CECIMO Statistical Toolbox

September 2015

cecimo

European Association of
the Machine Tool Industries

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Introduction

The saying goes: when the United States sneeze, the rest of the world catches a cold. While China also plays an important role in driving the trends for the manufacturing sector, the recent global financial crisis have confirmed once more the United States' importance to the world economy, for better or for worst. The global economy would likely have suffered more if central banks had not followed their so-called "unconventional monetary policies" that relied on such innovations as buying nongovernment bonds (widely translated as "quantitative easing") to pump up the economy. Traditional policies, such as cutting interest rates, were no longer feasible. Nominal interest rates were brought to nearly zero early in the global recession and have been kept at that minimum level since.

In emerging markets, in the light of developed countries' accommodative monetary policy, policymakers begin to voice concerns. The monetary expansion in advanced economies has spilled over into their economies, causing a surge in capital inflows. Their currencies appreciate and their asset prices rise rapidly. The advanced countries' monetary policy has forced emerging countries to take quite strong measures to insure the competitiveness of their economies. For example, China lately lower its interest rate. The International Monetary Fund study on 21 emerging market economies found that when the U.S. monetary policy causes surprise, it has an immediate growing effect on capital inflows and asset price movements in emerging economies. Therefore, the recent decision of the Federal Reserve to hold still the interest rates has the opposite effect: it will help to boost the weakening global growth while, in the long term, adding pressure on exchange rates to increase in the emerging economies.

The importance of the monetary policy's global impact depends on the magnitude of intervention. The total amount of assets that the European Central Bank has purchased represents 5.3% of the GDP of the euro area, whereas what the Fed has done represents almost 25% of the U.S. GDP and the Bank of Japan has purchased assets up to 64% of the Japanese GDP and the U.K. has used for monetary policy 21% of the UK's GDP. Therefore, the US intervention of 4.3 trillion dollars is by far the biggest injection of money in the economy.

Despite present the interest rate being held down by the Federal Reserve, the looming rate hike creates uncertainty in global markets. Doubts about the Chinese authorities' capability to manage macroeconomic and financial stability risks after the stock market rout and miscommunicated change in the exchange rate regime only adds to the uncertainty. On the other hand the worsening economic climate has so far not translated into the European machine tool industry's performance, the results from the second quarter of 2015 show dynamic pace in the sector. CECIMO8 orders increased 3% and 14% compared to the previous quarter and to the same period in 2014 respectively.

The EU has set a target to move the GDP's share of industry from the present 15% to 20% by 2020. To reach the goal, the industry will need an estimated additional 100 billion euro of investments per year. One initiative to help to close the gap is the Juncker Plan. The plan aims to create a new European Fund for Strategic Investments (EFSI) with funds totalling 21 billion euro coming from the European Investment Bank (EIB), existing EU funds and EU programs. With the private sector's contribution, it is expected to generate €240 billion of long-term investments and €75 billion for SMEs and mid-cap firms over the period 2015-2017. The capability of the plan to create such a big flow of private contributions remains questionable but, in any case, new investments are urgently needed for the European industry needs to keep pace with the technological change.

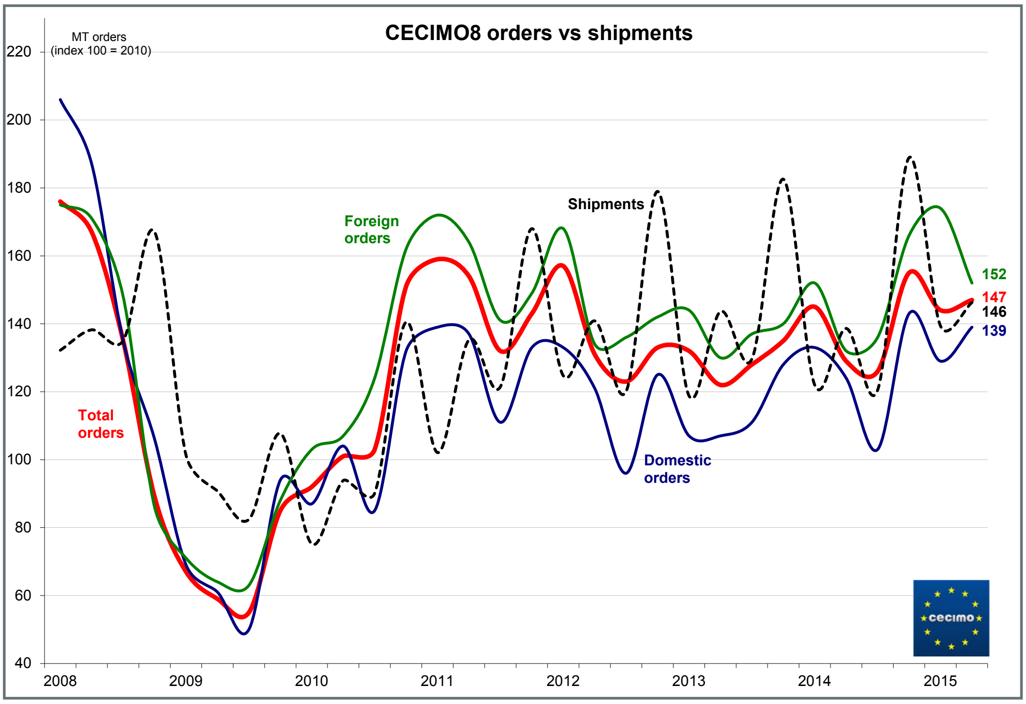
1. Data specific to the European machine tool market

1.1 CECIMO8 orders ⓘ

In the second quarter of 2015, the European machine tool industry showed solid order intake, the CECIMO 8 total orders' index increased 3% compared with the previous quarter and 14% in year-to-year comparison. CECIMO machine tool builders profited dominantly from growing business confidence in domestic markets

The CECIMO8 foreign orders' index increased 15% compared to the second quarter of 2014 and fell 13% compared to the previous quarter. The improving economic sentiment in Germany is the main driver of domestic orders intake. The domestic orders index gained 7% and 11% compared to the levels of the previous quarter and the period of a year ago respectively.

On the positive side, we see the Czech Republic, Germany and Spain keeping up their good performance. The orders declined in Austria, France and the United Kingdom. The Italy's index showed a downward trend while posting increases on yearly basis due to relatively low base values.



1.2 Peter Meier's forecast

Overall situation:
Once again, the estimations of economic experts on the economic situation differ very much: The Ifo economic outlook reports "brightened expectations in the industry," Deka-Bank subtitled in their current economic forecast "with the handbrake on into the second half of the year" and Credit Suisse commented the latest edition of the PMI (Purchasing Manager's Index) with "Swiss industry in a backward movement". Of course the different estimations of the economic situation are based on the observation of different economic indicators. But isn't this hiding the forest for the trees?

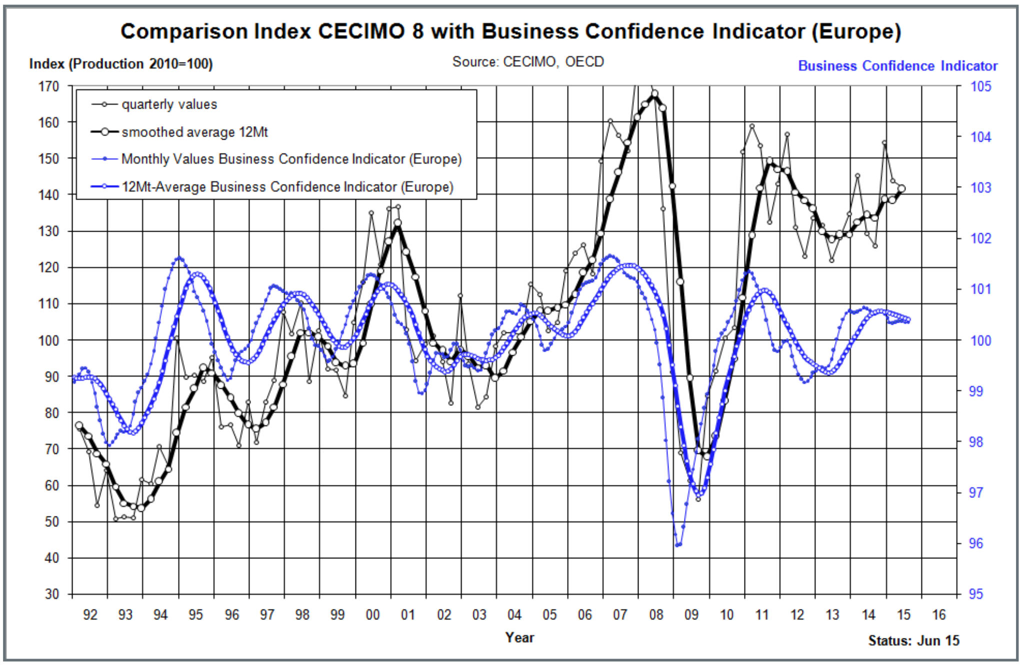
Primarily, the global economic development determines the demand for capital goods. The influence, however, is different depending on the sector and geographical distribution of sales. This can be attributed to a few factors, of which the most important are consumption and industrial production.

- Consumption has grown rapidly in the US in recent years, today it is about 3% above the level of 2007. The industrial production has grown to the same extent. However, the growth rate of consumption and industrial production has slowed considerably in the last couple of months.
- In Japan, consumption is no longer growing since the 90s, due to the demographic development. Industrial production depends heavily on exports and is therefore very volatile, but also settled at a more or less constant level since the 90s.
- The major emerging countries, especially China, are undergoing structural changes. The consumption is growing rapidly: in China it has tripled since 2008! But the growth rates are increasingly smaller. The growth rate for investments in fixed assets shrunk steadily from 40% per annum ten years ago to under 10% today. A sign, that the infrastructure is built up and the growth of industrial production will decrease. Today the growth of GDP in China is determined largely by the growth of labour costs.
- In the recent months, the European consumption has finally returned to the pre-crisis levels of 2007 mainly driven by a rapidly growing consumption in the Southern European countries. However, industrial production continued to languish at the 2011 level, which is about 5% below the pre-crisis level

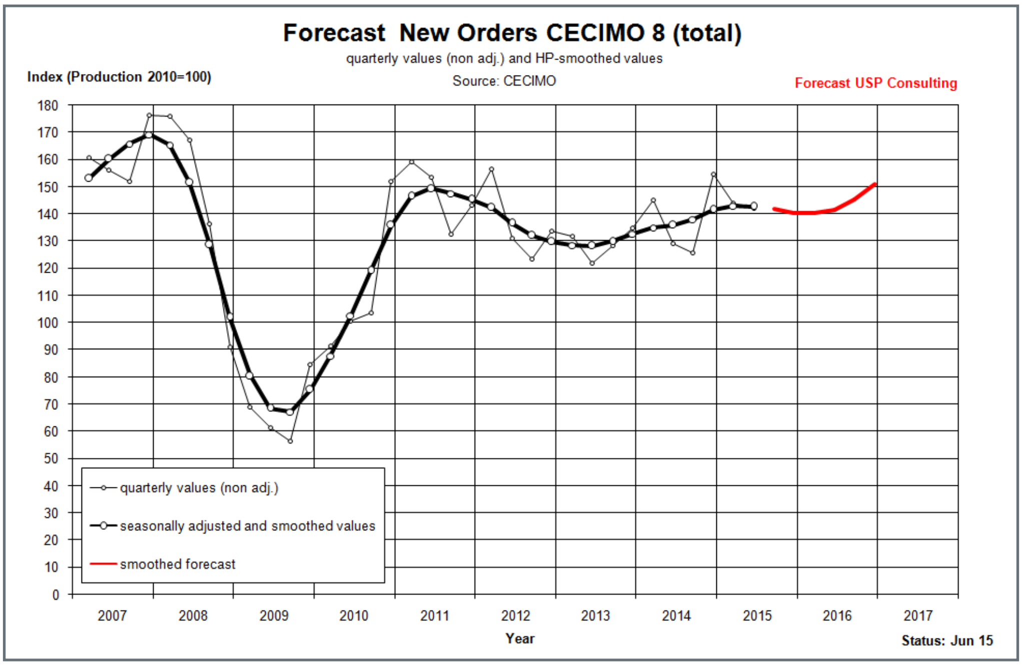
Conclusion: The demand for capital goods was until 2011 strongly driven by China. Since then, this engine sputters. The rising demand in the US compensated the deficiency only to a small extent. In our home market, the propensity to invest remained very restrained because of the major crises in Greece and Ukraine. This explains the continuing lack of investment activity since 2011/12.

It is high time that Europe takes the lead. Consumption will continue to grow, industrial production is likely to grow as well and an investment backlog has been built up in recent years. A surge in demand will probably not begin until next year, but the prospects are good.

Business Confidence:
The CECIMO order volume in Q2 was somewhat below Q1 2015 (fine black line). Since the beginning of this year, the Business Confidence Indicator moves sideways on a slightly lower level than last year.



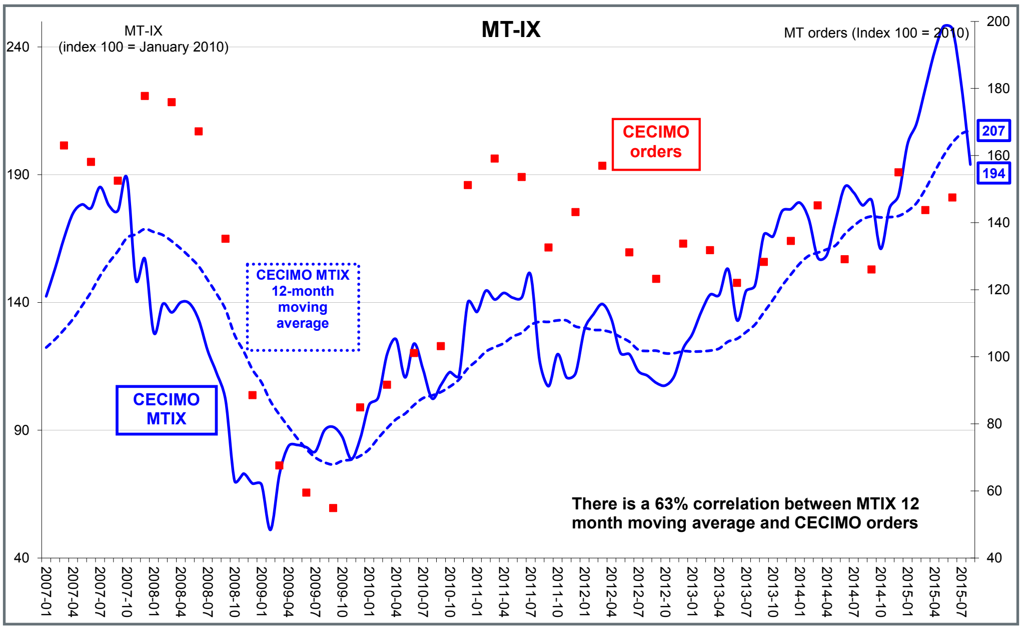
CECIMO 8 Forecast:
New orders in Q2 2015 were slightly above expectations. The latest economic indicators brightened the prospects considerably. Instead of a declining demand in 2015, the forecast points now more or less on a sideways movement until mid of 2016. Afterwards the demand is likely to grow.



▲ 1.3 MT-IX ⓘ

In August, the MT-IX decreased of 13.8%. The index lost 31 points compared to July's value, and posted at 194 points in August 2015.

With Chinese stock market slide, the market value of machine tool companies decreased in all countries except in the United States and Switzerland, where the market capitalisation of machine tool companies booked more varied results.



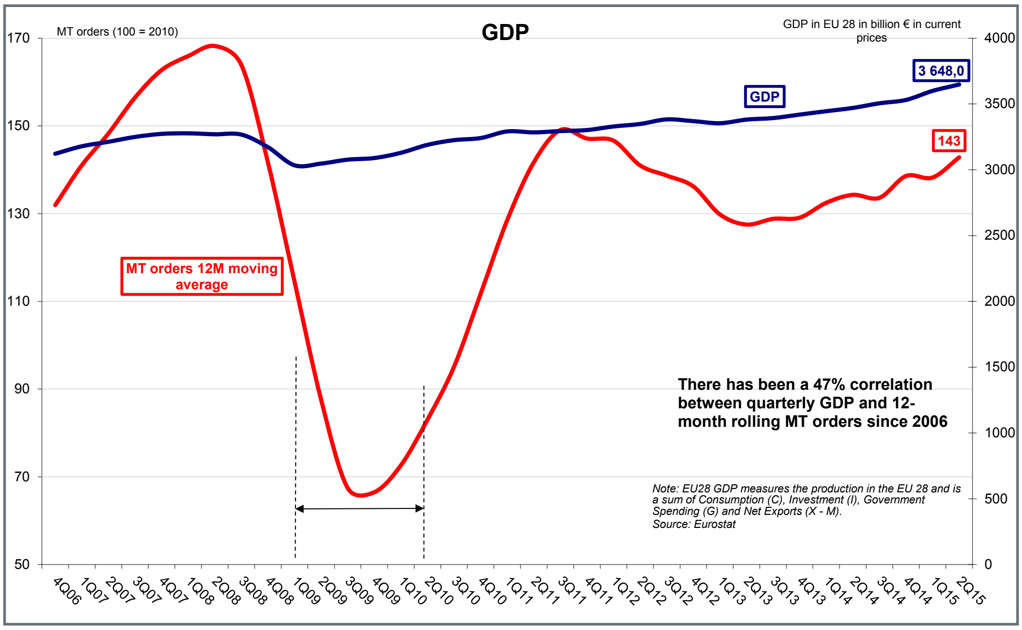
2. Macroeconomic data in relation with machine tool orders

2.1 GDP

The seasonally adjusted GDP rose by 0.4% in both the euro area (EA19) and the EU28 during the second quarter of 2015 compared with the previous quarter, according to a second estimate published by Eurostat, the statistical office of the European Union. In the first quarter of 2015, GDP grew by 0.5% in both areas. Compared with the same quarter of the previous year, the seasonally adjusted GDP rose by 1.5% in the euro area and by 1.9% in the EU28 in the second quarter of 2015, after increases of 1.2% and 1.7% respectively in the previous quarter.

The GDP increased in all Member States for which data are available for the second quarter of 2015, except France where it remained stable. The highest growth compared with the previous quarter was recorded in Latvia (+1.2%), Malta (+1.1%), the Czech Republic, Spain and Sweden (all +1.0%), followed by Greece and Poland (both +0.9%), Slovakia (+0.8%), Estonia, Croatia, Lithuania, Slovenia and the United Kingdom (all +0.7%). The lowest growth rates were registered in the Netherlands, Austria and Romania (all +0.1%).

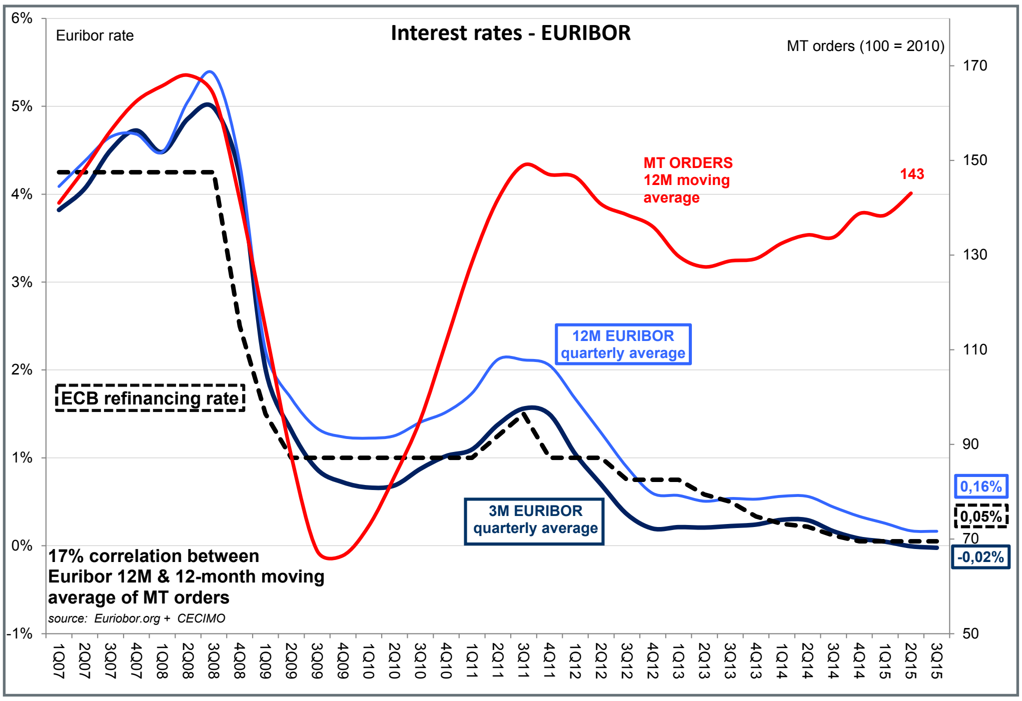
During the second quarter of 2015, GDP in the United States increased by 0.9% compared with the previous quarter (after +0.2% in the first quarter of 2015). Compared with the same quarter of the previous year, GDP grew by 2.7% (after +2.9% in the previous quarter).



2.2 Interest rates – EURIBOR ⓘ

The average 3-month Euribor recorded -0.03% and 12-month Euribor 0.16% in August. Compared to July, the average 3-month and 12-month Euribor decreased both by 1 percentage point.

The Euro area annual inflation was 0.1% in August 2015, down from 0.2% in July. Low oil prices have the biggest downward impact. Inflation rates are foreseen to pick up during 2016 and 2017 together with the expected economic recovery. However, this increase in annual inflation rates is currently expected to materialise somewhat more slowly than anticipated.



2.3 Industrial production index

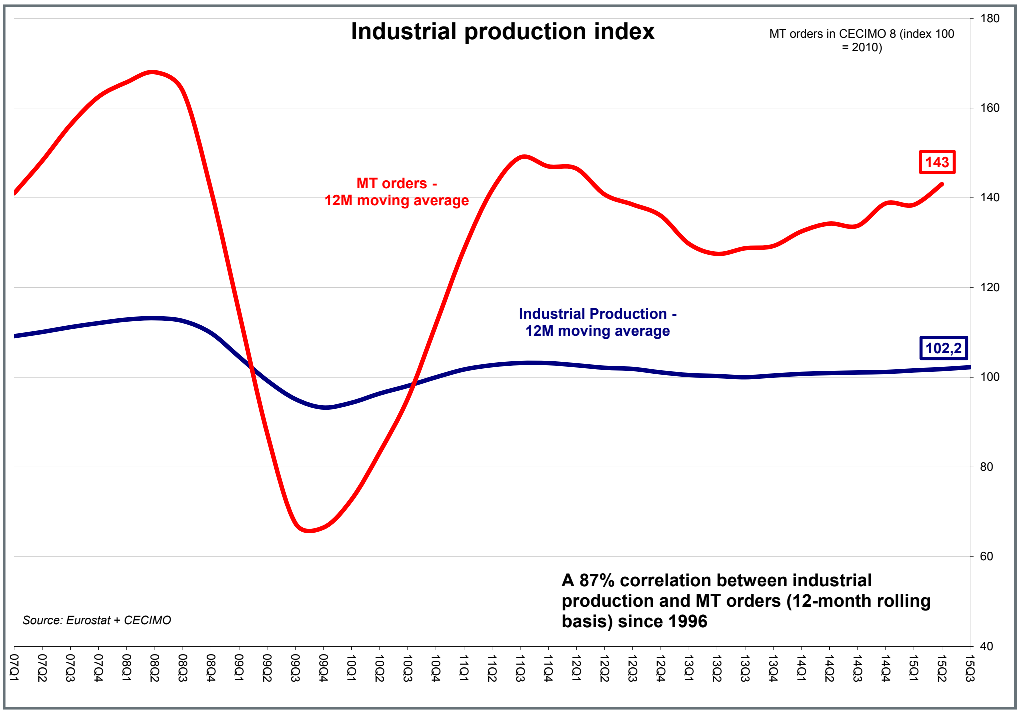
In July 2015 compared with June 2015, seasonally adjusted industrial production rose by 0.6% in the euro area and by 0.3% in the EU28, according to estimates from Eurostat. In June 2015, industrial production decreased by 0.3% and 0.1% respectively.

The increase in industrial production in the euro area is due to the production of energy rising by 3.0%, the production of capital goods by 1.4% and the production of durable consumer goods by 1.3%, while the production of both intermediate goods and non-durable consumer goods fell by 0.6%. In the EU28, the increase is due to the production of energy rising by 2.1%, the production of capital goods by 0.7% and the production of durable consumer goods by 0.6%, while the production of intermediate goods fell by 0.6% and the production of non-durable consumer goods by 0.2%.

Among Member States for which data are available, the highest increases in industrial production were registered in Ireland (+7.2%), Greece (+4.3%), Croatia (+3.6%) and Latvia (+2.8%), and the largest decreases in Denmark (-4.6%), Sweden (-2.1%) and Malta (-1.8%).

In July 2015 compared with July 2014, industrial production increased by 1.9% in the euro area and by 1.8% in the EU28. The increase in the euro area is due to the production of energy rising by 5.1%, the production of durable consumer goods by 2.6%, the production of capital goods by 2.2%, the production of non-durable consumer goods by 1.7% and the production of intermediate goods by 0.5%.
In the EU28, the increase is due to the production of energy rising by 4.8%, the production of durable consumer goods by 3.0%, the production of capital goods by 1.8%, the production of non-durable consumer goods by 1.3% and the production of intermediate goods by 0.8%.

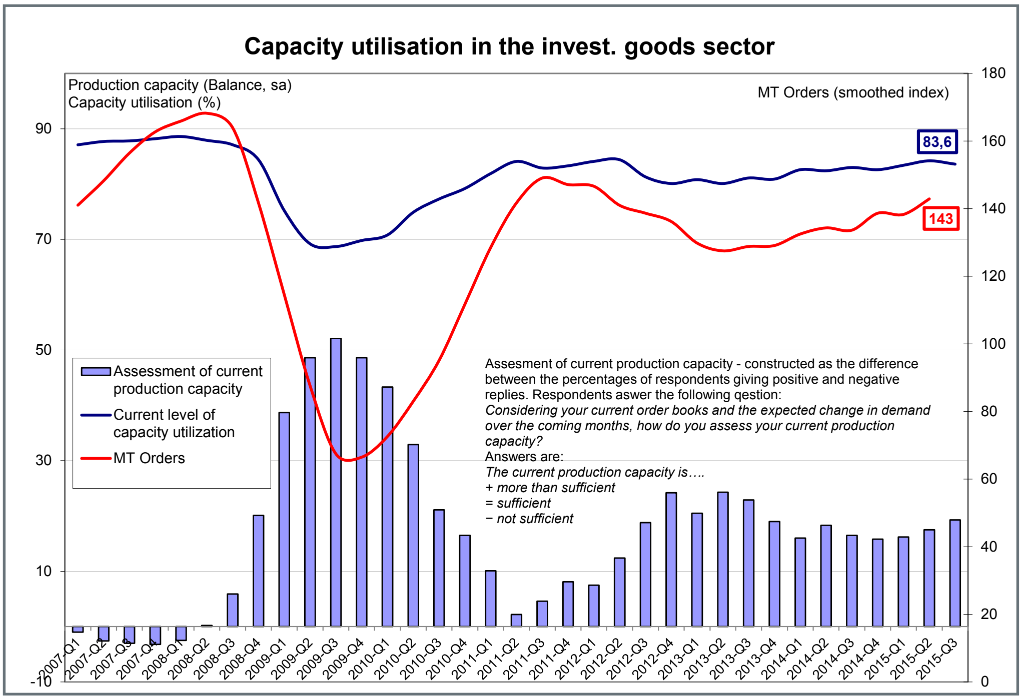
In yearly comparison among Member States for which data are available, the highest increases in industrial production were registered in Ireland (+17.9%), Slovakia (+11.9%), Latvia (+8.3%), Malta (+7.7%) and the Czech Republic (+7.2%). Decreases were observed in Estonia (-5.9%), the Netherlands (-4.4%), Greece (-1.5%), France and Finland (both -1.4%).



2.5 Capacity utilisation in the investment goods sector

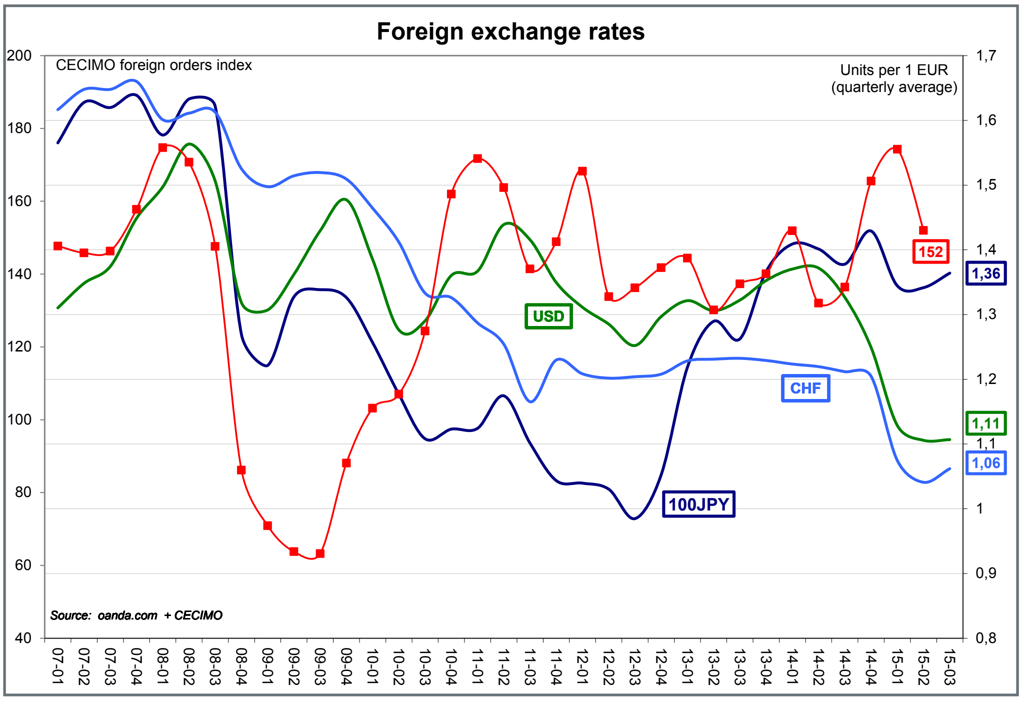
In the European manufacturing sector, the estimated rate of capacity utilisation decreased to 83.6% in the third quarter of 2015 from 84.2 in previous quarter. Capacity utilization in the euro area dropped to 83.7% from 84.1% in the previous quarter. The euro area capacity utilisation averaged 81.0 % from 1985 to 2015, reaching an all-time high of 85.3% in the fourth quarter of 1989 and a record low of 69.6 % in the third quarter of 2009.

At the same time, the share of managers assessing their current production capacity as 'more than sufficient' (in view of current order books and demand expectations) increased slightly. 19.3% more managers estimated their production capacity sufficient compared to 17.5% in previous quarter. Also managers' views on export order books deteriorated markedly.



2.7 Foreign exchange rates

In August, the euro exchange rate has been gradually strengthening. The nominal effective exchange rate of the euro, as measured against the currencies of 19 of the euro area's most important trading partners, stood in August 2.9% above July's but 5.2% below its level one year earlier.
Regarding bilateral exchange rate developments, the average euro exchange rate appreciated against both the Japanese yen and the US dollar by 1% and against the Swiss franc by 2.7% in August compared to the previous month.

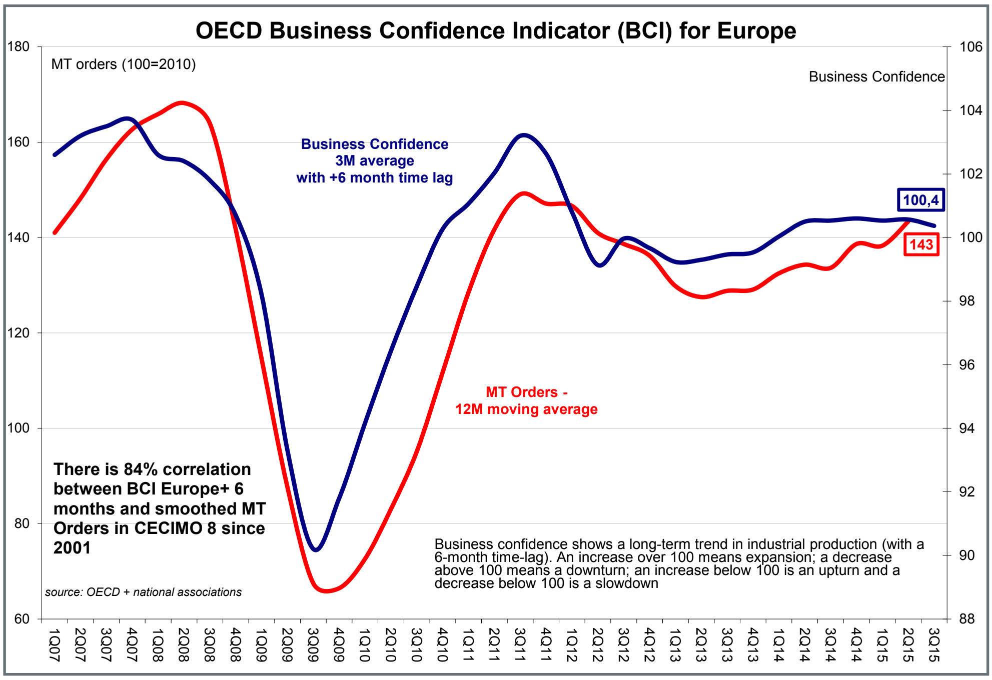


2.9 OECD Business Confidence Indicator (BCI) for Europe ⓘ

Business confidence indicators (BCIs), designed to anticipate turning points in economic activity relative to trend, point to stable growth in the OECD area as a whole.
A stable growth momentum is also expected in Europe and in the smaller euro area including Germany, Italy and Spain. In France, the BCI point to firming growth. The growth is easing in the United Kingdom while staying above the historical average. On the other hand, BCIs point to growth slowing down below long-term trends in Brazil, India and Russia. The BCIs for Japan and China point to stable growth although in China it remains below long term trend. The BCI for the United States shows signs of a positive change in growth momentum.

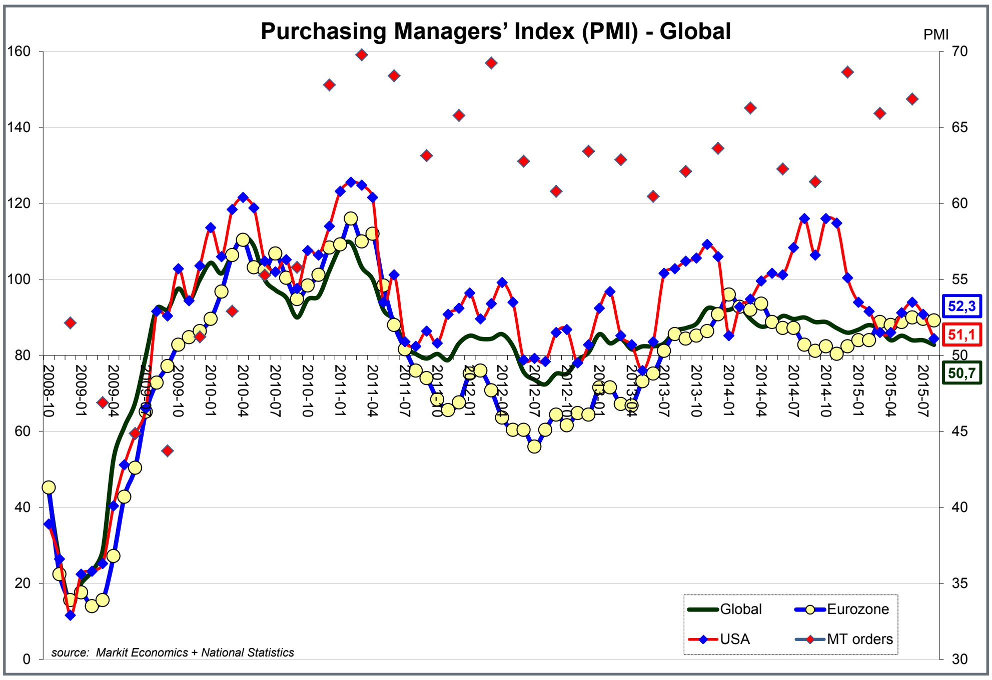
2.10 Purchasing Managers' Index (PMI) ⓘ

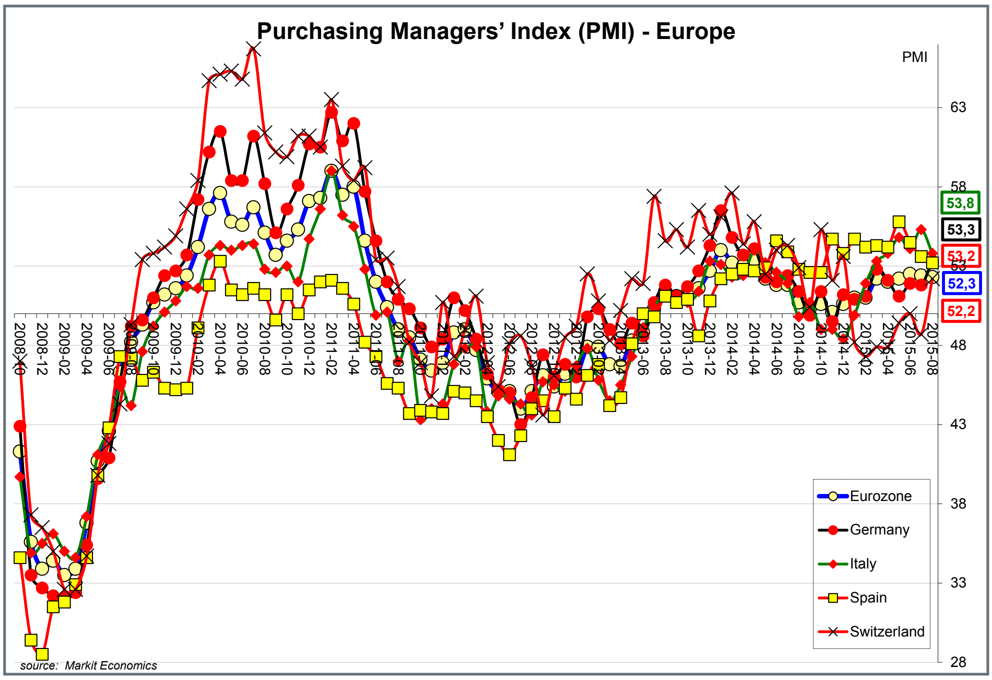
The global manufacturing activity expanded at its weakest pace since July 2013 in August, with manufacturing PMI sinking to 50.7 from 51.0 in July. On the other hand, the index has been above the 50 level that separates growth from contraction for 33 months. The Chinese PMI fell to 47.3, reinforcing fears of a sharper slowdown in the world's second-largest economy despite of government support measures. Growth in the American manufacturing sector slowed to 51.1 in August, down from 52.7 in July. The PMI for the Brazilian manufacturing sector fell to 45.8 from 47.2. Only Japanese data went against the trend, the manufacturing activity in August expanded at the fastest pace in seven months as domestic orders rose. The Japanese PMI stood at 51.7 in August.



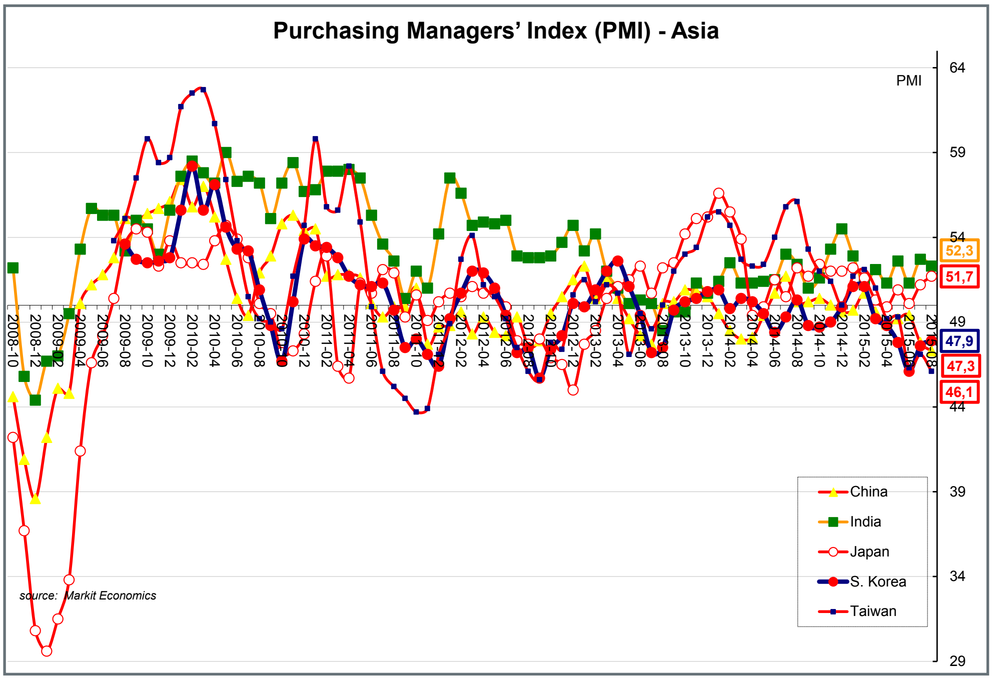
In the Euro area, the manufacturing PMI was 52.3 in August, down from 52.4 in July, though it has been above the 50 mark for over two years. Germany's PMI jumped to 53.3 from July's 51.8. The Italian PMI, which was showing signs of improvement, fell back to 53.8 from 55.3. France, the euro zone's second-biggest economy, appears to be heading towards contraction with the August PMI of 48.3. Spain's PMI declined to 53.2.

"*The eurozone manufacturing sector showed continued resilience in August, with output growth and inflows of new business both strengthening. Based on the historical relationship, the PMI is tracking at somewhere close to a 2% annualised increase in industrial production so far in the third quarter, a modest gain but still representing a positive step forward. The job numbers are also looking more positive, with employment rising at the fastest pace in four years. On the inflation front, lower oil prices led to the first dip in input costs since February, while selling prices remained close to stagnation,*" commented Markit.





Purchasing Managers' Index (PMI) - Europe
PMI
53,8
53,3
53,2
52,3
52,2
Eurozone
Germany
Italy
Spain
Switzerland
source: Markit Economics



Purchasing Managers' Index (PMI) - Asia
PMI
52,3
51,7
47,9
47,3
46,1
China
India
Japan
S. Korea
Taiwan
source: Markit Economics

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 and 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 and 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.
http://www.euribor-ebf.eu/

2.3 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. The division of production in construction between building construction and civil engineering is based on the classification of types of construction (CC). Statistical population: Production: sections B, C, D of NACE (D353 excluded); Base period: Year 2010 = 100.
http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/is_esms.htm

2.5 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

2.9 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. 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. 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.
The standardised BCIs represent only the manufacturing sector. 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

2.10 Purchasing Managers' Index (PMI)

The Global Report on Manufacturing is compiled by Markit 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 and below 50.0 a decrease.
http://www.markiteconomics.com/Survey/Page.mvc/AboutPMIData

Document prepared by Maret Veiner,
Head of Intelligence Department, CECIMO

CECIMO aisbl
66, avenue Louise
1050 Brussels
Belgium

Tel: +32 2 502 70 90
Fax: +32 2 502 60 82
www.cecimo.eu

For more information:
information@cecimo.eu