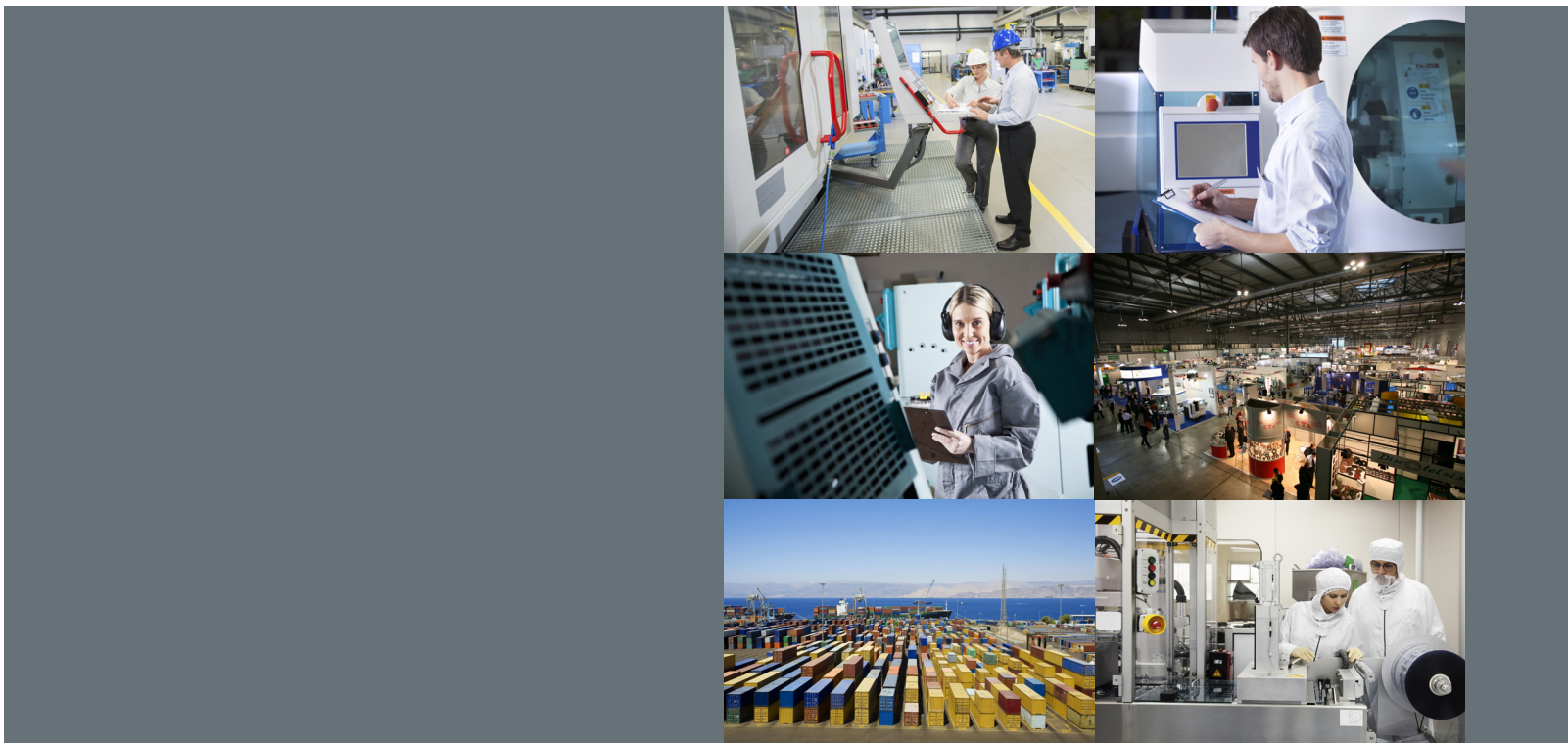


CECIMO Economic and Statistical Toolbox

November - December 2017




cecimo

European Association of
the Machine Tool Industries

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Introduction

Germany is going through interesting times as it could find itself in an unprecedented electoral situation and remain without a government. The country is at the heart of Europe's economic and trade engine: its electoral instability slightly impacted the euro, which recovered shortly after the news of another great coalition, and the economy might hit its best since 2011, after a 0.8% growth rate in the third quarter. The global economy is doing well. The economic growth acceleration supports the prices for metals. Chinese import appetite remains high and its economy is settling at a more stable growth trend, shifting from an investment-driven to a consumption-led growth model. This good news reflects into an extraordinarily optimistic economic sentiment in Europe.

The economic growth of Eastern European countries picked up in the third quarter driven by a rise in wages and, consequently, an increase in consumers spending. The gross domestic product of the region registered an acceleration in the third quarter, with tax cuts and wage hikes. Economic forecasts point to a more moderate growth in the upcoming quarters, as the wage rise will boost inflation, and foresee a tighter monetary policy as a response from central banks. Meanwhile, Western Europe has been raising concerns on Chinese investments in Eastern European infrastructure and related industries. Although significantly smaller than the EU structural funds, these capitals are warmly welcomed by recipients. For the Chinese, it means building a bridge to the EU. For the West, it's a potential dispute dividing Europe, while for the Eastern and Central European countries it is a sign of shifting economic focus from West to East.

The Chinese economic growth prospects on the medium-term are rather pessimistic, because of the stagnant economic reforms and the inability to control the rising debt levels, which have skyrocketed by 260% since 2008. The country is struggling to create higher-wage job opportunities for its middle class, to tackle economic crimes and corruption, and to reduce the environmental damage of their accelerated economic transformation. Its ambitious GDP targets for 2020 require a hardly sustainable 6.5% growth rate. The 13th Five-Year Plan aims at outgrowing its debt burden and underlines the necessity of structural reforms. Moreover, it aims at a better economic growth, meaning a more inclusive, environmentally friendly and open to foreign markets. Nevertheless, many agree that, in a financial sector heavily dominated by speculative investing and state influence, liberalization could worsen distortions. A better alternative for the debt problem would be deleveraging - transferring wealth from local governments to households -, so to avoid the precedents of lost decades of minimal growth, like in the Soviet Union (after 1967) and Japan (after 1990).

The Japanese government debt is also on the agenda of policy makers. The Prime-minister is expected to reappoint Haruko Kuroda as chief of the Bank of Japan to continue his aggressive monetary easing policy, through which they are hoping to end a 15 years old deflation. His massive asset buying programme launched in 2013 managed to bring the inflation at 0.5%, way below the 2% target. However, fertility support for an economic and demographic trend-setter in the advanced economies poses a big long-term challenge.

On the other side of the Pacific, business lobbies are trying to convince the US administration to save the NAFTA. The US propositions leave a window open to withdrawal possibilities, which is unacceptable for Canada and Mexico. In this picture, a UK-US post-Brexit trade deal is not likely to happen "very very quickly", as President Trump expected back in July. Theresa May, in the meantime, drew an industrial plan for Britain, to boost the country's disappointing productivity performance. The International Monetary Fund forecasted for UK a 1.5% growth in 2018, below the 2% rate of the world's advanced economies.

1. Data specific to the European machine tool market

1.1 CECIMO8 orders ^①

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.

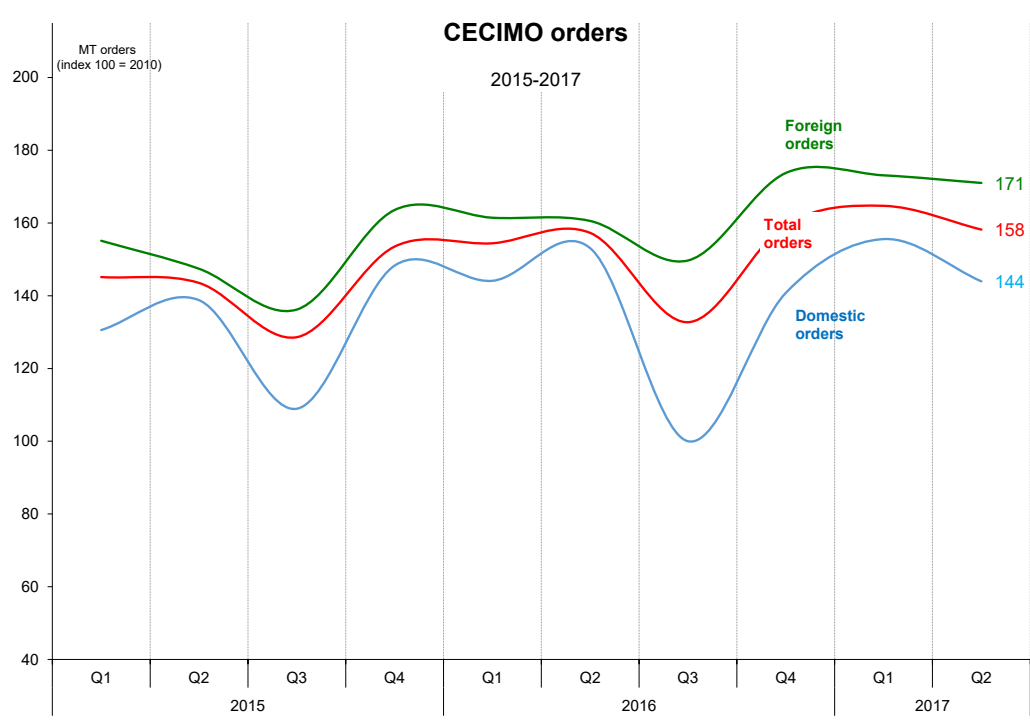
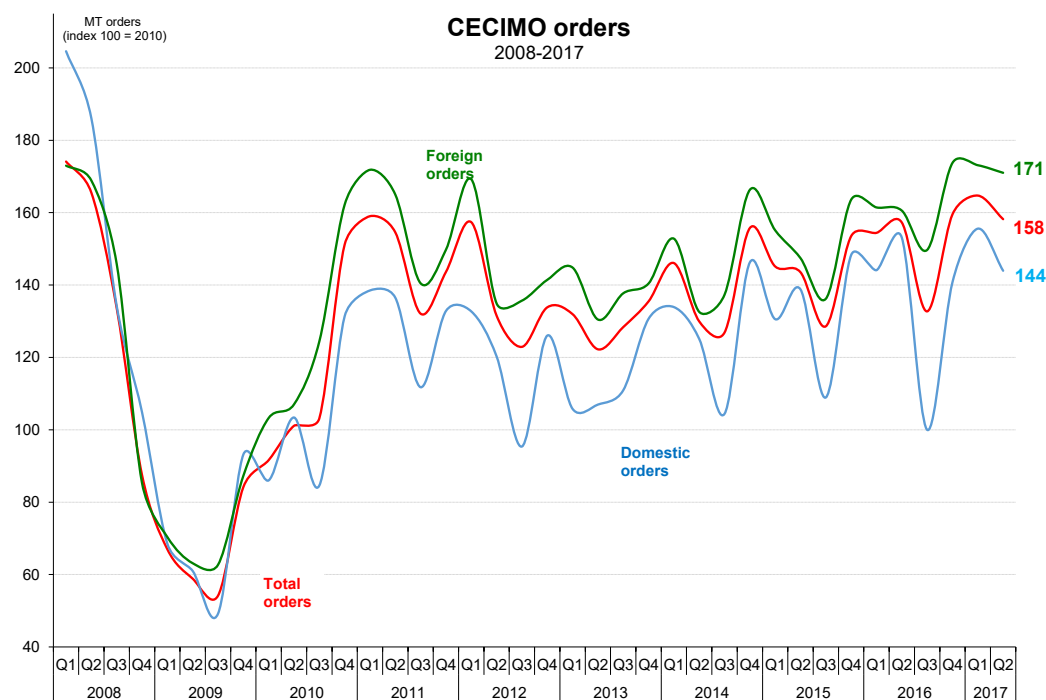
The UK received 20% more orders from abroad, while its domestic demand fell by 11%. It diverges with the Spanish case, where the domestic demand drastically fell by 37% and orders from abroad slightly increased by 6%.

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.

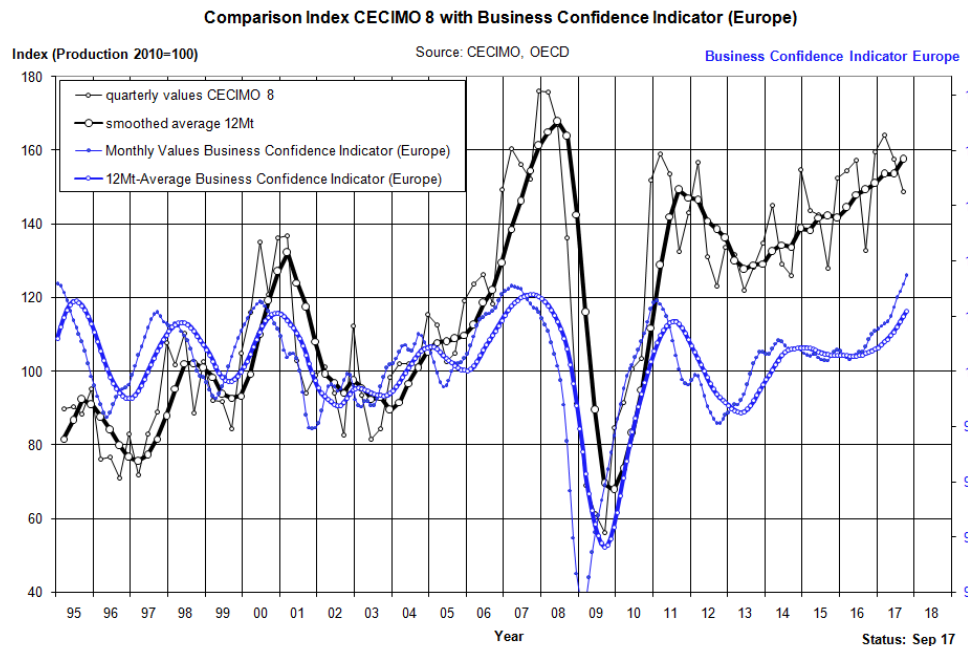
One should admit that our international counterparts note better levels of orders. Nevertheless, as we mentioned several times in our report, the MT activity is cyclical, therefore, we might expect a rebound of orders intake by the fourth quarter for the CECIMO8 based companies.



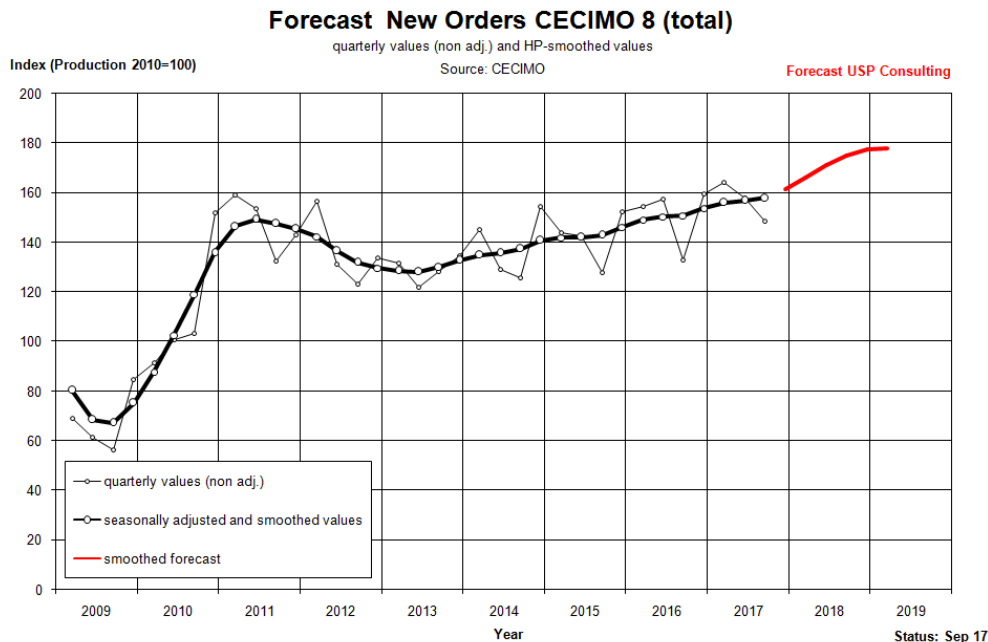
▲ 1.2 Peter Meier's forecast

The industrialized countries of the OECD are in high spirits. Consumer confidence in Europe has been recording its highest index level since 2008, while in US it hasn't been so high since 2000. The business confidence in the industrialized countries is at a level that has not been reached for a decade. Firm indicators, such as consumption and industrial production, also show a positive development in the OECD.

The Business Confidence Indicator in Europe has reached a record level, which we haven't seen in the past twenty years. And it is rising in all important world markets as well. This will most probably boost the demand for machine tools in the coming months.



In the emerging countries, the consumer sentiment is at its highest level in twenty years, although business confidence and industrial production are declining. China continues to grow at 6.5% per year, in line with its targets. However, India, despite its declining business confidence and industrial production, takes over China. Therefore, the current upswing is mainly supported by developed countries. The emerging economies register a rather robust economic growth and Europe has its replacement investments still pending. Consequently, the upturn will continue the next year, and will likely lose momentum in mid- late 2018.



CECIMO Forecast

The demand for machine tools will gradually grow in the coming months until it reaches its peak by the end of 2018. New orders in the 3rd quarter of 2017 registered a level lower than expected, due to seasonal effects. However, the order volume in this quarter is considerably higher than last year. The latest economic indicators stretched the expected upswing into 2019, where it will probably lose momentum.

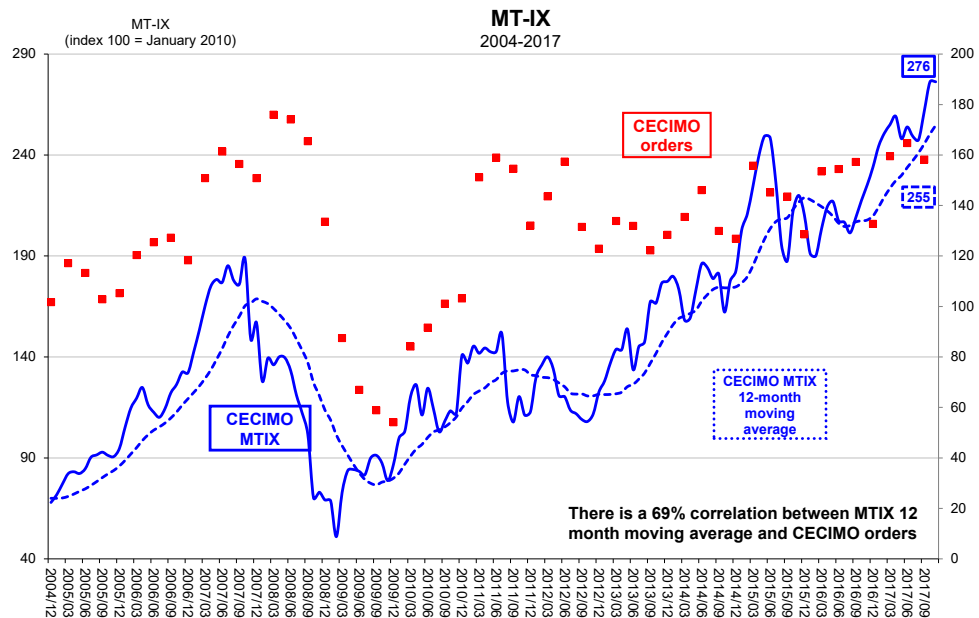
1.3 MT-IX ⁱ

In November, the MT-IX remained unchanged, compared with October. The index has read a level of 276 points for two months in a row, after gaining 14 points in September and August.

Our key financial statistics indicate that the market value of the Swiss Machine Tool companies decreased this month by -15%, after a modest increase of +3% last month, dragging the CECIMO based MT-IX down by 10 points. October was a good month for the market capitalisation of Brazilian, Korean and US companies. They improved their value by an impressive 26%, 18% and 15% each; although, in November, their market value development was counterbalanced by a negative or close to null rate of +1% for Brazil, -5% for Korea and 0% for US listed machine tool companies. Japanese companies, contrarily, mark a constant market value growth between +6% and +9% in the last 3 months.

So far, the MT-IX has been an accurate indicator for the machine tool market, being able to predict the CECIMO orders fluctuations, as shown in the graph below.

See graphs on next page



▼ 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.

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%
TOTAL EXPORTS	4 821	4 633	-3%		

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%
TOTAL IMPORTS	2 423	2 454	-1%		

CECIMO exports and imports per zones - 2017H1

in million euro. Export destinations and import origins

EXPORTS

ZONE	2017H1	2016H1	2017H1/ 2016H1	Share 2017H1	Share 2016H1
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%
TOTAL EXPORTS	9 159	8 639	6%		

IMPORTS

ZONE	2017H1	2016H1	2017H1/ 2016H1	Share 2017H1	Share 2016H1
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%
TOTAL IMPORTS	4 761	4 675	2%		

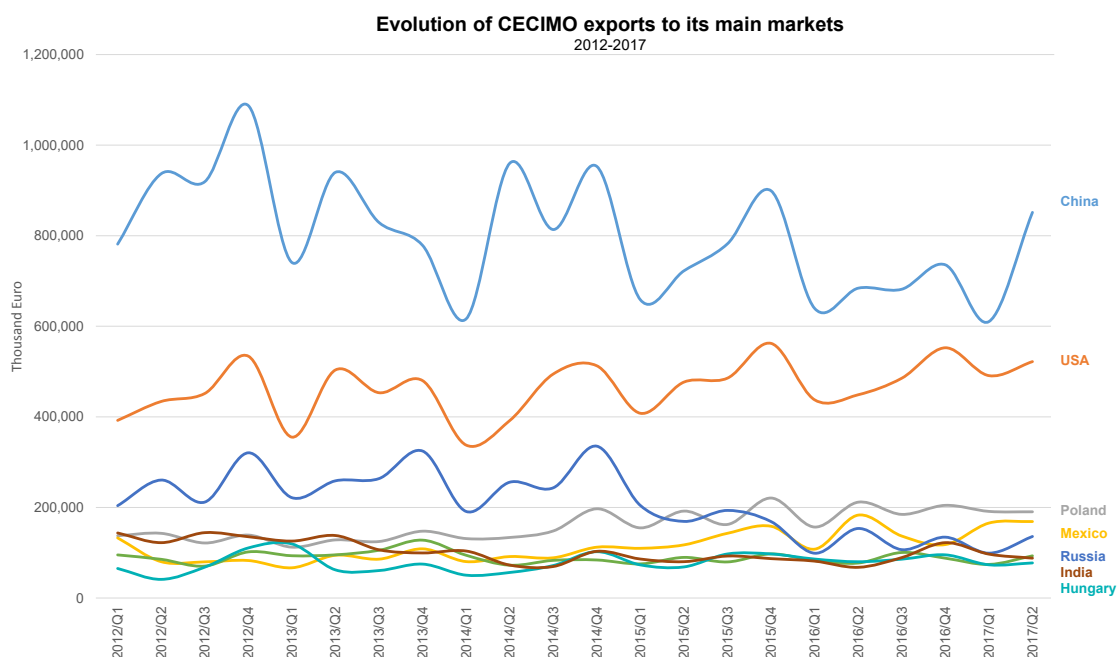
With regard to imports, during this quarter CECIMO imported 5% less than in the previous one, in line with the total European imports' change. Russia and CIS imports saw an astonishing decline of 71%, while Africa imported 26% less. The American companies imported only 5% less compared to the first quarter 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.

See graphs on next page



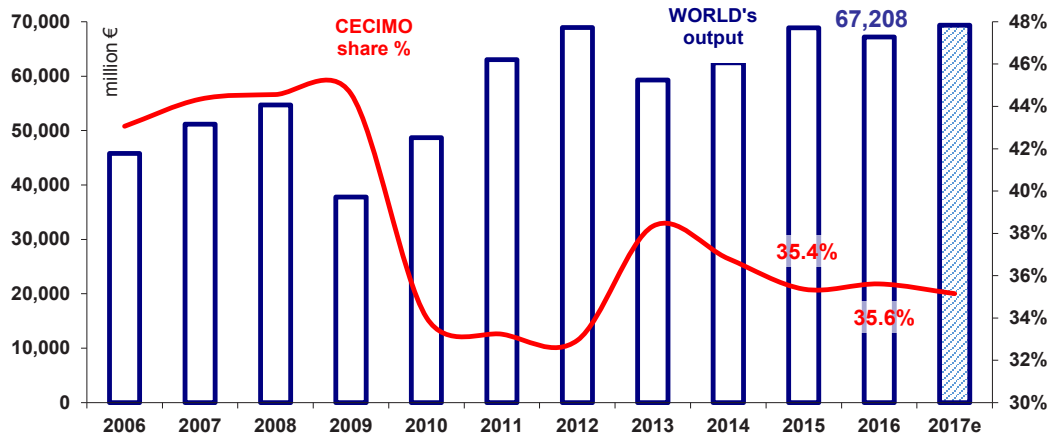
▼ 1.5 CECIMO production

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.

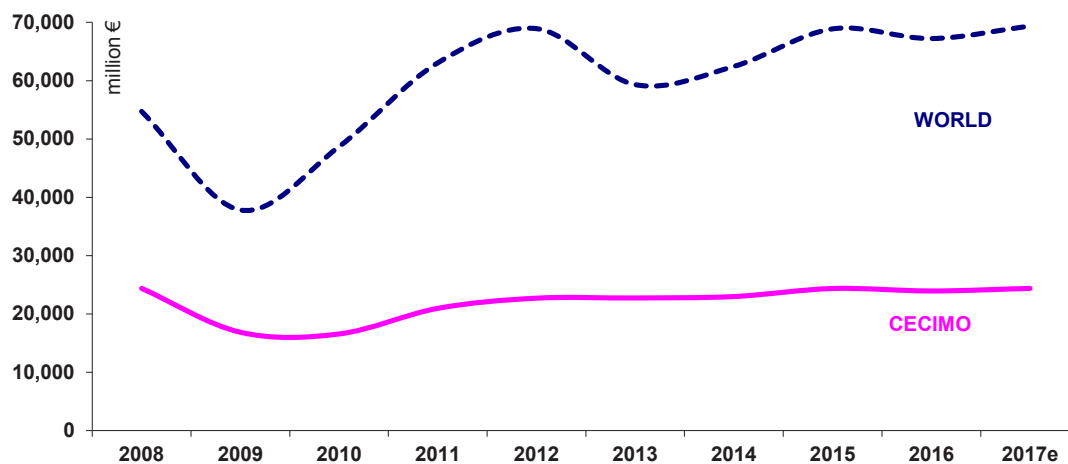
CECIMO detains its leadership position in the global machine tool production, followed by China (21%) and Japan (17%). The United States produced 8% of the MT output in 2016, keeping its share at the same level as in 2015. Among our members, Sweden and UK recorded sensible erosions of their machine tool 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

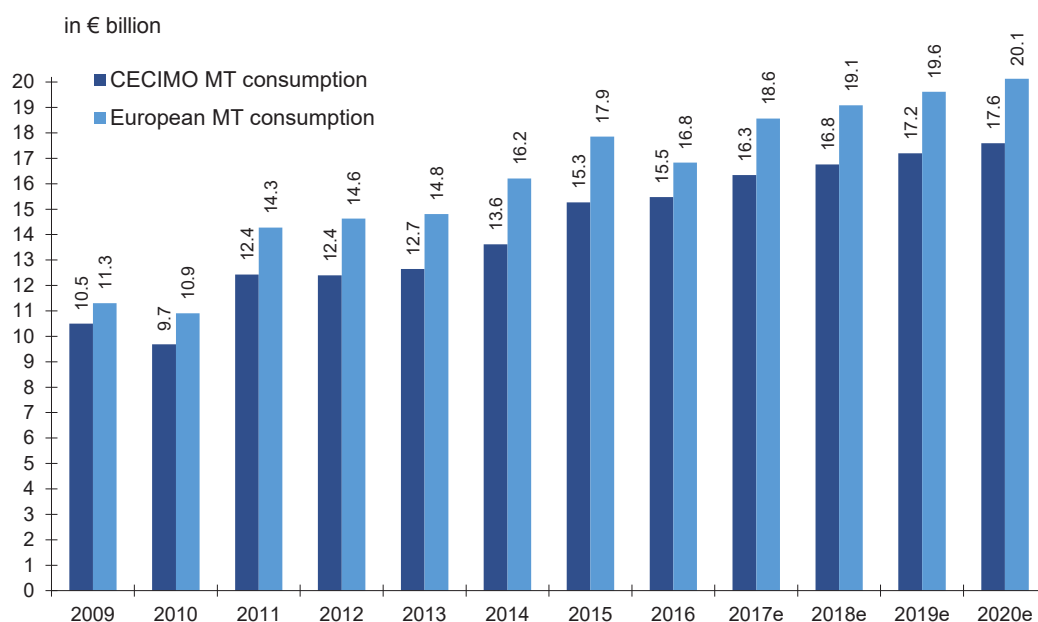


▲ 1.6 CECIMO consumption

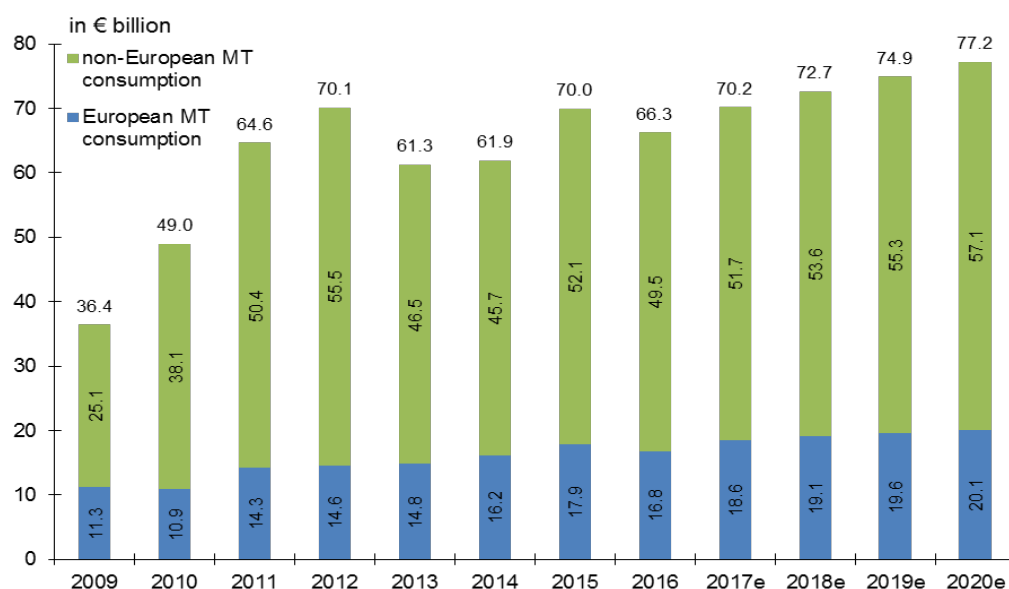
The global machine tool consumption appears to have fallen by 5% in 2016, according to the latest data available to CECIMO. Unsurprisingly, this follows the trend of the machine tool production for the same year. Nevertheless, CECIMO countries show obvious signs of improvement in consumption, going from 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%.

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CECIMO and European MT consumption

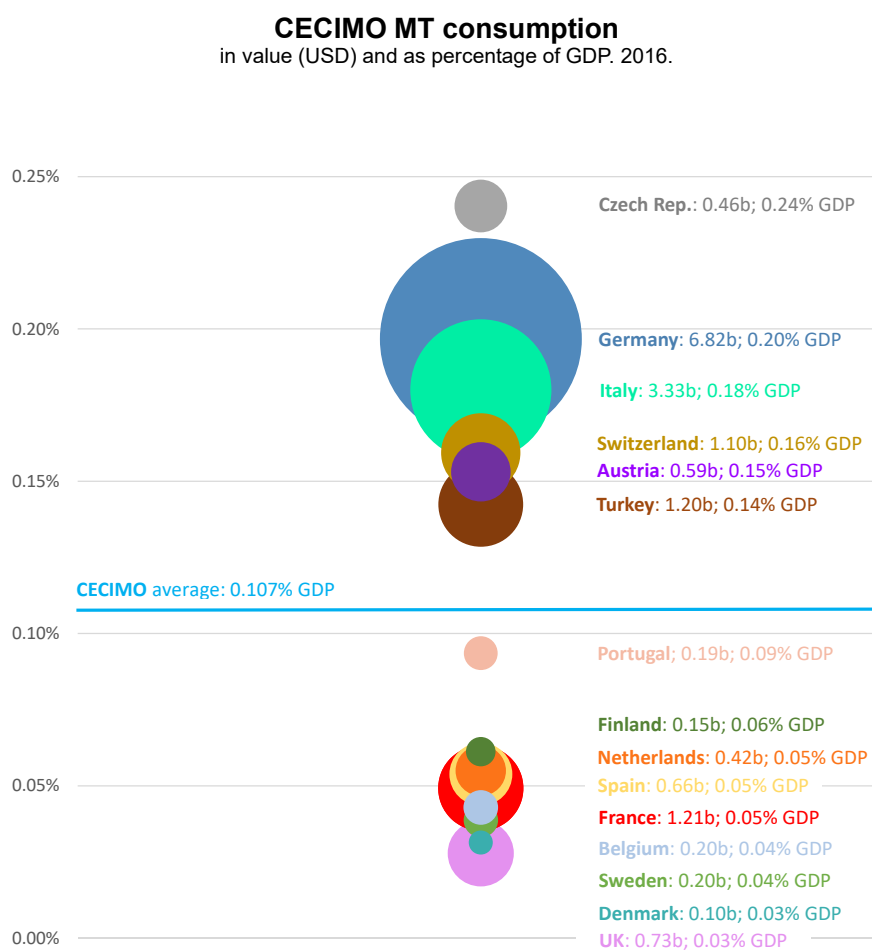
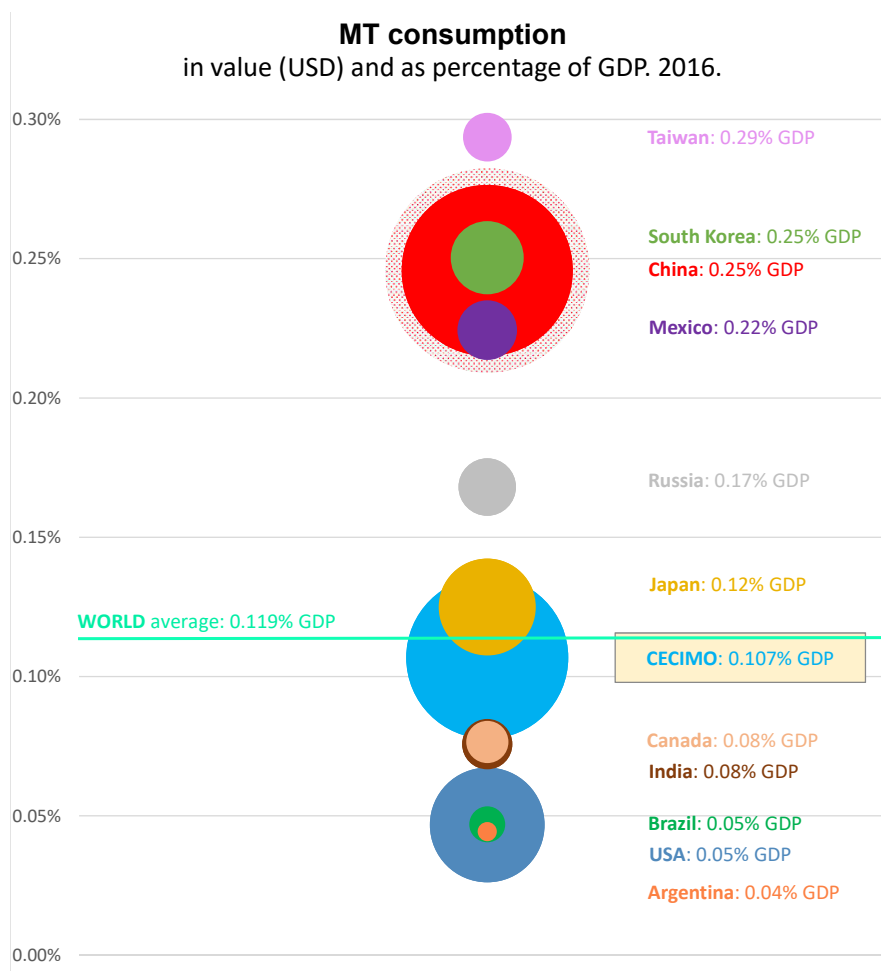


Global MT consumption



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.



Continued ►

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.

▲ 1.7 CECIMO Business Climate Barometer

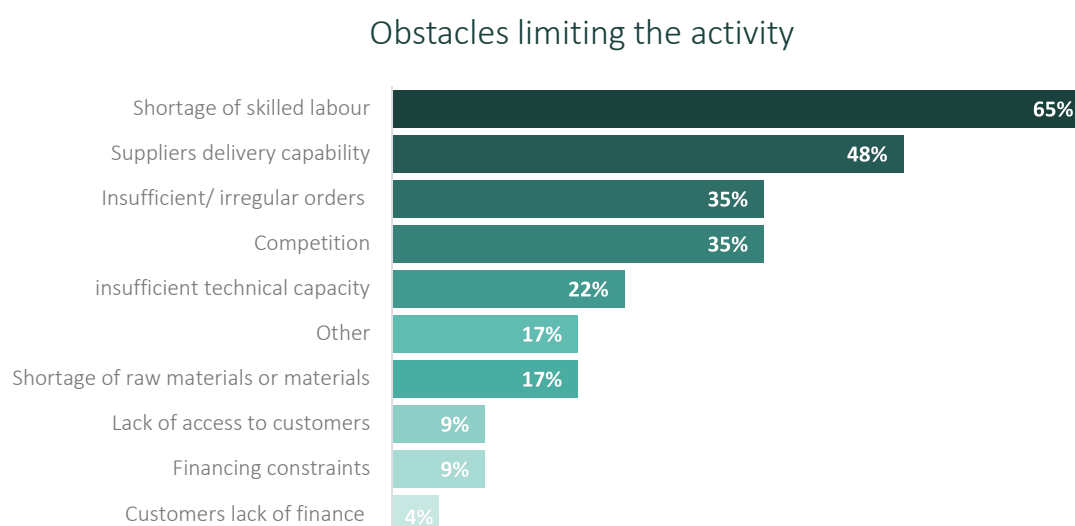
The Business Climate Barometer is a quarterly assessment of the CECIMO based companies' expectations for the next quarter. The survey is based on the responses of companies from 11 CECIMO countries, carried out in October 2017.

Methodology

National associations and individual companies in Austria, Belgium, Switzerland, Sweden, Finland, France, Spain, Italy, Netherlands and UK assessed their current business climate and their expectations for the fourth quarter of 2017, in relation with demand, domestic production, export sales and employment, on one side. On the other side, they were asked whether their activity is hindered by any factors and which ones. The results were weighted on the national production share for 2017 within CECIMO.

Main challenges and expectations for the 4th quarter of 2017

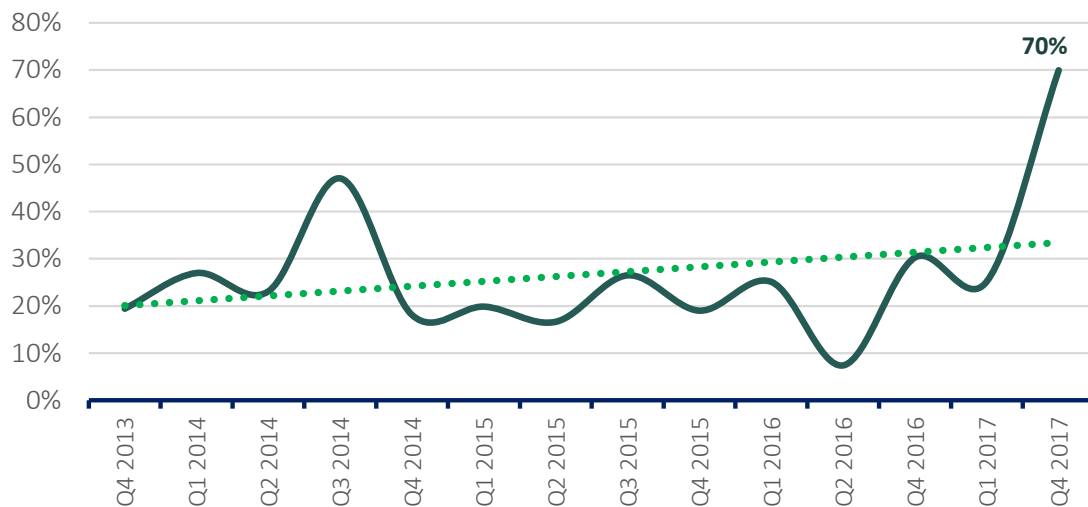
92% of the respondents pointed out that there are factors limiting their level of output. As a matter of fact, on average our companies operate at an 83.5% operation rate. You can see below the identified obstacles. The figures represent the weighted average of the national percentages which voted each option.



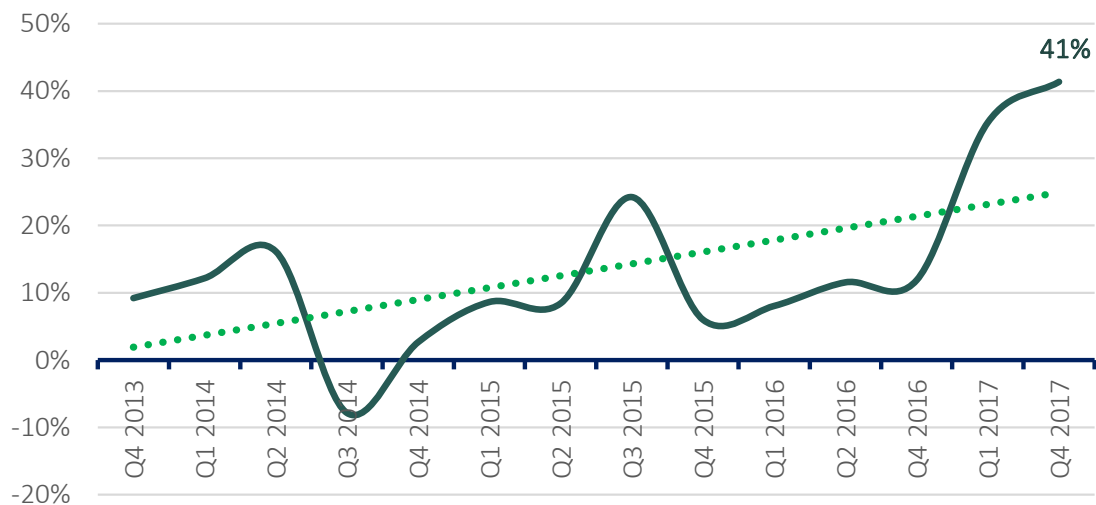
This quarter, our business confidence is stronger than ever before, in line with the Peter Meier's forecasts. In this quarter, our business climate assessment hit a record balance¹ of 70%. CECIMO-based companies acknowledge their current demand is higher than in the previous month. Similarly, for the fourth quarter of 2017, our machine tool builders expect the national production and export sales to rather increase. Employment expectations, consequently, mirror the later results as shown below.

1. The balance represents the difference between positive and negative answers, excluding the middle category, weighted based on national machine tool production shares within CECIMO.

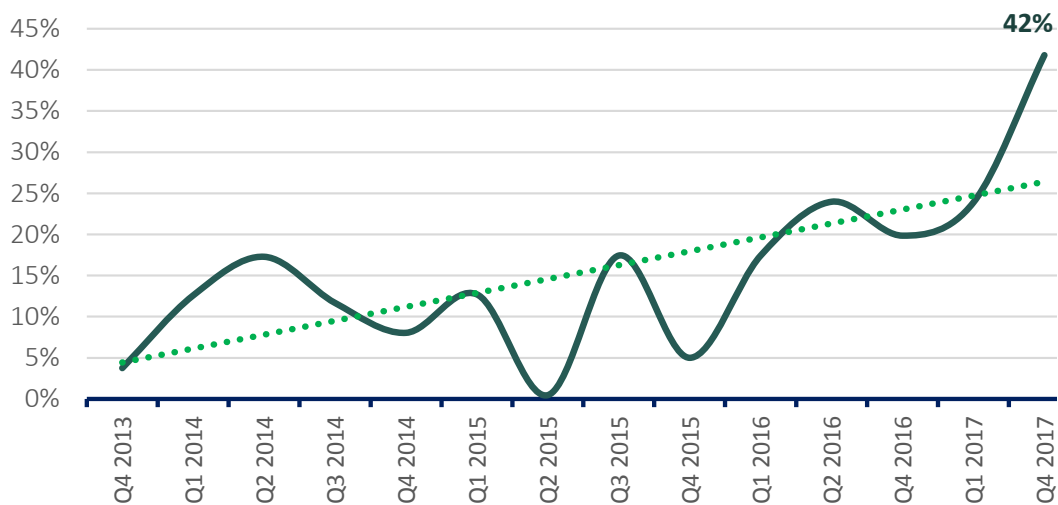
Business climate assessment



Demand

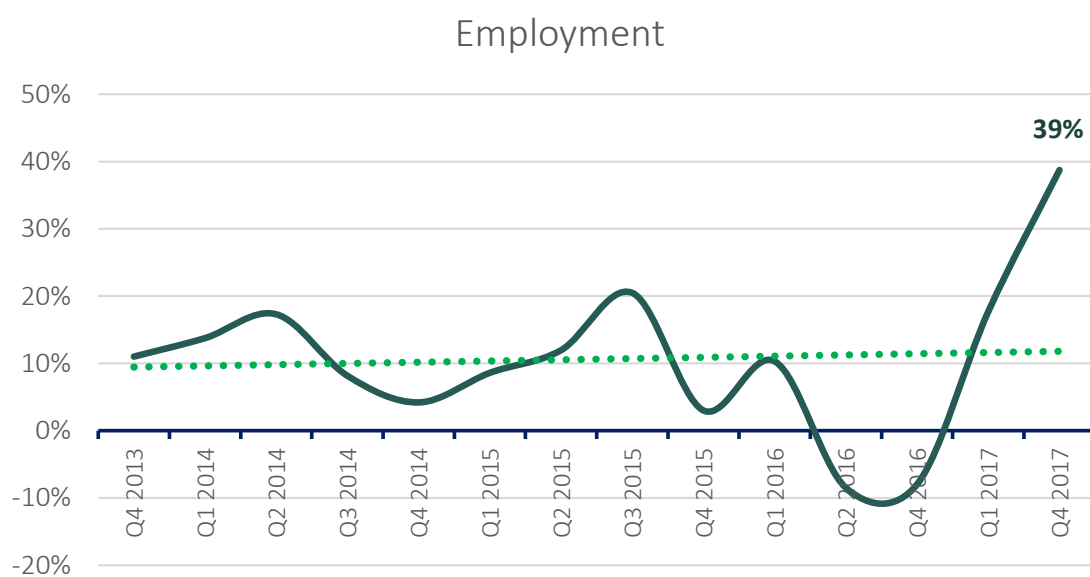
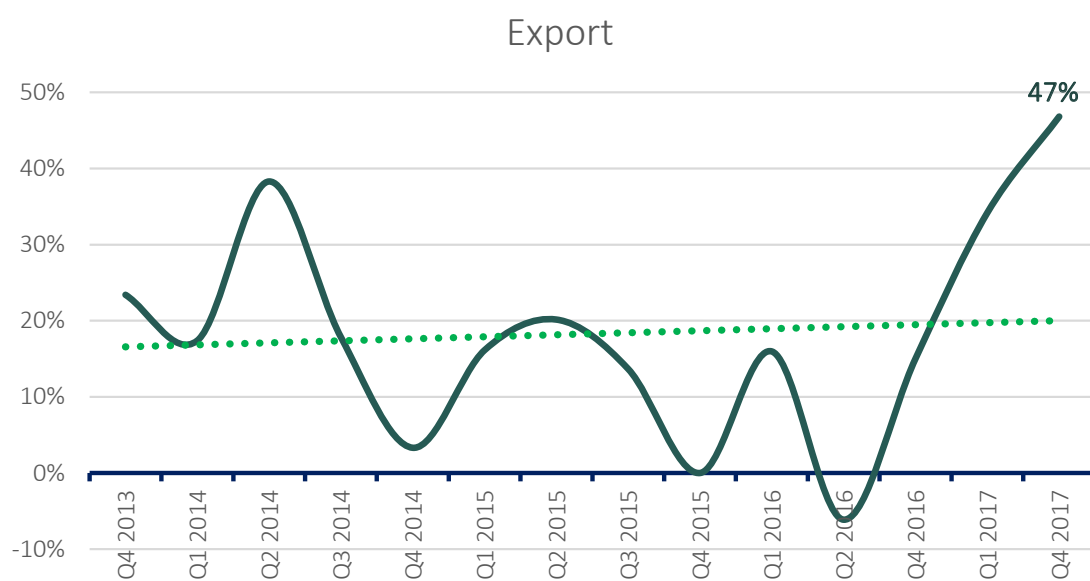


Domestic Production



Weighted average of the national balances of positive & negative expectations, in %

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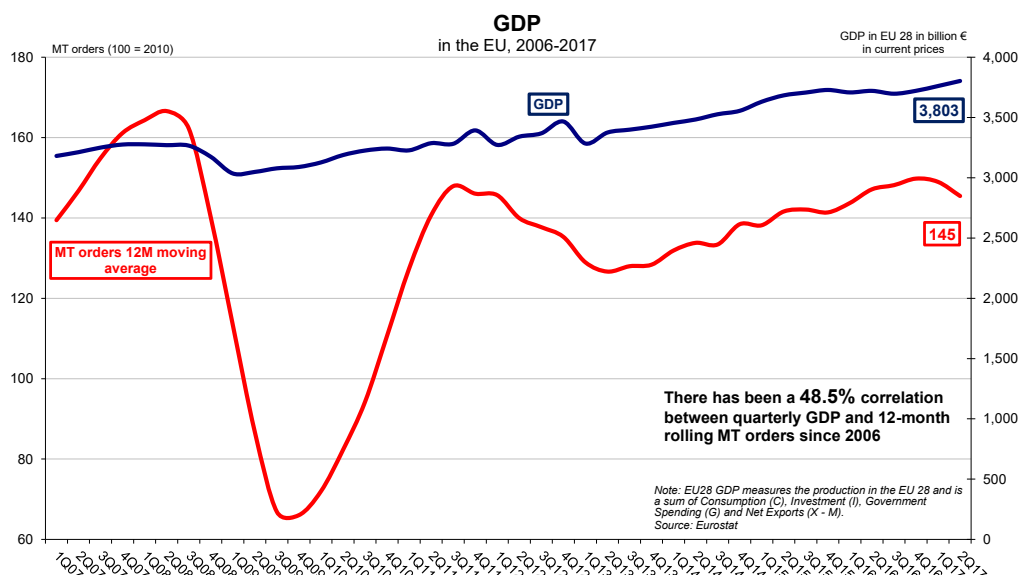
2. Macroeconomic data in relation with machine tool orders

▲ 2.1 GDP

Ever since the creation of the Monetary Union, 18 years ago, the growth rates across northern European states have been higher than the southern European ones. Now they synchronized more than ever.

This year, the Euro Area economy is on track to grow at its fastest pace in a decade, with real GDP growth forecast at 2.2%, outperforming the previous spring forecast of 1.7%. The EU economy also outran the expectations with a robust growth rate of 2.3% (up from 1.9% in spring). The resilient private consumption, a strong global pickup and decreasing unemployment fuel our growth and economic sentiment. This growth is expected to continue in both the EU and EA, and then ease. The Autumn Forecast of the European Commission predicts a growth rate of 2.1% in 2018 and at 1.9% in 2019.

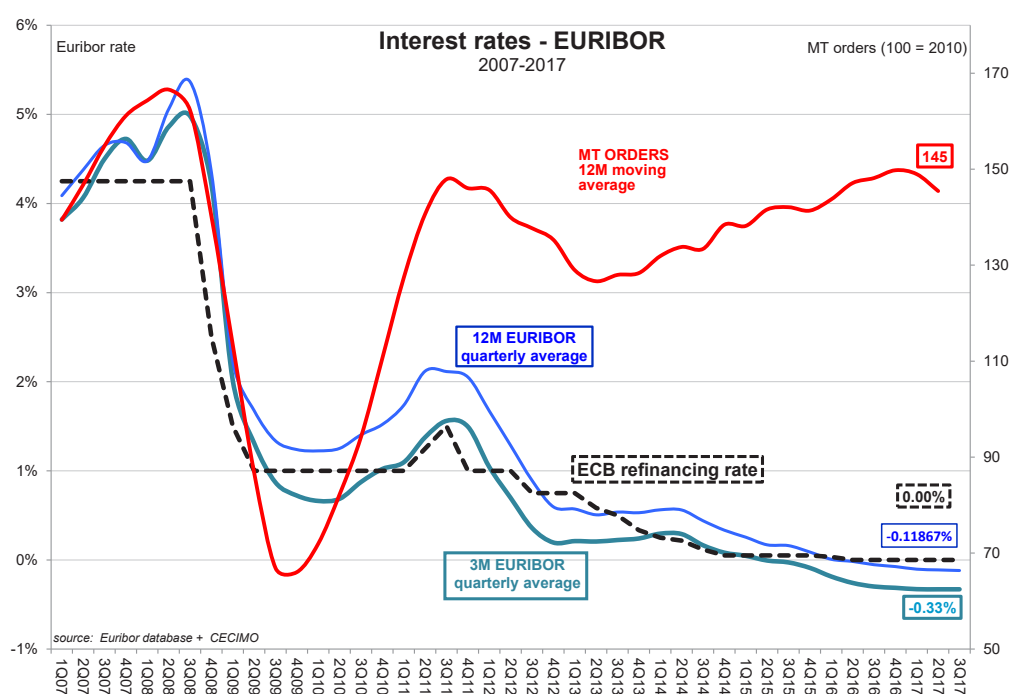
However, these economic developments will depend on how several risks turn out. Geopolitical tensions, such as a possible military conflict on the Korean Peninsula, tighter global financial conditions and Chinese protectionist policies can negatively impact on the forecasted growth. As for Europe, the unknown outcome of the Brexit negotiations, a possible continuous appreciation of the euro and higher long-term interest rates can also be risk factors for the growth projections. Moreover, the 2019 forecasts are based on the general assumption of unchanged UK-EU trade relationships.



2.2 Interest rates – EURIBOR ⁱ

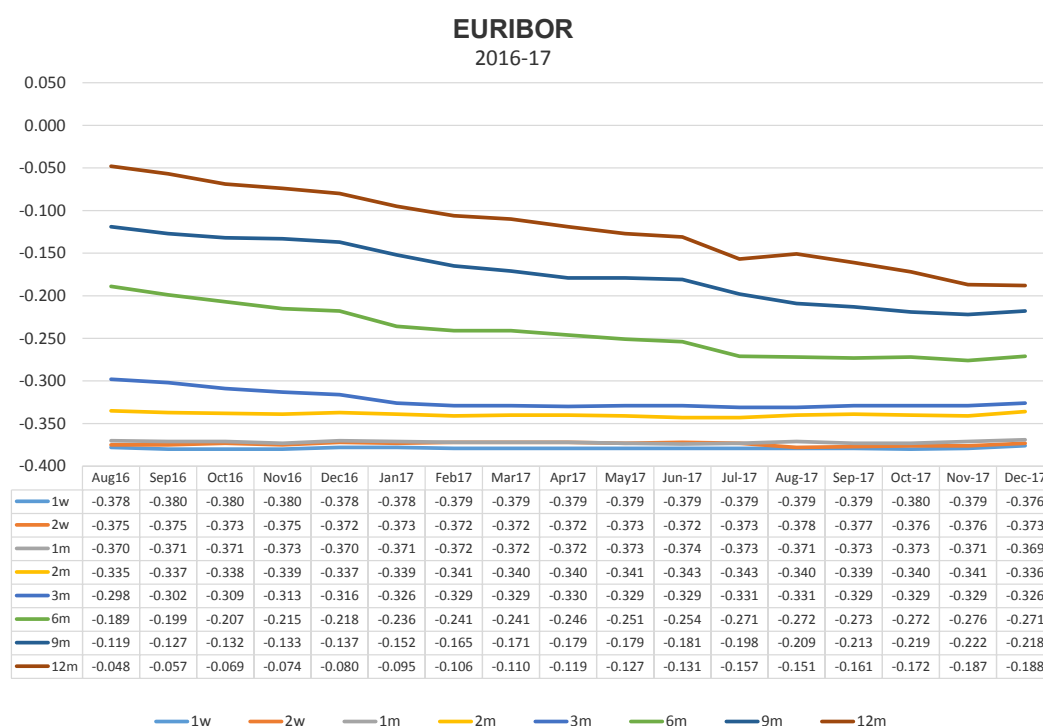
In a context of uninterrupted but incomplete cyclical recovery for 18 quarters now, the GDP growth and inflation are still dependent on policy support. That is why the ECB has kept its monetary policy so accommodative, while other central banks started to raise interest rates. Several Euro Area countries could adopt a more expansionary fiscal policy in 2018, although generally it should stay neutral.

According to the ECB, the low interest rates policies made the recovery and the national debt burden more sustainable. The sovereign bond markets are at a pre-financial crisis levels. However, as distrust in national policies rises, political uncertainties might undermine consensus and constitute a risk factor for the yields. This cautious approach may be pointing at the end of the ultra-loose monetary policy.



This month, the Euribor interest rates slightly increased after a shortfall in November. This is valid for all maturities except the 12 months one that is still falling. It scored -0.188%, down from -0.187% last month. The Euribor rates with the 1 week and 1 month maturity reached the levels last registered in July 2016. The interest rates for 2 weeks and 6 months maturity loans picked up to their July

2017 levels, whereas the 2 months maturity rate hasn't attained this level high since August last year. The 3 months maturity Euribor raised at -0.326%, highest record since January 2017. As shown in the graph below, in the last two months the Euribor benchmark tended to go upwards. The possible need of adjusting the interest rates on banking products will depend on whether this trend continues.

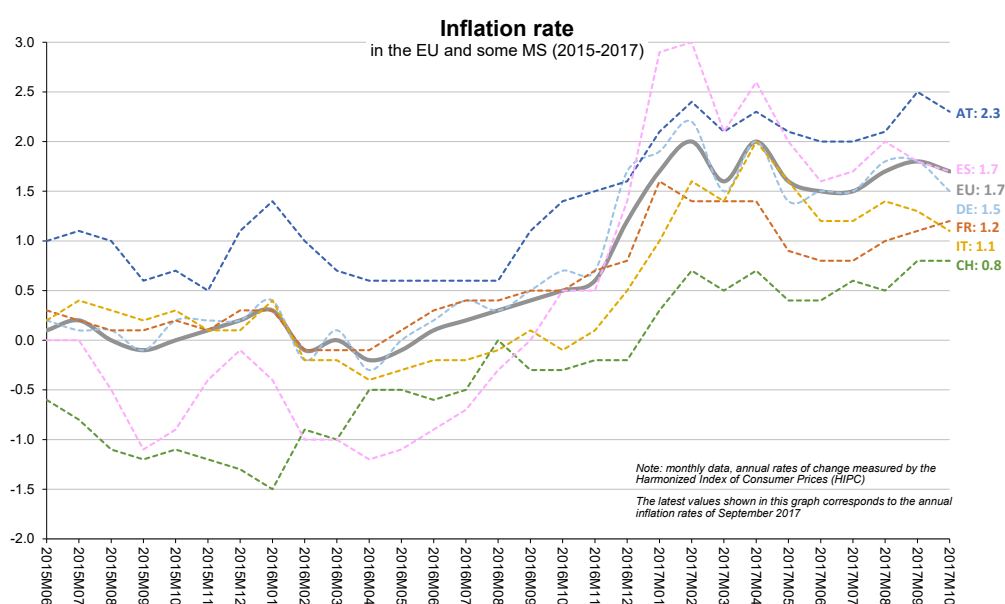
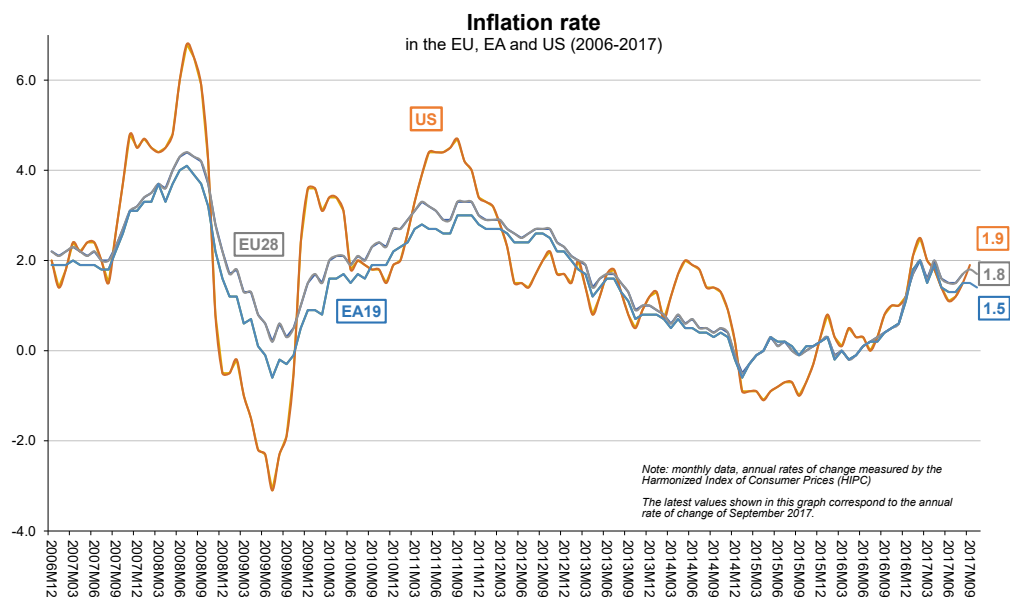


2.3 Inflation

The Statistical Office of the European Union estimates an annual inflation rate for the Euro Area at 1.5% in November, up from 1.4% in October 2017. In November the rise was driven by several main components with their highest annual rates: energy at 4.7%, compared with October value of 3.0%, followed by food, alcohol and tobacco at 2.2%, compared with previous 2.3%. Services and non-industrial goods recorded a stable level in the last two months of 1.2% and 0.4% respectively. Compared to last year, when the annual rate of change registered only 0.6%, the figure for this month almost tripled.

In October, the countries with the highest inflation rates were the Balkan countries (4% and above), and the UK (3.0%), followed by Czech Republic (2.8%). Turkey registered a 11.7% rate, 4.5 percentage points (pp) higher than last year. Countries within CECIMO that recorded the lowest inflation rates are Finland (0.5%), Switzerland (0.8%) and Italy (1.0%). For the Euro Area, the upward impact was mainly due to fuels for transport (+0.10 pp), accommodation services (+0.08 pp), and milk, cheese and eggs (+0.06 pp). Telecommunication (-0.11 pp), garments (-0.07 pp) and social protection (-0.04 pp) dragged it down in return.

See graph on next page



▼ 2.4 Industrial production index ⁱ

Month-on-month, in September 2017, the industrial production fell by -0.6% in the Euro Area, compared to August 2017, registering an index of 108.6, down from 109.3 in the previous month. This decrease is mainly due to production of capital goods that fell by -1.6%, energy and durable consumer goods both falling by -0.9% and intermediate goods 0.6% lower than in August. The production of non-durable goods rose insensibly by +0.1%.

In the EU28, the industrial production fell by -0.5%, after a pickup in August, when it rose by +1.7%. In September, the industrial production index reached 109.5 points, down from 110.1 points in August. The shortfall is a result of a decrease of the capital goods production by -1.4%, energy by -0.6%, intermediate goods and non-durable consumer goods production both in decline by -0.3% and durable

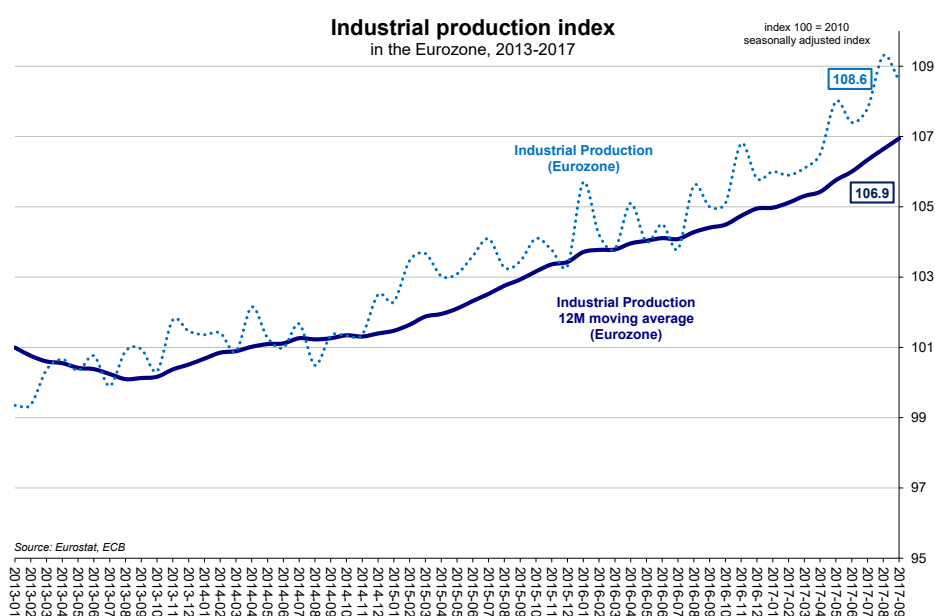
Industrial Production

(percentage change compared with the previous month)

	EA			EU28		
	Jul17/ Jun17	Aug17/ Jul17	Sept17/ Aug17	Jul17/ Jun17	Aug17/ Jul17	Sept17/ Aug17
Total industrial production	0.10%	1.40%	-0.60%	-0.30%	1.70%	-0.50%
Capital goods	0.80%	3.10%	-1.60%	0.40%	3.20%	-1.40%
Durable consumer goods	0.70%	1.30%	-0.90%	0.20%	1.20%	-0.10%
Intermediate goods	0.50%	1.20%	-0.60%	0.40%	1.00%	-0.30%
Energy	-1.20%	0.00%	-0.90%	-1.10%	0.70%	-0.60%
Non-durable goods	-0.40%	0.00%	0.10%	-0.60%	0.40%	-0.30%

September saw the largest contraction of industrial output in Portugal (-6.7%), Denmark (-3.7%), Germany (-1.8%) and Italy (-1.3%). The highest pickups were recorded in Netherlands (+4.3%), Sweden (+2.4%), Estonia (+2.3%) and France (+0.6%).

On a yearly basis, the Euro Area industrial production rises by 3.3% - further than the market expectations of +3.2% in September 2017. However, this rate is lower than the revised +3.9% increase in August. Year-on-year, almost all categories of the industrial production grew at a slower pace. Intermediate goods output rose by +4.6% compared to the August+5.3% and capital goods increased by +1.5% compared to the previous +2.5%. The energy output decreased by -0.1% in September and in August compared with the same months of last year. The durable consumer goods production, though, grew at a faster pace: +6.9%, compared to +3%.



Continued ►

Within the European Union, the industrial output registered a gain of +3.6%, following the +4.0% increase in August. This decelerated growth is mainly driven by a slower growth of capital goods production (+4.9%, compared to +5.7% in August), intermediate goods (+4.7% versus +5.3%) and non-durable consumer goods (+1.6% versus +2.4%). In addition, the energy output slightly shrank by -0.1%, compared to the moderate increase of +0.4% in August.

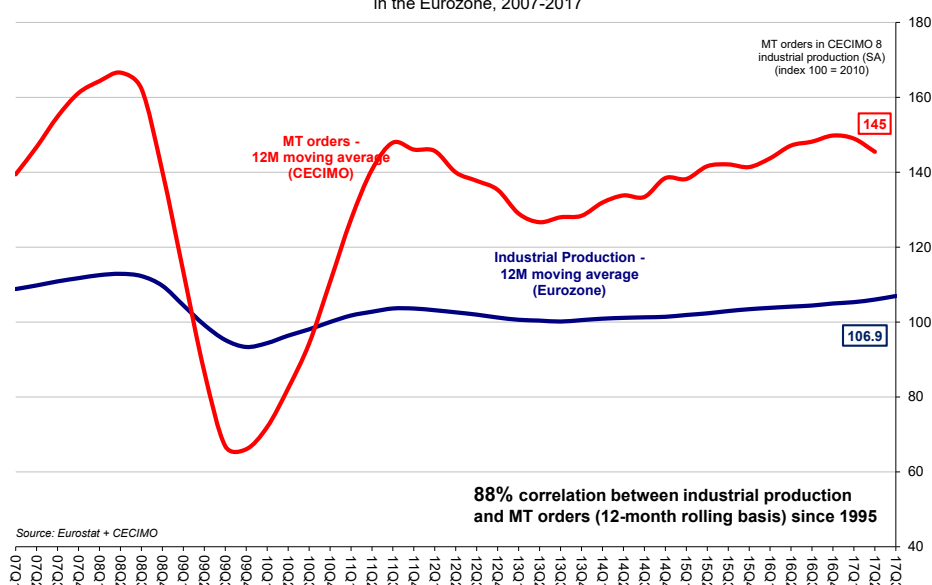
Industrial Production

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

	EA			EU28		
	Jul17/ Jul16	Aug17/ Aug16	Sept17/ Sept16	Jul17/ Jul16	Aug17/ Aug16	Sept17/ Sept16
Total industrial production	3.20%	3.80%	3.30%	3.10%	3.90%	3.60%
Capital goods	4.30%	4.90%	4.50%	4.60%	5.50%	4.90%
Durable consumer goods	5.70%	3.60%	6.90%	5.00%	3.60%	6.60%
Intermediate goods	4.80%	5.30%	4.60%	4.80%	5.30%	4.70%
Energy	1.20%	-0.70%	-1.70%	0.10%	-0.40%	-0.10%
Non-durable goods	-0.50%	2.40%	1.50%	-0.40%	2.30%	1.60%

The highest rises in industrial output were registered in Latvia (+12.9%), Slovenia (+8.6%) and Hungary (+8.0%). Czech Republic and Poland follow them shortly behind with +6.9% and +6.8% each, whereas in Germany, France and Italy, the industrial production slowed down, reading a growth of Industrial production of +3.5%, +3.2% and +2.4% respectively. Ireland recorded a -3.1% decline.

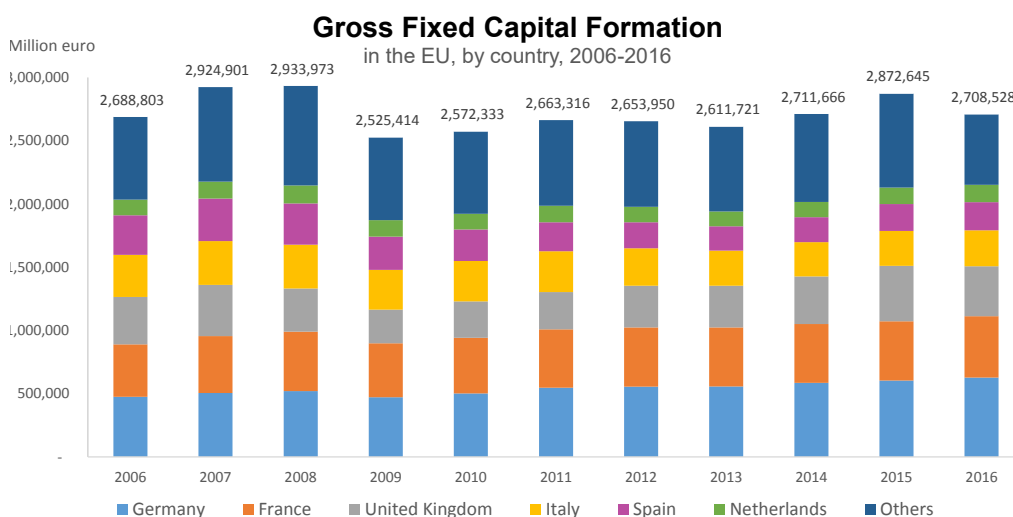
Industrial production index
in the Eurozone, 2007-2017



▲ 2.5 Gross Fixed Capital Formation ⁱ

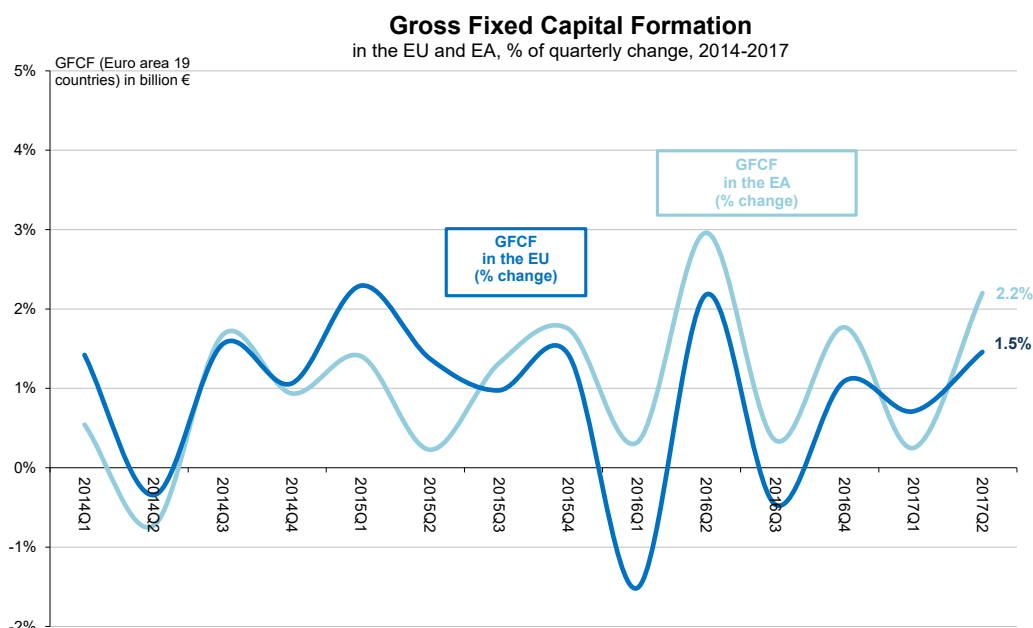
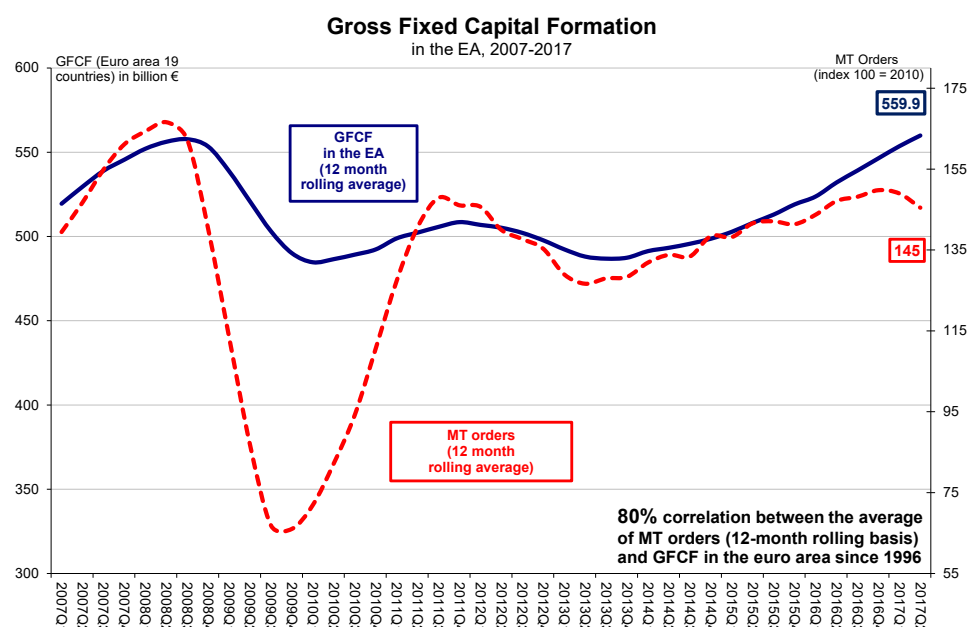
The Gross Fixed Capital Formation (GFCF) in the EU machinery sector accounted for 6.2% of the total GDP (versus 6% in 2015). In the second quarter of 2017, the EA GFCF registered a change of +2.2%, in comparison with the period January-March 2017, quite up after the less significant growth of +0.2% in 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.



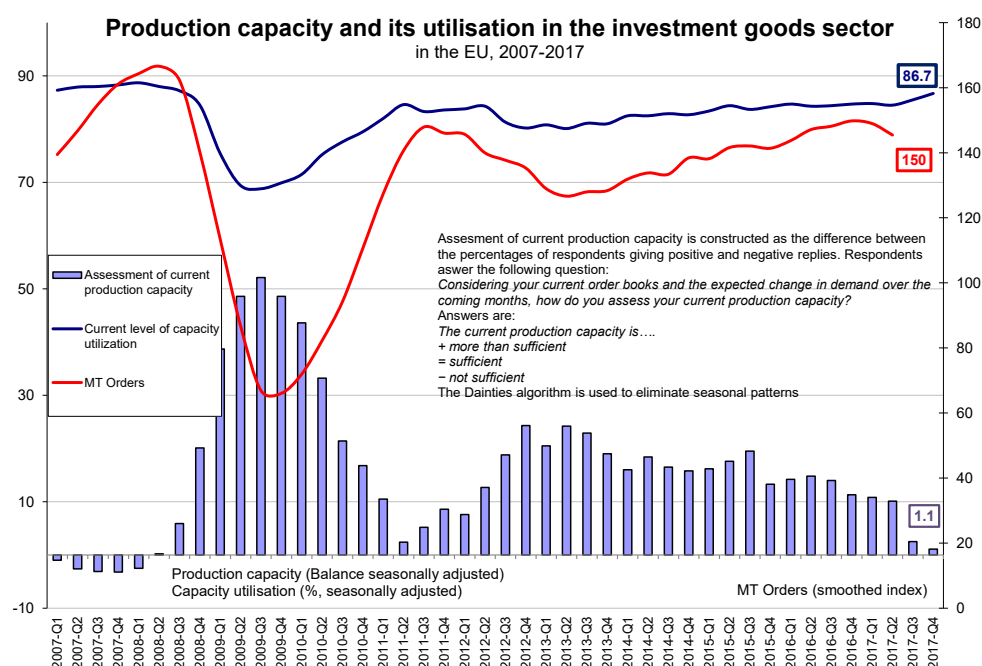
In the European Union, the largest investors in 2016 were Germany (627 billion), France (486 billion) and UK (394 billion). Italy and Spain followed very close behind, with 284 and 222 billion respectively. In terms of percentage of GDP, the countries that devoted a larger portion of their output to 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.

See graphs on next page

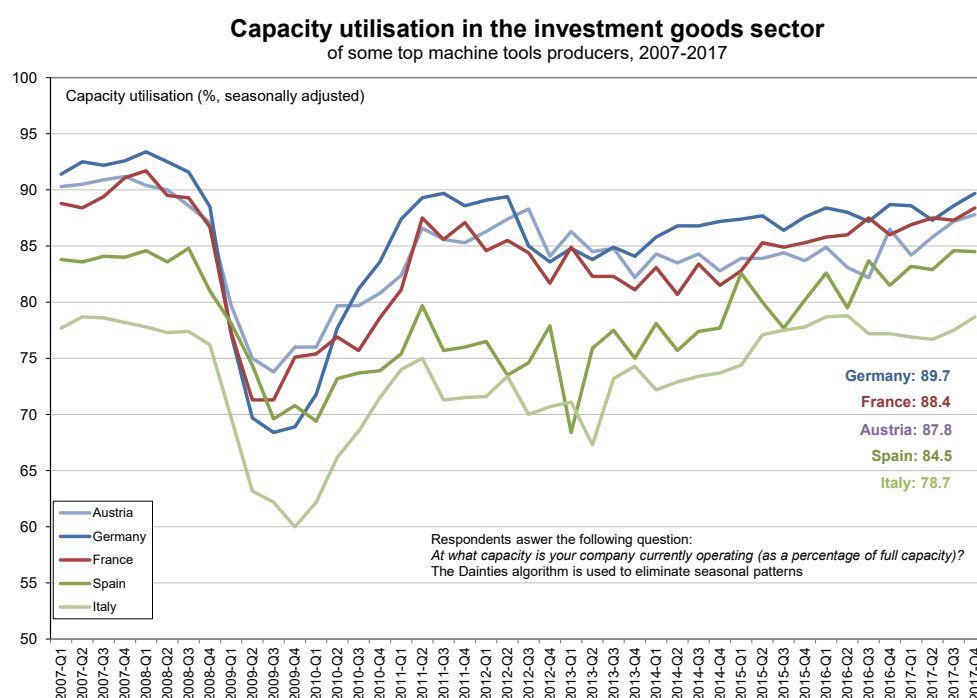


▲ 2.6 Capacity utilisation in the investment goods sector ①

The capacity utilisation across the EU increased by 1 percentage point from the second quarter to the third one, reaching 85.5%. Later in the fourth quarter it scored 1.2 percentage points (pp) higher. Compared to the third quarter of 2016, the capacity utilization picked up 1.1 pp, just 0.8 pp below the 9-years average pre-crisis level. In the current state of things, the highest correlation between the level of capacity utilisation and the machine tool orders is observed when using one quarter time lag in the period between 1996 and 2017, equal to 47%.

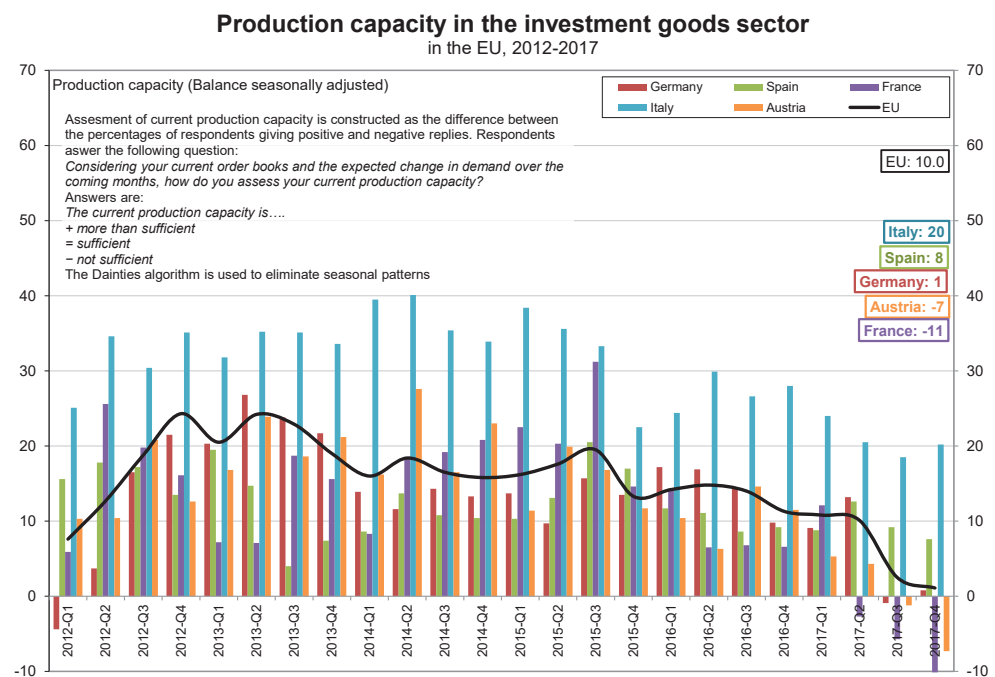


In the EA the capacity utilisation developed similarly, shifting from 84.7% in the second quarter to 85.6% in the third. This value is the highest in the Eurozone since 2008. According to the Business Climate survey of the European Commission, the countries with the highest capacity utilisation rates in the third quarter are Germany (88.6% up from 87.3%), Sweden (88.3% up from 86.6%), France (87.3% down from 87.5%) and Austria (87.2% up from 85.8%). At the opposite extreme, among the lowest levels Cyprus and Greece remain at 62.2%, up from 53.3% and 64.2%, up from 61.1%, respectively, whereas Malta considerably improved its position from 65% in the previous quarter to 80.2% in the current one. Italy moderately improved its level reading at 77.5%, instead of 76.7%, while the UK capacity utilisation level remained unchanged at 84%.



Continued ►

Across the Atlantic, the industrial activity picked up in October, recovering from Hurricanes Harvey and Irma. The industrial production in US edged down by 0.3% in the third quarter, compared to the previous decrease of 1.5%. The capacity utilisation in manufacturing reached a 76.4% level in October, concluding the third quarter with an average of 75.5%, 0.2 pp lower than in the previous quarter. The rather modest change is due to a 0.2 pp increase (to 75.7%) of utilization for durables, and an improvement of 1.7 pp (to 78.1%) of the operating rate for nondurables. Similarly, the rate for utilities rose 1.5 pp to 77.2%, whereas the operating rate for mines recorded a 1.3 pp decline to 82.4%.



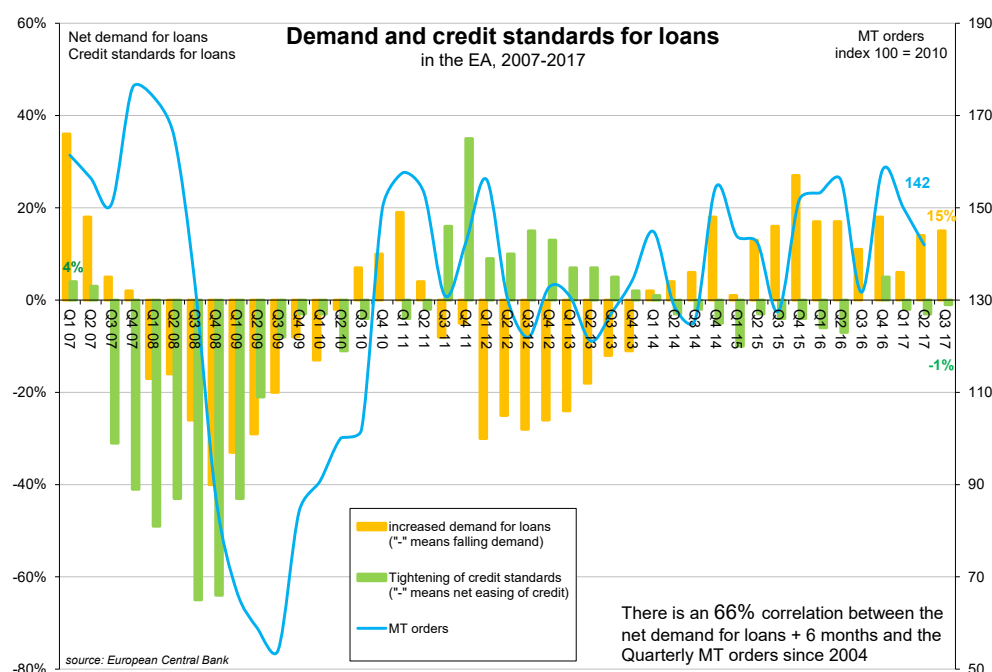
2.7 Bank lending survey ^①

The credit standards for loans to enterprises remains broadly unchanged in the third quarter at -1%. This net easing is slightly smaller than the -3% registered in the second quarter of 2017, and smaller than the -2% expected by the banks in the previous round. The credit standards for SMEs stayed at -1% and eased for loans to large firms at -4%. According to the share of banks participating in the survey, the easing effect in the third quarter is mainly the result of competition and banks' risk perception, meanwhile, the tightening impact was due to the banks' risk tolerance.

As a matter of fact, banks in Germany, France and Netherlands report that the competitive pressure drove a net tightening of the credit standards, while in Spain and Italy it didn't really have an impact. On the other hand, the risk perceptions had an easing effect on banks in Spain and Netherlands, but a tightening impact in France, whereas Germany and Italy remained overall neutral to the risk

perceptions. In the fourth quarter of 2017, the EA banks foresee standards on loans to companies to remain rather the same.

The terms and conditions for loans to enterprises continues to improve in the third quarter, because of margins' narrowing on average loans to firms, in all the large countries except Spain. On the riskier loans' side, a more modest easing was observed. Margins on riskier loans widened in Spain and Germany to a lesser extent and remained unchanged in France and Italy. Similarly, the collateral requirements and other terms and conditions continued to ease in the 3rd quarter. The easing in overall terms and conditions is a result of competitive pressure, cost of funds and balance sheet constraints.



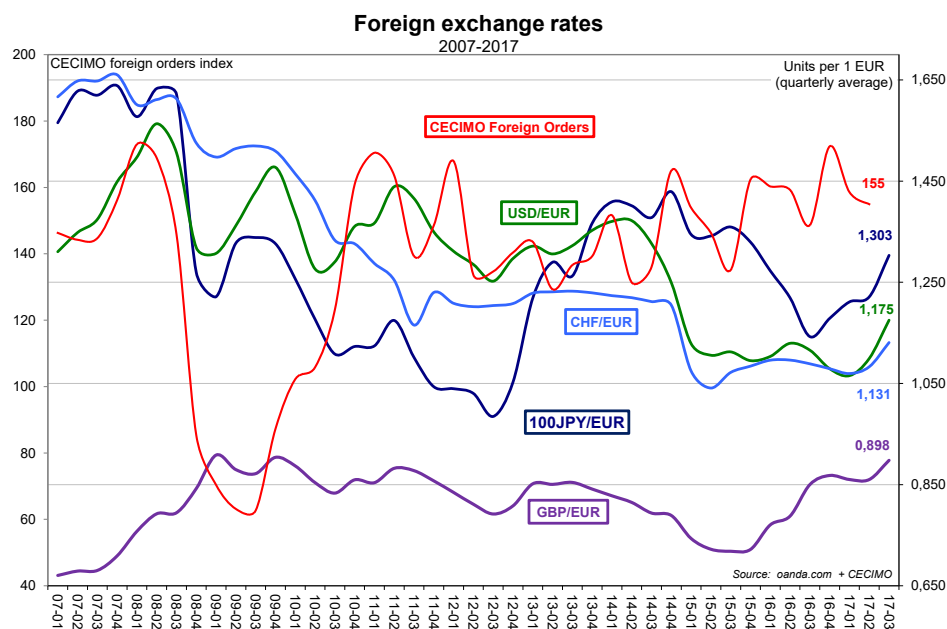
The rejection rate for loans to enterprises remained broadly unchanged (1%, after the -4% in quarter 2). The net demand for loans to enterprises, both SMEs and large firms, on the contrary, increased in the third quarter to 15% after a 14% increase in the previous quarter, in line with the expectations of the last survey. The largest net demand increase was recorded in Germany, Spain, France and Italy. This positive change was driven by low interest rates and an increase in fixed investments. Merger and acquisition activities, and working capital had a positive but softer impact on demand. The use of alternative finance, the extensive use of internal funds and loans from non-banks dragged the overall demand down, mainly in Germany, Italy and Netherlands, while in Spain and France we observe the opposite effect.

▲ 2.8 Foreign exchange rates

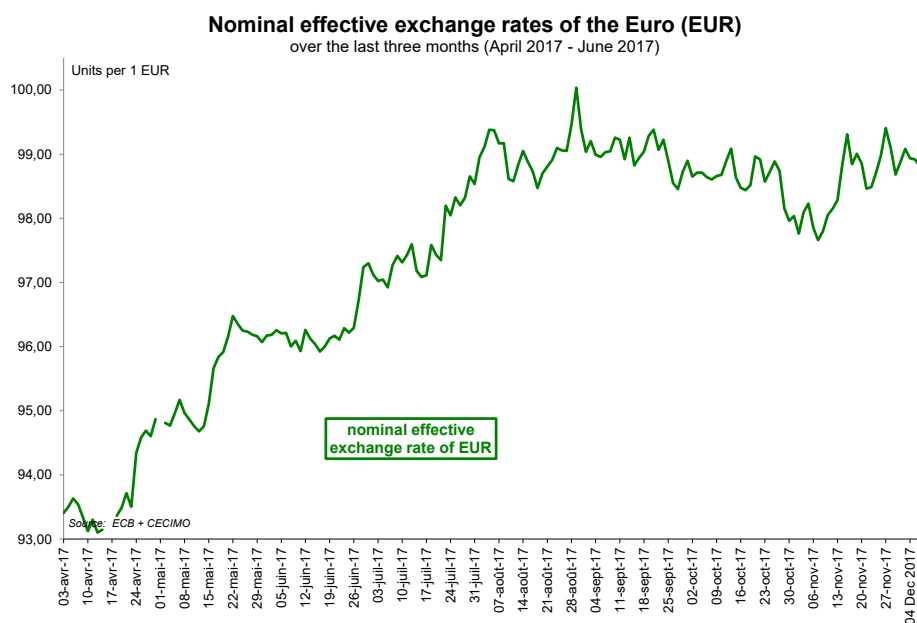
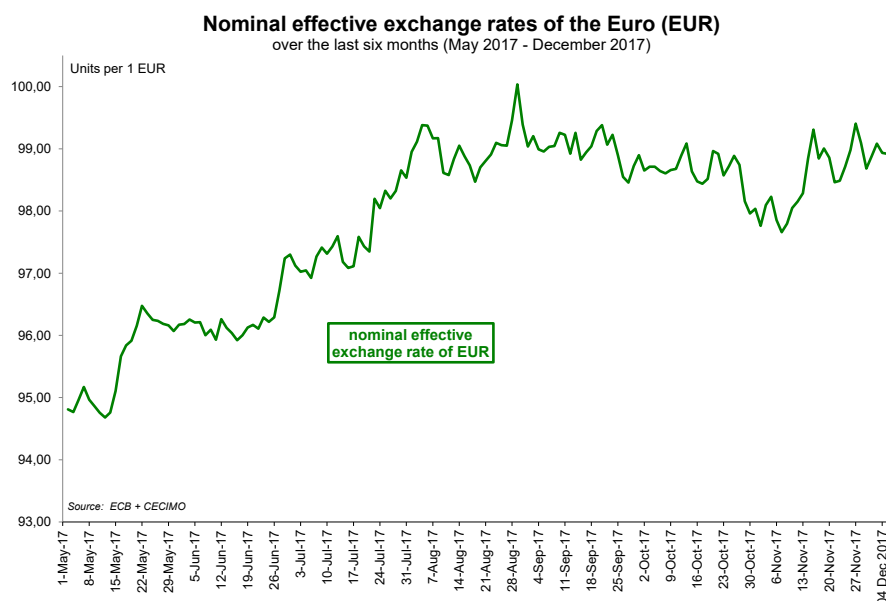
The Euro is strengthening. After a long period of ultra-quantitative easing programme of the European Central Bank and leaving behind the political breakup risks of the national elections, the economic growth has strengthened and so did the Euro. In 2017, the currency gained 13% in respect to the US dollar and 4% compared to the British pound. To some extent these changes also reflect the weaknesses of the UK and US.

European banks are dynamically buying the buck, which is putting pressure on the common currency. This creates margin for speculation on whether the trend will continue in the next year, so we could expect weaker euro-dollar exchange rate. However, strategists at ING Group and Société Generale agree there could be other factors that drove this trend in the last couple of weeks. The formers are confident 2018 will be a bright year for the Euro Area currency. Even though the ECB considers tightening its massive bond buying program, it is likely to prolong it the next year.

The pound dropped 0.15% from one day to the other, after a failed agreement between Theresa May and Jean-Claude Juncker, proving once again how tightly linked is the British currency to the outcome of the Brexit talks. Over the past few months, the sterling fell by 13% against the euro and 11% against the dollar, in respect with the exchange rates preceding the Brexit referendum.

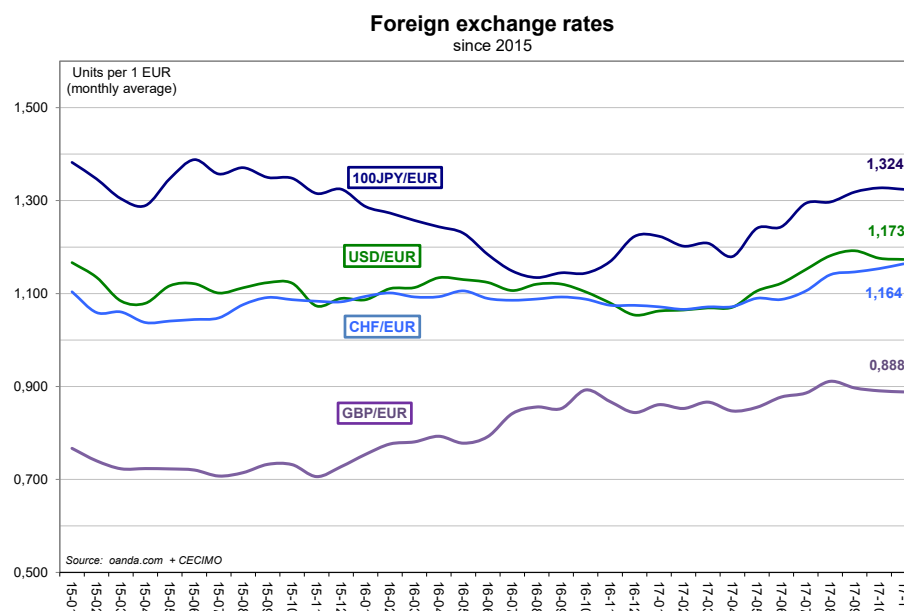


The nominal effective exchange rate turned around a 98.52 average in November, staying close to its October level. This reading is only 0.5% lower compared to August, but 3.1% higher than in May. At the beginning of December, the common currency was 2.7% higher than its 2017 average and 5.0% stronger than one year ago.



Both the Japanese yen and the Swiss franc appreciated towards the euro by 2.1% from August to November. Compared to October, the yen dropped by -0.23%, while the Swiss franc has been growing since July 2017. The British pound saw a 2.5% depreciation in the same period, while the US dollar decreased by a moderate -0.7%. During the last couple of months, the drop of the dollar and the sterling is good news for investors, because these currencies gain value in buyers' bank accounts, and for businesses who sell in the European market.

See graph on next page



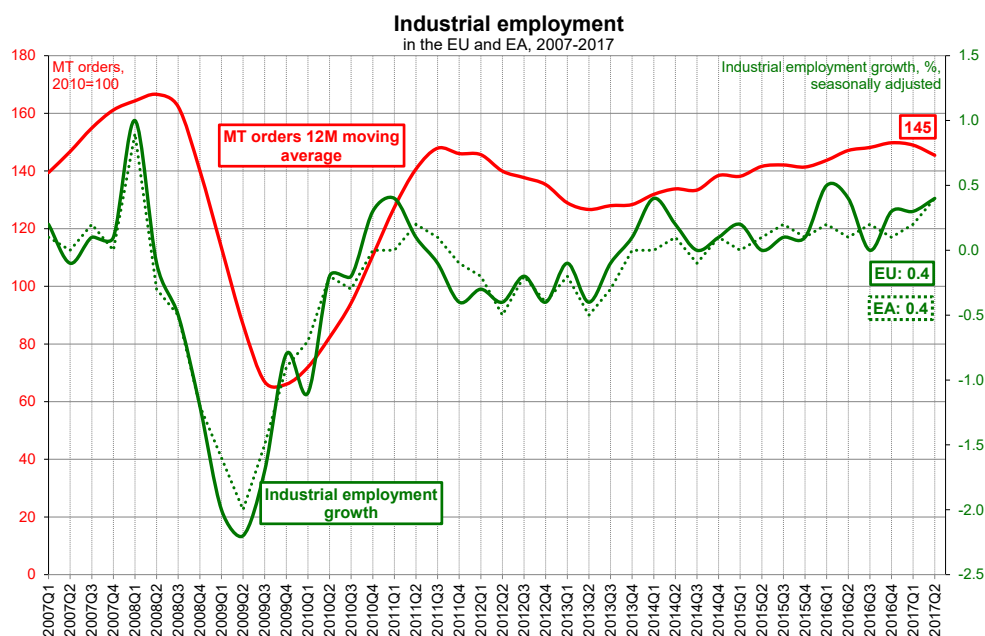
▲ 2.9 Industrial employment

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.

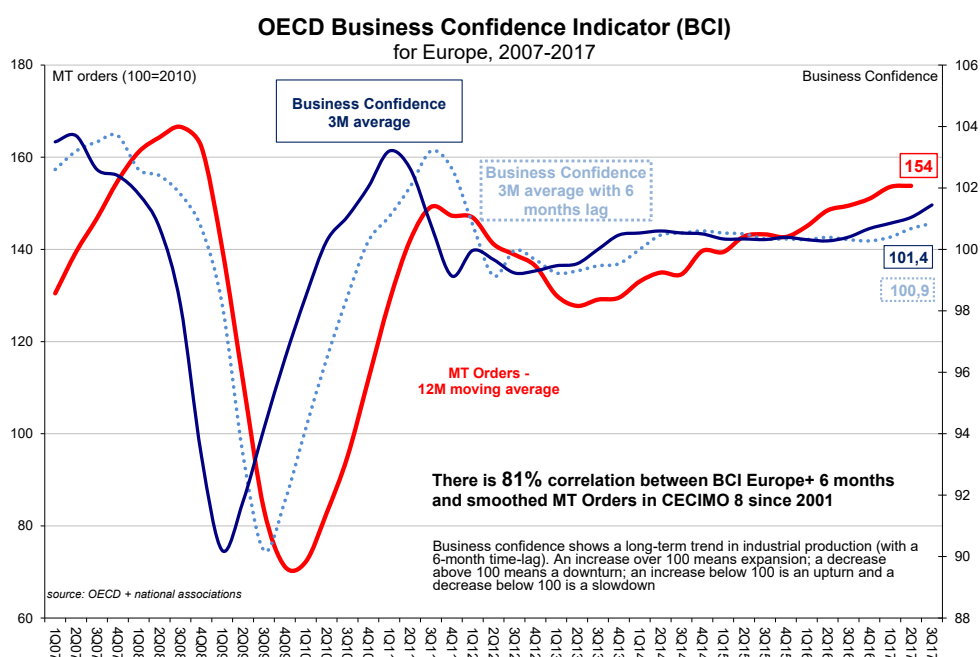
Unemployment, though, stayed at 9.1% in the Euro Area, same as July 2017, but decreased compared to August 2016. In the EU it registered a 7.6%, slightly below the July rate of 7.7% and sensibly better than the 8.6% in August last year. This is the lowest rate that the EU recorded since November 2008. 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%.

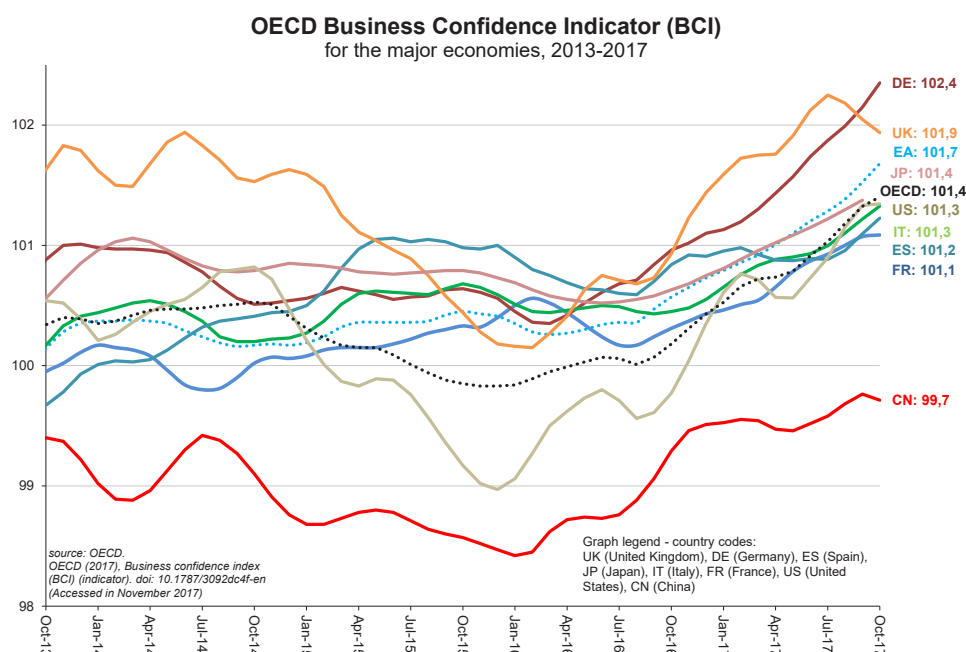


▲ 2.10 OECD Business Confidence Indicator for Europe ⁱ

The OECD Business confidence indicator (BCI) reads a higher level in October 2017, in line with its positive trend since April last year. The indicator for both Europe and the Euro Area reached 101.7 points, slightly above the 101.4 level of the OECD economies. Compared to the same month in 2016, the Europe's BCI grew 1.1%. As for the Composite Leading indicator in OECD economies, we observe a flat growth of 0.06% on a monthly basis and a 0.55% increase interannually.

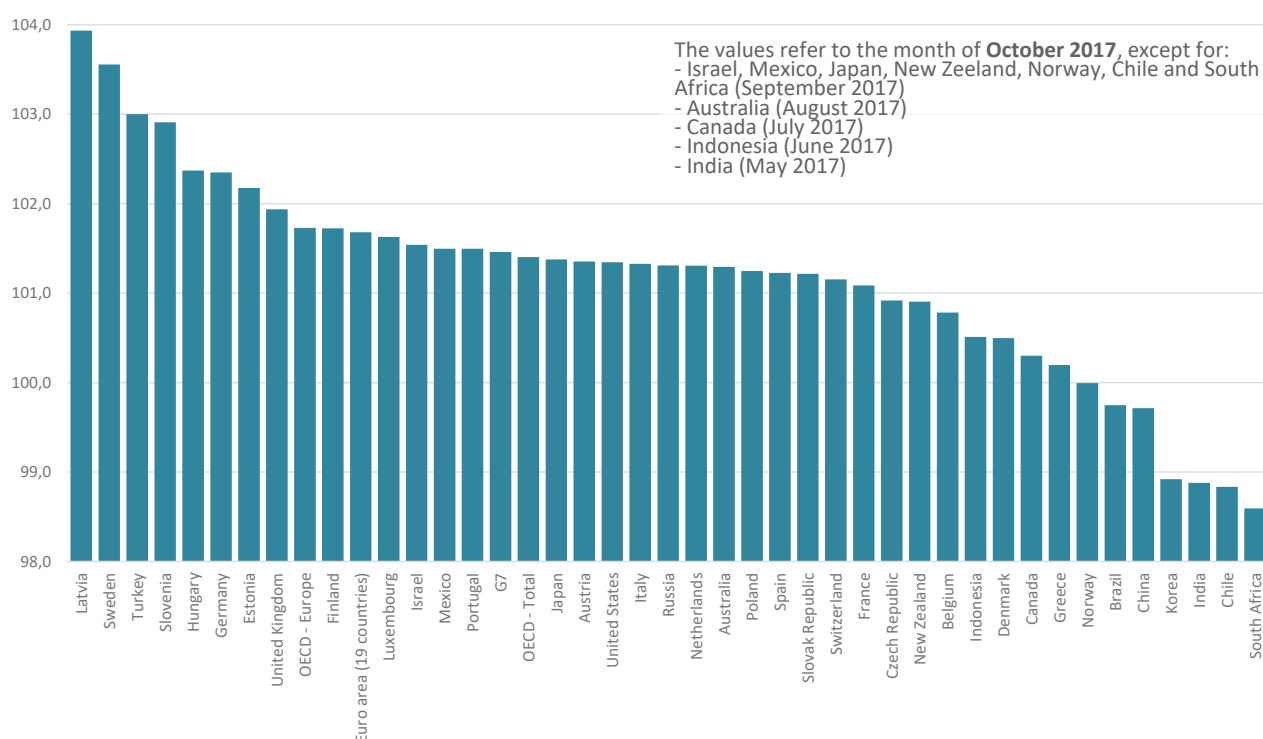


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Sweden and Turkey are among the top three leading countries in BCI terms, reaching 103.6 and 103.0 points, picking up 2.7% and 1.5% compared to October previous year. Germany and UK switched their positions, ranking now as the 7th and the 9th. They scored 102.4 and 101.9 units, higher than the average for Europe (101.7) and above the G7 (101.5). The lowest BCIs among CECIMO members were Belgium and Czech Republic attesting an index of 100.8 and 100.9 respectively. France, Spain and Italy scored at similar levels – 101.1, 101.2 and 101.3-, positioning in the middle of the OECD ranking, as shown below. On a year to year basis, they improved their BCI by 0.8%, 0.4% and 0.9% each. China and Korea recorded a similar level as in September, or 0.4% and 0.5% better than last year, scoring only 98.9 and 99.7 units. Disregarding the last month's indicator, China has been on a slow growth path since January 2016.

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

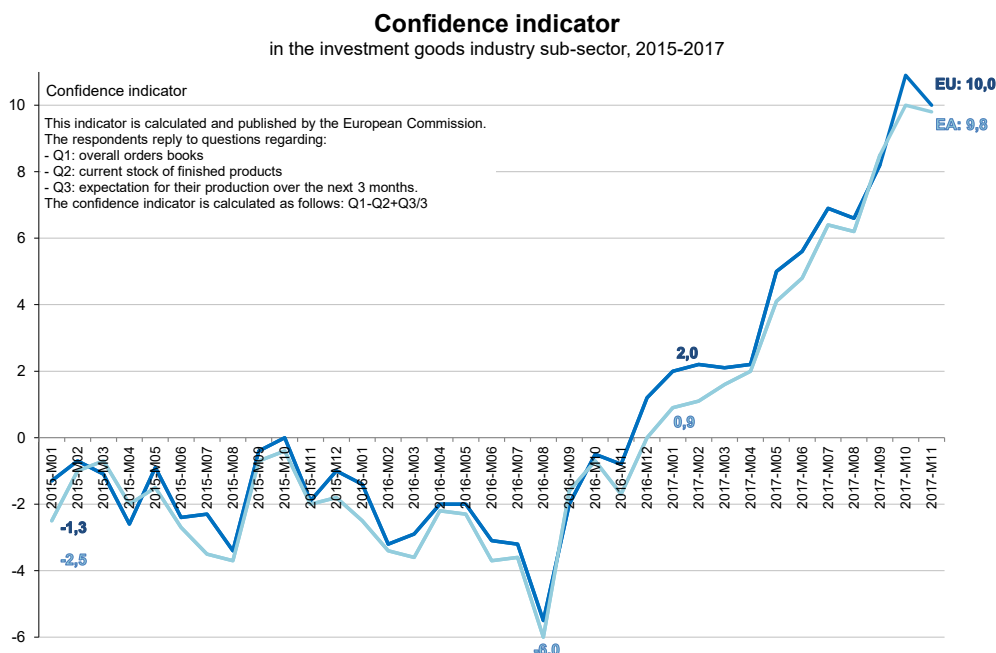


▲ 2.11 European Commission Economic Sentiment Indicator ^①

In November, the Economic Sentiment Indicator (ESI) in the Euro Area further improved by 0.5 points, scoring 114.6 points. Currently it records the highest levels since October 2000. For the EU, the indicator remained relatively stable, at 114.3, or 0.1% more than in the previous month. This is the highest indicator for the EU since the pre-crisis levels. The increase of the ESI for the EA is mainly driven by a substantial improvement among the consumers in the consumer and construction sectors, as unemployment and savings expectations of the households were rather optimistic, whereas the confidence in industry and services remain broadly unchanged. The retail trade sector slightly dragged it down, due to a strong deterioration in the managers' view on the business situation. The member states pushing the ESI up were France (+1.9), Netherlands (+0.8) and Spain (+0.6), while it remained stable in our top 2 machine tool producers: Italy (+0.2) and Germany (-0.1).

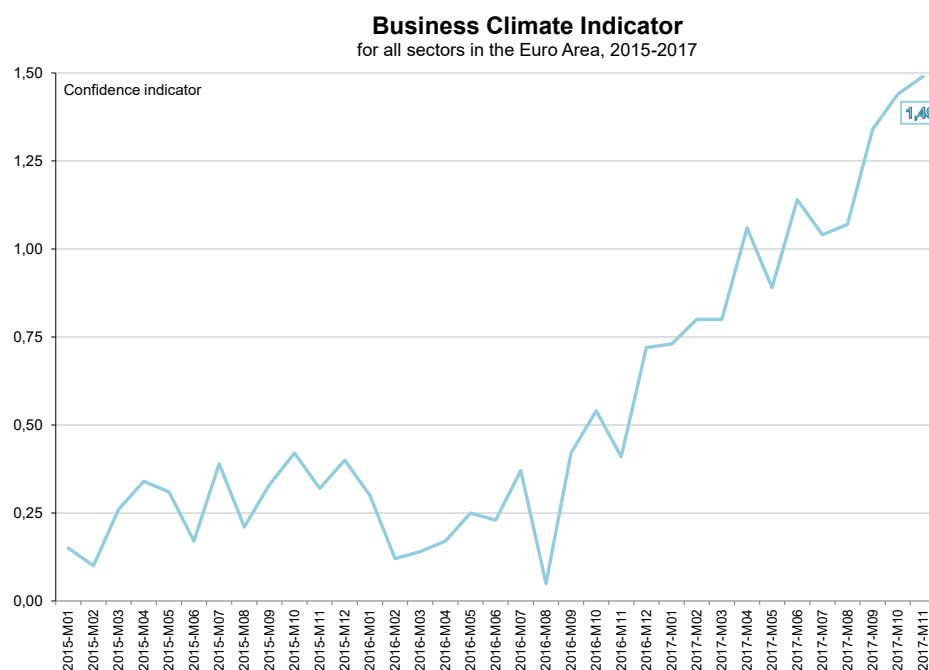
Generally, the EU ESI remained broadly the same, reflecting a deterioration of non-EA EU economies, such as UK with -1.5 this month, counterbalanced by Poland's improvement of +0.7 points. The industrial confidence indicator improved by 0.3 points in the EU and 0.2 in the EA, reaching 8.1 and 8.2 respectively.

Regarding the investment goods industry, its confidence and economic sentiment indicator slightly deteriorated by 0.9 points in the EU, 10.0 points down from 10.9 points of the previous month. In October, the indicator was at a record high level since February 2011. Compared to November 2016, the indicator gained 10.8 points. Similarly, in the Euro Area, the indicator shrank by 0.2 points, scoring 9.8 points down from 10.0 points in October - the highest score since May 2011.



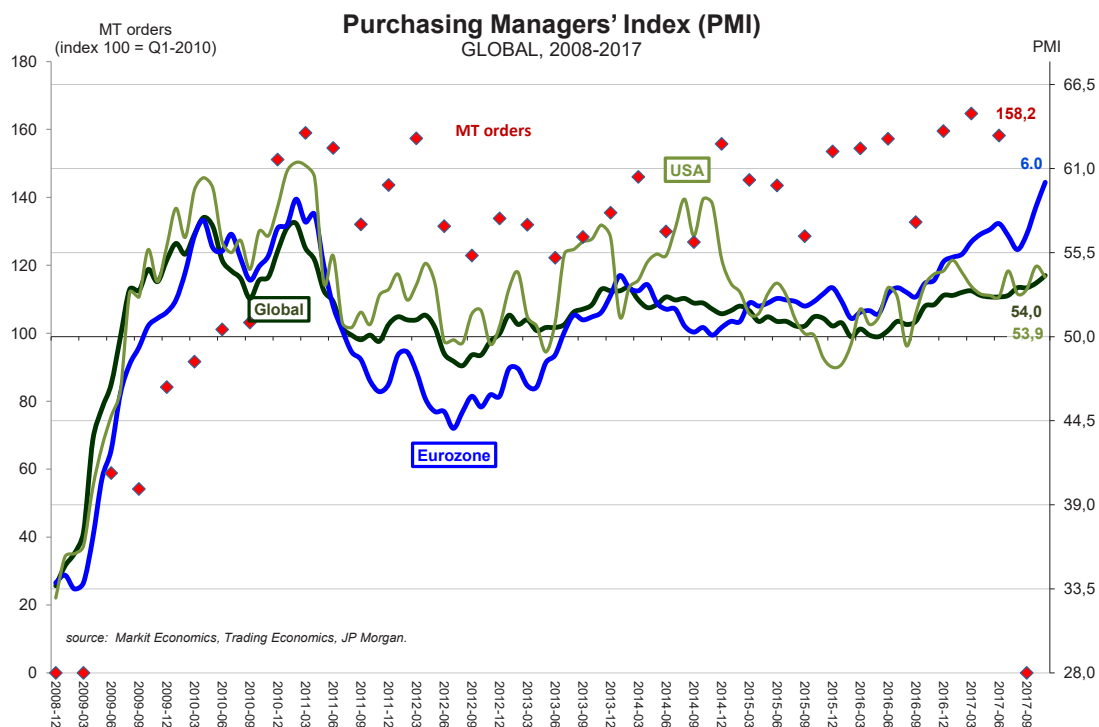
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The Euro Area Business Climate Indicator rose for the fifth month in a row, registering 1.49 points up from 1.44 in October. The modest month-to-month development is the result of the managers' stable appreciation of the current level of the order books and stocks of finished products, with a mild improvement of the production expectations. Nevertheless, this month we observe a level never reached since July 2007, suggesting the strongest levels of business confidence in a decade.



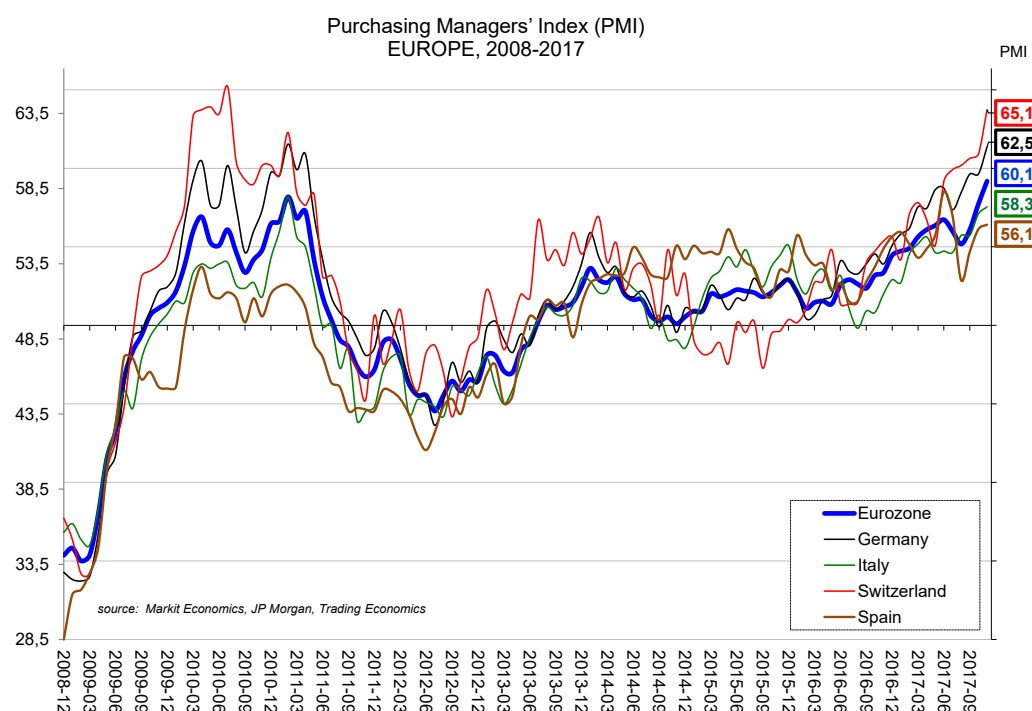
▲ 2.12 Purchasing Managers' Index ⁱ

November registered an upturn of the Purchasing Managers' Index (PMI) compared to the previous month in all the regions. In the Euro Area, it posted 60.1 points – the best reading since April 2000, continuing to increase. This level is 2.7% higher than in October and 11.9 % higher than November last year. The growth was led by an accelerated expansion in production and new orders. Moreover, the Eurozone's PMI was boosted by record high export figures and improvements on the employment side.



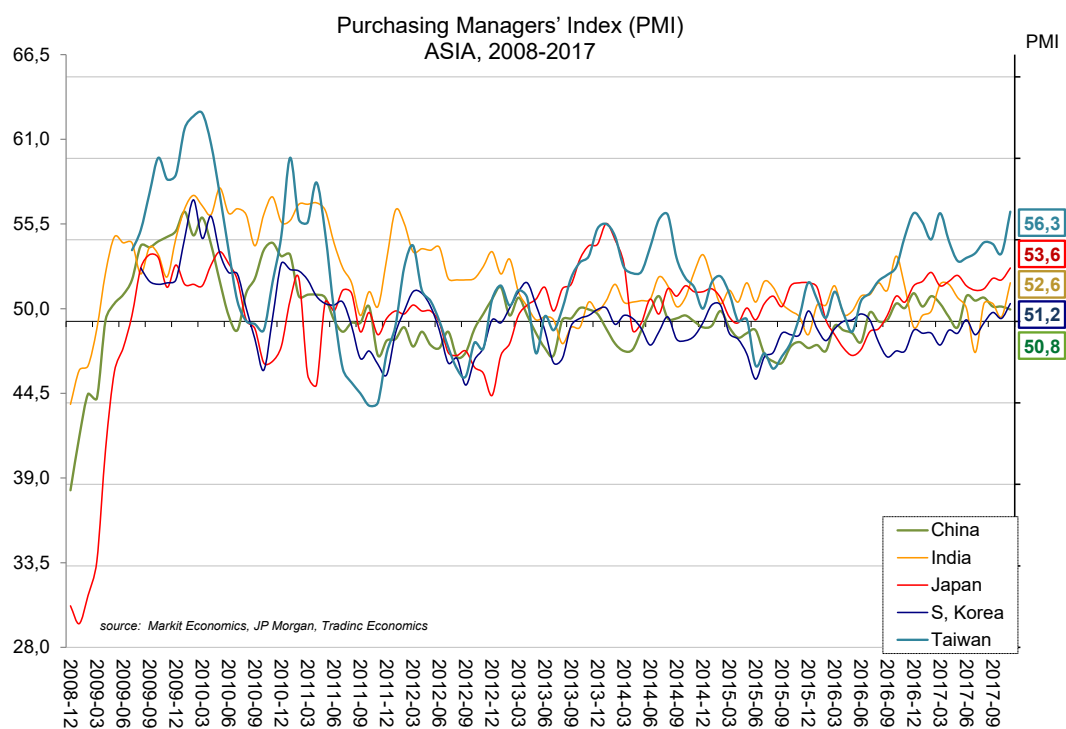
In a country by country analysis, we observe that the member states signal a further overall improvement in manufacturing business conditions, new orders and employment. Austria is at its highest historical PMI of 61.9 points (4.2% higher than last month and 11.7% higher than last year). France is at a multi-year high, at 57.7 points (2.9% higher than in October and 11.6% higher than November 2016). The French PMI was driven by a stronger domestic and foreign demand, that consequently pushed up the employment rate. The prices for raw material led to further inflationary pressures. Similarly, the Netherlands, with a 62.4 PMI up from 60.4, register unprecedented growth in output and employment. Italy (58.3%), Czech Republic (58.7%), Spain (56.1%), even Turkey (52.9%) report a sensible improvement of the operating conditions in longer or shorter terms. Italy and Czech Republic improved their PMI by 11.7% and 12.5% over the year, despite a flat monthly growth. The annual growth of the British PMI equals 9%. Its 58.2 level in November is 2.8% higher than in the previous month. Therefore, the island sees its orders and employment rise at faster rates; its investments are the highest in the last 20 years. Turkey, as well, registers a rather modest raise but reports the ninth month of consecutive improvement.

Continued ►



Over the Atlantic, Canadian manufacturers experienced another solid improvement in overall business conditions, with a softer momentum compared to the first half of 2017. As a matter of fact, the manufacturing production growth eased to an 11-month low, while new order volumes expanded at one of the slowest rates seen in 2017 so far. Likewise, in the US, the PMI reading points at a slower but robust overall growth of the manufacturing sector.

In Asia, Japan signals the strongest pickup in business conditions since March 2014. Its PMI moved from 52.8 to 53.6 (4.5% raise annually). South Korea reports the sharpest expansion in the manufacturing sector since April 2013. The Korean PMI posted a 51.2 level above the minimum 50 benchmark that indicates an overall improvement. Taiwan also shows a consecutive improvement in manufacturing over the last 18 months. Its PMI shifted from 53.6 in October to 56.3 in November (5% better on a monthly basis and 2.9% better than last year). On contrary, the Chinese goods producers further increased their output, but with a slower growth rate. The manufacturing PMI actually decreased by -0.4% compared to the previous month and by -0.2% compared to the same month in 2016, at 50.8 points.



Glossary ^①

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

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

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Member Associations

Austria: FMTI
Fachverband Metalltechnische
Industrie
www.fmti.at

Belgium: AGORIA
Federatie van de Technologische
Industrie
www.agoria.be

Czech Republic: SST
Svazu Strojírenské Technologie
www.sst.cz

Denmark: The Manufacturing Industry
a part of the Confederation of Danish
Industry
ffi.di.dk

**Finland: Technology Industries of
Finland**
www.teknologiateollisuus.fi

France: SYMOP
Syndicat des Entreprises de
Technologies de Production
www.symop.com/fr

Germany: VDW
Verein Deutscher
Werkzeugmaschinenfabriken e.V.
www.vdw.de

Italy: UCIMU
Associazione dei costruttori Italiani
di macchine utensili robot e
automazione
www.ucimu.it

Netherlands: FPT-VIMAG
Federatie Productie Technologie /
Sectie VIMAG
www.fpt-vimag.nl

Portugal: AIMMAP
Associação dos Industriais
Metalúrgicos, Metalomecânicos e
Afins de Portugal
www.aimmap.pt

**Spain: AFM - Advanced Manufacturing
Technologies**
Asociación española de fabricantes
de máquinas-herramienta, accesorios,
componentes y herramientas
www.afm.es

Sweden: MTAS
Machine and Tool Association of
Sweden
www.mtas.se

Switzerland: SWISSMEM
Die Schweizer Maschinen-, Elektro-
und Metall-Industrie
www.swissmem.ch

Turkey: MIB
Makina Imalatçileri Birliği
www.mib.org.tr

United Kingdom: MTA
The Manufacturing Technologies
Association
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.