



# Focus Germany

## Investment: Public, residential – gradually picking up

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**Public investments: More in the pipeline.** In international debate public investment is often regarded as a useful lever for promoting higher domestic demand. Despite international criticism and political declarations of intent, public investment in Germany has only increased moderately over the past two years and has remained average, at best, on an international scale. In the coming years, however, public investment is expected to grow significantly. The current investment plans for the federal budget are 40% higher than those adopted in 2013. Public contracts for the construction industry in 2016 were between 15 and 27% above the average of the previous 10 years. The excellent state of the public finances at the various government levels also supports the prospect of investment growth. However, severe capacity shortages in the construction industry are likely to mean that the high demand for investment will not quickly lead to an increase in construction activity.

**German housing market: Will the number of new dwellings in 2016 indicate the end of the cycle?** According to our calculations, the number of completed dwellings should have risen to 276,000 – an increase of 10% on the previous year. However, as demand over the next few years is expected to reach at least 350,000 dwellings per year, the deficit in supply will also have risen. Because of the shortage of residential property, house prices will continue to rise strongly. According to our forecasts, house prices in 2017 are set to increase to around 6%. The current overvaluations are thus threatening to end in a full-blown housing bubble by the end of the decade.

**Corporate bond boom in Germany.** In 2016 corporate bond issuance saw an all time high in Germany with gross (net) issuance reaching to EUR 40 (22) bn. Continued low benchmark rates, compression in corporate bond spreads and ECBs' CSPP programme were the main factors that encouraged issuers. A substitution between bank lending and corporate bond issuance is evident for large firms. This may have lasting effect on German corporate financing model in the coming years. Demand supply imbalances are building in markets. A sudden reversal in monetary policy may have detrimental effects on institutional long term investors or on issuers with HY rating.

**The view from Berlin. Result of the Saarland election: the trend is not always your friend.** The CDU's clear victory in the small Saarland election is likely to strengthen Chancellor Merkel's standing especially in her own camp. The SPD's hope that the momentum triggered by Mr. Schulz's nomination as chancellor candidate would quickly translate into votes was largely disappointed. But only the state election in the populous North Rhine-Westphalia on May 14 will be the litmus test for the major parties. On the federal level Mr. Schulz's call for "social justice" seems to dominate the political debate. However, surveys indicate that the Germans' attitude on the issue is ambiguous.



## Focus Germany

### Economic forecasts

|                | Real GDP<br>(% growth) |       |       | Consumer Prices*<br>(% growth) |       |       | Current Account<br>(% of GDP) |       |       | Fiscal Balance<br>(% of GDP) |       |       |
|----------------|------------------------|-------|-------|--------------------------------|-------|-------|-------------------------------|-------|-------|------------------------------|-------|-------|
|                | 2016                   | 2017F | 2018F | 2016                           | 2017F | 2018F | 2016                          | 2017F | 2018F | 2016                         | 2017F | 2018F |
| Euroland       | 1.7                    | 1.3   | 1.5   | 0.2                            | 1.4   | 1.5   | 3.4                           | 2.8   | 2.5   | -1.8                         | -1.5  | -1.5  |
| Germany        | 1.9                    | 1.1   | 1.6   | 0.5                            | 1.7   | 1.6   | 8.4                           | 8.0   | 7.8   | 0.8                          | 0.5   | 0.2   |
| France         | 1.1                    | 1.3   | 1.1   | 0.3                            | 1.2   | 1.3   | -1.2                          | -0.3  | -0.1  | -3.2                         | -3.2  | -3.1  |
| Italy          | 0.9                    | 0.7   | 0.7   | -0.1                           | 1.0   | 1.2   | 2.9                           | 2.7   | 2.3   | -2.3                         | -2.3  | -2.3  |
| Spain          | 3.2                    | 2.5   | 2.2   | -0.4                           | 1.7   | 1.7   | 2.0                           | 1.7   | 1.7   | -4.4                         | -3.2  | -2.8  |
| Netherlands    | 2.1                    | 2.1   | 1.5   | 0.1                            | 1.0   | 1.2   | 8.4                           | 10.2  | 10.2  | -1.1                         | -0.7  | -0.5  |
| Belgium        | 1.2                    | 1.1   | 1.3   | 1.8                            | 2.0   | 1.8   | -0.4                          | 1.0   | 1.0   | -3.0                         | -2.5  | -2.6  |
| Austria        | 1.5                    | 1.5   | 1.6   | 1.0                            | 1.8   | 1.6   | 1.7                           | 2.8   | 3.1   | -1.4                         | -1.2  | -1.0  |
| Finland        | 1.4                    | 1.2   | 1.5   | 0.4                            | 1.3   | 1.4   | -1.1                          | -0.4  | -0.3  | -2.3                         | -2.2  | -1.7  |
| Greece         | -0.1                   | 1.4   | 1.6   | 0.2                            | 1.3   | 1.0   | -0.6                          | 1.2   | 1.5   | -3.7                         | -2.4  | -2.2  |
| Portugal       | 1.4                    | 1.2   | 1.1   | 0.7                            | 1.4   | 1.5   | 1.0                           | 0.7   | 0.7   | -2.8                         | -2.5  | -2.5  |
| Ireland        | 5.2                    | 2.8   | 3.0   | -0.2                           | 1.1   | 1.4   | 4.7                           | 10.0  | 8.0   | -1.1                         | -1.1  | -1.0  |
| UK             | 1.8                    | 1.7   | 1.1   | 0.7                            | 2.3   | 2.7   | -5.2                          | -4.8  | -4.0  | -3.3                         | -2.9  | -2.5  |
| Denmark        | 1.3                    | 1.7   | 1.8   | 0.3                            | 1.1   | 1.4   | 6.5                           | 6.5   | 6.5   | -2.1                         | -2.5  | -1.9  |
| Norway         | 0.7                    | 1.6   | 1.8   | 3.6                            | 2.7   | 2.5   | 4.4                           | 6.2   | 7.0   | 3.7                          | 3.9   | 4.2   |
| Sweden         | 3.1                    | 2.0   | 2.3   | 1.0                            | 1.7   | 1.9   | 4.6                           | 4.2   | 4.4   | 2.0                          | -0.2  | 0.0   |
| Switzerland    | 1.3                    | 1.5   | 1.7   | -0.3                           | 0.5   | 0.7   | 9.5                           | 9.3   | 9.0   | -0.1                         | -0.1  | -0.1  |
| Czech Republic | 2.5                    | 2.7   | 2.8   | 0.7                            | 2.3   | 2.0   | 2.0                           | 1.2   | 1.1   | 0.1                          | -0.6  | -0.6  |
| Hungary        | 2.0                    | 2.8   | 2.9   | 0.4                            | 2.9   | 3.2   | 4.2                           | 3.7   | 3.3   | -1.8                         | -2.5  | -2.3  |
| Poland         | 2.8                    | 3.2   | 3.4   | -0.6                           | 1.7   | 2.0   | -0.5                          | -1.2  | -1.4  | -2.6                         | -3.0  | -2.9  |
| United States  | 1.6                    | 2.6   | 3.6   | 1.3                            | 2.1   | 2.2   | -2.8                          | -3.4  | -4.1  | -3.1                         | -2.9  | -2.4  |
| Japan          | 1.0                    | 1.1   | 1.2   | -0.1                           | 0.7   | 1.1   | 3.8                           | 3.8   | 3.9   | -3.4                         | -3.6  | -3.3  |
| China          | 6.7                    | 6.5   | 6.0   | 2.0                            | 2.2   | 2.6   | 2.4                           | 2.1   | 1.8   | -3.8                         | -4.0  | -4.0  |
| World          | 3.1                    | 3.5   | 3.8   | 4.2                            | 5.2   | 4.4   |                               |       |       |                              |       |       |

\*Consumer price data for European countries based on harmonized price indices except for Germany. This can lead to discrepancies compared to other DB publications.  
Sources: National Authorities, Deutsche Bank

### Forecasts: German GDP growth by components, % qoq, annual data % yoy

|                                    | 2014 |      |      |       |       | 2015 |      |      |       |       | 2016 |     |     |      | 2017 |     |     |     |
|------------------------------------|------|------|------|-------|-------|------|------|------|-------|-------|------|-----|-----|------|------|-----|-----|-----|
|                                    | 2014 | 2015 | 2016 | 2017F | 2018F | 2014 | 2015 | 2016 | 2017F | 2018F | Q1   | Q2  | Q3  | Q4   | Q1F  | Q2F | Q3F | Q4F |
| Real GDP                           | 1.6  | 1.7  | 1.9  | 1.1   | 1.6   | 0.7  | 0.5  | 0.1  | 0.4   | 0.4   | 0.4  | 0.3 | 0.4 | 0.4  | 0.4  | 0.3 | 0.4 | 0.3 |
| Private consumption                | 0.9  | 2.0  | 2.0  | 1.0   | 1.4   | 0.7  | 0.2  | 0.2  | 0.3   | 0.3   | 0.2  | 0.2 | 0.3 | 0.3  | 0.2  | 0.2 | 0.3 | 0.3 |
| Gov't expenditure                  | 1.2  | 2.8  | 4.0  | 1.5   | 1.0   | 1.3  | 0.9  | 0.2  | 0.8   | 0.3   | 0.9  | 0.2 | 0.8 | 0.3  | 0.2  | 0.3 | 0.3 | 0.3 |
| Fixed investment                   | 3.4  | 1.7  | 2.3  | 0.4   | 2.8   | 1.8  | -1.5 | -0.2 | 0.8   | -0.2  | 1.2  | 0.6 | 0.7 | 1.1  | 0.3  | 0.3 | 0.3 | 0.3 |
| Investment in M&E                  | 5.5  | 3.7  | 1.1  | -0.2  | 2.4   | 0.9  | -2.3 | -0.5 | -0.1  | 1.1   | 0.3  | 0.3 | 0.3 | 1.1  | 0.3  | 0.3 | 0.3 | 0.3 |
| Construction                       | 1.9  | 0.3  | 3.0  | 1.0   | 3.7   | 2.7  | -1.7 | -0.3 | 1.6   | -1.4  | 2.2  | 1.0 | 1.2 | -1.4 | 2.2  | 1.0 | 1.0 | 1.2 |
| Inventories, pp                    | -0.3 | -0.5 | -0.1 | 0.2   | 0.0   | -0.4 | -0.1 | 0.3  | 0.3   | -0.1  | -0.1 | 0.0 | 0.0 | -0.1 | -0.1 | 0.0 | 0.0 | 0.0 |
| Exports                            | 4.1  | 5.2  | 2.6  | 3.0   | 3.7   | 1.4  | 1.2  | -0.3 | 1.8   | 0.8   | 0.7  | 1.1 | 1.0 | 0.8  | 0.7  | 1.1 | 1.0 | 1.0 |
| Imports                            | 4.0  | 5.5  | 3.7  | 3.6   | 4.1   | 1.4  | 0.1  | 0.4  | 3.1   | 0.1   | 0.6  | 1.3 | 1.1 | 0.1  | 0.6  | 1.3 | 1.1 | 1.1 |
| Net exports, pp                    | 0.4  | 0.3  | -0.4 | -0.1  | 0.0   | 0.1  | 0.5  | -0.3 | -0.4  | 0.4   | 0.1  | 0.0 | 0.0 | 0.4  | 0.1  | 0.0 | 0.0 | 0.0 |
| Consumer prices*                   | 0.9  | 0.2  | 0.5  | 1.7   | 1.6   | 0.3  | 0.1  | 0.5  | 1.1   | 1.9   | 1.6  | 1.6 | 1.8 | 1.9  | 1.6  | 1.6 | 1.8 | 1.8 |
| Unemployment rate, %               | 6.7  | 6.4  | 6.1  | 5.8   | 6.0   | 6.2  | 6.1  | 6.1  | 6.0   | 5.9   | 5.8  | 5.7 | 5.8 | 5.9  | 5.8  | 5.7 | 5.8 | 5.8 |
| Industrial production              | 1.5  | 0.5  | 1.3  | 0.6   | 1.4   |      |      |      |       |       |      |     |     |      |      |     |     |     |
| Budget balance, % GDP              | 0.3  | 0.7  | 0.8  | 0.5   | 0.2   |      |      |      |       |       |      |     |     |      |      |     |     |     |
| Public debt, % GDP                 | 74.9 | 71.2 | 68.3 | 65.9  | 63.4  |      |      |      |       |       |      |     |     |      |      |     |     |     |
| Balance on current account, % GDP  | 7.3  | 8.3  | 8.4  | 8.0   | 7.8   |      |      |      |       |       |      |     |     |      |      |     |     |     |
| Balance on current account, EUR bn | 213  | 253  | 263  | 259   | 260   |      |      |      |       |       |      |     |     |      |      |     |     |     |

\*Inflation data for Germany based on national definition. This can lead to discrepancies to other DB publications.  
Sources: Federal Statistical Office, German Bundesbank, Federal Employment Agency, Deutsche Bank Research



## Public investments: More in the pipeline

Public investments: Some explanations

1

Public investment and infrastructural investment are usually not clearly differentiated in public / media debate.

According to the narrow definition of the national accounts (VGR), investments in buildings/structures, equipment and other assets at the various public levels (Federal, State, municipalities and social funds) are termed public investments (see Fig. 10). In the case of construction investment, almost two-thirds goes into civil engineering (for example, roads, railway lines and bridges) while the rest is spent on buildings (for example, public administration buildings). Equipment investment mainly involves vehicles and military weapons systems. Investment in intellectual property (research and development) is classified as other investments.

In debate there is often a failure to distinguish between public investment and infrastructure investment. When investment projects are state-owned, they are regarded as public investments. However, investments in communications and electricity networks are not included when these are undertaken by private companies. Such investments are only counted when the companies themselves are in state ownership and produce goods or services that they sell on at "uneconomic" (subsidised) costs.

In the area of education, a distinction must be made between expenditure and investment. Although it could be argued that higher expenditure on education (for example on teachers' salaries) can strengthen human capital and thus act as an investment, human capital is not part of the capital stock measured in the national accounts. This means that only investments in school buildings, for example, are actually recorded as investments in the national accounts.

Due to the strong focus on the physical, public infrastructure in the public debate and the better availability of data, we will concentrate on this area.

- Germany's economic policy remains highly controversial at international level. The main bone of contention is the high current account surplus. In international debate in particular, public investment is often regarded as a useful lever for promoting higher domestic demand.
- Despite international criticism and political declarations of intent, public investment in Germany has only increased moderately over the past two years and has remained average, at best, on an international scale.
- In the coming years, however, public investment is expected to grow significantly. The current investment plans for the federal budget are 40% higher than those adopted in 2013. Public contracts for the construction industry in 2016 were between 15 and 27% above the average of the previous 10 years. The excellent state of the public finances at the various government levels also supports the prospect of investment growth.
- However, severe capacity shortages in the construction industry are likely to mean that the high demand for investment will not quickly lead to an increase in construction activity. The shortage of skilled labour is particularly pronounced in those construction sectors, which primarily rely on public sector contracts. Hence, our forecast for construction investment in 2017 remains rather subdued. Even beyond the residential construction sector, however, medium-term prospects are very favourable in view of the public investment plans described above.

Germany's economic policy remains the subject of intense international criticism. The main bone of contention is the high current account surplus, which was the highest among the large industrial countries in 2016, both in absolute terms and relative to economic output. While US President Donald Trump criticises the (supposedly) excessively weak euro and the associated competitive advantages enjoyed by German exporters, most other critics – for example, the International Monetary Fund or the EU Commission – focus much more on (supposedly) excessively low domestic demand. In particular, public investment is often regarded as a useful, but too little use lever for promoting higher domestic demand and therefore lower surpluses. Thus the French EU Commissioner for Economic and Financial Affairs Pierre Moscovici recently noted: "I believe that there is still plenty of potential for higher [German public] investment." (Die Zeit, 9 March 2017).

We have expressed scepticism on various occasions about whether this criticism is justified, particularly in terms of its scope.<sup>1</sup> This remains our position. In this article, however, we aim to steer clear of the normative question of the actual need for investment and the many pitfalls of direct international comparisons.

Instead, we want to focus on the progress achieved. We will show that the combination of a lack of planning and implementation capacity, as well as complex approval processes and complicated public finances relationships, often impede faster investment growth. Although the impact on growth will be limited in the short term, higher public investment is likely to support domestic demand over the medium term. A lack of political will is not an issue, in our view..

<sup>1</sup> Rakau, Oliver (2014). More infrastructural investment - despite questionable gap analysis. Germany. Deutsche Bank Research. 5 December 2014 and Gräf, B. and O. Rakau (2014). Ice bucket challenge and gap in structural investments. Outlook for Germany. September 2014.

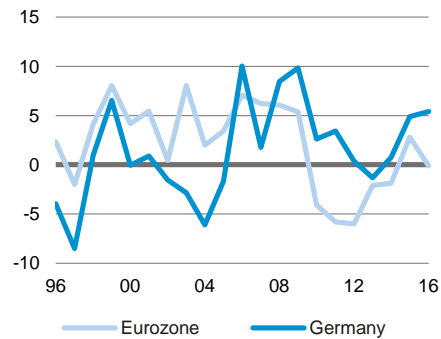


Focus Germany

Germany investment growth above average since 2006

2

Public fixed investment, % yoy



Source: AMECO

Public investments: Above-average dynamic ...

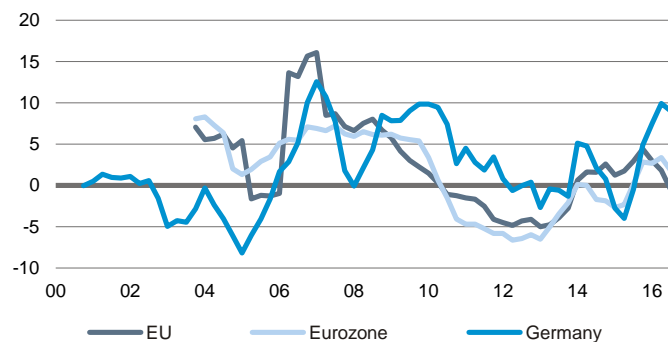
According to the breakdown of the national accounts (Figure 1), public investment in Germany rose by just under 4% in nominal terms in 2016, after just under 5% in 2015. This was significantly more than in the previous years when the expiration of the economic stimulus packages (2008: +8.5%; 2009: +9.8%; Fig. 2) had resulted in falling rates. Overall, public investment is subject to considerable volatility, making it difficult to determine the underlying trend. In addition to economic stimulus packages, large-scale projects, e.g. in the field of military procurement, play a major role. Nonetheless, in our view, the last two years mark the beginning of a sustained positive development.

Compared to the rest of Europe, German investment growth has been significantly above-average since the onset of the global financial crisis. While German investment rose by a total of 40% in nominal terms from 2007 to 2016, investment has fallen by 6% in the euro area as a whole and by as much as 15% if Germany is excluded from the calculations. Over the course of 2016 in particular, German investment growth picked up significantly, at times reaching quarterly rates of about +10% compared to the previous year. In the euro area, investment growth eased again after a temporary pick-up; as of yet there is no counter-movement to the massive crisis related declines in sight (Fig. 3).<sup>2</sup> Moreover, the temporary upturn in the rest of the EMU was largely due to a boost from Spain, which is already reversing.

German investment growth above average since 2009...

3

Public fixed investment, nominal, % yoy, 4Q average

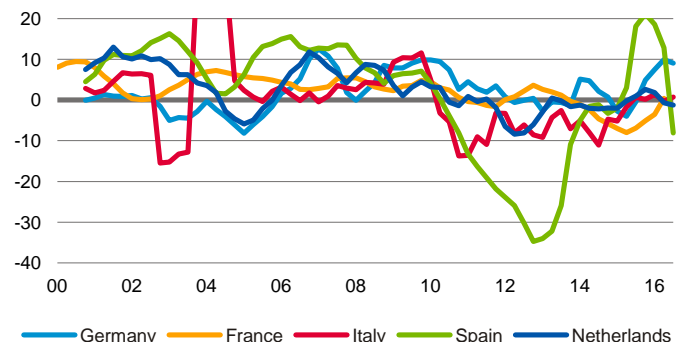


Sources: Deutsche Bank Research, Eurostat

...also compared to other large EMU countries

4

Public fixed investment, nominal, % yoy, 4Q average



Sources: Deutsche Bank Research, Eurostat

... but investment levels continue to remain below-average ...

In view of the deep crisis faced in some EMU countries and the necessary austerity programs, which impacted not least on investments, as well as exaggerations before the crisis, this is admittedly a flattering comparison for Germany. This is particularly the case because the relative strength of Germany follows a long phase of below-average investments. A number of international comparative standards exist for measuring investment levels beyond the absolute terms. However, all parameters suffer from the fact that they do not take account of country-specific circumstances, e.g. the role of the state in the economy as a whole, different levels of infrastructural development and, where relevant, different geographical requirements..

<sup>2</sup> Due to data availability issues, the comparison of European data is based on nominal data, while the data relating to Germany only is mostly based on actual developments.

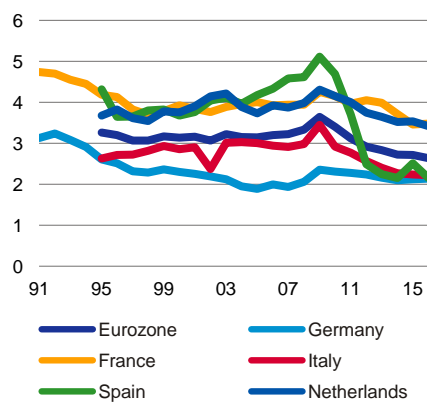




Focus Germany

Investment ratio: Still flat in Germany 5

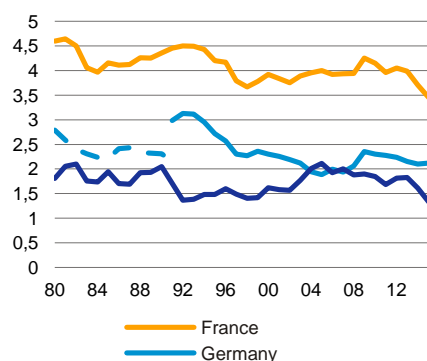
Public fixed investment, % GDP



Sources: Deutsche Bank Research, AMECO

French and German public investment: Largely stable gap of 2% of GDP 6

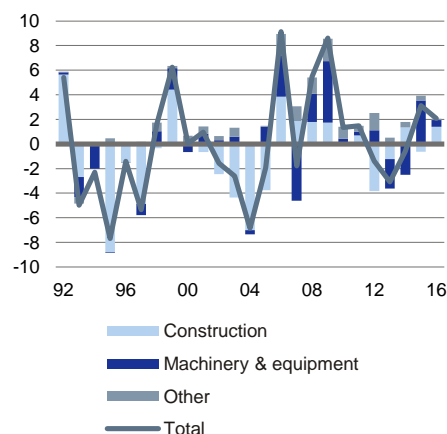
Public fixed investment, % GDP



Sources: Deutsche Bank Research, AMECO

Volatile pattern of investment drivers 8

Public fixed investment growth, real, contr. by type, pp, yoy



Sources: Deutsche Bank Research, Federal Statistical

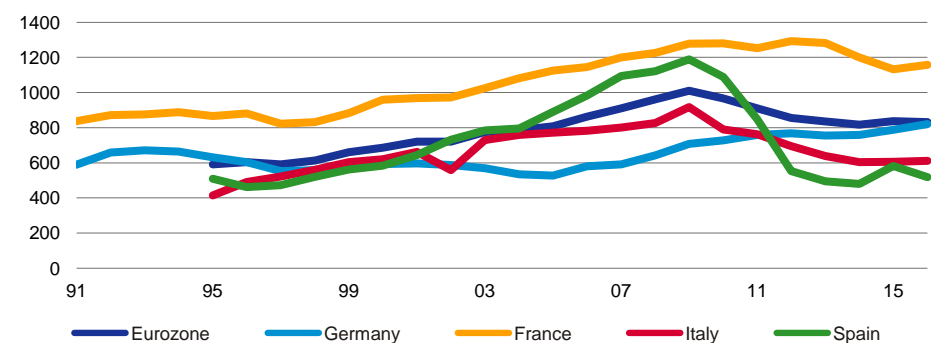
The level of public investment as a ratio of GDP is a frequently used indicator. Despite the dynamism of the last few years since the beginning of the new millennium, public investment in Germany has remained more or less constant and remains below-average despite the sharp declines witnessed in the crisis-stricken states of Europe. The German investment rate was 2.1% of GDP in 2016, while the euro area average was around 2.6%. Since the beginning of the new millennium, the German investment rate has remained largely constant at between 1.9% and 2.3% of GDP, whereas in the euro area it remained above 3% until 2011 (Fig. 5).

This comparative weakness may be partly due to the very robust growth in GDP in Germany in recent years, however, as well as different national circumstances. One example of these structural differences is the long-standing gap between public investment levels in France and Germany. Since 1980, this has been largely constant at around 1.5-2% of GDP, indicating a fundamentally different division of roles between the state and the private sector.

If, on the other hand, public investment is measured proportionately to the population, a clear upward trend has been evident in Germany since 2006, despite strong immigration in recent years (2006: EUR 580 per capita per year; 2016: EUR 820). The level even reached the euro zone average in 2016 (Fig. 7). Compared to the other large EMU countries, Germany is also in the middle of the pack on this measure, not at the lower end.

Germany catches up to EMU 7

Public fixed investment, EUR per capita and year



Sources: Deutsche Bank Research, AMECO, Eurostat

... and pick-up mainly due to investment in equipment rather than construction

The revival of public investment in Germany over the past two years has mainly been attributable to higher equipment investment by the government. This includes vehicles, machinery and military equipment. The latter are likely to account for about one third of total government investments in capital. Public construction investments, which are currently the subject of public scrutiny, representing the bulk of government investment at 54%, registered a substantial increase of +2.7% in real terms in 2016, driving last year's rise in overall investments (+2.1%) (Fig. 8). However, they do not demonstrate an exceptionally high level of growth yet.

"Other investments" only play a secondary role in annual fluctuations. Since 2006, however, 60% of the increase in total public investment has been due to a sustained increase in "other investments" (mainly research and development), while state investment in both equipment and construction were subject to comparatively greater fluctuation and failed to demonstrate a clear trend. When calculated in nominal terms, on the other hand, construction investment shows a

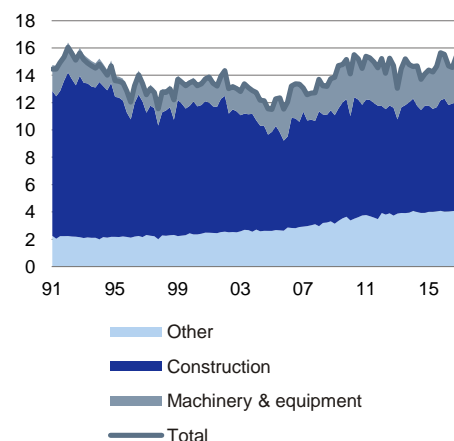


## Focus Germany

### Public investment with shift to R&D

9

Public fixed investment, real, bn EUR (2010 prices)



Sources: Global Insight

### Public investments

10

Gross fixed capital formation, general government, bn EUR, 2016

|                                 | Country     | Federal     | States      | Municipalities | Social insurance |
|---------------------------------|-------------|-------------|-------------|----------------|------------------|
| Machinery & transport equipment | 13,0        | 6,2         | 3,6         | 2,8            | 0,3              |
| Construction                    | 36,4        | 7,9         | 8,3         | 19,8           | 0,4              |
| Other                           | 17,4        | 6,2         | 10,2        | 0,8            | 0,2              |
| <b>Total</b>                    | <b>66,8</b> | <b>20,3</b> | <b>22,1</b> | <b>23,5</b>    | <b>0,9</b>       |

Source: Federal Statistical Office

clear upward trend, which suggests construction companies have been able to demand higher price increases than was the case in other categories in view of the shortfall in capacity.

The development described is unlikely to satisfy international calls for an investment offensive in Germany, nor does it reflect the often expressed intention to increase investment. An example of this is Federal Minister of Finance Schäuble's remarks in March 2014 when presenting the cornerstones of the federal budget for 2015: "Today's budgetary decisions by the Federal Government mark a turning point. Starting from 2015, the country will no longer take on new debt. We will no longer spend more than we bring in, at the same time we will focus on future investments."<sup>3</sup>

Our aim below is to show that a significant increase in investment is on the cards, but that implementation may be subject to some hurdles:

### Prospects for public investment are difficult to quantify

A number of factors exist that make it difficult to forecast public investment accurately:

- **Germany's federal structure:** Public investment happens at all government levels. Of the roughly EUR 67 billion of public investment, around one third came each from federal funds, the 16 federal states and the 11,000 regional authorities (Fig. 10). At the federal level, expenditure is relatively evenly spread between the major components with the Federal Government mainly responsible for interregional transport routes (motorways, national roads, some waterways) and national functions (the military). Nearly half of the spending of the federal states is accounted for by other investments. Responsibility for education, including schools and universities, probably plays a decisive role here. By far the largest single item is local authority investment in construction, which at almost EUR 20 billion is more than double the construction investment of the Federal Government and regional states together. The local authorities are responsible for the local road network and the majority of public administration buildings, for example. Investments in water and electricity are also often a matter for local authority operators.<sup>4</sup>
- **Complex financial relationships within the public sector:** In principle, although each level of government is responsible for financing its own investments, there are many (co-)financing arrangements. For example, Federal Government economic stimulus packages mostly provided investments resources to the regional states and, in particular, to local authorities, as these are responsible for a greater part of the physical infrastructure, while Federal Government has greater scope for (debt) financing. At present, the Federal Government is providing EUR 3.5 billion for the period from 2015 to 2020 to financially weak municipalities.<sup>5</sup>
- **Varying statistical demarcation:** While the Federal Ministry of Finance reports investments of EUR 33.2 billion<sup>6</sup> in 2016, the national accounts only record EUR 20.3 billion of investment by Federal Government. This is mainly due to different definitions of the term investment. In addition, the fact that transactions are recorded in the national accounts in the

<sup>3</sup> Press release from the German Federal Ministry of Finance, 12/03/2014.

<sup>4</sup> The question of whether this expenditure is to be included in the public investment according to the national accounts depends on a number of factors (see Fig. 1).

<sup>5</sup> Press release from the German Federal Ministry of Finance, 31/12/2016.

<sup>6</sup> <http://www.bundesfinanzministerium.de/Content/DE/Pressemitteilungen/Finanzpolitik/2017/03/2017-03-15-pm-eckwertebeschluss.html>, Eckwerte des Bundeshaushalts 2018

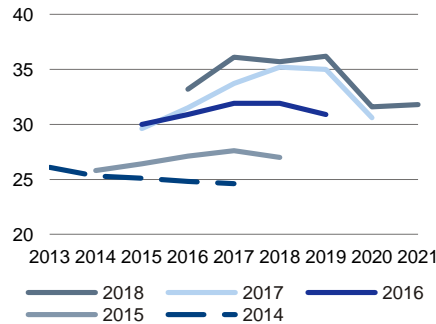


Focus Germany

Investment plans of federal level:  
Rising

11

Target values\* for federal budget by budget years, investment plans, bn EUR



Budget proposal from Federal government to parliament; March (2017) of each year for budget of following year (2018)

Source: Federal Ministry of Finance

accounting year to which they relate also plays a role, in contrast to the budget-related entries in financial statistics.

In view of these difficulties, we mainly aim to highlight the expected overall trend in public investment.

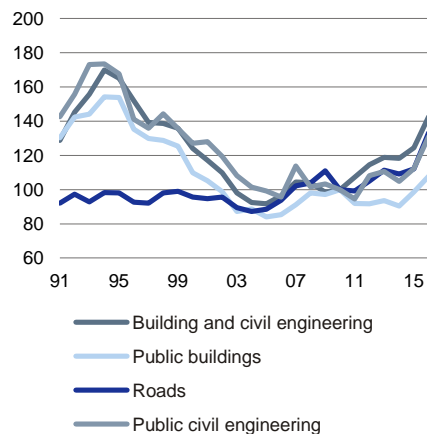
Federal Government investment plans: significant upward revisions

The Federal Government has significantly increased its planned investments in recent years. This can probably be attributed more to a healthy budgetary position rather than to the multiple criticisms voiced from abroad. While the 2013 federal budget and medium-term financial plans still provided for slightly falling investment at a level of around EUR 25 billion, the planned investment budgets have increased significantly over the following years. The draft budget for 2018 and the medium-term financial plan adopted by the Federal Cabinet in March 2017 provide for investments of over EUR 35 billion for the next two years, 40% more than planned in 2013. Towards the end of the planning period, Federal Government plans to reduce the volume to just below EUR 32 billion (Fig. 11). Federal investment alone would thus amount to about 1% of GDP. Transport infrastructure investments, which play a key role in driving public debate, are a major factor in that.

Public construction orders up massively

12

Order intake, construction, nominal, 2010=100



Source: Federal Statistical Office

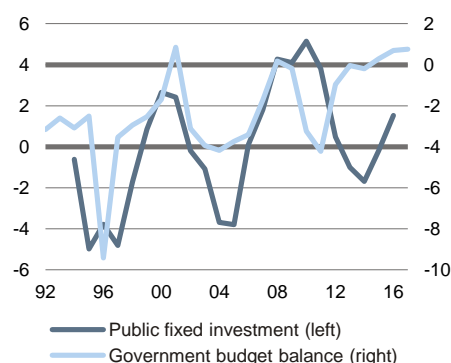
Massive rise in construction orders

Incoming orders in the construction sector serve as a clear indicator of the positive trends in public (construction) investment. There has been a sharp rise in construction orders from the public sector (Fig. 12), also supporting the expectation that public investment will rise sustainably. In 2016, the orders received for public building construction were 15% above the average of the previous 10 years, with road construction up 27% (15% in real terms) and public civil engineering projects excluding roads up 25%. Current order levels were last achieved at the end of the 1990s, and the increase in public contracts was particularly significant in 2016 (an increase of between +9 and +19% compared with the previous year). These massive rises are likely to be somewhat overstated by rising construction prices, however even if the real increase in total public contracts and road construction is only about half as high, this would still be an extraordinary development. If the three construction sectors mentioned are taken together, incoming orders in 2016 amounted to EUR 24 billion, a good EUR 3.5 billion higher than the previous year.

Surpluses leave room for higher investment

13

% yoy, 3Y avg. (left); % GDP, 1Y lead (right)



Sources: AMECO, Federal Statistical Office

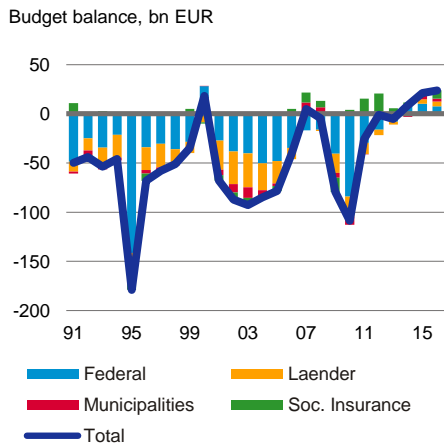
Public finances leave room for higher investment

Over the past two years, all government levels have returned their budgets to surpluses – a situation that has not been seen since reunification (Fig. 14). This should also support public investment. In fact, the growth of public investment demonstrates a tendency to keep pace with public budget balances with a one year lag (Fig. 13). This link is evident despite the fact that economic stimulus packages are often used to prop up demand in times of economic weakness. This may be due to the fact that, although the local authorities and, to a certain extent, the federal states are responsible for a considerable portion of public investment, they have much less scope in terms of debt financing than the Federal Government. As a result, the relationship described is more procyclical in nature in the case of the federal states and the local authorities; in the case of the Federal Government, on the other hand, there is no clear statistical link between investment and the financial situation.



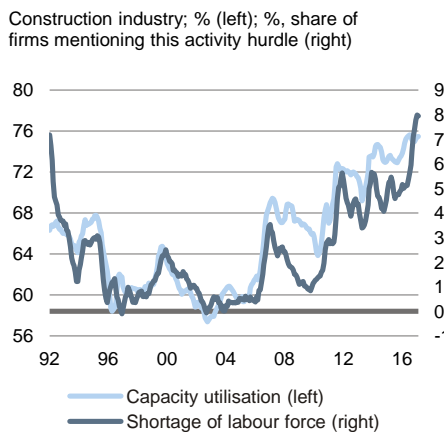
Focus Germany

Budget surpluses everywhere 14



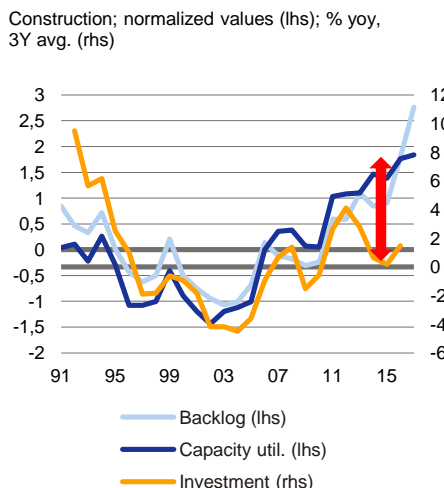
Source: Federal Statistical Office

Capacity constraints at historic highs 15



Sources: ifo, EU Commission

Will there be a supply response? 17



Sources: Federal Statistical Office, ifo, EU Commission, Deutsche Bank Research

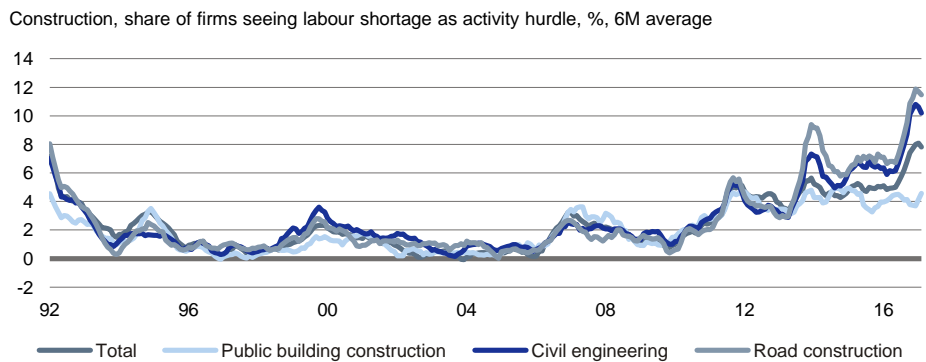
Many obstacles to investment

Despite the positive outlook for public investment in Germany, a number of obstacles to investment exist that will mitigate against an investment boom in the short term, particularly in construction.

Construction industry experiences massive capacity shortfalls ...

We believe that the marked labour force shortage in the construction industry will play an important role. For example, the number of German construction companies that cite labour shortages as an obstacle to their construction activities rose to an all-time high by the end of 2016. Such high levels have not been witnessed since shortly after reunification. The utilisation of construction companies' capacities (Fig. 15) is also at an all-time high (approx. 75%). The significant rise in both scarcity indicators was paralleled by the marked rise in order backlogs in the construction industry (since about 2008). Thus it seems that an increasing share of incoming orders has not been processed, leading to a massive increase in order backlogs (Fig. 17).

Civil engineering and road construction with pronounced labour shortage 16



Source: ifo

... mainly in civil engineering and road construction

This trend is in evidence throughout the German construction industry. However, the share of construction companies experiencing corresponding shortages in civil engineering and road construction projects, which are largely dominated by public contracts, is much more pronounced than in the construction industry as a whole. On the other hand, there are no comparable shortages in public building construction, which is probably very similar in structure to commercial or residential construction (Fig. 16). Furthermore, the order backlog in road construction at the end of 2016 was about twice as high as in the early 1990s. In civil engineering, it has roughly reached the record levels of 1994. On a qualifying note, it must be pointed out that the graphics presented here largely rely on nominal data due to data availability. These could overstate the order backlog as a result of increasing construction costs. However, the divergence between nominal orders and order backlogs is likely to remain unaffected by this (Fig. 18-20).

Overall, considerable capacity shortages exist in areas where special employee qualifications or expertise is needed or special machinery is required. This may also be due to the extended period of weak public investment after the reunification boom, which likely led to a significant reduction in capacity. These capacity shortages are likely to have contributed to the fact that in 2016, the Federal Government was able to implement only EUR 33 billion of the planned



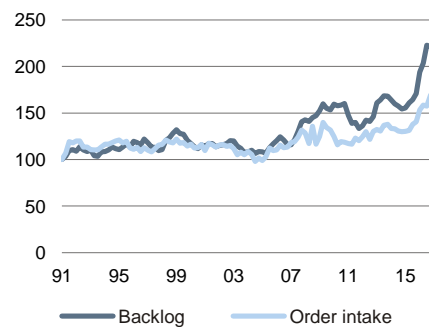


investments of EUR 35 billion. About half of the shortfall was attributable to infrastructure investments.<sup>7</sup>

A genuine order logjam has developed in recent years. It may take some time until construction companies (can) react. Possible physical bottlenecks in terms of the availability of machinery are still comparatively easy to remedy. The shortage of skilled labour may be a more difficult hurdle, however.

Huge backlog in road construction... 18

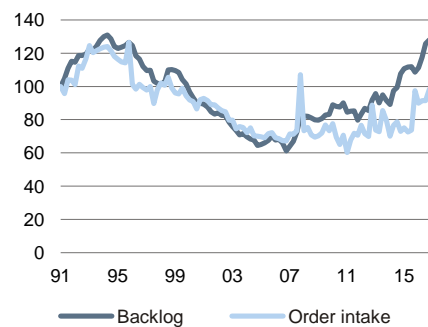
Road construction, nominal, Q1 1991=100



Source: Federal Statistical Office

... and public civil engineering... 19

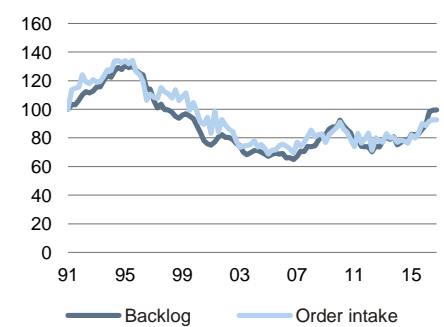
Public civil engineering, nominal, Q1 1991=100



Source: Federal Statistical Office

...but barely in public buildings 20

Public building const., nominal, Q1 1991=100



Source: Federal Statistical Office

Obstacles to planning and approval

In addition to these shortages in the construction industry, bottlenecks in public administration are also likely to have hindered planned investments. In Focus Germany (April 2016), we have concentrated on hurdles regarding residential construction, but in some cases these also affect public construction projects, e.g. due to a reduction in qualified administrative staff. The planned expansion of the energy networks to transport electricity generated from renewable energies in Northern Germany to the south of the country impressively demonstrates the problems that arise with major infrastructural projects when complex planning laws, tight schedules and public scepticism coincide. Dealing with the large influx of refugees at local government level also likely limited the time available for planning and implementing investment projects. Thus, for instance, only around 52% of the EUR 3.5 billion provided by the Federal Government had been drawn down by mid-2016.

The financial situation of local and state governments: still an obstacle to investment in many cases

The financial position of the various state levels is generally positive. However, considerable differences exist between the individual federal states as well as local authorities. While these are partly mitigated by fiscal measures such as the fiscal redistribution among the federal states or the Federal Government's current program of support for the investment projects of financially weak local authorities<sup>8</sup>, investment in some federal states and local authorities is still likely to be limited by funding availability. This is evident in the fact that the increase in public works contracts in federal states with stronger economies tends to be higher.

<sup>7</sup>[http://www.bundesfinanzministerium.de/Content/DE/Pressemitteilungen/Finanzpolitik/2017/01/2017-01-12-pm02-anlage.pdf?\\_\\_blob=publicationFile&v=4](http://www.bundesfinanzministerium.de/Content/DE/Pressemitteilungen/Finanzpolitik/2017/01/2017-01-12-pm02-anlage.pdf?__blob=publicationFile&v=4)

<sup>8</sup> German Federal Ministry of Finance, 31/12/2016, Supporting investments by financially weak local authorities

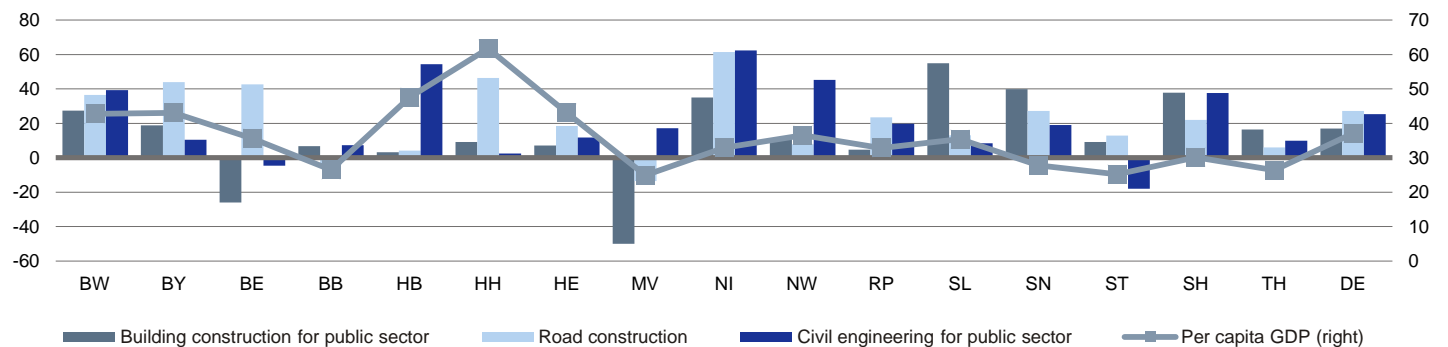


Focus Germany

German states with weaker economy invest less in infrastructure

21

Construction orders, nominal, % change 2016 vs. average of prev. 10 years (left); per capita GDP, '000 EUR, 2015 (right)



Source: Federal Statistical Office

Outlook: Lasting stimulus

Public investment over the coming years is expected to be well above the level of recent years, which should help (gradually) to quell the wide-spread criticism of Germany. There is evidence at all levels of government that investment in public construction will probably grow. Public works contracts in 2016 were between 15 and 27% above the average for the last 10 years. This has led to a further increase in the already high order backlogs, taking them to record levels. In view of the capacity shortages in the construction industry described above, this should ensure that the construction industry receives significant impetus from this side over the coming years.

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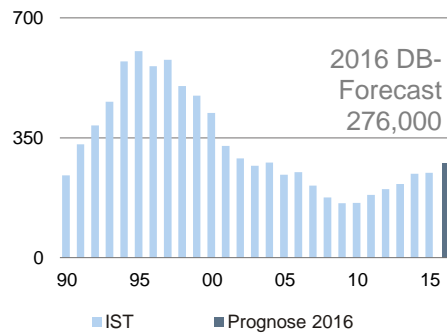


Focus Germany

DE: Completions

1

No. of apartments in '000



Sources: riwis, Federal Statistical Office, Deutsche Bank Research

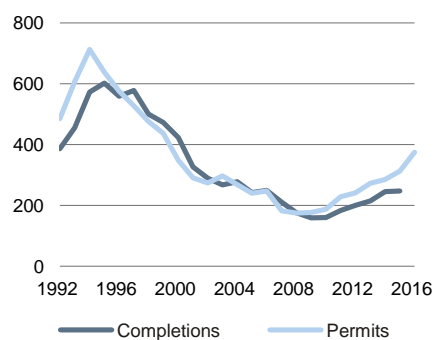
## German housing market: Will the number of new dwellings in 2016 indicate the end of the cycle?

- Given the acute shortage of residential properties, the new build figures issued by the Federal Statistical Office are gaining a great deal of media attention with the number of dwellings completed in 2016 due to be published in mid-June. According to our calculations, the number of completed dwellings should have risen to 276,000 – an increase of 10% on the previous year.
- However, as demand over the next few years is expected to reach at least 350,000 dwellings per year, the deficit in supply will also have risen. As a result, it is fair to say that the cycle is definitely not about to end anytime soon.
- Because of the shortage of residential property, the increase in house prices over the past few years is likely to continue unchecked. According to our forecasts, house prices in 2017 are set to increase to around 6% on last year's prices throughout the country, even rising to 7.5% in major cities. The current overvaluations are thus threatening to end in a full-blown housing bubble by the end of the decade.

DE Residential: Permits vs. Completions

2

in '000



Source: Federal Statistical Office

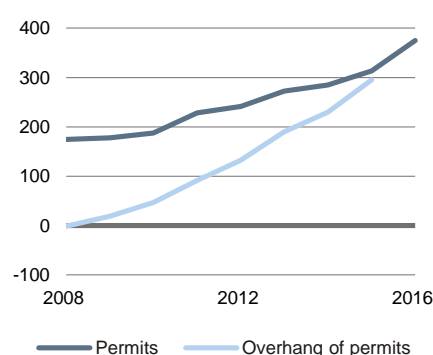
### New builds are essential to dampen price pressure

Price pressure in the German housing market remains high with some estimates now placing the deficit at over a million homes in the current property cycle. Neither the rent freeze nor other regulatory tightening measures have dampened the price pressure; in fact, they may well have exacerbated the situation. Fundamentally, affordable housing can only be achieved through building new dwellings. The official figures released by the Federal Statistical Office are therefore gaining a great deal of media attention in the current property cycle. The number of dwellings completed in 2016 will be published in mid-June.

DE Residential: Permits vs. Growth overhang of permits

3

in '000



Sources: Federal Statistical Office, Deutsche Bank Research

### Further stagnation in housebuilding would be a warning sign

In 2015, the number of completions of 247,700 dwellings remained considerably below expectations and more or less remained at the same level as the previous year. A further stagnation in 2016 would have two major implications. Firstly, in an election year, the failure of the policy to create affordable housing – one of the goals of the grand coalition – can be expected to attract particular attention. Secondly, the fewer new houses that are built, the more damage the looming property bubble is likely to have on the economy.

### High permits indicate an increase in new builds

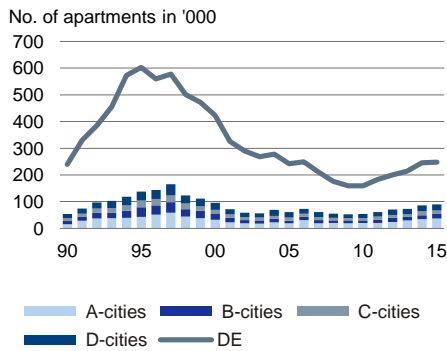
In 2016, the number of building permits rose to 375,000 units (+20% on annual average) – the highest level since 1999. However, in order to estimate the number of completed new builds in 2016, we have also to take into account the number of building permits in previous years. Since 2009, around 1.7 million dwellings have been approved across the country, however only 1.4 million dwellings have been completed. The resulting deficit of 300,000 thus makes up a significant portion of the deficit in supply, which was particularly high in 2015 at 65,000. This deficit has risen continuously since the start of the current house price cycle and even exceeds the boom phase following reunification.



Focus Germany

DE: Completions

4



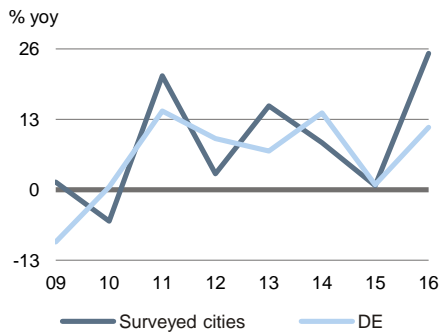
Sources: riwis, Federal Statistical Office, Deutsche Bank Research

High growth in new builds in major cities in 2016

Despite the extremely high growth in prices in metropolitan areas compared to the national average, this has had little impact on construction activity in major cities over the past few years. However, our already available city data for 2016, representing around 5% of all houses completed in Germany, shows a major increase in completions of around 10% relative to 2015. Furthermore, in contrast to previous years, the completions in major cities seems to have grown considerably more quickly.

Residential completions

5



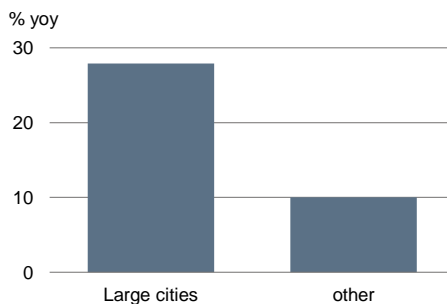
Sources: Federal Statistical Office, several cities, Deutsche Bank Research

Ongoing price pressure as the deficit in supply continues to grow to the end of the decade

Based on the number of permits across the country and the already available city data of 2016, we have developed a simple forecast model that has demonstrated a high degree of accuracy (out-of-sample) over the past few years (chart 8). Drawing on these calculations we expect the number of completed dwellings to reach 276,000, an increase of almost 30,000, or more than 10% relative to 2015. Were this growth rate to continue at the same pace over the next few years then we would have to wait until 2019 before the mark of 350,000 completed dwellings is reached. In other words, we would not begin to eat into the deficit in supply (of around 1 million houses) until the end of the decade. However, if the annual requirement for new builds is 400,000 or the rate of completion slows down, then the deficit will continue to build up until the following decade. As a consequence, the price dynamic will remain high over the coming years in line with these considerations. According to our forecasts, house prices in 2017 are set to increase to around 6% on last year's prices throughout the country, even rising to 7.5% in major cities. This means the high prices of the previous years would be set to continue, which implies that the already slightly overvalued German house prices will get more expensive. If the deficit in supply continues to remain high additional overvaluations will build up until the end of the decade and eventually may result in a full-blown house price bubble.

2016 Dwellings completed due to surveyed cities

6



Sources: several cities, Deutsche Bank Research

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Matthias Dincher

2017 Price forecast of ABCD-Cities: Apartments, existing

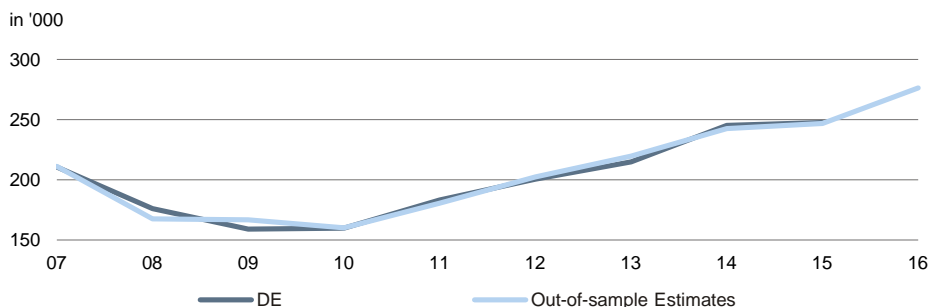
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Source: Deutsche Bank Research

Residential completions

8



Sources: Federal Statistical Office, Deutsche Bank Research





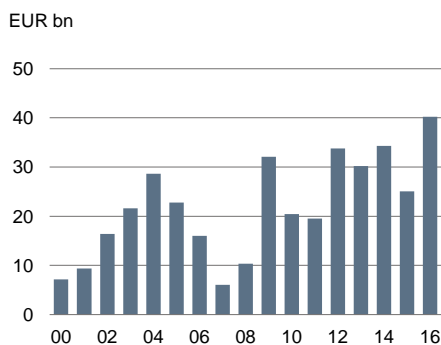
## Corporate bond boom in Germany

- In 2016 corporate bond issuance saw an all-time high in Germany with gross (net) issuance reaching to EUR 40 (22) bn. Continued low benchmark rates, compression in corporate bond spreads and ECBs' CSPP programme were the main factors that encouraged issuers.
- A substitution between bank lending and corporate bond issuance is evident for large firms. This may have lasting effect on German corporate financing model in the coming years.
- Demand supply imbalances are building in markets. A sudden reversal in monetary policy may have detrimental effects on institutional long term investors or on issuers with HY rating.

### A perfect recipe for issuers: 2016

2016 was the busiest year of corporate bond issuance in Germany. Non-financial firms' gross bond issuance reached an all time high of EUR 40 bn up from EUR 25 bn in 2015. Last years' hike was not a single outlier but part of buoyant post-crisis upward trend. Strong German macro backdrop has provided further support in 2016, though. German GDP increased by 1.9% and although gross fixed investment rose by just 2.5%, German firms expanded their balance sheet without little hesitation in 2016. Bond issuance was further encouraged by the ECB's accommodative policy and continued low benchmark rates leading to a massive compression in corporate bond yield spreads. Despite risk-off periods throughout the year and frequent episodes of high volatility as a result, benchmark short term bund rates evolved at a rock bottom -0.8% to -0.3%. Therefore corporate bond yields came down remarkably. End-2016, European corporate bond spreads to benchmark were less than 140 bps for triple-B and even less than 80 bps for double-A. All in all, issuers were enjoying an exceptionally low cost fundraising phase courtesy of the low interest rate environment. ECB's Corporate Sector Purchase Programme (CSPP) was the icing on the cake. In H2-2016, ECBs CSPP holdings rose strongly and reached around EUR 60 bn in in January-2017. The ECB has purchased bonds of major German car markers, gas & electricity producers as well as transportation companies according to Deutsche Bundesbank figures. Last but not least, potential issuers probably rushed to the bond market to lock in low yields concerned about a potential upward correction in benchmark rates. Indeed, with oil prices being fairly stable and inflation picking up gradually, one or more of the accommodative factors for bond issuance will indeed reverse sooner or later.

Record bond issuance by German firms 1



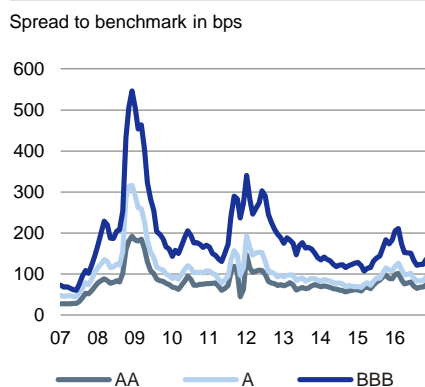
Sources: ECB, Deutsche Bank Research

2-year bund yields at rock bottom 2



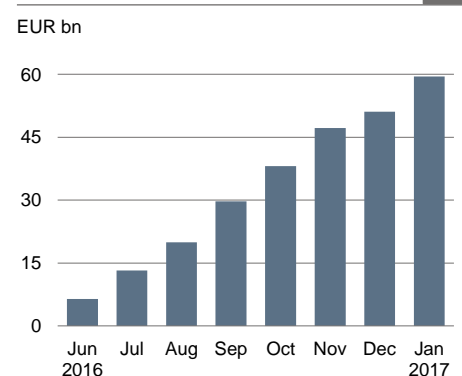
Sources: ECB, Deutsche Bank Research

Corporate bond yield spreads are compressed in Europe 3



Source: Deutsche Bank Research

ECB corporate bond purchases 4



Sources: ECB, Deutsche Bank Research

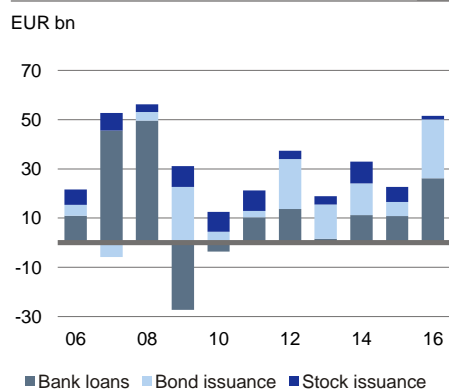


An increased capacity in corporate bond markets is an important element to improve corporate funding backdrop in Germany as it allows companies to shore up their balance sheets and allow banks to generate fee income from bond underwriting without stretching their loan books. That being said, the current state of bond issuance by and large relies on extreme accommodative monetary policies. With a large buyer with unlimited liquidity, some demand-supply imbalances have probably been building in markets already.

### A change in corporate funding model?

German firms' external funding: Leaning towards bond issuance...

5

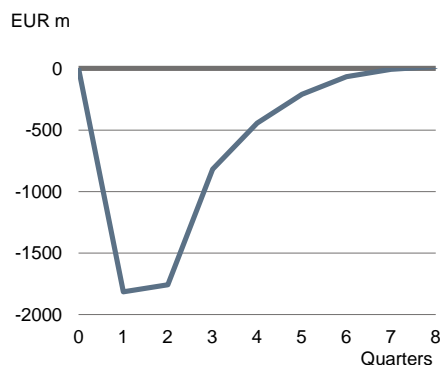


Sources: ECB, Deutsche Bank Research

What does heightened bond issuance say about German firms' funding model that traditionally relies of bank loans? Composition of external funding alternatives such as bank lending, equity and corporate bond issuance before and after the crisis give first insights (see chart 5). In the run up to financial crisis, German firms enjoyed record volumes of bank loan flows. In the immediate aftermath though, loan flows turned negative as banks tightened credit conditions and started deleveraging. 2009 was the first year of remarkable bond issuance where a net EUR 22 bn (gross issuance minus redemptions) compensated for a EUR 27 bn decline in bank loan flows. The years following the great recession and the EMU sovereign bond crisis have been characterized by low investment and therefore reduced external financing needs in general. Yet, 2012 and onwards bond issuance has again taken an important role in corporate funding and functioned as a substitute for the subdued bank loan flows. Stock issuance volumes meanwhile remained at quite depressed levels during the last ten years or so. By and large, firms raise debt much more frequently than equity.<sup>9</sup>

... as bond issuance dampens the need for bank credit\*

6



\*Var model impulse response function. Presented values are response of bank loan flows to one standard deviation increase (EUR 3 bn) in net bond issuance.

Source: Deutsche Bank Research

To potential substitution effects between bank lending and corporate bond issuance described above can be checked by a model that controls for bank loan flows and net bond issuance simultaneously.<sup>10</sup> Our results point out that, an increase in bond issuance is associated with a reduction in bank loan flow at statistically significant levels. Moreover, causality runs from bond issuance to bank lending only and not vice-versa. An impulse response chart puts the substitution effect into numbers (see chart 6): a EUR 3 bn increase in quarterly bond issuance leads to a decline in bank loan flows of around EUR 2 bn. The effect persists over 2-3 quarters and came gradually down later on. The long-term result of this substitution could be a permanent change in corporate funding model in Germany. It is yet important to note that not all German firms benefit from current favourable bond market dynamics. Firms that are able to tap bonds markets are very large firms with 40k employees on average and EUR 15 bn stock market capitalisation. In this vein, bank lending will remain a preferred source of funding for traditional small and medium enterprises while large corporate probably favour bonds in the future.

The ECBs CSPP programme has been supportive for high-quality IG debt and pushed the issuance up the rating curve in Germany. Expressing differently, share of IG issuers rose last year while HY issuance came down (HY 7% of the total issuance in 2016, down from 20% in 2014). Tendency towards IG issuance is a welcome development in terms of market quality at first glance. But the devil is hidden in details. Search for yield from the institutional investors' side are pushing maturities of investment grade debt to extremes. Some IG issues have very long maturities such as 50 years. Yields of these super long maturity bonds are less than 5% (the same level of short term bund rates around 20 years ago).

<sup>9</sup> For example, academic literature estimates point out to a one to ten relation for public stock versus debt issuance for US firms.

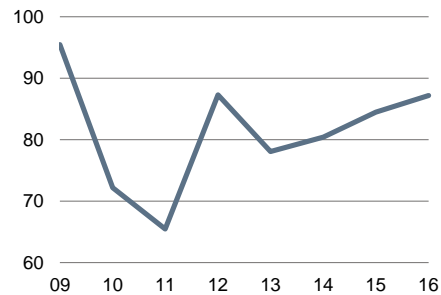
<sup>10</sup> We utilise a Vector Autoregression Model using quarterly data from 2003-2016. Dependent variables are the net bond issuance and net loan flows. For the lag length we use the Akaike information criteria. For the causality analysis, we run a granger causality test.



Focus Germany

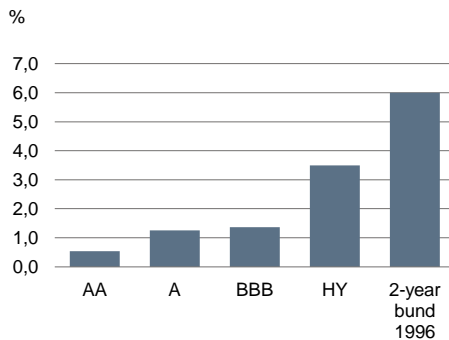
Issuance move up on the credit curve 7

Share of IG issuance in %



Sources: Dealogic, Deutsche Bank Research

All time low non-financial corporate bond yields in Germany 8



Sources: Dealogic, Deutsche Bank Research

For maturities less than 5 years, yields are as low as zero. Even the perpetual bonds have yields of less than 3%. This shows the extent which the search-for-yield and demand-supply imbalances have reached. More importantly, fewer firms are issuing bonds for corporate funding purposes. In 2016 only 73% of issuers cited corporate funding as reason for issuing bonds, down from more than 90% in 2014. An increasing number of companies cited refinancing, repaying debt or recapitalisation for bond issuance. Only 17% of the HY issuers named corporate funding as their reason while the rest used proceeds to repay existing debt.

What do current imbalances imply moving forward? Given the extent to which monetary policy has helped to compress corporate bond spreads and flatten the credit curve, bond markets will react to a change in the policy backstop. CSPP programme tapering will probably translate into a reduction in corporate bond issuance in general. That said, banks are capable of filling the gap of a sudden reversal and tapering will not necessarily translate into a funding bottleneck for IG rated firms. A change in benchmark rates will probably result in the same outcome for issuers who will turn to bank lending as an alternative. But, the change in benchmark rates may turn bitter for some investors, especially for those who piled cash into very long maturity bonds. These are usually institutional investors such as pension funds and insurance companies that keep bonds until maturity. Institutional investors being stuck in low yielding investments for an extended period of time may lead to spillover effects on households and the rest of the German economy. A correction in HY spreads, which usually correlate more with corporate default risk and less with benchmark rates, may translate into excessive borrowing costs for these firms. Even though, debt refinancing in low cost bond markets does not indicate weak firm health per se, especially some HY issuers may find it too costly to refinance their debts when monetary policy will be normalised in the years to come. As banks are less likely to fill the gap for HY rating firms, due to ongoing deleveraging and hesitation to enlarge loan books, these firms might find themselves in a more adverse funding environment. However, unless the economy enters a significant recession, funding difficulties are unlikely to translate into a wave of bankruptcies in Germany.

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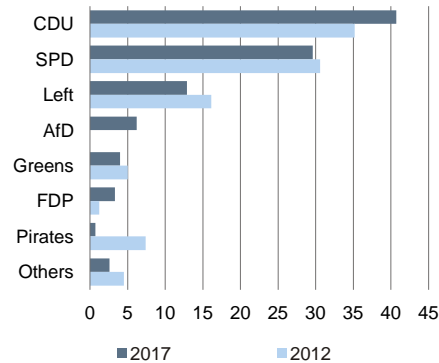


## The view from Berlin

Result of the Saarland election on March 26, 2017

1

As percentage of the valid votes, %



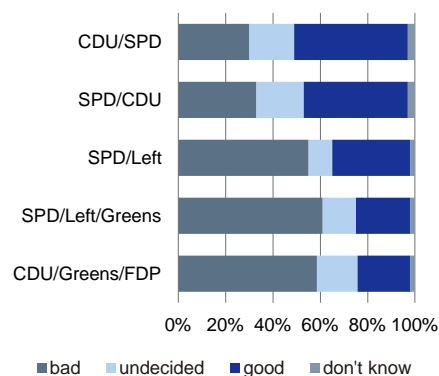
Sources: Wahlrecht.de, Statistical Office Saarland

### Result of the Saarland election: the trend is not always your friend

In the aftermath of the CDU's surprisingly clear victory in the Saarland election on March 26 the major political parties have tried to interpret and pin down the result.<sup>11</sup> The CDU, of course, was pleased with the outcome. As the voters obviously appreciated the CDU-lead state government's work, party leader Chancellor Merkel stressed the importance of a reasonable performance of her own government for the federal election campaign. SPD grandees admitted the CDU's victory. At the same time they were eager to back their new party leader Martin Schulz by stressing that the SPD gained about 5pps compared to its low in the polls in early-January, i.e. before Mr. Schulz was nominated as the SPD's frontrunner for the federal election campaign. Representatives of the Liberals (FDP) and the Greens, which failed the 5% threshold and thus will not hold seats in the new state parliament, attributed their meagre results even more to regional specialities. Especially for the FDP the structurally weak Saarland with its predominantly Catholic population has often been a difficult turf.

The Saarlanders' assessment of potential government coalitions\*

2



\* Survey prior to the election

Source: Forschungsgruppe Wahlen

### Voters focussed on regional issues

In fact, the Saarland voters have cast their ballot very much in line with regional aspects. In the Saarland there has been no mood for change. The current and future state MP Annegret Kramp-Karrenbauer (CDU) who has governed the Saarland in the past years together with the SPD as junior partner is very popular there. According to the polls the voters also did clearly prefer a renewed grand coalition to any other alliance. Therefore, even CDU officials in Berlin have admitted that the party's success on March 26 was primarily Saarland made.

### Nevertheless, Chancellor Merkel is likely to benefit

Nevertheless the Saarland result is likely to impact on the federal election campaign – at least for the time being. After a series of more or less disappointing state elections the Saarland has proved that the CDU is still able to win. This is likely to motivate Merkel's supporters and to push the CDU/CSU's campaign forward. The election has demonstrated that the voters appreciate a government's performance and competence especially with respect to its economic policy course. In addition Mrs. Kramp-Karrenbauer is said to be a close supporter of Chancellor Merkel. All this will strengthen the Chancellor's standing in the public and even more in her own camp which has suffered markedly from last year's bickering about asylum policy by Horst Seehofer, the leader of the sister party CSU.

Given the Saarlanders' rejection of an SPD-Left alliance, the CDU/CSU is likely to focus its campaign on the warning against a future leftist federal government, i.e. a coalition of the SPD, the Greens and the Left. While such a strategy might mobilise the CDU/CSU's potential supporters in the conservative camp – probably also at the expense of the AfD – it also has its shortcomings. The CDU/CSU might find it hard to fully attack especially the Greens as the conservatives themselves might need them as partner for a coalition together with the FDP.

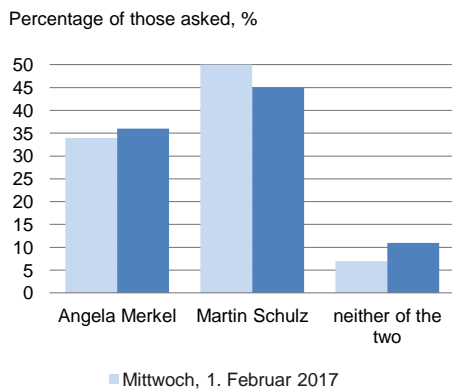
<sup>11</sup> The CDU got 40.7% of the valid votes – 5.5pps more than in the last election in 2012, which is the CDU's highest plus since Chancellor Merkel has taken office in 2005. With 29.6% of the votes (2012: 30.6) the SPD has fallen short of high(er) expectations. The smaller parties performed relatively poorly. The Liberals (FDP) and the Greens failed the 5% threshold. The Left benefited once again from the popularity of its regional frontrunner, Oskar Lafontaine, but nevertheless lost, too, compared to 2012. The AfD (6.2%) came in far below a double digit result.





Focus Germany

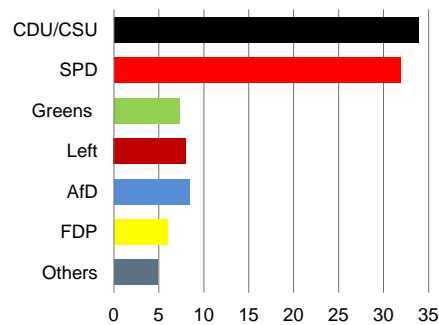
Merkel vs. Schulz: Whom the Germans would elect as chancellor 3



Source: Infratest dimap: ARD-Deutschland-Trend Morgenmagazin

Major political parties' popularity on the federal level\* 4

Surveys published from mid-March to early April, 2017, %

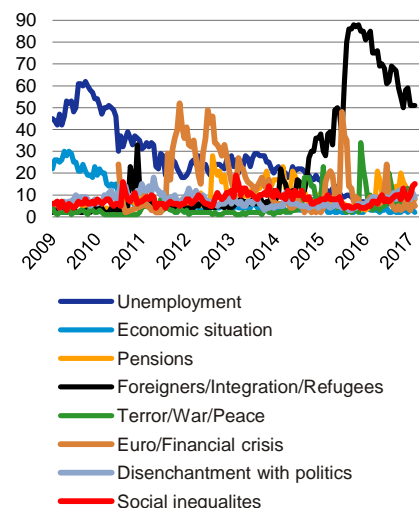


\* Average of major surveys (Allensbach, Infratest Dimap, Forsa, Forschungsgruppe Wahlen, TNS Emnid)

Source: Wahlrecht.de

Most important problems in Germany 5

max 2 answers



Source: Forschungsgruppe Wahlen: Politbarometer (10.03.2017)

Smaller parties under pressure

Anyway the Saarland has corroborated a finding from recent surveys on the federal level, namely that the smaller parties are likely to suffer from the more intense competition between the two big parties. According to past experience a high voter turnout like in the Saarland also impairs the performance of smaller parties.

The result challenges Mr. Schulz and the SPD

The SPD's hope that the momentum triggered by Mr. Schulz's nomination as chancellor candidate would quickly translate into votes was largely disappointed. In the Saarland the Schulz effect was much smaller than widely expected. In the first two months following his nomination in late January, Schulz' popularity ratings have soared and in some surveys even (temporarily) surpassed Merkel's. The SPD, too, seemed to be on the fast track. In just a few weeks it nearly made up the CDU/CSU's 15pps lead in the polls.

It is too early to tell whether the Saarland election has markedly reduced Mr. Schulz' and his party's momentum. So far Schulz has primarily based his emergent campaign on emotional general statements about the (alleged) need for equality, fair wages and more solidarity in Germany. Sooner or later the public is likely to urge him to be more specific. To meet all the demands and high expectations it will hardly be sufficient solely to advocate increased public spending on education, infrastructure and social benefits. Probably Schulz will have to tell the Germans, too, who will have to foot the bill.

The Germans' attitude towards Schulz' major topic is ambiguous

While Schulz' major topic fairness or "social justice" seems to capture debates in the media, the general public's attitude is mixed at best. The ambiguity starts with the topic's relevance. While the Germans seem to worry about "social justice" when they are asked about the life or the situation in Germany in general, it only plays the second fiddle, when people are surveyed about Germany's most important current (political) problems.<sup>12</sup> This can be learned from the Politbarometer survey (Forschungsgruppe Wahlen). According to this survey, on the one hand Mr. Schulz has succeeded in drawing the public attention to his topic. Recently 15% of those asked have added "social inequality" to their list of important problems in contrast to only about 9% on average in the past months before his nomination. On the other hand up to now the Germans' major concern has remained refugees and refugee integration (61% in H2 2016 and 51% recently), which is primarily the CDU/CSU's topic. What is more, a majority of those asked have doubts about the credibility of media reports on the social inequality (differences) in Germany<sup>13</sup> and pollsters presume that most of these respondents deem the reports exaggerated.<sup>14</sup>

A mixed attitude also prevails with respect to the issue itself. Of course, most people would prefer more fairness to less. But surveys present a more complex picture which is not always consistent. Instead the respondent's answers there seem to depend on the specific question, on the context and, of course, on the people asked. In the ZDF-Politbarometer (Forschungsgruppe Wahlen) published on March 10 only a minority (43%) of the respondents has stated that in general the situation in Germany is fair while 53% described it as unfair. In the ARD-Deutschland-Trend (Infratest dimap) published on March 9 the result was nearly

<sup>12</sup> Giesselmann, Marco et al. (2017). Fluchtzuwanderung ganz oben auf der Liste der dringenden politischen Prioritäten. Wirtschaftsdienst H3, 2017 p. 192f.

<sup>13</sup> Köcher, Renate, IfD Allensbach (2017). Interessen schlagen Fakten. FAZ published February 22.

<sup>14</sup> Giesselmann, Marco et al. (2017), 195.



vice versa (fair 50%, unfair 44%). Thus, it seems questionable whether the Germans will buy a campaign strongly focussed on “social justice”.

#### The Saarland election has not altered the prospect of a neck and neck race in the federal election campaign

To sum up: (i) Despite the media’s high attention the Saarland election’s importance should not be overstated. On March 26 only about 1.3% of all potential German voters were called to cast their ballot. Further, more important state elections will follow soon. Especially the election in North Rhine-Westphalia on May 14 will be more of a litmus test. (ii) The parties’ campaigns for the federal elections are still nascent. So far the parties have only published vague ideas for their manifestos. (iii) Mr. Schulz’ and the SPD’s rise in the polls is impressive, but the polls leave it still open whether the SPD will be able to surpass the CDU/CSU which continues to lead by about 1 to 2pps in most polls. To put it the other way: The Saarland election has not changed the prospect of a thrilling federal election campaign including a neck and neck race between the two big parties and the two political camps, i.e. liberal-centre-right and centre-left. (vi) Albeit Martin Schulz’ call for “social justice” seems to dominate the political debate for the time being, the general agenda for the election campaign is still open. Furthermore, surveys indicate that the Germans’ attitude on the issue is ambiguous. (v) We have still nearly six months until September 24 which is quite a long period in this time of unrest.

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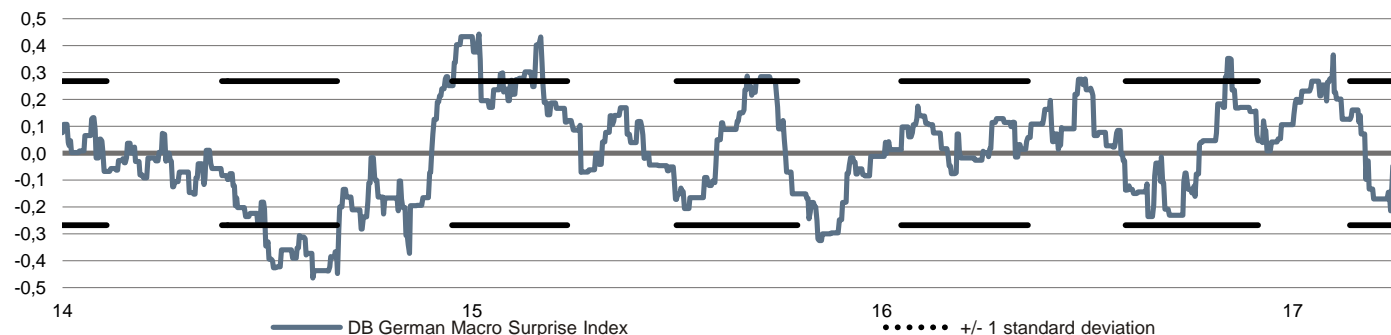
Focus Germany

DB German Macro Surprise Index

The DB German Macro Surprise Index compares published economic data with market forecasts and thus provides clues as to the direction of future forecast revisions.<sup>15</sup>

DB German Macro Surprise Index

Average of last 20 z-scores of data surprises



Values above (below) 0 indicate the data came in better (worse) than expected

Sources: Bloomberg Finance LP, Deutsche Bank Research

Last 20 published economic data for Germany

| Bloomberg Tickers | Indicator                        | Reporting month | Publication date | Current value | Bloomberg consensus | Surprise | Standardised surprise | Quantile rank |
|-------------------|----------------------------------|-----------------|------------------|---------------|---------------------|----------|-----------------------|---------------|
| GRIFPBUS Index    | IFO Business Climate             | 2 2017          | 22.02.17         | 111.1         | 109.6               | 1.5      | 1.0                   | 0.9           |
| GRGDPPGQ Index    | GDP (% qoq)                      | 12 2016         | 23.02.17         | 0.4           | 0.4                 | 0.0      | -0.1                  | 0.3           |
| MPMIDEMA Index    | Markit Manufacturing PMI         | 2 2017          | 01.03.17         | 56.8          | 57.0                | -0.2     | -0.2                  | 0.3           |
| GRUECHNG Index    | Unemployment Change (000's mom)  | 2 2017          | 01.03.17         | -17.0         | -10.0               | 7.0      | 0.1                   | 0.6           |
| GRIMP95Y Index    | Import Price Index (% yoy)       | 1 2017          | 02.03.17         | 6.0           | 5.5                 | 0.5      | 0.7                   | 0.9           |
| GRFRIAMM Index    | Retail Sales (% mom)             | 1 2017          | 03.03.17         | -1.0          | 0.3                 | -1.3     | -0.8                  | 0.2           |
| MPMIDESA Index    | Markit Services PMI              | 2 2017          | 03.03.17         | 54.4          | 54.4                | 0.0      | 0.0                   | 0.5           |
| GRIORTMM Index    | Factory Orders (% mom)           | 1 2017          | 07.03.17         | -7.4          | -2.5                | -4.9     | -2.3                  | 0.0           |
| GRIPIMOM Index    | Industrial production (% mom)    | 1 2017          | 08.03.17         | 2.8           | 2.7                 | 0.1      | 0.2                   | 0.6           |
| GRCAEU Index      | Current Account Balance (EUR bn) | 1 2017          | 10.03.17         | 12.8          | 15.5                | -2.7     | -1.2                  | 0.1           |
| GRZEWI Index      | ZEW Survey Expectations          | 3 2017          | 14.03.17         | 12.8          | 13.0                | -0.2     | 0.0                   | 0.5           |
| GRZECURR Index    | ZEW Survey Current Situation     | 3 2017          | 14.03.17         | 77.3          | 78.0                | -0.7     | -0.2                  | 0.4           |
| GRCP20YY Index    | CPI (% yoy)                      | 2 2017          | 14.03.17         | 2.2           | 2.2                 | 0.0      | 0.2                   | 0.3           |
| GRIFPBUS Index    | IFO Business Climate             | 3 2017          | 27.03.17         | 112.3         | 111.1               | 1.2      | 0.8                   | 0.8           |
| GRIMP95Y Index    | Import Price Index (% yoy)       | 2 2017          | 29.03.17         | 7.4           | 7.0                 | 0.4      | 0.6                   | 0.9           |
| GRCP20YY Index    | CPI (% yoy)                      | 3 2017          | 30.03.17         | 1.6           | 1.8                 | -0.2     | -1.0                  | 0.1           |
| GRFRIAMM Index    | Retail Sales (% mom)             | 2 2017          | 31.03.17         | 1.8           | 0.7                 | 1.1      | 1.1                   | 0.9           |
| GRUECHNG Index    | Unemployment Change (000's mom)  | 3 2017          | 31.03.17         | -30.0         | -10.0               | 20.0     | 0.6                   | 0.8           |
| MPMIDEMA Index    | Markit Manufacturing PMI         | 3 2017          | 03.04.17         | 58.3          | 58.3                | 0.0      | 0.0                   | 0.5           |
| MPMIDESA Index    | Markit Services PMI              | 3 2017          | 05.04.17         | 55.6          | 55.6                | 0.0      | 0.0                   | 0.5           |

Sources: Bloomberg Finance LP, Deutsche Bank Research

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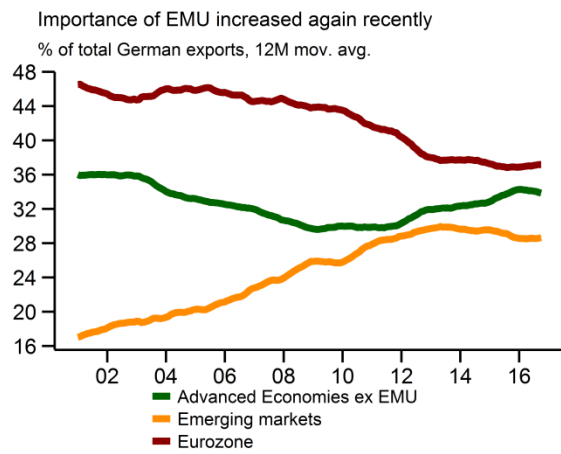
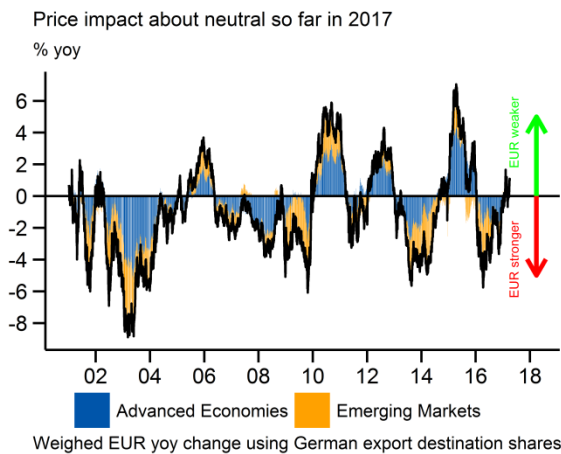
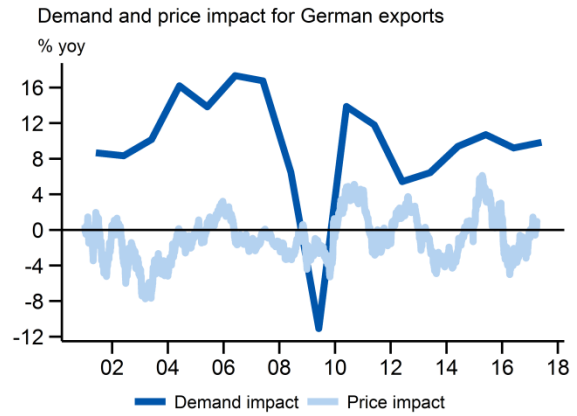
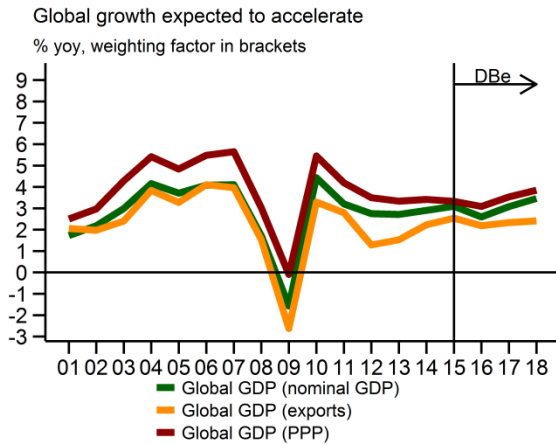
<sup>15</sup> See for details Focus Germany. August 4, 2014.



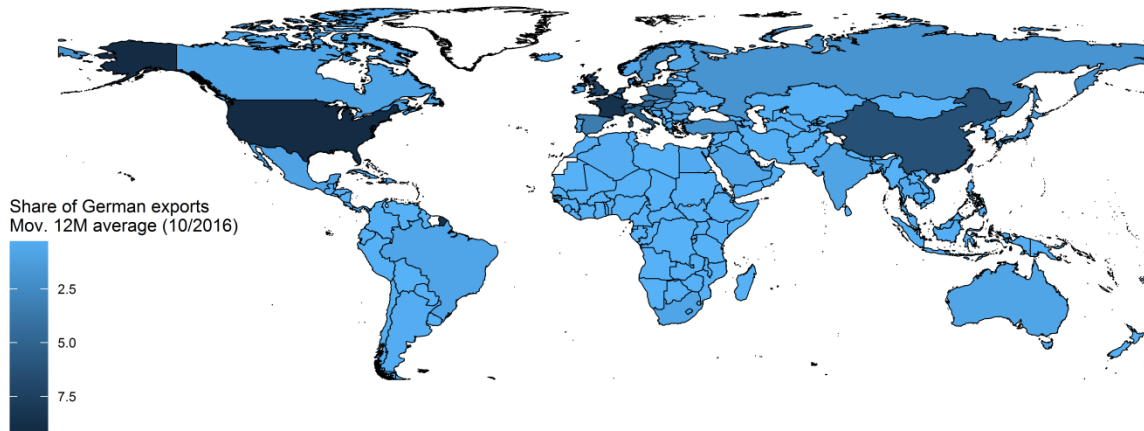
Focus Germany

German Export Indicator

The Export Indicator identifies the effects on German exports of changes in global demand on the one hand, and currency movements on the other (price impact).<sup>16</sup>



German exports focus on Europe, the USA and China



Sources: Eurostat - Comext, Deutsche Bank Research

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<sup>16</sup> See for details Focus Germany, March 3, 2016.





## Focus Germany

### Germany: Events of economic, fiscal and euro politics

| Date        | Event  | Remarks   |
|-------------|--|---|
| 7-8 April   | Eurogroup and informal ECOFIN, Malta                       | (Poss.) Thematic discussion on growth and jobs – ease of doing business and non-price competitiveness, Greece, preparation of international meetings: exchange rate developments among others.  |
| 21-23 April | IWF and World Bank Spring Meeting, Washington D.C.         | Debates on the situation in the global economy and on international financial markets as well as foreign exchange markets.  |
| 27 April    | ECB Governing Council meeting, press conference, Frankfurt | Review of the monetary policy stance. We do not expect any measures before June.  |
| 29 April    | Special European Council (art 50)                          | Debate on the position of the EU27 with regard to the Brexit negotiation and adoption of guidelines for the negotiations.   |
| 28-30 April | FDP party convention, Berlin                               | The Liberals will debate their programme for the Bundestag election and elect the party leadership (party leader Lindner will stand again).   |
| 7 May       | State election in Schleswig-Holstein                       | According to recent surveys the government coalition between the SPD, the Greens and the local SSW could gain a majority of seats in the state parliament in Kiel again.  |
| 14 May      | State election in North Rhine-Westphalia                   | In NRW, like on the federal level, the SPD's popularity ratings have markedly increased as a result of Martin Schulz' nomination as SPD frontrunner in the federal election campaign. While the present SPD-Greens government coalition is likely to lose its majority according to the polls, the SPD will likely have other options to lead a new coalition government in Düsseldorf. |
| 22-23 May   | Eurogroup and ECOFIN, Brussels                             | Debates on economic situation in the euro area – Commission spring forecast, Inflation developments, national insolvency frameworks, (poss.) Greece – state of play.  |
| 8 June      | ECB Governing Council meeting, press conference, Tallinn   | ECB is likely to amend its forward guidance dropping the reference to “lower rates”. Deposit rate could be lifted.  |
| 15-16 June  | Eurogroup and ECOFIN, Brussels                             | (Poss.) Implications of the spring forecast for EDPs/EIPs for euro area countries, thematic discussion on growth and jobs – quality of public finances, (poss.) Greece – state of play, Banking Union, preparation of the June European Council among others.   |
| 16-18 June  | The Greens party convention, Berlin                        | Final debates on the party's election platform and launch of the programme.   |
| 22-23 June  | European Council, Brussels                                 | Debates on the future of the EU and (poss.) on the Brexit negotiations.   |
| 25 June     | SPD, special party convention, Dortmund                    | Adoption of the party's election programme which is very likely to focus on "social justice".   |
| 28 June     | CDU/CSU (t.b.c.)   | Final debates on the sister parties' joint election platform and launch of the programme which is likely to include an Agenda 2025 for the creation and preservation of jobs. (Date not yet officially confirmed.)  |

Source: Deutsche Bank Research

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### Germany: Data calendar

| Date        | Time  | Data                                     | Reporting period | DB forecast | Last value |
|-------------|-------|--|------------------|-------------|------------|
| 6 Apr 2017  | 8:00  | New orders manufacturing (% mom, sa)     | February         | 2.5         | -7.4       |
| 7 Apr 2017  | 8:00  | Industrial production (% mom, sa)        | February         | -1.2        | 2.8        |
| 7 Apr 2017  | 8:00  | Trade balance (EUR bn, sa)               | February         | 20.8        | 18.6       |
| 7 Apr 2017  | 8:00  | Merchandise exports (% mom, sa)          | February         | 2.0         | 2.6        |
| 7 Apr 2017  | 8:00  | Merchandise imports (% mom, sa)          | February         | 0.5         | 2.8        |
| 21 Apr 2017 | 9:30  | Manufacturing PMI (Flash)                | April            | 57.0        | 58.3       |
| 21 Apr 2017 | 9:30  | Services PMI (Flash)                     | April            | 55.0        | 55.6       |
| 24 Apr 2017 | 10:30 | ifo business climate (Index, sa)         | April            | 111.5       | 112.3      |
| 27 Apr 2017 | 14:00 | Consumer prices preliminary (% yoy, nsa) | April            | 1.9         | 1.6        |
| 28 Apr 2017 | 8:00  | Retail sales (% mom, sa)                 | March            | -1.5        | 1.8        |
| 28 Apr 2017 | 10:00 | Unemployment rate (% sa)                 | April            | 5.8         | 5.8        |
| 12 May 2017 | 8:00  | Real GDP (% qoq)                         | Q1 2017          | 0.4         | 0.4        |

Sources: Deutsche Bank Research, Federal Statistical Office, Federal Employment Agency, ifo, Markit

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## Focus Germany

### Financial Forecasts

|                             | US    | JP    | EMU  | GB   | CH    | SE    | DK   | NO   | PL   | HU   | CZ   |
|-----------------------------|-------|-------|------|------|-------|-------|------|------|------|------|------|
| <b>Key interest rate, %</b> |       |       |      |      |       |       |      |      |      |      |      |
| Current                     | 0.875 | -0.10 | 0.00 | 0.25 | -0.75 | -0.50 | 0.05 | 0.50 | 1.50 | 0.90 | 0.05 |
| Jun 17                      | 1.125 | -0.10 | 0.00 | 0.25 | -0.75 | -0.50 | 0.05 | 0.50 | 1.50 | 0.90 | 0.05 |
| Sep 17                      | 1.375 | -0.10 | 0.00 | 0.25 | -0.75 | -0.50 | 0.05 | 0.50 | 1.50 | 0.90 | 0.05 |
| Dec 17                      | 1.375 | -0.10 | 0.00 | 0.25 | -0.50 | 0.05  | 0.50 | 1.50 | 0.90 | 0.05 | 0.00 |

### 3M interest rates, %

|         |      |      |       |      |
|---------|------|------|-------|------|
| Current | 1.15 | 0.06 | -0.34 | 0.34 |
| Jun 17  | 1.48 | 0.05 | -0.30 | 0.40 |
| Sep 17  | 1.73 | 0.05 | -0.30 | 0.40 |
| Dec 17  | 1.73 | 0.05 | -0.30 | 0.40 |

### 10J government bonds yields, %

|         |      |      |      |      |
|---------|------|------|------|------|
| Current | 2.35 | 0.07 | 0.24 | 1.06 |
| Jun 17  | 3.60 | 0.05 | 0.50 | 1.40 |
| Sep 17  | 3.60 | 0.03 | 0.65 | 1.60 |
| Dec 17  | 3.10 | 0.00 | 0.80 | 1.75 |

### Exchange rates

|         | EUR/USD | USD/JPY | EUR/GBP | GBP/USD | EUR/CHF | EUR/SEK | EUR/DKK | EUR/NOK | EUR/PLN | EUR/HUF | EUR/CZK |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Current | 1.07    | 110.49  | 0.86    | 1.24    | 1.07    | 9.55    | 7.44    | 9.18    | 4.25    | 309.38  | 27.06   |
| Jun 17  | 1.08    | 119.00  | 0.95    | 1.14    | 1.04    | 9.39    | 7.46    | 8.90    | 4.38    | 312.63  | 27.00   |
| Sep 17  | 1.03    | 122.00  | 0.94    | 1.09    | 1.00    | 9.32    | 7.46    | 8.80    | 4.35    | 316.31  | 26.30   |
| Dec 17  | 0.95    | 125.00  | 0.90    | 1.06    | 9.25    | 7.46    | 8.50    | 4.40    | 320.00  | 26.00   | 0.00    |

Sources: Bloomberg, Deutsche Bank



## Focus Germany

### German data monitor

|                                    | Q1<br>2016 | Q2<br>2016 | Q3<br>2016 | Q4<br>2016 | Q1<br>2017 | Oct<br>2016 | Nov<br>2016 | Dec<br>2016 | Jan<br>2017 | Feb<br>2017 | Mar<br>2017 |
|------------------------------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Business surveys and output</b> |            |            |            |            |            |             |             |             |             |             |             |
| <b>Aggregate</b>                   |            |            |            |            |            |             |             |             |             |             |             |
| Ifo business climate               | 106.6      | 107.9      | 108.1      | 110.7      | 111.1      | 110.5       | 110.5       | 111.0       | 109.9       | 111.1       | 112.3       |
| Ifo business expectations          | 100.6      | 101.8      | 102.2      | 105.7      | 104.4      | 106.0       | 105.4       | 105.6       | 103.2       | 104.2       | 105.7       |
| <b>Industry</b>                    |            |            |            |            |            |             |             |             |             |             |             |
| Ifo manufacturing                  | 100.5      | 102.0      | 102.5      | 105.3      | 106.1      | 105.8       | 104.9       | 105.3       | 104.5       | 105.9       | 107.9       |
| Headline IP (% pop)                | 1.7        | -0.8       | 0.3        | 0.1        |            | 0.5         | 0.5         | -2.4        | 2.8         |             |             |
| Orders (% pop)                     | 0.9        | -0.4       | 0.7        | 4.0        |            | 4.8         | -3.6        | 5.2         | -7.4        |             |             |
| Capacity Utilisation               | 85.0       | 84.4       | 84.8       | 85.7       | 86.0       |             |             |             |             |             |             |
| <b>Construction</b>                |            |            |            |            |            |             |             |             |             |             |             |
| Output (% pop)                     | 1.4        | -5.3       | 1.9        | 3.1        |            | 2.0         | 3.7         | -2.4        | -5.6        |             |             |
| Orders (% pop)                     | 6.9        | -0.3       | -4.2       | 7.9        |            | 8.1         | -0.6        | 0.4         | -0.3        |             |             |
| Ifo construction                   | 122.8      | 124.6      | 126.9      | 129.7      | 128.4      | 128.9       | 129.4       | 130.7       | 129.2       | 127.5       | 128.4       |
| <b>Consumer demand</b>             |            |            |            |            |            |             |             |             |             |             |             |
| EC consumer survey                 | -6.1       | -3.2       | -2.5       | -1.5       | -0.6       | -2.5        | -1.2        | -0.7        | 0.2         | -2.1        | 0.2         |
| Retail sales (% pop)               | 0.6        | 0.0        | 0.3        | 0.7        |            | 1.5         | -0.7        | 0.6         | -1.0        | 1.8         |             |
| New car reg. (% yoy)               | 4.5        | 9.4        | 4.2        | -0.3       | 6.7        | -5.6        | 1.5         | 3.7         | 10.5        | -2.7        | 11.4        |
| <b>Foreign sector</b>              |            |            |            |            |            |             |             |             |             |             |             |
| Foreign orders (% pop)             | 2.1        | -1.4       | 2.6        | 2.8        |            | 4.5         | -4.1        | 3.7         | -4.9        |             |             |
| Exports (% pop)                    | 0.5        | 0.4        | -0.2       | 2.3        |            | 0.5         | 3.5         | -2.8        | 2.6         |             |             |
| Imports (% pop)                    | -0.1       | -1.2       | 1.4        | 3.6        |            | 1.2         | 3.4         | 0.1         | 2.8         |             |             |
| Net trade (sa EUR bn)              | 61.5       | 65.6       | 61.8       | 60.1       |            | 20.5        | 21.3        | 18.3        | 18.6        |             |             |
| <b>Labour market</b>               |            |            |            |            |            |             |             |             |             |             |             |
| Unemployment rate (%)              | 6.2        | 6.1        | 6.1        | 6.0        | 5.9        | 6.0         | 6.0         | 6.0         | 5.9         | 5.9         | 5.8         |
| Change in unemployment (k)         | -33.3      | -24.7      | -24.0      | -32.7      | -65.0      | -16.0       | -8.0        | -21.0       | -27.0       | -17.0       | -30.0       |
| Employment (% yoy)                 | 1.3        | 1.2        | 1.2        | 1.3        |            | 1.3         | 1.3         | 1.4         | 1.4         | 1.4         |             |
| Ifo employment barometer           | 108.4      | 108.2      | 109.0      | 111.2      | 110.2      | 110.6       | 111.1       | 111.8       | 110.7       | 110.6       | 109.4       |
| <b>Prices, wages and costs</b>     |            |            |            |            |            |             |             |             |             |             |             |
| <b>Prices</b>                      |            |            |            |            |            |             |             |             |             |             |             |
| Harmonised CPI (% yoy)             | 0.1        | 0.0        | 0.4        | 1.0        | 1.9        | 0.7         | 0.7         | 1.7         | 1.9         | 2.2         | 1.5         |
| Core HICP (% yoy)                  | 1.1        | 1.0        | 1.1        | 1.2        |            | 1.1         | 1.0         | 1.4         | 1.1         | 1.1         |             |
| Harmonised PPI (% yoy)             | -2.8       | -2.6       | -1.7       | 0.2        |            | -0.4        | 0.1         | 1.0         | 2.4         | 3.1         |             |
| Commodities, ex. Energy (% yoy)    | -14.6      | -6.5       | 2.9        | 19.2       | 32.7       | 9.1         | 19.3        | 29.5        | 34.5        | 37.7        | 26.3        |
| Oil price (USD)                    | 35.1       | 46.9       | 47.0       | 51.1       |            | 51.4        | 47.1        | 54.9        | 55.5        | 56.0        |             |
| <b>Inflation expectations</b>      |            |            |            |            |            |             |             |             |             |             |             |
| EC household survey                | 5.3        | 3.6        | 6.2        | 10.0       | 18.9       | 7.4         | 11.8        | 10.8        | 17.3        | 18.9        | 20.6        |
| EC industrial survey               | -2.4       | 1.7        | 3.0        | 6.2        | 13.0       | 5.4         | 6.8         | 6.3         | 11.4        | 13.8        | 13.8        |
| <b>Unit labour cost (% yoy)</b>    |            |            |            |            |            |             |             |             |             |             |             |
| Unit labour cost                   | 2.1        | 0.3        | 1.5        | 1.7        |            |             |             |             |             |             |             |
| Compensation                       | 2.6        | 2.0        | 2.3        | 2.3        |            |             |             |             |             |             |             |
| Hourly labour costs                | 3.9        | 0.6        | 2.4        | 3.5        |            |             |             |             |             |             |             |
| <b>Money (% yoy)</b>               |            |            |            |            |            |             |             |             |             |             |             |
| M3                                 | 7.7        | 7.2        | 6.6        | 5.7        |            | 5.4         | 5.1         | 5.7         | 5.7         | 5.6         |             |
| M3 trend (3m cma)                  |            |            |            |            |            | 5.7         | 5.4         | 5.5         | 5.6         |             |             |
| Credit - private                   | 2.0        | 2.7        | 2.6        | 2.9        |            | 3.0         | 2.9         | 2.9         | 3.1         | 3.0         |             |
| Credit - public                    | -9.1       | 9.7        | -0.1       | 8.9        |            | 4.2         | 5.3         | 8.9         | 15.5        | 18.4        |             |

% pop = % change this period over previous period.

Sources: Deutsche Bundesbank, European Commission, Eurostat, Federal Employment Agency, German Federal Statistical Office, HWWI, ifo, Markit



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