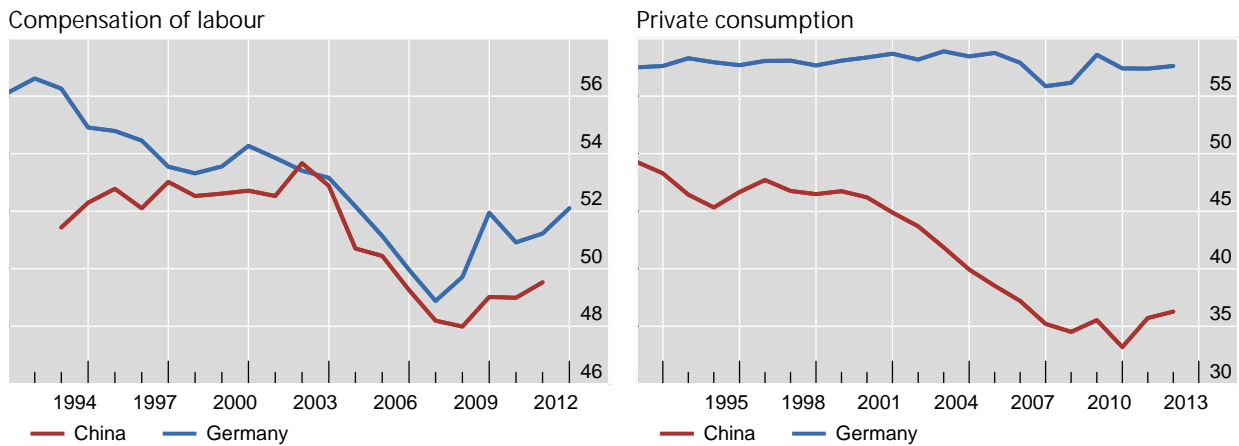


Source: OECD, *Economic Outlook 92*, December 2012.

Labour share and private consumption

As a percentage of GDP

Graph 6



Sources: IMF, *World Economic Outlook*; national data.

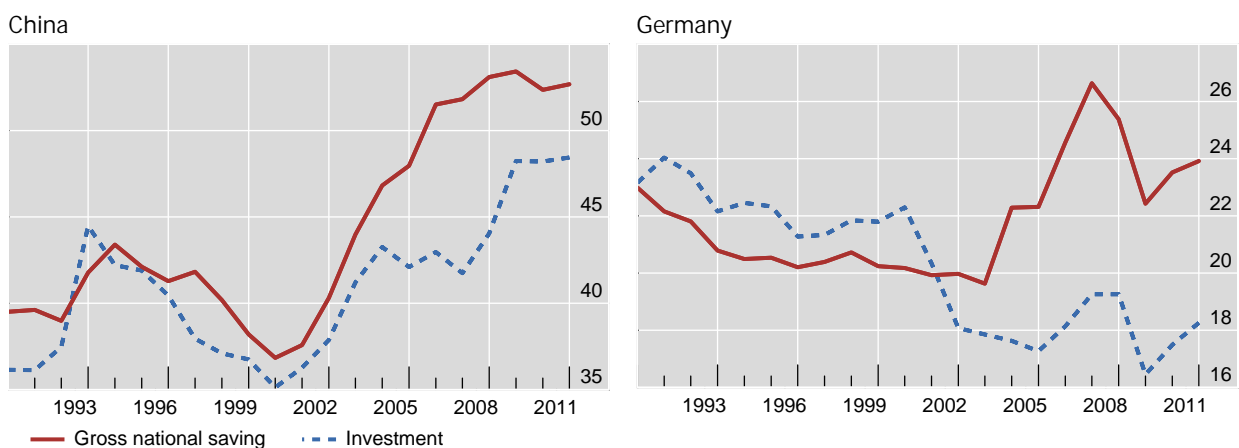
The lower wage share and higher profit share led classically to higher corporate and overall savings in the 2000s in both economies. In principle, a nation's current account balance is the same as the domestic saving-investment gap, so the gap in Graph 7 offers a perspective on the current surpluses in Graph 2. China's gross investment share rose unevenly, opening a wide gap against saving before the global financial crisis that narrowed in its aftermath. But Germany's investment rate declined unevenly but persistently in the 2000s (Fratzscher (2013) and Posen (2013)), resulting in a saving-investment gap, or equivalently, a persistent current account surplus.

Evidence on the sectoral saving-investment balances is hard to read for China but in the case of Germany is consistent with higher profits leading to the emergence of the current account. In China net business borrowing did decline in the 2000s and rise again in 2009, but the timing does not line up with the peak in

Gross national saving and investment

As a percentage of GDP

Graph 7

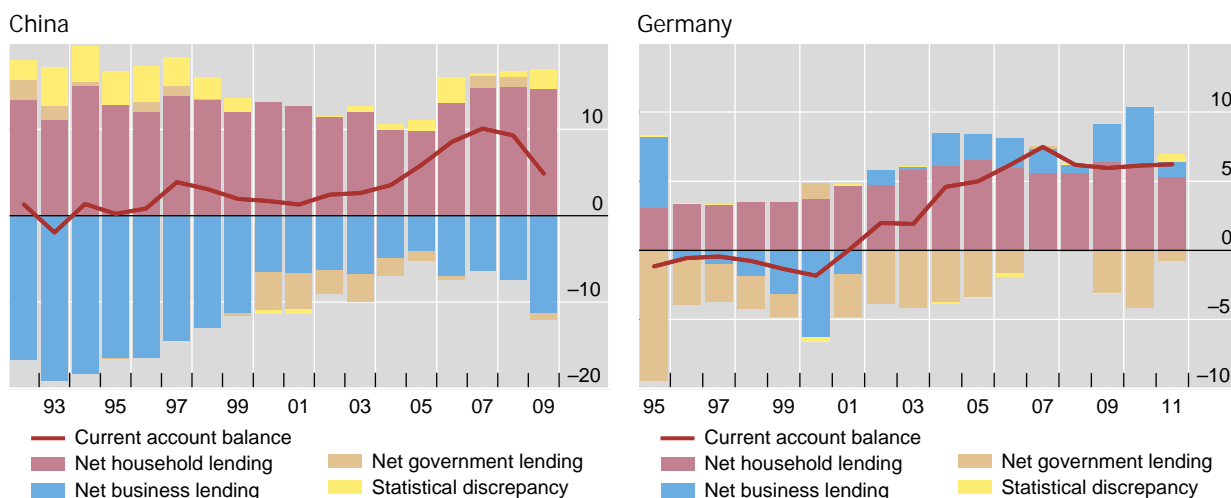


Source: CEIC.

Net lending by sector

As a percentage of GDP

Graph 8



Statistical discrepancy defined as the difference between the current account and the sum of the three sectors' net lending.

Sources: CEIC; Eurostat; authors' calculations.

the current account surplus in 2007 (Graph 8, left-hand panel). In Germany, the corporate sector shifted from borrowing 6% of GDP at the peak in the early 2000 to lending 2-3% of GDP in the late 2000s, thus helping drive a larger current account surplus.⁶ The fruits of wage moderation and labour market reforms were not invested domestically but instead funded the accumulation of net foreign assets.

3.2 The contribution of exchange rate changes

The dynamics of the nominal and real effective exchange rates of the two economies may have also contributed to the movements in the two current account balances. Over the past 15 years, the nominal and real effective exchange rates of the renminbi appreciated by 50% and 70%, respectively, albeit from a base of significant undervaluation in the mid-1990s (Graph 9). Much of this currency appreciation took place after the mid-2000s, likely contributing to the eventual and sizable shrinking of Chinese current surpluses from a 2007 peak (Ma et al (2013)).

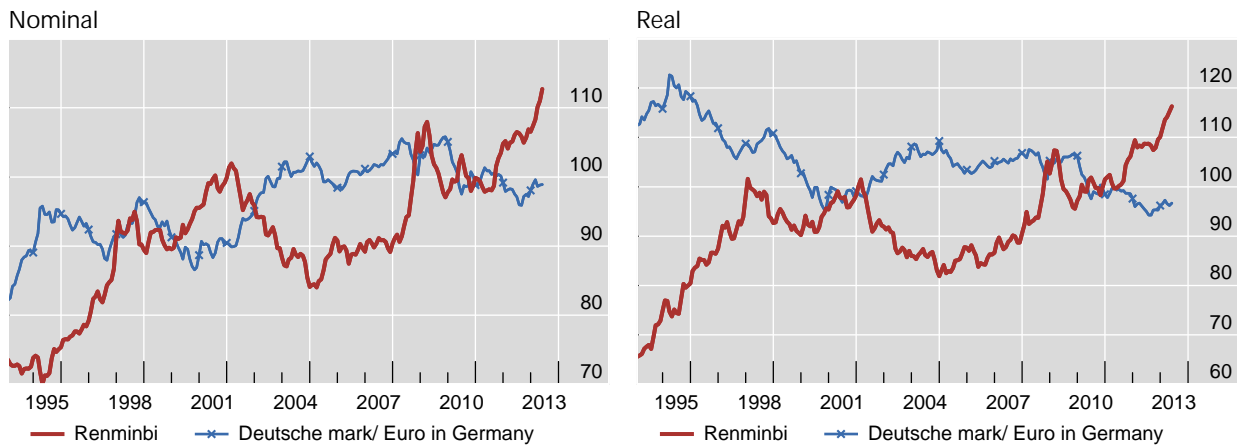
In comparison, the Deutsche mark and then the German euro gained 15% in nominal terms but, given restrained consumer prices, actually weakened by more than 15% in real terms over the entire period. Since the mid-2000s, Germany's nominal exchange rate has shown no trend and its real effective exchange rate has depreciated. Germany's nominal and real effective exchange rates have appreciated only in 2012-13. Hence the narrowing of China's current account and the persistence of Germany's following the global financial crisis seem consistent with the divergent movements in their currencies. This observation would be strengthened if one were to measure real exchange rates using relative unit labour

⁶ As noted above, private consumption was remarkably steady in Germany, given the decline of the labour share. German households maintained consumption and their net lending, by cutting down investment.

Effective exchange rates

2010 = 100

Graph 9



Source: BIS.

costs (Ma et al (2013)). However, it is important to keep in mind that during the 2000s, China's official foreign exchange reserves increased massively, while the euro's exchange rate floated freely, an issue to which we return below when discussing the role of the public sector in managing international assets.

3.3 Reinforcement by WTO for China and euro for Germany

Both countries enjoyed special circumstances in the 2000s that gave extra scope to their exporting firms, allowing both to take better advantage of the global upswing at the time. For China, acceptance of the terms of entry into the WTO sent a signal to multinational firms of a commitment to the international trading system even as it gave Chinese exporters better market access by placing restraints on trading partner responses to surges of imports from China. As part of the preparation for the WTO accession, a wave of domestic restructuring and market liberalisation in China also helped enhance efficiency and productivity. Hence both demand and supply factors widened Chinese current surpluses (Ma and Wang (2010)).

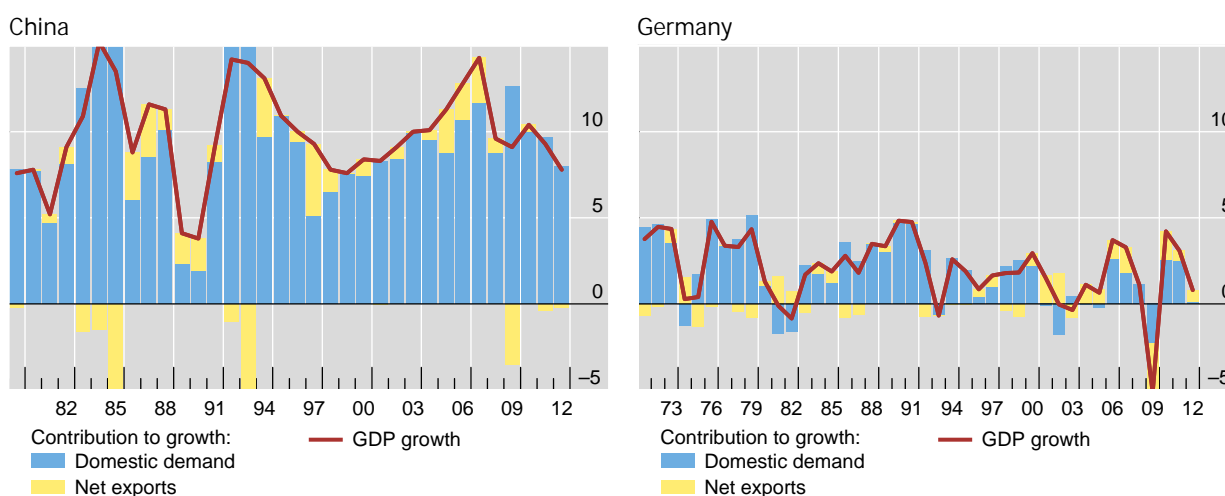
Gros and Mayer (2012) argue that the advent of the euro permitted the German economy to run a wider current account surplus. Before the euro, they argue, the German economy had difficulty in recycling current accounts above 4% of GDP. With German banks basically unable to take long foreign exchange positions, when the current account reached levels that tested the limits of the long positions that insurance companies and firms would accept, the Deutsche mark would be periodically revalued. This would lead to higher real wages, a loss of competitiveness, lower profits and lower savings. This "pattern [was] interrupted" as Gros and Mayer put it, by reunification, which gave rise to higher domestic investment expenditure and led to current account deficits that wiped out the net foreign assets built up over a generation.

According to these authors, the advent of the euro meant that German surpluses could be deployed within the euro area without requiring banks or institutional investors to take foreign exchange risk. To be sure, they took credit risk by recycling surpluses within the euro area, but not currency risk. The result was that

Decomposition of real economic growth in China and Germany

In per cent and percentage points

Graph 10



The left panel truncates some observations to keep the graph range in bounds.

Sources: United Nations, IMF, *World Economic Outlook*, October 2012; authors' calculations.

the German surplus could reach almost 8% of GDP in 2007. The other side of the same coin is that some peripheral euro area economies ramped up their consumption and investment in response to lower interest rates and easier financing in the monetary union, leading to large current deficits (Hallett and Martinez Oliva (2013)).

3.4 Growth dependence on net exports

As these two current accounts widened, the two economies depended more on net exports for their growth, but not to the same extent. Not only is Germany more oriented towards exports than China, but also growth in Germany in the 2000s relied more on net exports than growth in China. A straightforward decomposition of the real GDP growth of the Chinese and German economies shows the latter much more dependent on net exports (Graph 10). The contrast is particularly striking in the years since the global financial crisis, 2010-12.

4. How are the foreign assets invested?

Having explored where the two current surpluses have come from, we next seek to compare how these surpluses have been invested. We first place the two external balance sheets in a global perspective, then examine their asset compositions, and contrast the public sector roles in managing international assets. Finally, we come to the question of returns on China's and Germany's international investments.

4.1 Two international balance sheets in a global perspective

For a generation, international investment positions, both assets and liabilities, have been growing relative to GDP globally (Graph 11). This international financial deepening was taken as a sign of globalisation (Lane and Milesi-Ferretti (2003)); Chairman Greenspan likened it to an expanding universe. If the stock of capital in an economy is around 400% of GDP, then perfect risk-sharing would suggest that the stocks of assets should approach that multiple of global GDP. On this view, by 2007, we were half way to proper risk-sharing.⁷

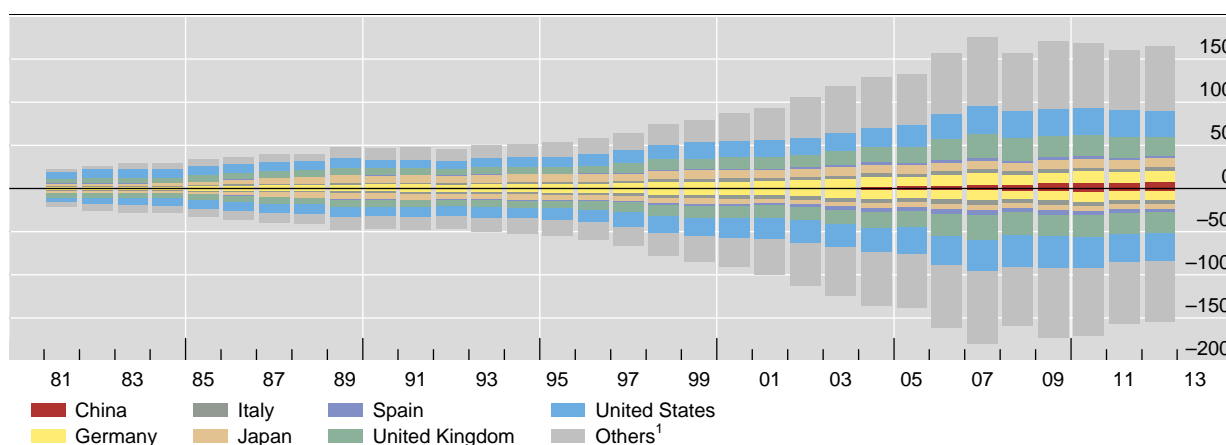
Though these accumulating stocks show much less cyclical variation than the global imbalances plotted in Graph 1, they nevertheless convey a similar message about recent developments. The process of widening flow imbalances and the process of ever-deepening stocks of assets and liabilities was at least interrupted by the global financial crisis and subsequent strains in the euro area.

Shifting from the time series to the cross-section, Germany's international balance sheet is the third largest in the world behind that of the United States and United Kingdom, and larger than that of Japan. China, now the world's second largest economy, has a relatively small international balance sheet. As a share of respective GDP, the sum of Germany's external assets and liabilities is five times as big as that of China (Graph 12, left-hand panel). This difference in financial openness is mostly because of China's lower level of income (Ma and McCauley (2013)), though capital controls may also account for the gap between the Chinese observation and the regression line representing a log-linear Kuznets curve (Graph 12, right-hand panel).

International investment positions of all countries

As a percentage of world GDP

Graph 11

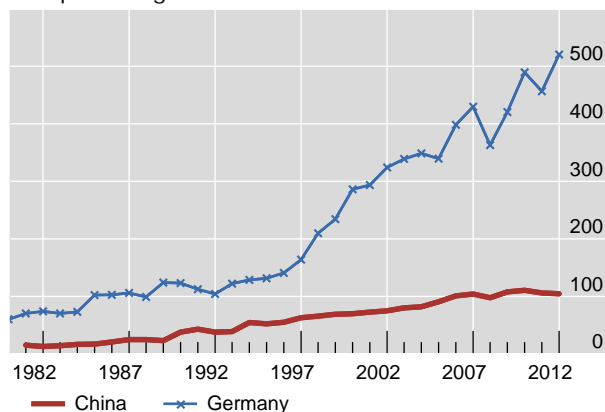
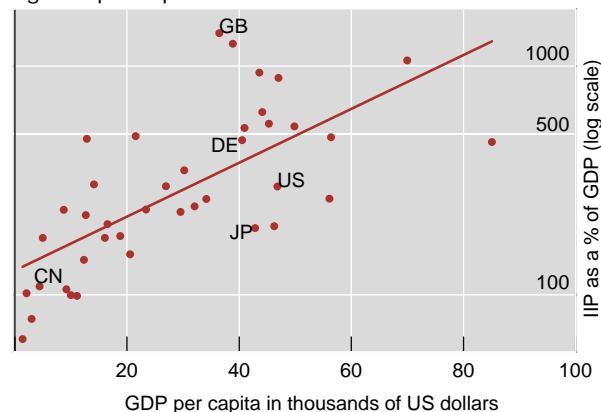


¹ Sum of 110 economies.

Sources: IMF, *International Financial Statistics* and *World Economic Outlook*; BIS calculations.

⁷ The authors are indebted to Stephen Cecchetti for this perspective. Of course, if account is taken of the limited risk-sharing in cross-border holdings of fixed income instruments, the progress towards thoroughgoing global risk-sharing would be assessed as more limited.

As a percentage of GDP

Against per capita GDP as of 2010²

¹ Sum of assets and liabilities. ² Sum of assets and liabilities, including reserves. Sample includes major emerging economies and OECD members excluding Ireland and Luxembourg. Logarithm to the base 10 of ratio of international investment position to GDP.

Sources: Lane and Milesi-Ferretti (2007); CEIC; IMF, *International Financial Statistics*, *World Economic Outlook*.

However, in dollar or euro terms, China's net external position surpassed that of Germany in the early 2000s, and exceeded \$1.7 trillion at end-2012. Germany's net position approached \$1.4 trillion in 2012, and is catching up thanks to its recently wider current account surpluses. China's international wealth has arisen at a middle-income GDP per capital of about \$6,000, a seventh of Germany's per capita GDP of \$44,000 in 2012. China and Germany have now become the second and third largest creditor nations in the world after Japan (Ma and Zhou (2009)).

Despite these differences, the rise in these two net creditor positions in relation to respective GDP tracked each other very closely in the years before the global financial crisis (Graph 13, left-hand panel). Since then, with the narrowing of the Chinese current account surplus, its net position grew only by a half, and did not keep up with the doubling of nominal GDP in dollar terms between 2007 and 2012. As a result, the Chinese net position has fallen significantly in relation to GDP. In contrast, the German net position continues to rise given sustained large current surpluses.

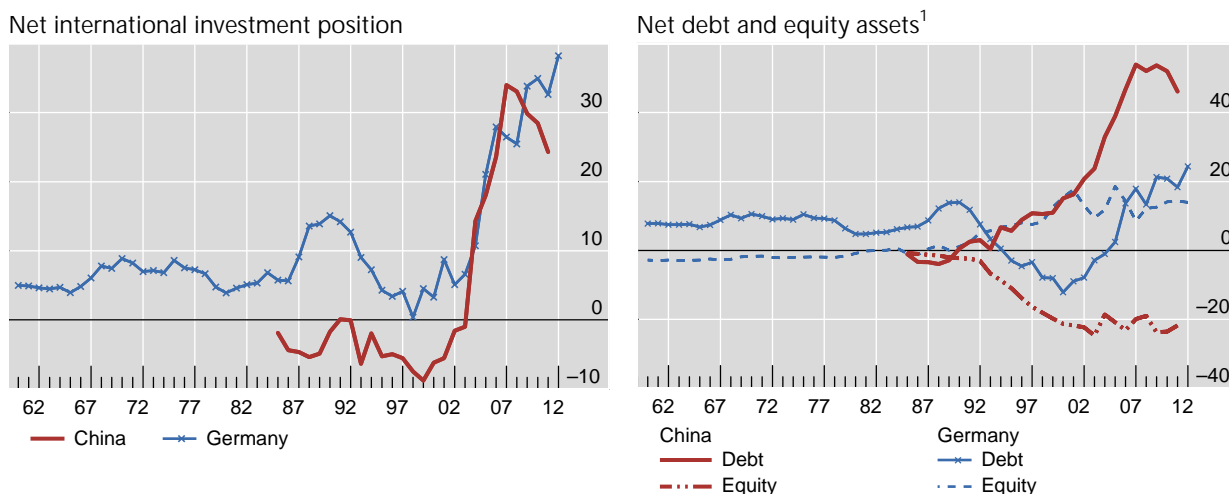
4.2 Split between debt and equity or safe assets and risky assets

Similarity in their net creditor positions as share of respective GDP, however, masks vast differences in the two economy's net positions in debt and equity instruments. The Chinese authorities have revealed a preference for buying insurance from the rest of the world through its external position, while German banks, companies and insurers have taken a balanced debt and equity stake in the rest of the world. China has allowed foreign firms a large stock of direct investment in the country, while its official investors have favoured safe assets in major reserve currencies. The resulting short-equity, long-debt position (Lane and Schmukler (2007) and Ma and Zhou (2009)) shifts macroeconomic risk from China to the rest of the world (Graph 13, right-hand panel). By contrast, Germany takes on equity risk with a net debt/equity allocation of about 60%/40%, like a college professor approaching retirement.

Net international investment position

As a percentage of GDP

Graph 13



¹ Equity is calculated as FDI, portfolio investment in shares and portfolio investment in mutual fund shares. Debt is assumed as all others.

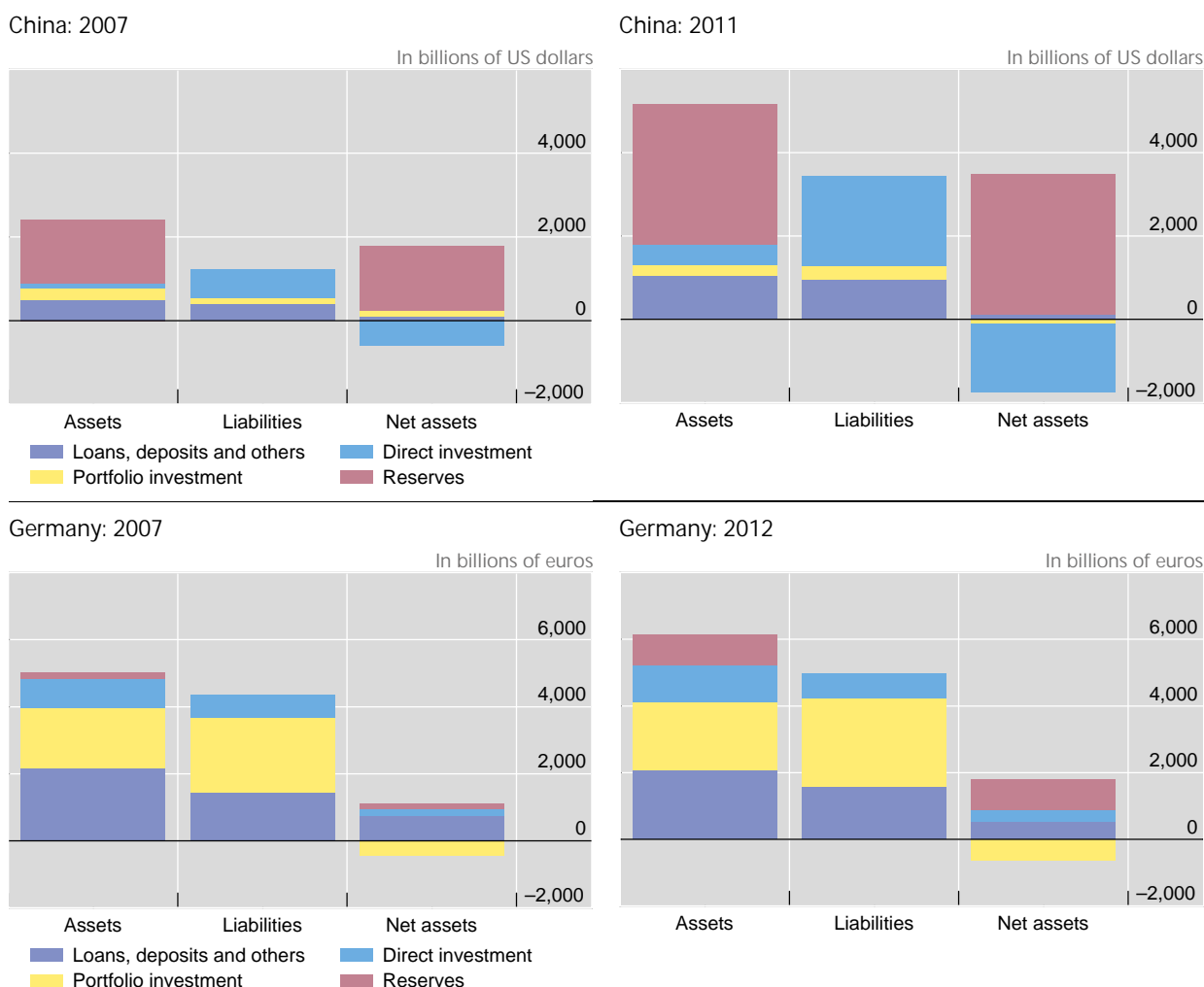
Sources: CEIC; Datastream; national data; authors' calculations.

China's position, characteristic of emerging markets, provides steady income on its assets rain or shine, and reduced payments during a downturn. With foreign firms producing half its exports, lower exports and employment in the export sector during a global recession are hedged to some extent by lower profits earned by foreign firms. Such insurance is costly, as we shall see below, and China actually earns negative income on its sizable net foreign assets. In this respect, China is the mirror image of the United States, with its still positive international investment income on its sizable net liability position.⁸

Germany's position has evolved over time. During the 1960s and 1970s, Germany resembled China today in holding a long debt/short position against the rest of the world. It was beginning to move from immature creditor to mature creditor when the Berlin Wall fell. It continued on this path as it continued to build up equity claims while running its net debt claims negative to pay for fiscal transfers and a real estate boom after reunification. When wage restraint in the late 1990s returned the current account to surplus in the early 2000s, net debt claims turned up. They overtook net equity claims before the global financial crisis, leaving Germany today with its net claim on the rest of the world heavier in debt than equity, at least at equity prices at end-2012. It earns net investment income on this balanced portfolio, as we shall see below.

The composition of the international balance sheets by instrument in 2007 and 2012 highlights three further differences (Graph 14). First, banks play a much larger

⁸ It has been suggested that China's net international investment returns are exaggerated, which would imply an overstatement of its current account surpluses and creditor position. In particular, Zhang (2009) holds that official statistics undercount the retained earnings of foreign firms operating in China. In recent years, the Chinese authorities appear to have made an effort to account better for such retained earnings in computing China's international liabilities as well as the corresponding adjustments for the balance of payments statistics.



Sources: CEIC; Datastream.

gross and net role in Germany than in China. That said, the role of banks in Germany's net assets has declined since the global financial crisis and especially the euro area crisis. Second, the role of portfolio investments into and out of Germany well exceeds that in China, with the latter's tight controls on inflows and outflows. On the liability side is the large foreign official holding of German government bonds. Germany, despite its growing net external assets and relatively favourable fiscal dynamics, provides safe, reserve assets to the rest of the world, just like the US economy debated by Triffin and Kindleberger. The Chinese authorities have just gingerly begun to open up their domestic bond market to selected foreign official investors. Third, official reserves bulk very large in China's assets, but they formerly played a very minor role in Germany's assets, although they now play a larger role. The next section expands on this.

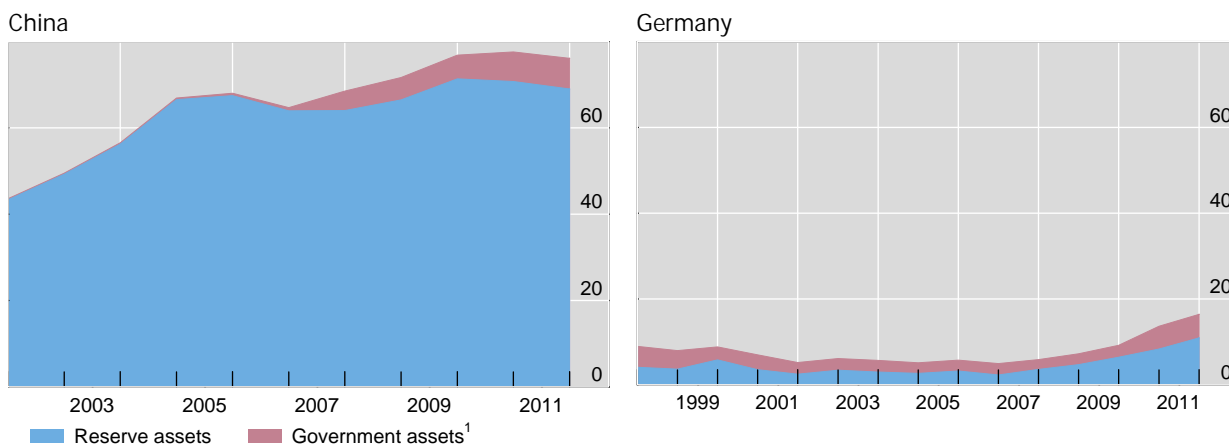
4.3 Split between private and public sector

The difference in risk appetite of the mostly public sector managers of China's external assets as compared to that of the mostly private sector managers of

International assets held by the public sector in China and Germany

As a percentage of total international assets

Graph 15



¹ International assets held by the government and public agencies other than the central bank. In China's case, it is estimated as the sum of China Investment Corporation's (CIC) non-Huijin assets, loans extended by China Development Bank (CDB) to borrowers outside the mainland China, and export buyers' credit extended by China Export and Import Bank (China EXIM Bank). In Germany's case, it is proxied as the sum of the international assets held by the government and 25% of KfW's total assets.

²Source: CEIC; national data; annual reports of KfW, CIC, China EXIM Bank and CDB, and authors' calculations.

Germany's external assets underlies the marked differences in the equity compositions just reviewed. The euro crisis and its management, however, have led to a narrowing of the gap between the roles of the official sector in holding external assets.

In 2007, the official investment of the gross external assets of China stood in stark contrast to the private investment of Germany's gross external assets. We have constructed preliminary estimates for the international assets held by the public sector as a sum of the traditional official reserve assets held by the central bank and some proxy of international assets held by other public agencies for both China and Germany (Graph 15). In China, public sector asset managers (mostly the State Administration of Foreign Exchange) invested some two thirds of China's gross international assets. By contrast, in 2007 Germany's public sector managers handled about 5% of Germany's international assets. This contrast makes very clear the difference in the role of government in the two economies.

Since the onset of the global financial crisis in mid-2007, there has been a rising trend in the share of international assets under the management of the public sector in both economies. In China, the share of official reserves has grown somewhat. But much of the growth of the public sector share resulted from the policy banks' external loans in support of Chinese imports, particularly commodities, and exports. In addition, the sovereign wealth fund has invested in riskier assets in pursuit of higher returns. All-in-all the public share rose to three quarters.

In Germany, the growth of the public share owes less to the government agency, KfW, and more to the assets of the central bank. Between 2007 and 2012, both the North Atlantic crisis and the euro crisis led to a retrenchment of bank credit. German banks that had borrowed dollars to invest in US private-label mortgage-backed securities (later known as toxic assets) reduced dollar assets. As concerns over counterparty risk spread in the interbank market, German banks cut back their claims on other euro area banks. And as concerns for the credit of

sovereigns in the periphery grew in 2010-12, German banks cut back on claims on sovereigns and firms in these countries. Updating Cecchetti et al (2012), German banks alone cut consolidated claims on borrowers in Greece, Ireland, Italy, Portugal and Spain by over €300 billion between the first quarter of 2008 and the last quarter of 2012.

As peripheral banks lost direct access to German and other commercial banks, they drew on Eurosystem credit, and the Deutsche Bundesbank became its biggest creditor. As the euro-denominated interbank market dried up and peripheral banks repaid rather than rolled over maturing bonds, they drew on the Eurosystem for credit.

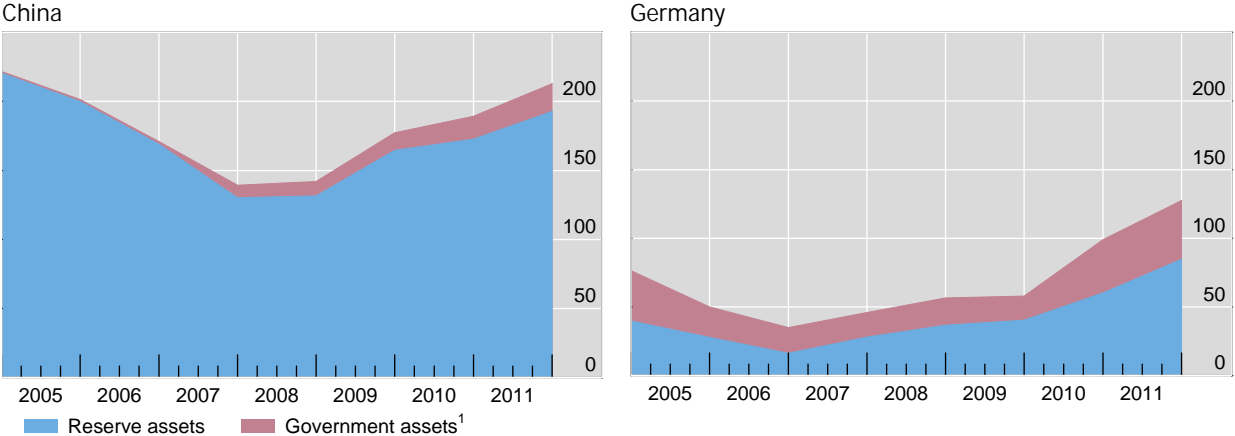
The result was a shift in the composition of the German claims on the rest of the world in the Chinese direction. What had been private claims became, through the operation of the Eurosystem’s credit operations and TARGET2 payments system, public claims. As a result, the federal public sector now accounts for an estimated 15% of Germany’s external assets.

The public sector role is further magnified through the lens of net international investment position for both economies. Recall that the German international balance sheet is five times larger than its Chinese counterpart in relation to GDP. Chinese public sector managers invested twice as much as the Chinese net external assets, recycling not only China’s current account surpluses, but also her net direct investment liability (Graph 16, left-hand panel). In other words, China’s public sector runs a creditor position twice as large as China’s overall net international investment position, while her private sector’s net debtor position rivals the size of China’s overall net creditor position. Meanwhile in Germany, the public sector managed more than all the country’s net international claims by 2012 (Graph 16, right-hand

International assets held by the public sector in China and Germany

As a percentage of net international investment position

Graph 16



¹ International assets held by the government and public agencies other than the central bank. In China’s case, it is estimated as the sum of China Investment Corporation’s (CIC) non-Huijin assets, loans extended by China Development Bank (CDB) to borrowers outside the mainland China, and export buyers’ credit extended by China Export and Import Bank (China EXIM Bank). In Germany’s case, it is proxied as the sum of the international assets held by the government and 25% of KfW’s total assets.

Source: CEIC; national data; annual reports of KfW, CIC, China EXIM Bank and CDB, and authors’ calculations.

panel).⁹ Measured in terms of nets rather than gross claims, the role of the German public sector becomes larger and has converged more towards the role of the Chinese public sector.

4.4 Rates of return on foreign assets

We have already seen that China is laying off equity risk with its international assets and liabilities while Germany is taking on equity risk with its. Over extended periods, one expects China to pay and Germany to profit from their respective patterns of international risk-sharing. Indeed, in some ways, China's position is the mirror image of the US's position. High returns on US direct investment abroad have been the most important factor in keeping the US net investment income positive (Curcucu et al (2013)), even as the US net international investment position has become increasingly negative. China pays so much higher a return on the \$1 trillion of direct investment liabilities than she receives on her assets that she records net international investment *payments* on \$1.8 trillion of net assets.

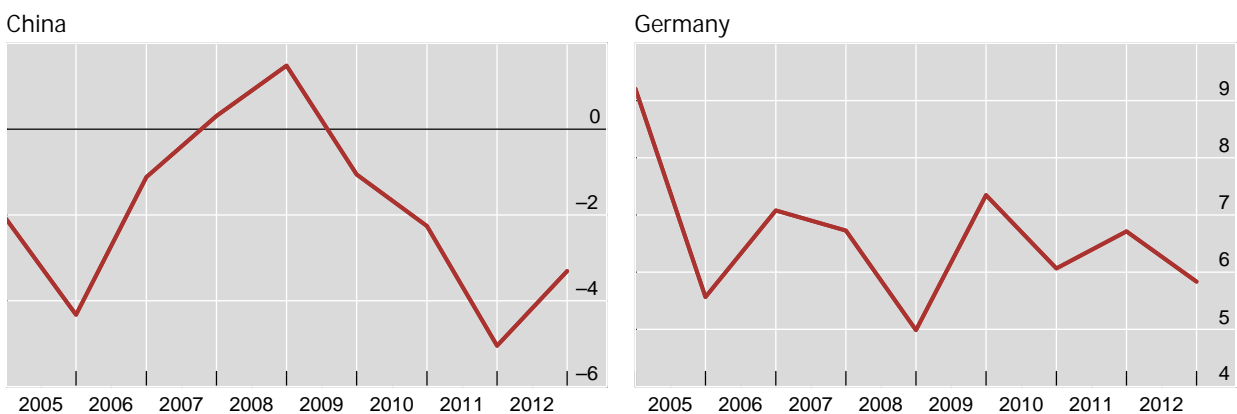
To assess the performance of China's and Germany's external assets, one needs to consult both the yields and capital (or valuation) gains and losses, including those arising from exchange rate changes: the total return. The Chinese report net international investment *payments* in most years in the 0 to 4% range (a negative yield in Graph 17, left-hand panel). Consistent with the risk-sharing described above, the exception is the global financial crisis year, 2008. If these data do not include capital gains on the SAFE's portfolio of high-quality government bonds, then they understate the total return that year. For Germany, net investment income is generally between 6% and 8%. With an international balance sheet that takes on equity risk, it is not surprising that the worst year is 2008.

Things look worse, however, when valuation and capital gains and losses are also considered. Obstfeld (2012) shows that year-to-year changes in net

Net investment income

As a percentage of net international investment position

Graph 17



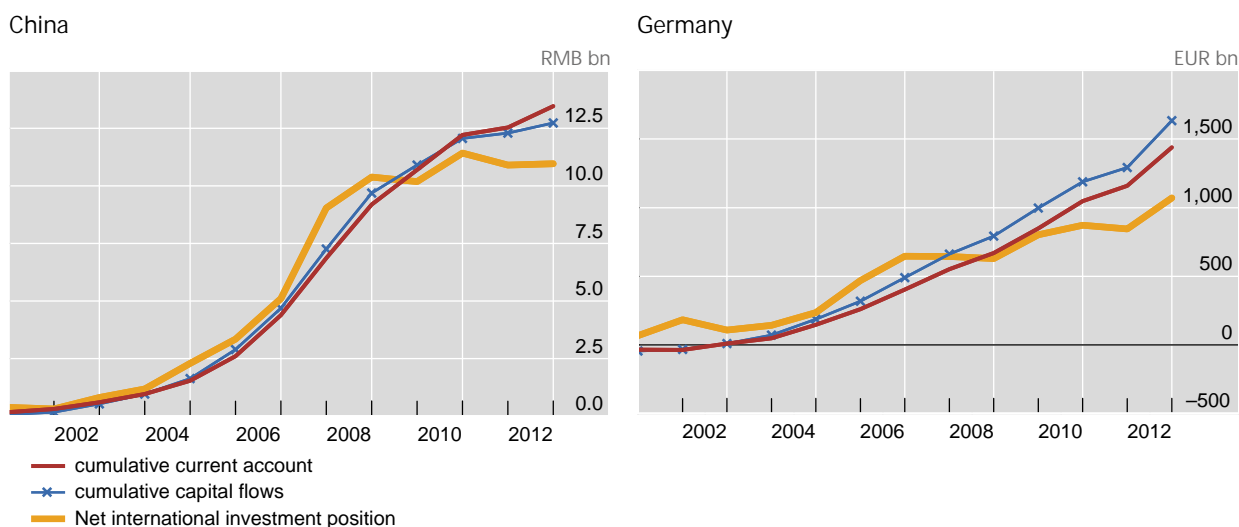
Sources: Lane and Milesi-Ferretti (2007); CEIC; Datastream; national data.

⁹ European Commission (2012a, p 33) shows that the rise in TARGET2 claims resulted in a similar fraction of Dutch net foreign assets in the central bank at end-December 2011 and such claims an even larger fraction in Finland.

Cumulated balance of payments and international investment position

Cumulated flows and net international asset stocks in trillions of domestic currency

Graph 18



Sources: Lane and Milesi-Ferretti (2007); CEIC; Datastream; national data.

international assets are not strongly correlated with current accounts, but in our two cases the discrepancies have persisted. China's net international assets have since the crisis grown by less than the sum of her current account surpluses or net capital outflows (Graph 18, left-hand panel). By 2012, the gap reached RMB 1.5-2.5 trillion, 3-5% of GDP. If anything, the gap is puzzlingly small. After all, the renminbi has risen from 8.3 to 6.3 to the dollar, while China's external assets are mostly in US dollars and her liabilities are largely renminbi-denominated (not least the foreign direct investment in China). On a conservative assumption that 10% of total international assets and only equity liabilities are in renminbi, China's net long dollar (and euro) exposure would be twice that of its net international investment position in 2012. On this basis, the appreciation of the renminbi against the US dollar from 2005 could account for a RMB 7 trillion shortfall, equivalent to 14% of 2012 GDP! We expect the revisions of the 2012 Chinese international investment position to increase the direct investment liability and thus to increase the stock-flow discrepancy.

The stock-flow discrepancy is larger in the case of Germany (Graph 18, right-hand panel). Judging from the current or the capital accounts, one would imagine that Germany's net international position could be hundreds of billions of euros larger. Starting in 2002, when Germany's current account turned positive again, the current account surplus has cumulated to €1.4 trillion by 2012.¹⁰ The cumulated measured net capital outflows amounted to €1.6 trillion. Meanwhile the net international assets rose from about €0.1 trillion to just over €1 trillion. What happened to the stock-flow gap of €0.4-€0.6 trillion, around 20% of GDP?

Fratzcher (2013) ascribes the discrepancy to "bad investments abroad", Meyer and Jaeger (2013) refer to "wasted...investments", Gros (2013) alludes to "wasted

¹⁰ Habib (2010) notes that in his earlier sample period, there is little stock-flow discrepancy for Germany; European Commission (2012a) finds little gap through 2006.

resources”, and the European Commission (2012a, pp 39-42) highlights losses on US subprime mortgages. However, it may well be that exchange rate valuation effects, broad price effects and reporting system factors are as important as credit losses in accounting for the gap. If nowadays over a quarter of assets but only an eighth of liabilities are in foreign currency,¹¹ then the decline of the dollar since 2002 could have held down net assets by €100 billion. Price effects arise from the stronger performance of German bonds (and stocks) on the liability side compared to that of bonds (and stocks) from the rest of the euro area. In particular, the widening of intra-European sovereign bond spreads, with German bunds serving as the safe haven, widened the stock-flow discrepancy. European Commission (2012a) reports €105 billion valuation gains on German liabilities alone in 2007-2011. Cœuré (2013) refers to Germany playing the role in the euro area ascribed to the United States for the world by Gourinchas and Rey (2007) and Gourinchas et al (2010), that is, providing insurance by delivering mark-to-market gains in bad states of the world.¹²

To be sure, German investors have experienced credit losses on German investments in US asset-backed securities and in some peripheral euro area bonds. Table 1 shows \$42 billion of investments in US private label asset-backed securities on the eve of the crisis in June 2007, but the total could easily be two or three times that amount when account is taken of bonds booked by German banks in the UK, Ireland and the United States.¹³ (A subsequent rebooking of assets at head office may account for the otherwise odd rise in (unconsolidated) Landesbanken claims on foreign non-banks in late 2008; see Annex Graph A1 and IMF (2011c).) Table 1

Concentration of US bond holdings in private-label asset-backed securities

By residence of investor, in billions of US dollars, June 2007

Table 1

| | CN | DE | CH | FR | IE | JP | NL | UK |
|--|------|------|------|------|------|------|------|------|
| Private mortgage-backed securities (MBS) | 9 | 33 | 20 | 31 | 33 | 17 | 32 | 90 |
| Other private ABS | 2 | 10 | 14 | 4 | 23 | 13 | 12 | 52 |
| Total corporate ABS | 11 | 42 | 34 | 35 | 56 | 30 | 44 | 142 |
| Corporate bonds | 28 | 98 | 89 | 58 | 136 | 119 | 84 | 406 |
| Agency MBS | 206 | 8 | 6 | 1 | 20 | 103 | 20 | 18 |
| Total US bonds | 870 | 155 | 140 | 84 | 176 | 901 | 123 | 476 |
| <i>Memo: Corporate ABS share, %</i> | | | | | | | | |
| Corporate bonds | 39.3 | 42.9 | 38.2 | 60.3 | 41.2 | 25.2 | 52.4 | 35.0 |
| Total ABS, incl. agency MBS | 5.1 | 84.0 | 85.0 | 97.2 | 73.7 | 22.6 | 68.8 | 88.8 |
| Total US bonds | 1.3 | 27.1 | 24.3 | 41.7 | 31.8 | 3.3 | 35.8 | 29.8 |

CN = China; DE = Germany; CH = Switzerland; FR = France; IE = Ireland; JP = Japan; NL = Netherlands; UK = United Kingdom.

Source: US Treasury, Federal Reserve Bank of New York and Board of Governors of the Federal Reserve System, *Report of foreign portfolio holdings of US securities as of June 30, 2007*, April 2008, Tables 23 and 24.

¹¹ Deutsche Bundesbank (2008) reported that at end-2007, 32% of external assets and 16.5% of external liabilities were denominated in foreign currency, down from 46% and 21% at end-1998.

¹² Although the European Commission (2012a, p 42, Graph 2.12) puzzlingly shows valuation gains by Germany vis-à-vis the “vulnerable” members of the euro area in 2007-2010.

¹³ See Bertaut et al (2011) and Bernanke et al (2011). That banks can lose on assets booked in the United States is evident from UBS (2008).

shows that China (like Japan with its large official foreign exchange reserves) had little exposure to what became known as toxic assets. On Table 1, penultimate line, only 5% of China's asset-backed securities were private label, rather than government-sponsored agency, in contrast to the high German (or European) fractions (although these numbers would not capture Chinese bank holdings in Hong Kong). Similarly, such securities represented just 1% of Chinese bond holdings in the United States but fully 27% of German bond holdings.

With regard to German investments in the periphery of Europe, there is a question whether there was a regional bias in German investment after the euro. While the Deutsche Bundesbank (2008) found that the weight of German external assets in the euro area rose from 39% in 1999 to 50% in 2007, BIS consolidated bank data (including banks' holdings of bonds) show no rise in the weight on the euro area (see Annex Graph A2). On this view, German foreign investment was drawn to rapidly growing stocks of credit, whether US and Spanish mortgage bonds, or interbank lending and sovereign bonds in the euro area: more banking glut (Shin (2012)) than euro bias.

For China, there is no question where the concentration of exposure lies. According to the most recent joint Treasury/Federal Reserve survey, Chinese assets in the United States amounted to \$1.6 trillion at end-June 2012, about a third of China's external assets then. Thus, it may be (even taking into account German bank exposures booked outside of Germany) that the concentration of China's external assets in the United States is lower than the concentration of Germany's external assets in the euro area before the global financial crisis. China's external assets are nevertheless concentrated, reflecting the historical anchoring of the renminbi to the US dollar, but this concentration is not backstopped by parallel monetary or political structures of integration.

5. Policy setting and conclusion

It is useful to summarise the policy context for the conclusions of this paper. That policy has parallel and mutually informing global and European tracks.

In Gyeongju, Korea in late October 2010, finance ministers and central bank governors of the G20 countries considered a proposal that would have presumed that economies running a surplus in excess of 4% needed to take action to narrow such surpluses. In the event, the proposal was not adopted. Instead, the G20 agreed to draw up "indicators and indicative guidelines" that would allow the IMF to identify and to analyse economies with "large and persistent" current account imbalances. This compromise projected onto the world indicators and procedures under development in Europe (see Deutsche Bundesbank (2011) and below).

After the G20 negotiated the "indicators and indicative guidelines", the IMF produced sustainability reports in November 2011 during the French presidency of the G20. These covered the United States, Japan, China, Germany, France, the UK, India and later the euro area as a whole (addressing intra-area imbalances). These reports supported a mutual assessment process (MAP) within the G20 process.

The sustainability reports for China and Germany sharply distinguished the role of policy in the two surpluses. "External surpluses in Germany do not primarily reflect market failures or policy induced distortions", wrote the IMF (2011a). Rather, sensible domestic reforms had this as a side-effect, given the choices of German

households and firms and outcomes in the foreign exchange market. In the case of China, the IMF staff (2011b) cited policy-induced distortions, including financial repression and exchange rate undervaluation, in explaining high savings in the household, corporate and government sectors. The IMF staff forecast the German current account surplus narrowing from around 5% to 4% of GDP. In the case of China, the IMF staff foresaw the current account widening again to 8% of GDP as investment faded over the medium term (albeit on the assumption of a stable real effective exchange rate — see Graph 9, right-hand panel), while the Chinese authorities foresaw the surplus remaining below 5% of GDP. At time of writing, the IMF staff update of these reports for the Russian presidency of the G20 is awaited.

In Europe, Giavazzi and Spaventa (2011) rejected the sanguine view of euro area current account deficits of Blanchard and Giavazzi (2002). In Brussels, negotiations resulted in asymmetric indicators for current account imbalances, among other indicators. Current account deficits in excess of 4% of GDP (as in Gyeongju) or current account surpluses in excess of 6% of GDP were set as “thresholds”, defined in terms of three-year backward moving averages. As in the G20 mutual assessment process, the macroeconomic imbalance procedure (MIP) in Europe places these current account thresholds among other indicators (European Commission (2012b)).

That said, the latest data posted on the “imbalance scorecard” of Eurostat show that the three-year moving average of the German current account surplus as a share of GDP (one of 11 indicators) exceeds 6%. This could lead to the European Commission’s next Alert Mechanism Report focusing on the German current account surplus. With the rest of the euro area in current account balance (Graph 1), it might seem that Germany’s surplus has emerged as more a global surplus than a euro area surplus. However, Germany registers about half her current account surplus vis-à-vis the rest of the euro area. In principle the European Commission process can press for adjustment by a surplus country, using reverse qualified majority voting, and bringing to bear sanctions of non-interest bearing deposits and even fines.

This policy setting puts our comparisons and contrasts of China and Germany as surplus and creditor countries in perspective. Their current accounts give rise to comparisons more than contrasts; their creditor positions to contrasts more than comparisons.

In both cases, sensible policy reform has tended to produce an expanded labour force and stable wages, shifting the distribution of income towards profits. In both cases, corporate savings have risen as a share of GDP, with the domestic investment (and private consumption) response to the higher profits weaker in Germany. In both cases, this widened the current account surplus, which has proven more persistent in the case of Germany.

That said, we have also drawn contrasts in the current accounts. Germany’s surplus has surpassed that of the larger Chinese economy, and is three times larger in relation to GDP. The narrowing of the current account of China has benefited from strong real effective exchange rate appreciation, whereas the persistence of Germany’s current account surplus is consistent with its, until recently, stable or even depreciating real effective exchange rate. It is an irony of this contrast that the much-criticised renminbi management has produced an adjustment in the direction that serves to narrow China’s current account surplus, while the free-floating euro has interacted with domestic cost trends to maintain Germany’s competitiveness.

As creditor countries, the contrasts are more striking. Germany's net international creditor position continues to rise in relation to GDP, while that of China has backed off, and in dollar terms that of Germany is closing in on that of China. The short-equity, long-debt profile of China's external position buys China insurance against idiosyncratic and global risks at the cost of net investment payments. By contrast, Germany sells insurance to the rest of the world, and to the rest of the euro area in particular, and harvests moderate income in doing so. Consistent with the greater role of the Chinese government in the economy, Germany's government plays a much smaller role as a holder of the claims on the rest of the world than the Chinese public sector. The potential for Chinese policy rebalancing in this regard is clear.

That said, we have also drawn comparisons of the two creditor economies. We have shown that the former gap between the roles of the two governments in holding each economy's foreign assets has narrowed as an unintended consequence of the structure of the Eurosystem and the management of the euro area crisis. We have shown that a discrepancy has opened up between the cumulated current account flows and the net international investment position stocks. These seem to be related to exchange-rate losses in both cases, and outperformance of German ("safe haven") bonds and equities and price or credit losses on claims on US mortgage borrowers and European peripheral borrowers.

However one looks at it, it is hard to escape the conclusion that the workings of the international monetary system allows big countries to run big surpluses. We come back to Aliber's version of Triffin, in which the US economy provides global consistency as the N-1 economy.

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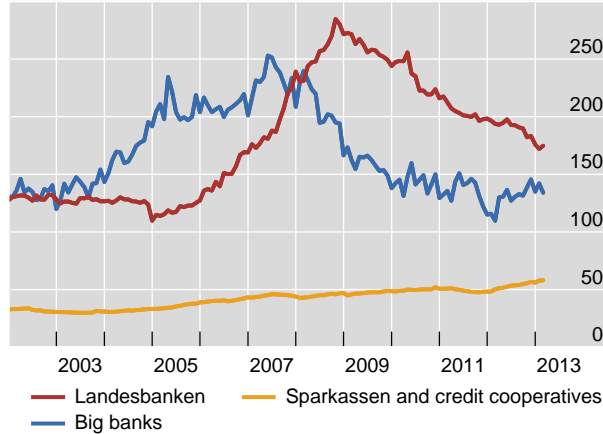
Annex: German bank foreign assets

German banks' foreign lending by category of banks

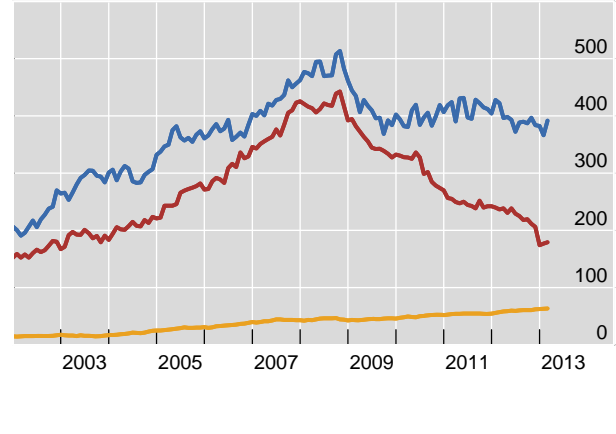
In billions of euros

Graph A1

Lending to foreign non-banks



Lending to foreign banks

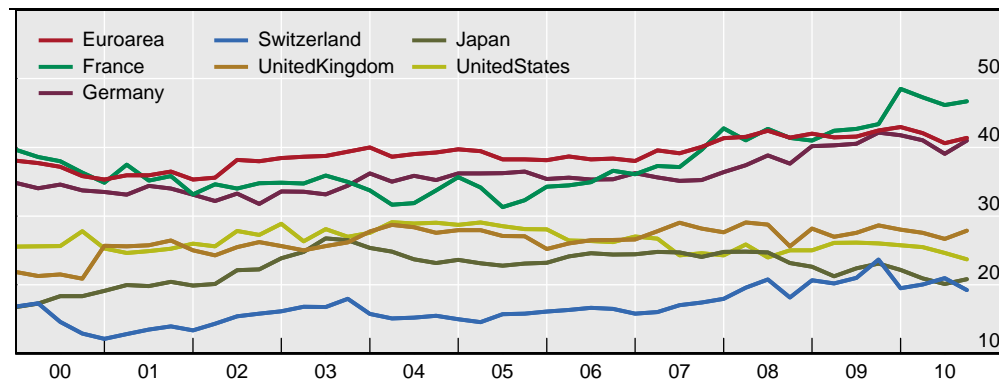


Source: Deutsche Bundesbank.

Foreign claims on the euro area as a share total foreign claims¹

By bank nationality, in per cent

Graph A2



¹ Foreign claims consist of cross-border claims and local claims of foreign affiliates.

Source: BIS consolidated banking statistics.