

Industrial output in the EU and euro area

An analysis of the industrial production index

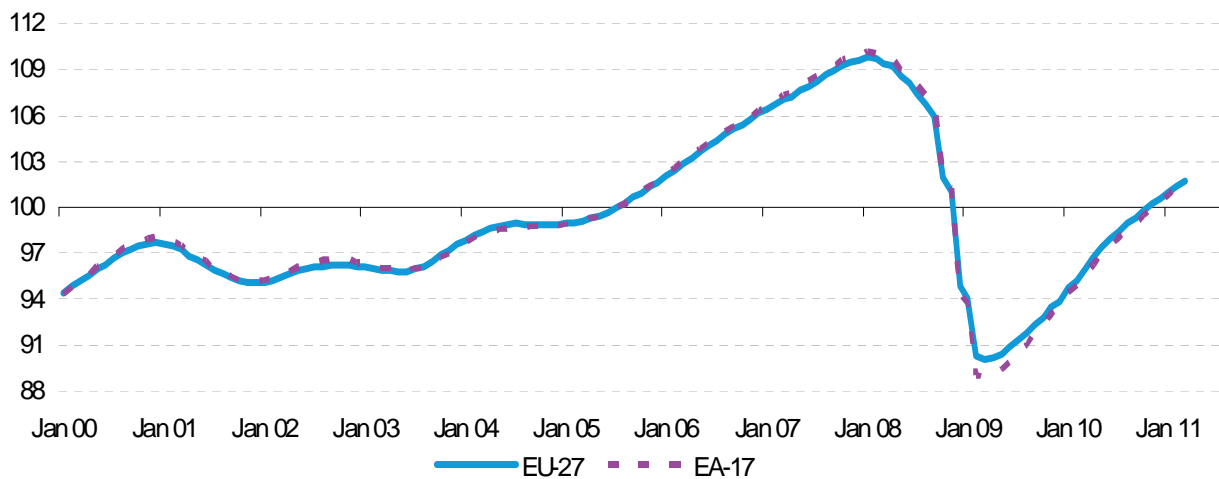
This publication focuses on recent developments for the industrial production index identifying how different activities developed leading up to, during, and following on from the recession. This index measures volume changes in output (in other words adjusted for price changes).

The financial and economic crisis resulted in a sharp and severe downturn in industrial output in the European Union (EU), mainly during 2008. In some countries the contraction in activity was the largest seen since the 1930s. During 2009 and 2010 there were clear signs of recovery in many parts of the economy.

The EU-27's industrial production index peaked around January 2008, after which it fell almost uninterrupted for 14 months, before reaching a low point in April 2009, around 19.0 % below its seasonally adjusted pre-downturn peak. Overall growth between this low point and the latest data available (for March 2011) totalled 13.3 %.

Developments in the euro area (EA-17) largely mirrored those for the EU-27 as a whole, although the extent of the downturn in industrial output was somewhat stronger (-20.6 %), as was the beginning of the upturn (15.0 % overall growth from its low point to March 2011).

Figure 1: Index of production, trend, total industry (2005=100)



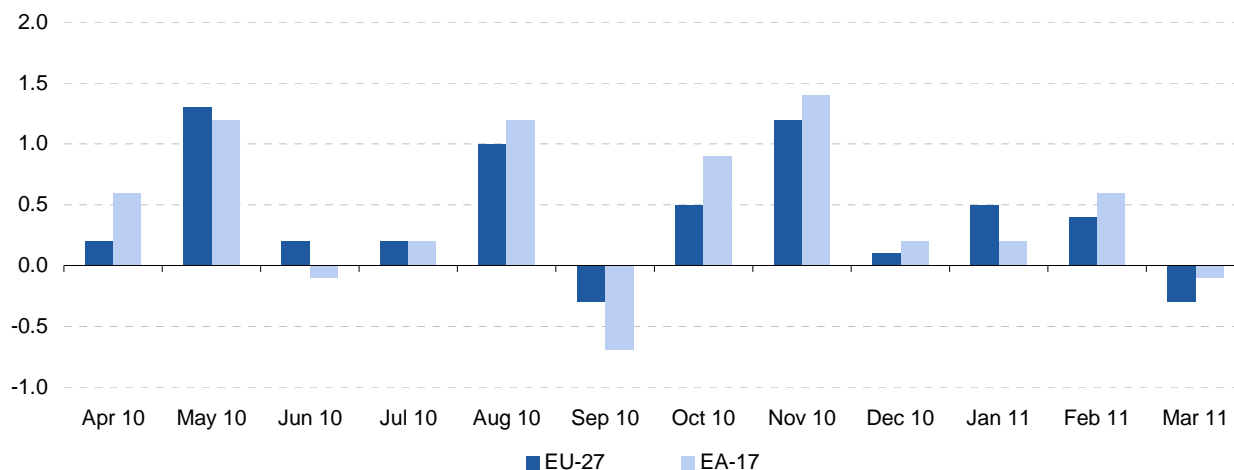
Source: Eurostat (online data code: [sts_inpr_m](http://sts.inpr.m))

Diverse developments within the industrial economy

The industrial economy experienced what may be referred to as a V-shaped recession, with a clearly defined trough followed by positive month on month rates of change (seasonally adjusted) recorded in all but five of the 23 months since the low point of activity. Figure 2 shows the monthly rates of change for the last 12 months. The strong

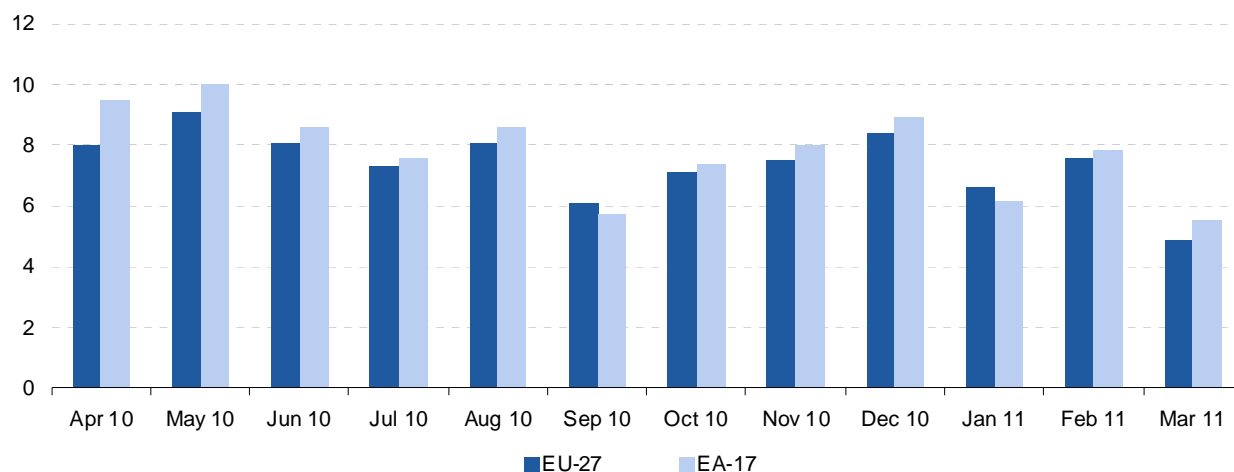
growth since the low point of the recession can also be seen in Figure 3, where the annual rates of change (comparison of one month with the same month of the previous year) were generally in the range of 5 % to 10 % throughout the last 12 months.

Figure 2: Index of production, total industry, seasonally adjusted, rates of change compared with previous month (%)



Source: Eurostat (online data code: [sts_inprgr_m](#))

Figure 3: Index of production, total industry, working day adjusted, rates of change compared with same month of previous year (%)



Source: Eurostat (online data code: [sts_inprgr_m](#))

Figures 4 and 5 show output developments for the five main industrial groupings (MIGs). These figures illustrate that the overall development in industrial output shown in Figure 1 reflects a wide range of developments experienced in different parts of the EU's industrial economy. Output from the manufacture of consumer non-durables as well

as energy related activities was least affected by the recession, while the three other MIGs recorded a fall in output of 20 % to 25 % between their pre-downturn peaks and their lowest values at the bottom of the downturn.

Output of the energy related activities reached a low in April 2009 and recorded the smallest

increase in output between its low at the end of the downturn and its most recent values for March 2011, just 2.8 % (seasonally adjusted). The recovery within the industrial economy was most strongly driven by the manufacture of intermediate goods, where output increased 20.2 % between April 2009 and March 2011. The most recent data for the manufacture of capital goods indicates an increase of 18.5 % compared with its low point in April 2009.

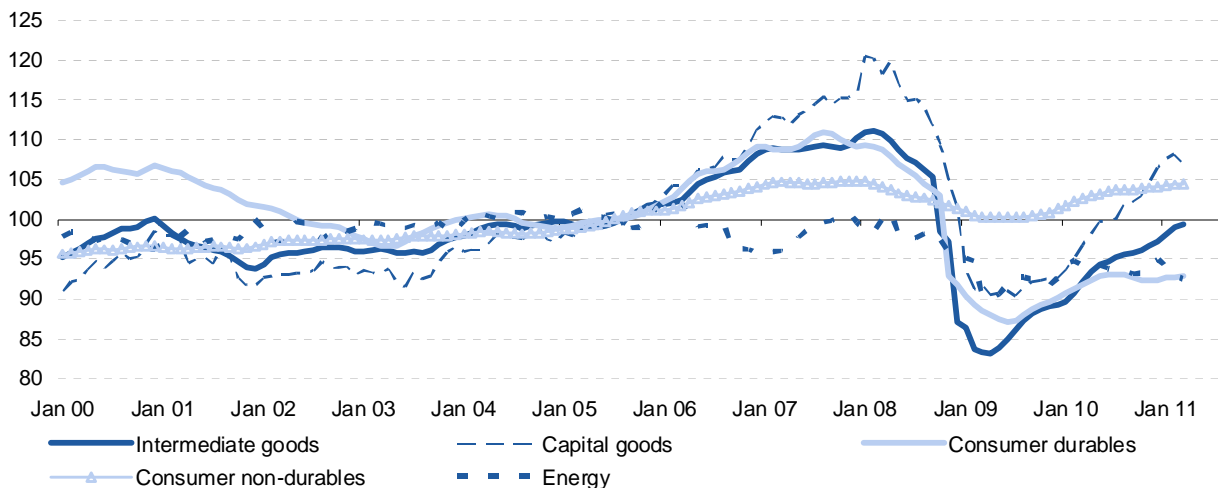
The March 2011 data indicates that among all of the MIGs, the production index for the manufacture of consumer non-durables was closest to its pre-downturn peak (1.2 % lower), while output for the manufacture of consumer durables remained 15.5 % below its peak.

At the NACE division level, the 29 industrial activities for which data are available can be

analysed based on the development of their output before, during and after the recession. There was one industrial activity where there was no sustained downturn in output during the overall recession, namely, the manufacture of pharmaceuticals.

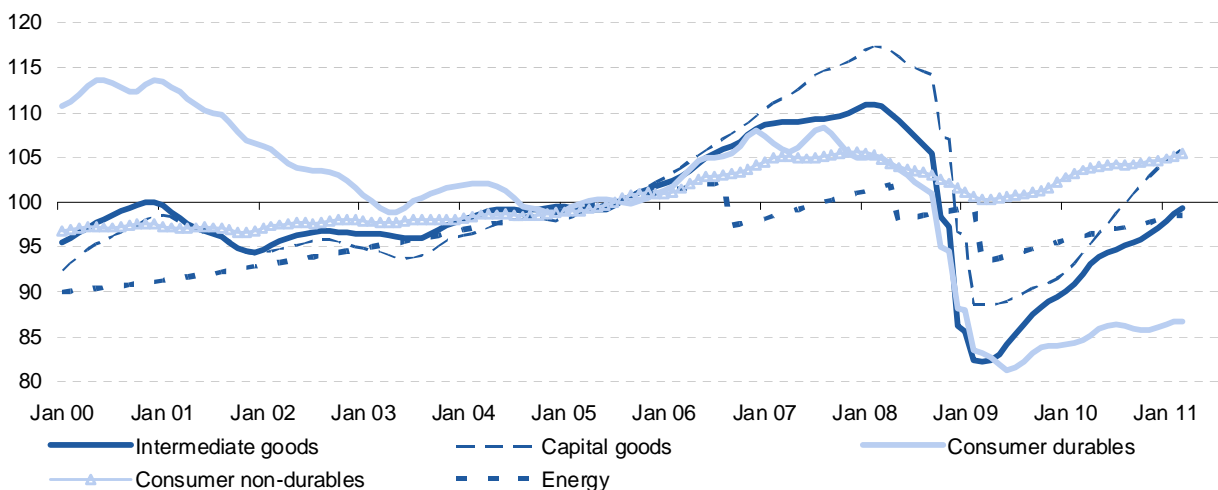
For four activities the recent upturn was sufficiently strong that by late 2010 or early 2011 their output had already returned above their pre-downturn peak levels, although more modest falls during some or all of the first three months of 2011 meant that by March 2011 they were all just below their pre-downturn levels again; these activities were the mining of metal ores, the manufacture of food products, the manufacture of computer, electronic and optical products, and other manufacturing.

Figure 4: Index of production, trend, EU-27 (2005=100)



Source: Eurostat (online data code: [sts_inpr_m](#))

Figure 5: Index of production, trend, EA-17 (2005=100)



Source: Eurostat (online data code: [sts_inpr_m](#))

Most of the remaining activities (16 industrial NACE divisions) experienced a fall in output starting in late 2007 or the first half of 2008, with a low point reached between December 2008 and January 2010, followed by an upturn in activity that by March 2011 had not reached the pre-

downturn peak level. Two activities, the manufacture of beverages and the manufacture of other transport equipment, followed a similar development, although the low point in their output was reached notably later, towards the second half of 2010.

Table 1: Index of production, seasonally adjusted, rates of change compared with previous quarter, EU-27 (%)

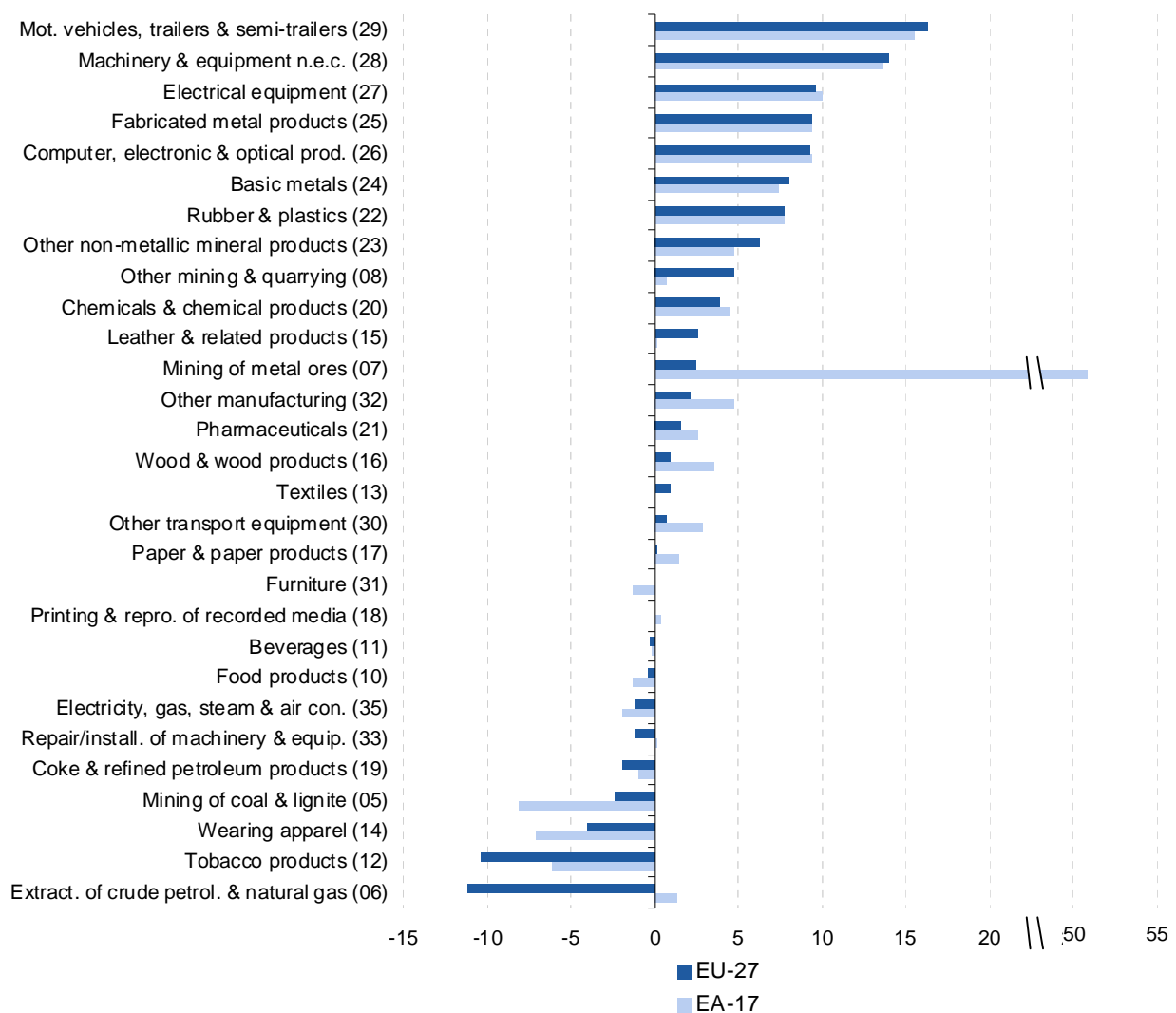
NACE code and label	Weight in 2005 (% of total industry)	2009				2010				2011
		I	II	III	IV	I	II	III	IV	I
Total industry	100.0	-8.4	-1.3	2.3	1.0	2.4	2.3	1.2	1.5	1.1
Intermediate goods	36.2	-11.0	-0.6	4.3	1.9	2.0	4.1	1.1	1.0	2.7
Capital goods	28.6	-12.3	-1.7	0.8	1.1	3.2	4.1	2.1	3.5	2.6
Consumer durables	3.3	-7.6	-1.9	0.8	1.9	2.0	1.8	0.0	-1.0	0.9
Consumer non-durables	20.2	-1.5	0.1	0.1	0.1	2.1	0.5	0.5	0.2	0.3
Energy	11.7	-2.7	-3.0	2.3	-0.8	3.5	-1.1	-0.7	1.2	-1.9
05 Mining of coal & lignite	0.4	-4.8	-5.6	2.3	0.1	-0.9	0.1	-0.3	-5.9	2.8
06 Extraction of crude petroleum & natural gas	2.6	-3.4	-0.8	-0.3	-2.1	1.6	-0.9	-2.8	-3.5	-3.3
07 Mining of metal ores	0.2	-5.8	3.4	-8.6	20.9	-4.3	7.2	1.0	1.6	-1.1
08 Other mining & quarrying	0.8	-12.6	0.7	-1.5	-2.7	1.6	6.8	0.8	-5.2	7.0
09 Mining support service activities	0.6	:	:	:	:	:	:	:	:	:
10 Food products	8.4	-0.2	0.2	-0.1	-0.5	2.2	-0.1	0.5	0.7	-0.3
11 Beverages	2.1	-1.1	0.5	1.1	-0.3	-1.7	-0.3	1.4	-1.4	2.4
12 Tobacco products	0.6	-1.0	-0.6	-2.2	-1.8	1.4	-2.7	-3.2	-5.6	2.6
13 Textiles	1.5	-9.0	-2.9	5.4	1.7	2.8	1.7	1.2	0.8	0.0
14 Wearing apparel	1.3	-7.6	-1.2	-1.3	-0.1	1.8	1.5	-1.8	-2.3	-2.3
15 Leather & related products	0.6	-6.0	-2.9	1.9	2.4	-2.1	3.7	1.1	-0.6	-0.7
16 Wood & wood products	1.8	-7.2	-0.5	2.0	-0.2	1.0	2.6	0.0	-0.8	1.3
17 Paper & paper products	2.3	-5.4	0.4	2.1	1.9	2.4	2.0	-0.7	-0.6	0.9
18 Printing & reproduction of recorded media	2.3	-2.1	-2.2	-1.1	-1.2	2.6	1.2	0.1	-0.2	0.4
19 Coke & refined petroleum products	2.2	-4.9	0.1	-0.3	-1.6	-1.8	4.0	1.5	-1.7	-0.1
20 Chemicals & chemical products	5.7	-8.5	4.1	6.6	2.4	1.5	2.2	0.6	-0.1	2.3
21 Pharmaceuticals	3.8	0.9	1.2	-0.3	0.7	4.0	0.0	2.4	-0.4	1.2
22 Rubber & plastics	4.2	-6.6	0.1	4.5	2.1	1.5	2.0	0.5	2.7	3.1
23 Other non-metallic mineral products	4.0	-10.1	-3.1	1.1	-0.2	-1.1	4.6	1.7	-1.3	3.5
24 Basic metals	4.0	-20.8	-1.2	15.7	3.8	2.7	5.9	0.6	2.0	3.3
25 Fabricated metal products	8.4	-13.0	-2.9	1.8	0.9	1.1	4.8	2.6	1.3	2.4
26 Computer, electronic & optical products	4.5	-15.1	0.6	2.3	2.7	2.9	4.0	1.7	3.2	2.9
27 Electrical equipment	4.0	-11.3	-5.4	1.5	3.5	4.0	4.4	2.0	1.3	2.5
28 Machinery & equipment n.e.c.	8.5	-16.5	-9.4	-0.9	2.3	3.7	4.5	5.7	4.0	0.7
29 Motor vehicles, trailers & semi-trailers	7.4	-16.8	8.8	11.3	2.0	3.8	5.3	2.8	6.8	3.9
30 Other transport equipment	2.0	-5.5	-0.5	-1.1	-1.5	-0.9	0.8	-2.2	1.0	2.5
31 Furniture	1.9	-6.6	-3.8	-1.0	0.7	0.2	-0.2	0.0	0.2	1.5
32 Other manufacturing	1.9	-4.1	-1.2	0.6	1.1	5.3	1.2	1.6	0.1	0.9
33 Repair/install. of machinery & equipment	3.1	-4.7	-2.1	-2.7	-0.3	3.3	1.6	0.9	1.6	-0.9
35 Electricity, gas, steam & air con.	9.0	-2.0	-3.0	3.5	-1.4	4.9	-0.9	-0.8	2.3	-2.7

Source: Eurostat (online data code: [sts_inprgr_q](#))

The remaining six industrial activities recorded little, irregular growth or even declining output prior to the recession. Three of these, the mining of coal and lignite, the extraction of crude petroleum and natural gas, as well as the manufacture of tobacco products, continued to record declining output during most of the months through the recession and the subsequent recovery. The other three activities, namely the manufacture of textiles, wearing apparel, as well as leather and related products, experienced a rebound in activity during the second half of 2009 or the first half of 2010 in line with the upturn in overall industrial output, but this was not sustained: for the manufacture of wearing apparel, leather and related products a gentle decline in output returned in the middle of 2010, while the rate of growth in output for the manufacture of textiles started to slow around the same time and turned negative in early 2011.

Figure 6 shows the latest annual rates of change for these activities, comparing March 2011 with March 2010. Ranked (based on the EU-27 values) near the bottom of the figure are those activities whose output had been declining for several years. The activities at the top of the figure include four that experienced some of the largest falls in output during the recession, but despite strong growth over the last year their output remained some way below their pre-downturn peak, namely the manufacture of motor vehicles, machinery and equipment, fabricated metal products and basic metals. Another of the activities near the top of the figure, the manufacture of computer, electronic and optical products, saw recent growth taking its level of output back above its pre-downturn peak although it dipped below this in March 2011.

Figure 6: Index of production, working day adjusted, rates of change compared with same month of previous year, March 2011 (%) (1)



(1) Mining support service activities (Division 09), not available.

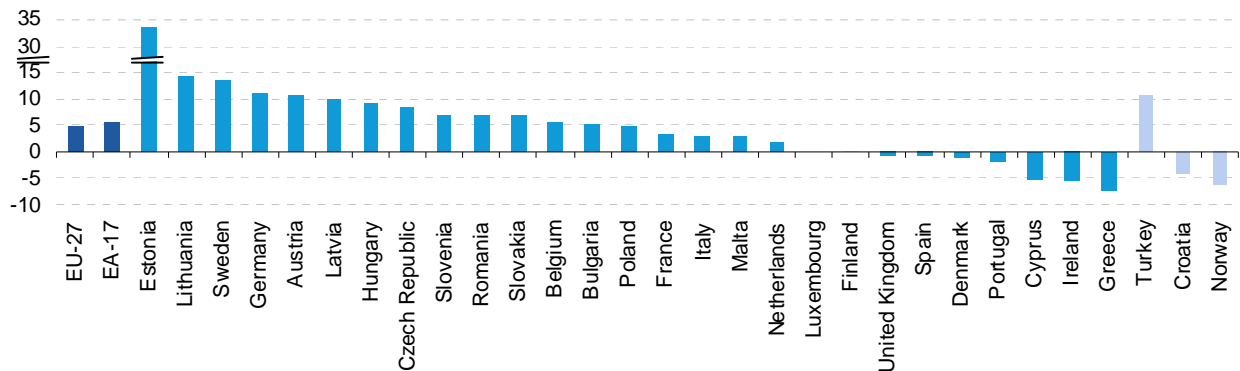
Source: Eurostat (online data code: [sts_inprgr_m](#))

Table 2: Index of production, seasonally adjusted, rates of change compared with previous quarter, total industry (%)

	Weight in 2005 (% of EU-27)	2008	2009				2010				2011
		IV	I	II	III	IV	I	II	III	IV	I
EU-27	100.0	-6.6	-8.4	-1.3	2.3	1.0	2.4	2.3	1.2	1.5	1.1
EA-17	73.7	-7.0	-9.3	-1.5	2.9	1.1	2.6	2.3	1.1	1.8	1.1
Belgium	2.9	-5.0	-10.4	2.8	5.8	2.1	2.7	2.9	1.6	1.2	1.8
Bulgaria	0.2	-5.5	-13.0	-1.2	-0.9	1.5	-2.7	3.6	2.6	1.7	1.2
Czech Republic	1.5	-6.7	-6.5	-0.8	1.7	2.9	2.2	2.8	2.9	2.1	2.8
Denmark	1.9	-2.9	-7.7	-4.6	-0.6	-4.0	3.7	4.1	-0.1	-1.3	1.5
Germany	25.7	-7.2	-12.5	-0.4	3.7	1.2	2.3	5.0	1.8	3.0	1.8
Estonia	0.1	-14.6	-9.8	-7.6	2.6	1.9	8.9	3.3	7.9	10.2	7.2
Ireland	1.7	-3.3	0.9	-2.2	-3.6	-3.4	11.6	0.9	2.0	-1.8	-0.5
Greece	1.0	-5.5	-3.0	-2.1	0.5	-3.0	-2.7	-1.2	0.5	-3.3	-2.1
Spain	7.5	-8.9	-6.2	-1.3	1.2	0.6	-0.3	1.1	-1.1	0.7	0.8
France	11.9	-7.1	-7.4	-0.9	3.1	0.3	1.9	1.8	0.3	0.8	2.1
Italy	12.6	-7.8	-11.0	-2.5	2.5	1.6	2.8	1.7	1.2	-0.7	-0.1
Cyprus	0.1	-0.7	-6.2	-1.1	-1.3	-0.2	0.3	-0.6	0.3	-2.3	-1.2
Latvia	0.1	-6.1	-9.5	-0.3	-2.6	3.6	5.8	3.5	7.0	0.6	-2.0
Lithuania	0.2	-11.6	-5.4	-0.6	2.2	-4.7	0.5	6.5	5.6	3.8	-1.5
Luxembourg	0.1	-18.8	-7.9	3.1	9.0	-0.7	4.0	2.3	-0.2	0.1	-0.4
Hungary	1.0	-10.6	-9.3	-1.5	2.7	1.0	3.9	4.3	3.0	-1.8	5.5
Malta	0.0	-2.8	-11.1	-5.0	1.8	6.9	2.1	1.9	-3.3	0.4	6.2
Netherlands	3.7	-3.4	-4.8	-2.4	4.2	1.7	4.2	0.4	-2.0	3.2	-0.5
Austria	2.6	-6.7	-4.4	-4.0	1.6	1.9	1.0	3.7	1.8	2.2	3.3
Poland	3.4	-4.7	-1.9	2.3	1.7	3.0	3.4	2.3	2.9	0.5	1.9
Portugal	1.2	-5.6	-5.3	1.1	2.6	-2.7	2.3	0.1	0.0	-1.3	1.3
Romania	0.7	-5.8	-2.5	0.7	1.9	2.2	-1.0	3.1	1.3	3.0	2.1
Slovenia	0.3	-10.7	-7.5	-5.9	4.1	1.5	-0.2	4.7	2.3	1.2	0.6
Slovakia	0.4	-11.3	-10.1	2.3	6.9	3.4	5.9	6.2	-0.7	4.6	1.1
Finland	1.8	-7.5	-11.0	-3.3	1.3	-0.1	2.0	3.1	0.8	2.8	-3.2
Sweden	3.1	-6.0	-10.6	-2.3	2.1	-0.6	3.3	5.1	2.4	1.1	4.4
United Kingdom	14.3	-4.3	-5.2	-0.2	-1.0	0.3	1.6	1.1	0.1	0.8	0.6
Norway	-	2.1	-1.0	-4.9	1.0	-0.4	-0.8	-2.7	-6.5	6.6	-3.6
Switzerland	-	-4.8	-5.4	-1.0	4.7	1.2	0.3	1.0	2.9	1.8	:
Croatia	-	-1.8	-6.1	1.3	-3.0	-0.3	2.5	-3.8	1.8	-2.1	-0.9
Turkey	-	-7.4	-7.4	4.2	3.0	4.5	3.5	2.5	2.2	4.1	3.9

Source: Eurostat (online data code: [sts_inprgr_q](#))

Figure 7: Index of production, total industry, working day adjusted, rates of change compared with same month of previous year, March 2011 (%)



Source: Eurostat (online data code: [sts_inprgr_m](#))

METHODOLOGICAL NOTES

Context

Eurostat has responded to the need for reliable and objective statistics for economic and political decision-making by selecting a number of indicators as Principal European Economic Indicators; the industrial production index is one of these. This data is used by the European institutions and the European Central Bank, national governments and central banks, financial markets and businesses.

The industrial production index is an indicator of the business cycle for industrial output and activity. The index measures price adjusted changes in the output of different industrial activities and industry as a whole at monthly intervals. The major strengths of the industrial production index are its combination of fast availability and detailed activity breakdown.

Data sources and availability

The source for all of the data in this publication is Eurostat's short-term business statistics (STS). The legal basis is [Council Regulation No 1165/98 of 19 May 1998](#) ⁽¹⁾ concerning short-term statistics and its subsequent amendments. STS provide information on a wide range of economic activities within the business economy. STS indicators concern measures of output, labour input and prices, as well as indicators related to expectations of activity in the future such as new orders and building permits.

The industrial production index is published monthly by Eurostat for the EU, euro area, and all available Member States, as well as Norway, Switzerland, Croatia and Turkey. The main geographical entities are the EU-27 and the euro area (EA-17) which are based on aggregates that are consistently composed of the 27 and 17 countries that (at the time of writing) participate in these respective areas. The European aggregates are normally published one month and 12 days after the end of the reference period.

Data are presented in working day adjusted and seasonally adjusted forms, as indices and growth rates; trend data are also available. The indices published by Eurostat are expressed with reference to 2005=100 as the base year; [weights](#) to combine

national data into European aggregates are based on data for 2005.

Since 2009 the industrial production index has been published by Eurostat according to NACE Rev. 2. The overall coverage is NACE Sections B, C and D (covering mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply). As well as being published at various NACE levels, the industrial production index is compiled for each of the five main industrial groupings (MIGs) ⁽²⁾ which is based on a regrouping of activities from the Group level of NACE Rev. 2.

Definitions

The aim of the industrial production index is to measure changes in the price-adjusted output of an activity month by month. In theory, this indicator reflects volume developments in value added. In most countries, the value added data needed to compile an index are not available on a monthly basis. Therefore, data are in general collected for other variables considered suitable proxies for value added, generally based on output measures (such as sales or production) or in some cases on input measures (such as hours worked).

Abbreviations and symbols

EA-17	euro area of 17 Member States
EU-27	European Union of 27 Member States
MIGs	Main industrial groupings
NACE	statistical classification of economic activities in the European Community
STS	short-term statistics
:	not available
~	not relevant

For more information:

A news release for the industrial production index is released around the middle of each month. Furthermore the production index is presented, along with the other short-term business statistics, in the Quarterly panorama of European business.

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⁽¹⁾ Official Journal No L 162, of 5 June 1998.

⁽²⁾ [Commission Regulation No 656/2007](#) of 14 June 2007. Official Journal No L 155/3, of 15 June 2007.

Further information

Eurostat Website: <http://ec.europa.eu/eurostat>

Data on short-term business statistics

http://epp.eurostat.ec.europa.eu/portal/page/portal/short_term_business_statistics/data/database

Further information about short-term business statistics

http://epp.eurostat.ec.europa.eu/portal/page/portal/short_term_business_statistics/introduction

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