

# CECIMO Economic and Statistical Toolbox

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**cecimo**  
European Association of  
the Machine Tool Industries

# Table of content

## Introduction

### 1 Data specific to the European machine tool market

- 1.1 CECIMO8 orders
- 1.2 Peter Meier's forecast
- 1.3 MT-IX
- 1.4 CECIMO trade
- 1.5 CECIMO production
- 1.6 CECIMO Business Climate Barometer 

### 2 Macroeconomic data in relation with machine tool orders

- 2.1 GDP
- 2.2 Interest rates – Euribor
- 2.3 Inflation
- 2.4 Industrial production index
- 2.5 Gross Fixed Capital Formation
- 2.6 Capacity utilisation in the investment goods sector
- 2.7 Bank lending survey
- 2.8 Foreign exchange rates
- 2.9 Industrial employment
- 2.10 OECD Business Confidence Indicator for Europe
- 2.11 European Commission Economic Sentiment Indicator
- 2.12 Purchasing Managers' Index

## Glossary

## Geographical Information

## Other symbols and acronyms

The items in grey have not been updated since the CECIMO Statistical Toolbox's last edition.

# Introduction

The economic activity is picking up pace. Together with the recovery, still somewhat weak but with solid projections, the world trade volume is expected to rise at around 4% annual growth rate in 2017 and 2018. Global trade rebounded after the first half of last year and analysts expect it to maintain its momentum at the start of 2017, getting its expansion rate closer to the one of the global output in the medium-term. This trend happens at a time when part of the political spectrum and social front look with disfavour at globalisation, and this stance is spreading. The emerging markets and developing economies will perform better in this respect than the advanced economies, with rates of 0.4 and 0.7 percentage points higher than those expected in developed economies.

This gradual and moderate recovery is moving forward and is gaining strength, reflecting the upward readjustment of investment, manufacturing and trade. Enterprises climate-related indicators, analysed throughout the present report, suggest that the European economic activity is bouncing back, with its exports gaining momentum. The uptick in business confidence and economic sentiment underpins positive signs for employment and activity. The International Monetary Fund revised slightly up its economic growth forecasts in advanced countries, while downgraded a bit its projections for the others. Deflationary pressures are diminishing and the estimated real GDP growth in the Euro Area for 2017 has been nudged to 1.8%. This expansion is way more solid and it is positively affecting more countries and companies across Europe. According to recent data published by the ECB, the share of growing sectors has been rising since 2013 and overpassed 80% level in the third quarter of 2016. Furthermore, the dispersion of growth across countries keeps declining.

On the negative side, the international context is still feeble and vulnerable. The uncertainties surrounding the economic landscape remind us the need of cautiousness, as the sizable increase in incertitude represents a significant downside risk for the global economy. The geopolitical tensions and the growing pressures for inward-looking protectionist policies at present and on the horizon imply a threat to the positive economic outlook, with negative effects on cross-border trade and investment flows. Besides, the imbalances of public finances and private debt still need to be addressed. These necessary consolidation efforts, aimed at rebalancing public balance sheets, tackling large deficits, are expected to dampen economic growth in the short term. Structural reforms should be undertaken to boost the economy, also in the medium and long-term. However, political difficulties and uncertainty are slowing down the implementation of such measures. Finally, further attention on pending subjects, such as achieving a higher growth of productivity and reducing income inequality, should reduce the imbalances and mitigate the impediments to a sustainable and inclusive growth, resulting in a higher welfare more equally distributed in the society.

The European Central Bank policy continues to be very accommodative, seeking to loose money supply and stimulate economic growth. No significant changes are expected in the near term. Moreover, the ECB is willing to extend the asset buying programme beyond 2017 if necessary. Across the Atlantic, the Federal Reserve will probably begin to unwind quantitative easing towards the end of this year.

# 1. Data specific to the European machine tool market

## ▲ 1.1 CECIMO8 orders

The overall level of orders intake of CECIMO-based companies increased last year, and the demand for machine tools strengthened during the last quarter of 2016, compared to the previous one. According to the latest available data, CECIMO8 total orders increased 20% quarter-on-quarter. It is true that, due to the cyclical activity of the machine tool sector, the fourth quarter is usually better in terms of orders than the third one. However, it is equally true that orders of MT reached a level that is more than 4% higher in interannual terms towards the end of the year. The level of orders MT companies based on CECIMO8 countries received in the last quarter of 2016 is slightly better than in 2015 and 2014, while markedly higher than in previous years. To see such high level of orders one should go back as far as the year 2007.

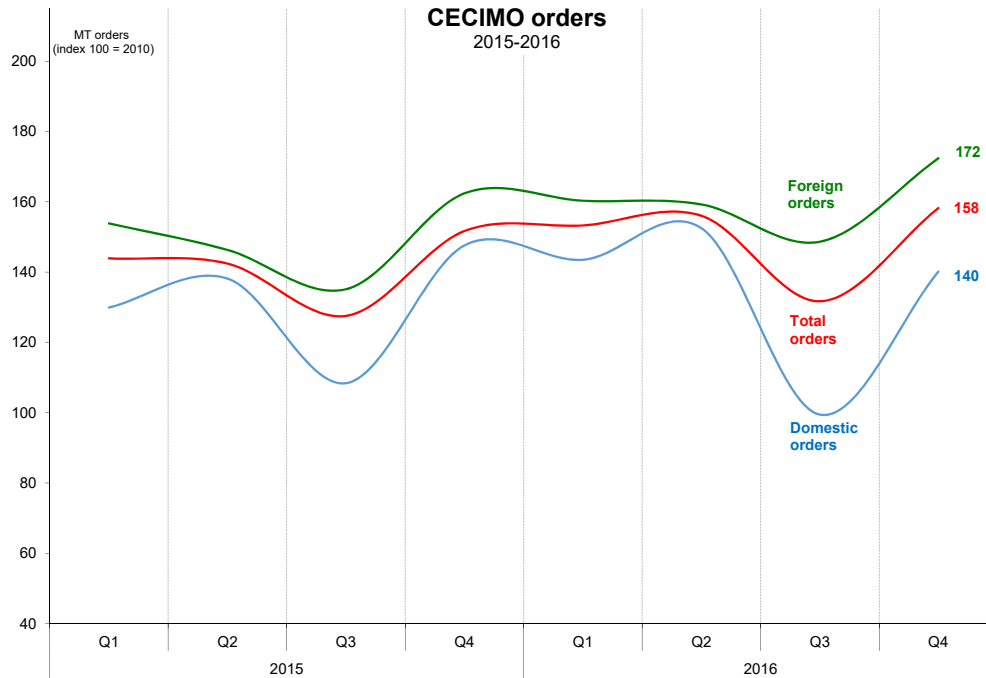
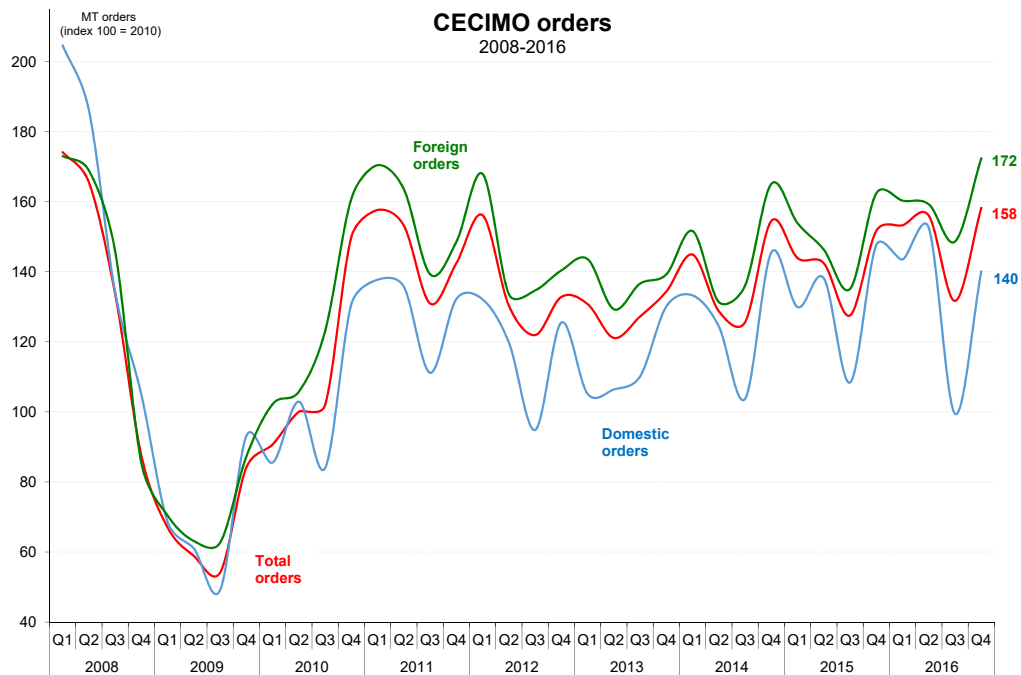
This quarterly increase was driven by Spain (+84%) and Italy (+41%). At a lesser degree, Austria, Switzerland and France registered a quarterly increase ranging from 25% to 30%. United Kingdom (+18%) and the remaining countries also experimented a higher level of new machine tool orders compared to the previous one. The MT orders rebound leads to a quarterly rise of 6% in the seasonally adjusted index and follows a drop of 7% in the third quarter.

Comparing the fourth quarter of 2016 to the one of 2015, the highest hikes in purchase orders were recorded in Spain (+69%), Austria (+41%), Switzerland (+26%) and the United Kingdom (+15%). The only drops were seen in Czech Republic (-25%) and, at a lesser extent, in Germany (-4%).

It is worth to mention that this positive picture was led by the 40% quarterly boost of domestic orders. The countries which performed particularly well in terms of domestic orders were Italy, Spain and Czech Republic. These two first countries received around 65% more orders than in 2010, while the latter saw that value doubled. Austria and Switzerland registered quarterly increases. On the other hand, machine tools' orders from abroad augmented 16% in that same period. Once again, Spain showed an outstanding increase of more than 90% in comparison with the previous quarter. The trend in every country with updated data of the last quarter 2016 was quite positive: Austria (+46%), France (+42%), Czech Republic (+31%), United Kingdom (+30%), Italy (+13%), Germany (+5%), Czech Republic (+1%). If we compare these values with those of the previous year, Spain (+75%), Austria (+50%) and United Kingdom (+25%) led the rise of CECIMO orders.

The international picture is a little more mixed. For instance, orders of metal cutting machine tools in Japan increased, while those of metal forming decreased. Orders intake in Taiwan increased almost 30%, while in the United States the situation is weak: MT orders from domestic manufacturers fell 41% from December 2016 to January 2017, after recovering to the late 2015 levels in the third quarter of 2016 and further increasing at the year-end. The total of January 2017 represents a 11.4% drop from January 2016.

***See graphs on next page***



## ▲ 1.2 Peter Meier's forecast

The upswing that has been emerging for some time now is gaining momentum. The business climate indicators have been on the rise already since last autumn. Consumer confidence climbed to 101.5 points in the USA, a level which has not been reached since 2000. In Japan, this indicator is now again in the expansive range after some years and also in China consumer confidence returned. In Europe, consumer confidence has been in the expansive range for some time, but a further improvement in sentiment is not yet apparent. Business confidence, which is traditionally a good indicator of the demand for investment goods, has been rising in all major world markets since last autumn.

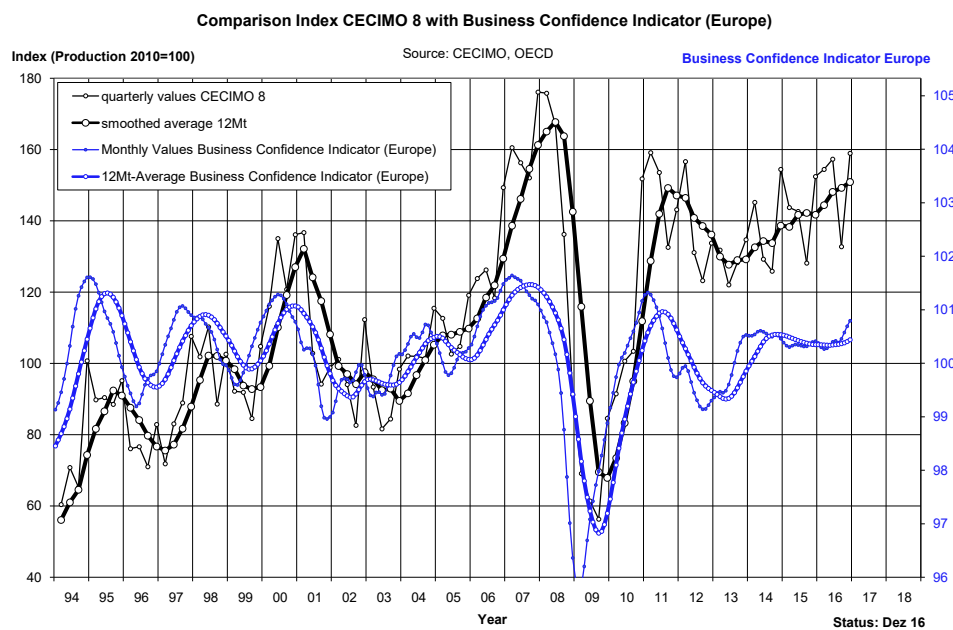
In the United States consumption overcame the stagnation of 2014/15. Since mid-2016, the indicator has been on the rise again. In Europe too, the consumption is growing significantly, while in Asia, consumer growth has kept slowing, mainly due to a moderate growth in China. Altogether, consumption, which is now well above the level of 2007 in all world markets, is expected to provide a positive impetus to demand for investment goods.

Industrial production, which is ultimately decisive for the demand of investment goods, however, has just bottomed out of the current industrial cycle. In the States, it bobs up and down around the level of 2007. In Europe and Japan it has not yet reached that level, and in China significant overcapacity inhibits the propensity to invest. On the other hand these indicators have been rising significantly in all world markets for months.

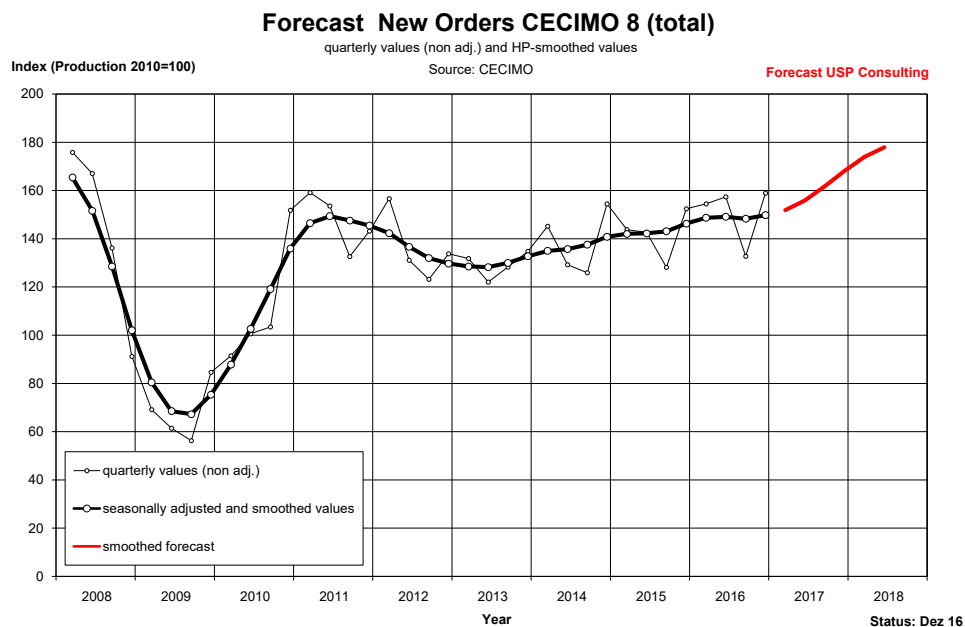
Despite a general increase in consumption, the demand for investment goods is likely to develop quite differently in the coming months. Already in 2016 there were big differences: demand in general machinery has moved sideways, it slightly increased for machine tools and we observed a significant upswing in new orders for semiconductor equipment. For 2017, an increase in demand will probably occur, but it is expected to vary quite considerably from sector to sector.

The following graph clearly shows that the European Business Confidence Indicator has been rising in all important world markets since autumn of 2016. Given a time lag of several months, this usually has a positive effect on the propensity to invest in machinery,

***See graphs on next page***



New orders in Q4 were above expectations. The latest economic indicators didn't change the forecast. The demand will most probably be expanding in 2017 by 10% or even more.

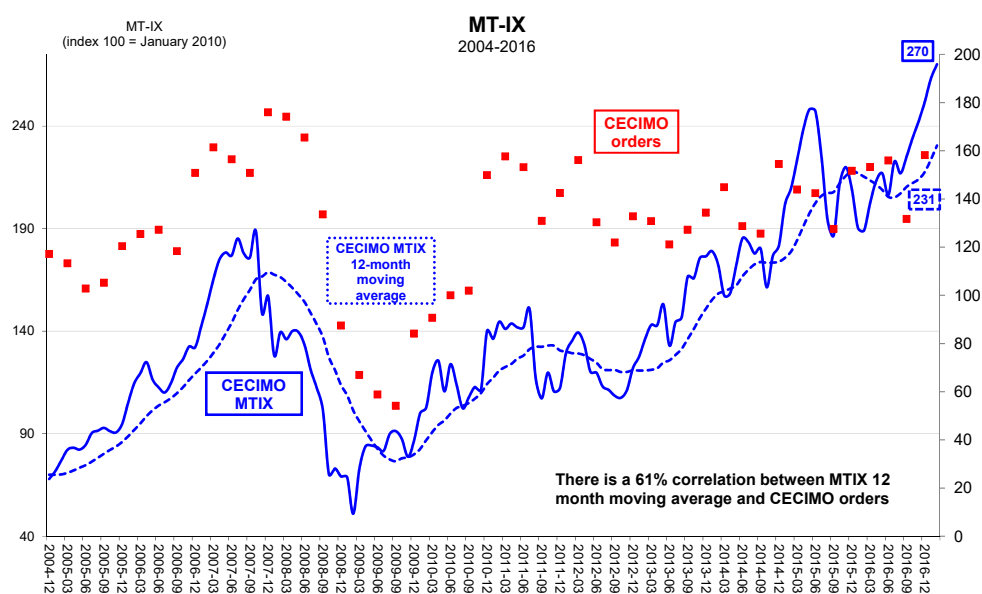


### ▲ 1.3 MT-IX <sup>i</sup>

Last year was positive in terms of market capitalization of the main companies in the machine tools sector. In absolute values, the index jumped more than 30%, gaining around 60 points and placing above 250 points in December 2016.

Taking a look at the second half of last year, the MT companies' market value increased during the summer throughout the globe, in particular in Brazil and Korea. The market capitalisation of companies based in CECIMO countries increased more than 5%, while the aggregated market cap of companies in the United States remained more or less stable. Among all countries included in this index, only Taiwan booked a slight decrease. Since then, the upward movement has been relatively constant and the index reached 270 points in February 2017, taking as reference value (100 points) the index value registered in January 2010. The MT-IX index rose 9% in the third quarter and 12% in the fourth of last year, leading to an increase of 22% during the whole second half of 2016. The quarterly growth rate of this index remained fairly stable at about 11-12% from November 2016 to February 2017, following a less pronounced 5% rise in October last year.

For its part, the sub MT-IX value for CECIMO companies reveals an above 6.5% increase in value during the period July-December 2016, 10.5% when only considering Switzerland in the calculation. At the beginning of 2017, it registered a more moderate monthly growth of 2% and 1% in January and February respectively.



### ▼ 1.4 CECIMO trade

The global context for international trade is not positive. The recovery, both in absolute values and in terms of GDP, is not solid yet, and the machine tool sector is not an exception. Upon our calculation, sometimes based on provisional data, total exports of machine tools in 2016 weakened by more than 7%.



The European machine tool builders are coping well with the feeble international context. Despite a little below projections, exports of machine tool from CECIMO-based companies to the rest of the world diminished by 3.4% last year, which is less than half of the MT global trade deterioration. CECIMO countries' exported machine tools worth some 18.25 billion euro in 2016. It represents 49% of total world exports of machine tools. The less-than-expected performance during the second half of the year affected the aggregated data for the whole year: CECIMO MT exports were 9.6 billion euro during the period July-December 2016, which represents a 4% interannual decrease. The region that suffered a hardest contraction in MT exports was Asia, which experimented 13.3% annual negative growth in 2016. The four countries that account for more than 90% of Asian exports of machine tools suffered from large reductions: -17.7% in Japan, -13.7% in South Korea, -8.6% in Taiwan and around -5.5% in China.

Considering our most updated statistics from January to December 2016, the market that hit the numbers the most was Asia, whose imports from CECIMO members decreased by 6.8% in the whole year 2016. That value was led by the 10.5 percent annual plunge in exports to China, which represents the 65% of the total Asian market for CECIMO companies. Furthermore, MT exports to the United States remained stable above 1.9 billion euro, but those to Russia kept markedly falling at impressive annual rates (-33% in 2016). This is certainly not a surprise, as the economic situation and the EU-Russia sanctions are clearly affecting the European MT sector.

An analysis of the biggest markets reveals a stronger position of CECIMO in Asia. In spite of the almost 7% decline in CECIMO exports to Asia –when comparing the values of 2016 with 2015–, the CECIMO market share in the region increased two percentage points year on year (from approximately 31.5% in 2015 to 33.5% in 2016). CECIMO-based companies in the Americas experimented a similar but less accentuated trend. Exports from CECIMO countries to Americas decreased 3% in 2016, but its market share outpaced 36% from around 35% in 2015. Once again, it reflects the performance above the average of CECIMO companies last year.

On the imports' side, they did not reach the level of estimates but were very close to. According to the latest provisional data for 2016, the machine tools imported by CECIMO countries amounted to 9.7 billion euro. It is a reduction of 2.5% compared to 2015, a much less accentuated decrease than the global trade in the machine tool sector. CECIMO countries are responsible for 27-28% of MT purchases worldwide.

Within CECIMO, 60% of total exports of machine tools were originated in Germany and Italy. Germany accounted for 41.7% of total CECIMO exports in 2016. It is, alongside with Italy (16.8%) and Switzerland (12.5%), the most important European MT builder. Belgium, France, Spain and, at a lesser extent, the Netherlands, increased their share of exports within this group of countries. In terms of imports, almost 40% of MT purchases abroad were made by Germany (25.5%) and Italy (12.6%). These countries, together with Turkey (9.7%), France (9.1%) and Belgium (8.5%), account for two thirds of CECIMO machine tool imports.

European countries, while trading machine tools a bit less with the rest of the world, strengthened their commercial exchanges. The fact that this trade relationship better resists the weaknesses of the current environment is confirmed again: it is the only region of the world with which CECIMO trade flows incremented compared to 2015 (+0.3%). Therefore, needless to say that intra-European trade clearly remains the most important for CECIMO members. More than 4 out of 10 machine tools foreign sales (in value) by CECIMO countries had this area as destination.

Continued ►

Finally, it should be mentioned that companies are relatively optimistic about exports in the coming years. According to data provided by the European Commission, 20% of the EU industry predicts its exports to increase and only 10% forecasts a short-term decline. The CECIMO Barometers yielded quite similar results in our sector.

#### CECIMO exports and imports per zones - 2016Q4

in thousand euro. Export destinations and import origins

##### EXPORTS

Zone	2016Q4	2015Q4	2016Q4/ 2015Q4	Share 2016Q4	Share 2015Q4
I. ASIA	1,204.5	1,327.6	-9%	23%	25%
II. AMERICAS	822.3	864.3	-5%	16%	16%
III. EUROPE	2,775.1	2,713.5	2%	53%	51%
CECIMO	2,192.6	2,076.5	6%	42%	39%
non CECIMO	582.4	637.0	-9%	11%	12%
IV. Russia + CIS	173.5	196.8	-12%	3%	4%
V. AFRICA	79.5	101.2	-21%	2%	2%
VI. OTHERS	127.4	147.3	-13%	2%	3%
<b>TOTAL EXPORTS</b>	<b>5,187.3</b>	<b>5,356.6</b>	<b>-3%</b>		

##### IMPORTS

Zone	2016Q4	2015Q4	2016Q4/ 2015Q4	Share 2016Q4	Share 2015Q4
I. ASIA	752.2	722.5	4%	27%	26%
II. AMERICAS	116.6	113.1	3%	4%	4%
III. EUROPE	1,905.1	1,928.8	-1%	68%	69%
CECIMO	1,833.7	1,863.0	-2%	66%	67%
non CECIMO	71.5	65.8	9%	3%	2%
IV. Russia + CIS	10.2	2.4	319%	0%	0%
V. AFRICA	2.7	1.0	179%	0%	0%
VI. OTHERS	6.4	10.1	-36%	0%	0%
<b>TOTAL IMPORTS</b>	<b>2,797.3</b>	<b>2,782.5</b>	<b>1%</b>		

#### CECIMO exports and imports per zones - 2016H2

in thousand euro. Export destinations and import origins

##### EXPORTS

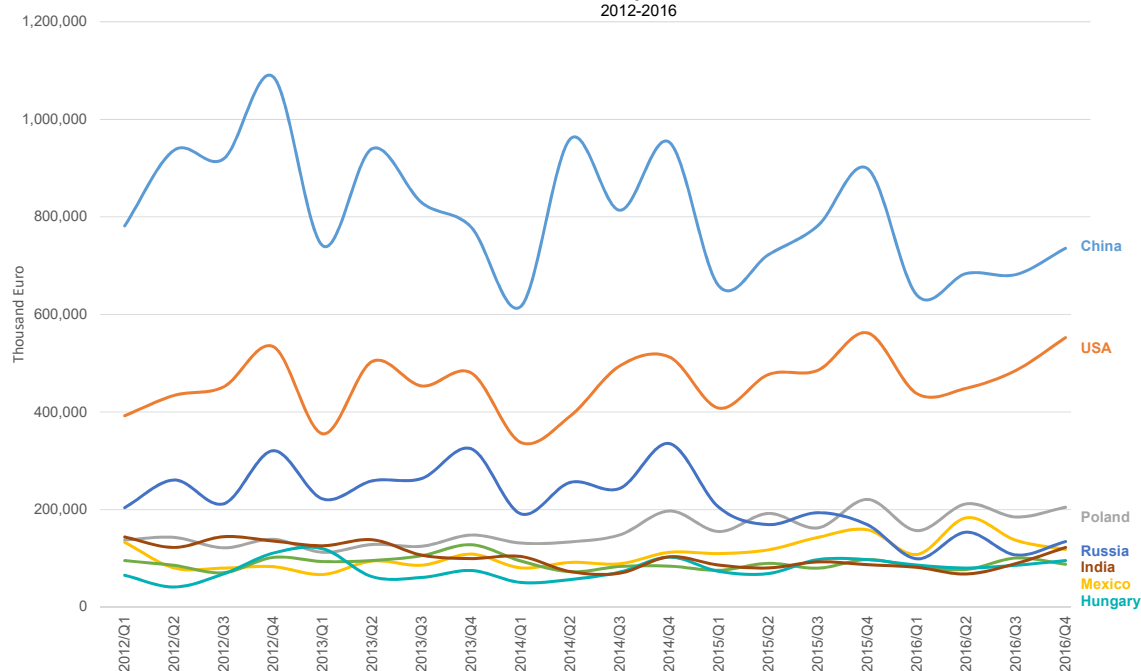
Zone	2016H2	2015H2	2016H2/ 2015H2	Share 2016H2	Share 2015H2
I. ASIA	2,286.9	2,487.9	-8%	24%	25%
II. AMERICAS	1,532.3	1,632.4	-6%	16%	16%
III. EUROPE	5,081.7	5,023.1	1%	53%	50%
CECIMO	4,015.1	3,870.5	4%	42%	39%
non CECIMO	1,066.6	1,152.7	-7%	11%	11%
IV. Russia + CIS	320.7	414.9	-23%	3%	4%
V. AFRICA	158.6	182.0	-13%	2%	2%
VI. OTHERS	224.3	277.4	-19%	2%	3%
<b>TOTAL EXPORTS</b>	<b>9,618.0</b>	<b>10,030.9</b>	<b>-4%</b>		

##### IMPORTS

Zone	2016H2	2015H2	2016H2/ 2015H2	Share 2016H2	Share 2015H2
I. ASIA	1,409.2	1,430.6	-1%	27%	27%
II. AMERICAS	214.0	225.5	-5%	4%	4%
III. EUROPE	3,404.0	3,493.9	-3%	65%	65%
CECIMO	3,266.5	3,370.8	-3%	63%	63%
non CECIMO	137.5	123.1	12%	3%	2%
IV. Russia + CIS	12.1	6.1	98%	0%	0%
V. AFRICA	3.6	2.9	23%	0%	0%
VI. OTHERS	12.2	15.6	-22%	0%	0%
<b>TOTAL IMPORTS</b>	<b>5,209.8</b>	<b>5,334.2</b>	<b>-2%</b>		

#### Evolution of CECIMO exports to its main markets

2012-2016



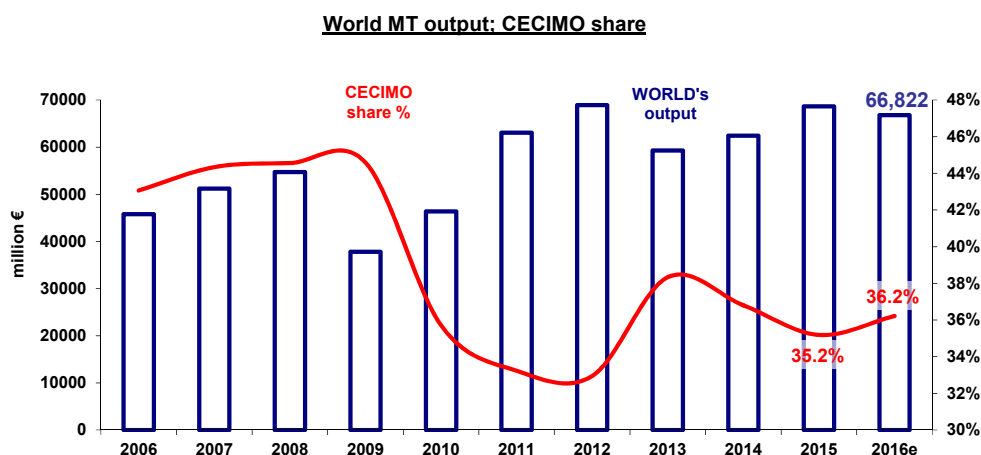
## ▲ 1.5 CECIMO production

After a 5% growth in last year production of the 15 CECIMO countries, 2016 CECIMO MT production is expected to scarcely increase above 24.2 billion euro. It is important to stress that this fact is taking place in a negative international context, as global production is forecasted to fall by almost 3%. Comparing the global production to the CECIMO one in 2016, CECIMO market share of production will increase beyond 36%.

Among CECIMO countries, the latest forecast on production shows production in all CECIMO countries to raise or remain fairly stable this year, except for the United Kingdom (-19% in euro, -13% measured in sterling pounds), Switzerland (-7.6%), Belgium (-6.7%), Austria (-4%), Czech Republic (-8%) and Turkey (almost -5%). Upward trends can be observed above all in France (+7.6%), Italy (+5.6%), Sweden (+4.2%) and Spain (+3%).

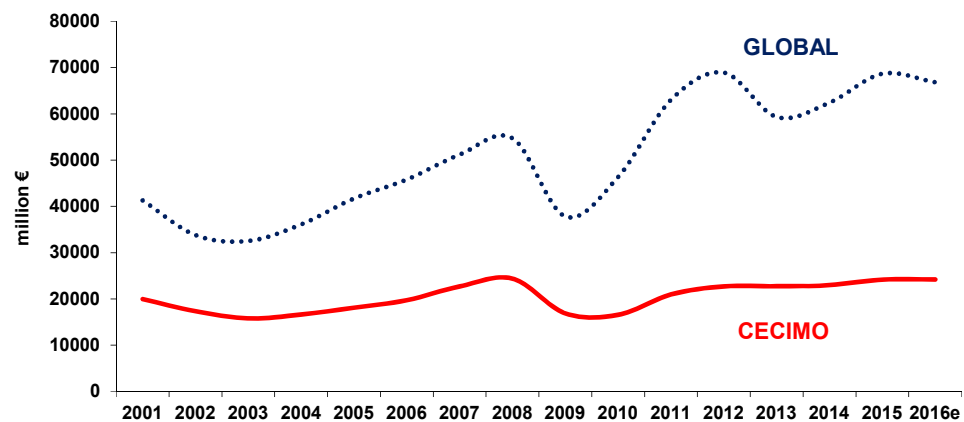
Thus the European machine tool industry has been able to keep its competitive position. Digitisation improvements in the European manufacturing sector are making machine tools exported by CECIMO countries more attractive. In addition, some previously postponed investments are positively influencing local machine tool sales.

A country-by-country analysis indicates that the European MT sector doesn't expect any significant change in the market shares for 2016. Germany, which together with Italy accounts for more than two thirds of CECIMO machine tool output, is, by far, the biggest CECIMO MT producing country with 46.2 percent of its total production last year. Italy and Switzerland represent respectively 19.3 and 12.0%, followed by Spain (3.9%), Austria (3.5%) and UK (3.4%). The three major CECIMO MT producers account for more than three quarters of the MT production in this group of countries.



*See figures on next page*

**Global production of machine tools since 2001**



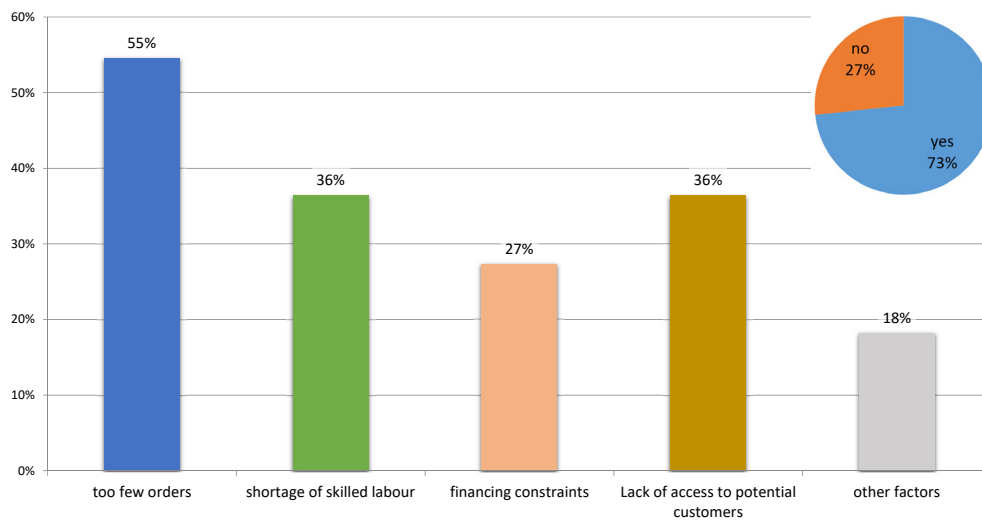
### ▲ 1.6 CECIMO Business Climate Barometer

The latest CECIMO Climate Barometer reflects the growing economic confidence in Europe. The survey was distributed to the respondents from 13 December 2016 to 31 January 2017 and the data gathers altogether replies to the CECIMO questionnaire, responses sent by national associations from their own sources and, in the case of German companies, we also take into account data from the Ifo Institute. The responses in the CECIMO Business Climate Barometer are analysed as the difference (net percentage) between the share of companies reporting an increase and the share of companies reporting a decrease in their business activities, or their perceptions about the reality.

The net percentage of companies reporting a good business situation grew from 7% in April 2016 to 30% at the end of the same year. In line with this positive outlook, export expectations increased to 7%. Thus, companies' assessment of their export possibilities ameliorated: MT companies believe that exports will keep driving the growth of the sector, helping them to offset the few number of orders, which is their main concern. Moreover, although the primary restriction to businesses' growth is insufficient order intake, it is worth mentioning that the index of companies stating to have too few orders decreased from 62 in April to 55 late last year, and the net percentage of companies expecting their net order intake to move upwards remain the same than in the previous barometer (12%). However, the effect of employment is still modest: the net percentage of companies considering to reduce its labour force rather than to increase it is 8% and 36% of respondents found their business limited by shortage of skilled labour and/or lack of access to potential customers.

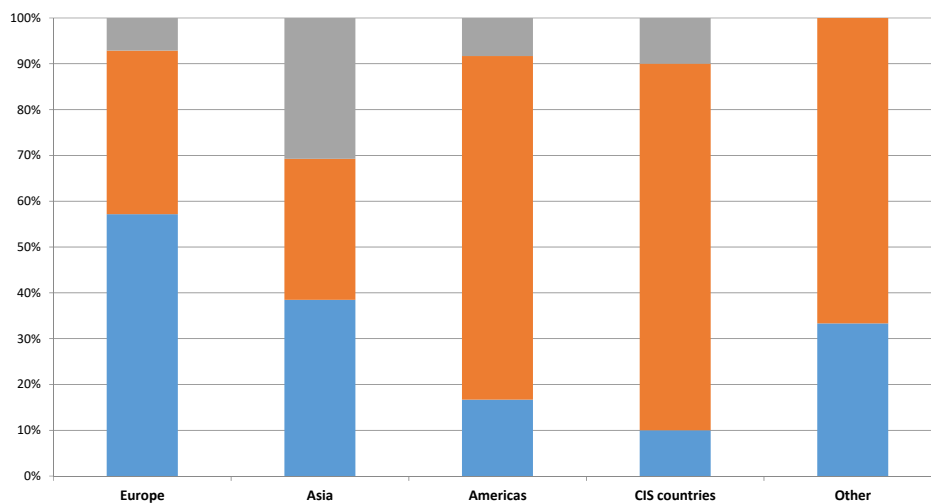
The best market opportunities are in Europe and, to a lesser extent, Asia. The results of the survey confirm the expectation of intra-European MT trade to remain the most important one for European machine tools builders.

Are there factors limiting your output? If yes, what factors:

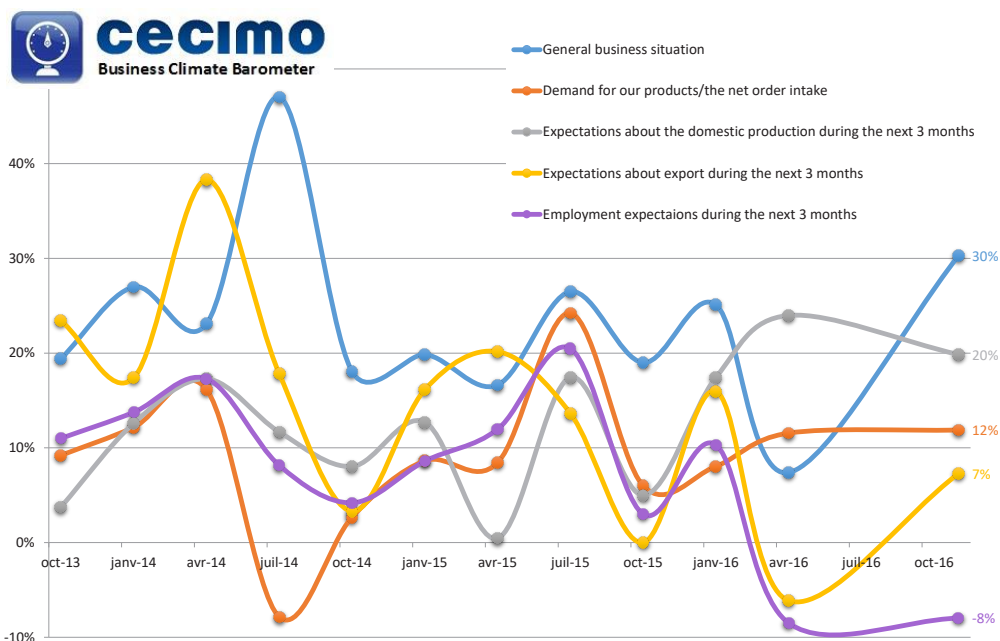


■ decline  
■ remain about the same  
■ increase

We expect our exports to different regions develop as follows:



See graph on next page



## 2. Macroeconomic data in relation with machine tool orders

### ▲ 2.1 GDP

Global economic growth remains solid and it is expected to regain momentum in the coming years, rising at 3-3.5%. The International Monetary Fund forecasts the nominal GDP to accelerate up from 3.1% in 2016 to 3.4% in 2017 and 3.6% in 2018. Job creation gathers pace but the conversion of GDP growth into employment is still modest. The World Bank only improved its June 2016 forecast for 2017 by 0.1 percentage points (2.7%), and the projection for 2018 is 2.9%.

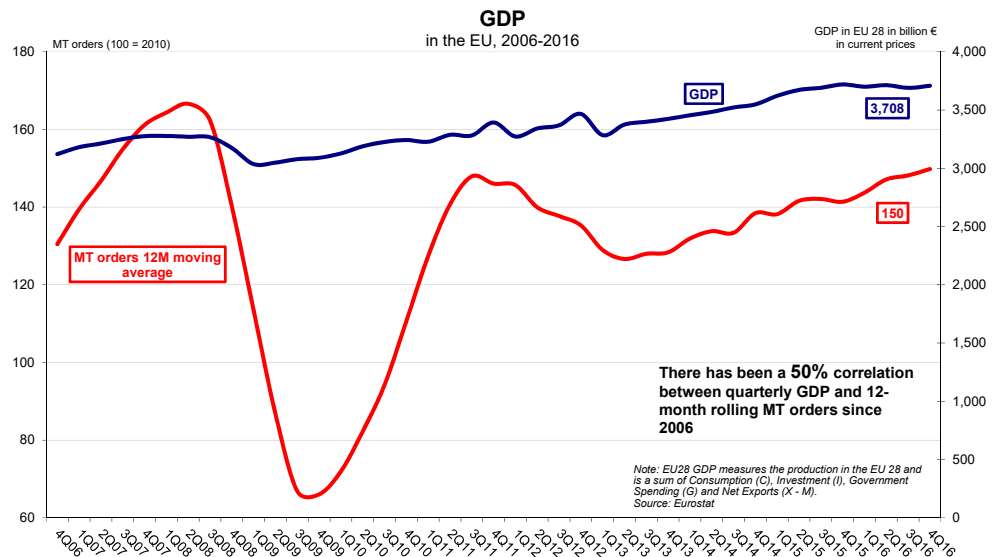
Emerging markets and developing economies will take the lead in growth, even though the picture is quite mixed: China is performing better than expected but some important South American players, such as Argentina and Brazil, are in recession. Among this group, China and Russia saw the fastest output growth at the end of last year. The political turmoil in Turkey and the reduction in tourism revenues are affecting the Turkish economy. Oil prices recovery is definitely giving some respite to the Russian activity.

The economic activity of the advanced economies is set to pick up but moderately: about 2% growth in 2017 and 2018, 0.3-0.4 percentage points more than the value registered in 2016 (1.6%). These values are an upgrade of the forecasts published last year. The stronger recent activity is mostly caused by a reduced drag from inventories, some recovery in manufacturing production and the expected fiscal stimulus in the United States.

In Europe, according to the latest data published by Eurostat, the seasonally adjusted nominal gross domestic product rose by 0.5% q/q in the European Union and by 0.4% q/q in the Euro Area during the third and fourth quarter of 2016. In interannual terms, data for the fourth quarter of 2016 reveals that the seasonally adjusted GDP quarterly rose by 1.8% in the EA and by 1.9% in the EU. Real GDP rose between 1.6% and 1.9%, taking into consideration the whole 2016. It rose at a quarterly rate of 0.3% in July-September last year, thanks to the contributions from domestic demand. The European Commission projects the real GDP to accelerate at a yearly pace of 1.8% in 2017 and 2018. On a country-by-country analysis, Estonia is expected to top the 2017 ranking with a growth rate close to 2.8%, while Belgium, Germany, Spain, Latvia, Lithuania and Luxembourg will see a rise of their output of around 2%. On the negative side, Slovakia and Ireland are likely to growth at 1% rate or less.

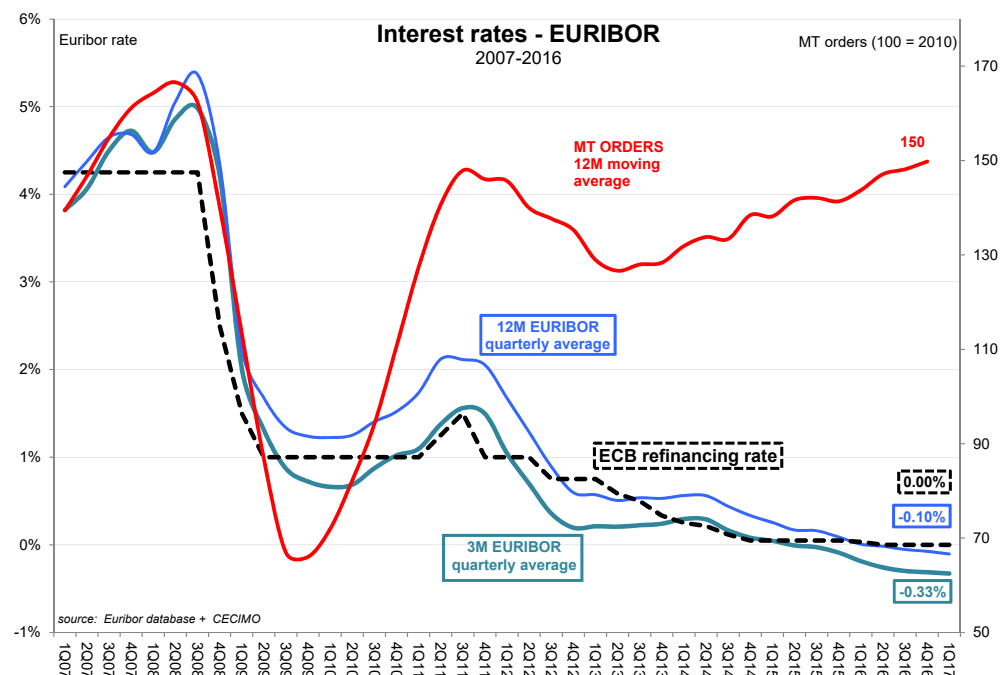
In the US, growth slowed down last year. The persistence of stagnant productivity, as well as the subdued investment and the weak exports, are certainly underlying factors which led to a real GDP growth of 1.6%, down from 2.6% in 2015, 0.7-1.4 percentage point less than the World average. Weak productivity growth is also a matter of concern in the European continent.

*See figure on next page*



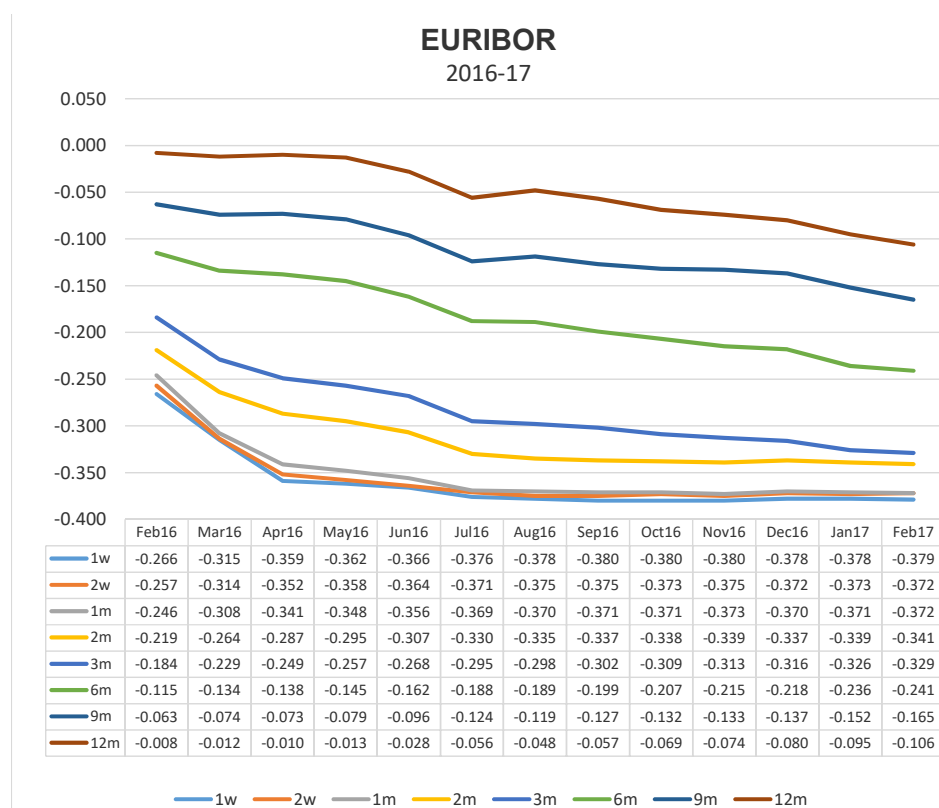
## ▼ 2.2 Interest rates – EURIBOR <sup>①</sup>

The Governing Council of the European Central Bank kept the key interest rates for the Euro Area unchanged at its meeting on 9 March 2017 and therefore preserved very favourable financing conditions. Thereby, the rate on the deposit facility continues at -0.4%, while the rate on the marginal lending facility and the interest rate on the main refinancing operations have remained unchanged since March 2016 at 0.25% and 0% respectively. The institution, which is responsible for managing the euro, defining and implementing monetary policy for the EA, does not foresee to raise interest rates for a while and, instead, expects them to remain at current levels well past the end of this year. Furthermore, the ECB reaffirmed its commitment to the asset purchase programme as it was communicated in the past: it will continue to be in place at a monthly pace of 80 billion euro until the end of March 2017, at 60 billion euro from April to December 2017 and even beyond if necessary. Besides, the main decision-making body of the ECB confirmed that, if needed, the programme could expand in terms of size and/or duration. This scenario could take place, for instance, in case of unwarranted tightening of financial condition or an important deterioration of economic growth.





In average 2016 values, the 3-months and 12-months Euribor (short for EURO InterBank Offered Rate) were -0.265% and -0.035% respectively. At the beginning of 2017 the average 3-months Euribor continued going down and reached -0.329% in February, up from its December value of -0.316% and its January value of -0.326%, after having registered -0.313% and -0.309% in the two previous months. The 12-months Euribor interest rate also kept dropping, a downward trend seen since last summer: its average value in February 2017 was -0.106%, lower than the -0.95% in January, -0.080% in December and 0.074% in November. A similar trend was registered for loans of other maturities, as shown in the figure below.



## 2.3 Inflation

The inflation continues its upward trend from the very low values showed until mid-2016, even from deflation in some countries. This increase is largely due to energy and food price inflation. However, it should be noted that underlying inflation pressures are still subdued.

Following a pick up in the second half of last year, in interannual terms, the general level of prices rose 2.0% in February 2017 both in the EU and the EA, according to official projections. The only European country that registered a negative annual rate was Iceland (-1.4%). Thereby, the annual inflation keeps rising and, in general terms, it is set to revive this year in the advanced economies, allaying the fears of deflation. However, while increasing energy prices are recovering inflation, core inflation is still below targets. Apart from rises in headline inflation registered in recent months (e.g. 1.7% in Germany in December last year), oil prices are already above 50 USD per barrel. Energy will certainly become the primary driver of prices upward pressure. The energy annual inflation continues to grow: in contrast with the negative values of 2015 (e.g. -7.3% and -5.8% in November and December respectively), it moved up to -1.1% in last November, 2.6% in December and it is

Continued ►

foreseen to exceed 8% in January this year. On the other hand, the increase of oil production in the U.S. is partially offsetting the effect of OPEC's cut of production and suggests that the upturn of prices will be somewhat contained.

In the Euro Area, the inflation annual rate was 1.5% in February 2017, down from 2.0 in January and much higher than last year's values, when the maximum reading took place towards the end of the year (0.6%). Excluding energy, EEA annual inflation posted at 1.2% in February, up from 1.1% in January, 1.0% in December 2016, 0.8% in November and 0.7% in October. As it can be observed in the graphs below, the recovery of inflation in the continent is evident. The forecasts for 2017 yield quite similar results, confirming the upward trend of prices. While the annual inflation for the whole year 2016 is foreseen to have been 0.25% in the EA and the EU, it is expected to gradually rebound to slightly higher values than expected for 2017: 1.8% in the European Union and 1.7% in the Euro Area. Finally, it is foreseen that the inflation remains at 1.8% in 2018. So, over the medium term, these forecasted levels below –but close to– 2% are in line with the monetary objectives.

Among the Member States within the Euro Area, the highest annual rates were registered in Estonia (3.4%), Belgium (3.3%), Latvia and Lithuania (both 3.2%), outdistancing the annual rates in Ireland (0.3%), Romania (0.5%), Bulgaria and Denmark (both 0.9%).

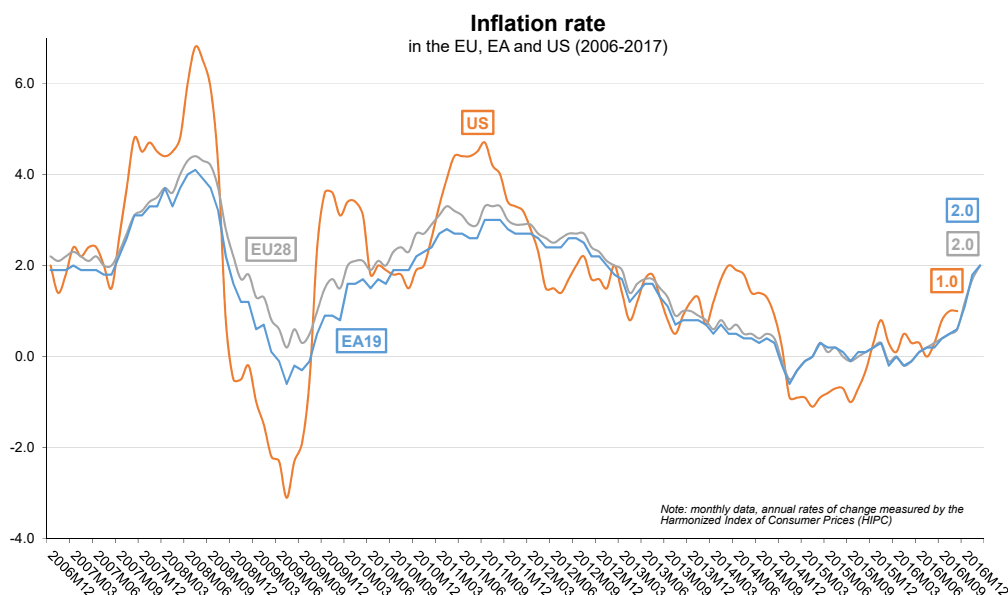
Compared with January 2017, in February the annual inflation rose across the vast majority of the EEA countries. It fell only, quite modestly, in four countries, namely Greece (from 1.5 to 1.4%), France (from 1.6 to 1.4%), Malta (from 1.4 to 1.2%) and Norway (from 2.9 to 2.7%).

Monthly rates in February edged up, but none of the EEA members registered an above 2% level. The inflation, measured by comparing prices in February with those in January this year, ranged from 1.9% in Bulgaria and 1.4% in Estonia to negative values in Spain (-0.3%), Portugal (-0.2%), Romania and Greece (both -0.1%). In aggregated terms, taking the same period, the inflation rate in the Euro Area and the European Union was 0.4% and 0.3% respectively.

In the UK, the inflationary pressure continues: the January annual rate was 1.8% (up from 1.6% in December and 1.2% in November). The weak pound keeps affecting imports in the service sector, driving up costs such as fuel and food. Costs in businesses have been rising steeply for the last two months at the highest rate in the past five years and a half. The consumer-price inflation in the UK will likely reach 3% in 2017. Nevertheless, the fall of the value of the pound is also helping to boost exports: manufacturers are upbeat about their prospects and expect rising orders and output.

Industrial production prices followed the same trend, after scaling back their increase in November (0.3% both in the EU and the EA). In interannual terms, they rose by 3.5% in the EA and 4.3% in the EU, confirming the swift of trend experimented last year, when the average, compared with 2015, decreased by 1.9% in the EU and 2.3% in the EA. Both in December 2016 and January 2017, compared with the previous month, industrial production prices rose around 0.7-0.9%. Not surprisingly, again, this increase was mainly driven by the 1.8% monthly rise in the energy sector (after surging 2.1% in January) and, at a lesser extent, the 0.8% of augmentation for intermediate goods. Excluding energy, prices in the industry rose by 0.6% in January.

In the United States, the annual inflation is the highest since 2012. The prices rose 2.1 percent in 2016, a larger increase than the 0.8%-0.7% in 2015 and 2014, and the quickest since 2011. In January this year, consumer prices jumped 0.6%, which was the largest gain since the beginning of 2013. In February that growth pace, although still positive, eased considerably (0.1%), posting the smallest 1-month rise since July last year.



## ▲ 2.4 Industrial production index <sup>i</sup>

The industry sector is still the largest economic activity in the EU, accounting for 19% of total gross value added and for 15% of employment. On average terms, in 2016 the volume of industrial production (excluding construction) for the full year 2016 rose by 1.4% in the European Union and 1.3% in the Euro Area. The employment rose at a quarterly rate of 0.7-0.6% in the period January-September last year.

In January 2017 the industrial production picked up 0.9% in the EA and 0.5% in the EU (monthly seasonally adjusted rates), driven by monthly increases in Ireland (+3.4%), Germany (+3.3%) and Greece (+2.5%), in contrast with the remarkable decreases in Croatia (-6.8%) and Denmark (-4.6%).

When comparing February values with the ones of the same month last year, the growth of production in industry was 1.3% in the EU and 0.6% in the EA. As the main contributor to this trend, it should be also underlined the 5.6% annual rise in the production of energy. On a country-by-country analysis, the sharpest year-on-year increases were registered in Lithuania (+8.4%), Greece (+7.4%) and Estonia (+6.7%), and the largest decreases in Ireland (-8.6%), Bulgaria (-1.2%), Luxembourg (-0.9%) and Italy (-0.5%). Among the different sub industries, analysing the period comprised between January 2017 and the same month of 2016, the production increased the most in energy (+6.9% in the EA, +5.8% in the EU), which is almost ten points above the annual growth rate in production of non-durable consumer goods. For its part, the EU production of capital goods went up 0.8%.

Finally, in terms of gross value added, provisional data indicates that the manufacturing sector (adding energy and utilities) grew at the same pace as the total GVA during the fourth quarter (+0.4%).

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### Industrial production

(percentage change compared with the previous month)

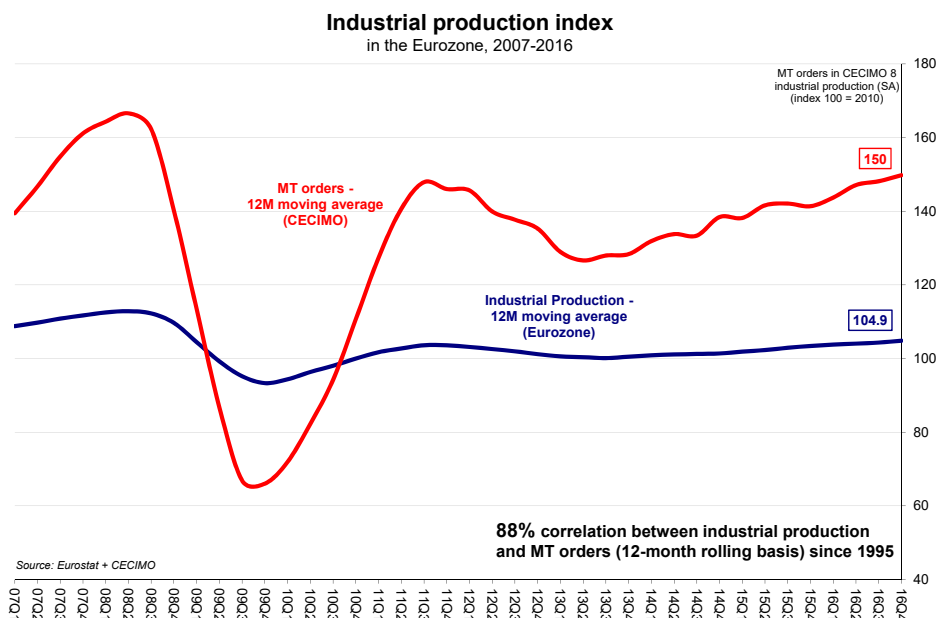
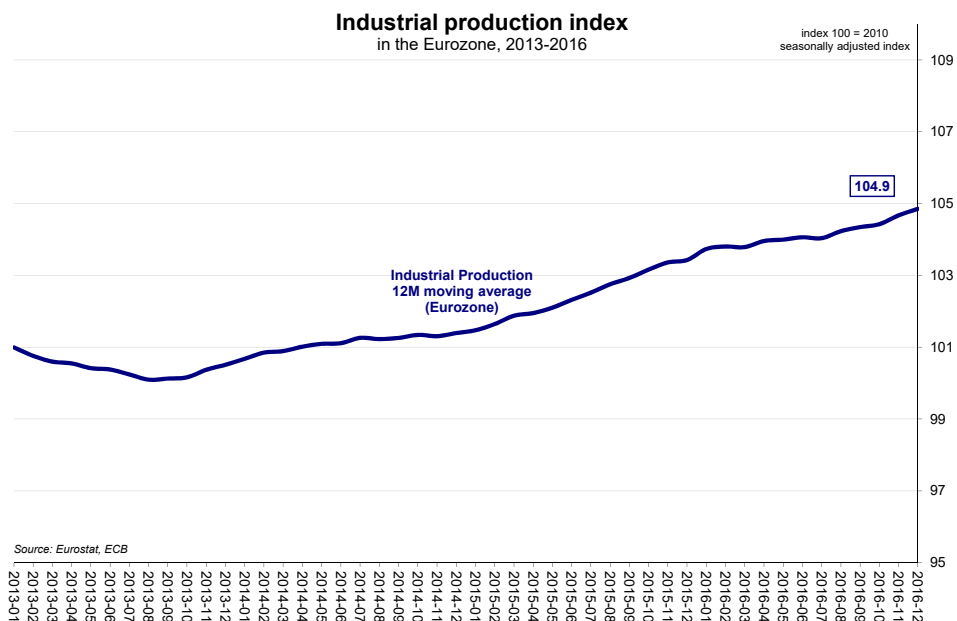
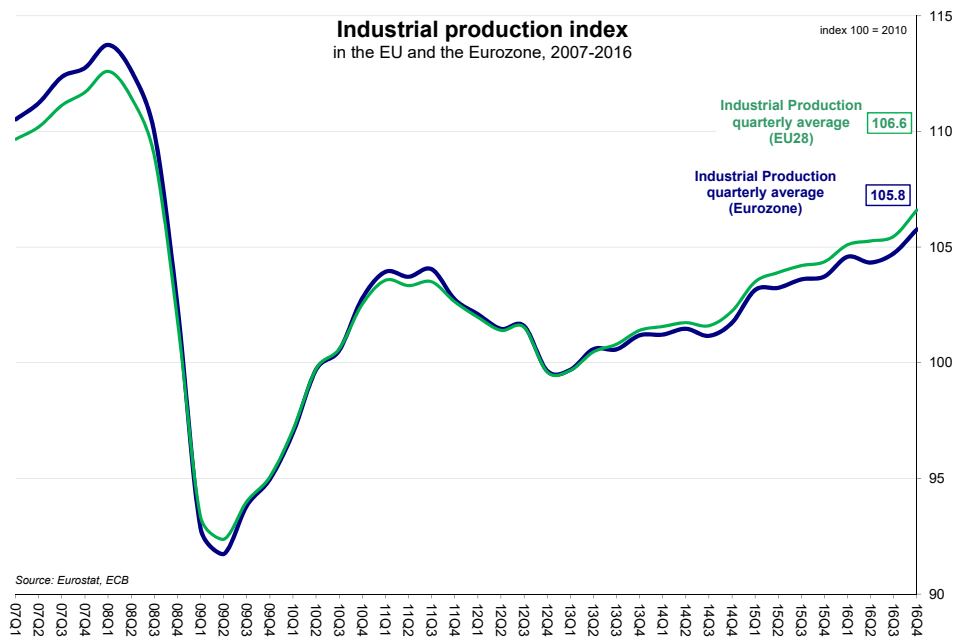
	EA19			EU28		
	Jan. 2017	Dec. 2016	Nov. 2016	Jan. 2017	Dec. 2016	Nov. 2016
Total industry	0.9	-1.2	1.5	0.5	-0.7	1.6
Capital goods	2.8	-2.8	0.2	2.4	-1.8	0.3
Intermediate goods	-0.4	-0.1	1.9	-0.4	0.2	1.9
Energy	1.9	-1.2	1.2	1.5	-0.9	1.8
Durable consumer goods	-0.4	3.0	0.6	-0.9	2.9	0.6
Non-durable consumer goods	-0.7	-0.2	1.8	-1.5	0.0	2.0

### Industrial production

(percentage change compared with the same month of the previous year)

	EA19			EU28		
	Jan. 2017	Dec. 2016	Nov. 2016	Jan. 2017	Dec. 2016	Nov. 2016
Total industry	0.6	2.5	3.3	1.3	3.3	3.2
Capital goods	-0.8	0.4	3.3	0.8	1.6	3.0
Intermediate goods	0.8	3.6	3.0	1.7	4.8	3.1
Energy	6.9	7.0	5.9	5.6	6.1	4.7
Durable consumer goods	1.5	4.3	-0.1	2.0	4.8	0.9
Non-durable consumer goods	-2.6	1.4	3.0	-2.2	2.2	3.2

In the United States, the industrial production moved up 0.1% in February after falling 0.6% in the fourth quarter and rising in the third quarter of 2016 at an annual rate of 1.8%. Taking a look at the recent months, it decreased 0.3% in January and increased 0.8% in December last year. It is currently at similar levels than one year ago. Manufacturing output edged up 0.5% (1.2% year-on-year) for its sixth consecutive monthly rise, while business equipment production grew by a monthly rate of 0.7% (1.5% year-on-year). With regard to industrial production in the manufacturing sector during the whole year 2016, the average industrial production (not seasonally adjusted index) posted at the same level than in 2015, which was very slightly above 2014 level. Lastly, considering only industrial production of machinery, it has been rising around 3% since last November, posting at 94.4 in February (2012 = the base year).

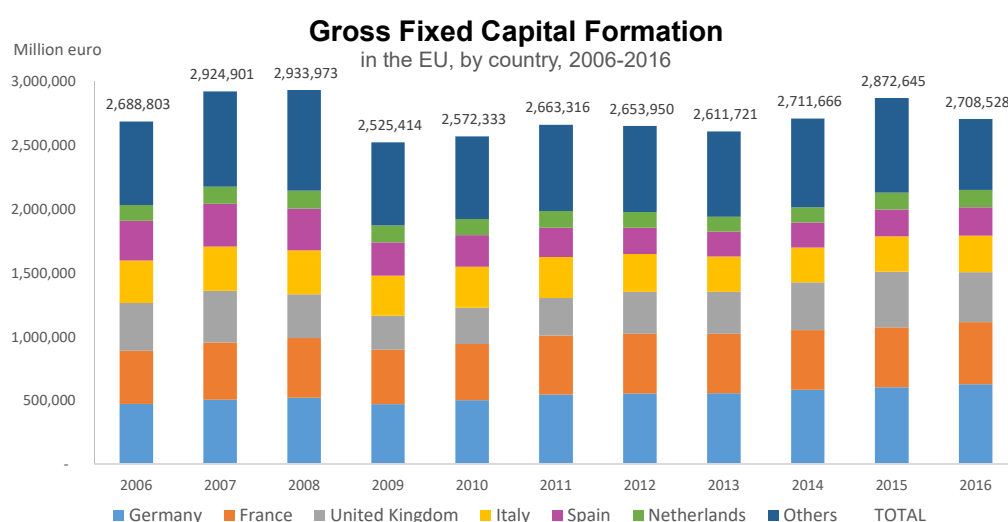


## ▲ 2.5 Gross Fixed Capital Formation i

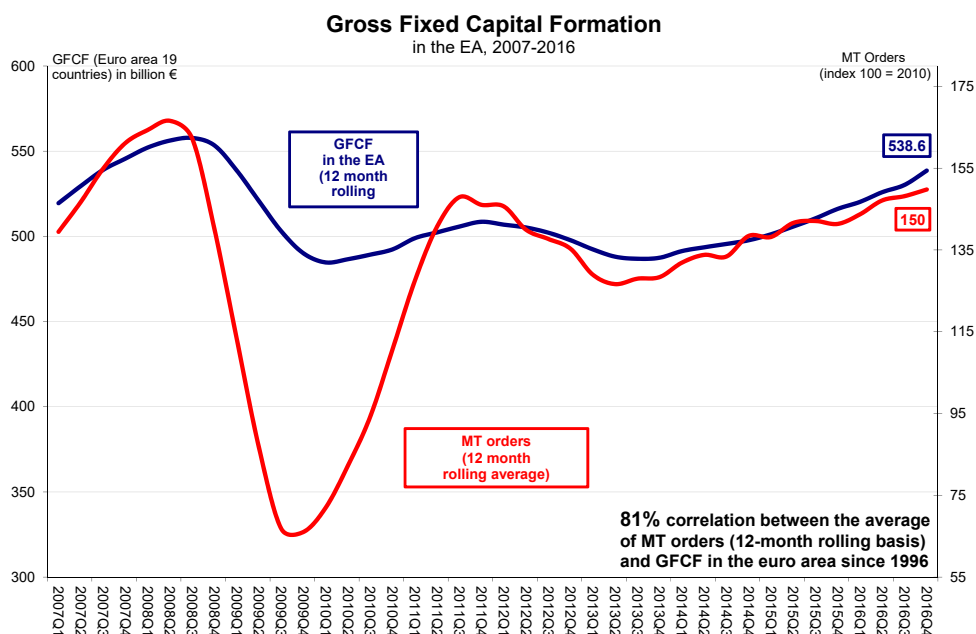
Updated available data of Gross Fixed Capital Formation (GFCF) during the fourth quarter last year is better than expected, both in the EA and the EU. Therefore, statistics of investments of last year present developments in Europe, achieving quite positive levels of investment growth, notably in the second and fourth quarter. This optimistic outcome is expected to continue beyond 2016, thanks to demand upturn, replacement needs, improving profits, accommodative monetary policy, positive consumer sentiment –with consumer spending at higher than expected levels– and favourable financing conditions (see sections 2.7, 2.10 and 2.11 for further information on these two latter). Years of subdued fixed capital formation should encourage investment levels to recover and move up.

Following a moderate growth in summer last year of 0.2% quarter-on-quarter, investment significantly rose at a growth pace above 4.2% towards the end of the year. Investment is benefiting from supportive financing conditions and better corporate profitability. The brisk job creation displayed by employment data also lead to higher households' real disposable income, which is causing increases in private consumption and expectations.

With regard to the GFCF in the machinery sector in the Euro Area, it amounted to 165.1 billion euro in the third quarter, which is higher than the provisional one communicated in the last edition of this report. The net increase in fixed assets is an important indicator for MT builders. In fact, there is a 81% correlation between orders (measured on rolling orders average) and GFCF in the Euro Area since 1996.



In 2016, among the Member States of the European Union, the largest investors were Germany (627 billion euro), France (486 billion euro), United Kingdom (394 billion euro), Italy (284 billion euro) and Spain (222 billion euro). In terms of percentage of GDP, the countries that devoted a larger portion of their output to GFCF in 2016 were Ireland (29.3%), Czech Republic (24.6%), Sweden (24.2%), Romania (23.4%), Belgium (23%) and Austria (22.9%). In contrast, the countries that occupied the last positions in this ranking were Greece (11.4%) and Portugal (14.8%). In the UK (16.7%), investment stagnated but private consumption grew in the last quarter of 2016. Brexit-related uncertainty is likely to increase next year, which is already affecting firms' investment and hiring decisions.

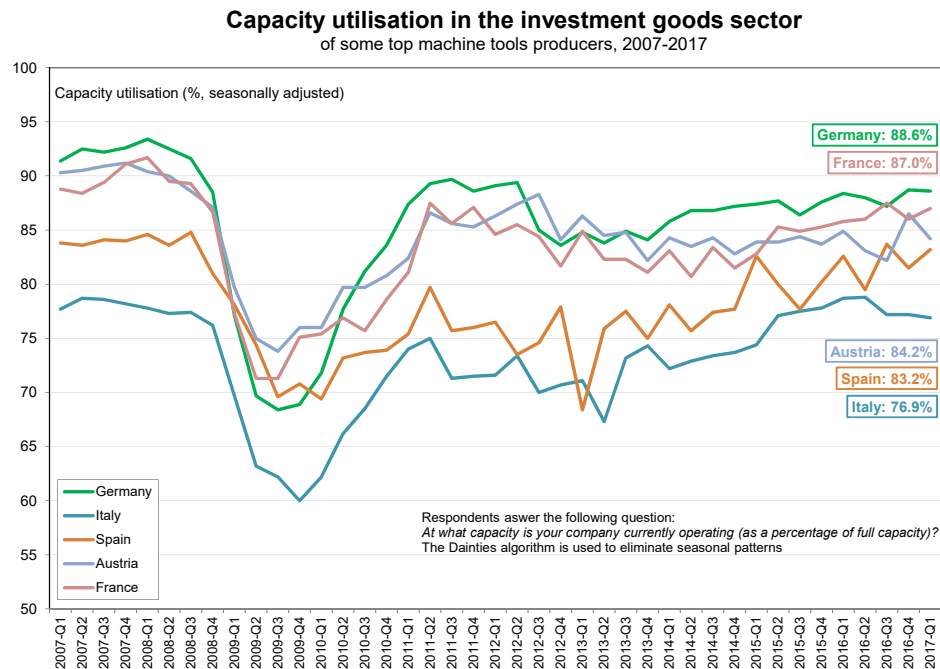
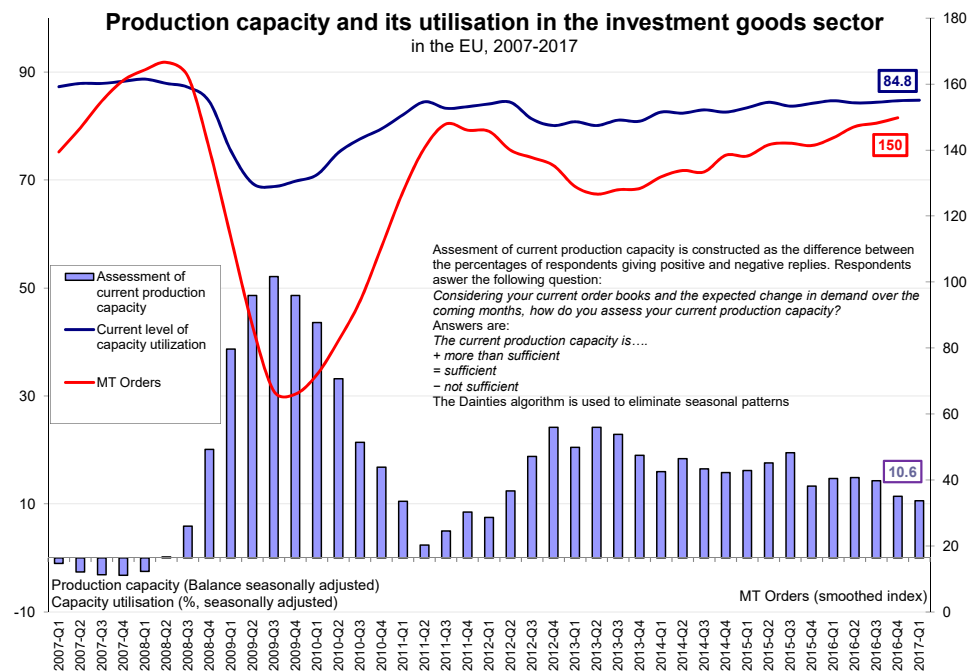


## ▲ 2.6 Capacity utilisation in the investment goods sector <sup>i</sup>

At 84.8%, the capacity utilisation in the EU is going beyond average pre-crisis levels (mean from 2000 to 2008: 84.7%) in the first quarter of 2017 and it is slightly greater than one year ago. This recording has been preceded by an increase in the second half of 2016: from 84.3% to 84.7% at the end of the year. The highest correlation between the evolution of the level of capacity utilization and machine tools orders is observed when using one quarter time lag. In this case, the correlation is almost 42% in the period 1996-2017. Capacity utilization in the EA ameliorated too: companies in the EU19 forecast that the capacity utilization during the first quarter of 2017 will be 85.2%, which is the largest percentage since the end of 2015, comparable only with the levels booked before the financial crisis. Among all EU Member States, the business surveys conducted by the European Commission revealed that the highest capacity utilizations are in Germany (88.6%), Slovak Republic (87.9%), France (87%) and Czech Republic (86.5%), while the weakest levels are in Cyprus (63.9%), Latvia (72.2%), Bulgaria (74.1%) and Estonia (74.5%). Italy, the second biggest producer of machine tools in the EU, marked a value below 77%.

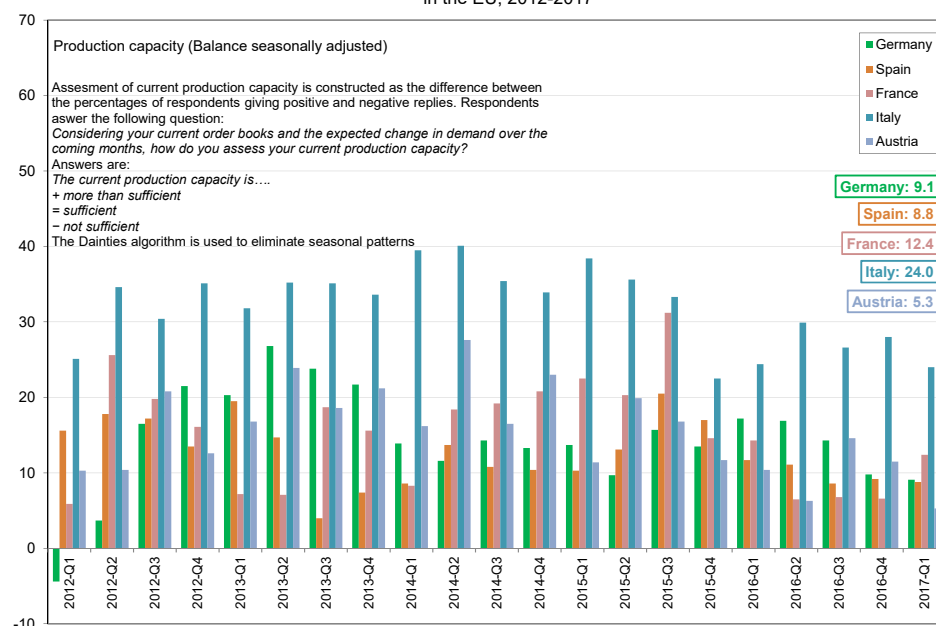
In the US, the capacity utilization for the industrial sector keeps growing. Revised values reveal slightly better values for recent months, in line with the moderate growth outlined in the previous editions. In February 2017 the industrial capacity utilization in the US posted at 75.4%, after reaching 75.5% in January, following the 75.6 percent of capacity utilization showed in December and 75.2 in November. It still remains well below the US average on the long-run: more than 4 percentage points less than the mean between 1972 and 2015. For the manufacturing sector, the capacity utilization in February rose 0.3 percentage point to 75.6%, which is 0.8 percentage point more than in February 2016 but still almost 3 pp less than its long-term average.

*See figures on next page*





## Production capacity in the investment goods sector in the EU, 2012-2017

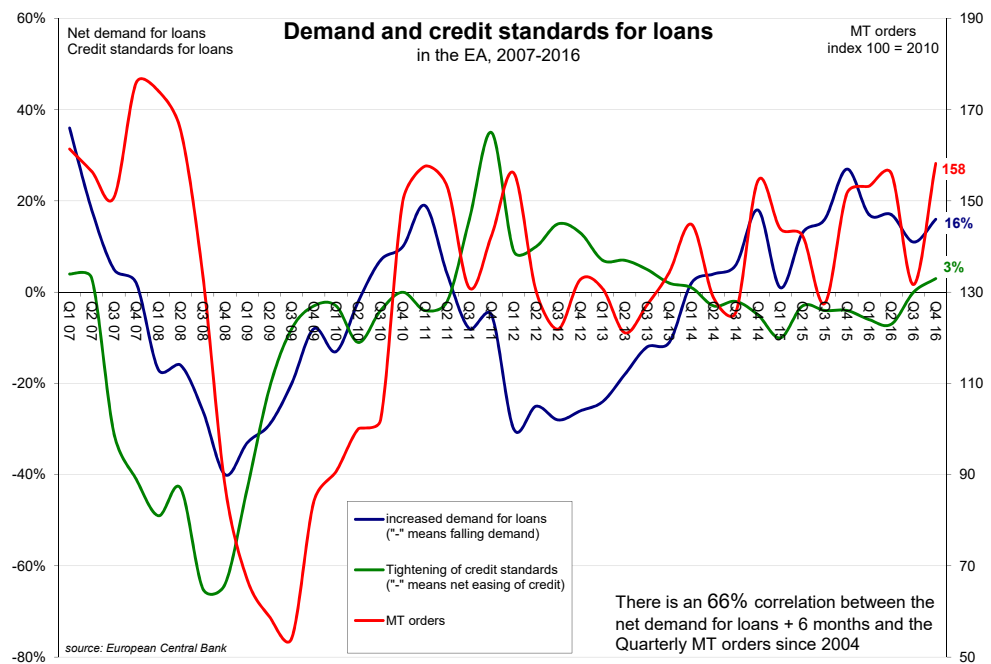


## 2.7 Bank lending survey <sup>①</sup>

Euro area banks continued to further reduce their share of rejected loan applications from enterprises, despite the tightening of credit standards in net terms –with the Netherlands playing the main role– in the fourth quarter, as consequence of the lower willingness of banks to tolerate risk. The rejection rate of loans to enterprises decreased at -5 net percentage rate in the fourth quarter of 2016, which follows declines of -7 and -4 net percentages in the two previous quarters. This was mainly due to the competitive pressure, but also somewhat to the banks' lower cost of funds and the decrease of balance sheet constraints. Across the large EA countries, the share of rejected applications for loans to enterprises decreased in Italy, Spain and the Netherlands, while it remained unchanged in Germany and picked up in France. Broadly in line with expectations, the overall credit standards of banks of the EU19 on loans to enterprises have experimented the first tightening in net terms (3%) since the fourth quarter of 2013. However, that 3% is largely the result of the tightening of credit standards to enterprises reported in the Netherlands (34%), as the indicator remain mostly unchanged in the majority of euro area economies. That being said, banks in the EA envisage to ease their credit standards applied to the loan approval for enterprises (-2% in net percentage) during the first quarter of 2017.

As expected, the approved loans and the net demand for loans to enterprises kept increasing during the fourth quarter of 2016 but at a slower path than foreseen. It registered a net percentage of 16%, following a 11% in the third quarter and a 17% rate in the second one. Among the several factors that push the loan demand, the low level of interest rates was the most important one, followed by the increase in debt refinancing, the higher dynamism in Merger and Acquisitions' operations and the increasing consumer confidence. The favourable house market contributed too. Among the large Euro Area members, the loan demand by enterprises increased in Germany, France, Italy and the Netherlands, while it moved down in Spain. Considering the different sizes of enterprises, the small and the medium ones (SMEs) increased their loan demand in a higher proportion than the largest ones: SMEs registered a 16 net percentage rise in the fourth quarter of 2016 (8% in the third one), while the large businesses experimented 9% net positive percentage rate in October-December last year and 6% in July-September.

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## 2.8 Foreign exchange rates

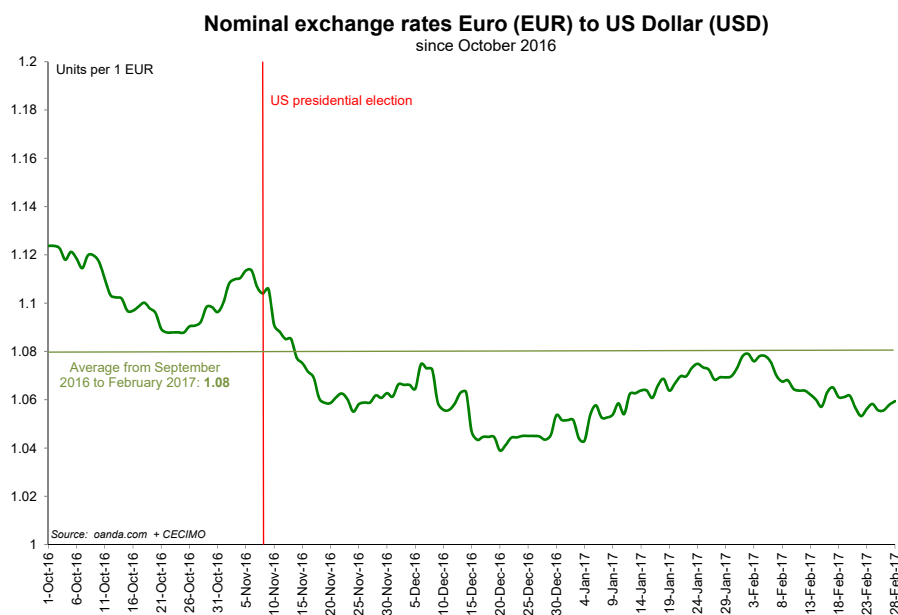
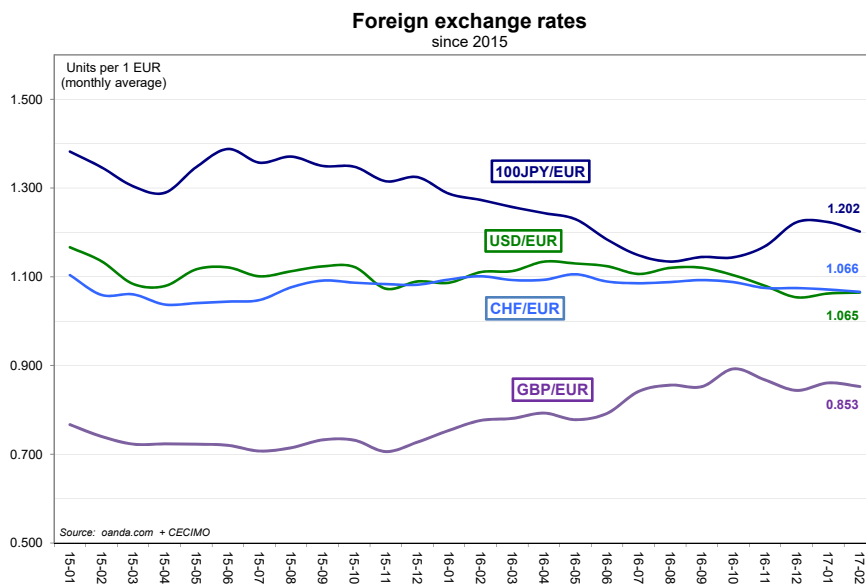
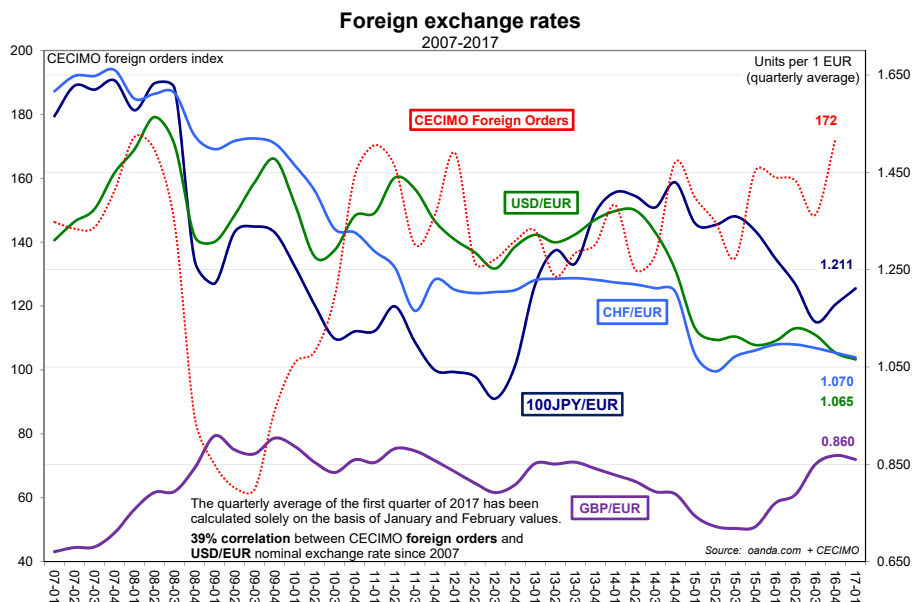
In trade weighted terms, the EA currency slightly depreciated in recent months. The nominal effective exchange rate of the euro (i.e. the weighted average of the euro exchange rate relative to a basket of currencies of the EA most important trading partners, non-adjusted for the effects of inflation) kept falling down in February. From 8 December 2016 to 8 March 2017 the euro weakened by 1.4%: it depreciated vis-à-vis the US dollar by 1.9%, by 1.6% against the Japanese yen and by 1.4% against the Swiss franc. On the contrary, it continued to appreciate (by 2.1%) against the pound sterling. With the exception of the Turkish lira, euro depreciated in relation to the currencies of most EU countries outside the EA and major emerging economies, including the Chinese renminbi, vis-à-vis which the euro depreciated by 1.5% from 8 December 2016 to 18 January 2017.

Exchange rate adjustments also reflect an increase of divergence of monetary policies across advanced economies. While the stance of central banks in Europe (ECB, Bank of England) and Japan remains accommodative, futures curve is shifting upwards in the US.

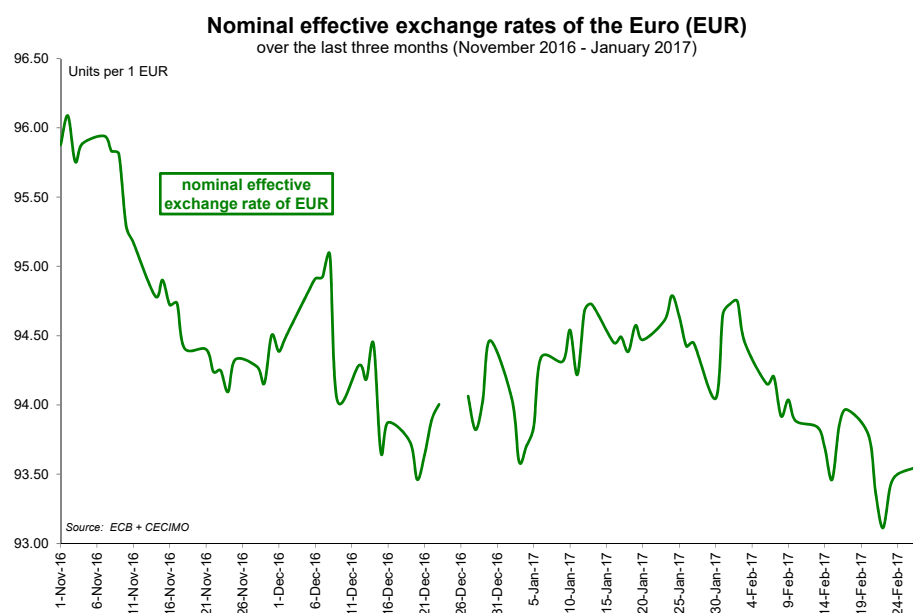
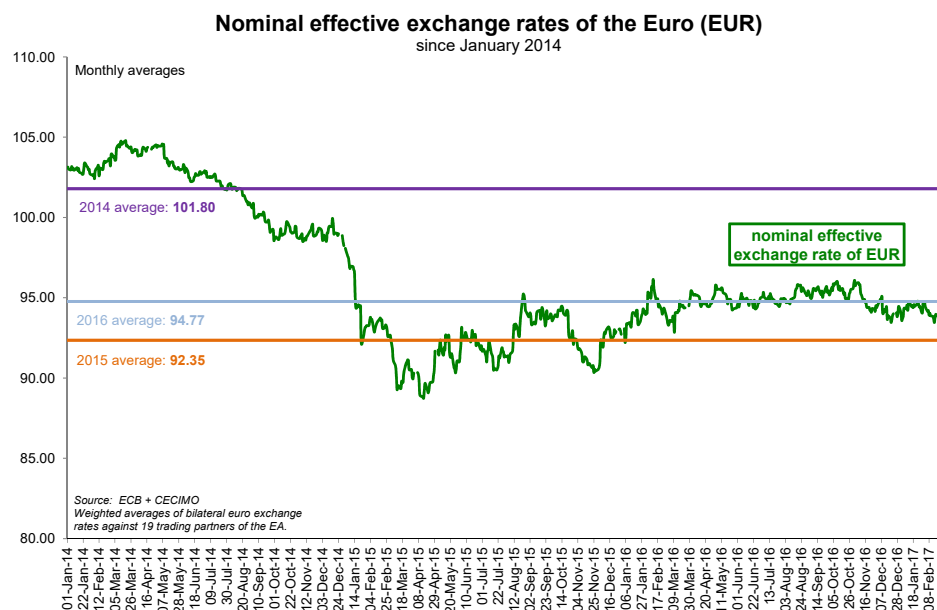
The dollar appreciation since Trump's victory in the presidential elections, held in November last year, resulted in an average exchange rate of 1.06 since the polling day, well below the mean of 1.11 of the two months preceding the election. In February, the US dollar was hovering around 1.05-1.06 vis-à-vis the euro. Expectations of a faster pace of monetary policy normalisation in the US, in a context of inflation rise, are strengthening the dollar.

The Russian rouble also appreciated, partly as a result of the recovery in oil prices. The Turkish lira and the Mexican peso also spiked in February, following a sharp depreciation with rising interest rates.

The pound keeps moving in historically low levels. It depreciated 2% in January and appreciated 1% in February, coming back to its summer mean of 0.85 GDP per EUR. From an overall perspective, the weakening of the pound is already having an impact on import and producer prices.



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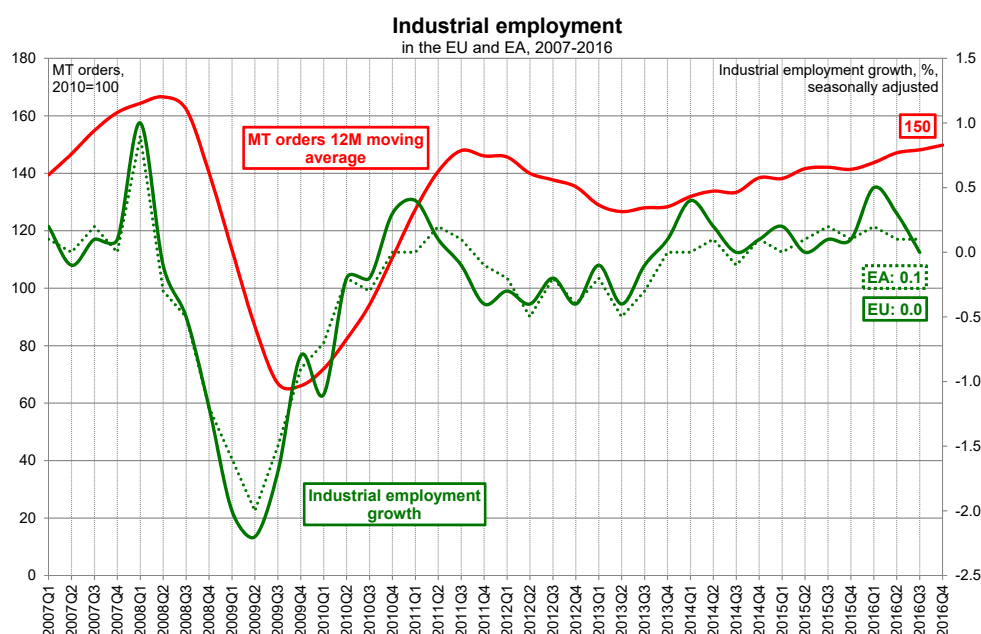
## 2.9 Industrial employment

General unemployment is in its lowest levels since 2009. The positive trend continues and employment edged up by 0.3% in the EA and by 0.2% in the EU during the fourth quarter of 2016, compared with the third one. In interannual terms, the rise of employment in Europe is 1-1.1%. The unemployment in the EA has fallen to May 2009 lows.

The EA unemployment rate (seasonally-adjusted) posted at 9.5% in February 2016, down from 9.6% in January 2017. It has been broadly unchanged since December last year, but 0.9 percentage points less than one year ago. Similarly, the EU unemployment rate (seasonally-adjusted) was 8.0% in February 2017, down from 8.1% in January, 8.2% in December and 8.9% the same month last year. This index varies a lot across the different Member States of the EU, ranging from 3.4% in Czech Republic and 3.9% in Germany to 18% in Spain and around

23% in Greece. Compared with one year ago, the unemployment fell in all EU member states except Denmark and Lithuania. Very significant drops occurred in Spain (from 20.5% to 18.0%), Croatia (from 14.4% to 11.6%), Portugal (from 12.2% to 10.0%) and Ireland (from 8.4% to 6.6%). Having said that, unemployment is still one of the main problems in the continent, and it is still far from the 4.7% US rate. Particularly, it is essential to reduce youth unemployment rate, which, although is generally higher, it is a structural problem in some Member States. Considering people under the age of 25, the Eurozone's overall youth unemployment rate was at 19.4% in February, while it was 17.3% in the EU. This is more than double the general rate. Greece (about 45%), Spain (41.5%), Italy (35.2%), Portugal (25.4%) recorded the highest rates, while the lowest ones were observed in Germany (6.6%) and Netherlands (9.7%). On top of that, long-term youth unemployment is still at record highs.

In spite of the aforementioned modest developments and good prospects, industrial employment has not caught up yet with the activity and output increases. Following an outstanding start of the year, when the industrial employment grew at rates never seen after the outbreak of the crisis (1.0% with no adjustment, +0.5% seasonally adjusted), it decelerated towards the end of the year (+0.7%, -0.1% after adjustment). The correlation between machine tool orders and the industrial employment is 50.6% in the EU and 55% in the Eurozone. According to recent surveys conducted and published by the European Commission, managers' employment plans in industry and services remain broadly flat at the beginning of 2017, but somewhat more optimistic in the EU than in the EA.



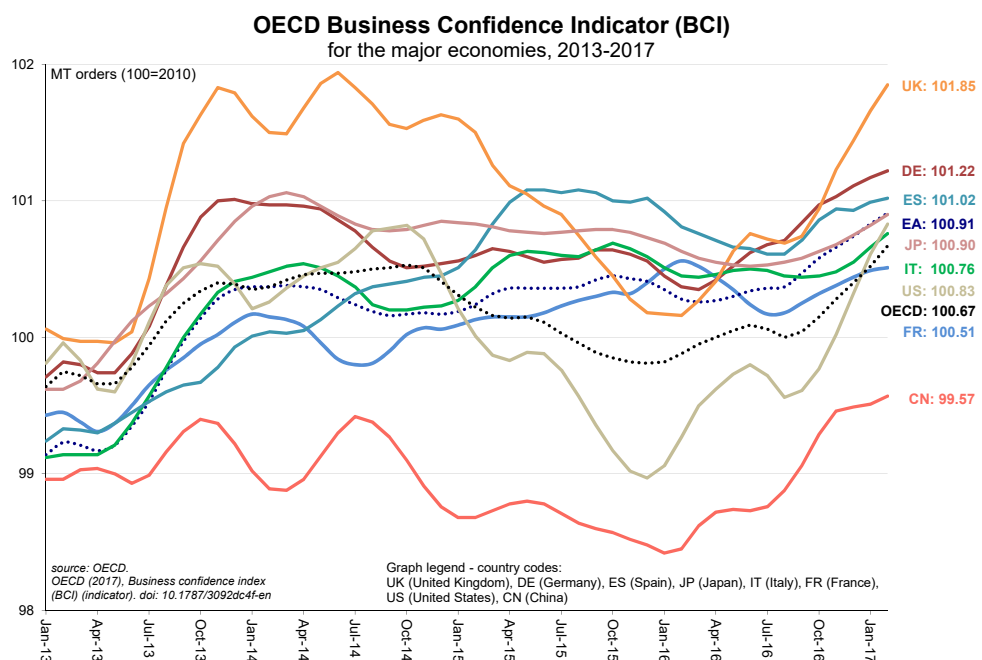
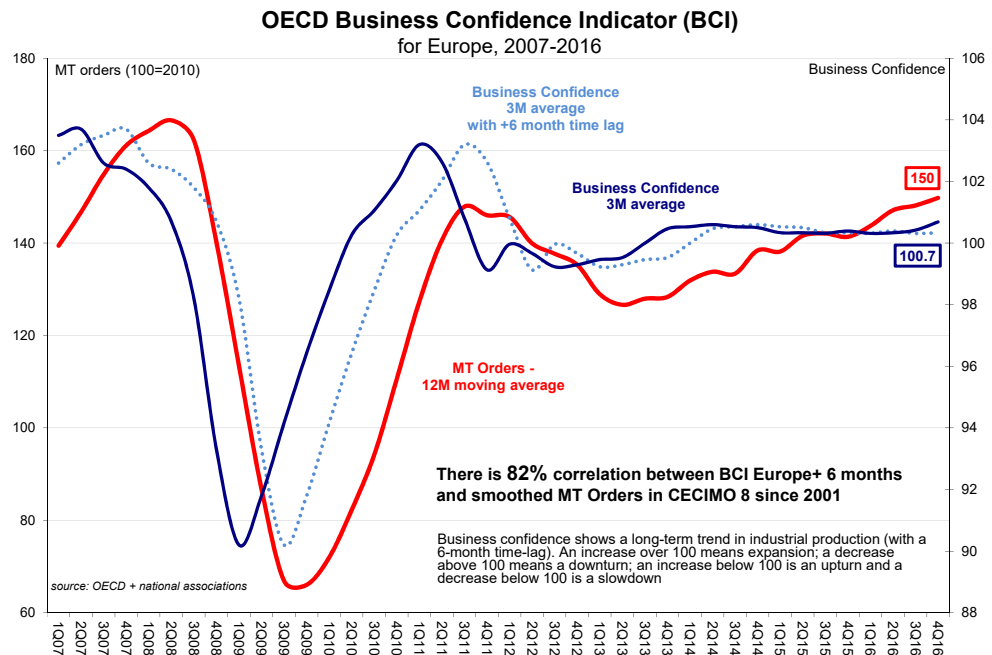
## ▲ 2.10 OECD Business Confidence Indicator for Europe <sup>i</sup>

Business confidence indicators (BCIs) anticipate stable growth impulse in the OECD area and the Euro Area. In Europe, the BCI signals gaining impetus for growth in Germany and projects stable growth momentum in the EA, particularly in France and Italy. Signs for growth momentum can be observed in the United

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Kingdom, but the Brexit-related uncertainty remains. On the other side of the Atlantic, United States and Canada enjoy good prospects as well, as appears from their BCI. Among other developed economies, the BCIs point out a pickup in Japan's growth.

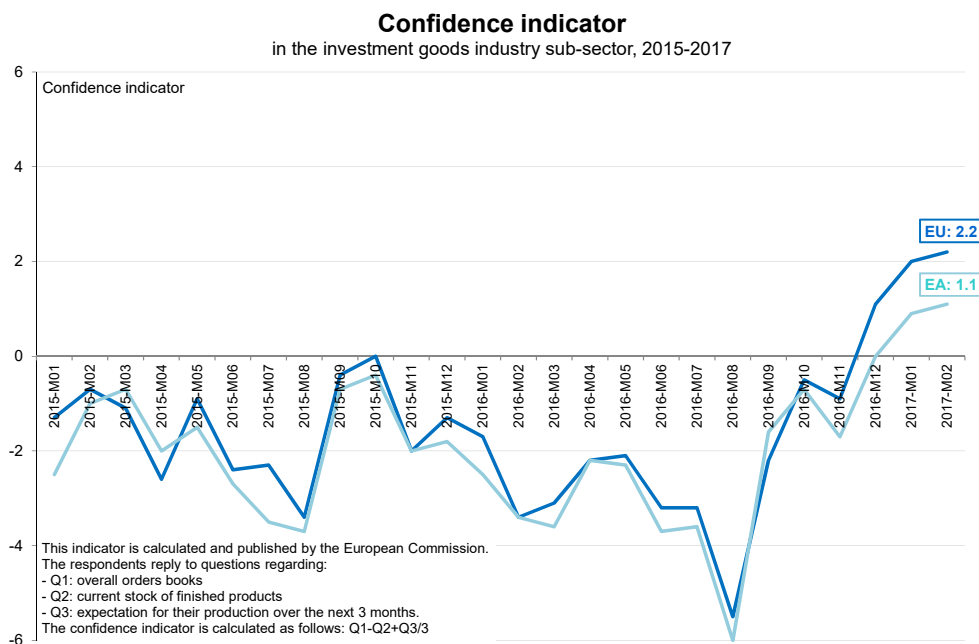
Among major emerging economies, the BCIs picture an optimistic growth outlook for China, Brazil and Russia, while the growth momentum in India is easing a bit.



## ▲ 2.11 European Commission Economic Sentiment Indicator ①

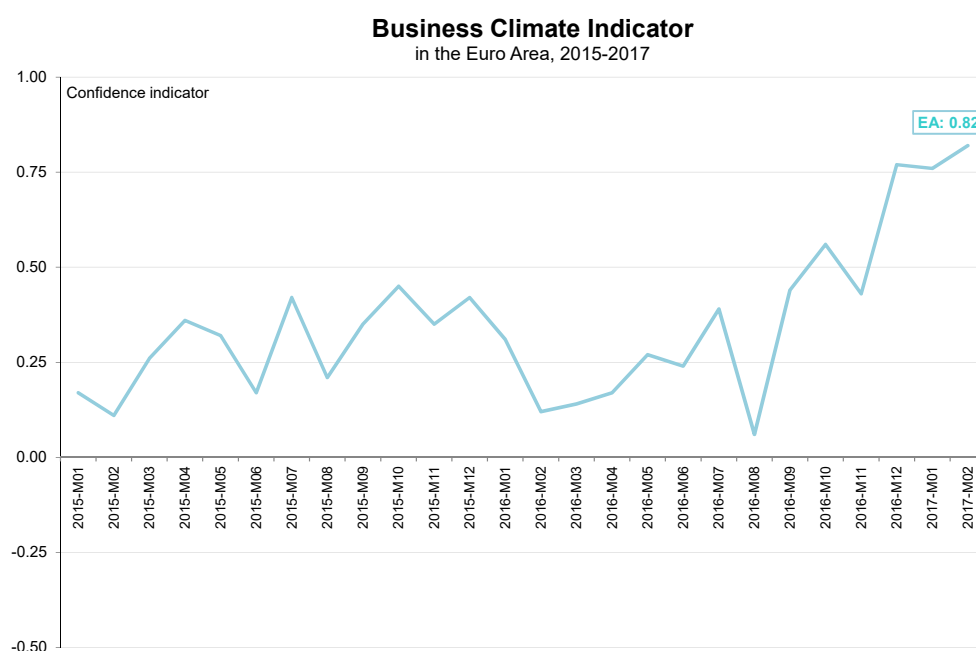
The EC Economic Sentiment Indicator (ESI) signalled an improvement in Europe during the second half of 2016, as the confidence indicator experimented a noticeable increase in that period thanks to gains in the assessment of order-book levels and production expectations, as well as decreases in stocks. Then, it displayed sideways movement at the start of 2017, remaining at the December 2016 value in February this year. At high readings –around 109–, the surveys point to a robust growth momentum in the first quarter of 2017. The overall index for the Euro Area broke once again its record of 2016 (108.0 in February 2017, up from 107.9 in January) and the index for the EU augmented by 0.3 points to 108.9. Industry confidence, which is weighted 40 per cent in the calculation of the ESI, was virtually unchanged in February (-0.1).

Among all EU Member States, the confidence and economic sentiment in Industry, as measured by the ESI for February, only deteriorated in Poland (-10.6), Luxembourg (-6.5), Belgium (-5.1), Greece (-5.1), Lithuania (-3.2), Denmark (-2.7), France (-1.4) and Latvia (-1.1). The most considerable increases occurred in Slovakia (+12.4), Sweden (+11.7), United Kingdom (+9.9), Slovenia (+9.5), Estonia (+8.3), Malta (+6.5) and Croatia (+6.0). For the overall ESI, the EU registered a marginal improvement of +0.2, driven by good results in the UK. The largest non-euro area economies in the EU experimented a 0.8 points gain of this index in February, which comes after seven months' hikes in a row until December last year. This increase was mostly due to industry confidence growth (+9.9), which counteracted the continued strength loss –since June last year– in consumer confidence (-4.3 and -5.1 in February and January respectively) and the pessimism of the construction sector (-8.1 in February, -8.9 in January). Consumer confidence is foreseen to increase 1.2 points to -5.0 in the EA and 1.0 points to -4.2 in the EU.



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The Business Climate Indicator (BCI) increased in February compared to the previous month. The indicator for the EA moved up 0.06 points, posting at 0.82. Managers' views on order books improved strongly. The deterioration in services confidence (-1.2) offsets the developments in consumer confidence (+1.2).



## 2.12 Purchasing Managers' Index <sup>i</sup>

Purchasing managers' indices remained strong in the fourth quarter of 2016 in most areas. The global index gradually increased since the beginning of last year, from 50.0 in February to 52.7 in December, level lastly recorded at the beginning of 2014. In January 2017, global output and orders rates of expansion improved. Moreover, the PMI global index confirmed its value of 52.7 before trending upwards to 52.9 in February. Likewise, business confidence rose to a 20-month high in January. Output expectations for the near future are quite positive according to the values of the index in recent months: 63.4 in December and 65.2 in January. The index for new export orders reached its highest level in more than two years.

**Global Manufacturing and Services PMI**  
(Nov. 2016 – Feb. 2017)

	November 2016	December 2016	January 2017	February 2017
Output	53.3	53.6	53.9	53.4
New orders	53.5	53.8	54.3	53.8
Employment	51.3	52.0	52.0	52.0
Input prices	55.2	57.1	57.4	56.3
Output charges	51.1	52.4	52.2	51.7
Backlogs	50.3	50.6	50.9	50.5



Eurozone output is on the rise. It was strong in the second half of last year and also made a positive start in 2017, accelerating to a near six-year record in February and leading the upturn of global output. Furthermore, that growth was led by the manufacturing sector. EA manufacturing production increased for the 43th successive month, so the PMI index continues to signal expansion for the manufacturing sector in the Eurozone. It increased for the sixth consecutive month, hitting 55.4 points, which is the greatest recording since early 2011 and up from the January value of 55.2 and the December reading of 54.9. This evolution reveals a marked improvement in business conditions in the Eurozone. It can be easily illustrated by the fact that a large number of EA economies have PMI readings around 55-58 obtained from a panel of around 5,000 firms. Netherlands (58.3), Switzerland (57.8), Czech Republic (57.6), Austria (57.2), Germany (56.8) and Netherlands (56.5) top the manufacturing growth rankings. The UK (54.6 in February, down from 55.9 in January and 56.1 in December) started the new year on good footing too, with its PMI (54.6 in February, down from 55.9 in January) clearly above its long-run average of 51.6 but lower than the December's two-and-a-half year high. Manufacturing production grew, most clearly in the category of investment goods. These positive readings are notably due to a higher number of new business and a robust increase in new order intakes from abroad, which rose for the ninth successive month in February.

Spain, France and Italy are also performing well to judge by the high recordings of output growth in February: 57.0 in Spain (18-month high), 54.8 in Italy (14-month high) and 55.9 in France (69-month high). At 57.8, Ireland remained at the top of output growth ranking. With regards to Germany (56.8), the optimism for future output has been the strongest for three years. Concerning the positive overview of the broad-based improvement in the Eurozone, Markit commented that *"growth accelerated in all of the four largest Member States in February to suggest an increasingly sustainable and robust-looking upturn. Both France and Germany look to be on course to grow by 0.6% in the first quarter, with Spain set for at least a 0.7% expansion. Italy is lagging behind but is nevertheless enjoying its best growth for over a year, likely to see GDP rise by 0.4% in the first quarter"*.

This recovery of economic activity is accompanied by inflationary pressures, with costs rising to a 69-month record in February. As showed in the table above, inflationary pressures continued to build in February, although the index slowed down a bit. The persistent inflation rise concerns input prices and, more importantly, output ones. Among the underlying factors, we can identify higher purchase prices, weak euro exchange rate (further information on section 2.8) and increased labour costs. The intensification of the price inflation of purchases in the manufacturing sector is leading to a faster pace of input price inflation, which is marking highest values in recent years. This upward pressure on prices could pose a threat to the outlooks. In Germany and Italy, for instance, prices rose at the fastest rate since May-June 2011.

It should also be highlighted the positive data and prospects in terms of job creation. In Italy, the employment growth in February was the highest since late-2000, while in Germany the index sharply rose .

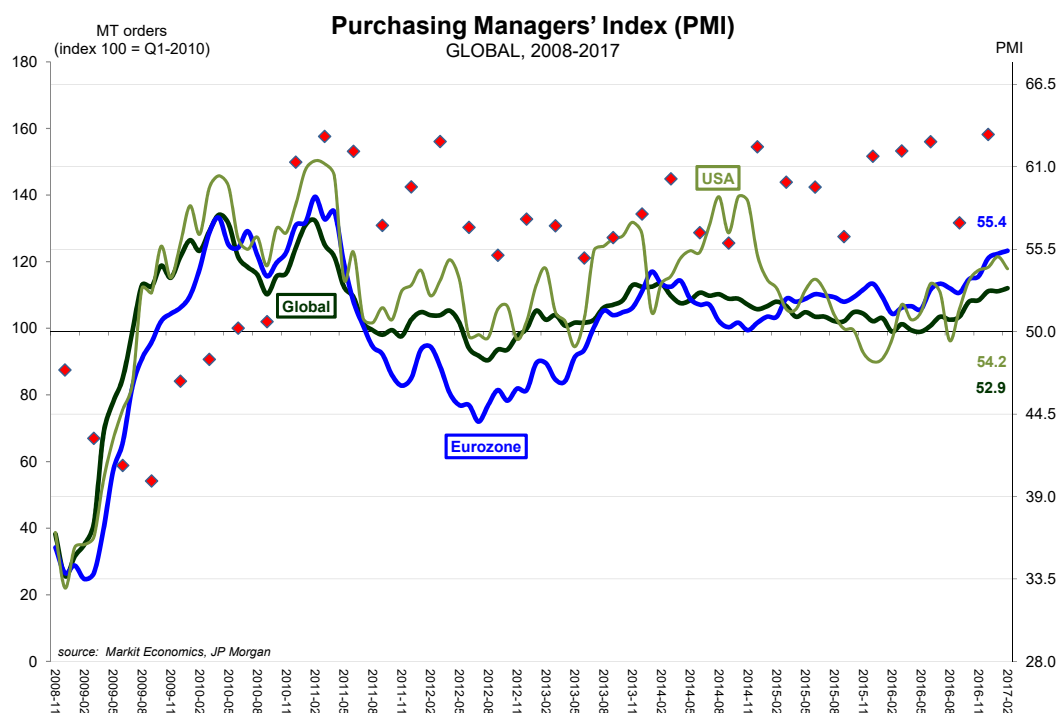
The US manufacturers are also in expansion according to their February PMI reading of 54.7 (down from 55.0 in January). This slightly weaker upturn was due to a moderation in new orders growth. Foreign demand rose at a softer pace than the domestic one, as it is suffering from the strong dollar. Unlike

Continued ►

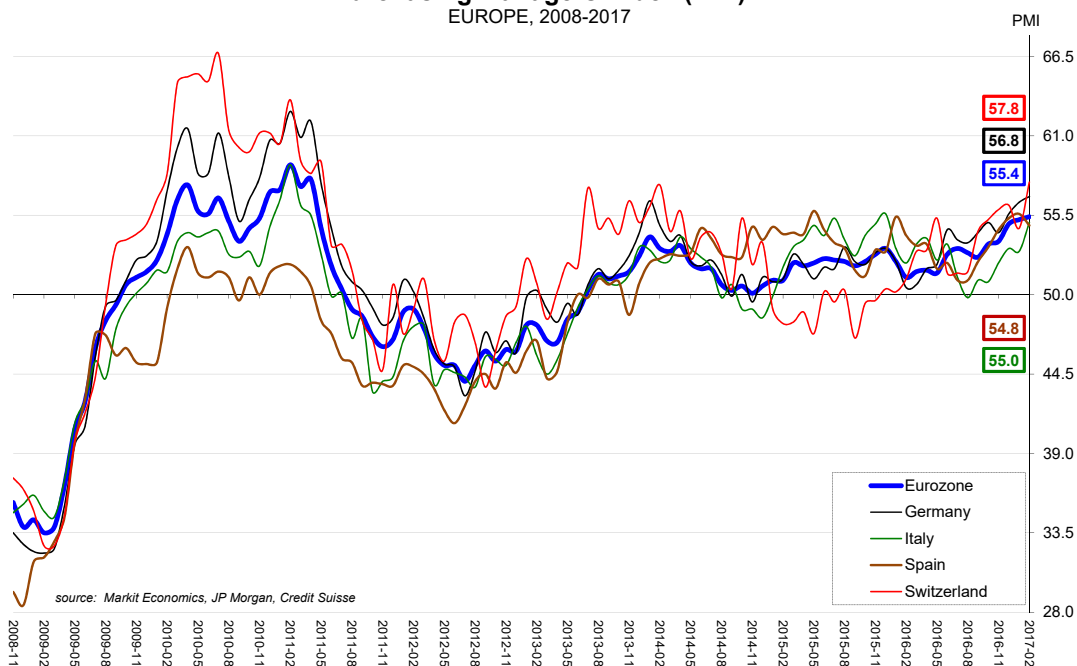
orders from abroad, domestic demand is driving order books to the highest growth rate in over two years. Manufacturing production has not stopped rising since mid last year. The survey results keep informing of higher input prices in the manufacturing sector, rising at one of the quickest rates over the past two and a half years.

At 53.3 in February, business confidence of Japanese manufacturers posted at a 3-years high. Better domestic and foreign intakes have encouraged companies to invest and hire more personnel. Prices are moving up at a two-years high. Job creation has been growing for the last two and a half years, and in February the staff number increased at the quickest extent since April 2014. Prices also experimented upward pressure, since input prices have been rising at the fastest rate for nearly two years.

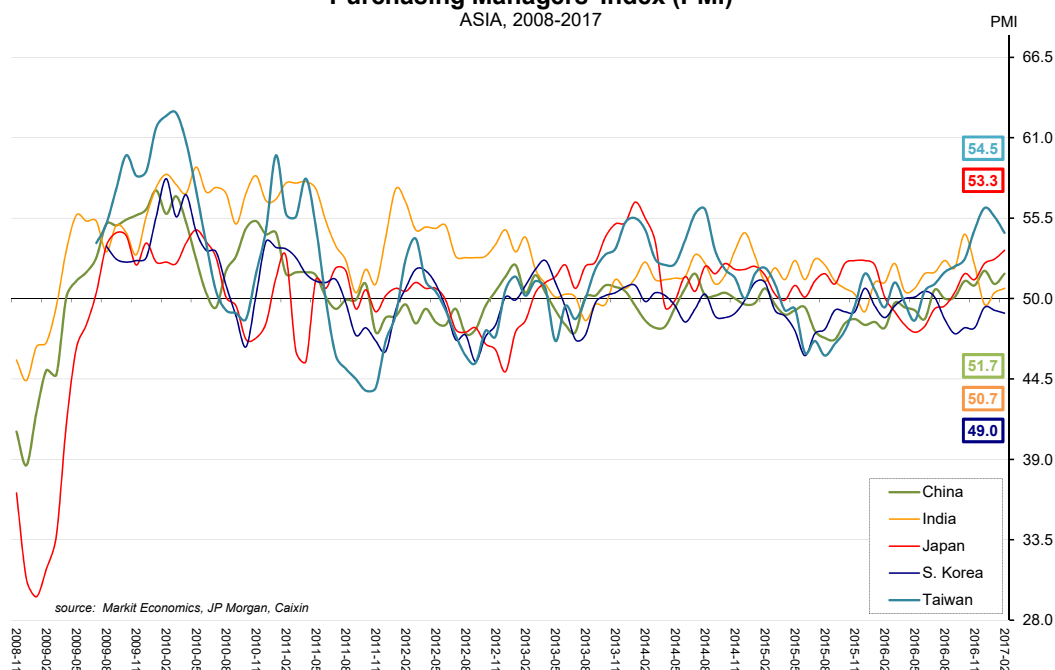
Finally, Chinese manufacturers were confident in overall terms in February. This managers' optimism about the future, registered for the last time half a year ago, reveals an improvement of the business environment. China is also facing inflationary pressures both in input costs and output charges, although a bit weaker than in January. New orders coming from abroad rose at the quickest pace since September 2014 and employment fell over but by the slower rate in the last two years.



**Purchasing Managers' Index (PMI)**  
EUROPE, 2008-2017



**Purchasing Managers' Index (PMI)**  
ASIA, 2008-2017





# Glossary

## 1.1 CECIMO8 orders

This section presents the “new orders received index” showing the development of the machine tool demand as an indication of future production. An order is defined as the value of the contract linking a producer and a third party in respect of the provision by the producer of goods and services.

The CECIMO8 orders index combines the relevant indexes of Austria, the Czech Republic, France, Germany, Italy, Spain, Switzerland and the United Kingdom.

The weights of the different indexes correspond to the countries shares in total production of the eight countries in 2010. The new orders received are split according to the origin of the order, based on the change of ownership. This identification is the basis for domestic and foreign new orders. The origin is determined by the residency of the third party that has made the order.

## 1.3 MT-IX

MTIX is an index based on the capitalization of 23 leading, publicly listed machine tool producing companies. The capitalization of the companies included is weighted by the share of machine tool turnover in total revenues. The total capitalization calculated in that way is weighted then by an estimated share of the European companies in the world total output in 2010.

## 2.2 Interest rates - Euribor

Euribor® (EURO InterBank Offered Rate) is the rate at which euro interbank term deposits are being offered by one prime bank to another within the EMU zone.

Monthly data are calculated as averages of daily values from the banks with the highest volume of business in the euro area money markets.

<http://www.euribor-ebf.eu/>

## 2.4 Industrial production index

The objective of the production index is to measure changes in the volume of output at close and regular intervals, normally monthly. It provides a measure of the volume trend in value added over a given reference period. The production index is a theoretical measure that must be approximated by practical measures. Value added at basic prices can be calculated from turnover (excluding VAT and other similar deductible taxes directly linked to turnover), plus capitalised production, plus other operating income plus or minus the changes in stocks, minus the purchases of goods and services, minus taxes on products which are linked to turnover but not deductible plus any subsidies on products received.

Industrial production is compiled as a fixed base year Laspeyres type volume-index.

Base period: Year 2010 = 100.

Source: Eurostat.

## 2.5 Gross Fixed Capital Formation

The Gross Fixed Capital Formation (GFCF) consists of resident producers' acquisitions, less disposals, of fixed tangible or intangible assets. This covers in particular machinery and equipment, vehicles, dwellings and other buildings. The GFCF is a key determinant of both aggregate demand and supply.

Source: Eurostat and ECB.

## 2.6 Capacity utilization in the investment goods sector

Population: Investment goods producers. Data covered: Assessment of current production capacity, measured as a balance (seasonally adjusted); Current level of capacity utilization, measured in % (seasonally adjusted). More than 38.000

industrial firms are surveyed every month, while the biannual investment survey includes over 44.000 units. Answers obtained from the surveys are aggregated in the form of “balances”. Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates EU and euro-area aggregates on the basis of the national results and seasonally adjusts the balance series.

[http://ec.europa.eu/economy\\_finance/db\\_indicators/surveys/documents/userguide\\_en.pdf](http://ec.europa.eu/economy_finance/db_indicators/surveys/documents/userguide_en.pdf)

## 2.7 Bank lending survey

The bank lending survey is addressed to senior loan officers of a representative sample of euro area banks. Its main purpose is to enhance the understanding of bank lending behaviour in the euro area. The questions distinguish between three categories of loan: loans or credit lines to enterprises; loans to households for house purchase; and consumer credit and other lending to households. For all three categories, questions are posed on credit standards for approving loans; credit terms and conditions; and credit demand and the factors affecting it. The responses to questions related to credit standards are analysed in this report by focusing on the difference (“net percentage”) between the share of banks reporting that credit standards have been tightened and the share of banks reporting that they have been eased. A positive net percentage indicates that a larger proportion of banks have tightened credit standards (“net tightening”), whereas a negative net percentage indicates that a larger proportion of banks have eased credit standards (“net easing”). Likewise, the term “net demand” refers to the difference between the share of banks reporting an increase in loan demand and the share of banks reporting a decline. Net demand will therefore be positive if a larger proportion of banks have reported an increase in loan demand, whereas negative net demand indicates that a larger proportion of banks have reported a decline in loan demand.

<http://www.ecb.eu/stats/money/surveys/lend/html/index.en.html>

## 2.10 OECD Business Confidence Indicator (BCI) for Europe

The Composite leading indicators (CLI), which BCI is part of, comprise a set of component series, selected from a wide range of key short-term economic indicators, to ensure that the indicators will still be suitable when changes in economic structures occur in future. CLIs are calculated for 33 OECD countries (Iceland is not included) and several regional aggregates, based on enterprises’ assessment of production, orders and stocks, together with its current position and expectations for the near future.

These indexes are designed to anticipate turning points in economic activity relative to trend, on average 6 to 9 months before they happen. While theory says that a turning point in the CLI signals a turning point in the reference series, such turning points, in reality, are determined by a complicated process. Turning points in the detrended reference series are usually found about 4 to 8 months in advance. Therefore, one often needs to wait for several periods to draw a more definite conclusion. A useful way to exploit the information in CLIs is to take their year-on-year growth rate.

Typical indicators in the CLI include orders and inventories changes, financial market indicators, business confidence surveys and data on key sectors and trend in the main trade partners.

The standardised BCIs represent only the manufacturing sector. It is based on companies’ assessment of production, orders, stocks and its current position and expectations. BCI shows a long-term trend in industrial production (with a 6-month time-lag). An increase over 100 means expansion; a decrease above 100 means a downturn; an increase below 100 is an upturn and a decrease below 100 is a slowdown.

<http://stats.oecd.org/mei/default.asp?lang=e&subject=5>

## 2.11 European Commission Economic Sentiment Indicator

The Economic Sentiment Indicator (ESI) is a composite indicator made up of five sectoral confidence indicators with different weights: Industrial confidence indicator, Services confidence indicator, Consumer confidence indicator, Construction confidence indicator and Retail trade confidence indicator. Confidence indicators are arithmetic means of seasonally adjusted balances of answers to a selection of questions closely related to the reference variable they are supposed to track (e.g. industrial production for the industrial confidence indicator). Surveys are defined within the Joint Harmonised EU Programme of Business and Consumer Surveys. The economic sentiment indicator (ESI) is calculated as an index with mean value of 100 and standard deviation of 10 over a fixed standardised sample period. Data are compiled according to the Statistical classification of economic activities in the European Community, (NACE Rev. 2). The industry confidence is weighted at 40 per cent in the calculation of the ESI. Source: DG ECFIN

## 2.12 Purchasing Managers' Index (PMI)

The Global Report on Manufacturing is compiled by IHS Markit and J.P. Morgan based on the results of surveys covering 9.000 purchasing executives in 30 countries. Together these countries account for an estimated 86% of global manufacturing output. Questions are asked about real events and are not opinion based. Data are presented in the form of diffusion indices, where an index reading above 50.0 indicates an increase in the variable since the previous month, below 50.0 a decrease and equal to 50.0 means no change on prior month. All the indices are seasonally adjusted at the national sector level.

<http://www.markiteconomics.com/Survey/Page.mvc/AboutPMIData>

# Geographical information

## **CECIMO countries**

The European Association of the Machine Tool Industries (CECIMO) bring together 15 national associations of machine tool builders from the following countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Italy, the Netherlands, Portugal, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Euro area (EA)**

The euro area (EA19), also called Eurozone, consists of those Member States of the European Union that have adopted the euro as their currency. It includes Belgium, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Slovakia and Finland.

## **European Union (EU)**

The European Union (EU28) includes Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom. EU15 refers to the 15 countries forming the European Union before the enlargements of 2004, 2007 and 2013.



# Other symbols and acronyms

## **GDP**

Gross Domestic Product

## **Billion**

Billion means one thousand million

## **US**

United States

## **Q1, Q2, Q3, Q4**

1st quarter, 2nd quarter, 3rd quarter, 4th quarter

## **EUR / €**

Euros

## **USD / \$**

United States Dollar(s)

## **CHF**

Swiss Franc(s)

## **GBP**

Great Britain Pound(s), the pound sterling

## **IMF**

International Monetary Fund

## **WB**

World Bank

## **MT**

Machine tools

## **CECIMO countries**

Countries whose machine tool sector is represented by CECIMO

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Belgium

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