



## German industry: Little more than stagnation in 2016

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Industrial output in Germany is likely to expand by around 0.5% in real terms in 2015. For 2016, we expect growth close to zero. This means the sustained phase of relatively muted economic dynamics of industrial output seen since 2012 would continue. The rather stable development of producer prices in recent months also provides evidence that would indicate subdued industrial activity. Our forecast for industrial output implies that manufacturing's share in total German gross value added will shrink for 2015 and 2016.

German industry's low level of growth momentum is disappointing, as many underlying macroeconomic conditions are favourable at the moment. This refers to the low interest rates, the current valuation of the euro as well as low commodity prices. It is evident that the weak euro is supporting exports to the United States and the United Kingdom. However, one would expect these factors to have a greater effect on stimulating performance as a whole.

At an industry level, many of the major German industrial sectors will not expand their production activities – or will do so only marginally, at best – according to our current forecast. We expect the automotive industry to increase its output by 0.5% in 2016. On average, the metals industry (metal production and metal products) could also see a slight uptick. We believe mechanical engineering and electrical engineering are both poised for a round of stagnation. Domestic production in the chemicals industry could decline further in 2016. We anticipate that the pharmaceuticals industry and the plastics industry will each see output growth of 1%.

It is still notable that industry is reluctant when it comes to investing in Germany, while the service sector is keener to invest. The amount of industry's real net fixed assets in 2013 (more recent figures are not available) was slightly below the levels seen in 1995. This is worrying in that the companies' capitalised R&D expenses are included in real net fixed assets.

Without sufficient investment in research and development activities, new products and production technologies, it is fundamentally more difficult to raise productivity levels and to be competitive at an international level. In many cases, this relates more to Germany as a business location than it does to German companies, as the latter are certainly stepping up investments in foreign countries where they are also increasingly establishing R&D facilities. For Germany in particular, which is a high-wage location, those investments in the domestic capital stock would prove necessary for helping to raise corporate productivity in the long term, to automate production processes further and enhance their flexibility, as well as to link those processes with suppliers and customers more closely (keyword: connected industry, otherwise known as "Industry 4.0").



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### Macroeconomic environment: Consumption the most important economic pillar – investments and exports more subdued in 2016

Forecasts for Germany: GDP growth by component (% yoy)

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	2014	2015P	2016P
GDP	1.6	1.7	1.9
Private consumption	0.9	2.0	1.8
Public expenditure	1.7	1.8	0.4
Capital expenditure	3.5	2.6	1.9
Machinery & equipment	4.5	4.3	2.0
Construction	2.9	1.5	2.4
Inventories (pp)	-0.3	-0.6	-0.1
Exports	4.0	5.7	4.2
Imports	3.7	5.9	3.8
Net exports (pp)	0.4	0.4	0.3
Consumer prices	0.9	0.3	1.3
Unemployment rate (%)	6.7	6.4	6.6

Sources: Federal Statistical Office, Bundesbank, Federal Employment Agency, Deutsche Bank Research

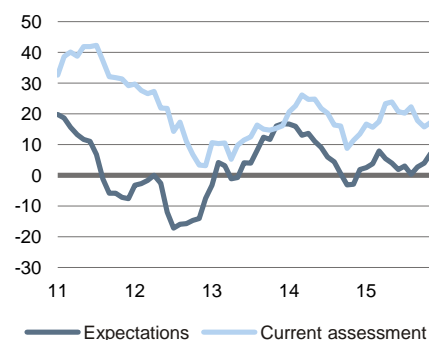
Economic growth in Germany is likely to exceed the long-term average in 2015 and 2016. Despite a wide range of economic and geopolitical risks both within Europe and beyond its borders, we expect real GDP growth of 1.7% for 2015 (2014: +1.6%). In 2016, GDP could even expand by 1.9%. Unlike in many earlier business cycles, private consumption is proving itself a key pillar of the economy in both of these years. Private consumption is likely to increase by 2% in real terms in 2015 and by 1.8% in 2016, growing approximately twice as fast as when it is compared over the long term. The labour market, which is marked by high employment and low unemployment, is providing stimulus to this end. Added to this are wage increases above the long-term average. Furthermore, the low mobility and energy prices have resulted in real income growth, though no additional momentum in this regard is anticipated for 2016 as the prices in question are likely to have bottomed out. The high level of net immigration to Germany is also a contributing factor to the strong growth that private consumption has seen.

While real capital investments will also contribute to GDP growth in 2015 and 2016, the momentum will remain subdued. Capacity utilisation rates are still at a low level in many sectors in Germany and (even more so) in other EMU states. Companies are therefore acting with caution with respect to expanding their investment activities. In 2016, investment in equipment is likely to grow in Germany by only 2% in real terms (2015: +4.3%). However, construction investment is poised to pick up (2016: +2.4% compared to +1.5% in 2015). According to our current forecast, foreign trade stands to develop somewhat more favourably in 2015 and 2016 than it has in the past three years. The relatively weak euro in a long-term comparison and the gradual economic recovery in the eurozone are supporting factors where this is concerned. In the first nine months of 2015, the total export of goods from Germany was up year on year by 7% in nominal terms, though the devaluation of the euro against the currencies of key trade partners has played a role. However, a divergent trend is emerging overall: On the one hand, the trading volume with key European and several non-European partner countries has picked up appreciably in 2015; this is especially true of trade with the US in the current year. On the other hand, however, German exporters are feeling the lower levels of growth or recession in several emerging markets (China, Russia and Brazil). As a result, exports to these countries are likely to decrease in the current year – and quite considerably so in the case of Russia. We do not anticipate a swift recovery in 2016, and exports to the US, which are already at a high level, will grow more slowly than they have in 2015.

Expectations have improved of late

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Manufacturing, balance of positive and negative company reports



Source: ifo Institute

All in all, the domestic market has been and will continue to be largely responsible for supporting the German economy in 2015 and 2016. Investments and exports are likely to expand at a slower rate in 2016 than in 2015. For the export-oriented industry in Germany with its focus on capital goods, this is not the best omen, despite the expected above-average GDP growth in Germany.

### Manufacturing industry: 2016 likely to experience zero growth

The economic development of manufacturing (industry) in Germany has not followed a uniform trend in recent months. The same is true of various indicators. Adjusted for seasonal fluctuation and price changes, production in Q3 2015, for example, was down 0.5% on Q2, while the two previous quarters recorded quarter-on-quarter growth of 0.3% and 0.2% respectively. At the same time, industrial output on a monthly basis in the year to date has experienced many ups and downs. On the whole, industrial companies succeeded in

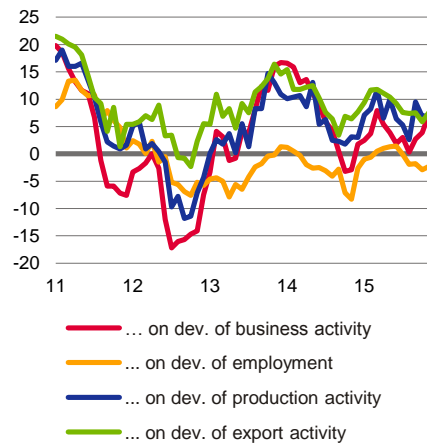


## German industry: Little more than stagnation in 2016

### Sentiment indicators in the German industry recover

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Company expectations, balance of positive and negative company reports

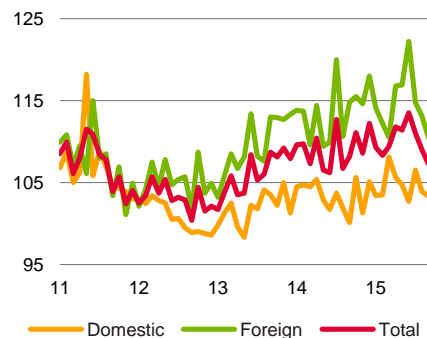


Source: ifo Institute

### Foreign orders declining

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Manufacturing, real order intake, 2010=100, seasonally adjusted

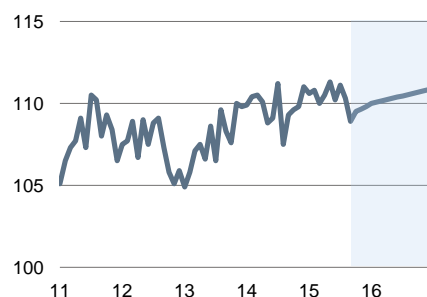


Source: Federal Statistical Office

### Flat upward-facing trend in 2016

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Manufacturing, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

increasing production in the first nine months of 2015 by 0.7% in real terms year on year.

The development of order intake in the manufacturing industry was somewhat less prone to fluctuations (at least in 2015). The level of new orders showed a relatively constant upward trend over the course of the first six months, though it eased off considerably in the past three months. In Q3, incoming orders were down on the previous quarter by 2.8% in real terms. In a year-on-year comparison, however, the first nine months recorded growth of 1.4%, while orders from domestic and foreign customers witnessed growth that was just as high.

Surveys conducted by the ifo Institute reveal that industry expectations of future business developments have increased for the third consecutive month – an ostensible sign of optimism. However, after a detailed look at the individual industrial sectors, this optimism gives way to disillusionment, as the rise in business expectations witnessed in the past months traces back to a large extent to a (surprisingly steep) increase in this leading indicator in the automotive industry. In nearly all other major industrial sectors, business expectations dropped (further) or the increase was far less pronounced. Industry's capacity utilisation rose slightly at the beginning of Q4 after having previously dropped for two consecutive quarters.

German industry output will once again experience a quarter-on-quarter decline in Q4 2015, according to our forecast. As a result, real output growth is likely to amount to approximately 0.5% for full-year 2015; this means a downward revision of our forecast (from +1% previously). For 2016, we anticipate a flat or, at best, slightly upward-facing trend for industrial output. That would result in growth of around zero for the entire year, continuing the sustained phase of relatively muted economic dynamics of industrial production seen since 2012. The rather stable development of producer prices in recent months also provides evidence that would indicate subdued industrial activity.

Our forecast for industrial output implies that manufacturing's share in total German gross value added will shrink for 2015 and 2016. While German industry has performed very well in international competition in recent years, industry is unlikely to experience a macroeconomic renaissance in the short term.

It is also appropriate to consider the low level of growth for industrial output that we forecast for 2015 and 2016 with respect to several general economic conditions: The (global) interest rate level continues to be low, for example. In addition, the falling energy and commodity prices as well as the favourable valuation of the euro should actually serve as a kind of stimulus package for the German economy. In light of these expansionary factors, the dynamics of production activity in Germany is disappointing. What is more, the favourable general conditions outlined here could entice companies to use fewer resources for increasing their own productivity. In a loose adaptation of former German Federal Minister of Economic Affairs Karl Schiller's memorable quip, the horses (i.e. the industrial companies) have been led to water thanks to the favourable economic factors; however, they have little desire now to "drink".

### Automotive industry: Noticeable skid marks for 2016

During the first nine months of 2015, the automotive industry in Germany succeeded in increasing production by 2.5% in real terms year on year (2014: +4.3%). Orders even surpassed the level for 2014 by more than 3%, although incoming orders from domestic customers were slightly higher than from foreign customers. Both indicators have been quite volatile in recent months. Despite

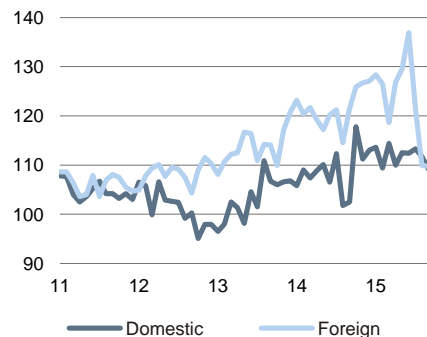


## German industry: Little more than stagnation in 2016

### Strong decrease in foreign orders

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Automotive industry, real order intake, 2010=100, seasonally adjusted

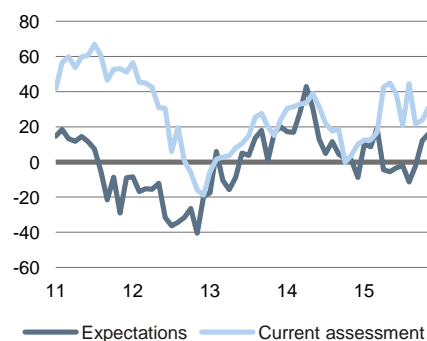


Source: Federal Statistical Office

### Current assessment better than expectations

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Automotive industry, balance of positive and negative company reports

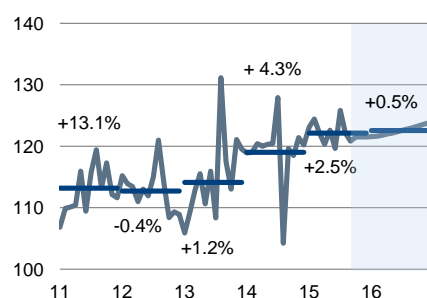


Source: ifo Institute

### Weaker impetus from demand side

8

Automotive industry, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

the good result in a year-on-year comparison, no stable upward trend can be spotted.

Foreign demand has provided the German automotive industry with a decisive fillip in 2015. From January to September 2015, the industry's total value of exports (including truck suppliers) was up year on year by nearly 12% in nominal terms. Exports to the United States (+25.5% yoy) and the United Kingdom (+21.3%) have enjoyed particularly strong expansion. The devaluation of the euro against the US dollar and British pound has played an important role in this development. In addition, the partly robust revival in the demand for cars in key eurozone countries (e.g. Spain and Italy) as well as in Eastern Europe has had a positive impact, as the German automotive industry has been able to increase exports to these countries. In contrast, exports to Russia (-36.1%) and China (-13.1%) have fallen year to date. The recession in Russia is also having a negative effect on the local automotive market. Added to this are the EU's economic sanctions on Russia. In China, the demand for cars has cooled off in recent months following very strong continuous growth in the previous years. Furthermore, Chinese demand for vehicles, parts and components from German companies is increasingly served by local production sites. Domestic demand is propping up the industry's output in 2015. New passenger car registrations in Germany are likely to increase by some 5% this year.

Foreign demand will remain crucial in 2016 to the export-oriented automotive industry. The upturn in demand for cars in Western Europe is likely to continue, though at a slower pace than in 2015. In the United States, we anticipate the car boom to cool off next year. While we believe the euro will continue to depreciate against the US dollar, exports to the United States are likely to experience only a slight increase in nominal terms in 2016. Single-digit growth is likely on the Chinese automotive market in 2016. The localisation of production, however, continues to advance. This dampens the economic effects of production in Germany. New passenger car registrations in Germany are likely to increase once again in light of the favourable consumer climate. With an increase of around 2%, however, the pace would slow down compared to 2015.

The current scandal over the installation of manipulation software in diesel passenger cars manufactured by Volkswagen AG is likely to curb demand for cars with this type of engine technology. However, we believe the effect on the overall automotive industry in Germany will be relatively minor. Thus, we expect to see substitution effects between individual manufacturers. In addition, Europe is the only major diesel market in the world. Politics will now be focusing more on diesel technology, however. The stricter emissions requirements that are planned will lead to higher costs for the manufacturers. And the efforts made by the German automotive industry to gain a stronger foothold vis-à-vis diesel engines in the United States (and elsewhere) have suffered a setback. It is interesting to note that the industry's business expectations increased considerably the first two months after news of the scandal had broken. Export expectations have also recovered at the latest reading.

Overall, we anticipate an increase in output 2.5% in real terms for the German automotive industry in 2015. Due to the somewhat weaker demand for cars, growth of only 0.5% is likely in 2016.

### Mechanical engineering: Outlook still quite subdued

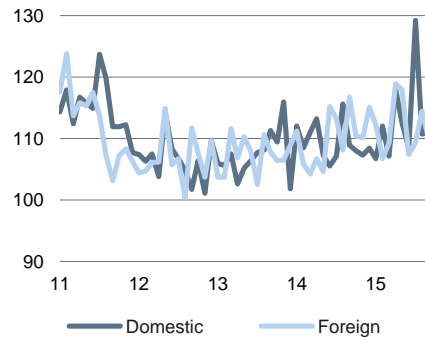
Mechanical engineering started 2015 with a production overhang. However, the expectation at the beginning of the year that significant global conflicts – such as the one between Russian and Ukraine – would die down, proved to be unfounded. In addition, the slowdown of growth in China also reduced demand for German machinery. As a result, the level of foreign business failed to live up



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### 9 Volatile orders without a clear trend

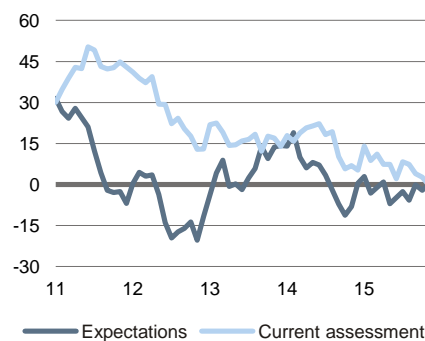
Mechanical engineering, real order intake, 2010=100, seasonally adjusted



Source: Federal Statistical Office

### 10 Current assessment trending downwards

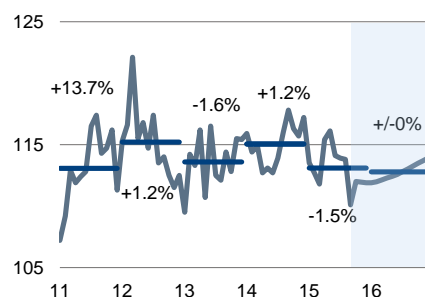
Mechanical engineering, balance of positive and negative company reports



Source: ifo Institute

### 11 Still little momentum

Mechanical engineering, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

to the still rather optimistic expectations at the start of the year. Even the German mechanical engineering companies' US business, which has benefited not least because of the devaluation of the euro against the US dollar, was unable to compensate fully for the weak levels seen in other sales regions. At the moment, we do not anticipate any noticeable upturn in production through the end of 2015. As a result, mechanical engineering output is likely to be down on the previous year by 1.5% in real terms; until now, we had expected stagnation.

The prospects for mechanical engineering in 2016 are only slightly better than in the current year. At the most, we expect zero growth for output in 2016; that nearly corresponds to the average in the manufacturing industry. For mechanical engineering, which, to date, has been especially subject to economic fluctuations, 2016 stands to be the fifth consecutive year of an unprecedented period of stagnation in recent decades with, at best, minor differences. In 2016, the boost from domestic business to Germany's mechanical engineering industry will be subdued. Key industrial customers, such as the German automotive industry, are poised to post marginal gains at most. In contrast, the German construction industry can once again expect to see output growth. In terms of investing in new machinery, the interest rate environment in Germany and the euro area continues to be favourable, which always facilitates financing.

The German mechanical engineering industry's export business is likely to vary quite considerably in 2016. For example, sales in the US are poised to develop favourably, despite the upcoming turnaround in interest rates there, as the industrial sectors that are relevant to mechanical engineering investments are contributing to the country's continued economic growth. The appreciation of the US dollar, not least as a result of disparate interest rate trends in the eurozone and the US, would additionally support US demand for German and European machinery. From the standpoint of the mechanical engineering industry, another positive factor is the expected development of global commodity prices, which are likely to remain comparatively low in 2016. The low prices are clearly having a negative impact on resource-rich countries and decreasing the level of investment in machinery there. This stands in contrast to the international community, however, where the low commodity prices mean that consumers and industrial sectors enjoy considerable savings, which, in turn, can be used for further acquisitions and investments. All things considered, this is likely to generate positive momentum for German mechanical engineering companies.

In sharp contrast to this development is the business in Russia, which continues to put a serious strain on German mechanical engineering companies. The low commodity prices and the economic sanctions that have been imposed are having a highly negative impact: Russia's export revenues are declining, and actual demand for German machinery is dropping as well. Many emerging markets and developing countries will also prove to be a major challenge in 2016. In many places, the macroeconomic catch-up process has stalled, and 2016 is not likely to witness a trend reversal. Since emerging markets are only relevant as a source of demand for machinery if the level of machinery utilisation in those countries begins to rise, we do not anticipate 2016 to provide a boost to this end.

At first glance, our forecast for stable output levels in the German mechanical engineering industry does not seem terribly bold. But due to the wide range of challenges – especially where the export business is concerned – it is not without risk. The forecast is therefore daring and harbours a kind of residual risk.

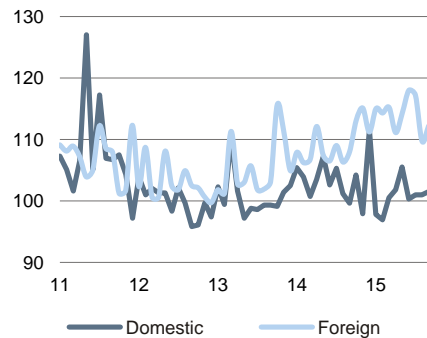


## German industry: Little more than stagnation in 2016

### Foreign orders slightly on the rise

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Electrical engineering, real order intake, 2010=100, seasonally adjusted



Source: Federal Statistical Office

### Electrical engineering: Mixed signals

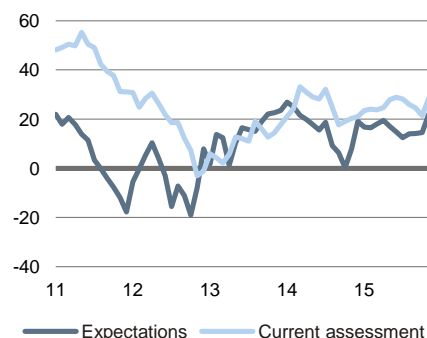
The electrical engineering industry's output levels in Germany started out high at the beginning of 2015 and have since deteriorated over the course of the year to date. Adjusted for price, output was up by only 0.7% year on year during the first nine months of 2015 (full-year 2014: +2.5%). Order intake was 2% higher than it was during the same period in 2014. Orders from foreign customers were considerably higher (+5.9% yoy) than those from German customers (-2.4%). However, the fact that the rate of incoming orders has decreased in recent months is cause for concern.

The number of electrical engineering exports has also developed favourably in 2015. The segment comprising data processing devices and electrical and optical products (NACE code 26) succeeded in increasing the value of its exports from January to September 2015 by close to 9% in nominal terms year on year. The growth in exports to the United States (+19.4% yoy) stands out where this is concerned thanks to the favourable effect of the weak euro. The United States represents the most important export market for this line of business. With regard to electrical equipment (NACE code 27), which marks the electrical engineering industry's second segment, exports are up year to date by 4.2% in nominal terms compared to the corresponding figure for 2014. Among the major export markets, the United States recorded the greatest momentum (+15.7% yoy). Exports to Russia have continued to plummet in both segments.

### Expectations stable in positive territory

13

Electrical engineering, balance of positive and negative company reports



Source: Ifo Institute

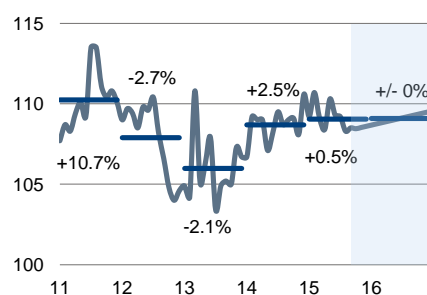
Looking ahead to the remaining months of 2015 and to 2016, one positive development for the time being is that the electrical engineering industry's business expectations are clearly in positive territory and quite stable. This stands in contrast to many other industrial sectors at the moment. Furthermore, capacity utilisation rates increased slightly at the start of Q4 2015. However, the recent downward trend in output and orders, as well as the somewhat muted export prospects for 2016, suggest that caution is advisable. Overall, we expect that output for Q4 2015 will be down slightly on Q3. In that case, output would grow by 0.5% in real terms for 2015. Among the major electrical engineering segments, cable and electrical installation material production is likely to turn in the worst performance for 2015. In the first nine months, this segment was down by 5.9% in real terms year on year. On the other hand, above-average growth has been recorded for the production of measurement, control, navigation and other similar instruments. To date, output is up by 8% year on year.

As a result of the rather weak development of output in Q4 that we anticipate, the electrical engineering industry as a whole would begin 2016 with a statistical underhang. While we expect domestic output in the industry to increase again slightly over the course of 2016, it will likely "merely" suffice to offset this underhang. We therefore believe that the probability of witnessing stagnation in real terms as regards domestic output in the electrical engineering industry is good.

### Output is likely to stagnate in 2016

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Electrical engineering, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

The favourable consumer climate in Germany suggests that the production of consumer products will develop better than the industry average in 2016. However, these segments (e.g. consumer electronics, household appliances) face stiff competition from foreign production sites or imports (especially from the Far East). In terms of capital goods, the domestic demand for traditional power plant technology is likely to remain weak. Power plant operators are reluctant to invest in gas and coal-fired power plants because the capacity utilisation rates of such power plants are falling due to the expansion and priority feed-in of renewable energy sources and due to excess capacities currently on the market, among other reasons. If state export or investment financing (e.g. export credit guarantees) for traditional power plant technology (e.g. due to a political decision to cast coal as an energy source in a negative light) were scaled back, it would make producing these products in Germany more difficult.



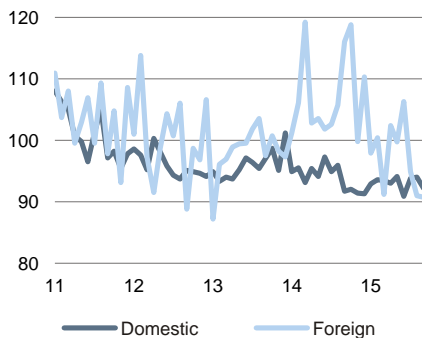
## German industry: Little more than stagnation in 2016

### Metals industry: Little momentum

#### Foreign orders trending downwards

15

Metals production and processing, real order intake, 2010=100, seasonally adjusted

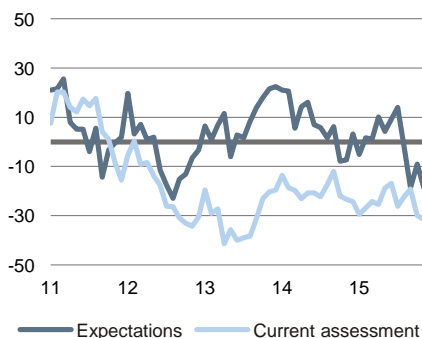


Source: Federal Statistical Office

#### Expectations and current assessment negative

16

Metals production and processing, balance of positive and negative company reports

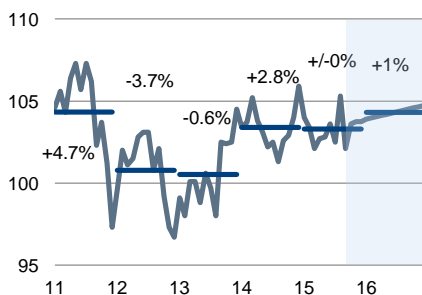


Source: ifo Institute

#### Small increase in output in 2016 after stagnation in 2015

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Metals production and processing, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

#### Metals production: Slight growth possible again only in 2016

The German metals industry started 2015 with a production overhang and the expectation that the macroeconomic – and therefore the industry's – economic situation was poised to gradually improve. After mid-year, expectations cooled down markedly and are now in negative territory. The about-turn is due to a range of influencing factors. The fact that key industrial customers in Germany have failed to live up to the favourable expectations at the outset of 2015 (as seen in the electrical and mechanical engineering industries as well) and their output levels will stagnate or even decrease slightly as a result has played a crucial role to this end. Compounding this is the subdued economic recovery in Europe, which, with a share of 75%, represents the largest foreign sales region in quantitative terms for metal producers. Metals production is likely to stagnate overall during the current year, as we do not expect output to pick up by the end of 2015.

The prospects for German metals production in 2016 are, at best, slightly better. All things considered, we anticipate output to grow by 1%. Key industrial customers in Germany, such as the electrical engineering, mechanical engineering and automotive industries, are poised to experience stagnant or marginal levels of growth, and will therefore largely fail to provide any momentum. However, the construction sector is cause for some optimism as it continues to grow – and not just because of the steep rise in net immigration levels to Germany in recent months and the related housing needs. The strengthening of the economic situation in key European countries – i.e. the main sales region for metals producers – is proving beneficial to the demand for exports. If China's economy stabilises in the year ahead, as we expect it to, China's steel exports to European countries, which are also important customers for German producers, will subside somewhat and improve the business prospects of German producers. As the global economic situation is poised to remain quite muted in 2016, the prices for ferrous and non-ferrous metal ores are likely to remain relatively cheap. Even a moderate devaluation of the euro against the leading global invoicing currency for metals – the US dollar – will change virtually nothing in this regard for 2016. This will ease the cost burden for steel and other metals producers.

#### Metal products to see stagnant levels in 2016

The business expectations of makers of metal products, which were still in positive territory at times in 2015, have fallen somewhat in the second half of the year. On the other hand, the metalworking companies believe the current business situation is still almost as favourable as it was in the two previous years. All indications suggest that the number of incoming orders for metal products will not improve beyond remaining constant at today's level in the months ahead. As a result, the metalworkers' output, which grew by nearly 3% last year, would show stagnation for 2015 and end up approximately on par with 2014.

The prospects for makers of metal products are, on the whole, not any better for 2016 than for 2015. While the improvement in real incomes and the rising number of immigrants who require at least basic housing and other services and supplies benefit consumption-related metal products, ranging from household goods to tools, the competition from foreign suppliers is increasing at the same time in these segments due to imports – a fact that is clouding production prospects in Germany. Industrial metal products, such as lightweight components for the automotive industry, will face a difficult year ahead in 2016



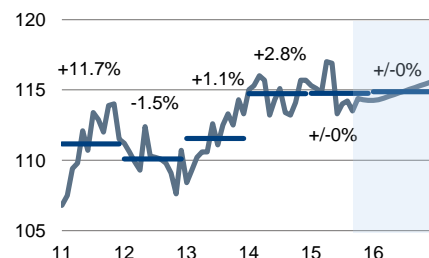


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### Phase of stagnation continues

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Metal products, real production index, 2010=100, seasonally adjusted

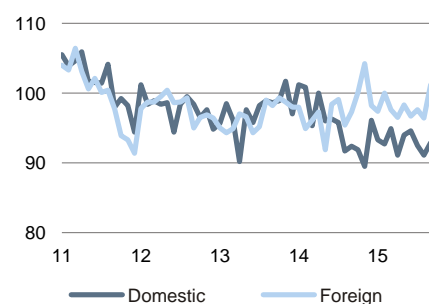


Sources: Federal Statistical Office, Deutsche Bank Research

### Weaker domestic orders

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Chemicals industry, real order intake, 2010=100, seasonally adjusted

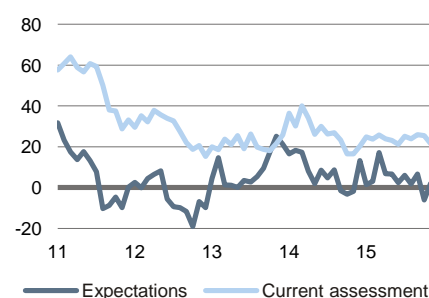


Source: Federal Statistical Office

### Expectations only marginally in positive territory

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Chemicals industry, balance of positive and negative company reports

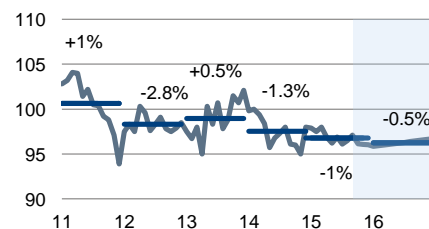


Source: ifo Institute

### Output is expected to decline further

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Chemicals industry, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

due to a lack of growth prospects in customer industries. Construction-related metal products might perform better than the other major metalworking product groups due to the relatively strong construction sector. If this forecast is confirmed, 2016 is likely to see another round of stagnation in metals processing.

### Chemicals industry: Start of a structural weakness?

In the German chemicals industry, domestic output has experienced a downward trend since the start of the year – despite a slight recovery recently. Output in the first nine months of 2015 is consequently down on the previous year's figure by 0.9% in real terms. In 2014, production already decreased by 1.3%. The situation looks similar for incoming orders, with a year-on-year decline of 0.8% over the course of the year to date. The drop in orders from German customers has been appreciable (-3.7%), while orders from foreign customers have gone up by 1.4%. Demand from the United States has provided important stimulus to this end. From January to September 2015, the value of exports to the United States saw a year-on-year increase of 12.7%. In contrast, exports to key Western European sales markets, such as France (-4.5% yoy) and the Netherlands (-10.9%), decreased.

Key leading indicators suggest that output in Germany's chemicals industry will see rather weak development in the months ahead. Business expectations are only just in positive territory. The industry's capacity utilisation decreased considerably at the beginning of Q4 and now lies noticeably below the average for the current decade. Overall, we expect that output for Q4 will be down slightly on Q3. That would result in a drop in production of approximately 1% in real terms for full-year 2015 and mean a continuation of the weak phase in the German chemicals industry seen since 2011. The overall weak economic situation for chemicals is also reflected in the development of producer prices. They have been below the corresponding levels for the previous year every single month since the beginning of Q2 2013. Real sales are likely to be somewhat better than output in Germany. From January to September 2015, sales surpassed the figure for 2014 by 0.1%. Overall, sales have been developing better than production has in the German chemicals industry since the beginning of 2014.

The chemicals industry in Germany is set to start 2016 with a statistical underhang. We expect that output will be marked by a sideways trend for the winter half year and then stage a slight recovery. However, output is likely to decrease once again in full-year 2016 – and by 0.5% in real terms – due to the aforementioned underhang. A number of factors provide evidence against increased momentum. For one, the macro-economic boost from foreign demand will not be as big in 2016 as it was in 2015, according to our forecast. In addition, the chemicals industry in Germany is dominated by the production of base chemicals. In 2014, this segment accounted for 61% of sales. However, competition is growing with chemical plants abroad (e.g. in the Arab world), which are better positioned than German plants due to several location-specific factors (e.g. energy policies, tax burden). Nonetheless, local and regional production networks in the chemicals industry provide a certain amount of protection vis-à-vis the (new) foreign competitors.

There is cause for concern in the medium term that the chemicals industry has shown reluctance to make investments in Germany for many years. The industry's nominal net fixed-capital formation has been in negative territory since 2003. Real net fixed assets (including capitalised R&D expenditures) shrank by more than 11% between 2002 and 2013. This reluctance to invest might also have a negative impact in the years ahead on production output in Germany. In this respect, it is justified to ask whether the chemicals industry is not already in

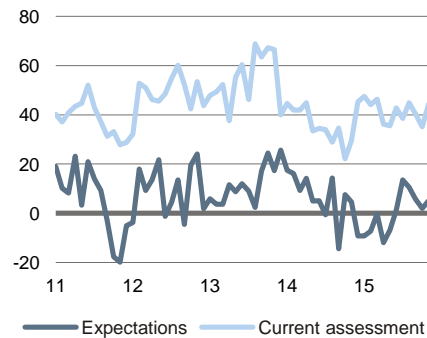


## German industry: Little more than stagnation in 2016

Expectations systematically rated worse than the current assessment

22

Pharmaceuticals industry, balance of positive and negative company reports

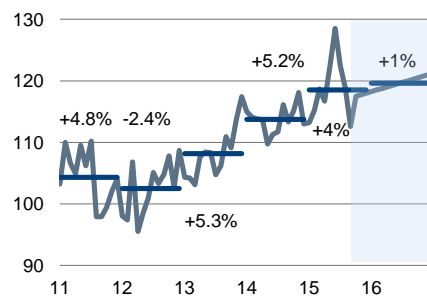


Source: ifo Institute

Production still inclines even if at a decreasing rate

23

Pharmaceuticals industry, real production index, 2010=100, seasonally adjusted

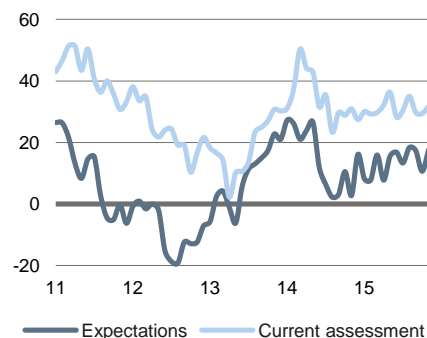


Sources: Federal Statistical Office, Deutsche Bank Research

Both business climate indicators rated positive

24

Plastics industry, balance of positive and negative company reports



Source: ifo Institute

the first stages of a period of structural weakness at least as production activity in Germany is concerned.

### Pharmaceuticals industry: Major momentum in 2015 – slower growth in 2016

The pharmaceuticals industry has been one of the high-growth industrial sectors in Germany in recent years. In 2013 and 2014, production increased by more than 5% each year when adjusted for price changes. This positive trend continued during the first nine months of 2015. During this period, output in Germany outstripped the previous year's level by 4.8%. Foreign business is a key driver behind the pharmaceuticals industry's sustained upswing. To date, the value of exports has risen by 15% year on year.

Pharmaceutical output is set to increase by 4% for full-year 2015, which would mark the strongest growth among all of the major industrial sectors. The upward trend is likely to continue in 2016 as well, though we anticipate slower growth of around 1%. Evidence to support this forecast can be seen with the development of order intake, which has trended sideways in recent months – and experienced great volatility. This is especially true of foreign orders, which were up on the previous year's figure by “only” 0.2% in real terms during the first nine months of 2015. The business climate in the pharmaceuticals industry has also deteriorated somewhat during the last few months. While the vast majority of pharmaceutical companies assess the current situation as one that is positive, the industry's business expectations decreased between July and October but recovered slightly in November. Producer prices for pharmaceutical products are currently at a low level when compared over the long term. Among others, the efforts with regard to the healthcare policy to cap expenses for pharmaceuticals products can be felt. Price pressure has increased in recent years, particularly for drugs and medicines that are no longer protected by patents.

From an economic perspective, 2016 will likely experience greater demand for medicines due to providing the refugees arriving in Germany with medical care. This uptick in demand also includes preventive medical benefits, such as vaccines. Structurally speaking, the pharmaceuticals industry benefits from the fact that the average age of the populace both in Germany and practically all key sales markets continues to rise. One challenge the industry faces is recruiting a large number of young professionals in the long term for pharmaceutical research. The above-average salary level within the industry proves helpful in this process.

### Plastics industry: Respectable growth in 2015

The plastics industry has proved to be one of the positive surprises this year. In autumn 2014, we were quite pessimistic because output in Q3 2014 was showing a significant downward trend. However, the industry recovered very quickly at the end of last year and during Q1 2015, even if there has been no additional growth regarding domestic output since then. From January to September 2015, real output was up by 1.7% year on year (2014: +0.7%). The segment focused on the production of panels, films, hoses and profiles from plastics turned in the best performance with a year-on-year increase of 4.1%, while builders' ware was down by 2.6% in the year to date.

Unlike in many other industrial sectors, foreign demand is currently playing only a minor role in the rather good economic situation of the plastics industry. Year to date, nominal exports are up by “only” 2.5% (statistical demarcation of rubber and plastic products). At just under 39% (2014), the export ratio is below the

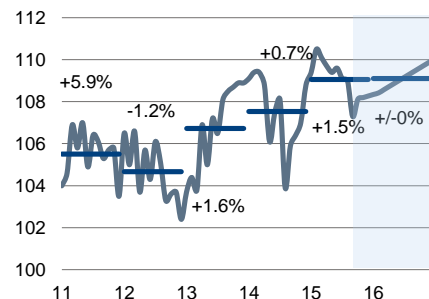


## German industry: Little more than stagnation in 2016

Underhang might burden the outcome for 2016

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Plastics industry, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

level of the entire manufacturing industry (48.5%) anyway. In contrast, the industry is benefiting from the good economic situation in Germany, and especially from the growth of private consumption, which is strong when compared over the long term. This applies in equal measure to 2015 and 2016. As consumption-related products account for a large share of the sales of the plastics industry's range of products, the rising demand in this industry in Germany is also having an impact on output.

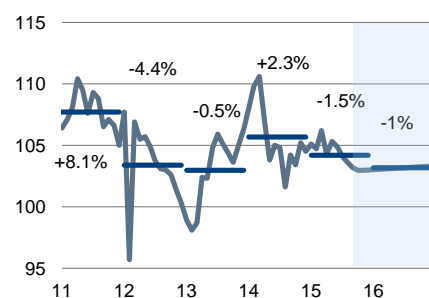
For full-year 2015, we anticipate an output increase of 1.5% in real terms for the plastics industry. While private consumption will remain a key driving force in the industry in 2016, demand from the automotive industry – an important industrial customer – is likely to be weaker than in 2015. We therefore expect the output of the plastics industry to stagnate in real terms in 2016. Capacity utilisation has gone up in the industry at the beginning of Q4, which should be seen as a positive sign. In addition, business expectations still continue to find themselves firmly in positive territory.

### Building materials industry: Imports increase, domestic output decreases

Recovery unlikely for the moment

26

Building materials industry, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

During the first nine months of 2015, output in the German building materials industry was down by 1.2% in real terms on the figure for 2014 (output for full-year 2014: +2.3%). Since the beginning of the year, the industry's output has trended downward almost continuously, though this decline started already in 2014 when output began at a high level. One reason for this negative development witnessed so far in 2015 could be the construction sector's economic situation, which has been somewhat weaker this year than in 2014. According to our forecast, real construction investment will expand by "only" 1.5% in 2015, while it grew by nearly 3% in 2014. However, this does not sufficiently explain the noticeable discrepancy between the growth of construction investment and the decline in the output of building materials. Nor does the decline accord with the favourable development of private consumption that should (actually) support the demand for building materials in 2015; demand for many building materials is also coming from private households.

One explanation for the poor development of output can be found with regard to imports. To date, the nominal import of building materials has outstripped the previous year's level by close to 6%; in terms of exports, the year-on-year increase is only slightly more than 2%. In this respect, the rise in imports might have suppressed domestic output in part, though it should be noted that imports grew by more than 8% already in 2014.

For Q4, we anticipate a weak development of production activity in the building materials industry. If this proves to be the case, it would result in a real decline of output of 1.5% for full-year 2015. Capacity utilisation and business expectations have gone down most recently, though business expectations are still in positive territory. In 2016, the manufacturers of building materials might benefit from the improved economic situation of the construction sector. We expect construction investment to increase next year by some 2.5% in real terms. Momentum is provided by the need to create and modernise housing for refugees arriving in Germany. All things considered, the industry's output might see a moderate increase over the course of 2016. Due to the expected significant statistical underhang, however, output would decrease by around 1% on average next year.

From a structural perspective, the low level of investment activity on the part of the building materials industry is cause for concern – just as it is in other industries with large energy requirements. Real net fixed assets shrank by



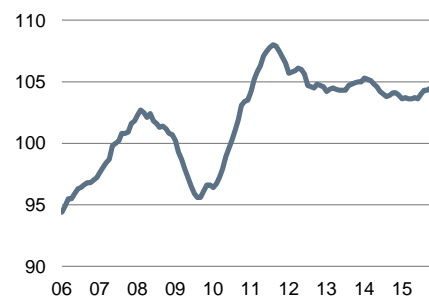
## German industry: Little more than stagnation in 2016

nearly 31% from 2002 to 2013. Sooner or later, insufficient investment in the capital stock will also have a negative impact on domestic production output and/or the productivity of the industry.

### Producer prices relatively stable for the latest years

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Paper industry, producer prices, 2010=100

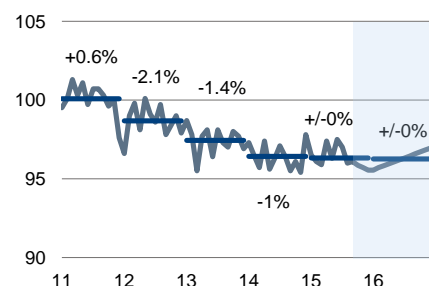


Source: Federal Statistical Office

### Stagnation two years in a row

28

Paper industry, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

## Paper industry: Stable development

German paper industry production has been trending sideways in recent months. Real production in the first nine months of 2015 has consequently shown stagnation in a year-on-year comparison (2014: -1%). With a year-on-year increase of 2.4%, paper making has performed better than paper processing, for which production fell by more than 1% year on year from January to September 2015. The production of corrugated paper and cardboard, the biggest segment within paper processing, recorded a year-on-year decrease of 1.7%. Order intake has developed somewhat better than production. New orders exceeded the level for the first nine months of 2014 by more than 1% in real terms. So far in 2015, the paper industry's exports in nominal terms are down by 0.4% on the previous year – this also represents stable development therefore when compared to other sectors.

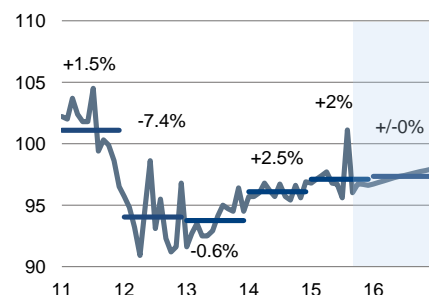
Business expectations have edged down and slipped into negative territory of late. Capacity utilisation has dropped most recently. The two indicators therefore suggest that the “calm” development of output will not change drastically in the short term. Overall, we expect that paper production will also stagnate in full-year 2015. In 2016, consumption-related segments, such as household goods, hygiene articles and stationery, will likely benefit from the rather strong growth of private consumption. These segments have so far performed better in 2015 than other processed paper products. In contrast, the total manufacturing sector's overall very low level of momentum in Germany will probably be felt by manufacturers of corrugated paper and paperboard. Corrugated paper and paperboard is the primary material used by German businesses for transport packaging, and the demand for these products is closely correlated with industrial output.

All things considered, we believe that German paper industry production will probably stagnate in 2016 as well. In an historical comparison, producer prices in the paper industry have also shown highly stable development for several years now. However, producer prices for waste paper – a key “commodity” for the paper industry – have risen in recent months.

### Growth trend flattens

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Textile industry, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

## Textile industry: Slight output increase for 2015 – 2016 weaker

The textile industry in Germany has developed quite positively during the first eight months of the current year. Real output has outstripped the previous year's result by 1.2%. Worthy of note is the favourable development of foreign orders, which achieved year-on-year growth of 5% during the same period. Among the textile industry's major segments, the production of fleece fabric and related products as well as the production of technical textiles continue to develop positively as they have since 2013. In both areas, output from January to September 2015 adjusted for price changes was up by 4.5% and 3.7% respectively on the figures for 2014. These segments are benefiting from the fact that the innovative products' range of applications continues to increase. The made-up textile products segment has also recorded an increase of more than 3.9% to date in 2015. In contrast, weaving mills have performed considerably worse: output for the period in question decreased year on year by 4.3%.

We expect that the textile industry will succeed in maintaining its real production growth of around 1% for full-year 2015. However, we take a more pessimistic



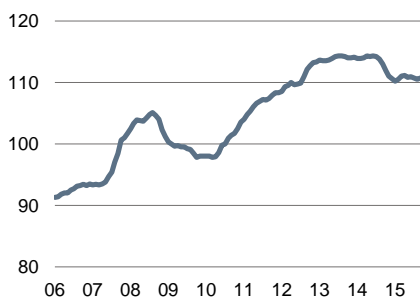
## German industry: Little more than stagnation in 2016

view for 2016. Many manufacturing sectors are among the key customers of technical textiles, which, together with fleece fabrics, are performing better for the most part than the textile industry as a whole. Due to the – at best – marginal growth that we anticipate manufacturing to see in 2016, the stimulus for the textile industry provided by demand from the manufacturing industry will (largely) disappear. Consumption-related segments (e.g. clothing or home and household textiles) are benefiting from the favourable development of private consumption. However, imports play an important role concerning these products. The export business might do somewhat better than domestic demand, but even here, we only expect to see moderate growth. All things considered, the German textile industry's real output is likely to stagnate in 2016. The latest negative development of the industry's business expectations is another reason for our cautious assessment of production development in 2016.

### Prices quite stable in recent months

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Food and animal feed, producer prices, 2010=100

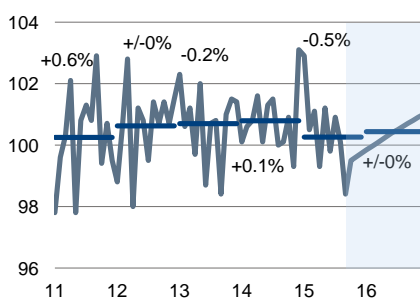


Source: Federal Statistical Office

### Production still stagnating

31

Food and animal feed, real production index, 2010=100, seasonally adjusted



Sources: Federal Statistical Office, Deutsche Bank Research

## Food industry: Continued stagnation

Food and feed output was slightly down on the previous year's figure during the first nine months of 2015. The industry has consequently been unable to succeed in taking advantage of Germany's quite favourable domestic economy in 2015 as well. The food industry has been marking time in around the same output range since 2011. While several of the industry's segments have seen an increase in the year to date, which applies to the slaughter of livestock and processing of meat (+2% yoy), for example, there has been a decrease in the output of bakery and farinaceous products (-1.1%) and especially milk processing (-5.7%). In addition, exports in nominal terms for the food industry as a whole are down year on year by nearly 2%. In particular, business activities with Russia continue to drop. However, exports to China have expanded rapidly recently.

For full-year 2015, the German food industry's output is likely to decrease by approximately 0.5%, and we expect to see a round of stagnation in 2016. The growth of private consumption remains a weighty argument, even if it failed to make an impact in 2014 and 2015. The net immigration rate to Germany vis-à-vis the need to supply refugees with food will lend impetus to the food industry. From today's perspective, it looks likely that the development of the food industry's producer prices will remain relatively calm. In structural terms, the pressure on margins will stay at the high levels that are typical for the industry. The market power of grocery retail continues to persist. In individual segments, this market power can be extremely pronounced at times. For example, producer prices for milk and milk products in October 2015 were more than 12% below the level seen at the beginning of 2014. This price pressure has an impact – one that can even be considerably stronger in part – on upstream agricultural operations.

## Conclusion and outlook: Muted economic dynamics – weak industry investment in Germany persists

The German manufacturing industry is likely to lose steam next year as compared to 2015 and achieve only a marginal increase in domestic output. At an industry level, many of the major German industrial sectors will not expand their production activities – or will do so only marginally, at best – according to our current forecast. Overall, we do not anticipate any major ups or downs in domestic production for the individual sectors in 2016. Our cautious assessment is based on the assumption that foreign business will be weaker in 2016 than in 2015 and that the domestic economy will be supported largely by private

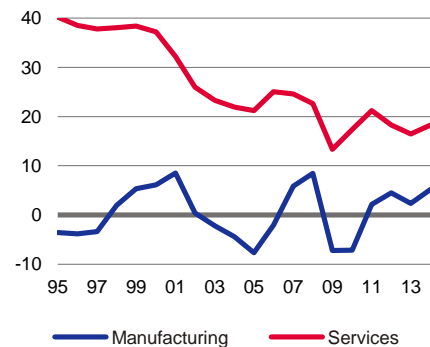


## German industry: Little more than stagnation in 2016

Services have been much keener to invest than industry

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Nominal net capital expenditure as a percentage of nominal gross capital expenditure in Germany

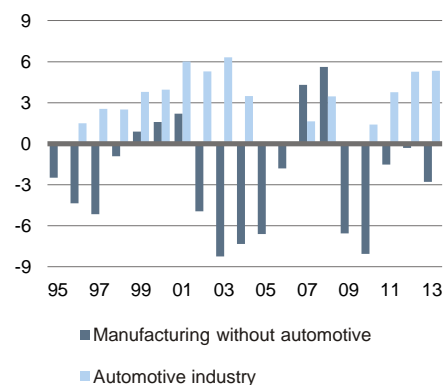


Source: Federal Statistical Office

Automotive industry very important for total industrial investment spending

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Nominal net fixed capital formation in Germany, EUR bn



Sources: Federal Statistical Office, Deutsche Bank Research

consumption. However, investment activity in Germany will be relatively weak compared to the levels seen in previous years.

German industry's low level of growth momentum is disappointing, as many underlying macroeconomic conditions are favourable at the moment. This refers to the low interest rates, the favourable valuation of the euro as well as low commodity prices. While it is evident that the weak euro is supporting exports to countries such as the United States and the United Kingdom, one would expect these factors to have a greater effect on stimulating performance as a whole. The economic challenges for German industry are likely to become greater as soon as the underlying conditions mentioned deteriorate again.

From an economic perspective, 2016 is expected to be the fifth consecutive year in which German industry finds itself in relatively calm waters for its standards. For 2016, real domestic industry output will, on average, be up on the level from 2012 by only some 1.5%, according to our forecast.

Regardless of the development of the economic situation for manufacturing, it is still notable that industry is reluctant when it comes to investing in Germany, while the service sector is keener to invest. The amount of industry's real net fixed assets in 2013 (more recent figures are not available) was slightly below the levels seen in 1995. This is worrying in that the companies' capitalised R&D expenses are included in real net fixed assets. The great importance of the automotive industry for the investment activity of industry as a whole is also striking. This provides a look at the development of nominal net fixed-capital formation, meaning the difference between gross fixed-capital formation and depreciation. If the automotive industry's net fixed-capital formation is deducted from that of the entire manufacturing industry, this results in a positive figure for only five out of 19 years since 1995. In contrast, net fixed-capital formation has been in negative territory for years in many industrial sectors, which is especially true of sectors with large energy requirements.

If low levels of investment in the capital stock (including R&D) persist over the long term, this trend will have a negative impact on industry's output and growth potential. Without sufficient investment in research and development activities, new products and production technologies, it is fundamentally more difficult to raise productivity levels and to be competitive at an international level. In many cases, this relates more to Germany as a business location than it does to German companies, as the latter are stepping up investments in foreign countries where they are also increasingly establishing R&D facilities. For Germany in particular, which is a high-wage location, those investments in the capital stock would prove necessary for helping to raise corporate productivity in the long term, to automate production processes further and enhance their flexibility, as well as to link those processes with suppliers and customers more closely (keyword: connected industry, otherwise known as "Industry 4.0"). In this way, it might be possible to compensate in part for the location's drawbacks such as the high cost of wages and energy, as well as the looming shortage of skilled professional at a regional level and in specific industries.

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## German industry: Little more than stagnation in 2016

### Forecast for the main industrial sectors

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Industry	NACE	Gross value added	Export ratio	Business climate*	Capacity utilisation*	Producer prices	Production			
							2013	2014	2015	2016
		EUR bn, 2013	%, 2014	Diff. yoy, Net points	Diff. yoy, pp	Last 12M, % yoy	% yoy	% yoy	% yoy	% yoy
Food	10	27.5	22.6	14.2	5.9	-2.7	-0.2	0.1	0.5	0.0
Textiles	13	3.3	48.9	-4.3	3.5	0.1	-0.6	2.5	2.0	0.0
Paper	17	9.4	39.5	4.4	-1.4	-0.6	-1.4	-1.0	0.0	0.0
Chemicals	20	35.4	57.5	4.4	-1.4	-3.1	0.5	-1.3	-1.0	-0.5
Pharmaceuticals	21	16.4	68.6	7.2	-1.0	0.1	5.3	5.2	4.0	1.0
Plastics	22.2	17.6	38.8	9.8	1.3	-0.4	1.6	0.7	1.5	0.0
Building materials	23	12.8	30.2	16.1	-0.3	-0.1	-0.5	2.3	-1.5	-1.0
Metals production	24	18.1	40.2	-9.5	-2.6	-0.3	-0.6	2.8	0.0	1.0
Metal products	25	38.5	33.7	-2.7	-1.7	0.3	1.1	2.8	0.0	0.0
Electrical engineering	26+27	58.9	54.7	11.3	-0.2	0.6	-2.1	2.5	0.5	0.0
Mechanical engineering	28	77.2	62.6	0.6	-0.1	0.9	-1.6	1.2	-1.5	0.0
Automotive	29	79.9	63.7	21.0	1.1	0.3	1.2	4.3	2.5	0.5
Manufacturing	10-33	499.6	48.5	8.0	0.3	-0.3	-0.1	2.0	0.5	1/4

\*Latest figure available

Sources: Federal Statistical Office, Deutsche Bank Research



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