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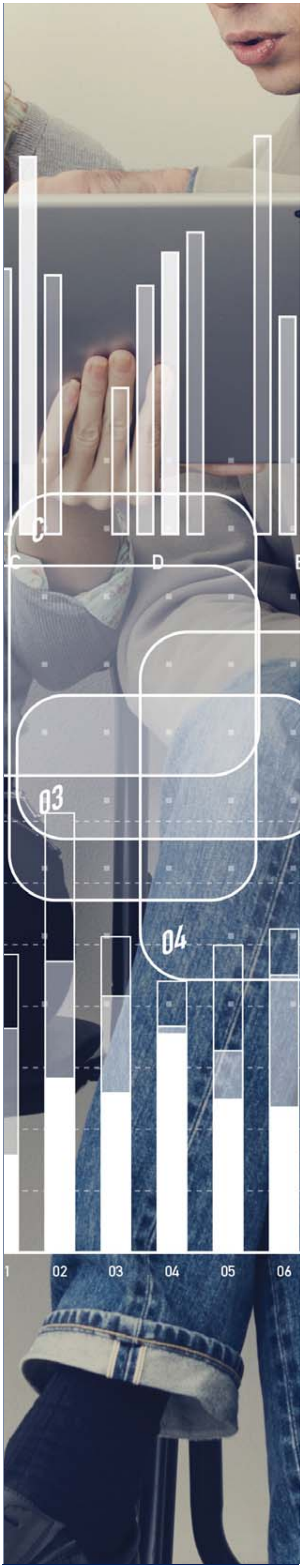
European Association of the Machine Tool Industries
and related Manufacturing Technologies

Economic & Statistical Toolbox

Fourth Quarter 2019



IN THIS ISSUE

MACHINE TOOL TRADE erosion continues.

INTAKE OF NEW ORDERS, both domestic and foreign, also deteriorate. Competitions record losses as well.

INDUSTRIAL OUTPUT slowdowns significantly, while managers deem the PRODUCTION CAPACITY sufficient. Investment in equipment makes a meager contribution to the net demand for loans among companies.

YEARLY DATA FOR 2019 and adjusted European Commission Forecast (Autumn 2019).

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Introduction

The fourth quarter of 2019 saw a drop in CECIMO8 total orders of -23% against Q4 2018. Domestic orders income fell -26% during the same timeframe and foreign demand decreased by -23%. Japanese domestic and foreign orders, both in the metal cutting and metal forming branches, lowered sharply, while US domestic orders weakened further.
The latest trade data shows a weakened global machine tools market.

CECIMO exports have recorded negative growth rates for four consecutive quarters, as Q4 2019's reading shows the largest yearly drop in exports (-10% vs Q4 2018). Exports to Asia, the Americas and Russia also decreased and CECIMO total machine tool imports fell -14%.

Concerning production, CECIMO overall machine tool production volumes have been revised downwards. CECIMO turnover now stands at 26,9 billion euros. This new figure represents a -4% decrease against 2018´s figure.

Consumption should weaken in 2020, the Oxford Economics' forecast indicates. HPO forecasts a slowdown of industrial activity, especially considering that this indicator has a high correlation with the performance of the capital goods market. Industrial production is less dynamic in Asia, Europe and America.

Investment:

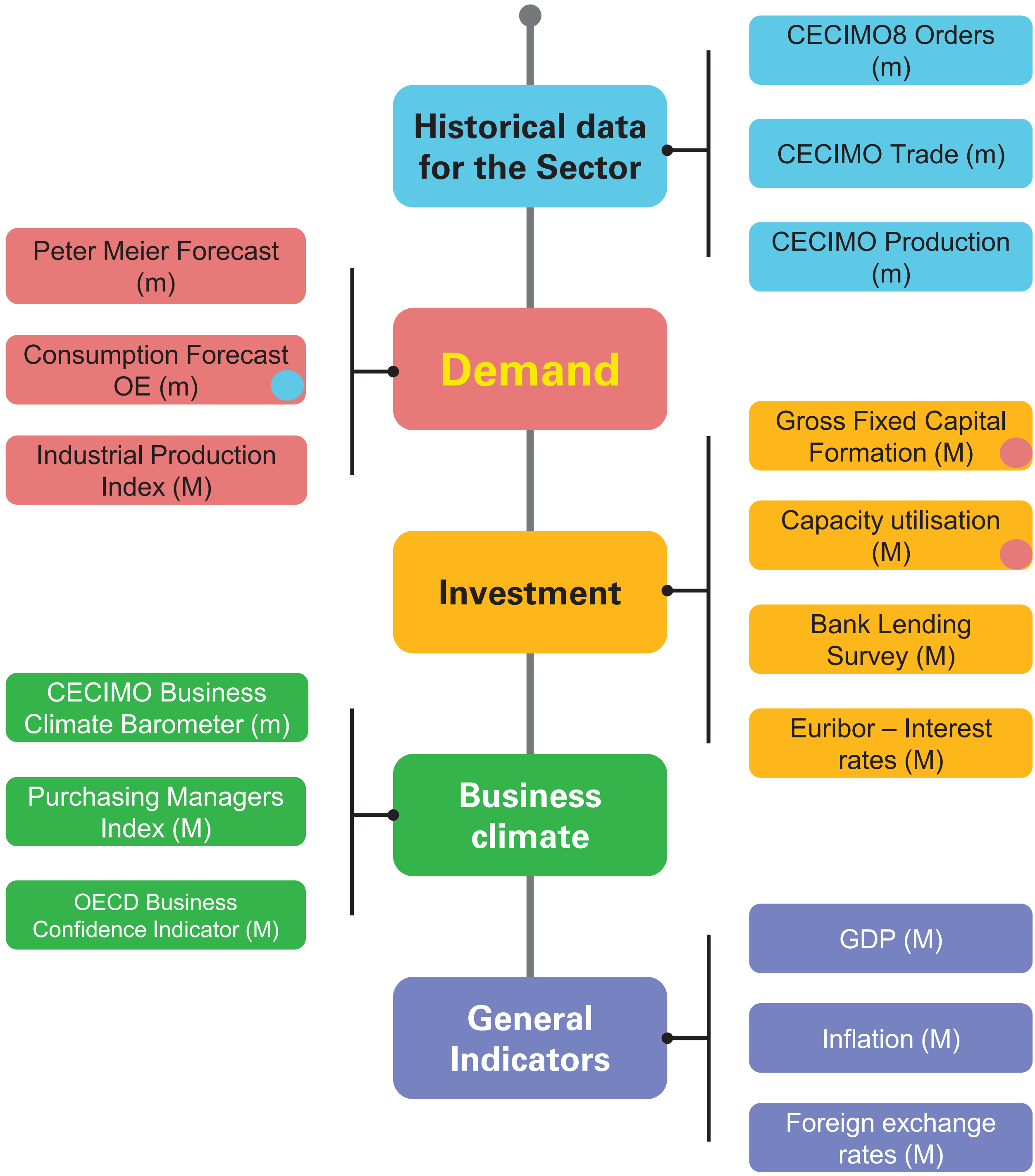
- In Q4 2019, gross fixed capital formation gained +8% compared to the same quarter in 2018.
- Total investment in EU28 is expected to increase by 1,8% in 2020. It is a downward revision from Spring's 2,1% estimated total investment yearly growth rate.
- EU production capacity currently stands at 22,4% (a significant increase compared to the previous quarter rate of more than 14%).
- Financing needs for fixed investment ceased to contribute positively to firms' loan demand.

Business climate:

Although OECD's BCI has improved in many CECIMO countries (with scores slightly above the 100-points threshold), the outlook is generally negative. A restrained business confidence has led to reductions in staff, sales and inventory holdings. Growth of production and new orders were both marginal, as weak international trade flows hindered expectations of a stronger recovery from the mid-year downturn in the sector.
The European Commissions GDP forecasts have been readjusted and anticipate a weaker economic performance for the European Union and the Euro area in 2020 and 2021. Chinese GDP is expected to moderate over the course of the next two years.

Moving forward, the effects of COVID19 public health crisis in China and Europe could have a large negative impact on the European machine tool industry, as it affects our sector's supply chains and the overall demand of machine tools.
It is too early to quantify the economic damage, but the first readings should be available once the figures for the first quarter of 2020 are submitted.

Toolbox Mind Map

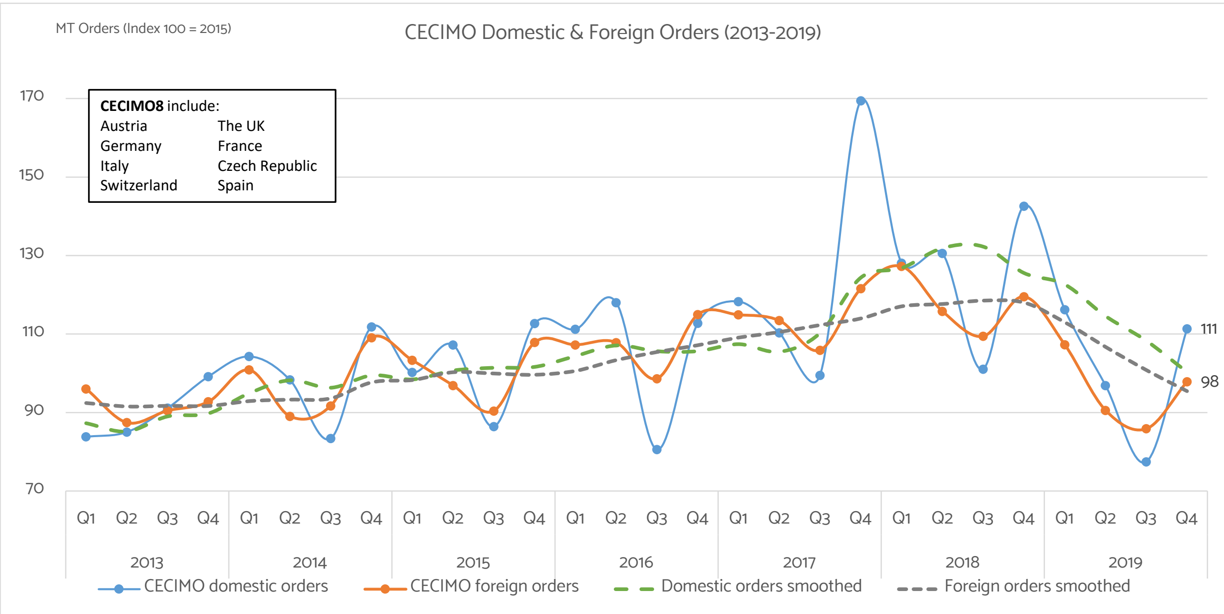


1. Historical Data for the Sector

1.1 Orders (m)

The fourth quarter of 2019 saw a drop in CECIMO8 total orders of -23% against Q4 2018. Domestic order income during fell -26% the same period and foreign demand decreases -23%. It is the fourth consecutive quarter with negative growth rates in terms of order intake, closing 2019 as a year marked by a languishing order intake in the European machine tool industry.

On average, CECIMO8 domestic orders decreased -21% in 2019, while foreign demand went down -20%. Total CECIMO8 orders fell a yearly average of -21% as well.



Breakdown per country

Total Orders:

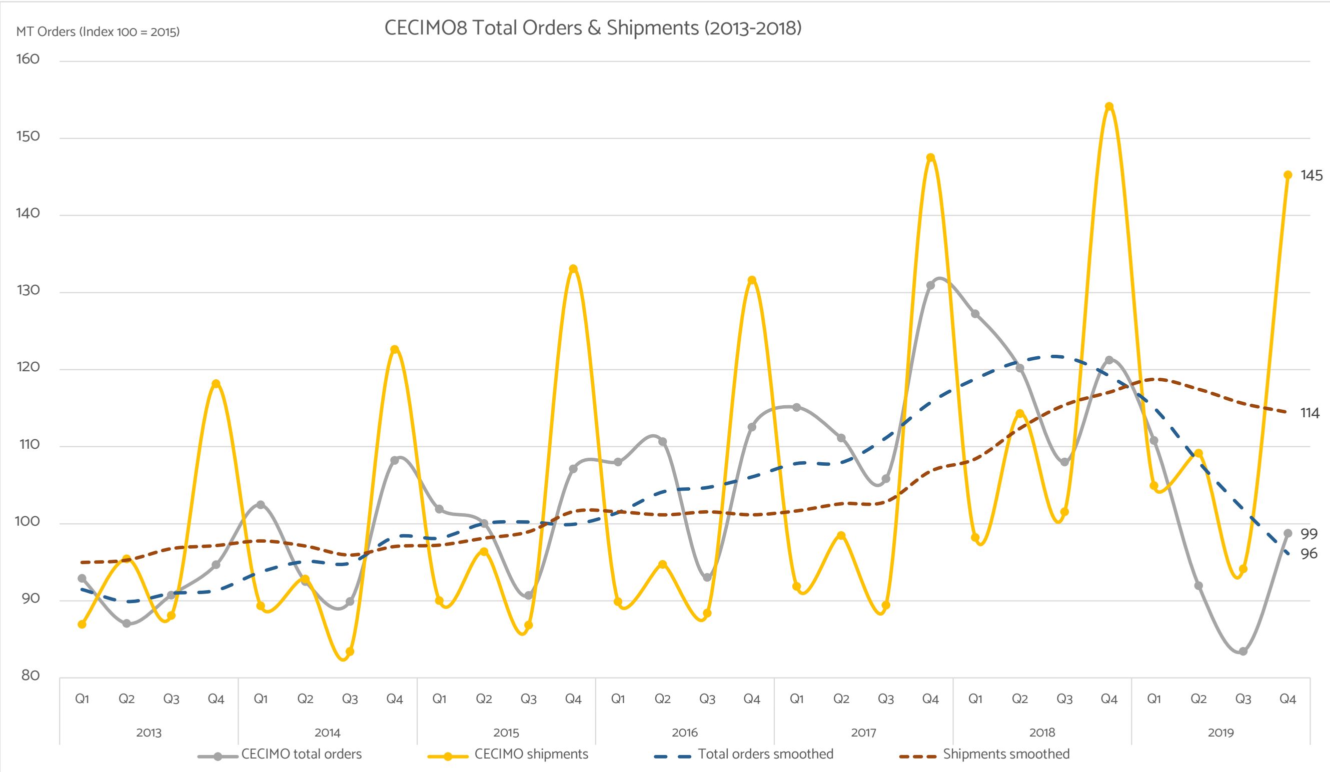
- Significant yearly decreases in Germany (-20%), Italy (-15%), Switzerland (-21%) and Spain (-22%).
- France, with a -63% yearly growth rate, suffers the sharpest erosion among CECIMO8 countries.
- The UK and the Austria total order intake also decreased -8% and -6%, respectively. Czech total machine tool orders decreased -3%

Domestic Orders:

- Domestic demand fell on a yearly basis in Germany (-18%), Italy (-20%) and the Czech Republic (-25%).
- Switzerland (-34%) and Spain (-35%) see steeper drops.
- France goes through a deep decrease in Q4 2019 in terms of domestic order intake with a -62% contraction compared to Q4 2018 data.
- Austrian domestic orders decreases by -1%
- The UK registers in the meantime a +8% increase in domestic orders intake.

Foreign Orders:

- Germany (-20%), Italy (-13%), Switzerland (-18%), the UK (-15%) and Spain (-20%) record notable drops in their foreign demand.
- Foreign orders intake in France decreased drastically in Q4 2019 against the same quarter of the previous year, with a -63% negative growth rate.
- Conversely, Austrian foreign orders go down by -7%.
- Czech foreign demand breaks away from the general results, registering a +5% yearly increase.

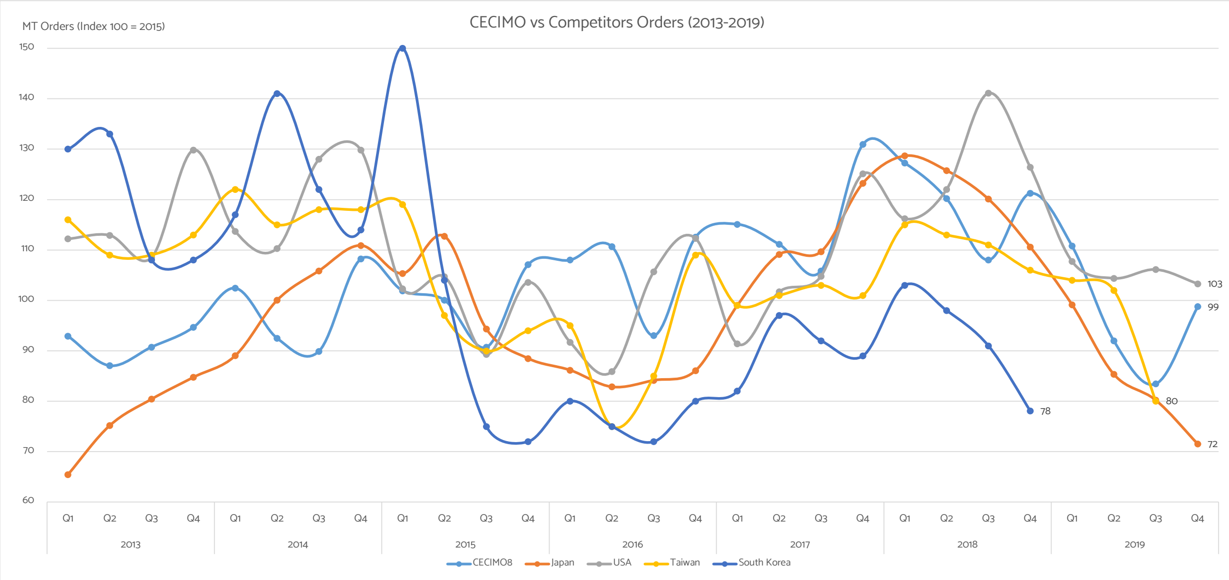


Our competitors:

- The Japanese metal forming sector order intake also decreased in Q4 2019 compared to same quarter of the previous year: -30% in domestic orders and -28% in foreign orders, leading to a -29% negative growth rate in total demand.

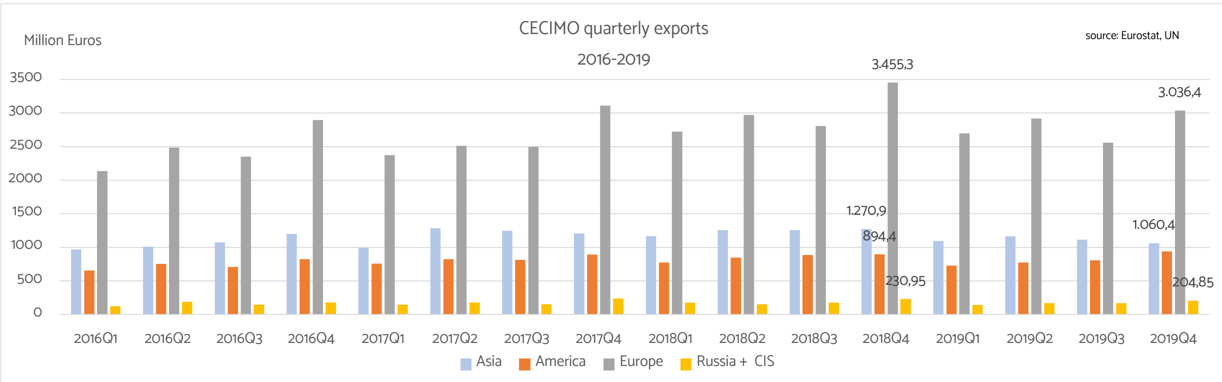
- Japanese metal cutting suffered steeper yearly losses in Q4 2019 than metal forming. Domestic orders intake fell hard with a -41% negative growth and foreign demand decreased -33%. Total orders income in the Japanese metal cutting sector fell -36% against Q4 2019.

- US domestic orders decreased by -14% in Q4 2019.



1.2 CECIMO Trade (m)

Machine tool trade continues its downward trend in Q4 2019. Furthermore, the year closes with a smaller exports volume compared to 2018.

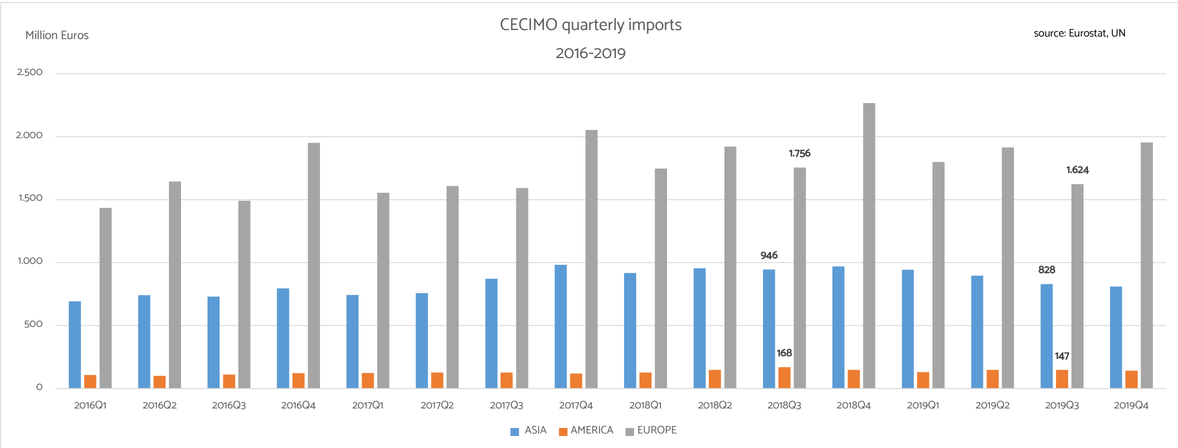


CECIMO quarterly exports in Q4 2019 compared to Q4 2018:

- 5,44 billion euros in total MT exports recorded in Q4 2019.
- It is a -10% decrease compared to Q4 2018. It is the fourth consecutive quarter with a negative growth rate and the highest decreases recorded in this downward cycle.
- Exports outside of CECIMO countries decreases -8% on a yearly basis, as in the third quarter of 2019.
- Significant year on year decreases in machine tool export to key regional markets: Asia (-15%), Europe (-12%) and Russia and CIS countries (-11%). Exports to other countries drop -10%.
- Recorded increases: export to the Americas (+5%, from a previous -9% in Q3 2019) and to African countries (+1%).

Annual exports for 2019 (compared to 2018 yearly figures):

- 20,3 billion euros in total MT exports (11,7 billion euros outside CECIMO).
- -6,6% decrease in total exports, while exports outside of CECIMO fall -6,3%.
- Exports to Asia and America decrease by -1,5% and -1,4%, respectively. Exports to the Russian market and CIS countries go down -4,3%.
- Exports to the broader European market decrease -0,2%.
- Exports to African countries grew at a strong 6,3% in 2019 against 2018.

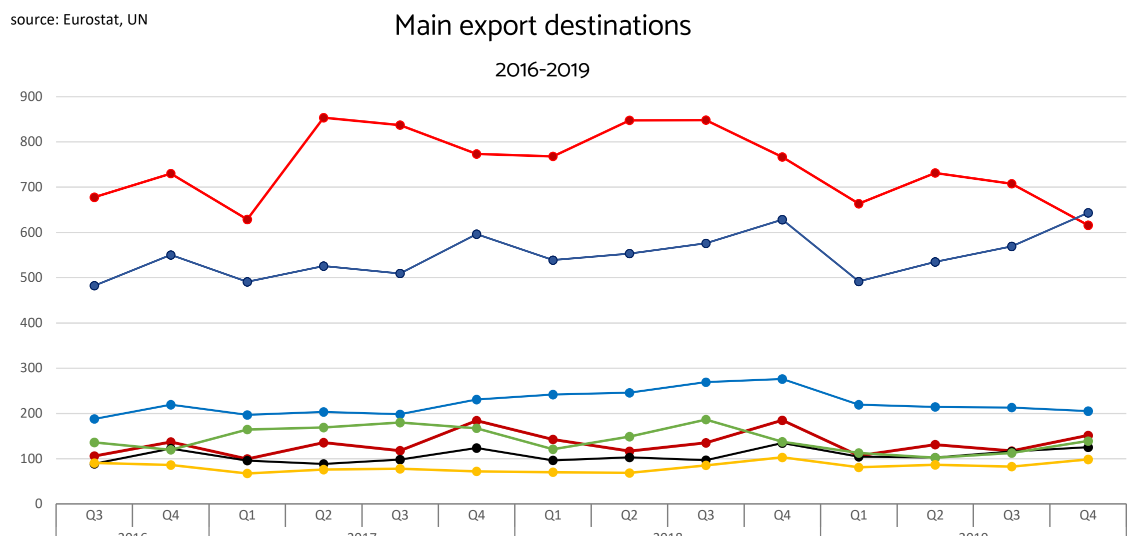


CECIMO quarterly imports in Q4 2019 compared to Q4 of 2018:

- 2,9 billion euros worth of MT imports in Q4 2019.
- -14% decrease in total imported value compared to the same quarter of the previous year.
- Imports from the European market decreased -14% compared to Q4 2018. Imports therefore erode further, indicating the start of a potential downward trend.
- Imports from Asia and the Americas decreased as well (-16% and -5%)

Annual imports for 2019 (compared to 2018 yearly figures):

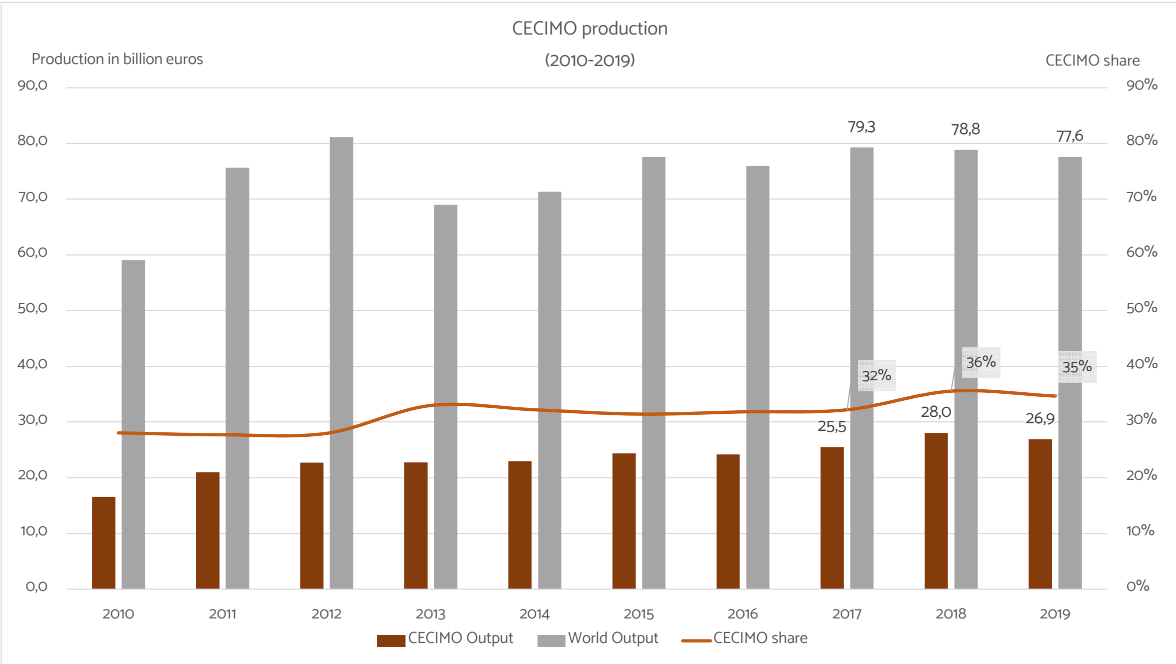
- 11,3 billion euros in total MT imports recorded in 2019 (4,4 billion from outside CECIMO).
- -6,1% decrease in total MT imports (imports from outside CECIMO drop -7,3%).
- Imports from the main supplying markets erode in 2019 compared to the previous year.
- Asian imports fall -8,1% in 2019 compared to 2018's yearly figures, while imports from the Americas decreased -4,5%.
- Imports from the general European market decreased -5,2%.



	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4
China	678	730	629	854	837	773	768	848	848	767	664	732	708	616
USA	482	550	491	526	509	596	539	553	576	628	492	535	569	643
Poland	188	219	197	203	198	231	242	246	269	276	219	215	213	205
Russia	106	137	100	136	118	184	143	117	135	185	107	131	117	151
India	89	122	96	89	98	124	96	103	97	135	104	102	116	125
Mexico	136	120	165	169	180	167	121	149	187	137	113	102	113	139
Japan	91	86	67	76	78	72	70	68	85	103	81	87	83	98

China USA Poland Russia India Mexico Japan

1.3 Production (m)



After the latest submission of data by CECIMO national association (December 2019), CECIMO overall machine tool production levels have been revised downwards.

In 2019, CECIMO turnover stands at 26,9 billion euros, against the previously recorded 27,1 billion euros.

In terms of annual growth rates, this new figure represents a -4% annual decrease against 2018´s figure.

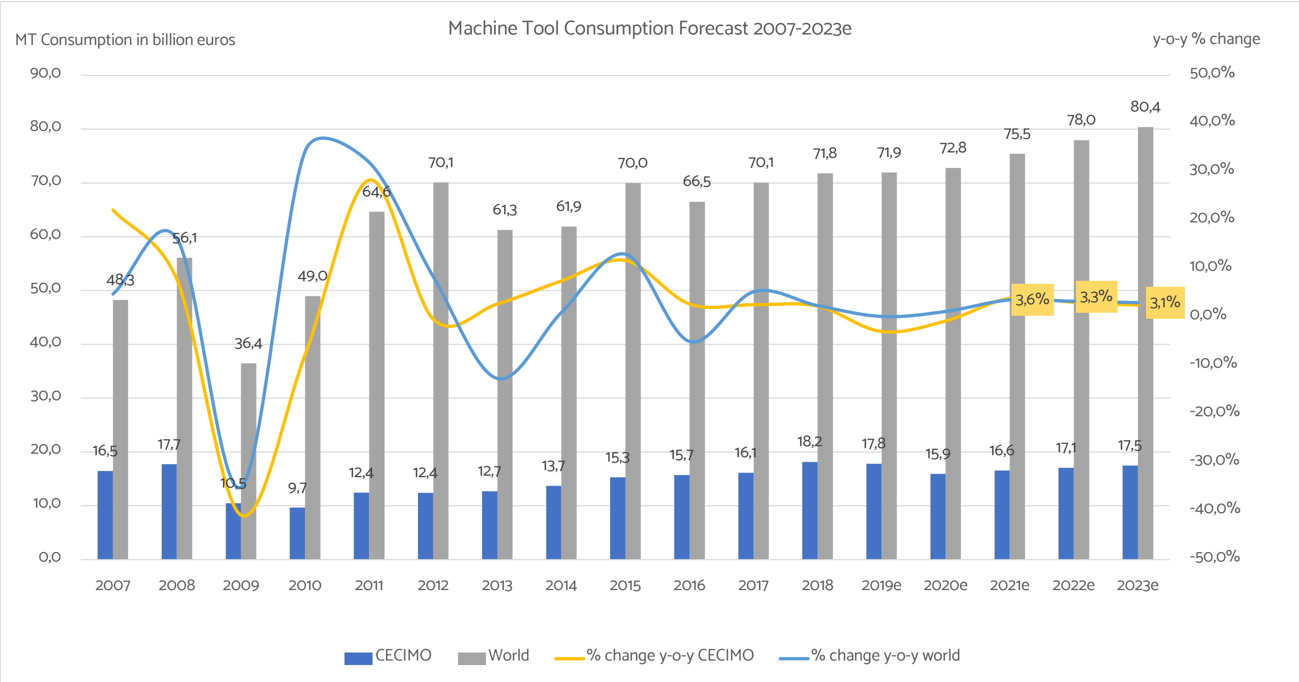
Furthermore, 2018 data has also been slightly reviewed, but remains within the same threshold as the previously registered figure: 28 billion euros.

2. Demand

2.1 CECIMO Consumption (m)
Oxford Economics Consumption Forecast

CECIMO consumption volumes have also been revised. For 2018, overall machine tool consumption in CECIMO countries amounted to more than 18,1 billion euros, a 12,5% yearly increase against 2017.

The new, updated figures for 2019 however show a change of trend, as consumption drops to 17,8 billion euros (-1,2% yearly decrease compared to 2018).



This latest revision would be consistent with the trend outlined by Oxford Economics on its 2019 Fall Report, which foresaw a slowdown in MT consumption.

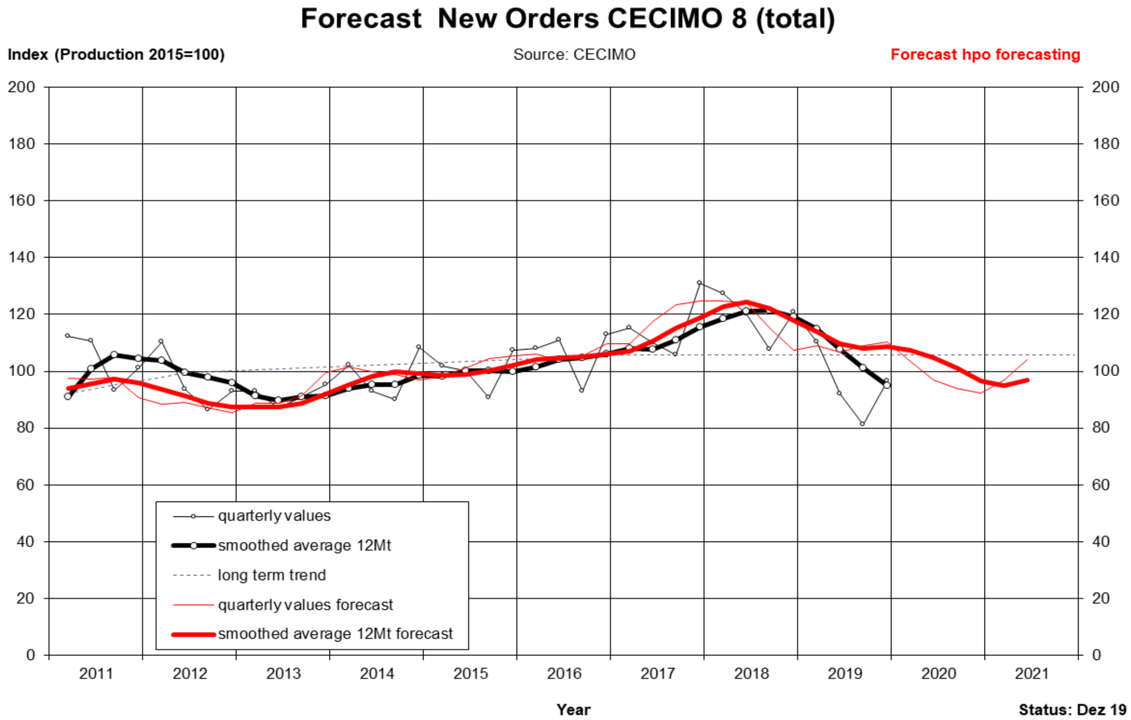
The upcoming forecast, for Spring 2020, will show a revised consumption trend and will record the effects of the coronavirus public health crisis that has been affecting Europe.

This information will be available in the Q1 2020 CECIMO Economic and Statistical Toolbox.

2.2 Peter Meier / HPO CECIMO8 Orders Forecast (m)

New orders recovered in the fourth quarter yet had little effect on the12mt average's downward trend.

With an index value of 95.0 at the end of 2019, new orders returned to a level last seen in 2014.



- Industrial production is less dynamic in Asia, Europe and America, yet the latter lags behind the other two regions in terms of time.
- Several industries had already suffered significant setbacks in 2019, especially sector whose order intake shows early cyclical changes (e.g. textile machinery and semiconductor industry) and volatile (machine tools, for instance). Some sectors are showing initial upward tendencies, such as the semiconductor industry.
- While retail sales in Asia are well below the long-term trend growth, European and US consumption continues to provide strong support, but here too the dynamic has levelled off at a high level. Peak consumption has been reached.
- HPO forecasts a slowdown of industrial activity, especially considering this indicator high correlation with the performance of the capital goods market.

By late 2019, the Chinese economy has been hit by the outbreak of COVID-19. This public health crisis has set the Asian economy at a delicate stage, rendering consumer spending below the long-term trend. Economic growth in China is expected to falter irrespective of the outbreak.

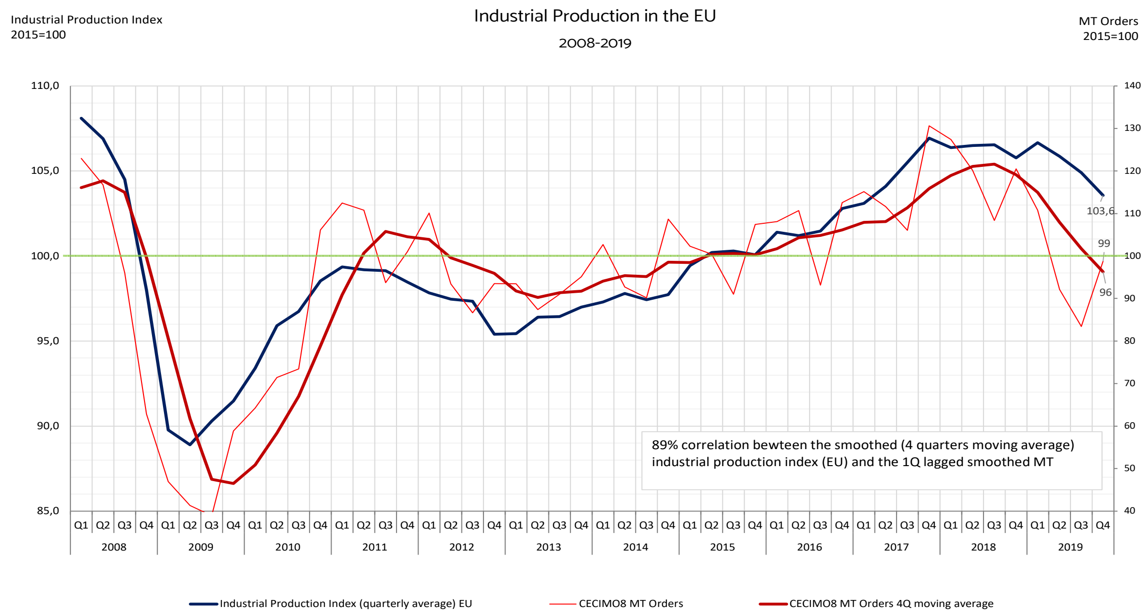
At the time this report is being drafted, Europe is suffering a regional outbreak. Its economic effects are yet to be assessed.

Note: The forecasts by HPO forecasting are based exclusively on the economic actual indicators and are mathematically calculated using the Peter Meier forecasting model – no qualitative risk assessments made by the forecasting team are incorporated into the models. Thus, the effect of the COVID-19 outbreak is not reflected in the present forecasts.

2.3 Industrial Production Index (M)

Industrial production in EU28 fell -2,0% in Q4 2019 against Q4 2018, where as EA19 experienced slightly more notable drop (-2,5%) on the same yearly basis.

According to the latest data available (which covers until Q4), industrial output in EU28 has slowed down significantly, decreasing 106,7 in Q1 2019 to 103,6 in Q4 2019. In terms of EA19, output has dropped from 105,5 in Q1 2019 to 102,1 in Q4 2019. Both indexes remain above the 100 mark.



Source: Eurostat + CECIMO

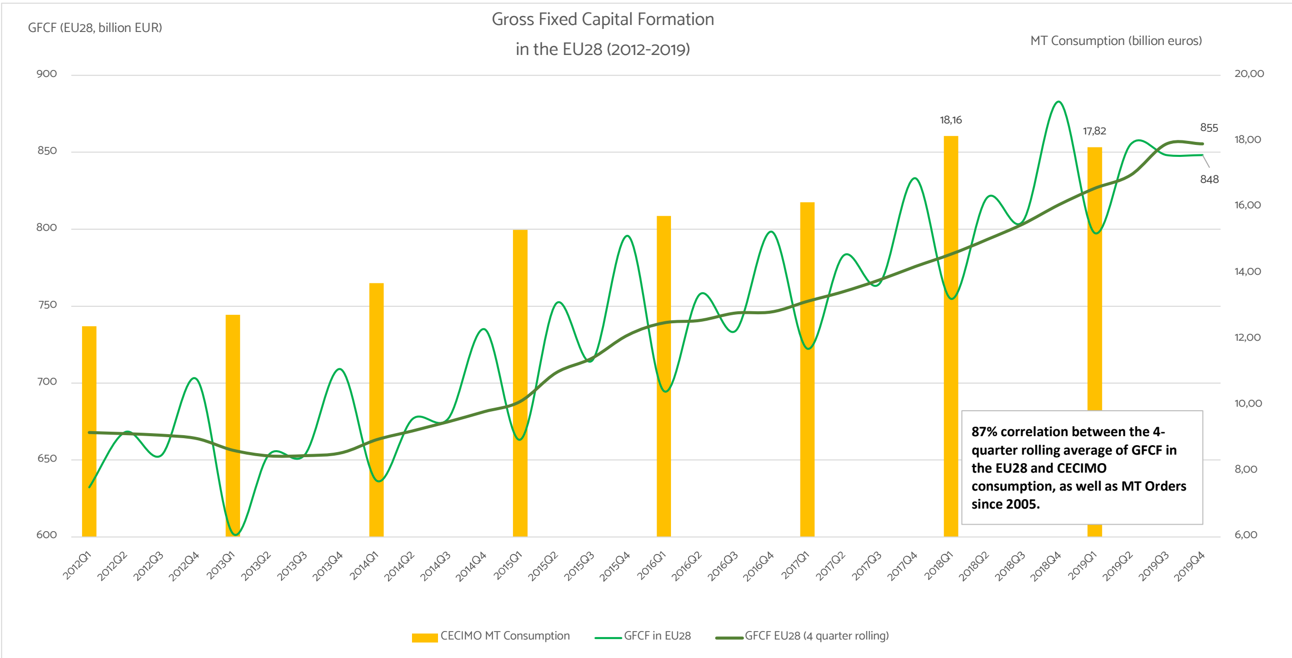
The average for 2019, considering this progressive slowdown in the industrial index, is 105,3 for EU28 and 104,0.

Average Quarterly IPI (CECIMO Countries)	Q1 2019	Q2 2019	Q3 2019	Q4 2019
Belgium	**111,6**	**114,4**	**113,9**	**114,3**
Denmark	111,2	113,3	112,1	108,7
Germany	103,0	100,9	99,8	97,9
Spain	106,1	106,6	106,1	105,2
France	104,2	104,3	103,1	102,5
Italy	106,2	105,1	104,3	102,8
Netherlands	103,5	101,6	102,1	101,3
Austria	115,8	112,2	110,6	109,3
Finland	112,6	113,4	114,4	113,8
Sweden	110,9	110,5	111,3	109,8
Switzerland	114,9	116,6	117,2	
Turkey	111,4	112,2	114,3	116,0
United Kingdom	104,2	102,1	101,9	101,2
Czechia	113,0	113,9	112,9	112,3
Portugal	103,4	103,7	103,5	104,7

EU 28	Jan 2019/ Jan 2018	Feb 2019/ Feb 2019	Mar 2019/ Mar 2018	Apr 2019/ Apr 2018	May 2019/ May 2018	June 2019/ June 2018	Jul 2019/ Jul 2018	Aug 2019 / Aug 2018	Sep 2019/ Sep 2018	Oct 2019/ Oct 2018	Nov 2019/ Nov 2018	Dec 2019 / Dec 2018
Total industrial production	**-0,4%**	**0,3%**	**0,4%**	**-0,1%**	**-0,1%**	**-1,8%**	**-1,3%**	**-2,0%**	**-1,2%**	**-1,7%**	**-1,3%**	**-3,9%**
Capital goods	-2,4%	0,5%	1,5%	-1,6%	-0,8%	-3,2%	-2,3%	-2,9%	-1,0%	-2,8%	-2,1%	-0,6%
Durable consumer goods	-0,1%	0,7%	0,1%	0,2%	0,8%	-0,8%	1,8%	0,1%	0,8%	1,7%	1,9%	-0,9%
Intermediate goods	-1,2%	0,4%	0,8%	-0,1%	-1,5%	-3,0%	-2,3%	-2,7%	-3,3%	-3,0%	-2,3%	-4,9%
Energy	2,9%	-4,4%	-6,2%	-0,6%	1,4%	0,3%	-1,5%	-2,9%	-2,5%	-2,6%	-1,5%	-3,0%
Non-durable consumer goods	1,4%	3,1%	1,7%	2,8%	2,9%	1,2%	1,7%	0,0%	2,4%	2,7%	1,8%	0,9%

3. Investment

3.1 Gross Fixed Capital Formation (M)



In Q4 2019, gross fixed capital formation gained +8% compared to the same quarter in 2018.

In absolute terms, the recorded EU28 investment volumes reached 952,7 billion euros in Q4 2019.
In 2019, GFCF increases added up to 3,4 trillion euros (a 7,6% increased compared to 2018's total GFCF).

European Commission investment forecast (Autumn 2019 European Economic Forecast):

Total investment in the European Union (28) is expected to grow at 1,8% in 2020. It is a downward revision from Spring's 2,1% estimated total investment yearly growth rate.

Investment in equipment in the EU28 area is expected to grow 1,2% in 2020, a significant slowdown from the 2,4% originally forecasted in the Spring report for the same year. Concerning 2021, investment in equipment is expected to improve compared to 2020, as the estimated growth rates will increase to 1,9%.

Therefore, 2020 will potentially see a slowdown of investments across the EU.

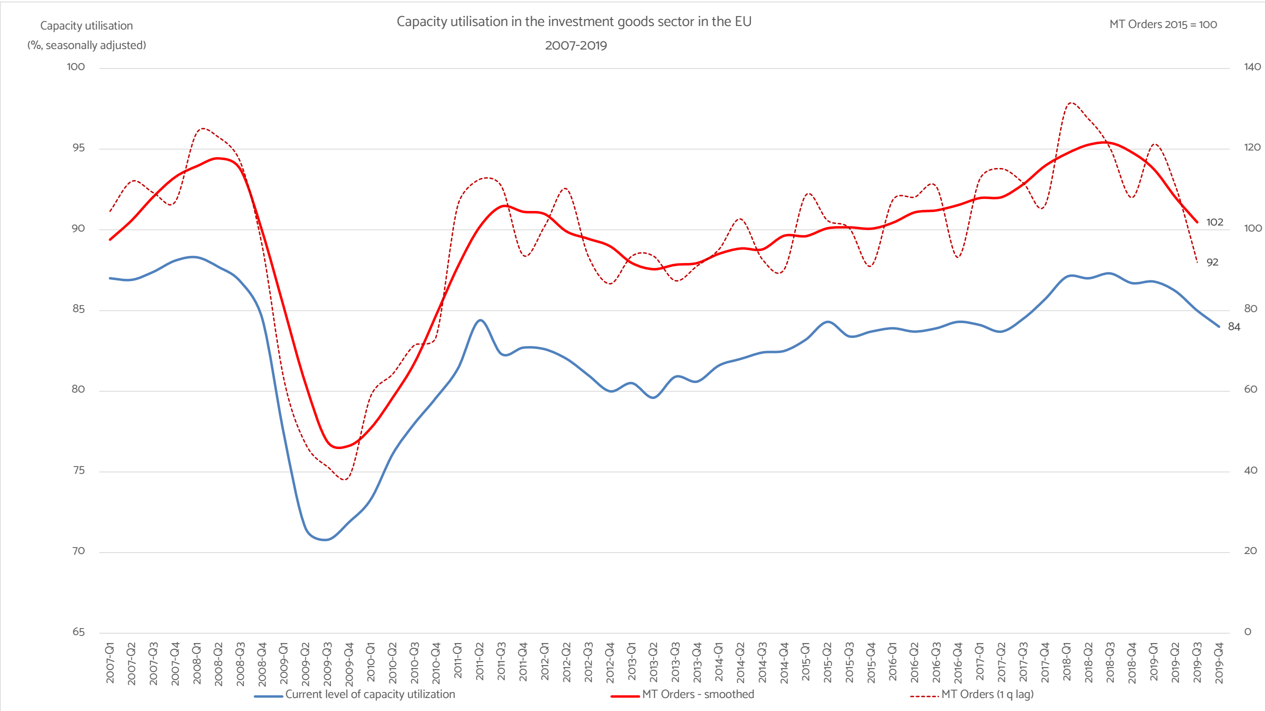
OECD investment forecast:

Investment growth rates in OECD countries (considered altogether) are expected to improve slightly in 2020 compared to 2019: while 2019 saw an almost flat yearly growth rate of 1%, it is expected that investment would increase 1,5% in 2020. As to 2021, OECD estimates foresee a strong rebound of investment, with an 2,5% yearly growth rate.

3.2 Capacity Utilisation in the Investment Goods Sector (M)

In the fourth and final quarter of 2019, EU28 capacity utilisation went down -3,1% compared to same period of 2018.

It currently stands at 84%. And although it is clearly above the 80% threshold, capacity utilisation continues its downward trend in Q4 2019, which has been consistent since Q3 2018.

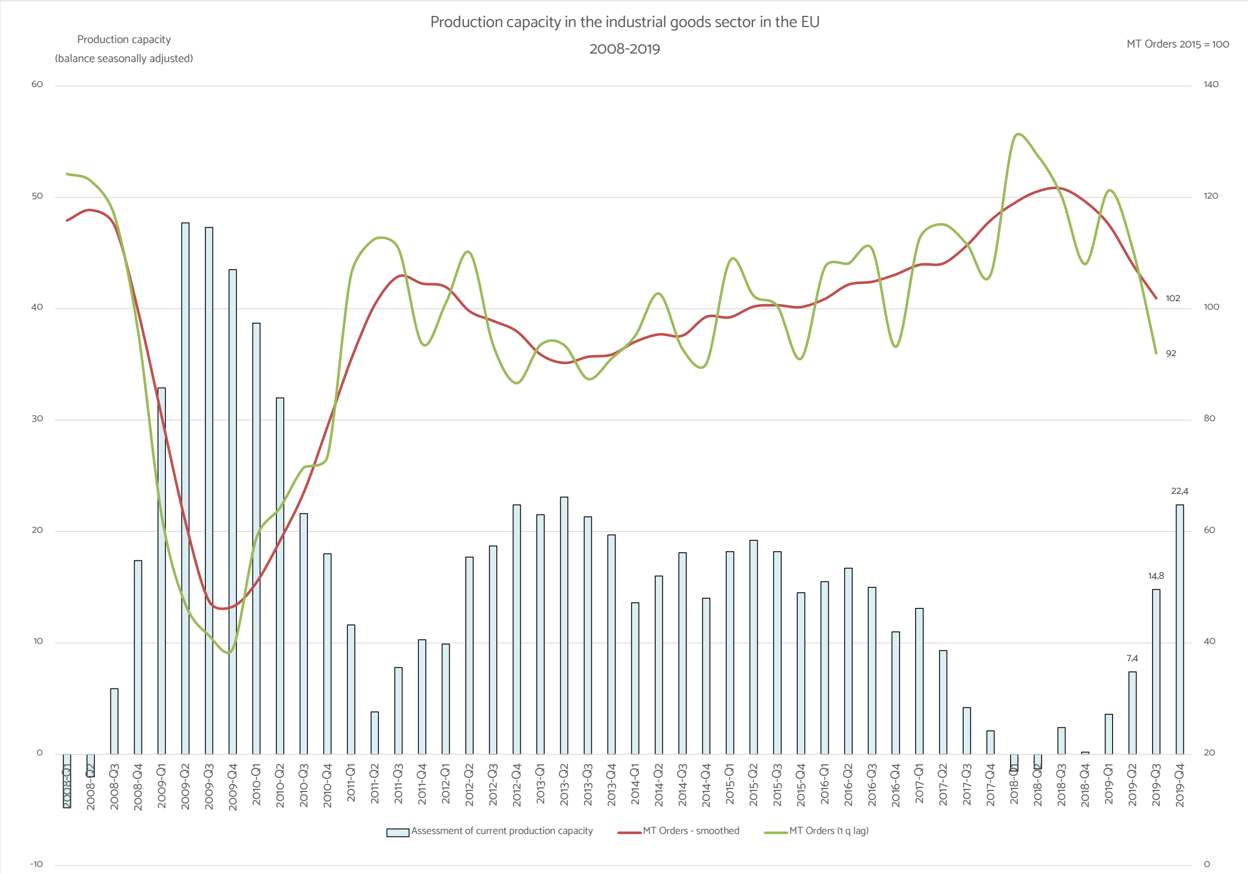


Capacity Utilisation (% of total capacity)

	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019
Austria	89,6	85,8	87,8	87,3	86,2
Czech Republic	89,8	87,8	85,5	85,4	86,9
France	89,2	89,0	88,3	87,3	85,7
Germany	88,9	89,9	89,5	87,9	85,5
Italy	79,8	79,9	78,7	77,8	77,9
Spain	85,5	86,4	87,5	87,5	87,9
United Kingdom	85,8	82,6	81,2	80,0	82,9

EU production capacity currently stands at 22,4% (a significant increase compared to the previous quarter rate of more than 14%).

This would indicate that managers consider that their production capacity has become gradually sufficient in this period and that investment in equipment is not needed. This would hamper future MT orders intake.



Production Capacity (balance in %)

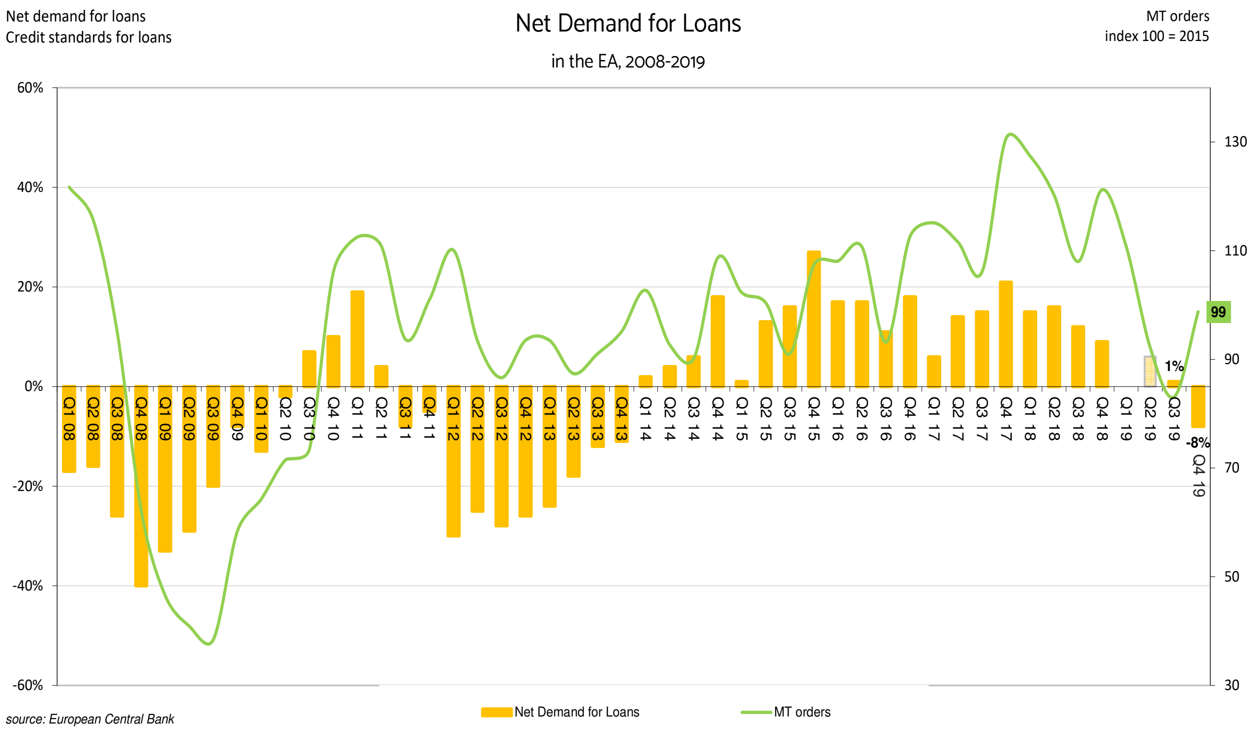
	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019
Austria	-3	0	6,1	11,7	22,5
Czech Republic	12,7	11,2	27,4	27	28,9
France	-16,8	-13,3	-11,4	-4,7	-4
Germany	-1,3	1,5	9,6	22,1	33
Italy	19,9	19,2	20,7	24,6	25,5
Spain	12,9	4,4	0,4	-2,1	13,2
United Kingdom	-3,2	23,9	14	25,7	41,2

3.3 Bank Lending Survey (M)

Credit standards for loans to enterprises in the Euro Area have tightened in Q4 2014, with a reported net percentage of 1% (compared to Q3 2019's -2%).

- Credit standards tightened slightly for loans to SMEs (2%)
- For larger firms, it remained unchanged.
- Banks' risk perceptions (that is, owing to both the general economic situation and the firm-specific situation) has had a tightening impact on credit standards for loans to enterprises, whereas competitive pressure from other banks has helped easing it.
- Credit standards for loans to enterprises tightened in Spain and France in Q4 2019. They however remained unchanged in Germany and Italy.
- Euro area banks expect credit standards for loans to enterprises to remain unchanged in Q1 2020.

Overall terms and conditions on new loans to enterprises tightened in Germany and France, while they remained unchanged in Spain and Italy. That tightening was driven mainly by a widening of margins on riskier loans.



source: European Central Bank

Net demand for loans to enterprises declined in Q4 2019 (-8%, down from 1% in Q3 2019). It is the largest contraction since Q4 2013 (then -11%). Banks had foreseen a more stable scenario in this quarter.

- Demand declined for both loans to SMEs and loans to large firms.
- Demand for loans to enterprises continued to be supported by the low general level of interest rates.
- Financing needs for fixed investment ceased to contribute positively to firms' loan demand. Most countries where banks indicated a net decline in demand, fixed investment contributed to the general decline, in line with the slowdown in economic activity.

- Net demand for loans to enterprises declined in Spain and, to a lesser extent, France, while net demand increased in Germany and remained unchanged in Italy.
- For Q1 2020, banks expect that demand for loans to enterprises will continue to decline (expected figure: -9%).

While financial conditions remain supportive of firms overall, investment in equipment is not making a positive contribution to loan demand (that is, costumers are not willing to borrow to invest in new machinery).

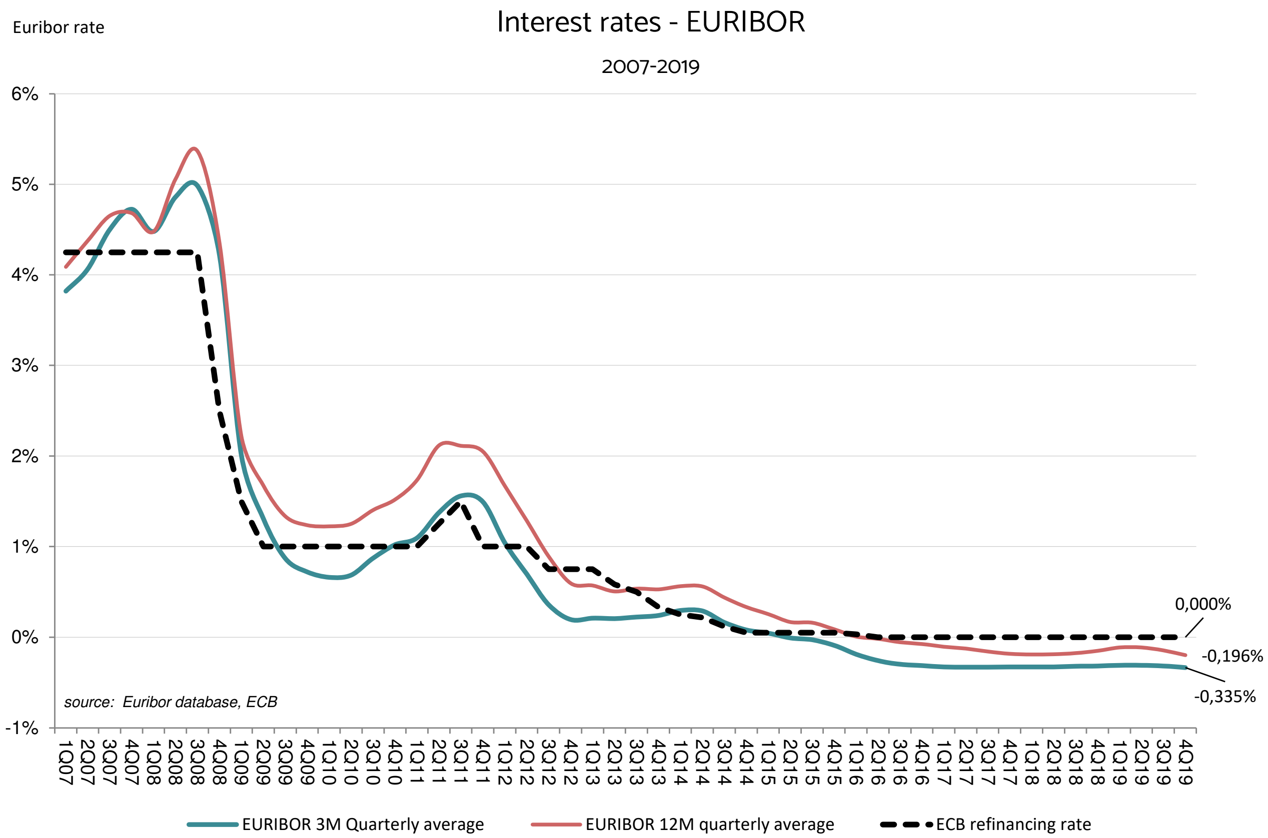
This could have a potentially negative effect on future MT orders (more so considering the 71% correlation of CECIMO MT Orders with 2-quarter lagged demand for loans).

3.4 Euribor - Interest Rates (M)

In Q4 2019, the ECB refinancing rate remains unchanged at 0,00%. The EURIBOR 3-month average is -0,335%, while the 12-month average stands at -0,196%.

The ECB Governing Council expects the key ECB interest rates to remain at their present levels or lower, until the inflation outlook converges (but remains below) the 2% threshold.

On 1 November, net purchases were restarted under the ECB's asset purchase programme (APP) at a monthly pace of 20 billion euros.



4. Business Climate

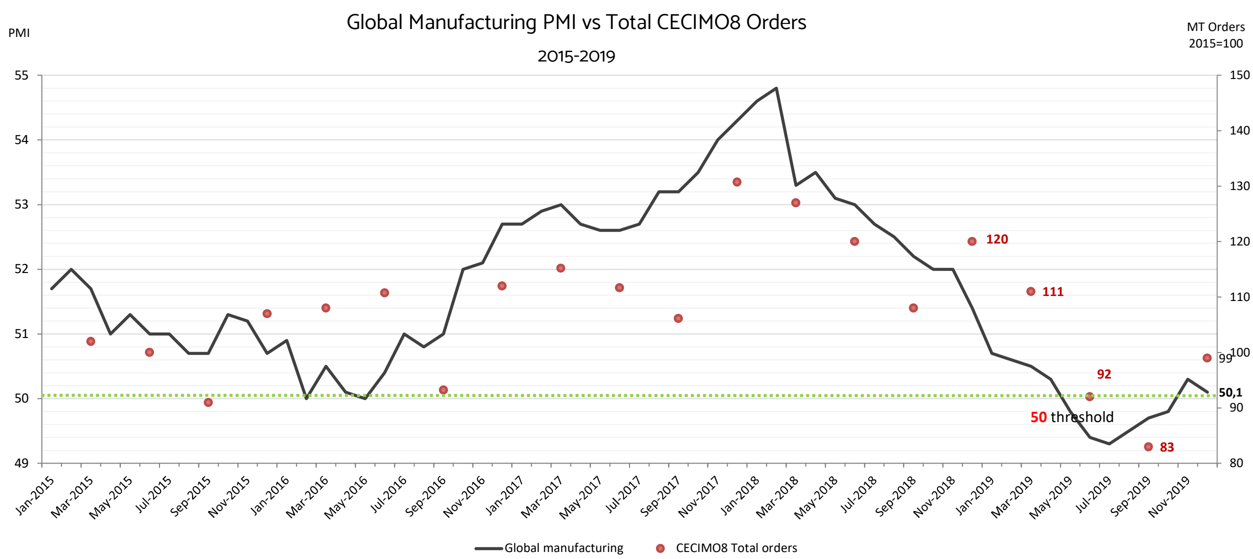
4.1 CECIMO Business Climate Barometer (m)

The Business Climate Barometer is a quarterly survey that assesses CECIMO-based companies' current business sentiment and expectations for the next quarter.

The Business Climate Barometer will not be published in this edition of the Statistical Toolbox, as it is under review. The CECIMO Economic Department is modifying the survey in order to collect data more efficiently and reviewing the methodology, so that the results are both meaningful and relevant for CECIMO members.

The CECIMO Economic Department expects to publish a new and improved Business Climate Barometer soon.

4.2 Purchasing Managers Index (M)

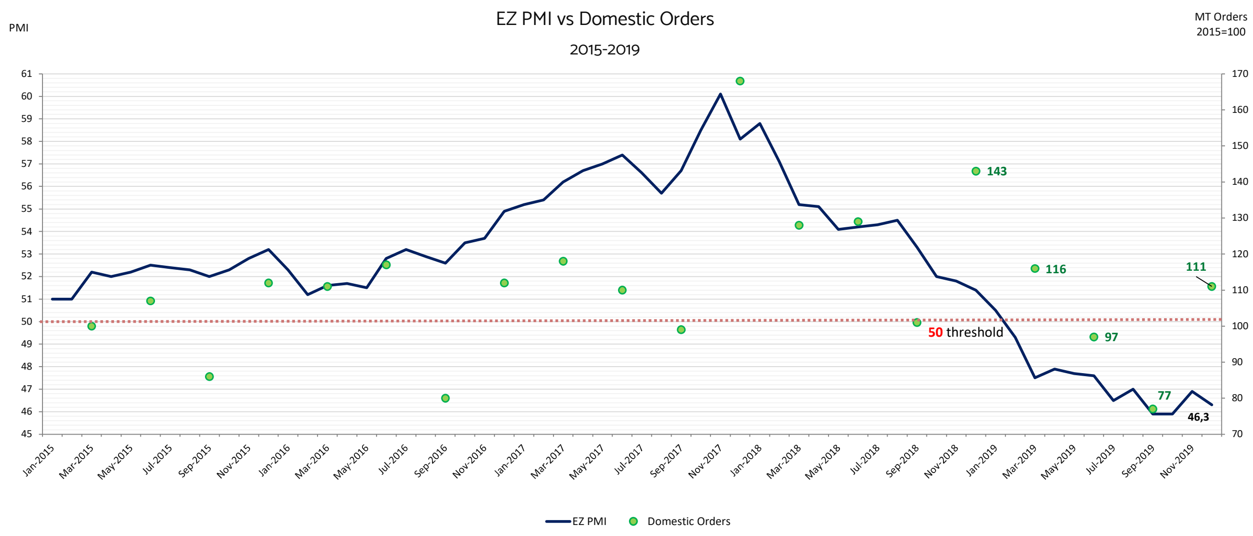


Global Manufacturing PMI lies slightly above the 50-point threshold in December 2019 (50,1).

Global manufacturing remained lacklustre at the end of 2019. Growth of production and new orders were both marginal, as weak international trade flows hindered any expectation of a stronger recovery from the mid-year downturn in the sector. A restrained business confidence has led to reductions in staff, sales and inventory holdings.

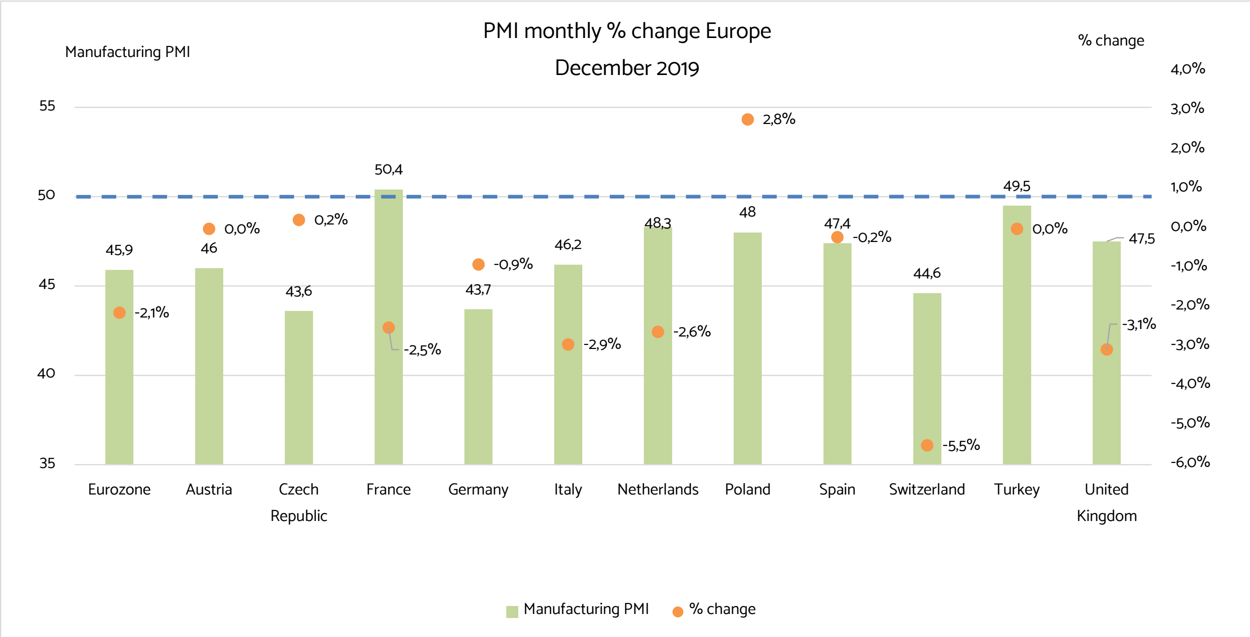
The main drag on global manufacturing remained the euro area, which saw output fall for the eleventh successive month. This mainly reflected the ongoing steep contraction in Germany, that also impacted on neighbouring countries such as Austria and the Czech Republic.

China, South Korea and Brazil expanded whereas Japan, the UK and Italy contracted.



Eurozone Manufacturing PMI was revised to 46.3 in December 2019 from a preliminary of 45.9 and 46.9 in November. The reading pointed to the eleventh straight month of contraction in factory activity.

- New orders have declined further, and job shedding was the sharpest recorded since early 2013. Also, backlogs of work declined for a sixteenth successive month.
- Germany was the weakest-performing country in late 2019, whilst the deteriorations seen in Italy and the Netherlands were the sharpest in over six-and-a-half years. A marginal gain was seen in France.
- Both production and new orders continued to deteriorate markedly during December.
- Latest data showed output falling for an eleventh successive month. Levels of incoming new work also fell at a sharper rate. That was despite the weakest reduction in new export sales since the start of the year.



Austria

Austrian Manufacturing PMI came at 46 in December of 2019, the same as in the previous month. Austria's manufacturing sector remained in contraction, as output, new orders and employment fell further.

Czech Republic

Czech Manufacturing PMI was 43.6 in December of 2019 (43.5 in November). The reading pointed to the 13th straight month of contraction in factory activity, amid a significant drop in production driven mostly by a weaker domestic and foreign client demand.

Germany

Germany's Manufacturing PMI fell to 43.4 in December of 2019 from 44.1 in November, well below market expectations of 44.5. This new reading points at a deeper contraction in manufacturing activity. Order books were the weakest since January; export orders recorded the smallest drop in almost a year; and employment fell at the second-fastest rate for almost ten years.

Spain

Spain Manufacturing PMI edged down to 47.4 in December of 2019, compared to market expectations of 47. This reading is recorded amid the sharpest drop in production since April of 2013 (driven by the combination of falling order books and excess capacity in the sector). New orders and export trade were reduced due to an unstable demand environment, both at home and abroad. The automotive sector remained a key source of weakness, while some companies claim Brexit was behind slumping sales. Job cuts were the sharpest in over six years.

France

France's Manufacturing PMI fell to 50.3 in December of 2019 from 51.7, below market expectations. The reading pointed to the slowest expansion in factory activity in three months. In December, several unions including transportation went on strike to protest against a reform of France's pension system, which will see people need to work longer to get a full pension. New work continued to decline while new business from abroad experienced little changed. Job growth was stable.

Italy

Italian Manufacturing PMI fell to 46.2 in December of 2019 from 47.6 in November and below market expectations of 47.2. The reading pointed to the 15th straight month of contraction in factory activity. Production fell at the fastest pace since March of 2013; order book volumes fell sharply and at the quickest pace for three months, amid an overall weak demand.

Switzerland

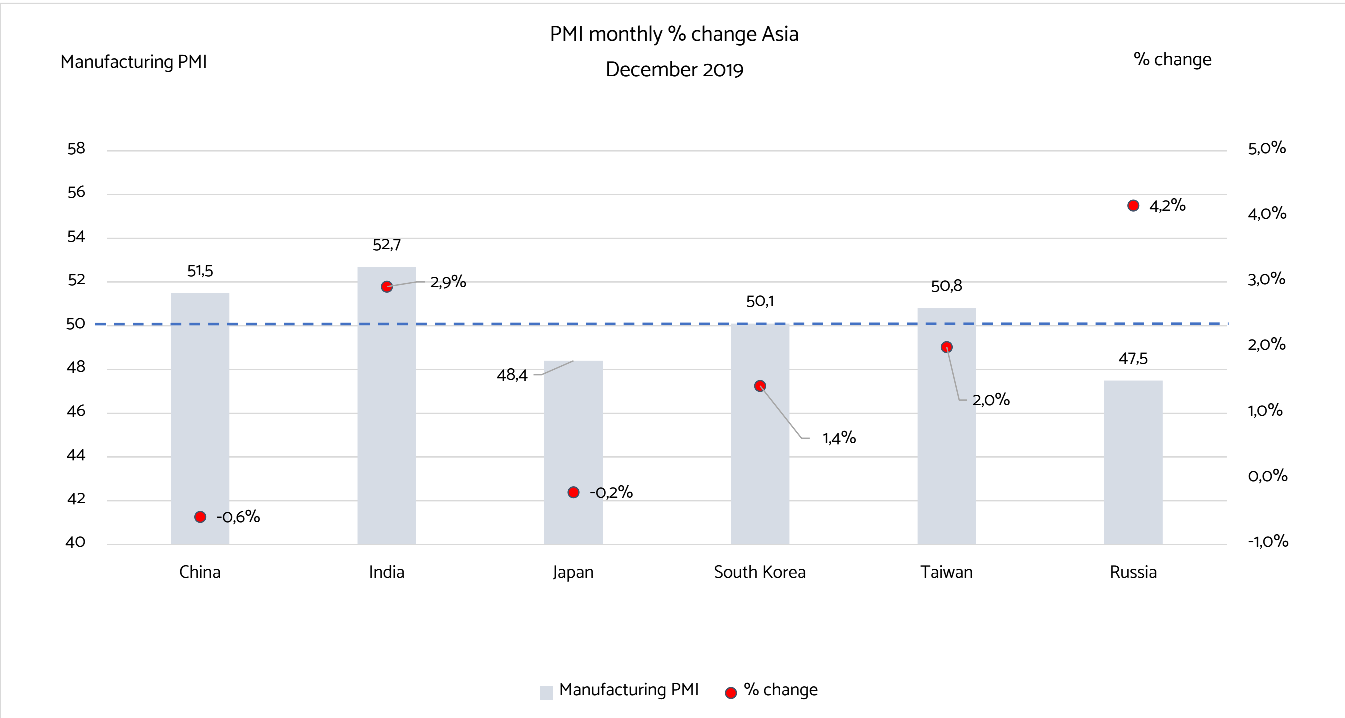
Manufacturing PMI in Switzerland increased to 50.2 in December 2019, above the expected 49.1. The latest reading pointed to the first expansion in factory activity since March 2019, mainly due to rises in production and new orders.

Turkey

Turkish PMI Manufacturing Index was unchanged at 49.5 in December 2019, indicating a slight moderation in business conditions. Output grew for the second month in a row amid signs of improvement in new orders, with firms expanding their purchasing activity in response. New orders and new export sales continued to ease.

United Kingdom

British Manufacturing PMI was revised slightly higher to 47.5 in December 2019 from a preliminary estimate of 47.4. Production declined the most since July 2012 and incoming new work decreased due to continuing concerns around global trade and Brexit. However, business sentiment remained positive in December, supported by a reduced political uncertainty, new product launches, increased efficiency and a rather improved client confidence.



China

China's Manufacturing PMI fell to 51.5 in December 2019 from 51.8 in November. New orders growth slowed to three-month low, amid a marginal rise in exports, while output expansion remained strong overall. Moving forward, business sentiment could potentially suffer due to concerns over ongoing trade tensions, environmental protection policies and market competition. It is also expected that the COVID19 outbreak will have a large negative impact on manufacturers confidence in China, although this effect still needs to be calculated.

India

Indian Manufacturing PMI rose to a seven-month high of 52.7 in December 2019 from 51.2 in November. Output expanded steadily and at the fastest rate in ten months. In addition, new export orders were up for the 26th month in a row, albeit modestly; and employment growth rebounded to the strongest since February. Firms also increased input buying following specific contractions in the last quarter.

Japan

Manufacturing PMI in Japan came in at 48.4 in December 2019, compared to the flash figure of 48.8 and the previous month's final 48.9. Output fell at the second-fastest rate in over three-and-a-half years. In addition, new orders continued to drop amid a further reduction in new export sales due to global trade conflicts and lower demand from China. Stocks of purchases were also trimmed, with firms reporting cost-cutting efforts and reduced purchasing activity.

South Korea

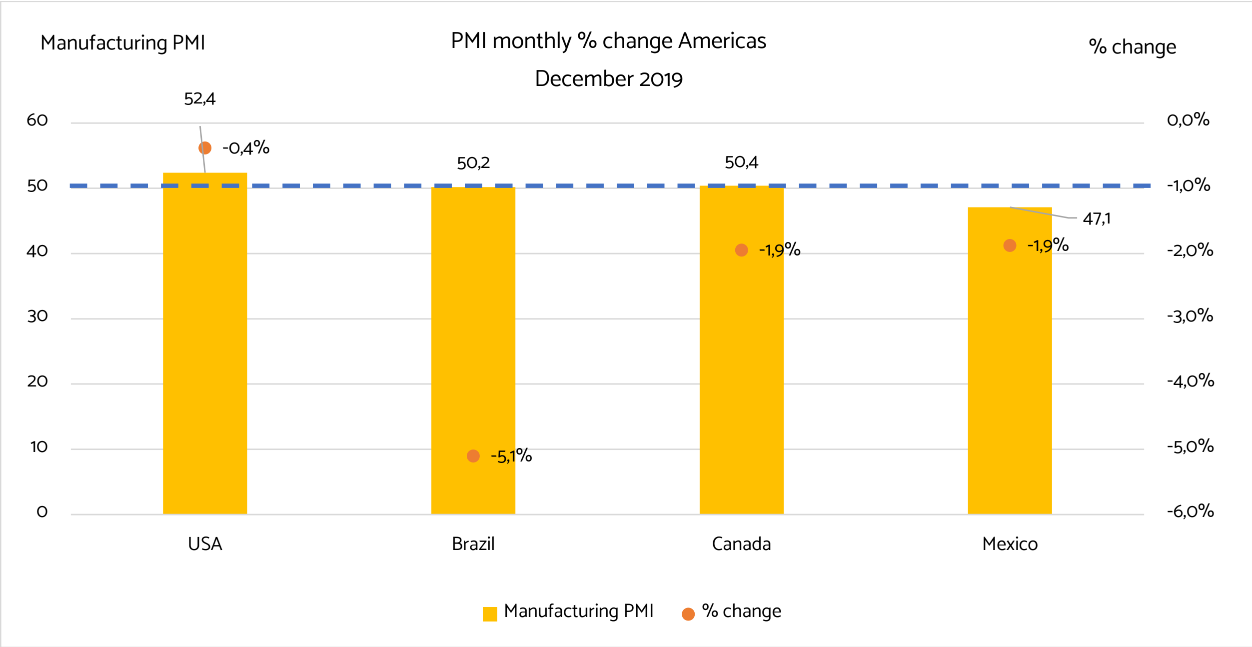
South Korean Manufacturing PMI increased to an eight-month high of 50.1 in December 2019 from 49.4 in the prior month and above market consensus of 49.7. The latest reading pointed to a limited improvement in economic conditions in the sector, as both output and new orders expanded for the first time since October 2018. At the same time, purchasing activity rose at the strongest rate for nearly two years.

Taiwan

Manufacturing PMI in Taiwan rose to 50.8 in December 2019 from 49.8 in a month earlier. This was the first growth in factory activity since September, supported by a renewed increase in total new work, purchasing activity and staffing levels. General output volumes were broadly stable. In the meantime, export fell further, driven by a weak demand from China, Europe and the US.

Russia

Russian Manufacturing PMI increased to 47.5 in December 2019 from a 10-1/2-year low of 45.6 in the previous month. Production and client demand fell at a softer pace while firms reduced further their workforce numbers and backlogs of work dropped sharply. years.



United States
US Manufacturing PMI was revised slightly lower to 52.4 from 52.5 in December of 2019. It compares with 52.6 in the previous month. Output and new business expanded modestly while employment growth was the second-fastest since May, with firms stating the increase largely stemmed from greater production requirements.

Canada
Canadian Manufacturing PMI dropped to 50.4 in December 2019 from 51.4 in the previous month and below market expectations of 51.9. It was the lowest reading since August 2019, as production volumes increased marginally while new business declined, as Canadian firms suffer from a subdued demand across the automotive and energy sectors. Furthermore, exports fell amid difficulties to acquire new work in US markets. An improved demand from China was nevertheless recorded as well.

Mexico
Manufacturing PMI in Mexico fell to 47.1 in December 2019 from 48.0 in the prior month, amid the sharpest contraction in factory activity since April 2011. Declines in new orders, export orders, output and input procurement have accelerated this trend. Markets conditions worsen across Mexico due to fewer government bids and a weak demand of Mexican manufactured goods both in the local market and abroad. There are great concerns about a lack of investments and the lingering uncertainty around the national automotive industry.

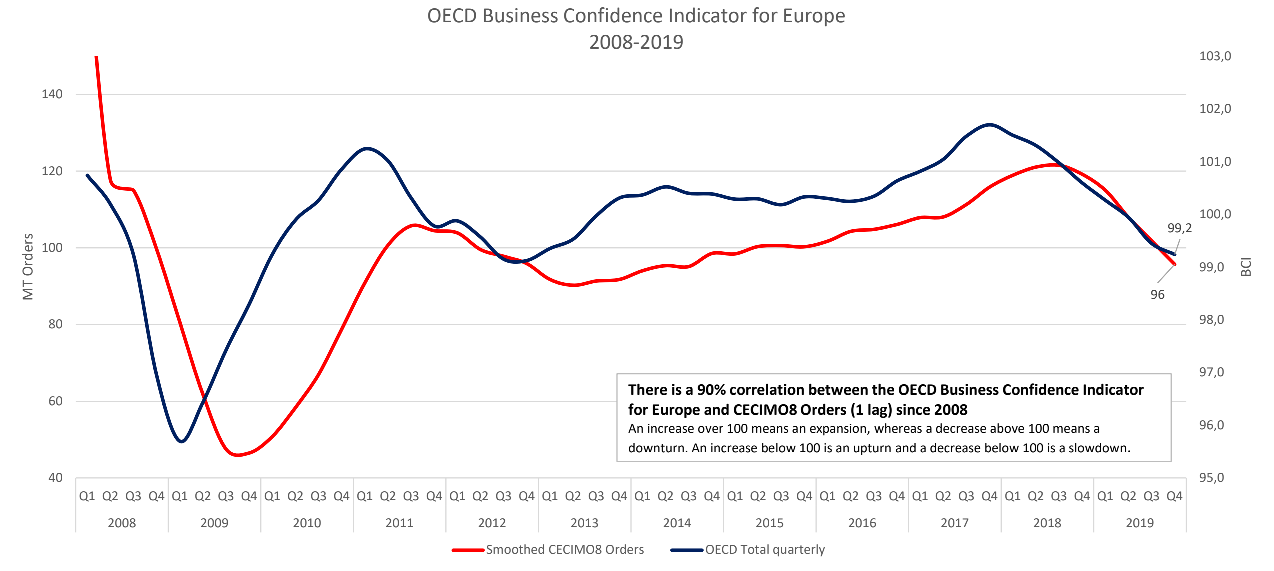
Brazil
Manufacturing PMI in Brazil dropped to 50.2 in December 2019 from 52.9 in the previous month, the expected 52.6 reading. Brazilian manufacturing recorded this quarter its slowest expansion rate since early Q3 2019. This was driven by a slowdown in orders and experts, which result from a weak demand from Argentina and Chile.

4.3 OECD Business Confidence Indicator (M)

In December 2019, OECD's overall Business Confidence Indicator score was 99,3, a rather small improvement compared to November's 99,2 BCI. Considering the quarterly data, OECD's (BCI) averaged 99,2 in Q4 2019, the lowest recorded score since Q1 2013.

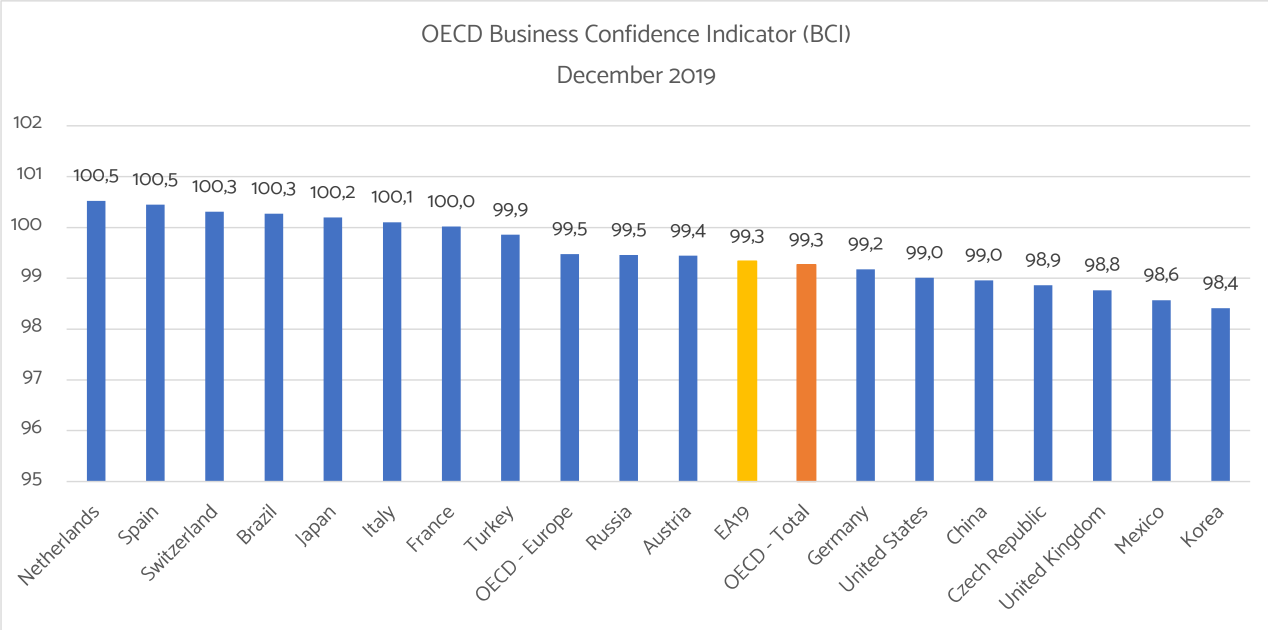
In terms of the yearly average, 2019's Total OECD's BCI stands at 100,4 points.

Following a prolonged downward trend, it is now showing a slight upward trend for the first time in many countries; however, in most cases it is still below 100, which indicates a pessimistic outlook.



Available data as of December 2019:

- CECIMO countries recorded a BCI at the 100 threshold or above it: the Netherlands (100,5), Spain (100,5), Switzerland (100,3), Italy (100,1) and France (100).
- China, the US and Germany are below the 100 points mark, along with several other CECIMO countries.
- OECD Europe's BCI and EA19 BCI's are clearly below the 100 thresholds which indicates that businesses in Europe and the Eurozone do not expected the business environment to improve.


OECD Business Confidence Indicator (BCI)
December 2019
102
101
100
99
98
97
96
95
100,5
100,5
100,3
100,3
100,2
100,1
100,0
99,9
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99,0
99,0
98,9
98,8
98,6
98,4
Netherlands
Spain
Switzerland
Brazil
Japan
Italy
France
Turkey
OECD - Europe
Russia
Austria
EA19
OECD - Total
Germany
United States
China
Czech Republic
United Kingdom
Mexico
Korea

5. General Indicators

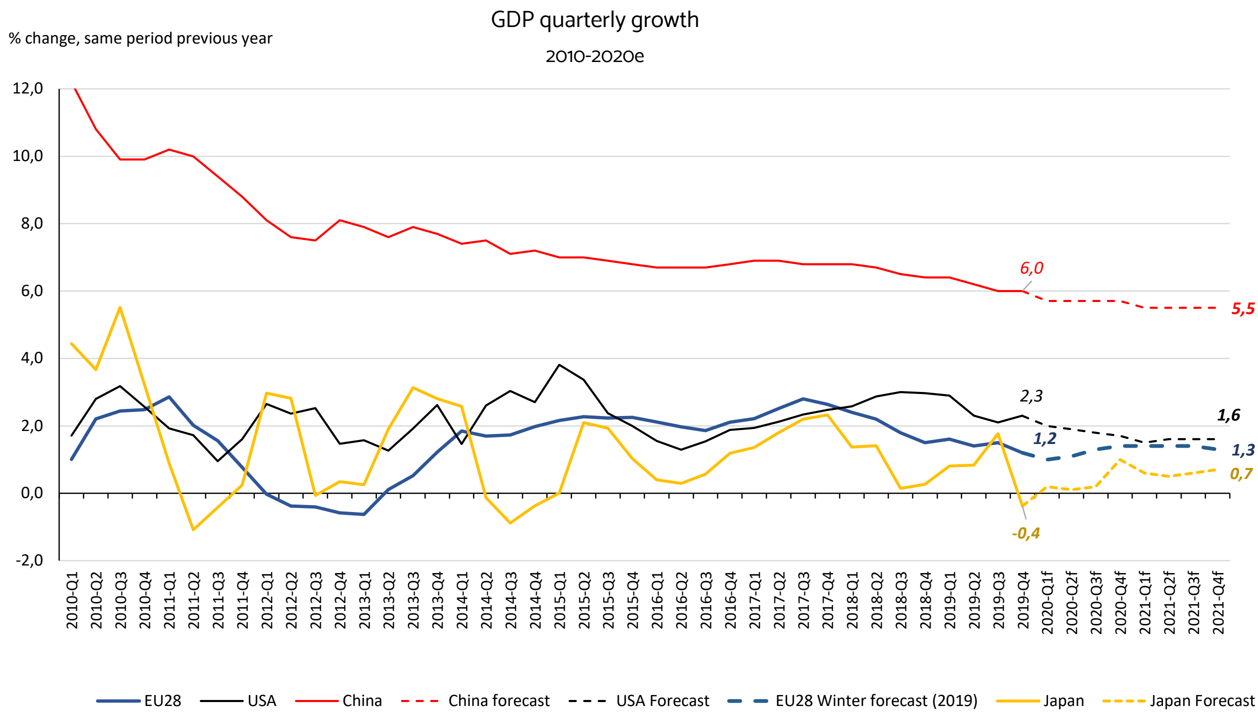
5.1 GDP (M)

Year-on-year quarterly GDP growth in Q4 2019:

- According to Eurostat, quarterly GDP increased +1,2% in EU28 and rose by 0.9% in the Eurozone.
- GDP in the US increased by +2,3% (Eurostat).
- Chinese GDP increased +6% in this period (OECD)
- Japanese GDP decreased -0,4% (OECD).

The European Commission Autumn Forecast shows new and readjusted yearly GDP growth rates:

- EU28: +1,4% GDP growth rate in 2019 and 2020.
- Eurozone: +1,1% GDP growth in 2019 and a + 1,2% increase in 2020. A 1,2% GDP growth rate is initially foreseen for 2021.
- US: +2,3% growth in 2019, an increase by + 1,8% GDP in 2020 and + 1,6% expansion in 2021.
- China: the yearly GDP rate is expected to rise by +5,7% in 2020 and by +5,5% in 2021.
- Japan: the EC forecasts estimates a +0,4% GDP growth in 2020 and an +0,6% growth rate in 2021.

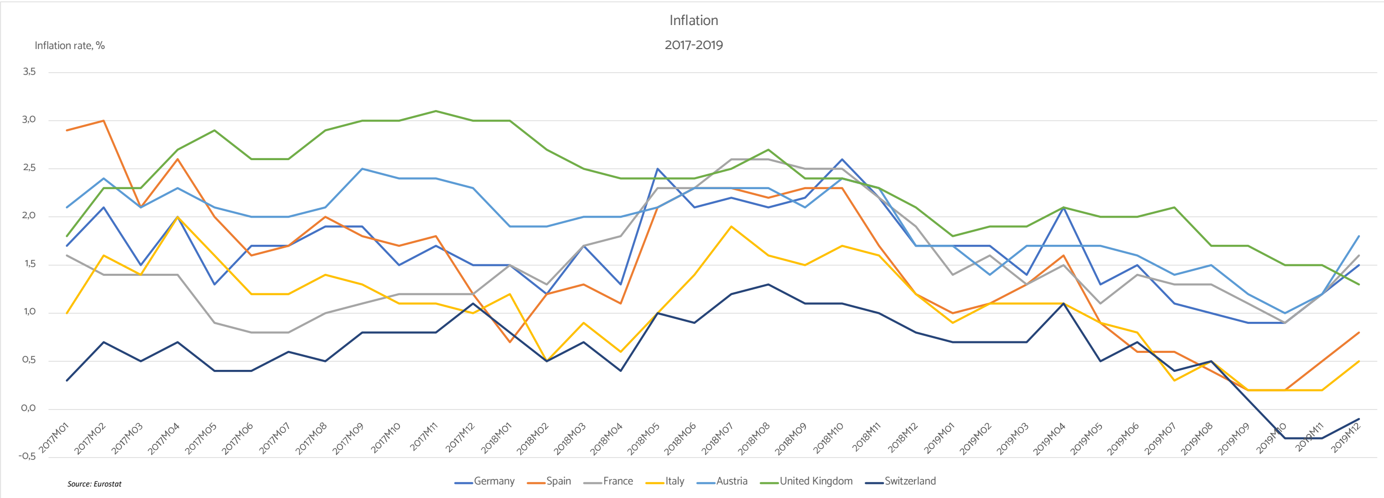


Note: quarterly GDP growth rates on the graph (for EU, US and Japan) are estimates from the EC Winter 2019 forecast. The forecasted values for China are annual.

5.2 Inflation (M)

Q4 2019 average inflation rates:

- EU28: 1,3%
- EA19: 1%
- US: 1,7%
- China: 4,3%



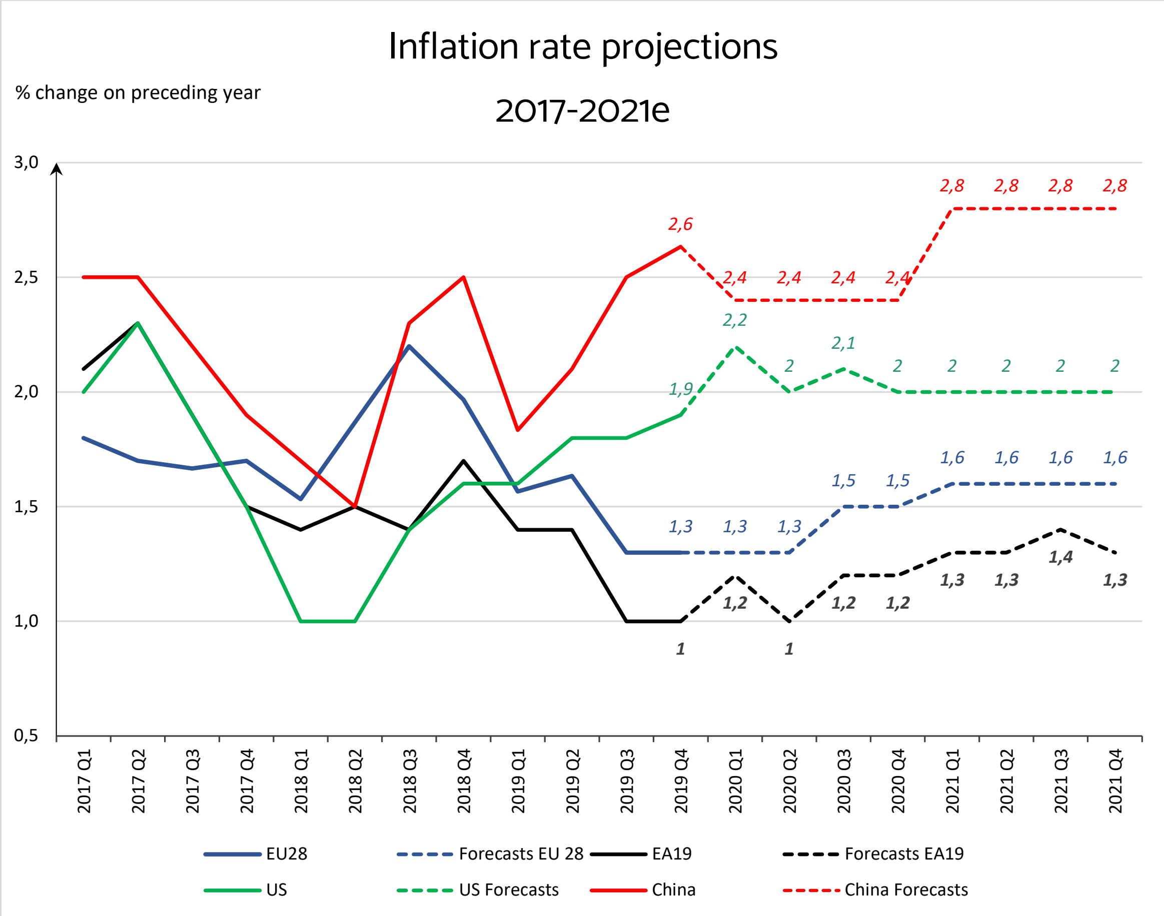
Monthly Inflation (%) Q4 2019	Oct-19	Nov-19	Dec-19
United Kingdom	1,50	1,50	1,30
Austria	1,00	1,20	1,80
France	0,90	1,20	1,60
Germany	0,90	1,20	1,50
Spain	0,20	0,50	0,80
Switzerland	-0,30	-0,30	-0,10
Italy	0,20	0,20	0,50

Average yearly inflation rates (2019):

- EU28: 1,5%
- EA19: 1,2%
- US: 1,3%
- China: 2,9%

The lowest annual inflation rate among CECIMO members were registered in Switzerland (0,4%) and Portugal (0,3%).

The highest annual inflation rates were recorded in the Czech Republic (2,6%) and the Netherlands (2,7%).

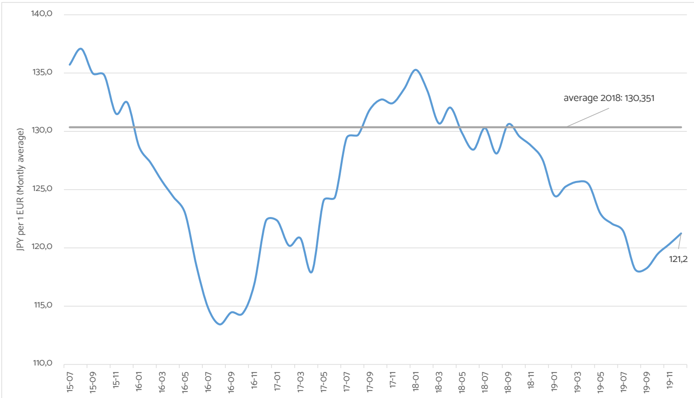


Inflation forecast (yearly rates):

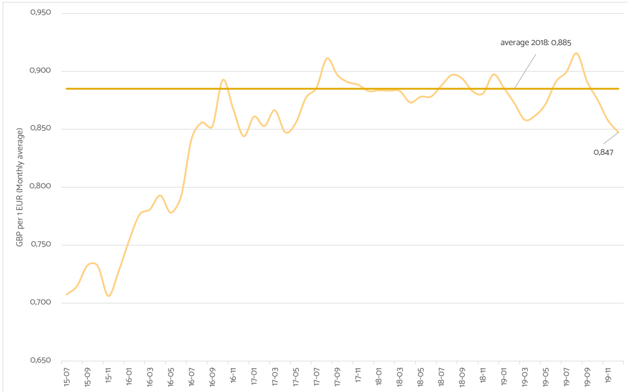
- EU28: 1,4% in 2020 and 1,6% in 2021
- EA19: 1,1% in 2020 and 1,3% in 20201
- US: 2% in 2020 as well as in 2021.
- China (OECD): 2,4% yearly inflation rate in 2020 and 2,6% in 2021.

Yearly Inflation % forecast	2019	2020	2021
Austria	1,5	1,60	1,60
France	1,3	1,30	1,30
Germany	1,3	1,20	1,40
Spain	0,9	1,10	1,40
Italy	0,6	1,80	1,10
CH	0,94	1,00	0,97
UK	1,8	2,00	2,20

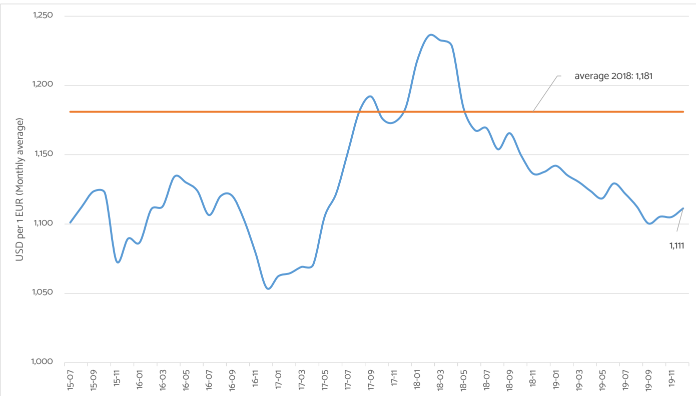
5.3 Foreign Exchange Rates (M)



In Q4 2019, the Japanese Yen weakened against the euro compared to the previous quarter. The average rate in this period was 120,4 Yens per 1 Euro, whereas in Q3 2019 the exchange rate stood at a quarterly average of 119,3 per 1 Euro.

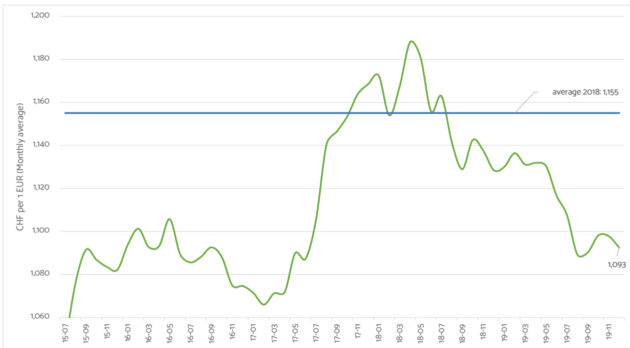


The British Pound gains strength in the Pound Sterling-to-Euro exchange, with a quarterly average of 0,86 pence per 1 euro (as opposed to Q3 2019's 0,902). The pound has nevertheless held steady, although its relative price could flow both ways as the free trade agreement negotiations start.



The US dollar continues its recovery in forex markets, as the euro and the yen lose relative strength as Japanese and European economic activity slowdown. In Q4 2019, the greenback exchange rate with the euro was 1,107 USD per 1 euro. However, U.S. dollar is widely expected to be weaker in the coming year.

The Chinese Yuan is traded, on average, 7,8 units per 1 euro in the fourth quarter of 2019, marginally below the 2018 average. The yuan's influence in global forex markets is increasing, as the Chinese currency emerged in trade-weighted currency baskets. Moreover, in November 2019, China overtook Canada to make the yuan the second-most traded currency by the U.S., just after the euro.



The average exchange rate in the fourth quarter of 2019 between the Swiss franc and the Euro was 1,096, as in the previous quarter and clearly below the 2018 average used as reference in this report. The Swiss franc had edge closer to parity against the euro, until a price hike in mid Q4 2019.

Glossary [i]

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.

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

Base period: Year 2010 = 100.

Source: Eurostat.

3.1 Gross Fixed Capital Formation

The Gross Fixed Capital Formation (GFCF) consists of resident producers´ aquisitions, 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.

3.2 Capacity Utilisation 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

3.3 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

3.4 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.

4.2 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

4.3 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 indictors 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

Geographical Information

CECIMO countries

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

Euro area (EA) / Eurozone (EZ)

The euro area (EA19), also called the Eurozone, consists of 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.

Other Symbols and Acronyms

M / m (Toolbox headings)
M = Macro-economic. non-caps (m) = microeconomic.

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

cecimo

European Association of the Machine Tool Industries and related Manufacturing Technologies

Member Associations

Austria: Metaltechnology Austria
Association of Metaltechnology Industries
www.metalltechnischeindustrie.at

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

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

Danish Manufacturing Industries Cooperation
A part of the Confederation of Danish Industry
www.isa.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.ftp-vimag.nl

Portugal: AIMMAP
Associacâo 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: SVMF
Machine and Tool Association of Sweden
www.svmf.se

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

Turkey: MIB
Makina Imalatcilari Birligi
www.mib.org.tr

United Kingdom: MTA
The Manufacturing Technologies Association
www.mta.org.uk

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EMO

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cecimo is the European Association representing the common interests of the Machine Tool Industries and related manufacturing technologies globally and at EU level. We bring together 15 National Associations of machine tool builders, which represent approximately 1500 industrial enterprises in Europe (EU + EFTA + Turkey), over 80% of which are SMEs. CECIMO covers more than 98% of total machine tool production in Europe and more than one third worldwide. 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.