



# How is the weak euro affecting different sectors?

Who is benefiting and who is losing out?

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At sectoral level, the positive effects of the euro's current weakness are clearly outweighing its drawbacks. Capital equipment manufacturers are benefiting the most from the increasing price competitiveness offered by Germany as a business location. In 2014, the automotive industry generated 45.5% of its total revenue from non-EMU countries, while the proportion for the mechanical engineering sector was almost 43%. Parts of the electrical engineering, chemicals and pharmaceutical industries are also especially benefiting from the recent devaluation in the euro.

Although the exchange rate is also pushing up the price of imported intermediate goods (e.g. electronics, metals and metal products, and rubber and plastic goods), the higher price is more than offset by advantages on the export side. Overall, no real losers from the weak euro can be identified among the German industrial sectors. The exchange rate is simply less relevant for some sectors.

Various factors can mitigate the impact of exchange rate fluctuations, including locating production abroad, intra-group trade flows or focusing on products with low price elasticity of demand.

Households are likely to face higher prices, particularly for clothing and consumer electronics, products for which Germany runs its biggest trade deficit with non-EMU countries. However, other factors, such as lower prices due to technical advances, may more than cancel out the higher prices for consumer electronics resulting from the weaker euro.

In 2014, EMU countries accounted for just 36.8% of Germany's total goods exports, compared with 43.2% in 2008. As a result, the German export sector has become more 'susceptible' to exchange rate fluctuations. Germany sends a much higher proportion of its exports to countries outside the eurozone in comparison with countries such as France, Spain or Italy. The ECB's expansionary monetary policy and the resulting weak euro are helping Germany's trade surplus to increase in 2015.

Despite their positive impact on economic activity at present, the current weak level of the euro and historically low prices for many commodities can also pose a risk for Germany's export sector in the medium term. They act in the same way as an economic stimulus package received free of charge, and may give rise to a certain degree of complacency. Consequently, there is a growing body of opinion, particularly in industry itself, that German exporters should not sit back and rely on favourable exchange rates.



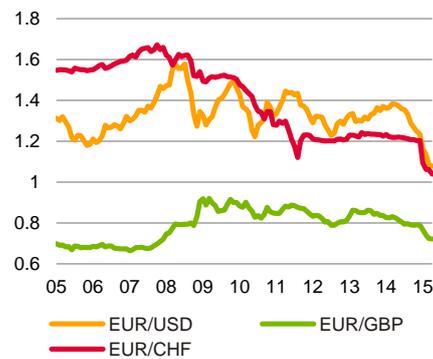
## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

### 1. Introduction: As an open economy, Germany is particularly affected by the weak euro

#### Falling euro

1

EUR exchange rate against major currencies (monthly average)



Source: ECB

#### Descent of euro exchange rate

2

Nominal trade-weighted EUR exchange rate (Q1 1999=100)

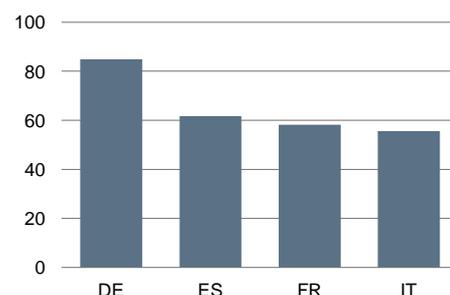


Source: ECB

#### German economy is particularly open

3

Degree of openness: total exports and imports as a percentage of GDP in 2014



Source: Eurostat

Since the beginning of 2014, the euro has lost around one fifth of its value against the US dollar (measured at a monthly level). The ECB's expansionary monetary policy (e.g. the extensive bond-buying programme it has recently initiated) and the (expected) differences between interest rates and growth rates in the US and the eurozone remain the key factors in this trend. Although forecasting exchange rates is particularly fraught with uncertainty, the fundamentals (the outlook for interest rates and growth) suggest that the euro will continue to fall in value against the US dollar in the coming months. The euro's trade-weighted exchange rate has declined by about 10% since the start of the year. We have just said that the eurozone countries are experiencing an economic boost from the weaker euro because products made in the eurozone are becoming more competitively priced in the world market<sup>1</sup>, but as a very open economy (see chart 3), Germany is naturally affected by fluctuations in exchange rates to an even greater degree.

In the report below we consider the impact of the weak euro on individual sectors in Germany. The situation varies widely, because the importance of foreign trade and exchange rates differs from sector to sector. In this report we have concentrated on the manufacturing sectors (industry) for which up-to-date data about international business links is available.

In section 2 below, we analyse the data relating to exports and highlight the sectors that are benefiting most from the weak euro. Then we take a look at imports, as German imports are obviously becoming more expensive as a result of the falling euro. In the final section, we examine the distinctive sector-specific features whose significance for each sector cannot be adequately portrayed by data analysis alone. In the charts we use the NACE codes for the individual industrial sectors (see list in appendix 1).

### 2. Exports: Capital goods producers benefit particularly from improved price competitiveness

Two statistical metrics at sectoral level are available in Germany. Providing monthly data, they are published promptly, thus enabling international trade to be measured for each month. The metrics are export revenue broken down by manufacturing sector, and exports broken down by product division as defined in the German Federal Statistical Office foreign trade statistics. The *export revenue* is split into revenue attributable to eurozone countries excluding Germany and revenue attributable to other countries outside Germany. This makes it possible to determine which industrial sectors are more exposed to exchange rate fluctuations. The export ratio (proportion of export revenue to total revenue) also shows the overall importance of international business for each sector. The German foreign trade statistics even show a breakdown of *exports* by sector or product division for individual countries so they provide even more country-specific information about cross-border trade at sectoral level.

#### Exports exceed export revenue ...

In absolute terms, exports exceed export revenue in all sectors and product divisions (see chart 4). The main reason for this difference is that export revenue only includes the revenue generated by each sector, while the German

<sup>1</sup> See Hooper, Peter et al. (2015). World Outlook – Strong dollar: Winners and losers. Deutsche Bank Research. Frankfurt am Main.

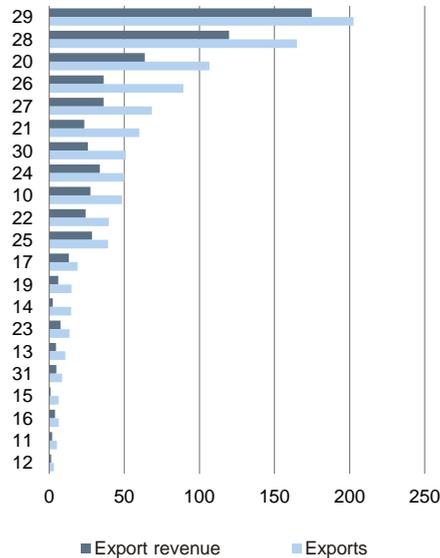


## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

### Exports exceed export revenue

4

Export revenue and exports by sector\* in Germany in 2014 (EUR billion)



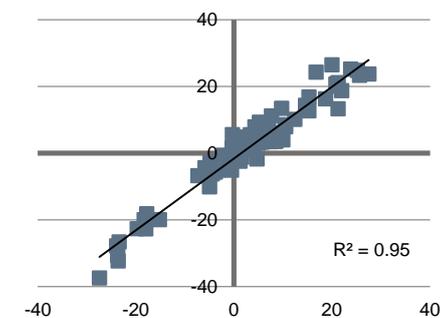
\*Based on NACE codes

Source: German Federal Statistical Office

### Relatively parallel trend

5

X axis: exports from Germany (% yoy)  
Y axis: industrial export rev. in Germany (% yoy)



\*Calculation based on monthly values

Sources: German Federal Statistical Office, Deutsche Bank Research

foreign trade statistics include exports of the relevant goods in all sectors. For example, export revenue in the mechanical engineering sector only includes the revenue attributable to this sector (NACE code 28) generated outside Germany. By contrast, the foreign trade statistics also capture machinery exported by companies in other sectors, such as trading companies. This explains why exports are higher than export revenue in absolute terms.

The absolute differences between export revenue and exports vary widely from sector to sector. They are relatively small in the automotive, mechanical engineering, metalworking and paper industries. In the automotive industry, for example, export revenue represents around 86% of exports in absolute terms (2014). There is a much larger difference in the leather goods and clothing industries where export revenue only accounts for around 14% and 16% of total exports of leather goods and clothing respectively. This means that these product categories are mainly exported by companies in other sectors, most probably trading companies, rather than their actual manufacturers. A high proportion of companies from a sector other than the pharmaceutical sector exports pharmaceutical products, with the pharmaceutical industry's export revenue amounting to just 39% of exports.

### ... but both metrics are closely correlated

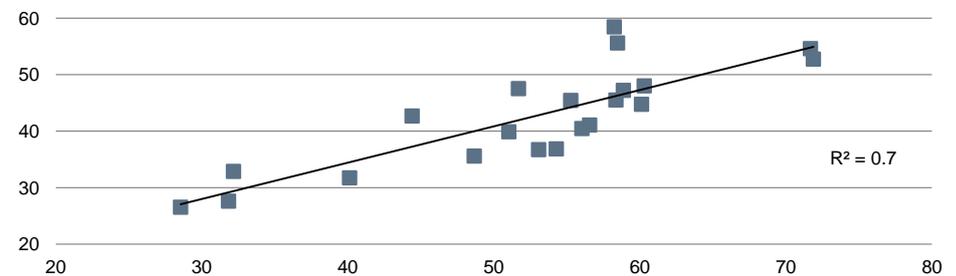
Ultimately, it is important for our study that export revenue and exports are closely correlated over time. Chart 5 shows the correlation between the year-on-year rates of change in the values of the metrics. Manufacturing sector export revenue is compared with total German exports on a monthly basis for the period 2009 to 2014. The coefficient of determination of 95% confirms the close correlation of the two metrics.

There is also a close correlation at sectoral level between indicators based on export revenue and exports. As an example, chart 6 shows the correlation between the following relative metrics for individual industrial sectors: the ratio of export revenue from EMU countries to total revenue of a sector, and the ratio of exports to EMU countries to total exports for individual product categories. The coefficient of determination is 70%, so statements about trends in export revenue apply generally to exports.

### Close correlation

6

X axis: export revenue from eurozone as a percentage of total revenue in 2014 by German industrial sector  
Y axis: exports to eurozone as a percentage of total revenue in 2014 by German industrial sector



Sources: German Federal Statistical Office and Deutsche Bank Research

### Capital goods manufacturers and the pharmaceutical and chemical industries are benefiting most from the weak euro

After these preliminary statistical remarks, we show below which sectors on the export side in Germany are benefiting most from euro depreciation and the associated improvement in price competitiveness outside the eurozone. Generally, the sectors which generate a large proportion of their export revenue

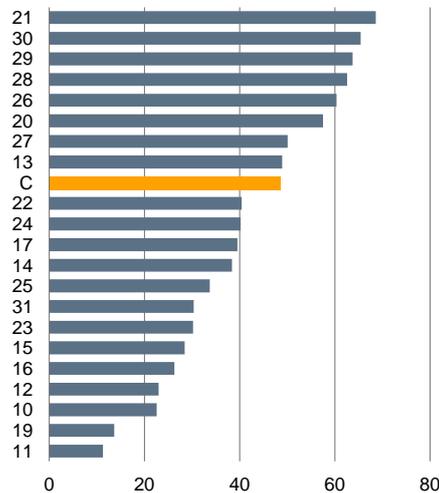


## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

### Pharma industry has highest export ratio

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Export revenue as a percentage of total revenue by sector\* in Germany in 2014



\*Based on NACE codes

Source: German Federal Statistical Office

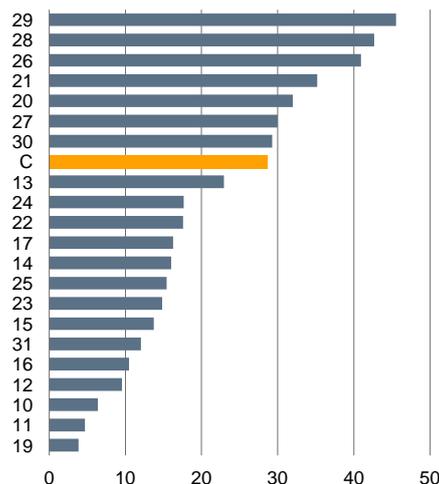
from non-EMU countries, and for which international business overall is also of great significance, are those that are gaining a particular advantage. These sectors, for which both metrics are above average, are located in the upper-right quadrant of chart 9. They are the automotive industry, mechanical engineering and the manufacture of data processing equipment, electronic devices and optical instruments. The manufacture of electrical equipment is also in this quadrant, but it is very close to the average. The sectors in the lower right quadrant also gain disproportionately from the weak euro. Although the ratio of export revenue from non-EMU countries to total export revenue is below average in this quadrant, the overall export ratio is high. This is particularly true of the pharmaceutical industry, other vehicle manufacturing and, to a lesser extent, the chemicals industry.

Exchange-rate fluctuations – at least on the export side – are less significant for the sectors in the lower-left quadrant of chart 9 where both the overall export ratio and the importance of non-EMU countries are below the average. Perhaps unsurprisingly, these criteria are applicable to the food industry and the manufacture of beverages which focus more closely on serving the domestic market. Exports to countries outside Europe are also likely to be insignificant because transport costs are high in relation to product value. In the coking and refined petroleum products sector, exports to and revenue from non-EMU countries are also of minor importance because Germany mostly imports the relevant products in this sector.

### Automotive industry and mech. eng. very active outside eurozone

8

Export revenue from non-EMU countr. as a perc. of total revenue by sector\* in Germany in 2014



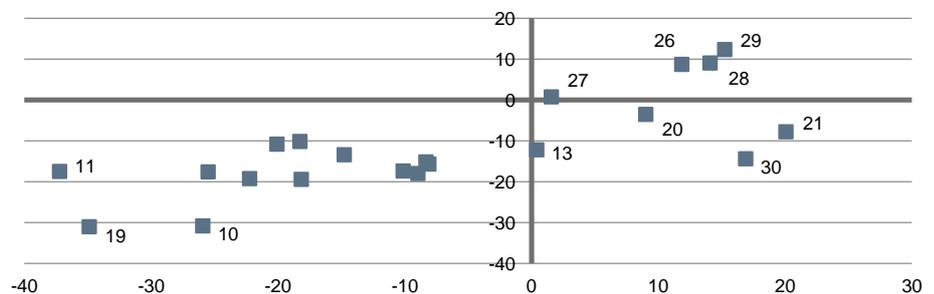
\*Based on NACE code

Source: German Federal Statistical Office

### Capital goods producers benefit twice

9

X axis: deviation from average export ratio\*; Y axis: deviation from average ratio of export revenue from non-EMU countries to total export revenue; both by sector\*\* in Germany in 2014 (percentage points)



\*Ratio of export revenue to total revenue

\*\*Selected sectors are labelled with their NACE code

Sources: German Federal Statistical Office, Deutsche Bank Research

The lower-left quadrant contains other sectors where activities are geared more closely toward Germany and the rest of the eurozone, including the metals industry, the manufacture of rubber and plastic products, and the building industry, the manufacture of rubber and plastic products, and the building materials, paper, furniture and wood processing industries. The falling euro provides a more modest stimulus for domestic production in this quadrant.

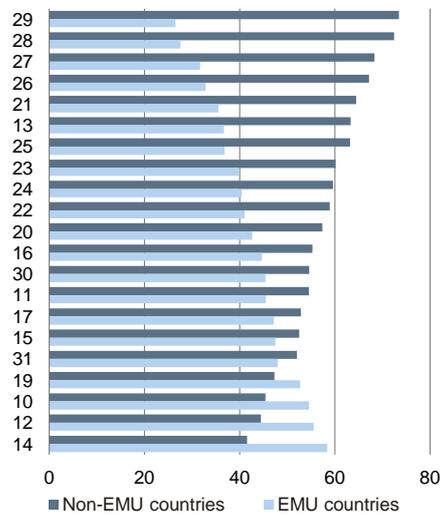
A direct comparison of the ratio of export revenue from non-EMU countries to the total revenue generated by a sector (see chart 8) generally confirms the results outlined above. The automotive industry, which generated close to 46% of its total revenue from countries outside the eurozone in 2014, comes top. It is followed by mechanical engineering (42.7%), manufacture of data processing equipment, electronic devices and optical instruments (40.9%), the pharmaceutical industry (35.2%), the chemicals industry (32%), manufacture of electrical equipment (30%) and other vehicle manufacturing (29.3%). The results are also corroborated at the bottom of the ranking. In the food industry, for example, the ratio of export revenue from non-EMU countries to total



## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

### Non-EMU countries most important for capital goods manufacturers 10

Percentage of total German exports by sector\* in 2014



\*Based on NACE codes

Source: German Federal Statistical Office

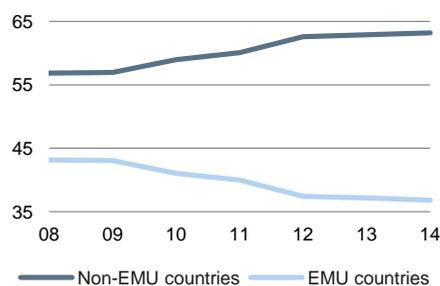
revenue is just 6.4% (in the manufacture of coke and refined petroleum products it is as low as 3.8%).

Germany's foreign trade statistics also show that capital goods manufacturers are characterised by a specific high proportion of exports to countries outside the eurozone. In 2014, the proportion in the automotive industry was 73.5%, while it was 72.4% in the mechanical engineering sector. These ratios have risen sharply in recent years because demand in the eurozone has been very much lower than demand in other export markets due to the persistent economic crisis. In 2008, non-EMU countries accounted for 'only' 60.6% of total automotive industry exports, meaning that the eurozone's market share of German exports fell by around 13 percentage points in this period.

Exports to EMU countries as a proportion of total German exports have fallen from 43.2% in 2008 to only 36.8% at present. As a result, German exports have become much more 'susceptible' to exchange rate fluctuations in recent years. Interestingly in this context, Germany sends a much higher proportion of its exports to countries outside the single currency zone in comparison with countries such as France, Spain or Italy. The ECB's expansionary monetary policy and the resulting weak euro will help Germany's trade surplus to increase in 2015, although the lower level of import prices (e.g. for energy commodities) compared with 2014 is obviously also a relevant factor.

### Importance of eurozone is declining 11

Percentage of total German goods exports



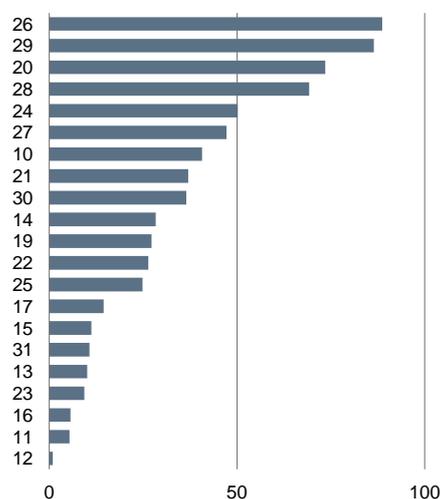
Source: German Federal Statistical Office

### 3. Imports: Consumer goods and certain intermediate goods are most affected by the weaker euro

All other things being equal, a weaker euro means higher prices for imported goods from countries whose currencies have appreciated against the euro. The breakdown of imports by product division provided by German foreign trade statistics can be used to examine the importance at sectoral level of movements in exchange rates. Like the statistics for exports, the monthly figures for imports are also available very promptly and are broken down by individual country of origin. The only drawback is that, although it is possible to tell which countries sell goods such as rubber and plastic products to Germany, the foreign trade statistics do not indicate the sector attributable to each importer, i.e. which sector bears the costs. As is the case for exports, the foreign trade statistics also contain the imports for all economic sectors. However, while it can be argued in the case of exports that a machine that has been exported was ultimately produced by the mechanical engineering sector, even if the actual export is attributable to a trading company, it is difficult to make the same argument for imports.

### Data processing equipment, electronic devices and optical instruments at top 12

Imports into Germany by sector\* in 2014 (EUR billion)



\*Based on NACE codes

Source: German Federal Statistical Office

An indication of which products have been purchased from which economic sectors abroad can be gained from the input-output accounts (import matrix) compiled for the national accounts (VGR). These statistics were last published in 2014 and contain data for 2010, so they are already very out of date. Nor do the input-output accounts make it possible to distinguish the imports by the individual countries of origin, which is necessary for analysing fluctuations in exchange rates. Despite these shortcomings, we have used data from the input-output accounts in some of the cases below. It was immediately apparent that intra-industry movements of goods represent the most important trading relationships in most economic sectors.

On the import side, there is no equivalent to the export revenue that only reflects the activities of individual industrial sectors. Consequently, it is not possible to calculate an import ratio based on identical statistical demarcation. As an approximation, we therefore calculated an import ratio incorporating data from both the revenue statistics and the foreign trade statistics. We calculated the ratio of imports of a certain product group to the total revenue generated by the sector minus its export revenue plus imports of the product group in question



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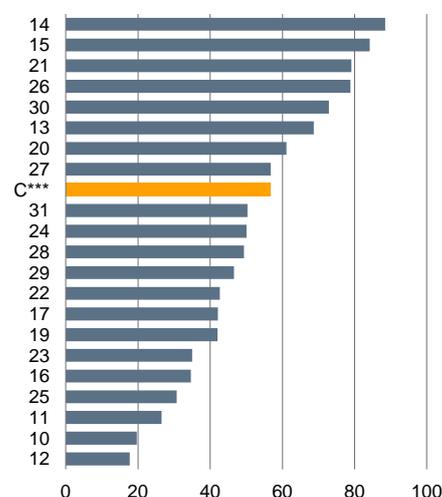
(approximation for the size of the domestic market). Because imports (numerator) include the activities of all economic sectors, not just those of the relevant industrial sector (revenue figures in the denominator), the import ratio calculated in this way tends to be too high, despite the fact that imports are also included in the denominator. However, because we used the same procedure for all sectors and product groups, this import ratio indicates the importance of imports in different sectors.

### Imports of clothing and electronics are significant ...

Significant variation in importance of imports

13

Import ratio\* by sector\*\* in Germany in 2014 (%)



\*Numerator: imports; denominator: total revenue minus export revenue plus imports

\*\*Based on NACE codes

\*\*\*Calculation includes total German goods imports

Sources: German Federal Statistical Office, Deutsche Bank Research

Chart 13 shows the import ratios for individual industrial sectors and product groups calculated as described above. The clothing and leather goods industries have the highest import ratios, but the import ratios for the pharmaceutical industry, the manufacture of data processing equipment, electronic devices and optical instruments, other vehicle manufacturing, the textile industry, the chemicals industry and the manufacture of electrical equipment are also above the average. The automotive and mechanical engineering industries are in the middle. The food industry as well as beverages and tobacco are at the lower end of the scale.

The results coincide perfectly with our expectations because clothing, leather goods and consumer electronics are traditionally among the products that Germany (mostly) imports. They are the sectors in which production was relocated abroad in the past (due to labour costs). It is also no surprise that many pharmaceutical products are also imported despite Germany's strong pharmaceutical industry. After all, the world's biggest pharmaceutical companies are located in the US, the UK, France and Switzerland. The high import ratio for other vehicle manufacturing may be surprising at first glance. However, the fact that both exports and imports are pushed up by the specific structure of the European aviation industry has to be taken into account. It operates key production facilities in France and Germany and they supply each other with parts and components (see also section 4).

### ... and non-EMU countries predominate

In order to examine the effects of changes in foreign exchange rates on imports in specific sectors, we compare two indicators in chart 14 in the same way that we analysed exports. In this case the indicators are the deviation of individual sectors/product groups from the average import ratio and the difference in the average ratio of imports from non-EMU countries to total imports of the product groups in question. Consequently, the sectors in the upper-right quadrant are those with above-average import ratios and an above-average proportion of imports from non-EMU countries to total imports. They are the textiles industry, clothing and leather goods sector and both divisions of the electrical engineering sector, although the import ratio for electrical equipment is only slightly higher than the average. The effect of the weak euro will be particularly pronounced in these sectors/product groups and – all other conditions being equal – will make imports more expensive. This largely applies to consumer durables (clothing, consumer electronics), although the imported electrical goods that will become more expensive due to the weak euro also include intermediate goods for German capital equipment manufacturers in sectors such as the automotive industry and mechanical engineering.

The three sectors in the lower-right quadrant are pharmaceuticals, chemicals and other vehicle manufacturing. Their import ratios are above average, but non-EMU countries are less relevant as countries of origin for their imports. Conversely, the sectors in the upper-left quadrant have below-average import ratios but a very high proportion of their imports are from outside the eurozone.



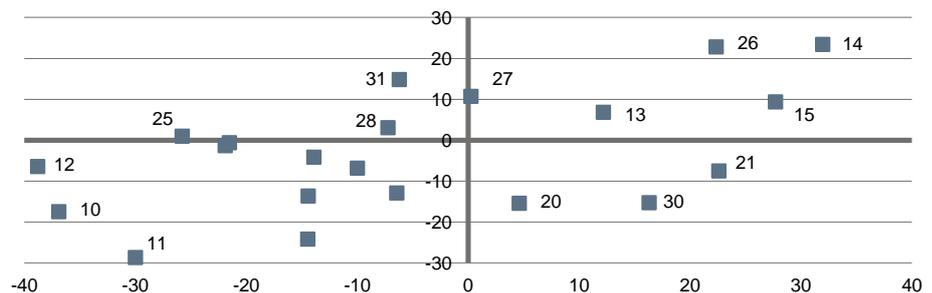
## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

This applies to the furniture industry, mechanical engineering and the manufacture of metal products, although the importance of non-EMU countries is only just above the average in the latter case. As our analysis of exports has already shown, imports are of minor importance for the food industry (including beverages and animal feed) – at least where processed products rather than commodities are concerned (see section 4). The weak euro is therefore scarcely relevant in this sector.

Textiles/clothing and electronics: Import ratio and imports from non-EMU countries above average

14

X axis: deviation from average import ratio\*; Y axis: deviation from average ratio of imports from non-EMU countries to total imports; both by sector\*\* in Germany in 2014 (percentage points)



\*Numerator: imports; denominator: total revenue minus export revenue plus imports

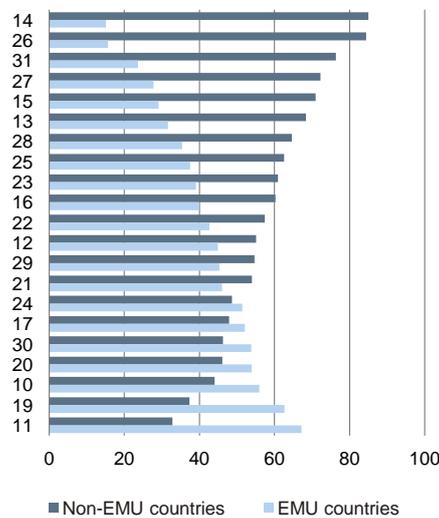
\*\*Selected sectors are labelled with their NACE code

Sources: German Federal Statistical Office, Deutsche Bank Research

Clothing, electronics & furniture come from outside the eurozone

15

Percentage of total German imports by sector\* in 2014



\*Based on NACE codes

Source: German Federal Statistical Office

### In some cases, non-EMU countries account for more than 80% of imports

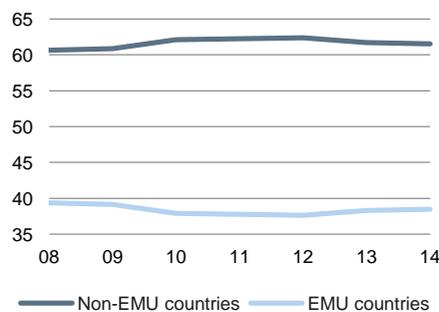
Chart 15 provides an overview of the proportion of imports from non-EMU countries to total imports for each sector, regardless of the import ratio. The clothing sector comes top (85% in 2014), closely followed by the manufacture of data processing equipment, electronic devices and optical instruments (84.3%). In the furniture industry, the manufacture of electrical equipment sector, and the leather goods sector, imports from countries outside the eurozone account for over 70% of total imports, while the textiles industry is not far short of this ratio. Beverages production occupies the last place in this list, but even in this sector around a third of all imports are from non-EMU countries.

Unlike the situation for exports, the ratios of imports from both EMU and non-EMU countries to Germany's total goods imports have remained relatively constant in recent years. The proportion of imports from non-EMU countries was down for the second consecutive year in 2014 when it amounted to 61.5% but was still almost 1 percentage point higher than in 2008 (see chart 16).

Import percentages relatively stable

16

Percentage of total German goods exports



Source: German Federal Statistical Office

## 4. Distinctive sector-specific features

In the following section we highlight a range of distinctive features specific to each sector that may mitigate or exacerbate the current impact of exchange rates. They include special relationships between suppliers and buyers, production networks, competitive situations and pricing. In selected cases, we also examine which sectors import the majority of certain products (according to the import matrix in the input-output accounts) and, at least initially, face higher costs as a result.

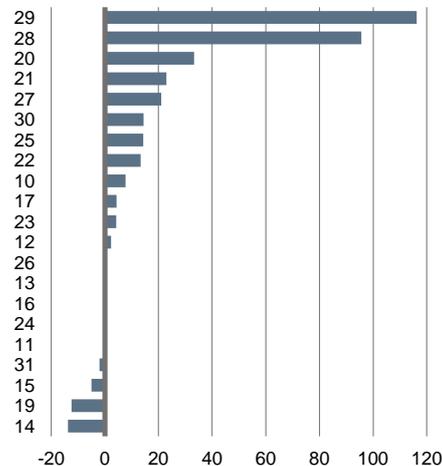


## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

Auto industry and mech. eng. largely account for trade surplus

17

Balance of exports and imports by sector\* in Germany in 2014 (EUR billion)



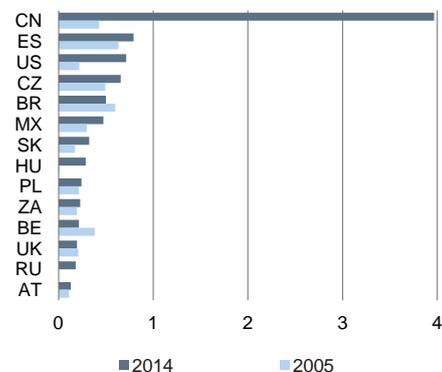
\*Based on NACE codes

Source: German Federal Statistical Office

China by far the most important manufacturing location

18

Millions of cars produced by German car makers outside Germany

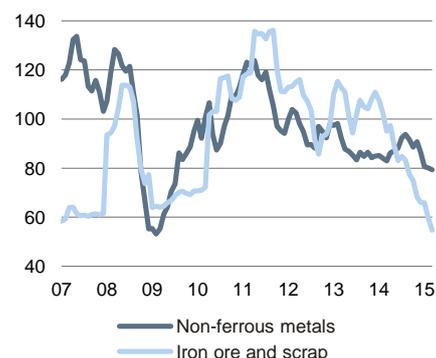


Source: German Association of the Automotive Industry (VDA)

Fall in industrial commodity prices

19

World market prices in USD (2010=100)



Source: Hamburg Institute of International Economics (HWWI)

### Automotive industry

We have shown that the automotive industry is among those benefiting from the weak euro because it has a high export ratio and non-EMU countries account for a large proportion of its exports. This applies to vehicle manufacturers and the automotive supply industry. In 2014, the three most important export markets (by far) for the German automotive industry were the US, the UK and China – thus, countries outside the eurozone. Furthermore, the sector generates the most exports of all industrial sectors in absolute terms as well as the highest foreign trade surplus (see chart 17). However, the following factors offset the impact of exchange rate fluctuations.

- Offshore production by the German automotive industry has increased massively in recent years. The major car markets in particular are supplied entirely or in large part from local production sites, which reduces the impact of exchange rates. This is true of countries such as China where most of the almost four million German branded cars that came off Chinese production lines in 2014 were sold locally. There are many reasons for this change<sup>2</sup>, but avoiding currency risk is clearly a motive for localising production. Of course, this also applies to vehicle manufacturers from Japan, the US and South Korea who have a global presence themselves.
- Intercompany trading (e.g. engines shipped from Germany to the same manufacturer's plant abroad) accounts for a significant (though unquantifiable) proportion of the German automotive industry's foreign trade. Again, exchange rates are of little or no consequence.
- The impact of exchange rates is further mitigated by the German automotive industry's focus on the premium segment where customers are less sensitive to prices than buyers of small or compact cars.
- It is characteristic of the automotive industry that changes in the exchange rate do not result directly in corresponding price changes in an international sales market. The local list price of a car produced in Germany and exported to the USA, for example, does not fall in parallel with the exchange rate because pricing is geared to local market conditions (supply and demand, intensity of competition) and tends to remain the same over long periods of time. In such cases, the exchange rate is more likely to affect the return per vehicle that the car maker can generate. Nevertheless, the weak euro increases the opportunities for offering commercially justifiable discounts.

In 2014, the most important countries of origin for German imports of vehicles and vehicle parts were the Czech Republic, Spain, Hungary, France, Poland and Austria, i.e. predominantly eurozone countries or countries whose currency has not appreciated against the euro or may even have depreciated against the euro in recent months (see appendix 2). However, exchange rate fluctuations are likely to make it more expensive for German vehicle producers to import components from suppliers in countries such as the UK or the US. This might prompt buyers to switch to European suppliers if it is technically possible and the companies have the supply capacity.

According to the national input-output accounts, the German automotive industry's other key imports are mechanical engineering products, metals, chemical products, rubber and plastic goods, and electrical equipment. Needless to say, the cost of these imports can also be expected to rise if they originate from countries whose currencies have appreciated against the euro,

<sup>2</sup> See Heymann, Eric (2014). The future of Germany as an automaking location. Deutsche Bank Research. Current Issues. Frankfurt am Main.

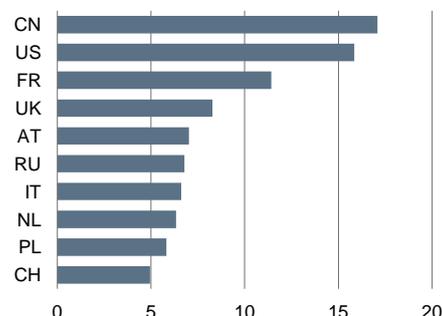


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### China and US dominate

20

German mechanical engineering exports by market in 2014 (EUR billion)



Source: German Federal Statistical Office

although the impact is mitigated by the fact that major commodity prices (in US dollars) are relatively low at present (see chart 19).

Overall, the export-side benefits of the weak euro significantly outweigh the drawbacks of rises in import prices for some intermediate products due to exchange rate effects. In the short term, the weak euro alone is not expected to push up the price of imported vehicles for consumers, who account for a significant proportion of the 'final use' of imported vehicles and vehicle parts (car imports). Again, the importer's return per vehicle is more likely to change.

### Mechanical engineering

The German mechanical engineering sector accounts for the second-highest volume of exports in absolute terms and the second-biggest foreign trade surplus of all industrial sectors (behind the automotive industry in each case). The sector's four biggest export markets in 2014 included China, the US and the UK, three countries that are not part of the eurozone and whose currencies have risen against the euro. Although this indicates that mechanical engineering is benefiting from the weak euro, its impact is less pronounced because the German mechanical engineering sector traditionally focuses on specialist machinery for which there is generally less price elasticity of demand than for standard machinery, which is much more 'price-led'.

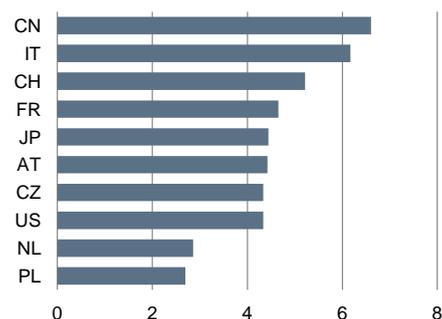
One of the features that distinguish mechanical engineering from other sectors on the export side is the continuing importance of Russia as a sales market. In 2014, it was the sector's sixth biggest sales market. Consequently, mechanical engineering is likely to be hardest hit by the sharp depreciation in the Russian rouble against the euro in recent months and the fact that the Russian economy is expected to contract significantly in 2015.

In terms of imports, the national accounts (VGR) import matrix shows that machinery is the main product imported by the mechanical engineering sector (intra-industry trade predominates). China and Switzerland are among the biggest supplier countries. Exchange rate effects are likely to increase the cost of imports from these countries. Other major imports are metals and metal products, and electrical engineering products. The same line of argument applies to this sector as to the automotive industry.

### China, Italy and Switzerland are major machinery suppliers

21

German imports of mech. eng. products by country of origin in 2014 (EUR billion)

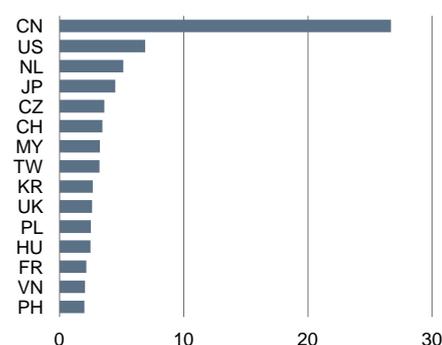


Source: German Federal Statistical Office

### Eurozone countries not significant

22

German imp. of data proc. equipm., elect. & opt. instr. by country of origin in 2014 (EUR billion)



Source: German Federal Statistical Office

If both divisions of the electrical engineering sector ('data processing equipment, electronic devices and optical instruments' and 'electrical equipment') are combined, it accounts for the third biggest export volume of all German industrial sectors. China, the US and the UK are among the biggest sales markets in both divisions. However, the same applies to this sector as to the mechanical engineering sector, i.e. the more customised (and the higher value) the goods exported, the smaller the impact of exchange rates because customers who purchase these products are not as price sensitive. The effect of the weak euro is therefore likely to be less pronounced for capital goods than for consumer electronics or standard electrical products.

On the import side – as already mentioned – eurozone countries account for a remarkably low proportion (15.7%) of total German imports of these products, particularly in the data processing equipment, electronic devices and optical instruments sector. The 15 biggest countries of origin only include two eurozone countries: the Netherlands and France. A large proportion of imports come from Asia, mainly China. All other things being equal, exchange rates can be expected to push up prices. In the consumer electronics sector, however, this does not necessarily mean higher retail prices because prices here have been

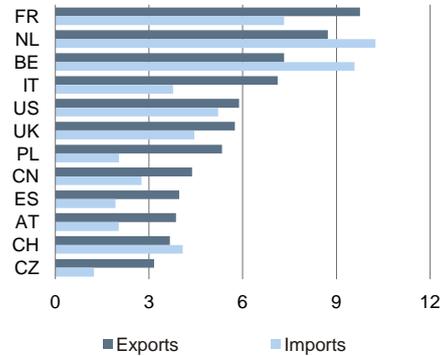


## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

### Eurozone countries are key trading partners

23

German exports & imports of chemical products by trading partner in 2014 (EUR billion)



Source: German Federal Statistical Office

on a downward trajectory for years – partly because of technical advances – which may well eclipse the effect of exchange rate fluctuations.

Leaving aside consumers as end-customers, the main importers of electronic products are the electrical engineering sector itself, the mechanical engineering sector, the automotive industry and the building materials industry (construction-related trades such as electrical installation). Price increases due to exchange rates could also persuade corporate customers to look around for alternative suppliers in the eurozone who can offer more competitive prices than importers from Asia or the US because of the weak euro.

### Chemicals industry

The German chemicals industry is fourth in the league table of exporting industrial sectors. In contrast with the sectors mentioned above, the eurozone countries are among the chemical industry's most important trading partners in terms of both imports and exports. As a result, the euro exchange rate is less relevant to the sector, despite the fact that its overall export ratio is high. The weak euro may be driving up the cost of chemical imports from the US, the UK and Switzerland, all major supplying countries, but it is benefiting exports to these countries. Intra-industry trading is by far the most dominant in the sector, i.e. the biggest importer of chemical products is the chemicals industry itself. Regional networks of individual chemicals plants in mainland Europe may well play a role. Crude oil is a key raw material for the chemicals industry. Although the weak euro is making oil imports more expensive, lower crude oil prices are more than compensating.

Foreign local production in the chemicals industry has also increased in recent years. Foreign subsidiaries often focus on meeting local demand while intra-group trade flows are very important in the chemicals sector and both factors mitigate the impact of exchange rate fluctuations.

### Oil prices at low level

24

World market prices for crude oil (2010=100)

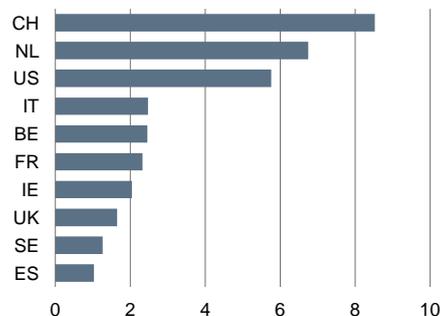


Source: Hamburg Institute of International Economics (HWWI)

### Switzerland is main pharmaceutical products supplier

25

German imports of pharmaceutical products by country of origin in 2014 (EUR billion)



Source: German Federal Statistical Office

### Pharmaceutical industry

The US, Switzerland and the UK are among the pharmaceutical industry's most important trading partners – in terms of both exports and imports. German exports to these countries should also experience a boost from the weak euro, but the cost of imports from these countries will also rise. The main end-consumers of (imported) pharmaceutical products in Germany are hospitals, other healthcare institutions and households. Although it is unlikely that the weak euro will result in sharp price rises in pharmacies in the near term because there is specific pricing for patented drugs in Germany, importers' margins (wholesale margins) could well fluctuate more strongly and more closely in line with the exchange rate.

### Other vehicle manufacturing

The aviation industry within the other vehicle manufacturing sector is characterised by several distinctive features that also influence the impact of the weak euro on the sector. As already mentioned, the large proportion of intra-sector and intercompany trade between Germany and France is striking, but exchange rates are of no consequence in this type of trade.

On the export side, the sector's main export markets in recent years have included the US, China, the United Arab Emirates and the UK – countries that do not belong to the eurozone. At first glance, exports from Germany to these countries should benefit from the depreciation in the euro, particularly as the global aviation market is priced in US dollars and the bulk of the European

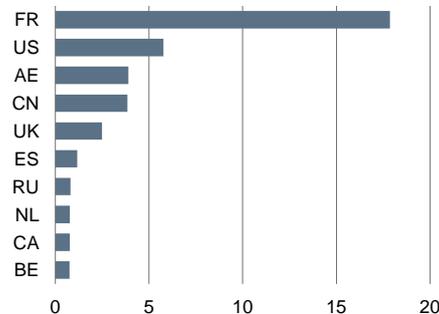


## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

### France by far the biggest foreign market

26

German other vehicle manufacturing exports by market in 2014 (EUR billion)



Source: German Federal Statistical Office

aviation industry's costs are in euros. However, it should be noted that discounts are customary in the sector, particularly for big-ticket contracts, and they may outweigh the recent exchange rate effects. It remains to be seen whether customers outside the eurozone will take advantage of the weak euro to renegotiate prices, or whether the industry can secure higher returns for the long term. In any case, the weak euro has provided the European aviation industry with more scope for negotiation than its US competitor. On the import side, however, it is having to pay higher costs for components from the US, the UK and China.

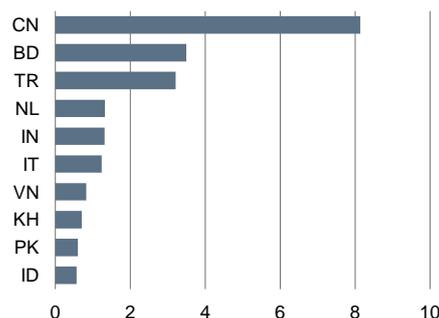
### Metal, rubber and plastic products

The export and import ratios for rubber and plastic goods and metal products are not high, but non-EMU countries account for more than 50% of imports and exports in each case. The main buyers of these products in Germany are capital goods manufacturers and private households. The fall in the euro has made imports from many non-EMU countries such as China or Switzerland more expensive than imports from eurozone countries. As a result, local producers have become more competitive overall.

### Asia dominates

27

German imports of clothing by country of origin in 2014 (EUR billion)



Source: German Federal Statistical Office

### Textile and clothing industry

Textiles and, to an even greater extent, clothing are classic import goods. The clothing industry is the sector with the biggest foreign trade deficit. Non-EMU countries account for a large proportion of total clothing imports (2014: 85%; textiles: 68.4%), with most clothing suppliers located in Asian countries. The depreciation in the euro is expected to result in higher prices for end-consumers, who are the main buyers of this sector's products. According to the import matrix in the national accounts (VGR), textiles and clothing are of minor importance as intermediate goods for industrial sectors, so higher import prices in this sector are not particularly relevant. On the export side, the textile industry is likely to benefit from the weak euro because a good 63% of its exports are to non-EMU countries. The fast-growing technical textiles sector in particular could receive a boost.

### Agricultural commodities currently very cheap

28

World market prices for agricultural commodities (2010=100)



\*Only commodities for food and beverages

Source: Hamburg Institute of International Economics (HWWI)

### Food industry

The export and import ratios for the food industry are both below average, particularly in the case of processed foods. Nevertheless, the euro exchange rate is of considerable importance to the sector as it is by far the most important end buyer of imported agricultural products/commodities (ahead of households). Because most of these products are traded in US dollars, the devaluation in the euro has made imports more expensive. However, prices for agricultural commodities are currently very low, even when exchange rates are taken into account. On the import side, conditions for the food industry are therefore generally favourable. The food industry's lower buy-side costs are likely to prompt the food retailing sector in Germany to demand reductions in the prices it pays. Overall, the weaker euro is scarcely likely to affect the price of processed food for end-consumers (mainly households and the catering trade). The food industry's margins are permanently under pressure due to the market power of the food retailing sector. The current weakness of the euro could at least help it to make greater inroads into international sales markets outside the eurozone. The German food industry's export ratio is likely to continue to increase moderately in the coming years.

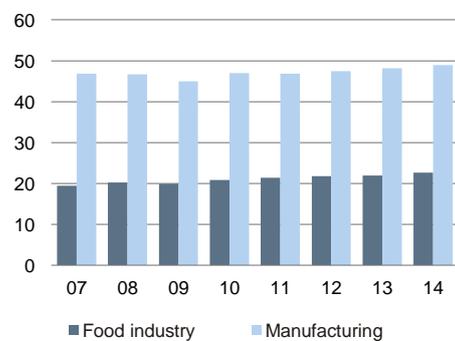


## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

Export ratio for food industry below average but rising

29

Export revenue as a percentage of total revenue in Germany

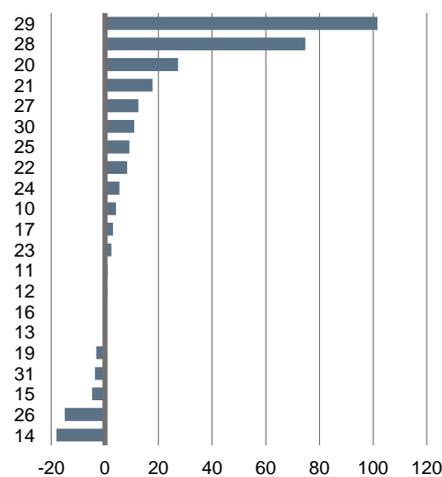


Source: German Federal Statistical Office

Trade deficit for clothing and data processing equipment etc.

30

Foreign trade balance with non-EMU countries by sector\* in Germany in 2014 (EUR billion)



\*Based on NACE codes

Source: German Federal Statistical Office

Recent resurgence in import prices

31

Import prices and inflation rate in Germany (2010=100)



Source: German Federal Statistical Office

### 5. Conclusion and outlook

Although the German export sector will face structural challenges in the long term<sup>3</sup>, the positive effects of the weak euro now significantly outweigh its drawbacks at sectoral level. Germany is becoming more price competitive as a production location. We have revised our forecast for industrial production in Germany upwards to 1.5% in real terms (from 0.75%), not least because of the unexpected, sharp devaluation in the euro in recent weeks. Thanks to the weak euro, Germany's foreign trade surplus is set to rise in 2015.

The biggest winners are capital goods manufacturers such as the automotive industry and mechanical engineering because they have the largest foreign trade surplus with non-EMU countries. Parts of the electrical engineering, chemicals and pharmaceutical industries are also experiencing particular benefits. Higher import prices for selected intermediate products (e.g. electronics, metals and metal products, rubber and plastic goods) are more than offset by benefits on the export side, particularly as key commodity prices are currently low. Companies in these sectors in Germany and the eurozone are becoming more competitive for importers in countries such as the US, the UK, Switzerland and Asia. While capital goods manufacturers are benefiting most from the weak euro, no real losers can be identified at the level of industrial sectors. The exchange rate is simply less relevant for some sectors.

The impact of exchange rates can be mitigated by locating production abroad, intra-group trade flows, focusing on products with low price elasticity of demand or by special pricing mechanisms.

At company level, the weak euro may take a greater toll than analysis at sectoral level suggests. This depends on specific economic cycles, regional or product-specific substitution opportunities, the competitive situation (ability to pass on price increases) or individual exchange rate hedges.

Households are likely to face higher prices due to exchange rate fluctuations, particularly for clothing and leather goods (and textiles to a lesser extent) as well as consumer electronics. The data processing equipment, electronic devices and optical instruments sector and the clothing industry run the biggest trade deficits with non-EMU countries. However, other factors, such as lower prices due to technical advances, may more than cancel out the higher prices for consumer electronics resulting from the weaker euro. We expect the inflation rate to remain relatively low in 2015 and 2016, even though German import prices have risen again recently. This is a natural consequence of the weak euro, but note that import prices are more volatile than the overall inflation rate in any case (see chart 31).

Despite their positive impact on economic activity at present, the current weak level of the euro and historically low prices for many commodities also pose a risk for Germany's export sector. They act in the same way as an economic stimulus package received free of charge, and may give rise to a certain degree of complacency. Not unreasonably, there is a growing body of opinion, particularly in industry itself, that companies should not sit back and rely on favourable exchange rates. Instead, they should continue to make efforts to manufacture high-quality, innovative products that can compete in the world market. This may sound obvious but in the decades before the introduction of

<sup>3</sup> See Heymann, Eric et al. (2015). German exporters face strong headwind despite softer euro. Deutsche Bank Research. Current Issues. Focus Germany. Frankfurt am Main.



## How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

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the euro companies in some southern European countries, for example, often relied on their central banks – supported by politicians – leaping to their aid by devaluing the country's currency when companies had become uncompetitive. The differences in the industrial structures that still exist today between Germany and southern Europe reflect the fact that this strategy was ultimately unsuccessful.

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\* The author would like to thank Christoph Laskawi for his assistance with the preparation and analysis of data.



How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

## Appendix 1: NACE codes

List of NACE codes

32

NACE code	Sector
C	Manufacturing
10	Food products
11	Beverage production
12	Tobacco processing
13	Textiles
14	Clothing
15	Leather, leather goods and shoes
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting material
17	Paper
19	Coking and oil refining
20	Chemicals
21	Pharmaceuticals
22	Rubber and plastics
23	Construction materials
24	Metal production and processing
25	Metal products
24+25	Metals
26	Data processing equipment, electronic devices and optical instruments
27	Electrical equipment
26+27	Electronics and electrical engineering
28	Mechanical engineering
29	Automotive industry
30	Other vehicle manufacturing
31	Furniture

Sources: German Federal Statistical Office



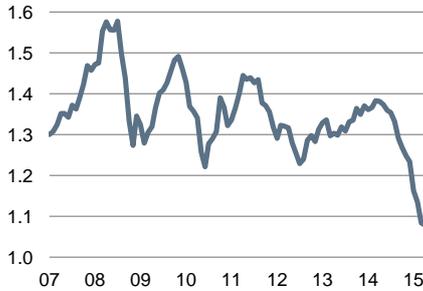
How is the weak euro affecting different sectors? Who is benefiting and who is losing out?

Appendix 2: Selected exchange rates

EUR/USD

33

Monthly averages

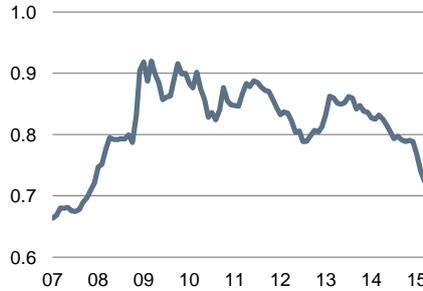


Source: ECB

EUR/GBP

34

Monthly averages

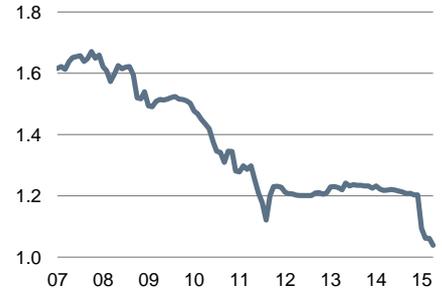


Source: ECB

EUR/CHF

35

Monthly averages

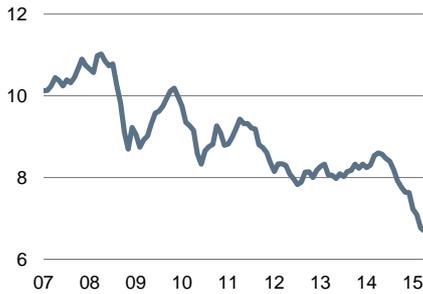


Source: ECB

EUR/CNY

36

Monthly averages



Source: ECB

EUR/JPY

37

Monthly averages



Source: ECB

EUR/PLN

38

Monthly averages

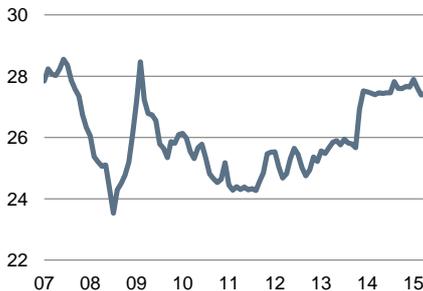


Source: ECB

EUR/CZK

39

Monthly averages



Source: ECB

EUR/HUF

40

Monthly averages

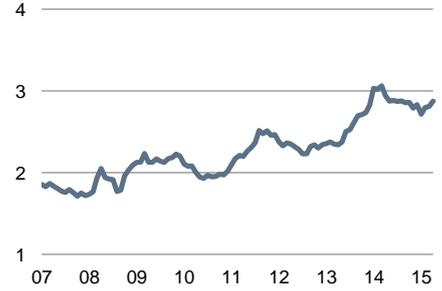


Source: ECB

EUR/TRY

41

Monthly averages



Source: ECB



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