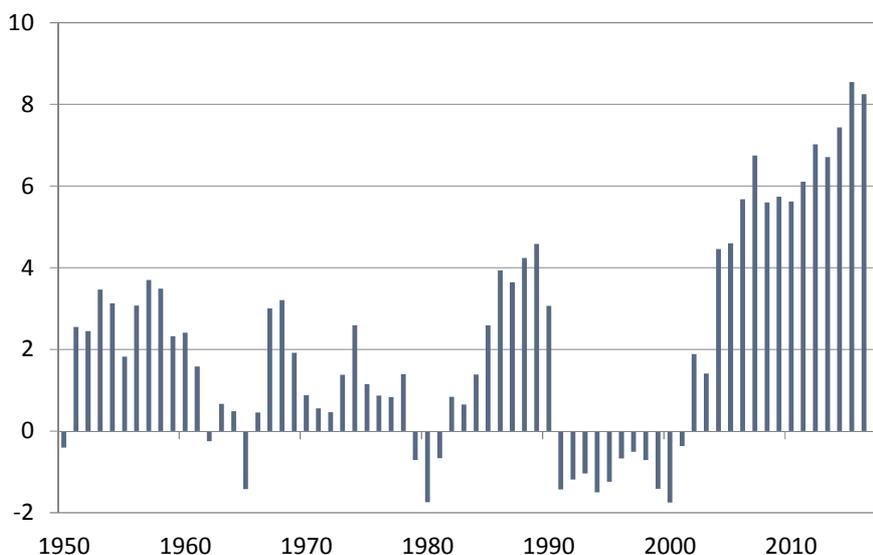


The story behind Germany's current account

- The bone of contention:** Germany's huge current account surplus reflects a mix of structural and cyclical factors. As the exchange rate and the oil import bill have normalised and as other temporary factors that had boosted the surplus to its 2015 peak of 8.6% of GDP are also fading, we expect the surplus to slowly decline towards 5% within five years. Once Germany's baby boomers start to draw on their external savings in droves from roughly 2025 onwards, the surplus will likely narrow substantially further.
- No lack of demand:** The often-heard assertion that the German surplus has been caused by a lack of domestic demand is mostly wrong. Domestic demand had been exceptionally weak in the early years of the euro when Germany belatedly corrected its post-unification excesses. But that phase ended around 2005. The key driver for the subsequent surge of the German surplus until 2015 has been the positive supply shock from Germany's 2004 reforms. These reforms have strengthened the labour market and the balance sheets of government and companies to such an extent that the country is generating surplus capital which it uses to invest and create jobs at home and abroad.
- No case for a fiscal stimulus:** The gap between Germany's fiscal surplus and persistent deficits elsewhere may explain a quarter of Germany's external surplus. However, with German demand growth well above trend, a small fiscal surplus is exactly what Keynes would have deemed suitable for Germany. The onus to correct the imbalance should be on countries running major fiscal deficits at times of buoyant aggregate demand and/or full employment such as the US and the UK.
- No case for boosting wage inflation artificially:** The period of pronounced wage moderation in response to record unemployment is long over. Full employment underpins solid gains in German wages and private consumption. Stoking this process artificially could backfire for Germany and its trading partners.
- More pro-growth reforms and a gradual rise in public investment, please:** Germany could do more to ease its shortage of skilled labour and utilise its human potential better. It also has some need to gradually step up public investment over time and to counteract a still-widespread anxiety about the future by making its pension, health-care and nursing-care systems more sustainable. Such policies would make sense almost any time and in almost every country, though, regardless of the current account position.

Chart 1: The bone of contention: Germany's current account balance as a percentage of GDP



German current account balance in percent of GDP, West Germany until 1990. Source: Destatis, Bundesbank

Key macro reports

Understanding Germany – a last golden decade ahead

13 October 2010

Euro crisis: The role of the ECB

29 July 2011

Saving the euro: the case for an ECB yield cap

26 June 2012

The lessons of the crisis: what Europe needs

27 June 2014

Brexit: assessing the domestic policy options

2 November 2016

After Trump: notes on the perils of populism

14 November 2016

Reforming Europe: which ideas make sense?

19 June 2017

The Fed and the shortfall of inflation

15 September 2017

Notes on the inflation puzzle

5 October 2017

Beyond inflation: spotting the signs of excess

3 November 2017

2017 Euro Plus Monitor: Into a higher gear

30 November 2017

Brexit scenarios: now for the hard part

15 December 2017

Global outlook 2018: coping with the boom

4 January 2018

Can productivity growth keep inflation at bay?

5 February 2018

23 February 2018

Table of contents

The story behind Germany’s current account	1
Stylised facts about the German surplus	3
The history of Germany’s external surplus.....	3
Savings exceed investment: the financial surplus	4
International comparison: the German exception	6
Lack of domestic demand?.....	7
Lack of public investment?.....	8
Reforms pay off: the German employment miracle	9
Excessive wage restraint?	10
Structural reasons for the German surplus	11
Demographics	11
Public finances	11
Corporate savings and investment	11
Temporary reasons for the German surplus	11
Undervalued euro exchange rate	11
Lower oil prices.....	12
Cyclicality of German exports.....	12
German angst?	12
Backward-looking expectations.....	12
Outlook for the German surplus	13
Policy conclusions: let it run but invest more	13
Monetary policy seems to be adequate.....	13
A case for a German fiscal stimulus? Not really	13
A case for more public investment? Within limits, yes	14
Stimulating private investment? Why not	14
Pro-growth reforms: always make sense	14
Dealing with German angst? Better policies could help	14
Higher wages? The market is taking care of it	14
Conclusion.....	15

Stylised facts about the German surplus

The history of Germany's external surplus

External surpluses seem to be the norm for Germany. From 1950 until German unification in 1990, West Germany incurred an external deficit for no more than six years (see chart 1 on page 1). The two significant West German deficits, those of 1965 and 1980, triggered a ferocious Bundesbank response. In both cases, the monetary squeeze pushed West Germany into a recession that served to bring inflation down and turn the external accounts around in the process. Helped by some supply-side economic reforms in the mid-1980s and a fall in the oil price after two prior oil shocks and amid a largely synchronised global economic recovery, the West German surplus reached an all-time peak of 4.6% of GDP in 1989.

German unification in 1990 changed almost everything for a decade. A massive fiscal stimulus to subsidise living standards in East Germany and rebuild the region and an erosion of competitiveness for all of Germany through elevated payroll taxes drove Germany's current account into the red from 1991 until the recession of 2001. We can divide the subsequent emergence of a huge German surplus into two phases, namely (i) the return to roughly the 1989 surplus by 2004, de facto a correction of the unification effect, and (ii) the following further rise in the surplus to a record of 8.5% in 2015, accentuated by a weak exchange rate and a plunge in prices for oil imports. Since then, the surplus has receded slightly to an estimated 7.8% of GDP in 2017.

Germany's current account surplus is the second biggest external imbalance in the world after the current account deficit of the US (see chart 2). In dollar terms, the German surplus in 2017 came close to that of Japan and China combined although these two countries have substantially larger economies. For the other 18 Eurozone members, their combined current account surplus equalled less than 30% of the German surplus in 2017. No wonder the German current account is a major bone of contention in global policy debates.

Chart 3 indicates one potential reason for the imbalance between Germany and many other countries. While Germany has turned its erstwhile fiscal deficits of almost 4% of its GDP in 2001-2003 into a surplus of 1% for the average of 2016/2017, almost all its major trading partners are maintaining significant fiscal deficits.

In geographic terms, Germany earns its vast surplus in transactions with many other countries. Chart 4 on page 4 shows that economic exchanges with the (i) other Eurozone countries, (ii) the US, (iii) the UK and (iv) **emerging markets** contribute roughly similar amounts to the German surplus. Whereas the surpluses versus the US and UK have been regular features over time, the surplus versus emerging markets has emerged only over the last ten years. While Germany ran a huge and rising surplus versus the other **euro members** during the times of the credit boom at the Eurozone periphery until 2008, the surplus has fallen significantly during the subsequent rebalancing of the Eurozone. Almost two-thirds of Germany's remaining current account surplus with other Eurozone countries now reflects its bilateral trade surplus with its big neighbour, France.

Current account surpluses seem to be the norm: no more than six years of deficits between 1951-1990

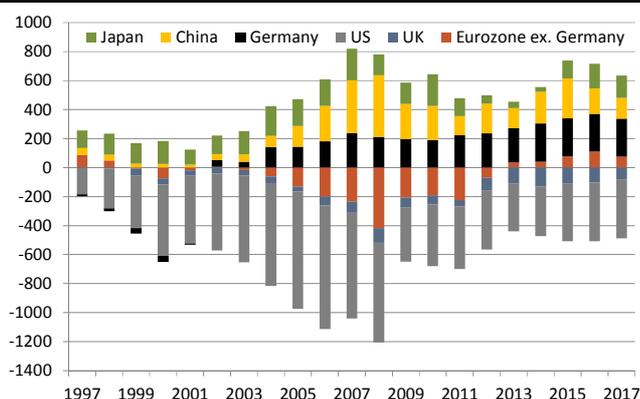
German unification drove current account into the red for a decade

Given its size, the German current account is a contentious issue in global policy debates

One of the reasons is Germany's fiscal surplus

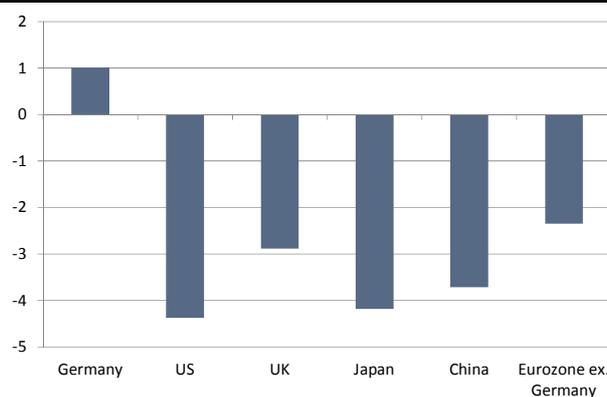
Germany's runs similar surpluses with the US, UK, emerging markets and the rest of the Eurozone

Chart 2: Key current account balances



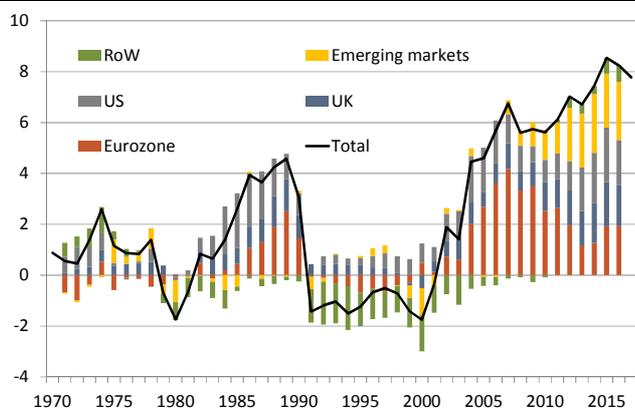
In billion US dollar, deflated by US GDP deflator, 2009=100, forecasts for 2017. Source: IMF

Chart 3: A major driver – the fiscal balance, as a percentage of GDP



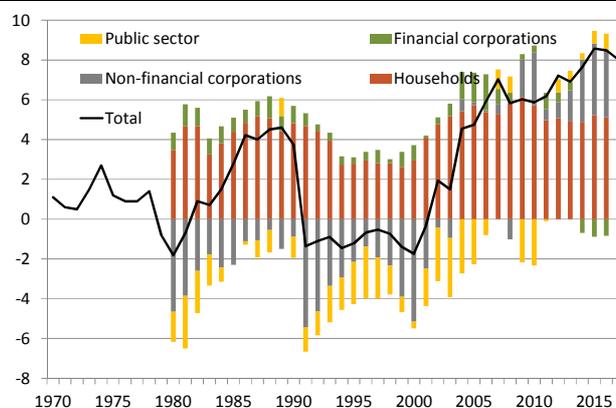
Average of fiscal budget in 2016 and 2017, in percent of GDP, estimates for 2017. Sources: IMF, Berenberg calculations

Chart 4: Germany's surplus by major trading partners



Current account balance by counterpart in percent of German GDP, estimate for 2017; RoW: rest of world. Sources: Destatis, Deutsche Bundesbank

Chart 5: Germany's financing surplus by sector



German financing balance in percent of GDP, estimate for 2017. Sources: IMF, Destatis, German Council of Economic Experts

Savings exceed investment: the financial surplus

By definition, a current account surplus is the mirror image of a financing surplus. A country that exports more goods and services than it imports supplies capital to the world (abstracting from transfers that are also included in the current account). Dissecting Germany's financial surplus by sector in chart 5, we find that German households have always been net suppliers of capital. The changes over time in their net lending have been rather modest. After a dip to around 3% of GDP in the wake of German unification reflecting largely increased spending to build more homes, the net lending of households reverted to around 5% of GDP from 2001 onwards.

The swing in Germany's current account from the post-unification deficit to the current surpluses has been driven by two other sectors.

- From 2001 onwards, Germany's **non-financial corporations** improved their balance sheets strongly, turning from net borrowers into net lenders.
- From 2006 onwards, Germany's **public sector** turned its previous substantial financing deficit into a surplus, a process that was interrupted only briefly by the post-Lehman mega-recession.

Germany's financing surplus means that the country as a whole is saving much more than it invests. In principle, this may reflect elevated aggregate savings and/or weak investment. Chart 6 shows the ratio of net savings and net investment in German nominal GDP. From 1970 to the early 1980s, savings and investment declined in tandem. While the current account surplus of the late 1980s was caused by a rise in savings (more precisely, more household savings and less dissaving by non-financial corporations), a surge in net investment and a plunge in savings pushed the current account into negative territory after German unification. Except for a rise just before and after unification in 1990, the trend decline in the share of net investment in GDP continued until 2005 before levelling off amid significant short-term fluctuations around the financial crisis of 2008/2009. Seen from this angle, the rebound in national savings from 2004 onwards – unmatched by a rebound in investment – explains the emergence of Germany's major current account surplus.

Taken at face value, the long decline in the German investment rate in chart 6 on page 5 may suggest that Germany suffers from a significant investment shortfall. However, chart 6 overstates the investment weakness story for two reasons.

1. **Nominal versus real:** The current account and the investment/savings statistics used for the current account debate are nominal concepts not adjusted for changes in prices. In real terms, the German investment ratio has fallen by far less than in nominal terms as prices for investment goods have risen much more slowly than the overall price level. In the national accounts, the deflator for investment has lagged behind the overall GDP deflator. In relative terms, it has become cheaper to invest. More bang for the euro. The shift in relative prices accounts for three percentage points of the decline in the German investment ratio since the early 1990s (see chart 7 on page 5). For overall economic performance expressed in terms of real GDP, however, it is the real investment that counts.

German households are net suppliers of capital, but they have always been

The swing in the current account is driven by corporations and the public sector

Since 2000 savings have surged and investments have faltered

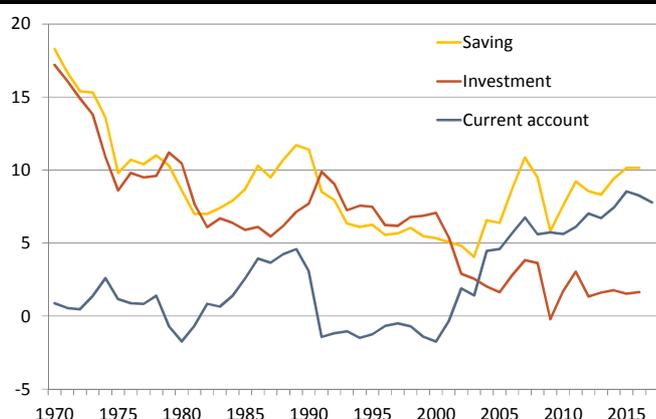
2 reasons why decline overstates weakness

Shortfall in real terms smaller than in nominal terms – it has become cheaper to invest

2. **Gross versus net:** Chart 6 depicts savings and investment net of depreciation; chart 7 shows gross investment. Interestingly, Germany's gross investment ratio has trended up again after 2005 (chart 7) whereas, net of depreciation, it has largely moved sideways (chart 6). Ultimately, the calculus net of depreciation matters more than the gross data because only net investment adds to a country's capital stock. However, adjusting actual investment spending for the imputed depreciation of the existing capital stock is tricky. Because the relative price of investment goods has come down over time, it is now cheaper to replace the capital stock than it used to be. The need to write off the old expensive investment adds up to a cumulative depreciation beyond the amount that companies and households would have to spend now to replace the old investment. As companies can replace and expand capacities more cheaply while having to write off the old, relatively more expensive investment of the past, data for net investment after depreciation understate by how much such investment now augments the capital stock.

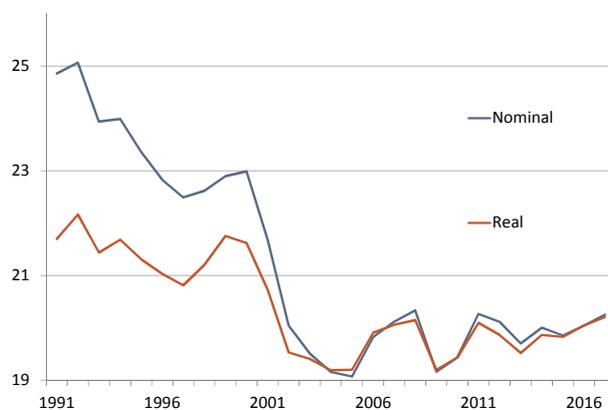
Writing off the old expensive investment weighs on net investment - gross investment has trended up since 2005

Chart 6: Germany's saving-investment balance



German net saving and investment in percent of GDP, estimate for 2017. Sources: Destatis, German Council of Economic Experts

Chart 7: German nominal vs. real gross investment - mind the gap



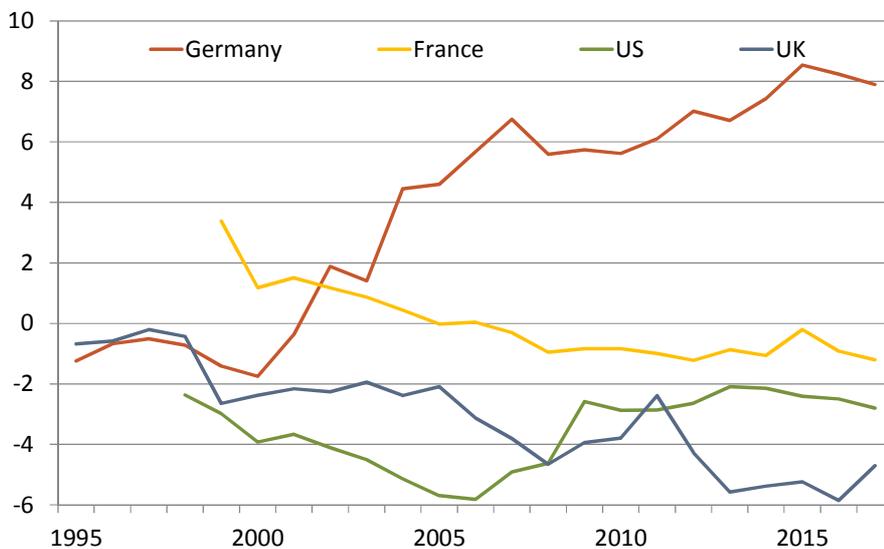
Nominal and real gross fixed capital formation in percent of nominal/real GDP, estimates for 2017. Source: Destatis

International comparison: the German exception

Chart 8 shows how strongly Germany’s current account position (the financing balance) has deviated from that of other major western countries since 1995. Whereas the German balance has turned into a major surplus in the years after 2001, the UK and – to a lesser extent – also France have incurred rising deficits, followed by a small Brexit-induced correction in the UK from 2017 onwards. The US current account has remained consistently in the red throughout this period. After narrowing between 2006 and 2013, the US deficit is likely to widen again in the next couple of years as the US grants itself a fiscal stimulus at a time when its domestic production capacities are almost fully utilised anyway.

Germany, the odd one out – France, the UK and the US run deficits

Chart 8: Current account: the German exception

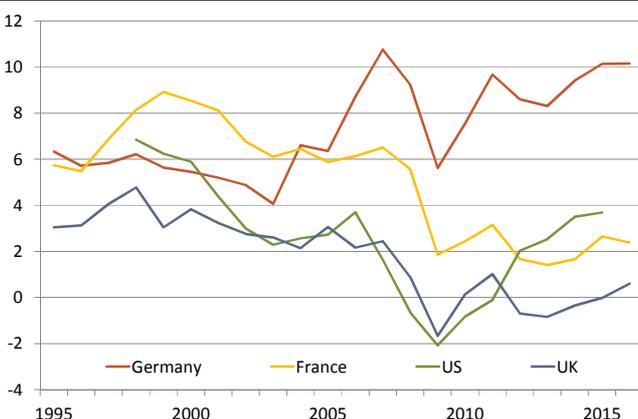


Current account balance in percent of GDP, estimates for 2017. Source: OECD

Relative to other major advanced countries, the German exception is driven more by an increase in savings than by a drop in net investment. As charts 9 and 10 show, Germany’s savings and investment rates were similar to that of its peers in the late 1990s. From 2003 onwards, a gap has opened up between higher German savings and somewhat reduced savings elsewhere despite some recent rebound in aggregate savings in the US, the UK and France. In terms of net investment, Germany has fallen back from a position in the middle to the bottom of the league. The gap between Germany and the other countries is more pronounced for the aggregate savings ratio (6-9%) than it is for the investment ratio (2-3%).

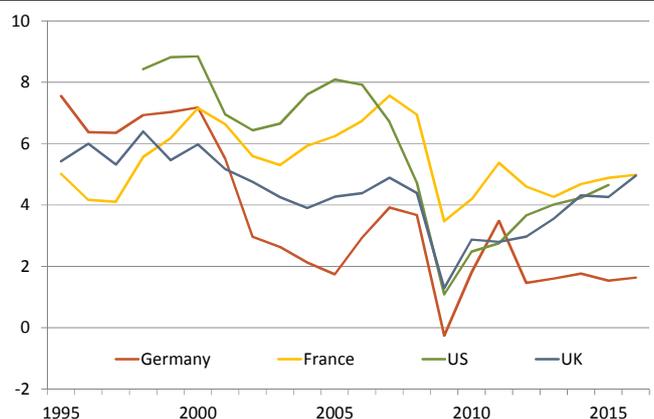
Germany’s surplus is driven more by strong savings than by weak investment

Chart 9: Aggregate savings: the German exception



Saving in percent of GDP. Source: OECD

Chart 10: Net investment: Germany lagging behind



Investment (net of consumption of capital) in percent of GDP. Source: OECD

Two sectors account for almost the entire gap between Germany and its peers: non-financial companies and the public sector. As chart 11 shows, the domestic net lending of German corporations matched that of companies in other countries for a long time. From 2012 onwards, however, German companies have further improved their savings/investment balance whereas companies elsewhere have gone the other way. German companies are saving more than they invest at home. That is not the case for the average of the US, UK and France.

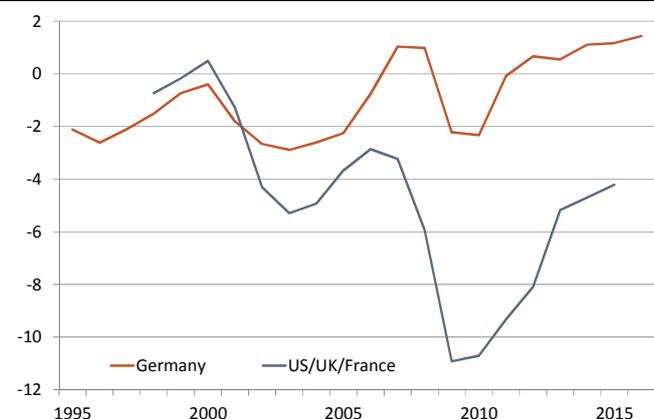
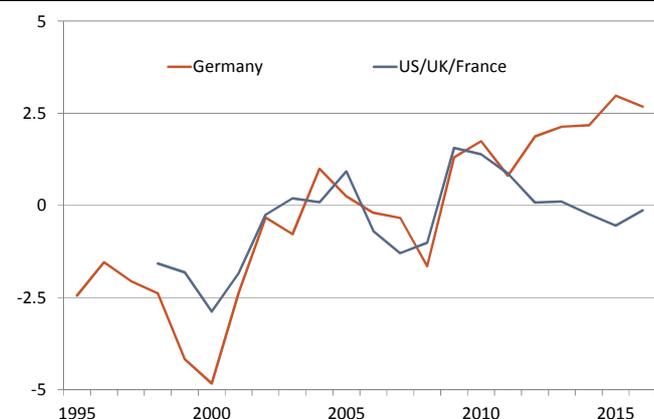
Two sectors make the difference: non-financial corporations since 2012 and ...

In the public sector, the gap started to open up in 2002. Germany kept its public deficit under control and moved towards a surplus, interrupted only during the post-Lehman great financial crisis. However, other countries started to run much larger public deficits. Although these deficits have narrowed significantly during the recent economic recovery, they remain in stark contrast to the German surplus (see chart 12).

... the public sector since 2002

Chart 11: Corporate surplus: net lending of non-financial companies

Chart 12: Fiscal balance (net lending of the government)



Financing balance of non-financial corporations in percent of GDP, average of US, UK and France is GDP-weighted. Sources: OECD, IMF

Financing balance of the government in percent of GDP, average of US, UK and France is GDP-weighted. The data differ from the Maastricht deficit definition. Sources: OECD, IMF

Lack of domestic demand?

Germany saves more and invests less than other countries. This German exception reflects primarily the huge financial surplus of its non-financial corporations and the gap between Germany's modest fiscal surplus and the fiscal deficits elsewhere. These findings raise an obvious question: is Germany suffering from a lack of domestic demand?

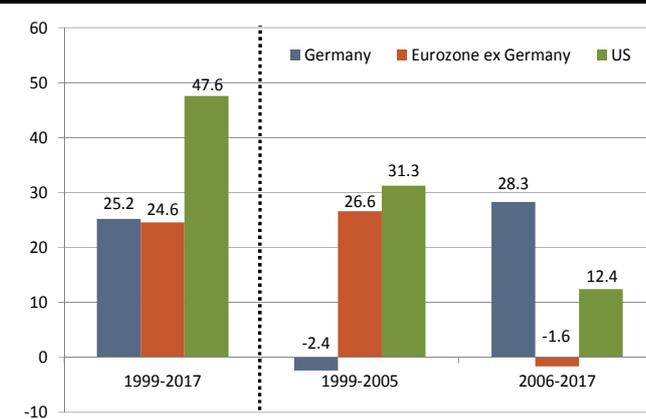
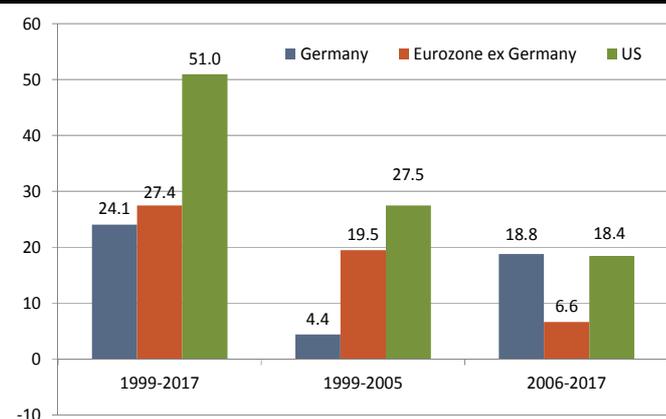
Saving more, investing less than other countries – lack of domestic demand?

At first glance, the data seem to corroborate this hypothesis. Since the start of the euro in 1999 final domestic demand has risen by slightly less in Germany than elsewhere in the Eurozone and lagged far behind the increase in the US (see chart 13, for business investment only see chart 14). However, a second look reveals a much more nuanced story: from 1999 to 2005, German domestic demand has indeed been exceptionally weak. This corresponds roughly with the return of Germany's current account from the post-unification deficit to the substantial surplus which Germany had run in the late 1980s.

Since 2005, German domestic demand has risen roughly in line with that in the US

Chart 13: Final domestic demand – cumulative increase in percent

Chart 14: Investment – cumulative increase in percent



Cumulative growth in final domestic demand during the respective periods, in percent, estimates for 2017. Sources: Destatis, Eurostat, BEA, Berenberg calculations

Cumulative growth in investment during the respective periods, in percent, estimates for 2017. Sources: Destatis, Eurostat, BEA, Berenberg calculations

This is an old story, though. Since 2006, the gains in final domestic demand have far outpaced those in the Eurozone. The cumulative increase comes close to that seen in the US despite the major difference in the fiscal stance between Germany and its top trading partner across the ocean. Reaping the benefits of its 2004 reforms, Germans are spending.

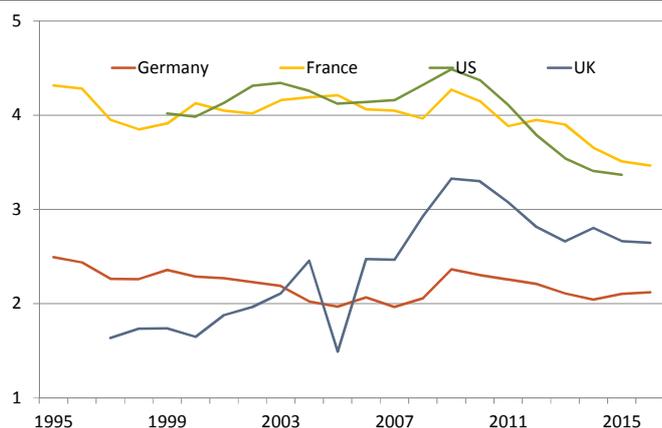
Looking at investment, the picture becomes even clearer: after an exceptional weakness in German investment while the country was suffering from its post-unification blues in the 1999-2005 period, investment has grown even faster in Germany than in the US thereafter (see chart 14).

Lack of public investment?

The data provide some evidence to support the claim that the German public sector is not investing enough. As chart 15 shows, real public investment in Germany has consistently lagged behind that in France, the US and, since 2006, the UK as a share of GDP (this is also the case in nominal terms). As a result, the quality of German infrastructure as measured by the World Economic Forum's annual Global Competitiveness Report has slipped over time (see chart 16). However, the relative decline started from a high level. Having been well above other countries, Germany has fallen to slightly below France and the US and on a par with the UK in this ranking.

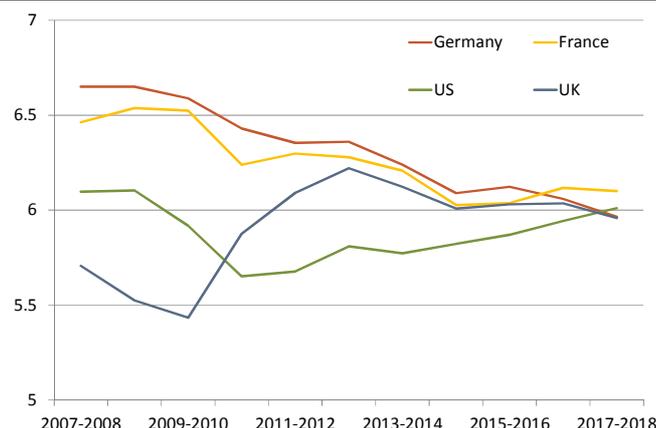
Not enough public investment – quality of infrastructure has suffered

Chart 15: Real public investment



Real gross fixed capital formation by the government in percent of real GDP. Source: OECD

Chart 16: Quality of infrastructure: down to the average



Values according to the quality of their infrastructure on a scale of 1 (underdeveloped) to 7 (extensively). Source: WEF Global Competitiveness Report

Reforms pay off: the German employment miracle

Why did Germany’s current account surplus widen after 2005 despite rapid gains in domestic demand? Most analyses of the external balance focus merely on the demand side: is final domestic demand rising faster in country A than in B or should country A boost demand through additional government expenditure? However, economics is about supply and demand. To understand the German exception since 2005, we need to consider the supply side of the economy.

Around 2004, Germany implemented a series of supply-side reforms. The changes were a policy response to the protracted post-unification malaise, for which we had coined the term “Germany: the sick man of Europe” back in 1998. Having failed to streamline the West German welfare state upon adding more than 16 million east Germans to it who had never paid into the system and whose employment prospects soured decisively after the surge in East German labour costs in the wake of unification, Germany had become too expensive and rigid to thrive. By the early 2000s, German unemployment had surged beyond the Eurozone average. Embarrassingly for the traditionally stability-oriented Germans, their country even breached the 3% deficit limit of the Maastricht Treaty from 2001 to 2005.

The reforms to treat the malaise, many of which were passed under the label “Agenda 2010”, went quite far. For example, Germany liberalised temporary work contracts to allow companies to get around the rigid dismissal-protection rules. It also cut pension, health-care and unemployment benefits to reduce payroll taxes and made it more difficult for the unemployed to reject job offers. Forced by credible threats that companies would otherwise relocate further lines of production to cheaper countries in eastern Europe or east Asia, the weakened trade unions agreed to make working hours significantly more flexible.

The results of the German reforms have been spectacular. Chart 17 shows the surge in the number of employed people earning enough to be subject to payroll taxes (“core employment”). Since the trough in early 2006, the number of people paying into the German social security system through their payroll taxes has surged by 24% (+6.3 million people) to a new record of almost 33 million.

The contrast with France also highlights the success of the reforms. Just ahead of the changes, Germany’s employment rate was only slightly above that of France. Since 2005, German employment has surged while the French employment rate has flatlined. As a result, the German employment rate is now 10 points above that of France. If France were to raise its employment rate to approach the German level it could enjoy a spectacular surge in its GDP. Incidentally, we expect the Macron reforms to deliver exactly that over time, laying the basis for a [French golden decade in the 2020s](#). The process seems to have started (chart 18).

The reforms of the years around 2004 have turned Germany from a basket case among the major European countries into the continent’s new economic powerhouse. Instead of losing jobs to countries with lower labour costs and less stringent regulatory regimes, Germany has become a good place to invest and create jobs.

*What happened in 2005?
Don’t just look at the demand side*

Germany introduced its supply-side reforms around 2004

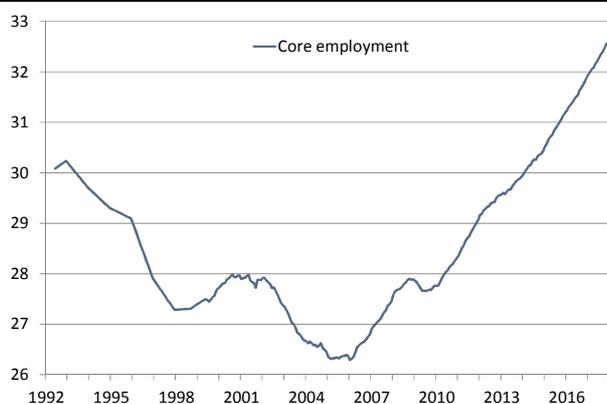
The “Agenda 2010” reforms liberalised the labour market

The reforms turned around the German labour market

History could repeat itself as France has started to follow the German example

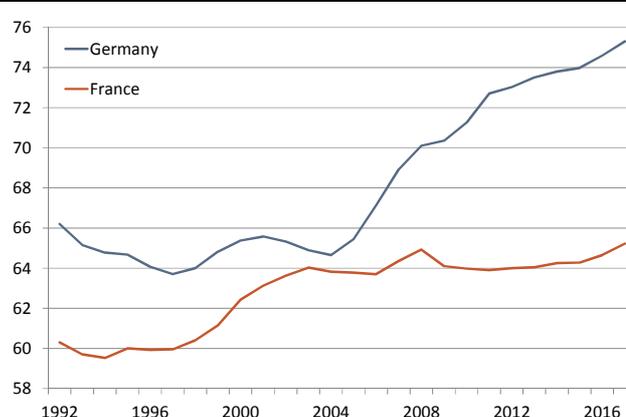
Germany turned into the (investment) place to be

Chart 17: German core employment



Employment subject to social security contributions, in million. Sources: Federal Employment Agency, Deutsche Bundesbank

Chart 18: Employment rate Germany versus France



Employment as a percentage of total population aged 16-64 years, estimates for 2017. Source: Eurostat

As a result of some modest austerity until 2007 and – far more importantly – the rise in the number of people paying income and payroll taxes, Germany’s public finances improved spectacularly from deficits of 3-4% of GDP in 2001-2005 to a surplus of 1.2% in 2017.

Public finances improved spectacularly

As a follow-up to this turnaround, Germany cut its corporate taxes in 2008, bringing the effective rate from roughly 40% to around 30%. This increased the profitability of German companies, which had already benefited mightily from the supply-side reforms, even further. Partly as a result, the net financial balance (savings minus investment) of German companies improved strongly (see chart 11 on page 7).

Tax cuts drove corporate profits significantly higher

Excessive wage restraint?

International observers often accuse German policy makers of keeping wage inflation artificially low to gain an unfair competitive advantage for the country. Once again, we can find a kernel of truth in these allegations. Germany had indeed gone through a period of unusual wage restraint from 1995 to 2007. Policy changes which had contributed to a weaker bargaining position of trade unions may well have contributed to that. Nonetheless, this focus on wage restraint in a particular period misses the bigger picture.

Unusual wage restraint from 1995-2007, but bigger picture important

In the wake of the German unification boom, German wage costs soared in the early 1990s (see chart 19). Other countries in Europe did not follow suit. Many were forced to devalue their currencies against the deutschmark instead. As a result German wage costs far exceeded those elsewhere in the Eurozone-to-be in the mid-1990s, propelling Germany into a prolonged adjustment crisis.

German wage costs far exceeded those elsewhere in mid-1990s

Pronounced wage restraint in Germany caused by rising unemployment and strong gains in labour costs elsewhere, notably after the start of monetary union in 1999, turned the situation around. Germany became cheaper, other countries became too expensive. By 2007, many other Eurozone members had lost their competitive edge over Germany. Reacting to mounting unemployment in the wake of the 2008/2009 financial crisis and – in some cases – under pressure from the euro crisis, many non-German members of the Eurozone had to tighten their belts and contain their wage costs from 2009 onwards. At the same time, Germany’s robust labour market allowed companies in Germany to grant their workers higher wages again.

After 1999, Germany had to adjust while labour costs in the rest of the Eurozone soared

By 2017, German nominal unit labour costs were back to where they had been in 1990 relative to those elsewhere in the Eurozone (see chart 19). After Germany had over-corrected its post-unification excesses in the years 1995-2007, the remainder of the Eurozone had brought its labour costs back in line with Germany from 2009 onwards.

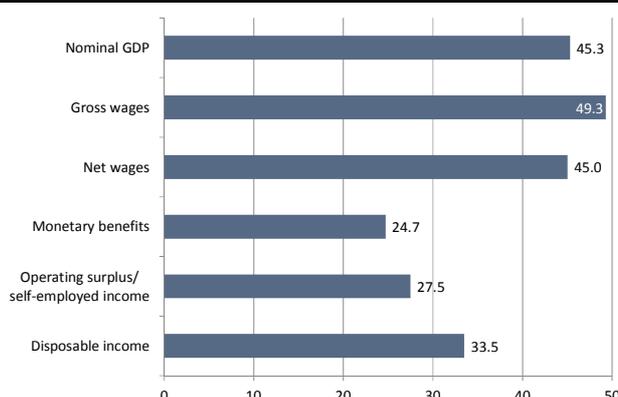
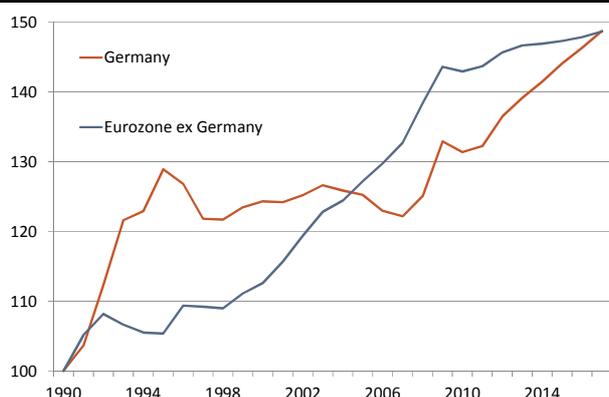
After 2009, the rest of the Eurozone brought its costs back in line with Germany

Chart 20 makes a similar point: Since late 2004, the increase in German gross and net wages has been roughly in line with the rise in nominal GDP. Disposable income did not keep pace with the overall rise in wage incomes as benefits – such as payouts to the unemployed – lagged behind, mostly because of the fall in the number of unemployed. In addition, income from profits and rents also fell short of the overall rise in GDP. For the last ten years, the data do not back up the allegation of overdone wage restraint in Germany at all (chart 20).

Since 2005 no evidence of overdone wage restraint in Germany

Chart 19: Back to balance: the wage cost story

Chart 20: Too much wage moderation in Germany?



Nominal unit labour costs, rebased to 1990=100. For lack of 1990 data, the Eurozone ex Germany excludes Cyprus, Estonia, Latvia, Lithuania, Malta, Slovakia, Slovenia. Source: European Commission

Cumulative growth in German nominal GDP and some key components of income in percent, Q3 2017 versus Q3 2004. Sources: Destatis, Deutsche Bundesbank

Structural reasons for the German surplus

Demographics

Germany is a rapidly ageing society with a birth rate of just 1.5 children per woman, well below the 2.1 rate required to keep the population constant without net immigration. Due to a dearth of babies to populate the next generation of workers, Germans need to save while they work to provide for their old age. That some of these savings are invested abroad, especially in countries with more favourable demographics, makes perfect sense. In addition, most baby boomers are now at an age when they have mostly done their key investment, namely to build or buy a house or a flat, but are not yet retired and are thus not yet drawing down their savings. They are roughly at the peak of their savings/investment surplus. These demographic factors may account for a persistent German current account surplus of some 2% of German GDP. This part of the surplus will only vanish with a major change in the demographic situation, for instance when most of the baby boomers have retired. That will probably be the case from 2025 onwards.

Demographic factors (ageing society, baby-boomer effect) account for 2ppt of the surplus

Public finances

Thanks largely to the employment miracle spawned by the reforms implemented around 2004, Germany's public finances are in much better shape than those elsewhere. Countries with a major bilateral current account deficit versus Germany (notably the US, the UK and France) are running serious fiscal deficits (of an estimated 3.6%, 2.7% and 3.0% of their GDP, respectively, in 2017) while Germany enjoyed a surplus of 1.2% of its GDP. The fiscal gap probably explains some 2 percentage points of Germany's current account surplus.

Solid public finances explain another 2ppt

Corporate savings and investment

The "Agenda 2010" and other related reforms have strengthened Germany's corporate sector and turned the country into a better place to invest. However, Germany is suffering from a dearth of qualified labour. Officially registered job vacancies at the German labour office have surged from a low of 206k in 2004, that is before the supply-side reforms could work their magic, to a record of 786k in January 2018. Because many job searches bypass the labour office, these data may understate actual vacancies by almost a factor of two.

As Germany suffers from a lack of qualified labour...

As they cannot easily find enough suitable workers at home, German companies are investing a bigger share of their savings abroad. This shows up in the current account surplus. Although we have no estimate how significant this impact may be, we would not be surprised if it could account for up to two percentage points of the Germany surplus. The relevance of this factor is probably increasing over time. As shown in chart 11 on page 7, the gap in the financial surplus (net lending) of German non-financial corporates versus the average of their US, UK and French counterparts equals roughly 2.5% of GDP.

...corporations need to invest more elsewhere – this may account for up to 2ppt of the surplus

Temporary reasons for the German surplus

Undervalued euro exchange rate

The euro exchange rate can explain part of the surge in the German current account surplus to its peak in 2015. Following the financial crisis of 2008/2009, the euro depreciated versus the US dollar and many other currencies amid concerns about the cohesion of the currency union. The lower euro helped the peripheral countries to correct their external imbalances by making their exports cheaper. Although high-end "made in Germany" exports sell more on quality than on price, the cheaper euro also gave German exports a competitive edge on markets outside the Eurozone (see chart 21 on page 12). Measured against its 37 major trading partners, Germany's price competitiveness improved from 2003 to 2015 due to a combination of relative wage restraint (until 2010) and a weaker euro exchange rate. The undervaluation of the euro that was most pronounced in 2016 probably contributed more than 1 percentage point to the German surplus at the time. This undervaluation has now largely evaporated. For example, we consider an exchange rate of \$1.25 to \$1.30 per euro as roughly fair value. As a result, Germany's current account surplus should continue to decline slowly.

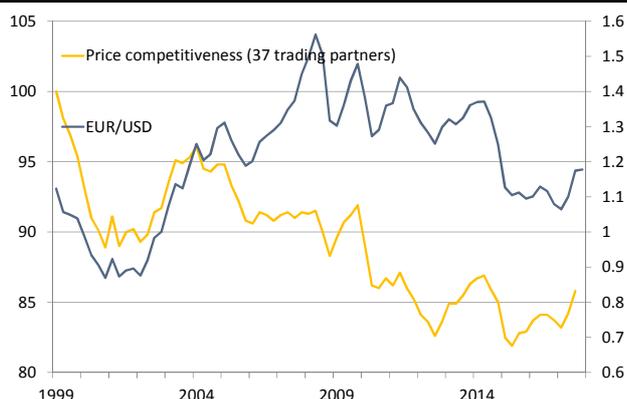
Undervalued euro contributed more than 1ppt...

Lower oil prices

The significant decline in oil prices from late 2013 to early 2016 also contributed to the spike in Germany's current account surplus (see chart 22). With the normalisation of both the euro's exchange rate and the oil price, the current account surplus started to narrow slowly in 2016.

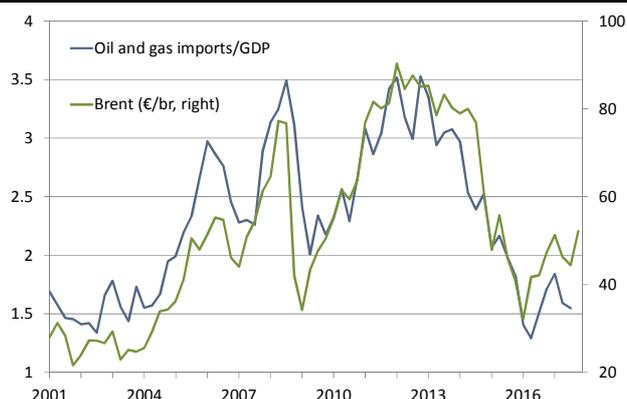
...while lower oil prices also accentuated the current account surplus

Chart 21: A lower exchange rate boosts price competitiveness



Indicator for German price competitiveness vis-à-vis 37 trading partners based on total sales deflator, indexed at 1999Q1 =100 (left); EUR/USD exchange rate (right). Source: Deutsche Bundesbank

Chart 22: Current account surplus accentuated by oil prices



German oil and gas imports in percent of GDP (left), Brent crude oil prices in euro per barrel (right), estimates for 2017. Sources Destatis, ECB, Bloomberg

Cyclicality of German exports

Germany specialises in high-end machine tools, cars and many chemical products that also tend to be highly cyclical. As a result, German exports move more with the global business cycle than those of many other countries. Conversely, German consumers react less to wealth effects than those elsewhere, making consumer demand for imports less cyclical. As a result, the German current account surplus tends to move with the business cycle. As the global cycle picked up some steam in 2017, this factor may keep the German surplus higher as long as the boom lasts than other factors would suggest.

German exports a highly cyclical, German imports less so

German angst?

Germans tend to worry, especially about risks to financial and price stability. The German angst became very visible during the euro crisis and in reaction to the non-standard measures that the European Central Bank (ECB) had to deploy to defuse the crisis. The lurch into high inflation, which many German academics and media seemed to expect from 2011 onwards, never happened. There was no reason for it. However, the underlying anxiety may well have raised the penchant of many Germans to save for a while. After years in which inflation failed to rear its ugly head and with the return to calm at the euro periphery, this particular reason to trigger German caution is probably fading.

German angst about inflation may have intensified age of caution

Backward-looking expectations

The "Agenda 2010" reforms have probably strengthened the German economy by more than households and companies expected. Underestimating the positive supply shock delivered by these reforms and thus not quite trusting the good times yet, households and companies probably did not fully adjust their spending and their domestic investment behaviour to the improved outlook for future incomes. Absorption thus trailed behind production, contributing to a surplus of savings over investment as visible in the current account balance. As expectations adjust to reality, this factor should fade over time.

Household consumption and business investment have yet to adjust fully to the good times

Outlook for the German surplus

Most of the temporary reasons for the unusually wide German surplus are fading. The exchange rate and oil prices have returned to roughly normal levels, German wages are increasing faster than those elsewhere in the Eurozone and the spending and investment behaviour of German companies is adjusting to the largely positive economic outlook. However, the strong cyclical nature of German exports will keep the German current account surplus elevated. As a result, we expect the German surplus to decline by only 0.5 percentage points of German GDP per year while the global economy is booming. Once the global upturn loses momentum, the German surplus could fall to roughly 5% of German GDP. It will likely oscillate around that level until German baby boomers start to draw on their external savings in droves from roughly 2025 onwards – or until other countries reduce their fiscal shortfalls.

Surplus could fall to 5% of GDP as temporary factors fade

Policy conclusions: let it run but invest more

Above, we have identified the key factors behind the persistent German current surplus. We expect the surplus to decline modestly in the coming years but remain elevated for structural reasons. Below, we discuss whether this means that Germany and/or the European Central Bank (ECB) ought to change their policies.

Does Germany or the ECB need to change its stance?

Monetary policy seems to be adequate

Could the German surplus be the result of an overly expansionary – or overly tight – monetary policy so that the policy should be adjusted to address the issue? Not really. First of all, the ECB needs to look at the entire Eurozone, not just at its single biggest member, Germany (some 27% of Eurozone GDP). Ever since the ECB finally put an end to the euro crisis in July 2012, the Eurozone and the German economy have recovered. Judging by GDP growth (finally well above trend), core inflation (still just 1% yoy), credit growth (bank lending to the private sector at around 3% yoy in December 2017 in the Eurozone) and the exchange rate (almost back to normal versus the US dollar in purchasing power parity terms), ECB policies seem to be fully adequate for the Eurozone. Second, even though following a simple Taylor rule would result in a tighter monetary policy for Germany, ECB policies have been serving Germany quite well. Since the start of monetary union in 1999, German consumer prices have been more stable than ever before, with less inflation and less volatility in consumer price inflation than any German central bank had delivered before.

The ECB's stance suits the Eurozone...

Whether the expansionary effect of ECB policies, which should boost German domestic demand and imports, outweighs that part of the recent temporary euro weakness and hence that boost to German exports that may have been the result of ECB policies is an open question. On balance, monetary policy probably contributed little to the German external surplus.

...and Germany

A case for a German fiscal stimulus? Not really

The fiscal gap between Germany and most other countries is one major cause of the German surplus. But does that – in a normative sense – mean that Germany should loosen the fiscal reins to bring down its external surplus that way? No. Even by textbook Keynesian standards, Germany's overall fiscal stance is fully adequate. In good times, countries should create the fiscal space that gives them the leeway to loosen fiscal policies in bad times without putting public debt on a steep upward trajectory on trend. With growth well above its 1.5% trend, Germany ran a modest fiscal surplus of 1.2% of its GDP in 2017. It is thus building room for a fiscal stimulus in the next downturn.

Keynesian logic suggests that Germany runs an adequate fiscal policy...

While the relative fiscal position between Germany and other countries is one significant reason for the current account imbalances, the onus to act should be on other countries. The US, the UK and – to a lesser extent – also France should use the period of above-trend growth in aggregate demand and/or full employment (US and UK) to strengthen their supply potential and adjust their fiscal stance in order to put their fiscal positions on a sustainable trajectory.

...while other countries do not

A case for more public investment? Within limits, yes

Whereas Germany's overall fiscal stance is adequate, we find some tentative evidence that Germany's public sector is not investing enough (see the discussion on pages 7-8). This argues for a gradual shift in public expenditure towards above-average growth rates in public investment while reining in the expansion of public consumption. However, given Germany's lengthy planning procedures, this should be a long-term process rather than a short-term fiscal boost. Incidentally, Germany is already planning to do so according to the plans agreed by CDU/CSU and the SPD for chancellor Angela Merkel's likely fourth term in office. Investments in education, innovation and digitalisation will be beefed up.

A case for gradually raising public investment

Stimulating private investment? Why not

We find no evidence that Germany is suffering from insufficient private investment relative to other countries. Germany can boast full employment and an advance in productivity at least in line with the results elsewhere in the western world. With an annual average increase in output per hour worked of 1.1% since 2010, German productivity growth exceeds the average for other Eurozone countries of 0.9%. In this sense, German companies invest enough at home to deliver favourable results for their home country. Of course, any country could always do more to stimulate private investment and job creation at home.

Private investment is strong enough to deliver good results

Pro-growth reforms: always make sense

Some deregulation and a streamlining of administrative procedures and the tax code could turn Germany into an even better place to invest and create jobs. With job vacancies at a record high, a major impediment to more investment and faster productivity growth seems to be a lack of suitably qualified labour. To raise investment and productivity, Germany should thus aim to revamp its immigration regime to attract the skilled labour which the country needs. More importantly, Germany should make better use of its own human resources. First and foremost, that would require serious reforms of its education system, especially for very young children, and a better integration of those immigrants who are already there.

Any country could always do better – so could Germany

Dealing with German angst? Better policies could help

To the extent that a specific German angst contributes to the strong household savings rate (up from 8.9% of disposable income in 2013 to 9.8% in 2017), measures to ease concerns about the future may help to stimulate household demand and reduce the current account surplus slightly. In Germany's rapidly ageing society, reforms to make the public pension, health-care and especially the nursing-care schemes more sustainable in the long run could brighten the outlook for those Germans who save a lot to provide for future needs. A gradual further rise in the retirement age beyond the 67 years planned for 2023 and a system that allows and rewards people for working well beyond the standard retirement age could be a major step. Unfortunately, the envisaged coalition between CDU/CSU and SPD wants to make pension entitlements more generous instead. In the coming years, this may be one factor keeping the German current account surplus somewhat elevated.

Making Germany's safety nets fit for the future may help to combat angst

Higher wages? The market is taking care of it

In response to full employment and record job vacancies, German wage growth has picked up in recent years. Since 2012, wages in manufacturing, construction and services have risen at an average annual rate of 2.4% in Germany versus an average of 1.3% elsewhere in the Eurozone. The market is taking care of the wage issue (see also chart 19 on page 10). Faster wage growth in Germany beyond what the market is already yielding could be counterproductive. In many sectors, companies could easily relocate production abroad or replace workers by robots if domestic wage costs surged too much. Incidentally, a shift in production abroad would show up as a rise in the current account surplus for a while as it would redirect investment abroad and away from home. Also, higher wages could make it more difficult for the less skilled workers to find a job. Arguably, a less robust labour market could stoke the German angst. It may stimulate private savings rather than consumer spending and thus cause the external surplus to widen instead of narrowing.

No case for any policies to boost wage growth artificially

Conclusion

All in all, we see only a limited need for Germany to adjust its policies. The country needs no fiscal stimulus. An attempt to boost wages artificially beyond the market driven increase in German labour costs could backfire.

A gradual modest increase in German public investment would make sense. More importantly, Germany could do more to utilise its human resources and become a better place to invest. As a by-product, such policies could strengthen domestic absorption and reduce the current account surplus modestly. However, this policy advice does not have much to do with the current account issue. Pro-growth structural reforms and a gradual and sustained redirection of public spending towards more investment would make sense in all advanced economies regardless of their current account position.

*More public investment
and more pro-growth
reforms make sense...*

*...as they would in many
other countries regardless
of the current account*

Disclaimer

This document was compiled by the above mentioned authors of the economics department of Joh. Berenberg, Gossler & Co. KG (hereinafter referred to as “the Bank”). The Bank has made any effort to carefully research and process all information. The information has been obtained from sources which we believe to be reliable such as, for example, Thomson Reuters, Bloomberg and the relevant specialised press. However, we do not assume liability for the correctness and completeness of all information given. The provided information has not been checked by a third party, especially an independent auditing firm. We explicitly point to the stated date of preparation. The information given can become incorrect due to passage of time and/or as a result of legal, political, economic or other changes. We do not assume responsibility to indicate such changes and/or to publish an updated document. The forecasts contained in this document or other statements on rates of return, capital gains or other accession are the personal opinion of the author and we do not assume liability for the realisation of these.

This document is only for information purposes. It does not constitute a financial analysis within the meaning of § 34b or § 31 Subs. 2 of the German Securities Trading Act (Wertpapierhandelsgesetz), no investment advice or recommendation to buy financial instruments. It does not replace consulting regarding legal, tax or financial matters.

Remarks regarding foreign investors

The preparation of this document is subject to regulation by German law. The distribution of this document in other jurisdictions may be restricted by law, and persons, into whose possession this document comes, should inform themselves about, and observe, any such restrictions.

United Kingdom

This document is meant exclusively for institutional investors and market professionals, but not for private customers. It is not for distribution to or the use of private investors or private customers.

United States of America

This document has been prepared exclusively by Joh. Berenberg, Gossler & Co. KG. Although Berenberg Capital Markets LLC, an affiliate of the Bank and registered US broker-dealer, distributes this document to certain customers. This document does not constitute research of Berenberg Capital Markets LLC. In addition, this document is meant exclusively for institutional investors and market professionals, but not for private customers. It is not for distribution to or the use of private investors or private customers.

This document is classified as objective for the purposes of FINRA rules. Please contact Berenberg Capital Markets LLC (+1 617.292.8200), if you require additional information.

Copyright

The Bank reserves all the rights in this document. No part of the document or its content may be rewritten, copied, photocopied or duplicated in any form by any means or redistributed without the Bank's prior written consent.

© February 2018 Joh. Berenberg, Gossler & Co. KG



JOH. BERENBERG, GOSSLER & CO. KG

Internet www.berenberg.com

E-mail: firstname.lastname@berenberg.com

EQUITY RESEARCH

AEROSPACE & DEFENCE

Ryan Booker	+44 20 3753 3074
Andrew Gollan	+44 20 3207 7891
Charlotte Keyworth	+44 20 3753 3013
Ross Law	+44 20 3465 2692

AUTOMOTIVES

Cristian Dirpes	+44 20 3465 2721
Alexander Haissl	+44 20 3465 2749
Fei Teng	+44 20 3753 3049

BANKS

Adam Barrass	+44 20 3207 7923
Stephanie Carter	+44 20 3207 3106
Michael Christodoulou	+44 20 3207 7920
Andrew Lowe	+44 20 3465 2743
Andreas Markou	+44 20 3753 3022
Alex Medhurst	+44 20 3753 3047
Eoin Mullany	+44 20 3207 7854
Peter Richardson	+44 20 3465 2681

BEVERAGES

Javier Gonzalez Lastra	+44 20 3465 2719
Matt Reid	+44 20 3753 3075

BUSINESS SERVICES, LEISURE & TRANSPORT

Roberta Ciaccia	+44 20 3207 7805
Najet El Kassir	+44 20 3207 7836
William Fitzalan Howard	+44 20 3465 2640
Stuart Gordon	+44 20 3207 7858
Annabel Hay-Jahans	+44 20 3465 2720
Josh Puddle	+44 20 3207 7881
Kate Somerville	+44 20 3753 3087
Joel Spungin	+44 20 3207 7867

CAPITAL GOODS

Nicholas Housden	+44 20 3753 3050
Sebastian Kuenne	+44 20 3207 7856
Philippe Lorrain	+44 20 3207 7823
Rizk Maïdi	+44 20 3207 7806
Jaroslav Pominkiewicz	+44 20 3753 3035
Simon Toennesen	+44 20 3207 7819
Ethan Zhang	+44 20 3465 2634

EQUITY SALES

SPECIALIST SALES

AEROSPACE & CAPITAL GOODS

Cara Luciano	+44 20 3753 3146
--------------	------------------

AUTOS & TECHNOLOGY

Edward Wales	+44 20 3207 7815
--------------	------------------

BANKS, DIVERSIFIED FINANCIALS & INSURANCE

Iro Papadopoulou	+44 20 3207 7924
Calum Marris	+44 20 3753 3040

BUSINESS SERVICES, LEISURE & TRANSPORT

Rebecca Langley	+44 20 3207 7930
-----------------	------------------

CONSTRUCTION, CHEMICALS, METALS & MINING

James Williamson	+44 20 3207 7842
------------------	------------------

CONSUMER DISCRETIONARY

Victoria Maigrot	+44 20 3753 3010
------------------	------------------

CONSUMER STAPLES

Molly Wylenzek	+44 20 3753 3064
----------------	------------------

HEALTHCARE

David Hogg	+44 20 3465 2628
------------	------------------

MEDIA & TELECOMMUNICATIONS

Julia Thannheiser	+44 20 3465 2676
-------------------	------------------

THEMATICS

Chris Armstrong	+44 20 3207 7809
-----------------	------------------

SALES

BENELUX

Miel Bakker	+44 20 3207 7808
Bram van Hijfte	+44 20 3753 3000

FRANCE

Alexandre Chevassus	+33 1 5844 9512
Dalia Farigoule	+33 1 5844 9510
Manon Petit	+33 1 5844 9507

SCANDINAVIA

Mikko Vanhala	+44 20 3207 7818
Marco Weiss	+49 40 350 60 719

CHEMICALS

Sebastian Bray	+44 20 3753 3011
Anthony Manning	+44 20 3753 3092
Rikin Patel	+44 20 3753 3080

CONSTRUCTION

Saravana Bala	+44 20 3753 3043
Zaim Beekawa	+44 20 3207 7855
Lush Mahendrarajah	+44 20 3207 7896
Robert Muir	+44 20 3207 7860
Olivia Peters	+44 20 3465 2646

DIVERSIFIED FINANCIALS

Chris Turner	+44 20 3753 3019
Charles Bendit	+44 20 3465 2729

FOOD MANUFACTURING AND HPC

Rosie Edwards	+44 20 3207 7880
Phillip Patricia	+44 20 3753 3039
Fintan Ryan	+44 20 3465 2748
James Targett	+44 20 3207 7873

FOOD RETAIL

Dusan Milosavljevic	+44 20 3753 3123
---------------------	------------------

GENERAL MID CAP - DACH

Martin Comtesse	+44 20 3207 7878
Charlotte Friedrichs	+44 20 3753 3077
Gustav Fröberg	+44 20 3465 2655
Julia Kochendörfer	+44 20 3753 3052
Alexander O'Donoghue	+44 20 3207 7804
Gerhard Orgonas	+44 20 3465 2635
Henrik Paganetty	+44 20 3453 3140
Benjamin Pfannes-Varrow	+44 20 3465 2620

GENERAL MID CAP - EU core

Christoph Gruelich	+44 20 3753 3119
Anna Patrice	+44 20 3207 7863
Trion Reid	+44 20 3753 3113

GENERAL MID CAP - UK

Joseph Barron	+44 20 3207 7828
Calum Battersby	+44 20 3753 3118
Robert Chantry	+44 20 3207 7861
Sam England	+44 20 3465 2687
Ned Hammond	+44 20 3753 3017

UK

Fabian De Smet	+44 20 3207 7810
Marta De-Sousa Fialho	+44 20 3753 3098
Jules Emmet	+44 20 3753 3260
Robert Floyd	+44 20 3753 3018
David Franklin	+44 20 3465 2747
Karl Hancock	+44 20 3207 7803
Sean Heath	+44 20 3465 2742
James Hunt	+44 20 3753 3007
Gursumeet Hhaj	+44 20 3753 3041
James McRae	+44 20 3753 3036
David Mortlock	+44 20 3207 7850
Eleni Papoula	+44 20 3465 2741
Bhavin Patel	+44 20 3207 7926
Kushal Patel	+44 20 3753 3038
Richard Payman	+44 20 3207 7825
Christopher Pyle	+44 20 3753 3076
Adam Robertson	+44 20 3753 3095
Joanna Sanders	+44 20 3207 7925
Mark Sheridan	+44 20 3207 7802
George Smbert	+44 20 3207 7911
Alexander Wace	+44 20 3465 2670
Paul Walker	+44 20 3465 2632

GERMANY

Michael Brauburger	+49 69 91 30 90 741
Nina Buechs	+49 69 91 30 90 735
André Grosskurth	+49 69 91 30 90 734
Florian Peter	+49 69 91 30 90 740
Joerg Wenzel	+49 69 91 30 90 743

SWITZERLAND, AUSTRIA & ITALY

Andrea Ferrari	+41 44 283 2020
Gianni Lavigna	+41 44 283 2038
Jamie Nettleton	+41 44 283 2026
Yeannie Rath	+41 44 283 2029

GENERAL MID CAP - UK (cont'd)

Omar Ismail	+44 20 3753 3102
Ian Osburn	+44 20 3207 7814
Antony Plom	+44 20 3207 7908
Edward James	+44 20 3207 7811
Benjamin May	+44 20 3465 2667
Owen Shirley	+44 20 3465 2731
Donald Tait	+44 20 3753 3031

GENERAL RETAIL

Conrad Bartos	+44 20 3753 3053
Thomas Davies	+44 20 3753 3104
Michelle Wilson	+44 20 3465 2663

HEALTHCARE

Scott Bardo	+44 20 3207 7869
Jakob Berry	+44 20 3465 2724
Alistair Campbell	+44 20 3207 7876
Klara Fernandes	+44 20 3465 2718
Tom Jones	+44 20 3207 7877
Joseph Lockey	+44 20 3465 2730
Samantha Osborne	+44 20 3207 7882
Michael Ruzic-Gauthier	+44 20 3753 3128
Laura Sutcliffe	+44 20 3465 2669
Charles Weston	+44 20 3465 2746

INSURANCE

Trevor Moss	+44 20 3207 7893
Emanuelo Musio	+44 20 3207 7916
Iain Pearce	+44 20 3465 2665

LUXURY GOODS

Mariana Horn	+44 20 3753 3044
Lauren Molyneux	+44 20 3207 7892
Zuzanna Pusz	+44 20 3207 7812

MEDIA

Robert Berg	+44 20 3465 2680
Laura Janssens	+44 20 3465 2639
Alastair Reid	+44 20 3207 7841
Sarah Simon	+44 20 3207 7830

REAL ESTATE

Kai Klose	+44 20 3207 7888
Tina Munda	+44 20 3465 2716

CRM

Laura Cooper	+44 20 3753 3065
Jessica Jarmyn	+44 20 3465 2696
Madeleine Lockwood	+44 20 3753 3110
Rita Pilar	+44 20 3753 3066

COO Office

Greg Swallow	+44 20 3207 7833
Fenella Neil	+44 20 3207 7868

CORPORATE ACCESS

Lindsay Arnold	+44 20 3207 7821
Robyn Gowers	+44 20 3753 3109
Jennie Jiricin	+44 20 3207 7886
Ross Mackay	+44 20 3207 7866
Stella Siggins	+44 20 3465 2630
Lucy Stevens	+44 20 3753 3068
Abbie Stewart	+44 20 3753 3054

EVENTS

Charlotte David	+44 20 3207 7832
Suzy Khan	+44 20 3207 7915
Natalie Meech	+44 20 3207 7831
Eleanor Metcalfe	+44 20 3207 7834
Rebecca Mikowski	+44 20 3207 7822
Ellen Parker	+44 20 3465 2684
Sarah Weyman	+44 20 3207 7801

SALES TRADING

PARIS

Vincent Klein	+33 1 58 44 95 09
Antonio Scutto	+33 1 58 44 95 03

LONDON

Assia Adanouj	+44 20 3753 3087
Charles Beddow	+44 20 3465 2691

METALS & MINING

Charlie Clark	+44 20 3207 3133
Fawzi Hanano	+44 20 3207 7910
Michael Stoner	+44 20 3465 2643
Yuriy Vlasov	+44 20 3465 2674

TECHNOLOGY

Josep Bori	+44 20 3753 3058
Georgios Kertsos	+44 20 3465 2715
Tej Sthankiya	+44 20 3753 3099
Gordon Tveito-Duncan	+44 20 3753 3100
Tammy Oiu	+44 20 3465 2673

TELECOMMUNICATIONS

David Burns	+44 20 3753 3059
Ondrej Cabejsek	+44 20 3753 3071
Nicolas Didlo	+44 20 3753 3091
Usman Ghazi	+44 20 3207 7824
Laura Janssens	+44 20 3465 2639

THEMATIC RESEARCH

Nick Anderson	+44 20 3207 7838
Oyvind Bjerke	+44 20 3753 3082
Steven Bowen	+44 20 3753 3057
Asad Farid	+44 20 3207 7932
Robert Lamb	+44 20 3465 2623
Paul Marsch	+44 20 3207 7857
Salih Shariff	+44 20 3753 3097
James Sherborne	+44 20 3753 3073

TOBACCO

Jonathan Leinster	+44 20 3465 2645
-------------------	------------------

UTILITIES

Oliver Brown	+44 20 3207 7922
Andrew Fisher	+44 20 3207 7937
Neha Saxena	+44 20 3753 3048
Lawson Steele	+44 20 3207 7887

ECONOMICS

Florian Hense	+44 20 3207 7859
Carsten Hesse	+44 20 3753 3001
Kallum Pickering	+44 20 3465 2672
Holger Schmieding	+44 20 3207 7889

LONDON (cont'd)

Mike Berry	+44 20 3465 2755
Joseph Chappell	+44 20 3207 7885
Stewart Cook	+