

# CECIMO Economic and Statistical Toolbox

September - October 2017




**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 consumption
- 1.7 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

After a rather eventless summer, except for the fresh economic partnership with Japan agreed in July, September came as an awakening. The last month saw several major addresses, as Jean-Claude Juncker's State of Union and Theresa May's Florence speeches. The President of the European Commission, Jean-Claude Juncker, announced his intention to strengthen the European trade agenda for his remaining mandate. In line with the OECD, the EU is "one of the most open investment regimes" and he intends to keep it that way. Nevertheless, to protect Europe's strategic interests, he proposed a new EU framework for investment screening. Specifically, a foreign state-owned company that wishes to purchase strategic European pieces of infrastructure or technology needs to do it transparently and under the scrutiny of a political debate. Even though third country investors are few, they are larger and focussed on high-end technology, therefore play an important role as providers of foreign direct investment.

Last month the UK Prime-Minister laid out her landmark on Brexit, committing to ensure that the remaining EU27 Member States would not endure sensible advantages or disadvantages after the transition period, as if UK never left EU. The EU Chief Negotiator admitted a "new dynamic" in the Brexit talks. However, this speech received heavy criticisms, claiming no real progress has been made in the past 15 months. Recently Mrs. May conceded the ECJ rule during the transition period, announcing the British government foresees leaving the EU without a deal. The deadlock in Brexit negotiations risks to impose new regulations on businesses. Importers and exporters in the EU-UK relationship might face harder consequences in case of introduction of border tariffs. As a consequence of a free trade regime, UK will need to make new international trade deals. The manufacturers fear international trade distortions, or import rises they are unprepared for.

In the meantime, the US President pushing for protectionist policies contemplates imposing new tariffs on imports to penalize China for constraining American imports and to respond to alleged accusations of Russian interferences in the elections. These measures will have adverse repercussions on the EU – the biggest economic bloc and major US trade ally. Experts foresee a possible trade war between EU and US, in the event of unjustified punches, as the EU Trade Commissioner considers applying "safeguarding measures", that results in large tariffs imposed in a matter of weeks rather than months. However, the policies would narrow down to steel, aluminium and other large household appliances. As for South America, Brazil and Argentina seem to be rather disappointed by the EU trade offer to Mercosur, considered surprisingly low. It will make it more difficult to achieve a deal by December.

The International Trade Committee of the European Parliament issued a new study at the end of September assessing the implications of disruptive technologies on the EU's trade policy. The authors agree that data, big data and the Internet of Things will change economic sectors, creating new goods, services and competition, and transform production and consumption as part of the globalisation process.

The ECB assures that Eurozone banks are well prepared for sharp rate changes after a stress test of 111 banks. It envisages to reduce its monetary stimulus after several years of extremely low interest rates and big bond purchases. The interest rates in the main refinancing operations on the marginal lending facility and deposit facility remained the same. The interest rate benchmarks are undergoing deep reforms to complement private sector benchmarks and serve as reference. The ECB is to publish new unsecured overnight interest rates in the course of 2018.

# 1. Data specific to the European machine tool market

## 1.1 CECIMO8 orders <sup>i</sup>

The second quarter of 2017 looks very contrasting for the machine tools' orders. The indicator remained the same as in the first quarter, but scored 3% better than in the second quarter last year. The quarterly exchange data indicates a decrease in the orders level of the Italian (-26%), French (-11%) and Spanish (-4%) machine tool industry from Q1 to Q2. The Austrian, German, Swiss, British and Czech counterparts registered more orders in the second trimester, by 5%, 6%, 10%, 8% and 3% respectively.

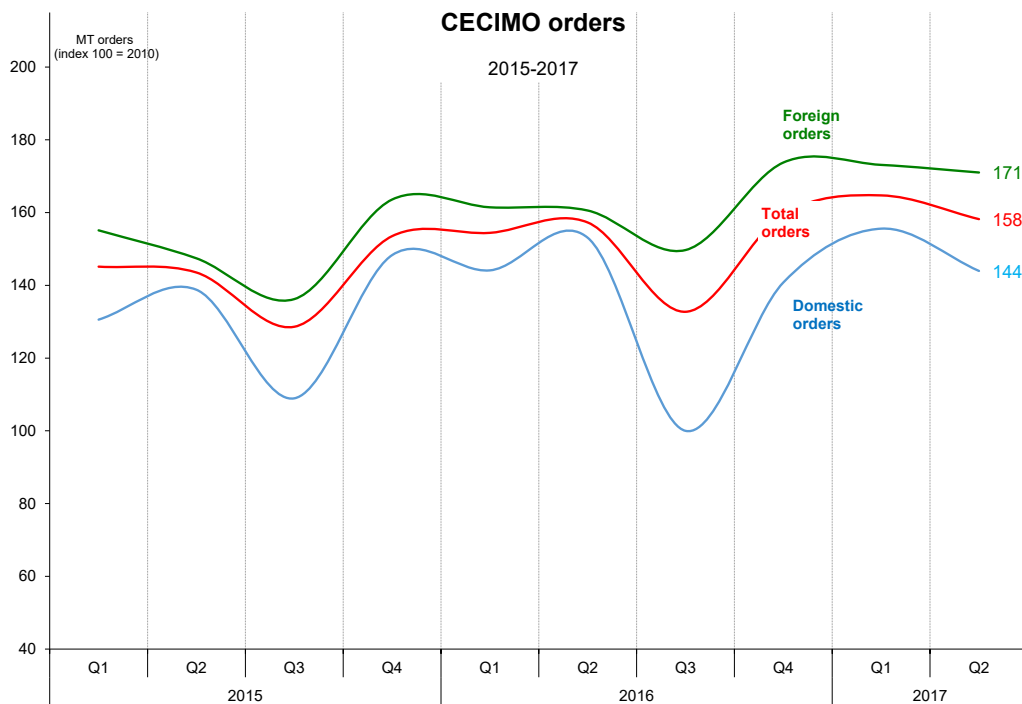
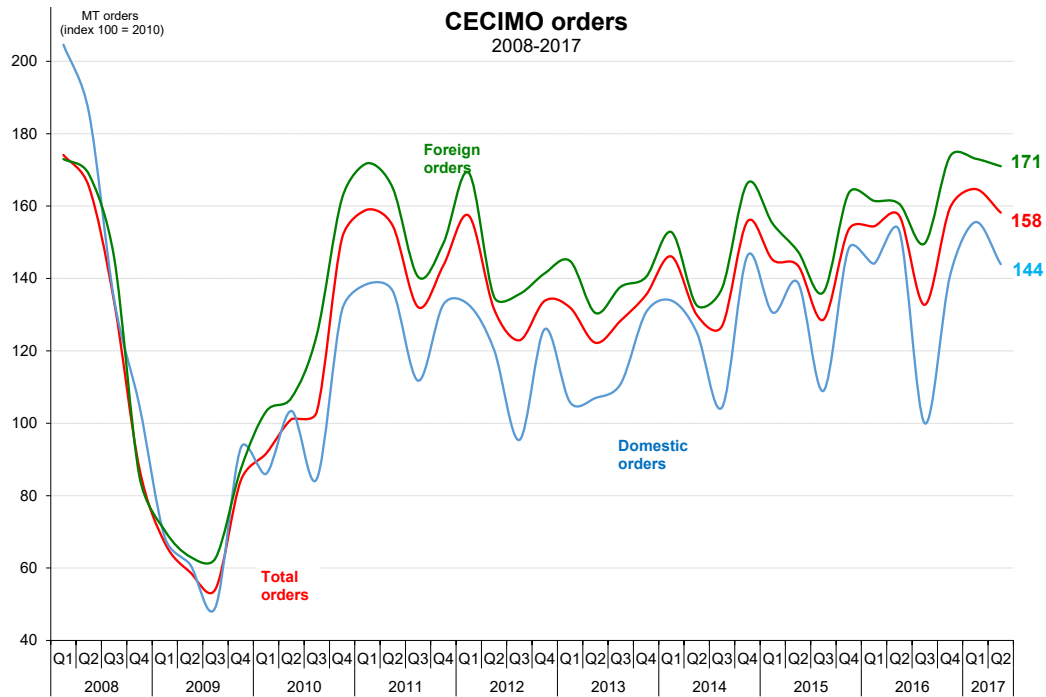
The UK received 20% more orders from abroad, while its domestic demand fell by 11%. It diverges with the Spanish case, where the domestic demand drastically fell by 37% and orders from abroad slightly increased by 6%.

It is worth mentioning the remarkable reading of Austrian MT companies that registered 23% more orders compared to the previous quarter and an impressive 62% improvement to the same quarter in 2016. Switzerland also scored positively augmenting the domestic demand by 10% (Q/Q-1) and 32% (Q/Q-4). Spanish demand, on the contrary, severely dropped by 37% compared to the previous quarter and by 33% to the second quarter of 2016. France sees a more moderate decline of -13% (Q/Q-1) and -16% (Q/Q-4). In the case of Italy and UK, the smaller domestic orders intake in the second quarter is still higher than the values of the same quarter last year. This is not the case for Germany and Czech Republic that regardless of a better orders' intake score less than the same months of the last year.

The foreign orders fluctuate more moderately. France registers these months a drop compared to the first quarter of 2017 (-11%) and to the second quarter of 2016 (-5%); Switzerland and UK improved their foreign orders by 10% and 20% respectively compared to the first quarter, and by 16% and 17% compared to Q2 2016. The Czech MT companies saw a minuscule increase of 1% compared to Q1, but a more notable one compared to Q2 2016. Italy had 25% less orders than in the first quarter, but this indicator looks better (+15%) than in 2016. Altogether, it seems CECIMO is facing a decline in foreign orders quarter-on-quarter (2%) and year-to-year (7%).

On the international arena, the MT orders look overall good in the second quarter. US and Japanese machine forming registered an improvement compared to the previous quarter - +9% and +14% - and the second quarter of 2016 - +16% and +30% - respectively. Japanese machine cutting and Taiwanese orders instead decreased moderately compared to the first quarter, by -6% and -7%, but considerably increased by +35% and +37% compared to the same period last year. The domestic Japanese demand for machine forming and machine cutting increased by 51% and 22%. In the case of Taiwan, despite the 6% shrinkage of demand compared to first quarter, its companies registered 33% more demand than the same quarter of last year in. The American companies reached 9% more than in the previous quarter and 16% more than in the second quarter of 2016. Their foreign demand looks worse this quarter than the previous one, as the Japanese machine forming and Taiwanese indicators fell by -21% and 6%. They are still better off, since Taiwan and Japanese machine forming improved their foreign orders intake both by 35% compared to Q2 2016. This could be very good news for our international counterparts, since their annual fluctuations were negative in 2016 compared to 2015.

One should admit that our international counterparts note better levels of orders. Nevertheless, as we mentioned several times in our report, the MT activity is cyclical, therefore, we might expect a rebound of orders intake by the fourth quarter for the CECIMO8 based companies.



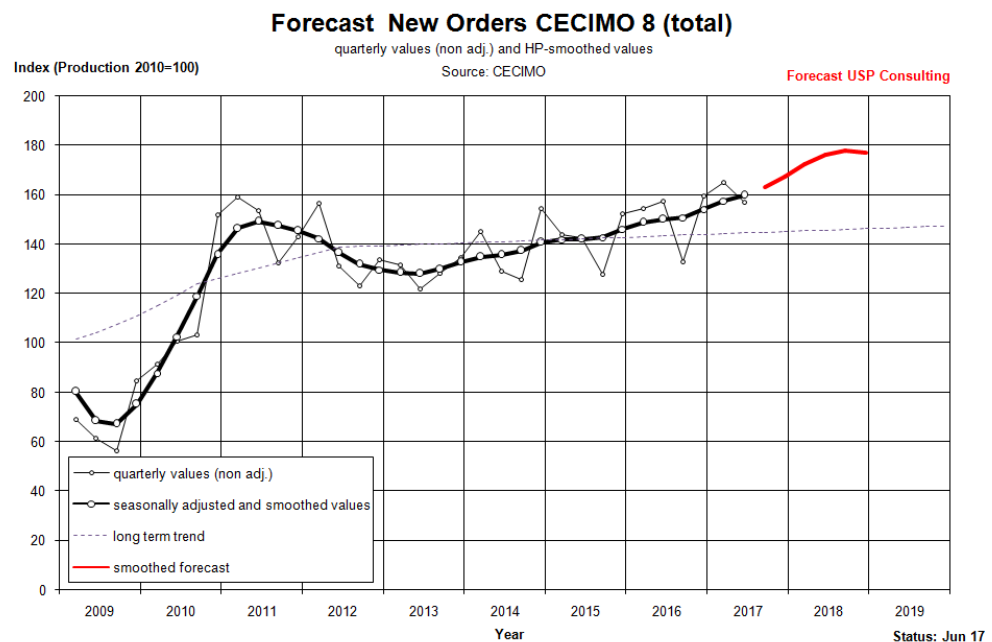
## ▲ 1.2 Peter Meier's forecast

The European consumption during the last year strengthened from 2015, whereas the world consumption of machine tools consumption was modest.

Since spring 2017, the economic outlook has shown a substantial improvement, indicating a healthy and self-sustaining global recovery. It is mostly driven by the Chinese demand. The industrial production indicators ameliorated worldwide, marking a 1% increase in the second quarter of 2017.

India is going through a time of policy uncertainty, however Russia and Brazil are supposed to grow again this year. The US industry seems more robust than it really is. Despite the growing domestic demand and international trade, its industrial production actually diminished in the last months, which could be explained by the uncertain policy developments on trade, infrastructure spending and tax reform. The European machine tool industries saw an increase in investment below the Asian market. Note that China, Japan and South Korea performed better than expected.

The orders forecasts for CECIMO8 in the second quarter proved to be very accurate: regardless of Switzerland and UK, the major MT players hit levels of consumption lower than expected. We predict the demand to grow at the same pace as the last four years until mid-2018, when it will reach a level of saturation and modestly diminish.



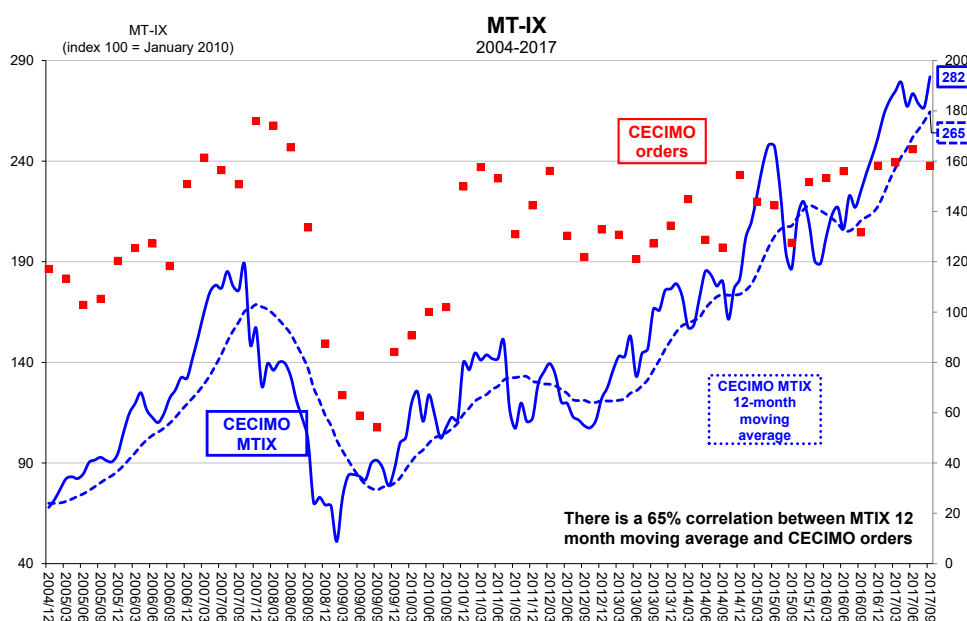
## ▲ 1.3 MT-IX <sup>i</sup>

In line with the market capitalisation growth in 2016 of the main listed machine tool companies and despite the small August downturns, the trend remains positive.

CECIMO MT-IX indicated a robust month-to-month growth, scoring 5 points less than in the second quarter of 2017, but a 25% improvement compared to September 2016. During this year, the MT-IX index gained 46 points and reached 277 points, the highest in the last five months. The first quarter of 2017 recorded

an 11% rise compared to the last quarter of 2016 and slowed down to a rather timid growth rate. The peaks were booked in April and September.

CECIMO-based companies give a positive input to this bright global picture. Since November last year, the sub CECIMO MT-IX has been reading a constant growth, driven by regular expansion rates of the market capitalisation of CECIMO machine tool companies of 3-4% in the last 3 months. Compared to the worldwide MT sector, where the MT-IX frenziedly evolves, the CECIMO MT-IX indicates a more equilibrated development.



## ▼ 1.4 CECIMO trade

At first glance, the machine tool exports from CECIMO countries showed a positive evolution compared to the first quarter of this year. Concretely, CECIMO exports grew by 4%, slightly below the 4.9% of total European exports. Russian and CIS countries improved their quarterly exports by 26%, recovering from the cutback of the first quarter, whereas African machine tool producers exported 19% less than in Q1. Our Asian counterparts scored an impressive raise of 31% for the same period. That said, the interannual evolution looks worse. Apart from the exceptional improvement of the Asian exports by 27% compared to the second quarter of 2017, and a more modest raise of the American indicators by 8%, CECIMO registered a 4% cutback, below the 3% decrease of European MT exports and below the global 3% downturn. Similarly, Russia and the CIS countries exported 4% less than last year in the same quarter. Africa registered an astonishing loss of 26% in MT exports.

Continued ►

The negative CECIMO trend is mainly due to the drastic cutback of British machine tool exports by 22% and a milder reduction on the Italian side of 12%. Czech Republic and Belgium both read a decline by 7.7%, and Austria a slightly deeper 8.8%. Nevertheless, Finland improved its level of exports by 10%, and Turkey by 11%, compared to the second quarter of 2016. Spain, Switzerland, Germany, Denmark and France recorded a positive but very timid growth, oscillating between 0.5% and 3%. Consequently, CECIMO and the European market share of MT exports shrank from 41% to 38% and from 52% to 49% accordingly. As for Asia, Japan rose its MT exports by 35%, compared to Q2 2016. South Korea, China and Hong Kong improved their indicators by 20%, 24% and 52% respectively, whereas Vietnam almost doubled its exports.

On the new continent, the United States saw a raise of 16% in comparison with the second quarter of the last year. Brazilian MT exports improved by 29%, while Argentina exported 16% less in the same period.

Despite the worrying exporting performance in the second quarter of 2017, the general sentiment of CECIMO countries is positive. According to our latest forecasts for 2017, CECIMO machine tool businesses expect an increase in exports of at least 5%, that would reach nearly 19 billion euro. See below the tables with CECIMO exports and imports per zones, for the second quarters of 2016/2015 and 2017/2016.

#### CECIMO exports and imports per zones - 2017Q2

in million euro. Export destinations and import origins

##### EXPORTS

ZONE	2017Q2	2016Q2	2017Q2/ 2016Q2	Share 2017Q2	Share 2016Q2
I. ASIA	1,279.2	1,010.1	27%	27%	22%
II. AMERICAS	812.2	752.5	8%	17%	16%
III. EUROPE	2,370.6	2,431.6	-3%	49%	52%
CECIMO	1,845.1	1,918.6	-4%	38%	41%
EU	2,014.4	2,222.8	-9%	42%	48%
IV. Russia + CIS	179.7	187.5	-4%	4%	4%
V. AFRICA	69.8	94.8	-26%	1%	2%
VI. OTHERS	101.7	149.7	-32%	2%	3%
<b>TOTAL EXPORTS</b>	<b>4,821</b>	<b>4,633</b>	<b>-3%</b>		

##### IMPORTS

ZONE	2017Q2	2016Q2	2017Q2/ 2016Q2	Share 2017Q2	Share 2016Q2
I. ASIA	703.0	669.4	5%	29%	27%
II. AMERICAS	112.0	90.4	24%	5%	4%
III. EUROPE	1,591.1	1,676.1	-5%	66%	68%
CECIMO	1,516.7	1,595.3	-5%	63%	65%
EU	1,191.6	1,328.5	-10%	49%	54%
IV. Russia + CIS	1.4	5.8	-76%	0%	0%
V. AFRICA	0.9	0.8	1%	0%	0%
VI. OTHERS	5.5	6.6	-17%	0%	0%
<b>TOTAL IMPORTS</b>	<b>2,423</b>	<b>2,454</b>	<b>-1%</b>		

#### CECIMO exports and imports per zones - 2017H1

in million euro. Export destinations and import origins

##### EXPORTS

ZONE	2017H2	2016H2	2017H2/ 2016H2	Share 2017H2	Share 2016H2
I. ASIA	2,252.0	1,976.6	14%	25%	23%
II. AMERICAS	1,569.8	1,406.4	12%	17%	16%
III. EUROPE	4,629.8	4,503.0	3%	51%	52%
CECIMO	3,619.0	3,552.7	2%	40%	41%
EU	4,199.9	4,103.8	2%	46%	48%
IV. Russia + CIS	322.1	308.7	4%	4%	4%
V. AFRICA	156.2	168.3	-7%	2%	2%
VI. OTHERS	215.1	262.6	-18%	2%	3%
<b>TOTAL EXPORTS</b>	<b>9,159</b>	<b>8,639</b>	<b>6%</b>		

##### IMPORTS

ZONE	2017H2	2016H2	2017H2/ 2016H2	Share 2017H2	Share 2016H2
I. ASIA	1,390.8	1,316.1	6%	29%	28%
II. AMERICAS	230.3	190.7	21%	5%	4%
III. EUROPE	3,105.9	3,133.4	-1%	65%	67%
CECIMO	2,961.0	2,988.2	-1%	62%	64%
EU	2,453.2	2,506.6	-2%	52%	54%
IV. Russia + CIS	6.3	7.8	-18%	0%	0%
V. AFRICA	2.0	2.0	0%	0%	0%
VI. OTHERS	10.9	14.7	-26%	0%	0%
<b>TOTAL EXPORTS</b>	<b>4,761</b>	<b>4,675</b>	<b>2%</b>		

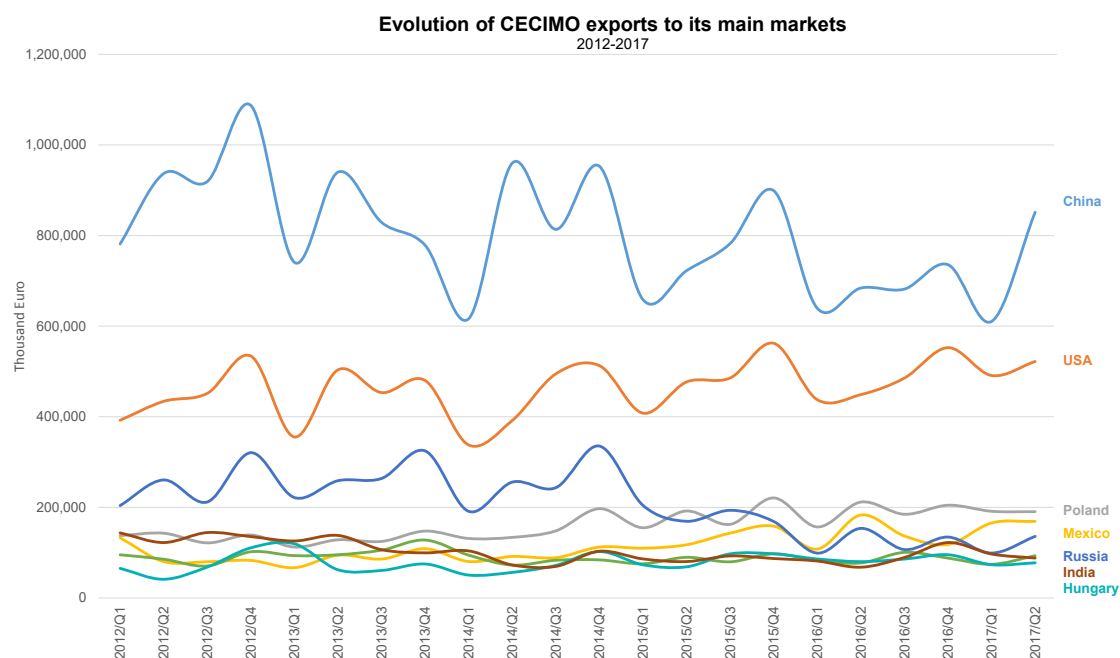


With regard to imports, during this quarter CECIMO imported 5% less than in the previous one, in line with the total European imports' change. Russia and CIS imports saw an astonishing decline of 71%, while Africa imported 26% less. The American companies imported only 5% less compared to the first quarter of 2017. On an interannual scale, it looks that CECIMO slightly diminished its machine tool imports by 5%, in line with the total European 5% reduction. Russia and CIS countries imported 76% less in the second quarter of 2017 compared to 2016, and African imports remained stable.

Nevertheless, most of the European trade takes place intra-Europe and these commercial ties are resistant. Half of the machine tools' foreign sales by CECIMO countries are destined to another European country.

Within CECIMO 41.3% of machine tools in 2016 were exported by Germany, 16.5% by Italy and 13.4% by Switzerland, who have been our top CECIMO exporters for decades. Belgium, Spain and France moderately increased the export share, whereas the rest of CECIMO members hold their export share relatively stable.

As for intra-CECIMO imports, Germany and Italy are the countries that import the most, notably 25% and 12.4%, shortly followed by Turkey, France and Belgium with 9.5%, 9.2% and 8.4% accordingly. As a result, more than half of the CECIMO imports are covered by Germany, Italy, Turkey and France.



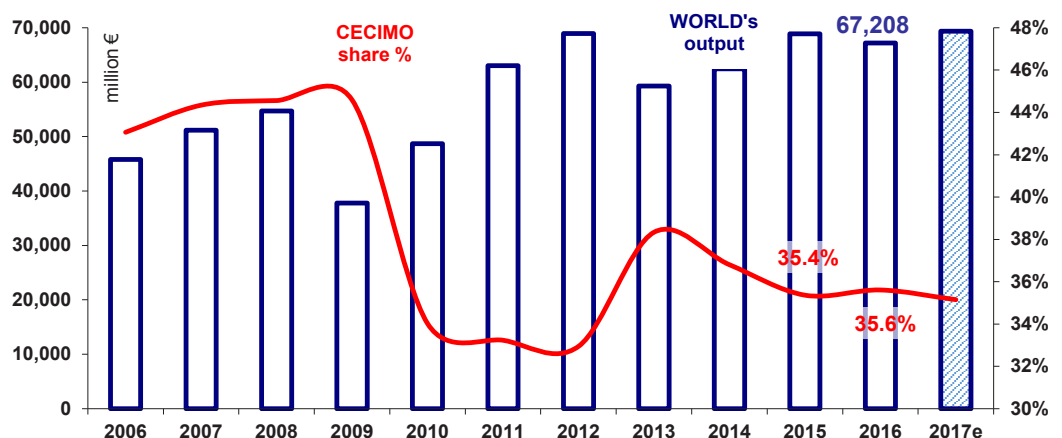
## ▼ 1.5 CECIMO production

The previous production data of the CECIMO machine tool builders for 2016 was very optimistic, announcing an outperformance of the estimates. However, according to the latest data input, the CECIMO production reaches 23.9 billion euro, which is 1.7% less than in 2015. Even though the production volume moderately decreased, CECIMO share of machine tool production moved from 35.4% to 35.6%. That is because the global production also declined by 2.4%, reaching a level of production of 67.2 billion, according to the available CECIMO data. It shows that the European machine tool builders are coping relatively well with the feeble international context and are firmly holding their competitive position among the global producers.

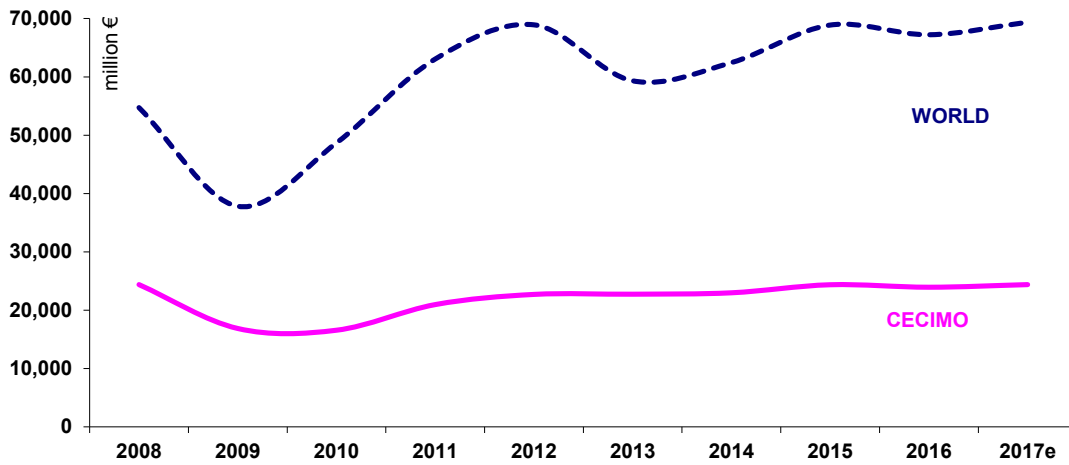
CECIMO detains its leadership position in the global machine tool production, followed by China (21%) and Japan (17%). The United States produced 8% of the MT output in 2016, keeping its share at the same level as in 2015. Among our members, Sweden and UK recorded sensible erosions of their machine tool production by 38% and 22% each. However, Switzerland and Czech Republic are dragging down the CECIMO output. Both their production decreased by 13%. The negative change of Switzerland is due to Swiss franc fluctuations at the beginning of 2015, that led to a shrinkage of investments in the country, but also pushed producers to sell with important discounts in 2016. Czech Republic, on the other hand, was hit by Russian sanctions. Fortunately, Germany, Belgium and Austria framed their decline to 1,2% and 3% accordingly last year. Italy and France, in defiance, enhanced their output by 7% and 9%.

The good news is the preliminary data for 2017, which foresees an increase in the global production up to 69.3 billion or so, representing a +3% change. Meanwhile, the same data for CECIMO predicts an annual production of 24.3 billion euro, which would mean a 5% increase as compared to 2016 and a small cutback in the CECIMO share to 35.2%. Altogether, unless there are unexpected major events or developments, the machine tool production and CECIMO share will not see significant changes.

**World MT output; CECIMO share**



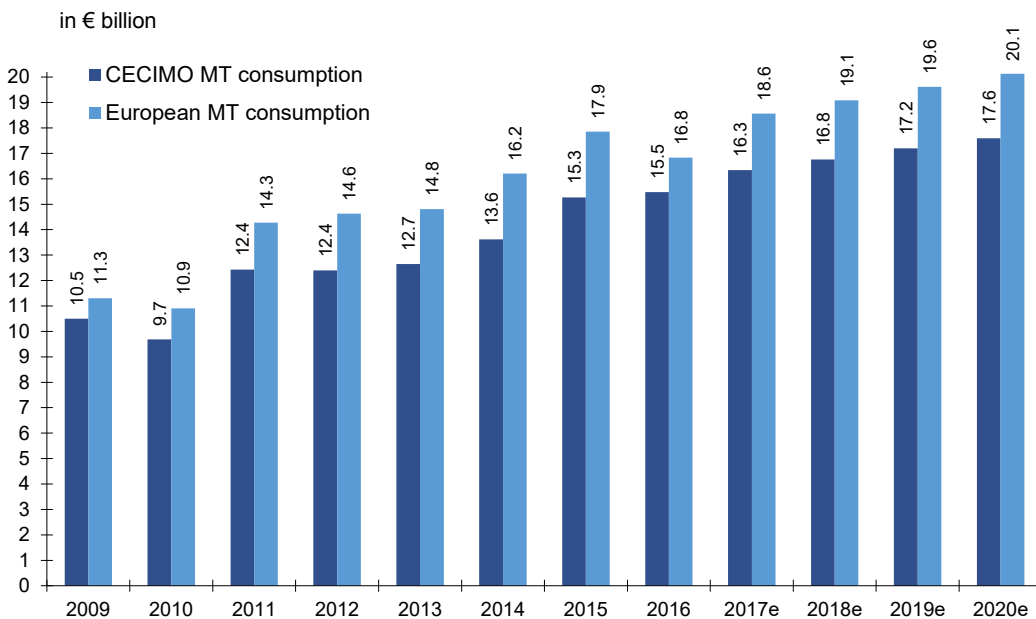
### Global production of machine tools since 2008



### ▲ 1.6 CECIMO consumption

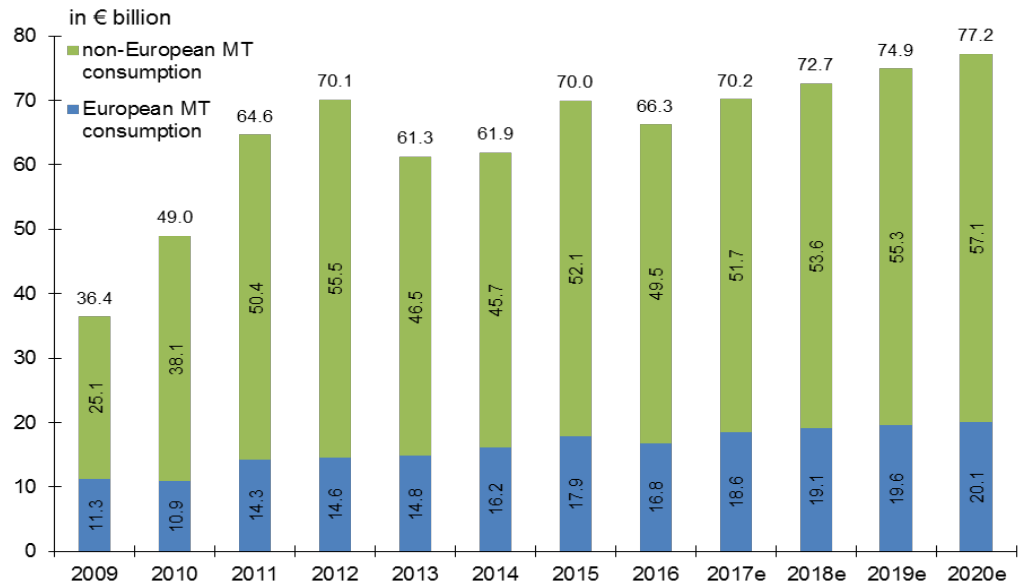
The global machine tool consumption appears to have fallen by 5% in 2016, according to the latest data available to CECIMO. Unsurprisingly, this follows the trend of the machine tool production for the same year. Nevertheless, CECIMO countries show obvious signs of improvement in consumption, going from 15.27 to 15.47 billion, equivalent to a 1.3% change since 2015. Therefore, in the negative change of the global context, our consumption not only rose in value, but also in market share, shifting from 21.8% to 23.3%.

### CECIMO and European MT consumption



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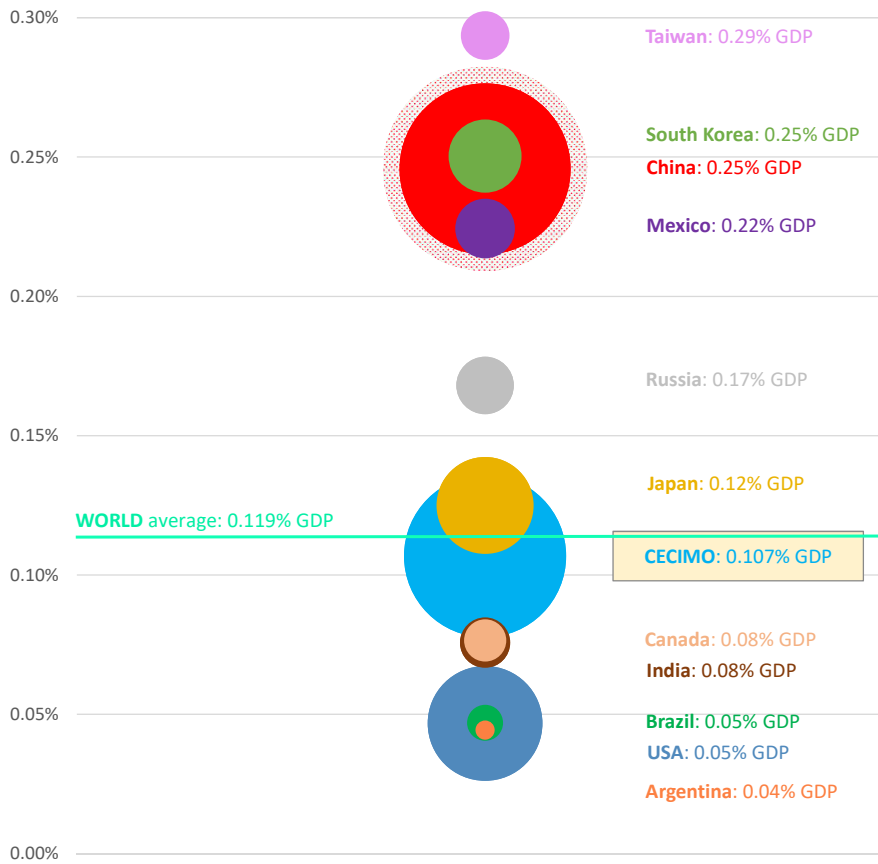
### Global MT consumption



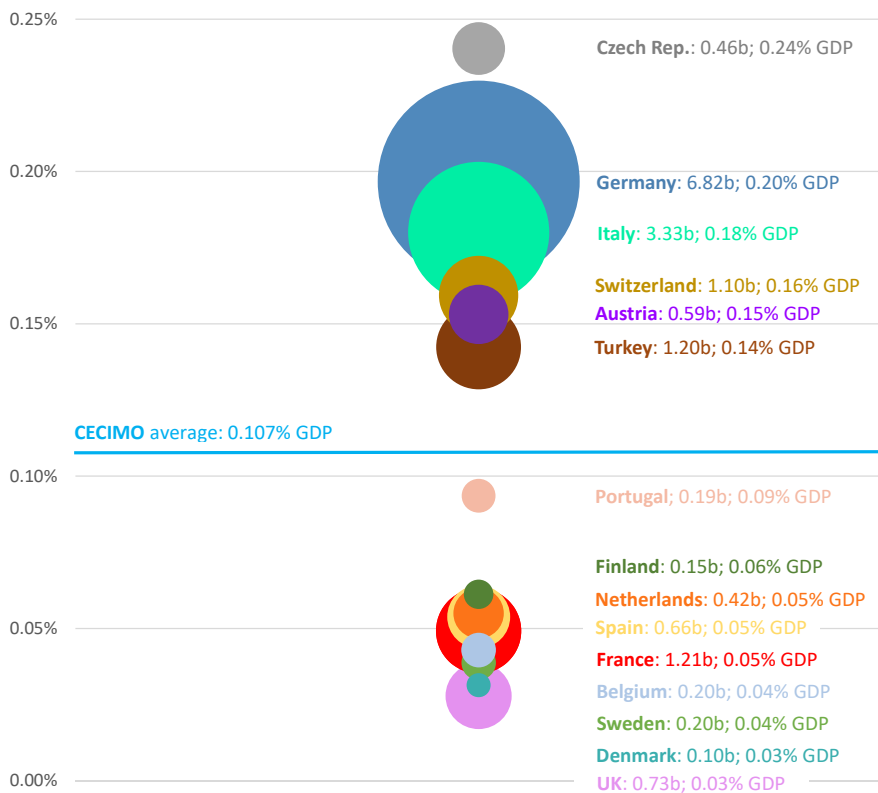
In an analysis by country, we should note that our production leaders showed the highest consumption rates. Germany and Italy account for 55.5% of CECIMO consumption. Their consumption value amounted to 3.6 and 2 billion each in 2016, shortly followed by Turkey and France with 1.1 and 1 billion. Sweden decreased its level of consumption by 37.6% in 2016. Spain downgraded 28%, Swiss and Finnish consumption fell by approximately 23%, while Belgium and UK lowered their indicators by 20% and 18%. Despite these negative change rates, Portugal read a very positive rate of 26%. Italy and Austria augmented their consumption by 19% and 14%. Moreover, CECIMO aggregated consumption of machine tools per capita is markedly higher than the global average.

According to the Oxford Economics forecasts, the CECIMO share in global consumption is likely to stay stable at least for 4 years to come, oscillating around 23%. This year, CECIMO consumption in value is expected to improve by 5.6%, quite in line with the global change of +5.9%, and grow above 16 billion. As of 2018, in consonance with Peter Maier foreseeing signs of saturation, the machine tool consumption is inclined to step on a path of constant growth of 2.6% in 2018 and 2019, and 2.3% in 2020, in a comparable pace with the forecasted global growth between 3.5% and 3% for these years.

### MT consumption in value (USD) and as percentage of GDP. 2016.



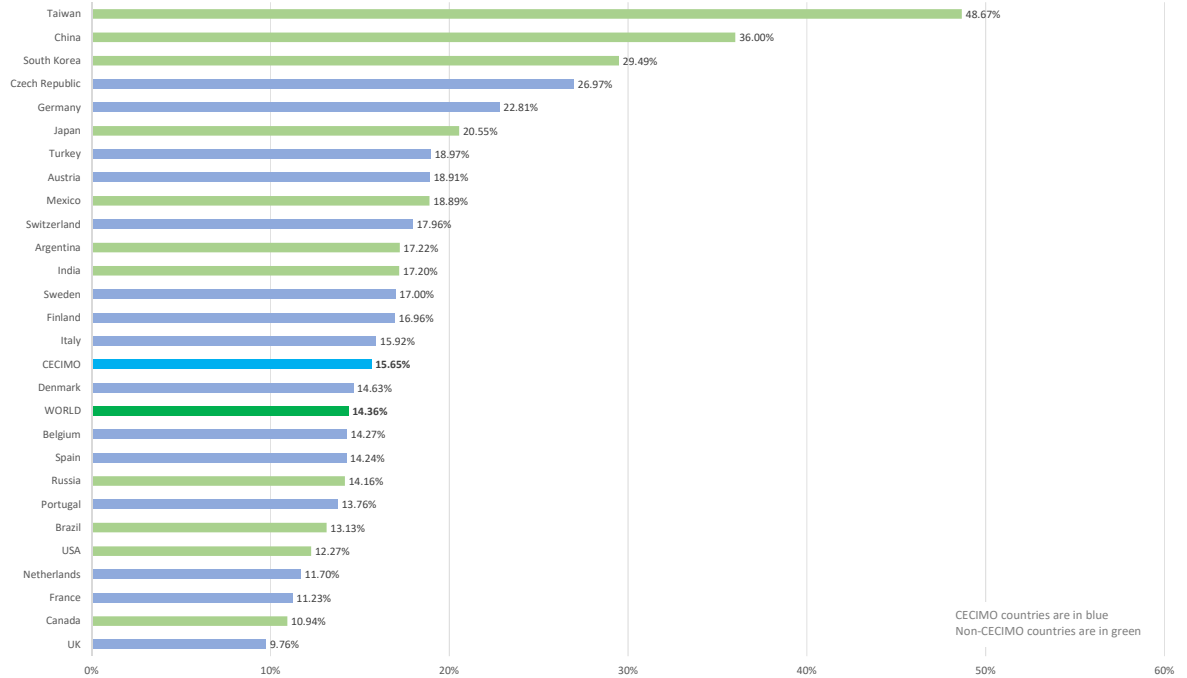
### CECIMO MT consumption in value (USD) and as percentage of GDP. 2016.



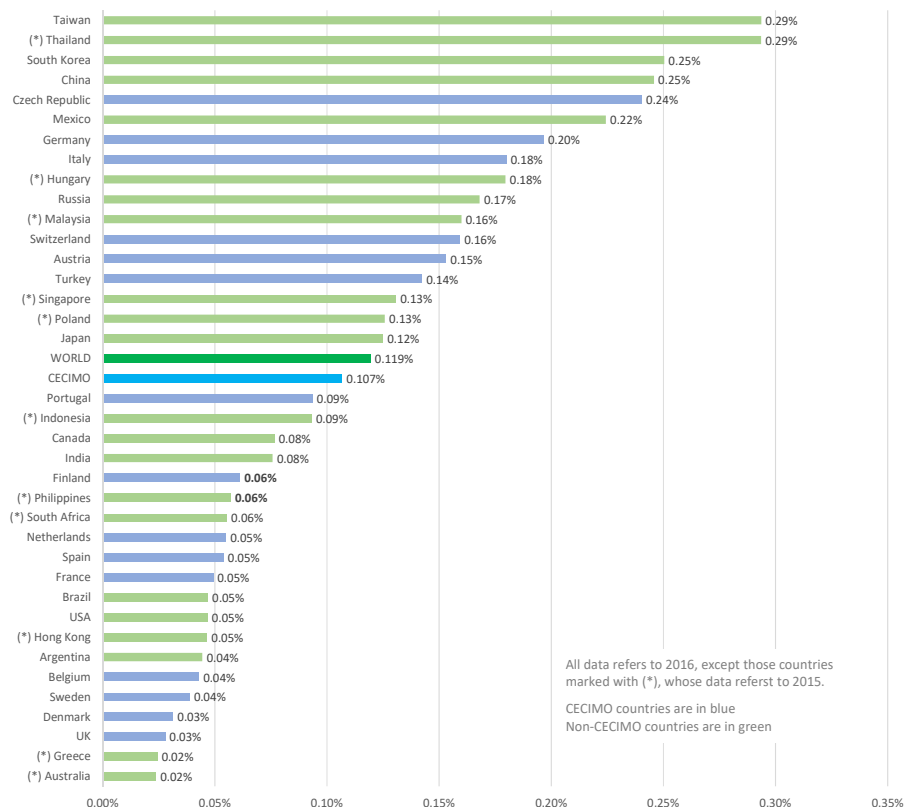
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In terms of Gross Domestic Product, the consumption of machine tools in CECIMO countries is in line with the world average. This is also the case of the Gross Value-Added share of manufacturing, as it can be seen in the figures below.

**GVA share of Manufacturing**  
2015



**GDP share of MT consumption**  
2015-2016



## ▲ 1.7 CECIMO Business Climate Barometer

The latest edition of the CECIMO Business Climate Barometer keeps reflecting the improvement of the economic sentiment in Europe and in the machine tool sector. The collection of replies to the survey firstly distributed in mid-February 2017 took place until 31 April 2017. 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, it takes 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.

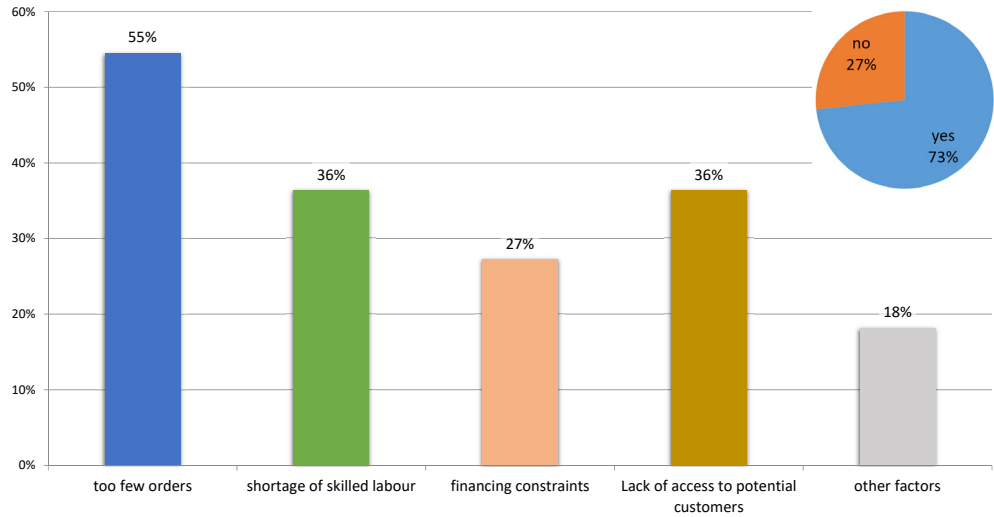
More than one third of the companies in the European machine tool sector, measured as net percentage, reported a good business situation. This value is slightly better than the one obtained in the previous Barometer last year. This broadly unchanged assessment of the companies' performance becomes a bit more cautious outlook, once looking ahead for the demand in January-March 2017, compared with the views expressed in November. Nonetheless, the projections are still quite positive and the predictions of the demand have improved in Germany in recent months. Moreover, the forecasts on exports during the first quarter ameliorated.

The net percentage of companies expecting the demand for their products to increase was 14%, versus 30% in the previous months. For its part, the estimates on the production for the same period moderately weakened from 41% to 24%, and the index of companies stating to have too few orders decreased from 62 in April to 55 late last year and, more importantly, to 31% in January 2017. Furthermore, it seems greater the role of foreign demand: the net percentage of businesses that are optimistic about their exports improved to 22% in the first quarter this year. On the other side, the overall level of employment is projected to move upwards, but at a slower pace than predicted at the end of last year: a net percentage of 18% informed about plans of increasing the company staff, versus 34% in the November edition of this survey. Just a marginal percentage of respondents expressed plans of reducing its labour force. In this respect, it is worth to mention that more than half of participants found their company limited by shortage of skilled labour. Concerning the companies' current rate of operation as a percentage of full (100%) capacity, half of them are operating 70% or 80% -one third of managers surveyed reported a rate of operation of 80%-, 15% is at full capacity and more than one tenth is working overtime.

In general terms, it can be concluded that the trend and sentiment in the machine tool sector remain positive, and some improvements in some of these indicators can be reasonably expected in the coming months. From a market perspective, once again, Europe confirms its prominent place of European MT trade, but the survey also reveals that MT companies in the old continent are confident that their sales in Asia and Americas will increase in the short term.

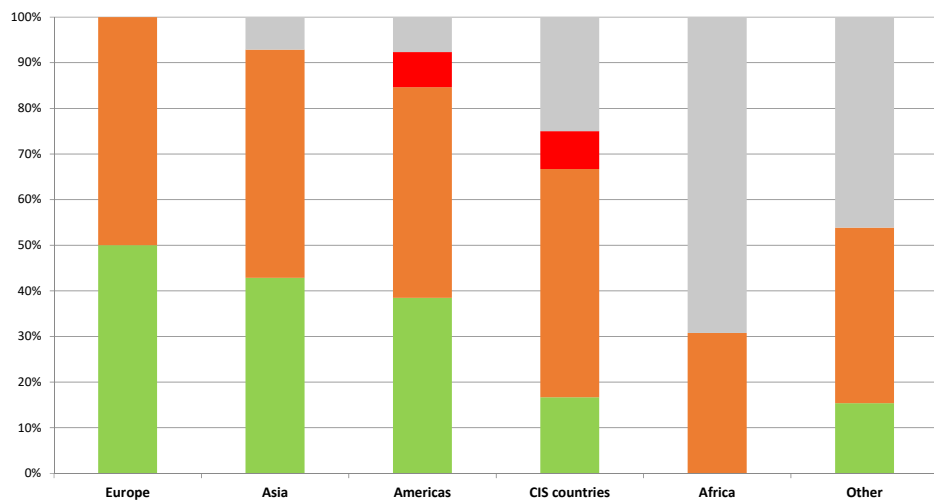
*See graphs on next page*

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



■ we do not export to the region  
■ decline  
■ remain about the same  
■ increase

**We expect our exports to different regions develop as follows:**







# cecimo Business Climate Barometer



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

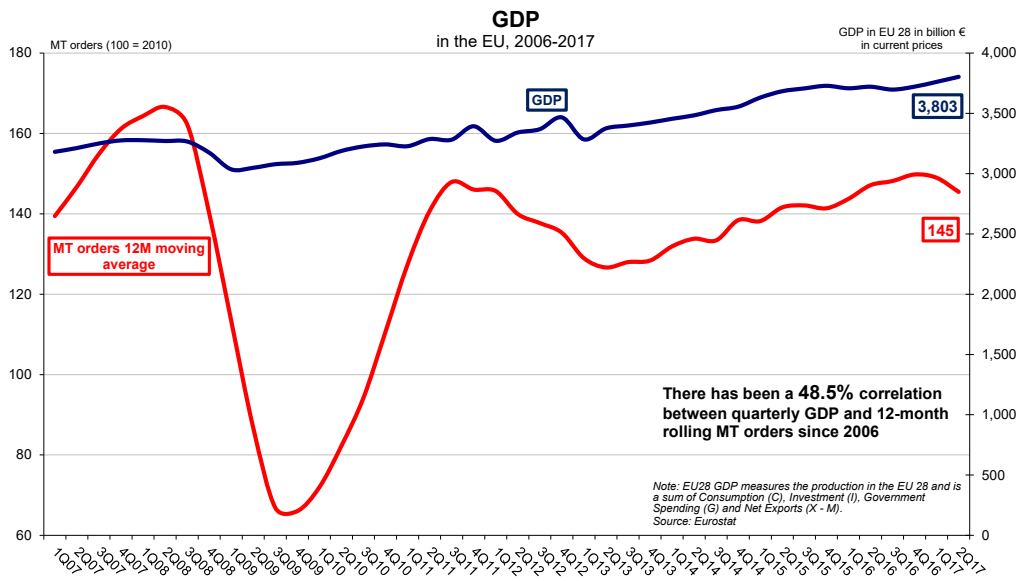
### ▲ 2.1 GDP

According to the IMF, the global economic activity is picking up with the long-awaited cyclical recovery in manufacturing and investment. The GDP growth is expected to increase from 3.1% in 2016 to 3.5% in 2017, extending its momentum into the third quarter. It is likely that the economic activity rebound would perpetuate in the near future. So far, the world growth for the second quarter seems to be the strongest since the 2010 pickup after the financial crisis, although the increasing scepticism towards globalisation and immigration might constitute potential risks.

On an international perspective, Brazil proved to recover from its deepest economic recession and improved its GDP by 0.2%, after a 1% raise in the previous quarter, due to a positive shift in the private consumption. The Chinese GDP is likely to grow by 6.8% this year and 6.2% in 2018. It seems that the Chinese exports were weaker in August, because foreign demand is growing more timidly till the end of 2017. The potentially harming factors can be the uncertain US import policies from China and other major trade partners and the US infrastructure investment plans. The domestic demand is also expected to cool down because of the tightening and restructuring of the Chinese monetary policy. India registered a 1.6% GDP growth in the second quarter, slightly below the expectations, although this result is not due to domestic factors. However, the overall feeling is that the Indian economy is improving. Japan saw a 0.6% surge of GDP and is expected to reach a 1.7% and 1.6% growth in 2017 and 2018. A weaker yen is supportive towards exports and business investment. The Russian estimated data for the second quarter settles around +1.1% of GDP change and 2.5% in the year to year comparison for the same quarter. Despite the US sanctions bill against Russia, Russian economy outperformed the expectations in the short term. However, one shouldn't underestimate this bill, as it can impact the Russian's Central Bank monetary easing policy on a longer term.

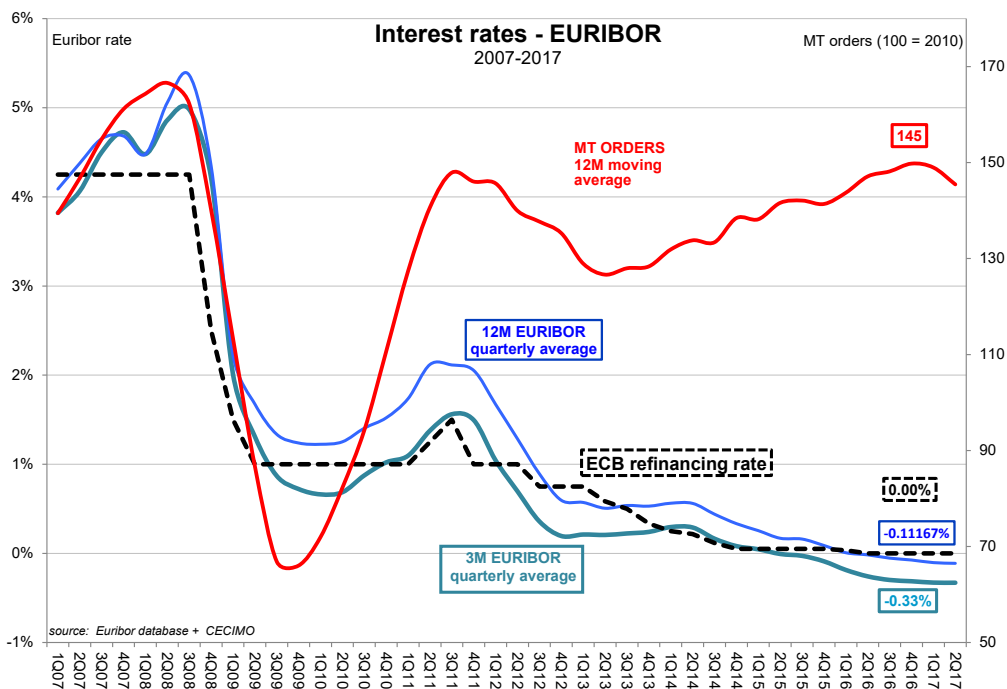
On the other side of the Atlantic Ocean, the US economy registered a 0.8% positive change in GDP. We can expect a deterioration of growth for the third quarter due to the natural catastrophes. Either way, the fiscal easing and the tax reform talks are prone to induce a 2.4% recovery after a balance sheet normalization in the fourth quarter of the year.

The second quarter of 2017 in the EU economy was marked by a 1.1% increase compared to the January-March period, and 2.2% to the April – June period in 2016. The Eurozone GDP improved by 0.6% in the second quarter, and, following the ECB's discussions on tapering the QE, is expected to moderate its momentum in the third quarter. Some economists fear a rising euro could make exports more expensive. For instance, at the beginning of September, the euro reached nearly an eight year high against the British pound. Nonetheless, the GDP forecasts remain at 2.2% and 1.9% growth for the Euro Area.



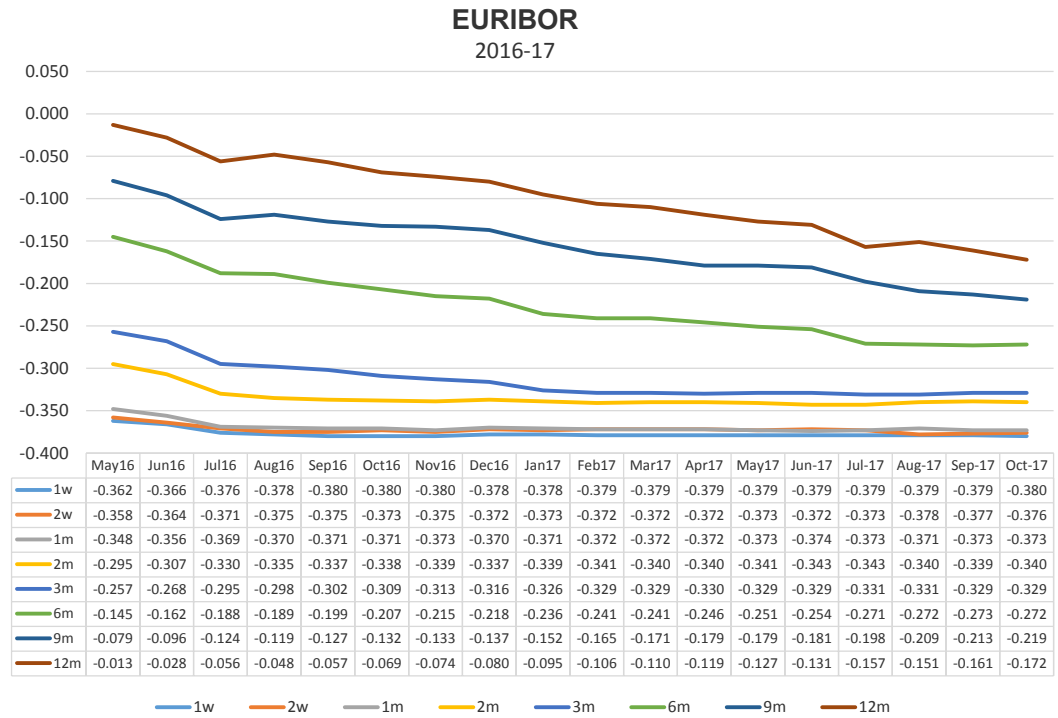
## ▼ 2.2 Interest rates – EURIBOR <sup>i</sup>

On the 7th of September, the Governing Council of the ECB decided to leave unchanged the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility at 0.0%, 0.25% and -0.4%. This decision intends to preserve the current levels for an extended period of time. The ECB's net asset purchases at the monthly pace of 60 billion euro will run at least until the end of December this year. Analysts confirm an unchanged medium-term outlook for the Euro Area economic growth and inflation. The first half of this year was marked by an economic expansion faster than expected and is likely to remain solid and broad-based across countries and sectors. The President of the ECB, Mario Draghi, though acknowledges that the recent exchange rate volatility might be a source of uncertainty, which will be, therefore, monitored and analysed.



Continued ►

The Euribor remains constant in 2017, but below its 2016 average of -0.26% (3 months maturity) and -0.03% (12 months maturity). In September, the three months average of Euribor replicated its level from June 2017, of -0.329%, but scored below the 3 months averages of July and August, of -0.331%. The 12 months average of the Euribor interest rate shifted from -0.131% in June to -0.161% in September, lower than in August (-0.151%) and lower than in July (-0.157%). Similar trends can be read for loans with other maturities, as in the figure below.

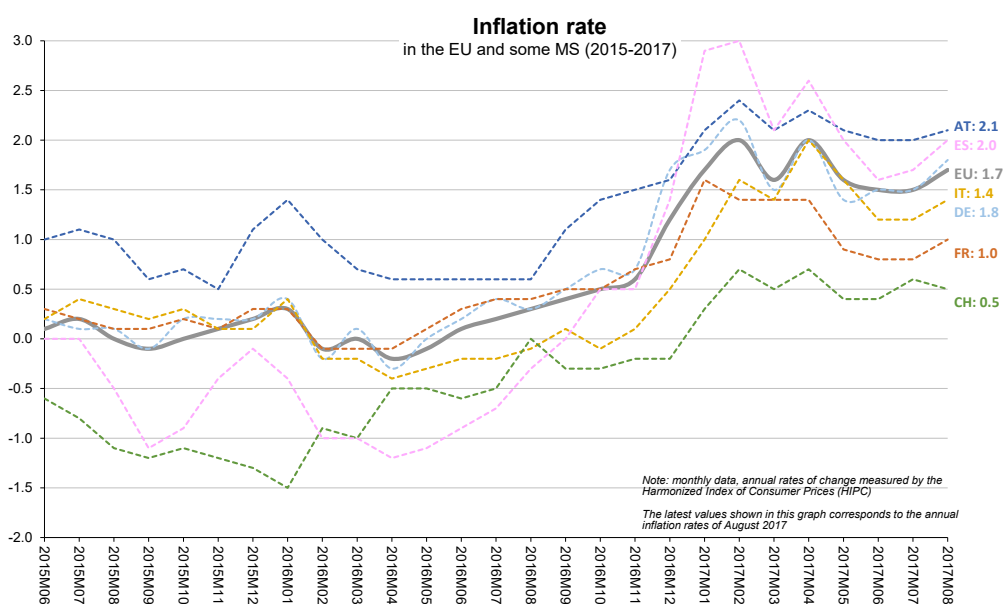
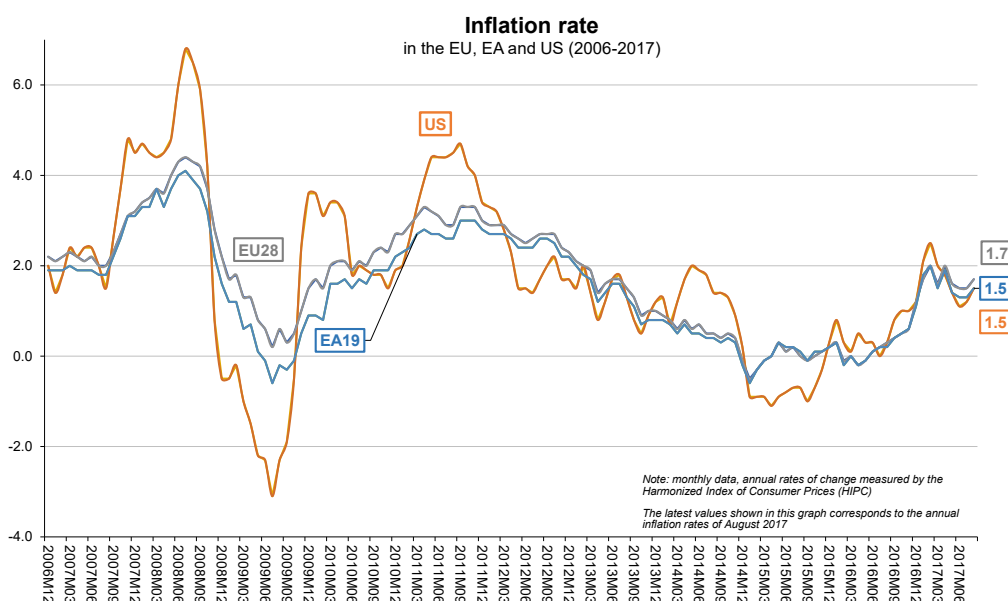


### ▲ 2.3 Inflation

The Euro Area annual inflation rate seems to stay at 1.5% in September, same as in August and up from 1.3% in July. In the European Union, the figure reached 1.7% in August, up from 1.5% in July. We shall recall that one year ago the rate was at 0.3%. The lowest rates were registered in Ireland (0.4%), Cyprus (0.5%), Greece and Romania (both at 0.6%). In contrast, the highest annual rates were recorded in the Baltics: Lithuania read 4.6%, Estonia 4.2% and Latvia 3.2%. Meanwhile, the UK has the highest inflation rate among the world's top economies (G7), the Euro Area, EU and the G20, escalating from 2.6% in July to 2.9% in August. The indicator is pointing at a worsening of living standards after Brexit. Hungary, on the other end is standing close behind with a 2.7% inflation rate, up from 2.2% registered in July, exceeding the region's average. Its rate is forecasted to reach the 3% level, that is considered by the Hungarian Ministry for National Economy to be "adequate and sustainable" in the first half of 2019. The production price indices in the EU saw a modest upward development, reaching 105.5 points in August from 105.2. Curiously, United Kingdom PPI exceeds the former and registers a level of 109.4 – the highest since December 2013.

The US marks a 1.5% inflation rate, the highest since April 2018. As for the production price index, in August it shifted to 107.44 points up from 106.92, almost replicating the 107.40 level in June.

The upward impacts to the EA result mainly from the fuels for transport (+0.16 percentage points), accommodation services (+0.10 pp) and air transport (0.06pp). The downward pressure, in contrast, comes from telecommunication (-0.12 pp), vegetables (-0.05pp) and social protection (-0.04pp). Overall the European annual inflation is catching up after a drop at the beginning of the third quarter, but hasn't reached yet the prominent levels registered in February and April this year. Below you can see the monthly inflation rate developments in the EU, EA and US.



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

The industrial sector is the largest economic activity in the EU. It accounts for 16% of the total gross value added (17% in the EA), while the share of the Gross Value Added of manufacturing in the world is just over 14%. It generates 24% of Gross Domestic Product and 20% of employment. Since 2012, the value of industrial production sold in the EU hasn't stop to grow. The machinery and equipment production grew by 0.7% in 2016, which is an improvement, compared to the negative change of -0.2% in 2015.

In the 2008-2015 time span, we see an important employment growth in the high-tech sectors, especially in Switzerland (+2.5%). Other CECIMO countries employ more personnel, between 1.0% and 1.5% over the last 6 years. This is the case for Sweden, Austria, Czech Republic, Portugal and UK. Altogether, the employment in advances manufacturing represented 37% of the total manufacturing workforce.

The annual change rate for the total industrial production was 1.4% in 2016 for the EU and 1.3 for the Euro Area (EA). The top 2016 European performers were Slovenia (+6.6%), Latvia and Croatia (both +4.9%), while, among the CECIMO members, Czech Republic (+2.3%) and Finland (+2.2%).

On a month-to-month analysis from July to August 2017, the industrial production improved by 1.7% in the EU and by 1.4% in the EA. Comparing August 2016 with August 2017, the EU registered a 3.9% growth and the EA 3.8%. These positive developments in the EA are due to a rising of the production of capital goods by 3.1%, durable consumer goods by 1.3%, intermediate goods by 1.2% and energy by 0.2%, while production of non-durable consumer goods remained stable. Similarly, in the EU the production of capital goods rose by 3.2%, durable consumer goods by 1.2%, intermediate goods by 1.0%, energy by 0.7% and non-durables by 0.4%. Czech Republic and Portugal registered the highest growth of industrial production in August, +14.3% and +4.7% accordingly, while other members diminished their total industrial production as follows: the Netherlands (-2.3%), Sweden (-1.8%), France and Finland (both -0.4%). The Netherlands equally recorded a -1.8% decrease on an annual comparison.

### Industrial Production

(percentage change compared with the previous month)

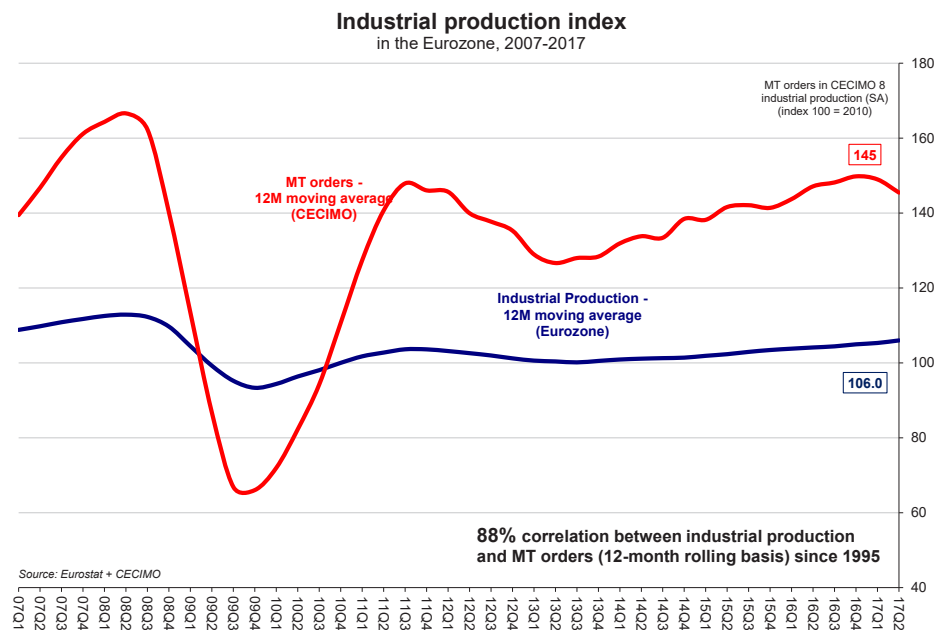
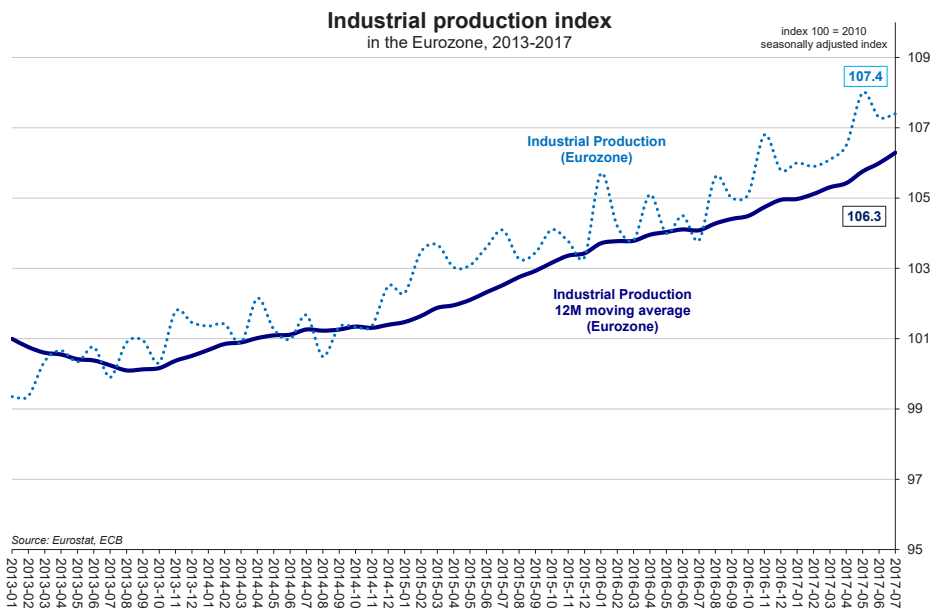
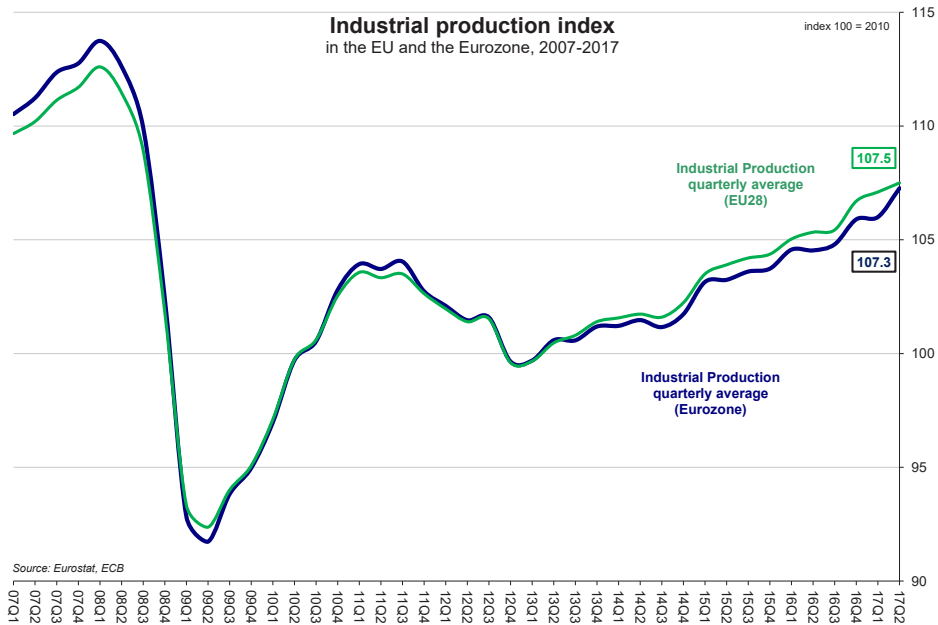
	EA			EU28		
	Jun17/ May17	Jul17/ Jun17	Aug17/ Jul17	Jun17/ May17	Jul17/ Jun17	Aug17/ Jul17
<b>Total industrial production</b>	<b>-0.60%</b>	<b>0.10%</b>	<b>1.40%</b>	<b>-0.50%</b>	<b>-0.30%</b>	<b>1.70%</b>
Capital goods	-1.90%	0.80%	3.10%	-1.50%	0.40%	3.20%
Durable consumer goods	-1.20%	0.70%	1.30%	-0.80%	0.20%	1.20%
Intermediate goods	-0.30%	0.50%	1.20%	-0.40%	0.40%	1.00%
Energy	1.80%	-1.20%	0.00%	1.40%	-1.10%	0.70%
Non-durable goods	-0.40%	-0.40%	0.0%	-0.30%	-0.60%	0.40%

### Industrial Production

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

	EA			EU28		
	Jun17/ May17	Jul17/ Jun17	Aug17/ Aug16	Jun17/ May17	Jul17/ Jun17	Aug17/ Aug16
<b>Total industrial production</b>	<b>2.60%</b>	<b>3.20%</b>	<b>3.80%</b>	<b>2.90%</b>	<b>3.10%</b>	<b>3.90%</b>
Capital goods	1.60%	4.30%	4.90%	2.40%	4.60%	5.50%
Durable consumer goods	4.00%	5.70%	3.60%	4.20%	5.00%	3.60%
Intermediate goods	3.80%	4.80%	5.30%	3.90%	4.80%	5.30%
Energy	5.10%	1.20%	-0.70%	3.70%	0.10%	-0.40%
Non-durable goods	0.60%	-0.50%	2.40%	1.50%	-0.40%	2.30%

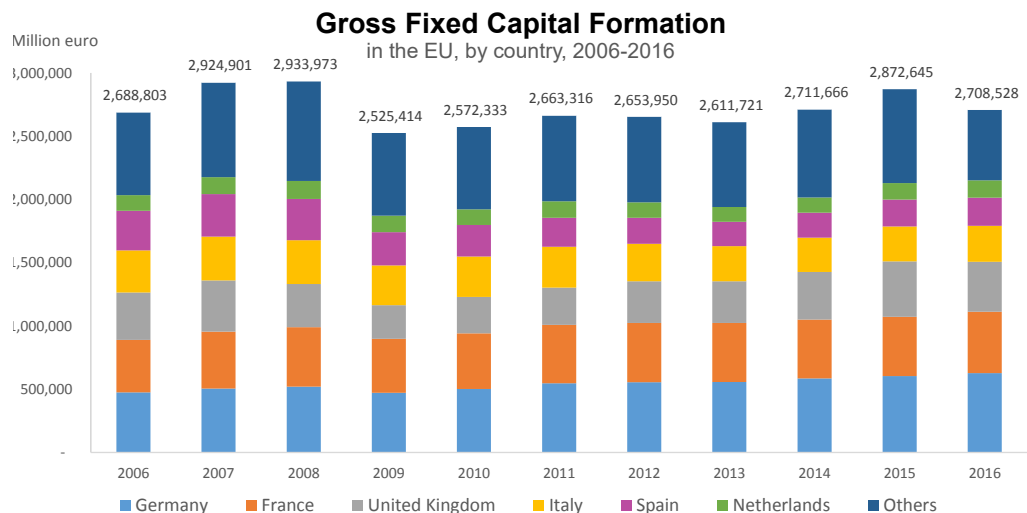
Source: Eurostat



## ▲ 2.5 Gross Fixed Capital Formation <sup>①</sup>

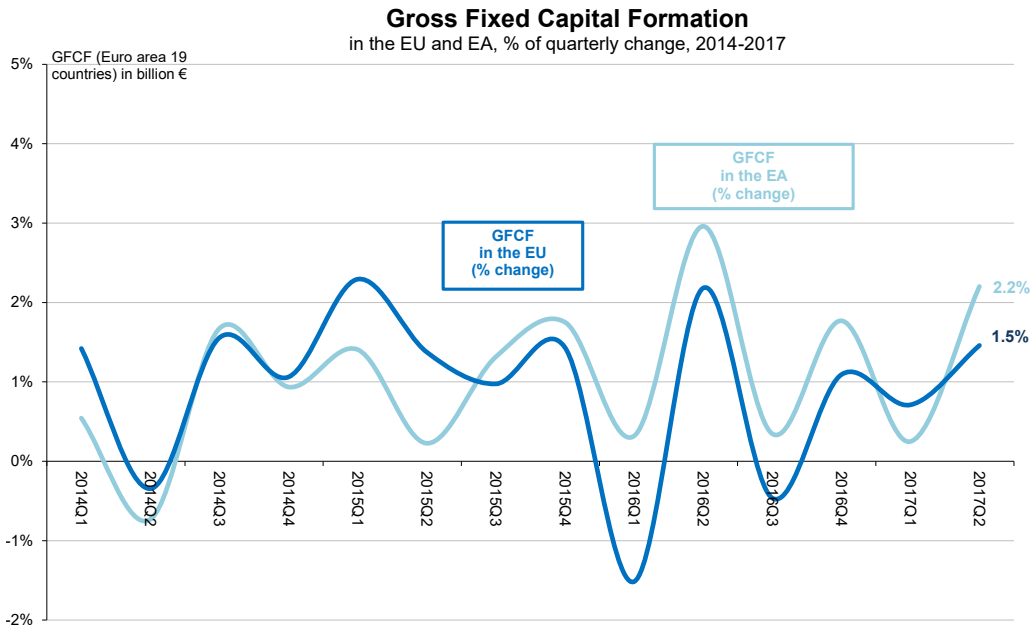
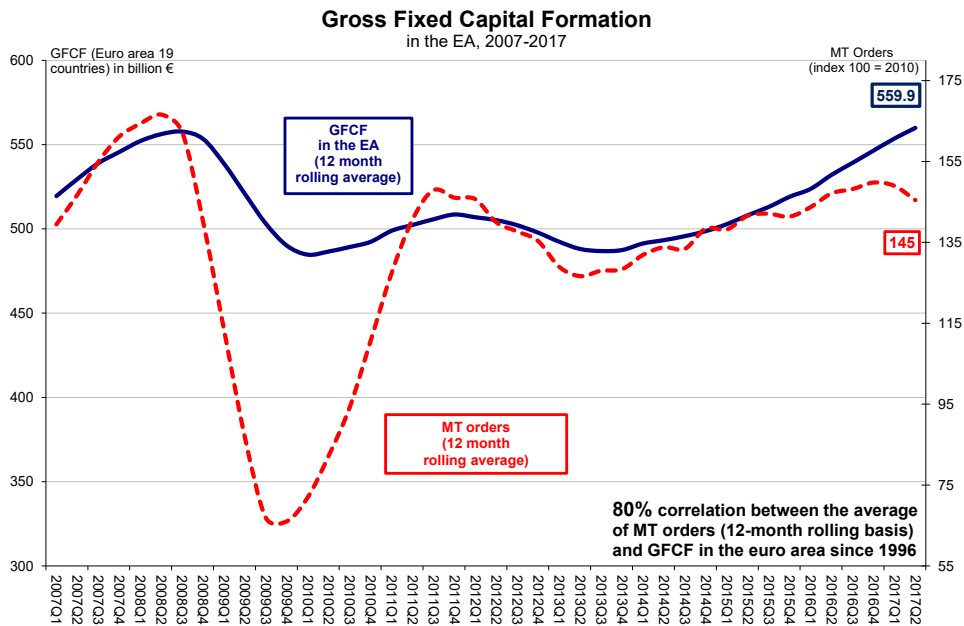
The Gross Fixed Capital Formation (GFCF) in the EU machinery sector accounted for 6.2% of the total GDP (versus 6% in 2015). In the second quarter of 2017, the EA GFCF registered a change of +2.2%, in comparison with the period January-March 2017, quite up after the less significant growth of +0.2% in the first quarter. Compared to the same quarter last year, the GFCF improved by 4.6%. For the EU28, the indicator marked a 1.5% increase in the second quarter of 2017, up from the 0.7% hike in the first quarter and 2.8% higher than the second quarter of 2016. This is a positive sign for the machine tool builders in times of an unclear picture on the demand side for CECIMO-based businesses, given that the indicator is strongly correlated to the MT orders since 1996, by 80% to be precise. Other key indicators in the Euro Area are equally positive in the second quarter. The household final consumption expenditure grew by 0.6% compared to the previous quarter and by 3.2% compared to the same period in 2016. Similarly, the government final consumption expenditure improved by 0.6% quarter to quarter and by 2.2% compared to 2016.

In the foreseeable future, the monetary policy continues to be accommodative enough, despite the small uncertainties regarding the exchange rates. The interest rates will remain unchanged until December 2017, or longer if needed.



In the European Union, the largest investors in 2016 were Germany (627 billion), France (486 billion) and UK (394 billion). Italy and Spain followed very close behind, with 284 and 222 billion respectively. 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%). Portugal and Greece came last in the ranking with 14.8% and 11.4% each.





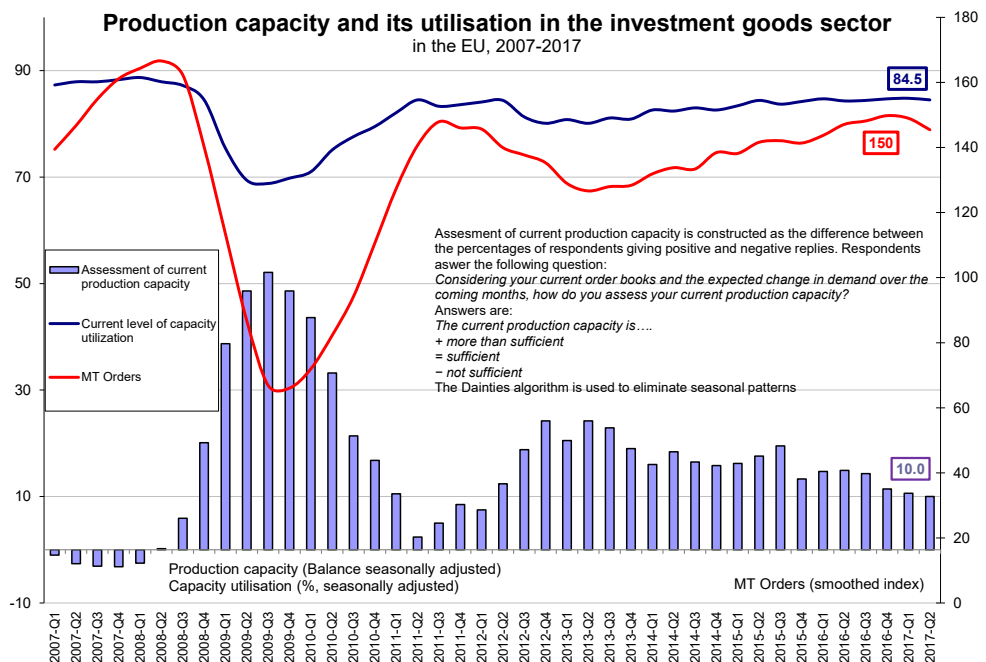
## ▲ 2.6 Capacity utilisation in the investment goods sector <sup>i</sup>

The capacity utilisation in the EU contracted 0.3 percentage points from 84.8 in the first quarter of this year to 84.5 in the second one. It is a little over the recording of one year ago (84.3), and just under the average pre-crisis levels (from 2000 to 2008: 84.7%). This reading occurs after an increase of this indicator for three quarters in a row: from 84.3% to 84.7% at the end of last year, and to 84.8% at the beginning of 2017. 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 beyond 44% in the period 1996-2017.

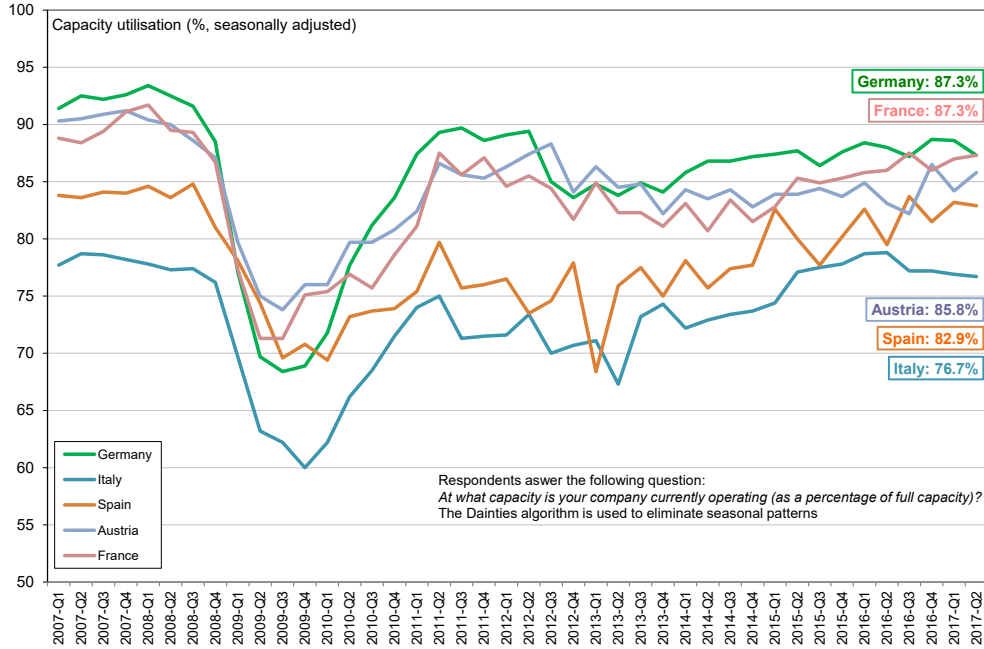
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The capacity utilization in the EA showed the same trend but accentuated: companies in the EA forecast that the capacity utilization during the second quarter will be 84.6%, while it was 85.2% at the beginning of the year. This fall and the value itself are almost identical to the ones registered a year ago in the Eurozone. Among all EU Member States, the business surveys conducted by the European Commission revealed that the highest capacity utilizations are in Slovenia (88.4% projected for April-June 2017, up from 83.7% % in the first quarter this year), Germany (87.3%, down from 88.6%), France (87.3%, up from 87.0%), United Kingdom (86.6%, up from 85.1%) and Austria (85.8%, up from 84.2%), while the weakest levels are in Greece (53.3%, down from 66.2%), Cyprus (61.1%, down from 63.6%) and Malta (65.0%, down from 81.8%). Italy, the second biggest producer of machine tools in Europe, marked a value below 77% (76.7, down from 76.9).

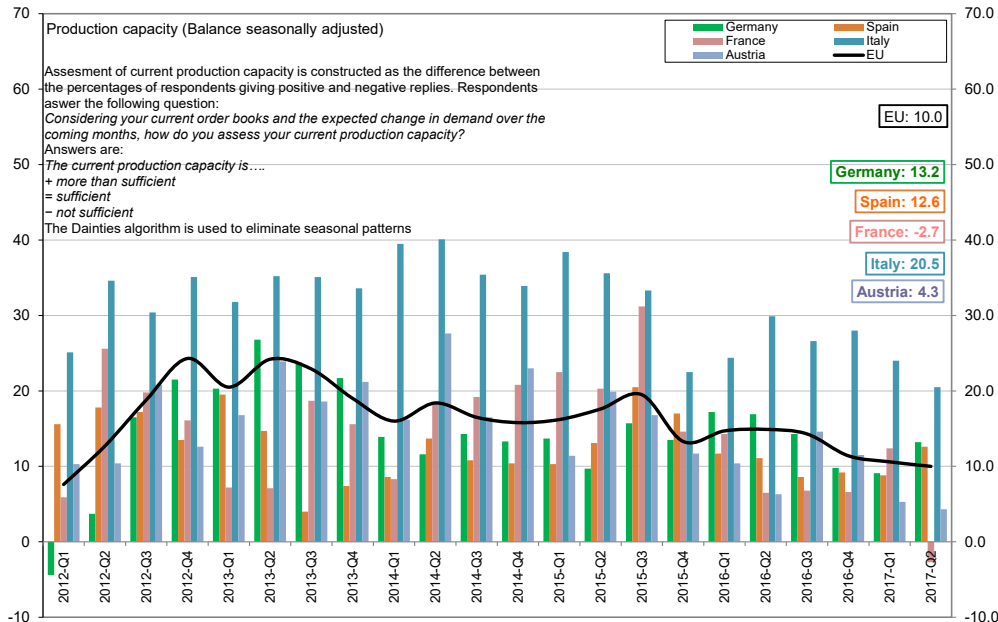
According to preliminary data, the Federal Reserve announced a 1.04% decline of capacity utilisation for industrial production in August, after the Hurricane Harvey. It reached a 76.1 percent of capacity, down from 76.9%, after a flat trend from April to June. Capacity utilization for manufacturing moved down 0.3 percentage points in August and touched 75.3 percent, a rate that is 3.1 percentage points below its long-run average. Utilization for durable manufacturing increased 0.2 percentage point to 74.5 percent, while the operating rate for nondurable manufacturing fell 0.7 percentage point to 77.2 percent. The operating rate for mining decreased 0.9 percentage point to 83.9 percent, and the rate for utilities fell 4.3 percentage points to 73.9 percent.



### Capacity utilisation in the investment goods sector of some top machine tools producers, 2007-2017



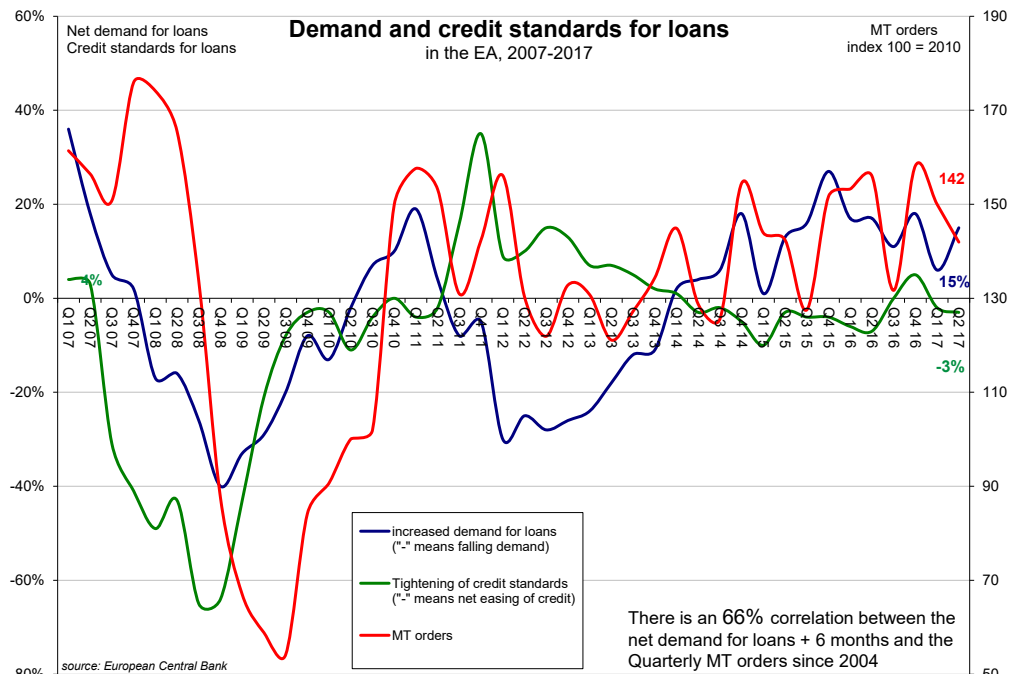
### Production capacity in the investment goods sector in the EU, 2012-2017



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

In the second quarter of 2017, the increasing demand across all loan categories and the easing credit standards on loans to enterprises and to households (for real estate purchases) continued the loan growth. In the second quarter of 2017, despite the expectations from the previous survey, the credit standards slightly eased in net terms from -2% down to -3%. Credit standards on loans to households equally eased to -4%, after -5% in the January-March period. As for the consumer credits and other lending to households, the credit standards recorded an insignificant but expected change of +1%, from the -7% registered in the previous quarter. For the third quarter of 2017, banks predict a net easing of credit standards on loans to enterprises (-2%), on loans to households for house purchase (-6%) and on consumer credit (-4%). The results are explained by the downwards pressure from competition and the easing of risk perception. As a matter of fact, the net percentage share of rejected loan applications decreased for loans to enterprises and for consumer credit, and remained broadly unchanged for house purchase loans.

The responding banks also note a further increase in net demand for loans to enterprises of 15% in the second quarter, up from the +6% change in the previous one and in line with the expectations from the first quarter survey. The increase is valid both for loans for SME's and for large firms. France, Germany, Italy and the Netherlands saw their net demand for loans enhanced, whereas Spain kept it stable. The improvement is mainly the result of a boost in the mergers and acquisitions activity and of the fixed investment in this quarter. In contrast, the fact that consumption switched to alternative finance had a dampening effect of -3% in the first and second quarter on the net loan demand. For the third quarter of 2017, banks expect a further increase in loan demand from enterprises of 17%.



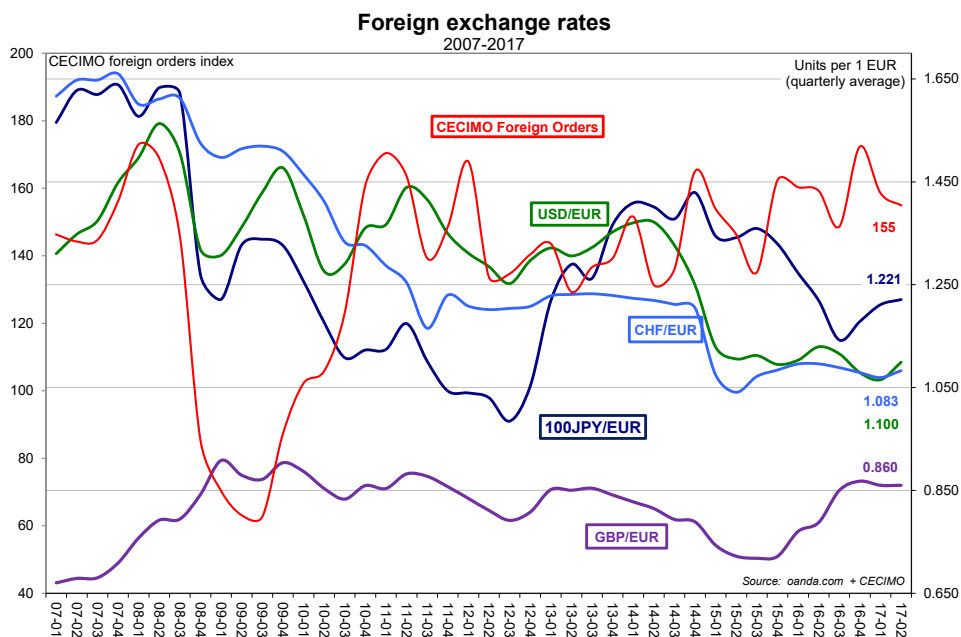
## ▲ 2.8 Foreign exchange rates

The Euro was slightly feebler in September, compared to August 2017, but showed a significant improvement since June and March. 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) turned around a level of 99.01 in September, which is 5.4% more than the levels in March, for instance. In trade-weighted terms, the EA currency appreciated by 1.9% in the period running from the 3rd of July to the 30th of September.

Looking at the euro evolution against other currencies from June this year, in September it reads a gain of 6% versus the Japanese yen, 6.2% versus the US dollar, 5.4% versus the Swiss franc, 2.2% vis-à-vis the British pound and 2.4% versus the Chinese renminbi.

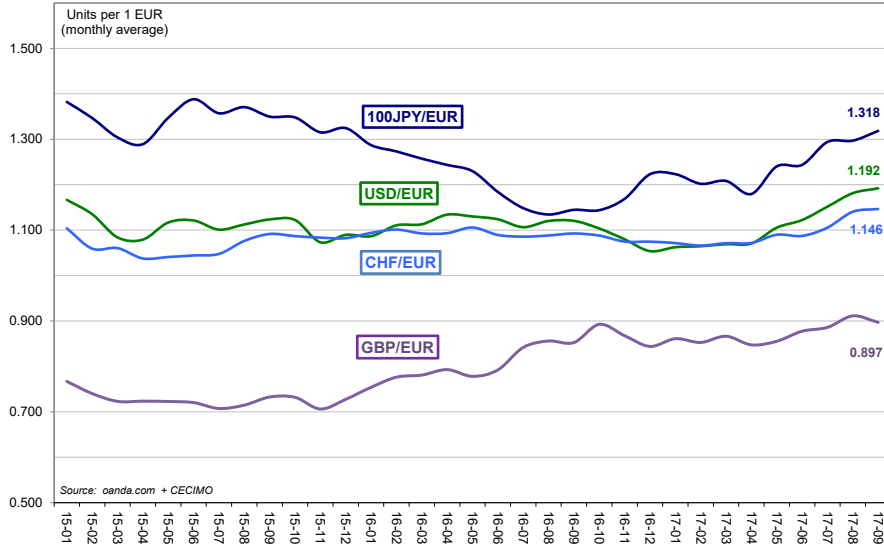
In nominal terms, the euro appreciated by 1.66% against the Japanese yen in September. On the US dollar and the Swiss franc, we see a monthly appreciation of 0.91% and 0.53%. However, the EA currency weakened against the British pound by 1.57%, after a 2.85% improvement in August.

Back in August, the US dollar was kept under pressure by political tensions and the stagnation of the tax reform. It hit its lowest level in more than two and a half years. But in autumn, the dollar looks stronger against the euro and the British pound. The reason for this is that the markets had low expectations for tighter monetary policy from the Federal Reserve and high expectations for more tightening from the European Central Bank. The good news for the Eurozone was the 0.3% rise of the producer price index in August (0.2% more than expected), but the political crisis in Spain and the upcoming elections in Austria and Italy, in a populist political environment, is putting downwards pressure on it. By the end of September, the dollar gained position against the euro, and the Fed is likely to rise the interest rate.

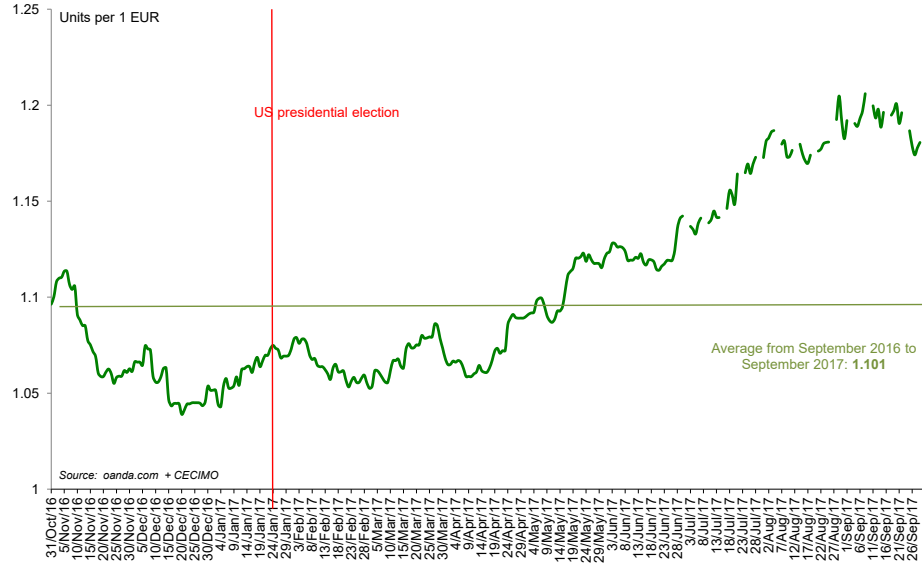


*See graphs on next page*

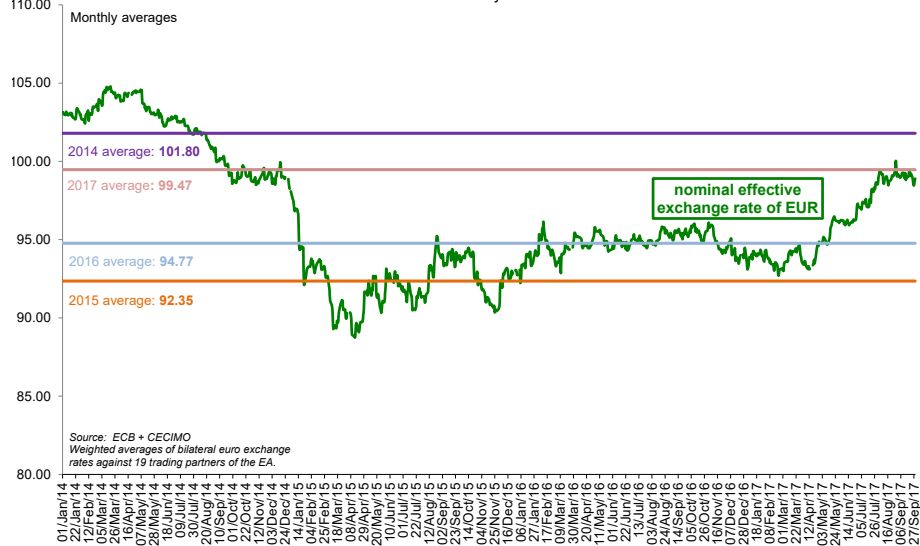
### Foreign exchange rates since 2015

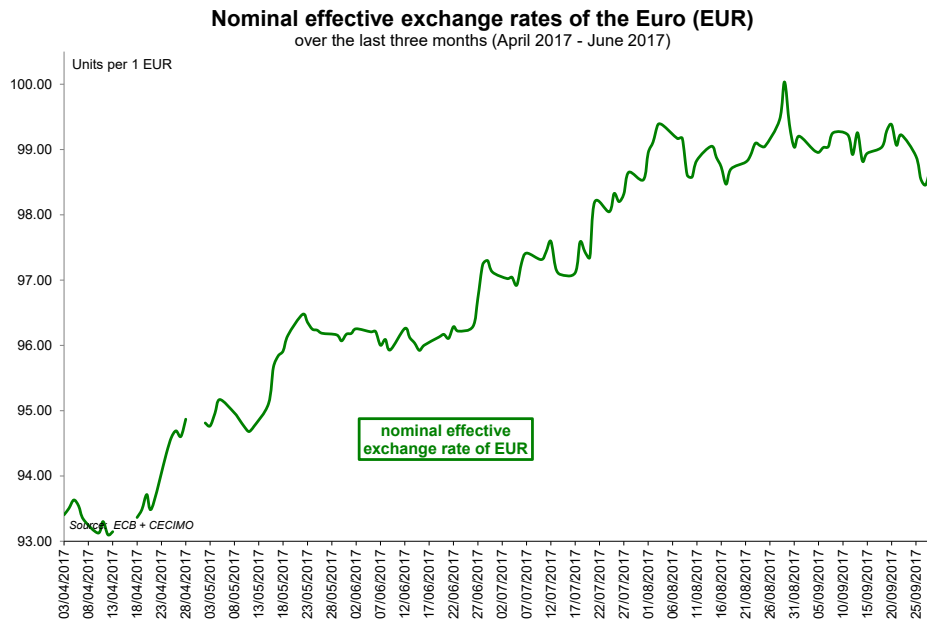


### Nominal exchange rates Euro (EUR) to US Dollar (USD) since October 2016



### Nominal effective exchange rates of the Euro (EUR) since January 2014





## ▲ 2.9 Industrial employment

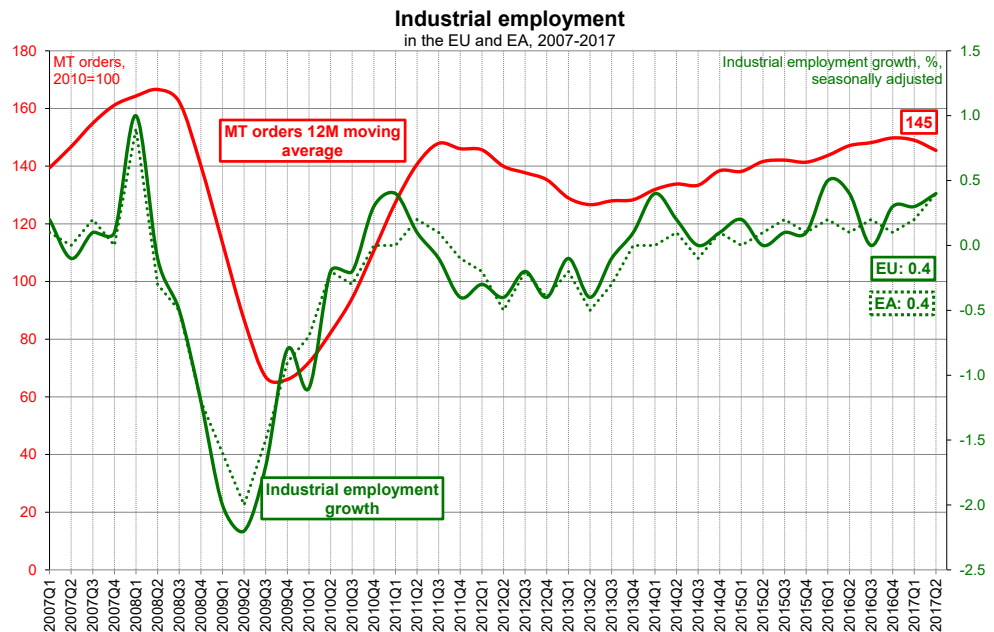
Employment grew by 0.4% both in the Euro Area and the EU28 in the second quarter of 2017. Compared to the same quarter in 2016, the increase equals 1.6% in the EA and 1.5% in the EU. According to Eurostat, 235.4 million men and women were employed in the European Union (155.6 million in EA), which is the highest level ever recorded in both areas. Among the Member States with the highest increases compared to the previous quarter, Spain recorded a 0.9% improvement in labour input, shortly followed by Poland with +0.8%. Note that the industrial employment growth has a 56.5% correlation with the adjusted MT orders since 2001, therefore it can be good news for the machine tool demand.

Overall the industry employment in the EU28 has seen a positive change since the last quarter of 2013, except for the third quarter of 2014 and 2016 where it stayed the same. The last three quarters of 2017 read a constant growth oscillating between 0.3% and 0.4%. In the Euro Area since the second quarter of 2015, the growth has been more balanced, between 0.1% and 0.2%, except for this quarter of 2017 when it registered its highest level of 0.4% since 2008.

Unemployment, though, stayed at 9.1% in the Euro Area, same as July 2017, but decreased compared to August 2016. In the EU it registered a 7.6%, slightly below the July rate of 7.7% and sensibly better than the 8.6% in August last year. This is the lowest rate that the EU recorded since November 2008. The member states with the lowest unemployment rates in August were Czech Republic with 2.9% and Germany with 3.6%, whereas Spain observed a non-negligible rate of 17.1%, down from 19.3% one year ago.

In the short-medium term, the general unemployment in the EA is expected to decline to 9.6% this year and just 9.1% in 2018, down from 10% in 2016. In the EU, the forecasted rate is 8% this year and 7.7% the next one, down from the 2016 value of 8.5%.

*See graph on next page*



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

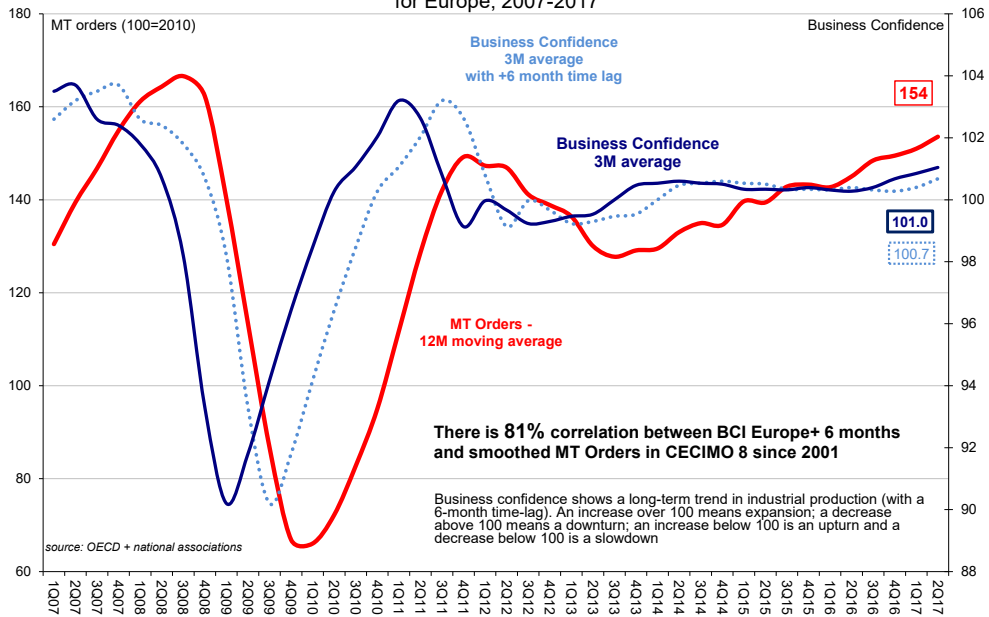
The Business Confidence Indicator reveals a positive growth in Europe and the Euro Area. In August 2017, OECD Europe reaches an indicator of 101.2, slightly below the 101.39 level of the Eurozone, and it has been growing at good pace since the little slow-down in August last year. As a matter of fact, the interannual growth represents 1.1% for Europe and 1% for Eurozone. Therefore, the growth cycle outlook seems to be stable and promising.

The composite leading indicator (CLI) attests a flat monthly growth, but an interannual increase of 0.5% in the OECD.

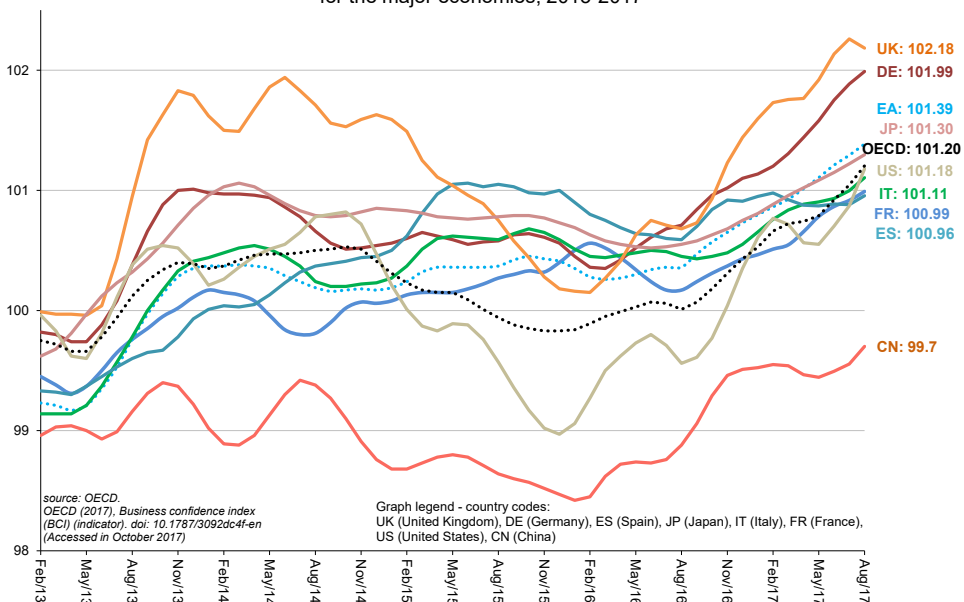
The UK scores above Germany, after losing some momentum in July. While Germany shows a strong uptrend, scaling up by 1.3% from August 2016. The highest BCI indicator in the OECD is registered by Sweden with an absolute value of 103.2, marking an impressive growth of 3.1% since August 2016. Brazil reaches a 99.34 BCI, or a year-to-year BCI growth of 0.8%, revealing another sign of economic recovery. In the case of Russia, although its August BCI is bigger than Brazil's in absolute terms (100.99), it is 0.3% lower than the level of August last year. China has been catching up since August 2016, after a period of chaotic BCI levels between August 2015 and 2016, and hitting its highest records since May 2011.



### OECD Business Confidence Indicator (BCI) for Europe, 2007-2017

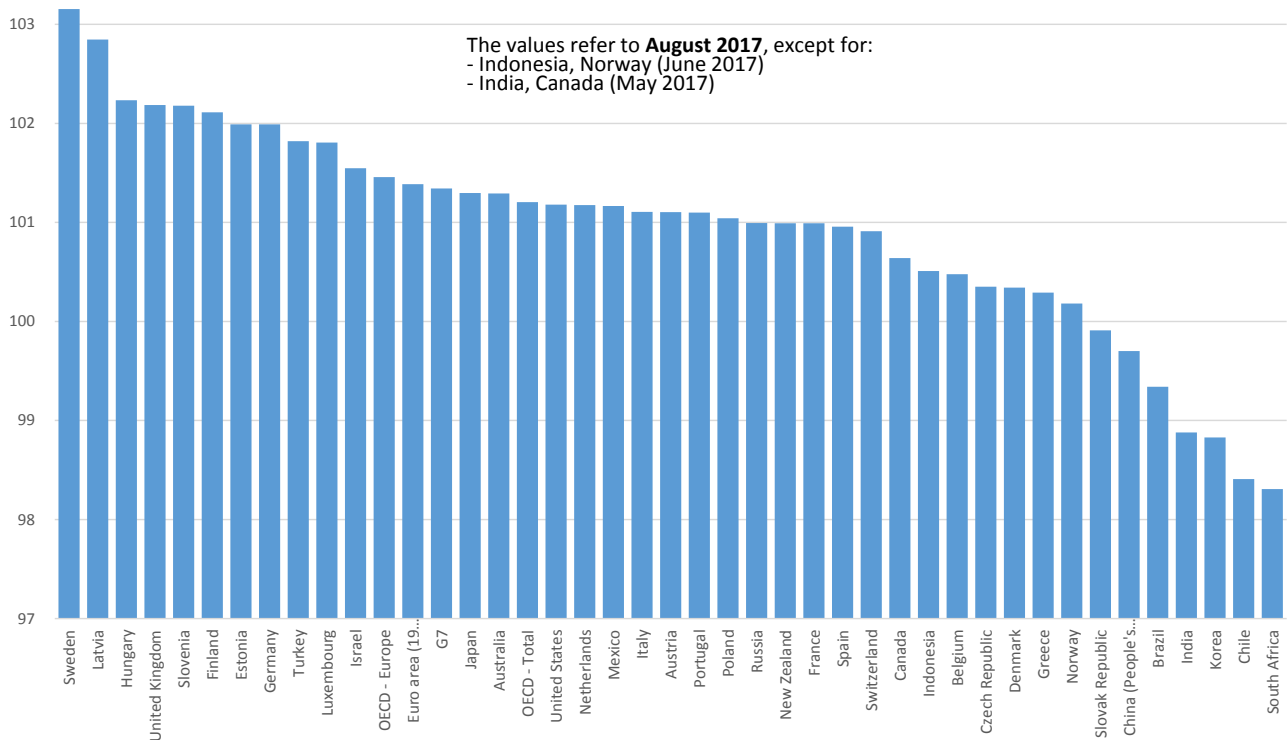


### OECD Business Confidence Indicator (BCI) for the major economies, 2013-2017



See graph on next page

### OECD Business Confidence Indicator (BCI) for the major economies, 2017

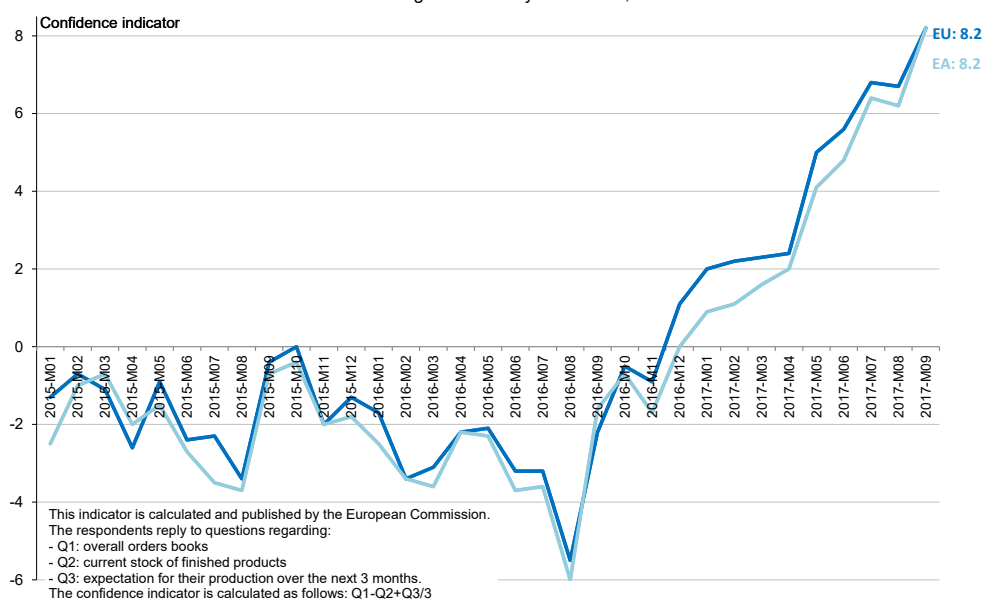


## ▲ 2.11 European Commission Economic Sentiment Indicator <sup>i</sup>

In September, the Economic Sentiment Indicator (ESI) continues in the upward trend seen since autumn last year, increasing by 1.1 points in both the Euro Area and the EU to levels last seen in the summer of 2007 (113.0 points in both regions). Euro Area sentiment relies on higher levels of confidence in industry, retail trade and construction, although EA managers reported rather unchanged appraisals in industry. Among the largest non-EA economies, Poland attained an imposing result of +2.1, whereas the UK settled with 0.4 points less.

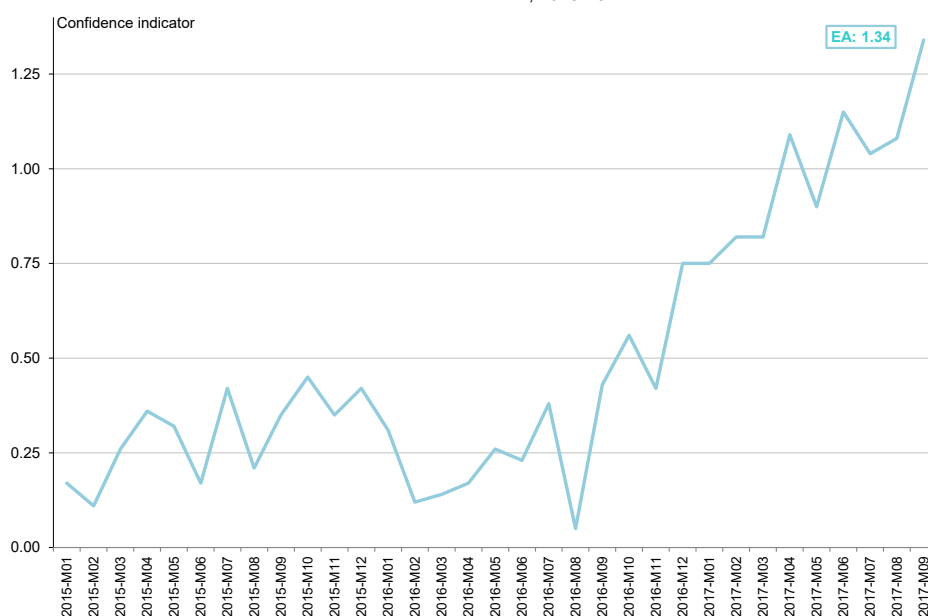
With regard to the investment goods industry subsector, the ESI continues to rise in the Euro Area and the EU, increasing by 1.5 points in EU and whole 2 points in EA, which have been the highest levels since the summer 2011. From December 2016, a positive trend emerged, revealing optimistic expectations for the business cycle. August 2017 slightly dropped to 6.7 from 6.8 in July for the EU and to 6.2 from 6.4 for the Eurozone. However, the sentiment of the economic operators considerably improved in September, sliding to 8.2 in both EU28 and EA19.

### Confidence indicator in the investment goods industry sub-sector, 2015-2017



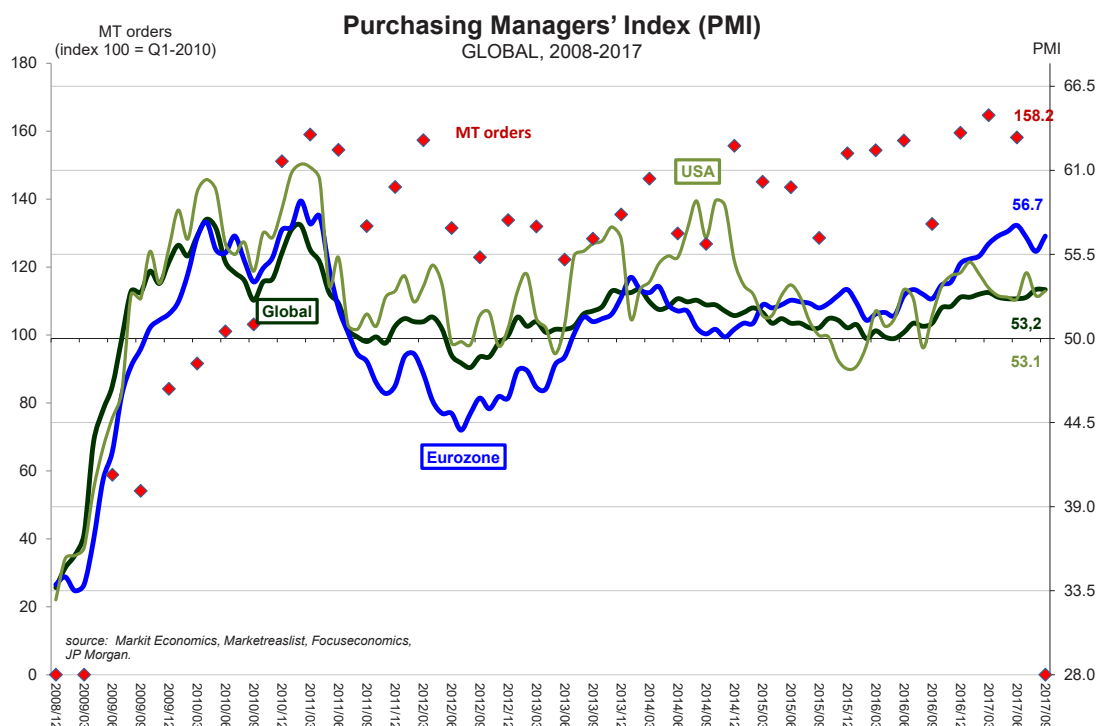
In September 2017, the Business Climate Indicator for the Euro Area increased by +0.26 points to +1.34, marking a solid growth momentum since summer 2017 and the highest pickup since beginning of 2011. The Managers' production expectations improved, together with the views on overall order books and, in particular, their appraisals of export order books, as well as past production. By contrast, the assessments of the stocks of finished products remained unchanged.

### Business Climate Indicator in the Euro Area, 2015-2017



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

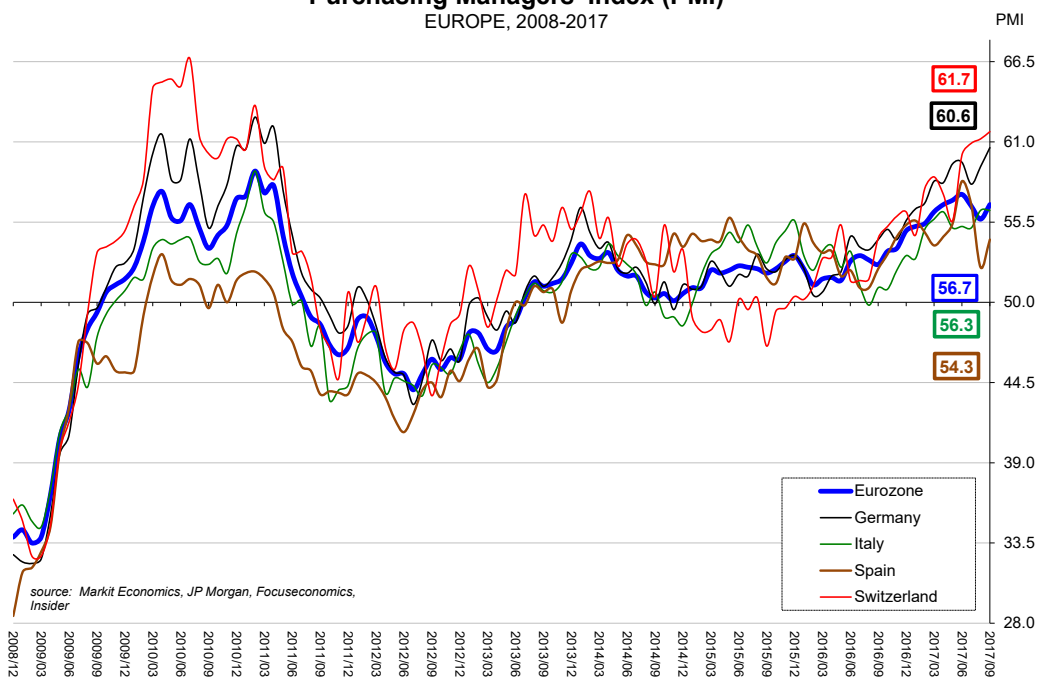
Purchasing Managers' Index (PMI's) is stable compared to August 2017. It settled high above the 50 points mark and has shown a growing trend since August last year. During the first quarter, the global PMI saw some decline, but caught up in the second quarter. The US PMI mirrored the trend, descending from an upper position at the beginning of the year, bouncing back at the end of the second quarter and settling at almost the same position as the Global PMI in September. Its PMI in September is 0.6% higher than in August and 3.1% higher than September last year. The Eurozone PMI registered a constant growth in the last 3 quarters, slightly dropping in August and catching up faster than US. Since the fourth quarter of 2014, we witness a strong growth of the PMI.



In a country by country analysis, the highest PMI in absolute value was recorded by Switzerland (61.7), 1.1 points above Germany, which on its turn was 1.1 point above the Eurozone average. Spain saw an important downturn in August, but later doubled the Eurozone average recovery, reaching a 54.3 points value. Italy scored +2 points in September this year, but remained at the same level compared to August. Therefore, the Eurozone growth was mainly driven by Spain with an important increase of 3.6%, Germany with +2.2%, and France with a 1.8% improvement compared to the previous month. In contrast, Czech Republic and Austria registered a negative growth of 3.0% and 2.8% respectively.

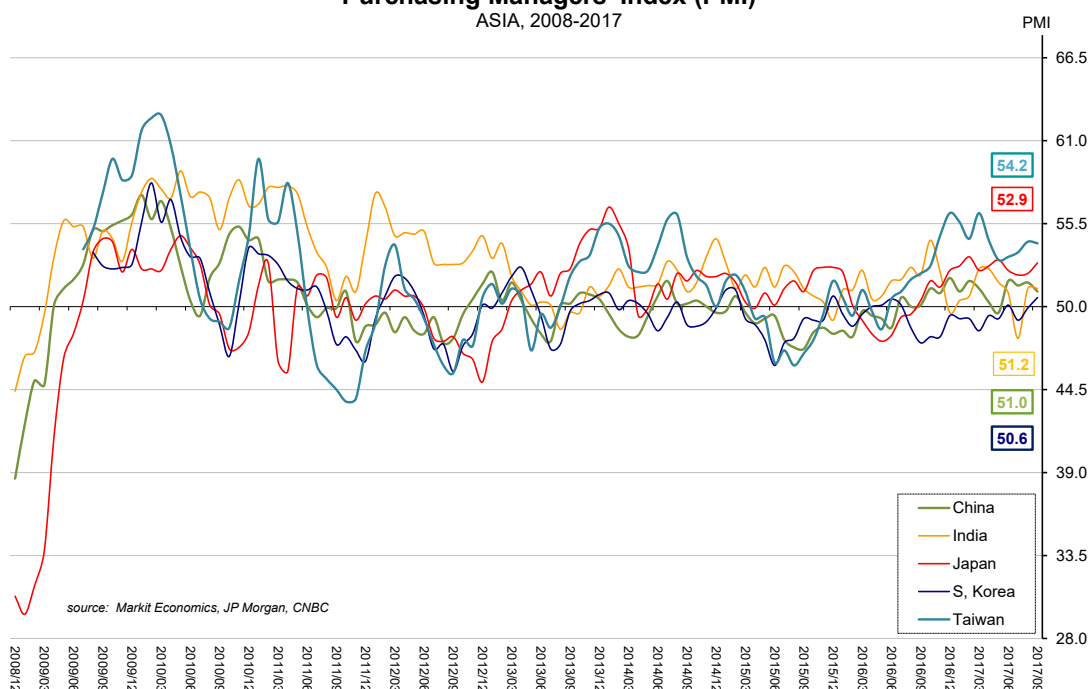
Nevertheless, on a year-to-year basis, all the above-mentioned countries witness substantial upturns in the PMI. The best performing countries are France (15.1%), the Netherlands (12.4%) and Germany (11.6%) in the Eurozone. Whereas Spain and Czech Republic recorded moderate growth rates of 3.8% and 5.6%. Outside the Euro Area too, the picture is contrasted. Switzerland improved its PMI by 13.4%, whereas UK by only 0.7%. The good news for the Eurozone is that its economy is gradually improving, given the recovery in the manufacturing activity. The outlook of the demand and the business climate are revamping. Production volumes rose at a faster pace in August 2017, in line with the new business orders and export orders. The employment growth also rose faster.

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



At international level, China saw a 1.2% decline. Taiwan's PMI marked 54.2 points, or 0.2% below its previous month's score. Canadian PMI also diminished by 0.7% compared to August. Meanwhile, Japan and South Korea had a similar growth rate of 1.3% and 1.4% each. Note that on a year-to-year basis, the Asian PMI growth rates are far below the Eurozone average. South Korea, for instance, marks a 6.3% raise since September 2016. Japan, Taiwan and China scored 5.0%, 3.8% and 1.8% more than last year, while India replicated its score of August 2017 but lowered its PMI by 1.7% compared to September 2016.

### 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/>

The deposit facility rate is the one the banks receive for depositing money with the central bank overnight.

The so-called main refinancing rate, minimum bid rate or rate for the main refinancing operations (MROs) is the interest rate which banks do have to pay when they borrow money from the ECB for a period of one week.

## 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, comprises 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 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 in association with ISM and IFPSM 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)

## **ECB**

European Central Bank

## **Fed**

Federal Reserve (System), the US Central Bank

## **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

# CREDITS

**CECIMO**  
**Economic and Statistical**  
**Toolbox**

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**Austria: FMTI**  
Fachverband Metalltechnische  
Industrie  
[www.fmti.at](http://www.fmti.at)

**Belgium: AGORIA**  
Federatie van de Technologische  
Industrie  
[www.agoria.be](http://www.agoria.be)

**Czech Republic: SST**  
Svazu Strojírenské Technologie  
[www.sst.cz](http://www.sst.cz)

**Denmark: The Manufacturing Industry**  
a part of the Confederation of Danish  
Industry  
[ffi.di.dk](http://ffi.di.dk)

**Finland: Technology Industries of  
Finland**  
[www.teknologiateollisuus.fi](http://www.teknologiateollisuus.fi)

**France: SYMOP**  
Syndicat des Entreprises de  
Technologies de Production  
[www.symop.com/fr](http://www.symop.com/fr)

**Germany: VDW**  
Verein Deutscher  
Werkzeugmaschinenfabriken e.V.  
[www.vdw.de](http://www.vdw.de)

**Italy: UCIMU**  
Associazione dei costruttori Italiani  
di macchine utensili robot e  
automazione  
[www.ucimu.it](http://www.ucimu.it)

**Netherlands: FPT-VIMAG**  
Federatie Productie Technologie /  
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[www.fpt-vimag.nl](http://www.fpt-vimag.nl)

**Portugal: AIMMAP**  
Associação dos Industriais  
Metalúrgicos, Metalomecânicos e  
Afins de Portugal  
[www.aimmap.pt](http://www.aimmap.pt)

**Spain: AFM - Advanced Manufacturing  
Technologies**  
Asociación española de fabricantes  
de máquinas-herramienta, accesorios,  
componentes y herramientas  
[www.afm.es](http://www.afm.es)

**Sweden: MTAS**  
Machine and Tool Association of  
Sweden  
[www.mtas.se](http://www.mtas.se)

**Switzerland: SWISSMEM**  
Die Schweizer Maschinen-, Elektro-  
und Metall-Industrie  
[www.swissmem.ch](http://www.swissmem.ch)

**Turkey: MIB**  
Makina Imalatçilari Birliği  
[www.mib.org.tr](http://www.mib.org.tr)

**United Kingdom: MTA**  
The Manufacturing Technologies  
Association  
[www.mta.org.uk](http://www.mta.org.uk)

# cecimo

is the European Association representing the common interests of the Machine Tool Industries globally and at EU level. We bring together 15 National Associations of machine tool builders, which represent approximately 1300 industrial enterprises in Europe (EU + EFTA + Turkey), over 80% of which are SMEs. CECIMO covers 98% of total Machine Tool production in Europe and about 36% worldwide. It accounts for almost 150,000 employees and a turnover of nearly €24 billion in 2016. Approximately 75% of CECIMO production is shipped abroad, whereas around half of it is exported outside Europe. CECIMO assumes a key role in determining the strategic direction of the European machine tool industry and promotes the development of the sector in the fields of economy, technology and science.