Industry, trade and services

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Recession in the EU-27: length and depth of the downturn varies across activities and countries

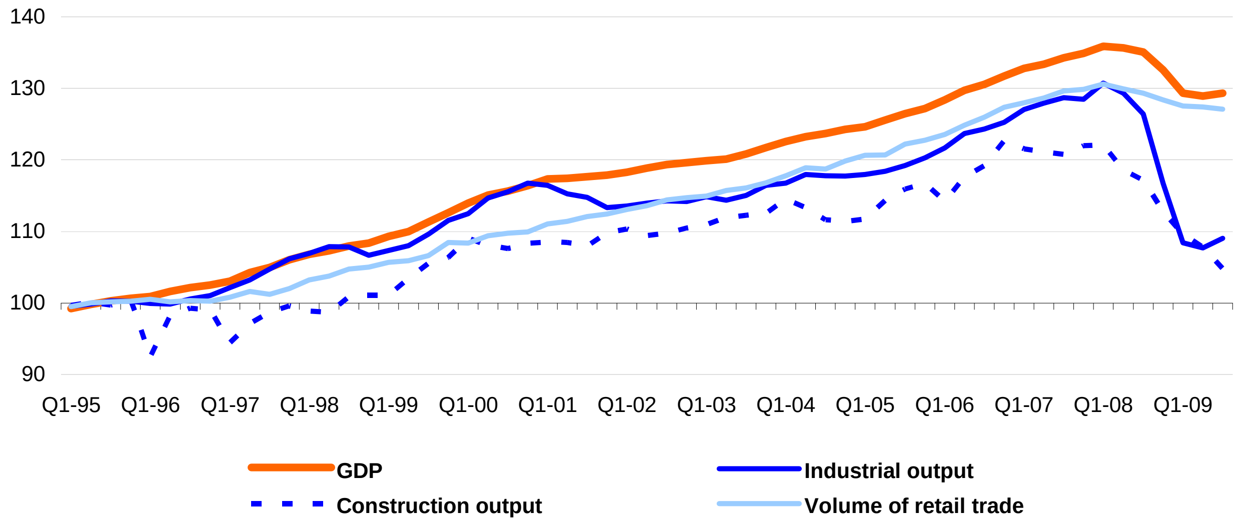
In simplified terms, the financial crisis during the summer of 2007 resulted from a fall in asset prices after a period of asset price inflation, leading to a liquidity shortage among financial institutions and concerns over their solvency. These concerns were subsequently transmitted, often in the first half of 2008, to non-financial sectors (the so-called 'real economy'), as credit facilities were withdrawn and business and consumer confidence fell.

The length and depth of the recession was considerable and in some cases the contraction in activity was the largest seen since the 1930s; however, there are now signs of a recovery. This publication therefore takes stock of the situation by measuring the extent of the recession from the most recent peaks in activity to the bottom of the cycle when output reached its lowest point (troughs). The publication also sets the recession in context by comparing it with earlier periods when business activity also experienced a contraction.

A recession is normally defined in terms of zero or negative growth of GDP in at least two successive quarters. As shown in Figure 1, the volume of GDP within the EU-27 peaked in the first quarter of 2008, after which there were five consecutive quarters of reduced economic activity; before a 0.3 % quarter-on-quarter increase in the third quarter of 2009.

Short-term statistics (STS) provide more detailed activity-based measures for the evolution of output. These show a stark contrast between the developments experienced in different sectors of the EU's business economy since the first quarter of 2008: with a considerable downturn in industrial and construction output (as measured by indices of production), while the volume of retail trade experienced far less of a contraction.

Figure 1: GDP and output measures, seasonally adjusted, EU-27 (1995=100)



Source: Eurostat (namq_gdp_k, sts_inpr_q, sts_copr_q, sts_trtu_q)

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The latest peak in EU-27 GDP, industrial and construction output, as well as the volume of retail sales was recorded in the first quarter of 2008. As such, the onset of the recession was consistent across economic activities, and from the second quarter of 2008 each of these indicators experienced a downturn in activity. There were five consecutive quarter-on-quarter reductions recorded for GDP and for industrial output, while for construction and retail trade, the latest information available for the third quarter of 2009 shows that output continued to fall.

The magnitude of the recession, as measured by the decline in activity from peak to trough, was a contraction of 5.1 % for EU-27's GDP between the first quarter of 2008 and the second quarter of 2009. Using the same quarterly measure, EU-27 industrial output fell by a considerably larger amount, as the index of production fell overall by more than one sixth (-17.6 %) during the same period. The indices for construction and retail trade continued to fall, and as such, it is as yet unclear whether the bottom of the cycle was reached in the third quarter of 2009. On the basis of a comparison between the first quarter of 2008 (the relative peak) and the third quarter of 2009, EU-27 construction output fell overall by 14.2 %. In contrast, the extent of the downturn experienced within the EU-27's retail trade sector was considerably less, as the volume of sales was reduced by 2.7 % between the first quarter of 2008 and the third quarter of 2009.

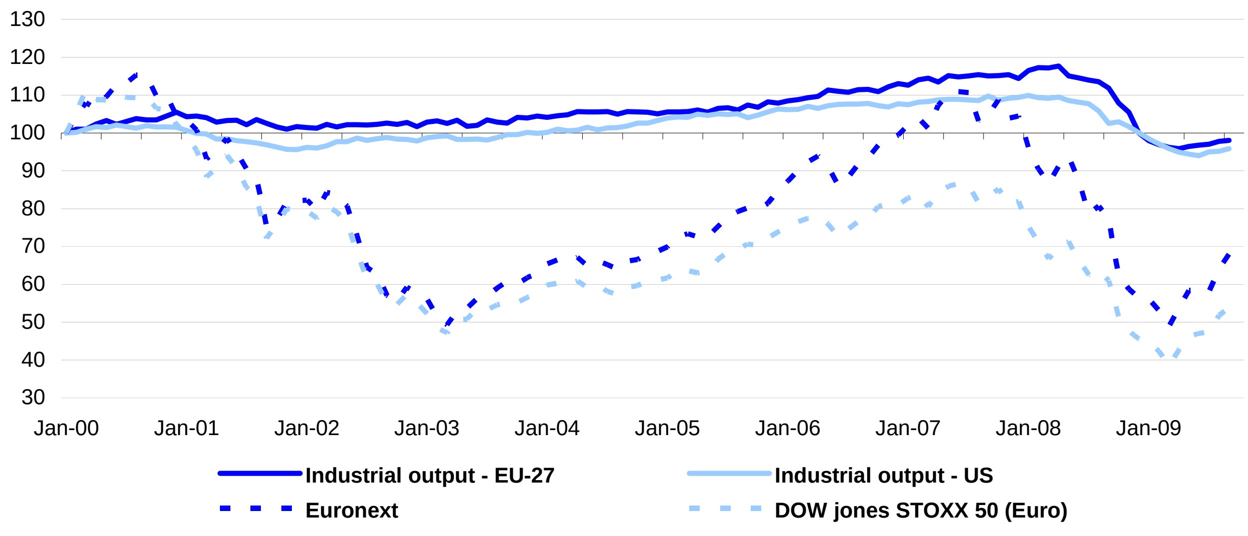
Historical context

Each recession has its own underlying causes – for example, the great depression of the 1930s is linked to a crash in the American stock market (Wall Street) towards the end of 1929, while a downturn in economic activity in the first half of the 1970s is, at least in part, linked to an escalation of oil prices.

Time-series within Eurostat databases do not go back far enough to allow a comparison of the latest recession with, for example, the great depression of the 1930s. Indeed, the first reference period within STS for any of the Member States for the index of industrial production is the start of 1980, while an EU-27 aggregate for this indicator does not appear until the start of the next decade (1990).

Given the limited availability of historic time-series, Figure 2 presents a comparison of the evolution of stock market and industrial production indices for the EU and the United States. Many commentators have passed judgement on the culpability of the financial sector for the latest recession. From the graph below it is apparent that a crisis that started in the financial sector in 2007 quickly spread to the real economy in 2008 resulting in considerable reductions in both stock market prices and industrial output in both the EU-27 and the United States. It is interesting to note that the major downturn in stock market indices in 2000 that resulted from the end of the so-called dot-com bubble had, compared with the latest recession, a relatively minor impact on the real economy.

Figure 2: Production indices and stock market indices (2000=100)



Source: Eurostat (sts_inpr_m, mny_stk_spy_m)

Figure 3 provides a comparison of the three most significant downturns in EU-27 industrial production since 1990. The graph shows the evolution of the EU-27 index of production for total industry in relation to peaks in output that occurred in April 1992, December 2000 and April 2008 (with industrial output during these peaks in activity set to 100 for this graph).

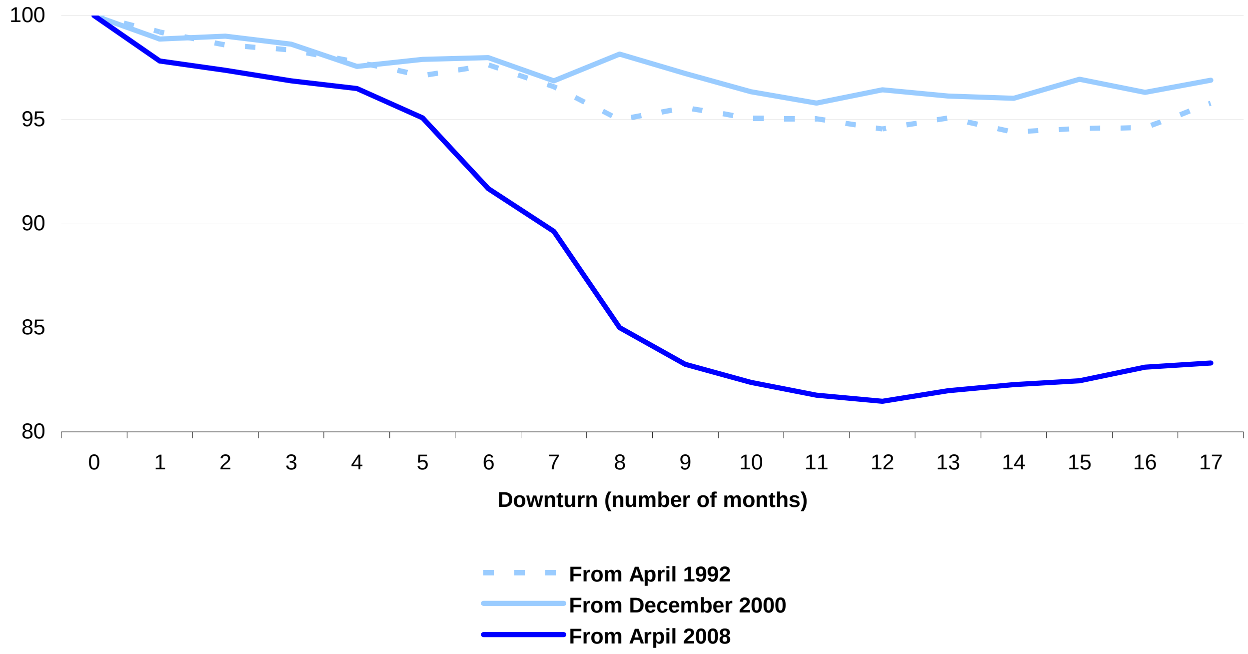
The recession in 1992 can be linked broadly to a number of factors, including, among others, relatively high oil prices and fears over the security of oil supply following the Iraqi invasion of Kuwait in 1990, a downturn in economic activity in the United States in 1991 that curtailed demand for some EU goods and services, and a post-reunification slowdown in Germany (following rapid growth in 1990 and 1991).

Aside from the stock market crash that took place when the dot-com bubble burst, the downturn in EU-27 industrial activity from December 2000 onwards may be associated with considerable fluctuations in exchange rates (which included a run on the recently launched euro) and a period of relatively high inflation in the summer of 2001 (note that, based on quarter-on-quarter changes in GDP, this period was not technically a recession in the EU-27).

The lines for each of the three periods of declining industrial output in the EU-27 show the magnitude of the latest recession in comparison with the downturns experienced in 1992/93 and 2001/02. Industrial output fell by approximately 5 % during both of these periods, whereas the latest recession resulted in industrial production falling by as much as 18.5 % (monthly data; previously quoted figures related to a quarterly series).

Economic commentators often refer to the shape of a recession, for example, U-shaped, V-shaped, L-shaped, or W-shaped (otherwise, referred to as a double-dip recession). Both of the periods 1992/93 and 2001/02 were characterised by a downturn in activity followed by a lengthy period of almost unchanged output, before a gradual and modest return to growth (most closely associated with an L-shape). Note that both periods were quite protracted and that there was no discernable upturn in industrial activity during a period of 18 months from the initial peak. In contrast, the trough of the latest recession would, based on preliminary evidence, appear to have been reached in April 2009 only 12 months after the relative peak of April 2008. Given that the EU-27 index of industrial production has only shown signs of renewed growth since May 2009, it is probably too early to make any judgement as to the shape of the latest recession; however, given the dramatic scale of the downturn in activity, there is clearly some potential for output to rebound.

Figure 3: Historical perspective – evolution of index of production for total industry during periods of contraction in industrial activity, seasonally adjusted, EU-27 (starting month=100)



Source: Eurostat (sts_inpr_m)

Latest recession viewed across the Member States for industrial output

The following section is confined to an analysis of the latest recession for the index of production. The information is based upon an analysis from the start of 2008 through to the latest reference period (generally September 2009).

As noted, the length of the downturn in EU-27 industrial production was 12 months from April 2008 to April 2009, with an overall reduction of 18.5 % in industrial activity. A similar analysis for the Member States shows the downturn lasted just five months in Slovakia, while Austria was the only other Member State where the contraction in industrial activity did not extend into double figures (nine months). At the other end of the range, the decline in industrial activity lasted 18 months in the Czech Republic and the United Kingdom, 19 months in Spain and a maximum of 20 months in Finland. Note that Spain and Finland were among a group of five Member States where the index of production for total industry continued to fall through to the latest reference period (September 2009) – the other countries were Bulgaria, Denmark and Estonia.

Nine of the 26 Member States for which data are available (no information for Malta) reported their highest index values for industrial output in April 2008 (the same month as the EU-27 average). The first industrial economies to move into recession (using this measure) were the Czech Republic, Portugal, Finland and Sweden, where output peaked at the start of 2008.

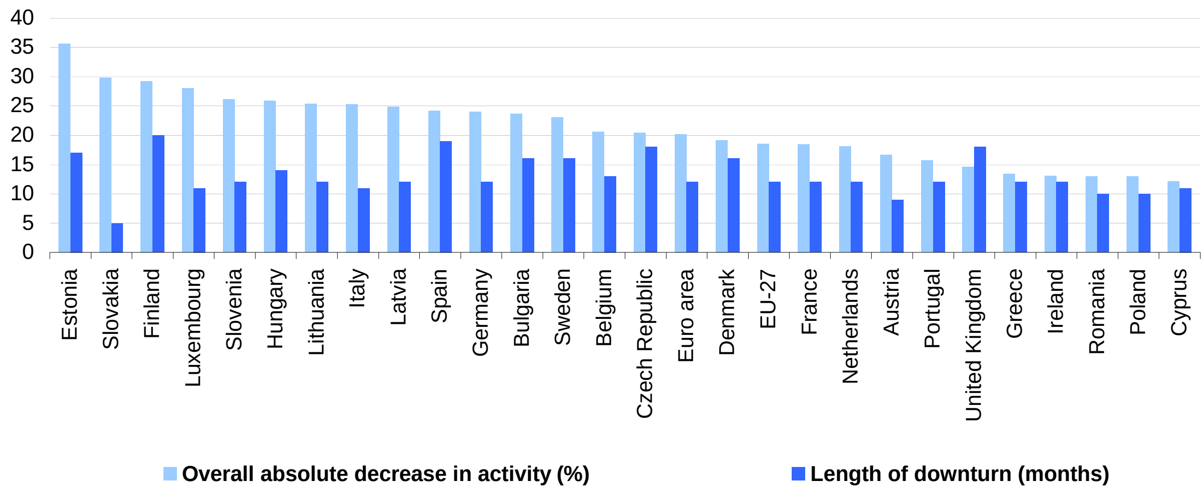
In contrast, the highest index level for industrial production did not occur until August 2008 in Austria and Ireland.

The end of the downturn, as measured by the low-point (or trough) in industrial activity was recorded as early as December 2008 in Romania and Slovakia, and January 2009 in Poland and Portugal.

The depth of the downturn (as measured by the overall reduction in industrial output) was largest in Estonia, where production fell by more than one third (35.6 %). There were losses of between 25 % and 30 % registered for Slovakia, Finland, Luxembourg, Slovenia, Hungary, Lithuania and Italy. At the other end of the range, the smallest contractions in activity were registered for Cyprus, Poland, Romania, Ireland and Greece, where industrial output fell by 12 % to 13 %.

Figure 4 shows the length and depth of the downturn – the most extreme examples being Slovakia, where a five-month downturn in industrial activity resulted in the second largest contraction in output among the Member States; the duration of the downturn in Luxembourg and Italy was also shorter than the EU average, while overall losses in industrial production for both of these countries were well above the EU average. In the United Kingdom, despite a lengthy period of falling output (18 consecutive months), the size of the industrial economy contracted by 14.6 %, less than the EU average.

Figure 4: Length and depth of the recession – index of production, total industry, seasonally adjusted



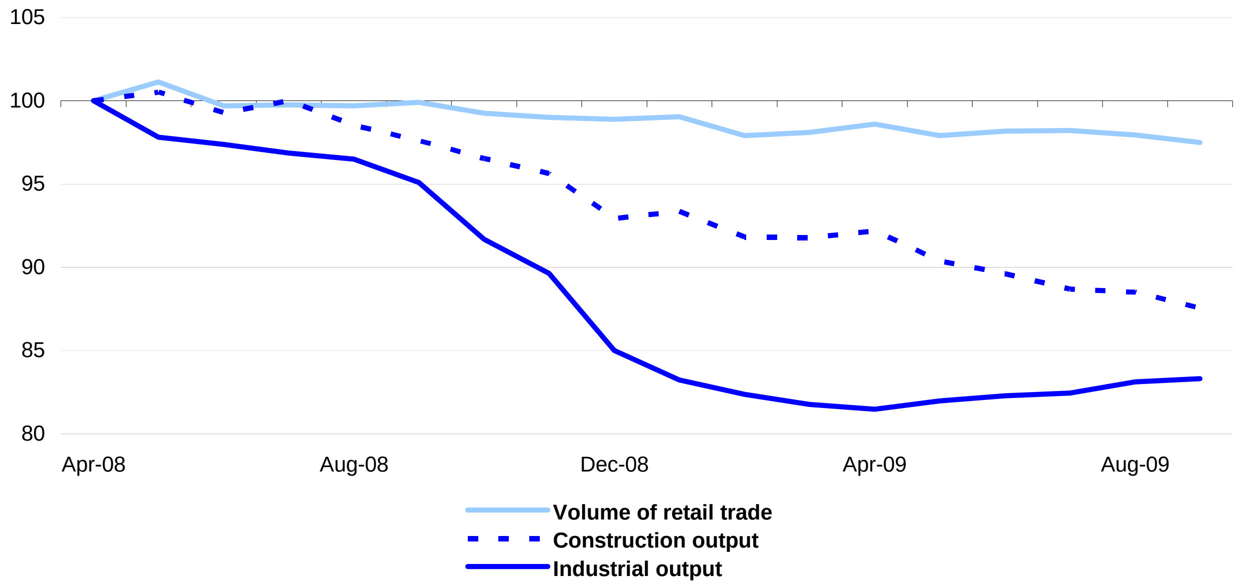
Source: Eurostat (sts_inpr_m)

The downturn in output as a result of the recession could be most easily seen for EU-27 industrial production, while losses recorded for construction were also considerable – furthermore, the downturn in construction activity showed (at the time of writing, start of December 2009) no signs of abating; indeed, the downward path of the index of production accelerated from April 2009 onwards (as industrial output was recovering). The reduction in the output of the retail trade sector was far less severe, although here too there was no sign of an end to the downturn, as the volume of sales continued to fall, albeit at a far more modest pace.

Table 1 shows that the main industrial groupings (MIGs) that suffered the largest contractions in output were the manufacture of capital and intermediate goods. EU-27 output fell by 27.0 % for the former during the 18 months from January 2008 to July 2009; this downturn likely resulted from downstream manufacturers deciding to defer investment in machinery and intermediate goods until there were signs of an upturn.

There was a stark contrast in the depth of the downturn between durable and non-durable consumer goods, as EU-27 production for the former fell by 22.4 % between February 2008 and June 2009, while the output of non-durables fell by 4.9 % between January 2008 and March 2009. These differences may be attributed to consumers deferring big-ticket purchases, while continuing to buy essential items, such as food and beverages (or energy to a lesser degree).

Figure 5: Evolution of output measures, seasonally adjusted, EU-27 (April 2008=100)



Source: Eurostat (sts_inpr_m, sts_copr_m, sts_trtu_m)

Table 1: From peak to trough – output measures, seasonally adjusted, EU-27 (2005=100)

NACE	Maximum value		Minimum value		Overall change: maximum to minimum (%)
Total industry	Apr-2008	110.6	Apr-2009	90.1	-18.5
Intermediate goods	Feb-2008	111.7	Apr-2009	83.5	-25.3
Capital goods	Jan-2008	122.3	Jul-2009	89.2	-27.0
Consumer durables	Feb-2008	109.2	Jun-2009	84.7	-22.4
Consumer non-durables	Jan-2008	105.3	Mar-2009	100.1	-4.9
Energy	Apr-2008	100.1	Apr-2009	88.1	-12.0
Construction	Jan-2008	107.0	Sep-2009	89.2	-16.6
Retail trade	Feb-2008	107.8	Sep-2009	103.4	-4.1

Source: Eurostat (sts_inpr_m)

Looking in more detail (at NACE Rev. 2 Divisions), there were considerable differences in the way the recession touched different areas of the business economy. Focusing on 31 industrial, construction and retail activities, the largest contraction in EU-27 output was recorded for mining support services (which is a very small industrial activity); its output fell by almost 70 %. The fortunes of motor vehicles manufacturing have been well documented in recent months, and Figure 6 shows this activity recorded the second largest reduction in output. The EU-27 production index for motor vehicles fell by 41.2 % during the period from February 2008 to February 2009; the relatively early 'exit' from the recession may be associated with a number of government schemes that were introduced around the start of 2009 to encourage consumers to purchase new vehicles.

It is interesting to note that the repair and installation of machinery and equipment saw its output decline at a slower pace that the total industry average, suggesting some businesses turned (during the recession) to repair rather than purchasing replacements. In contrast, some of the largest reductions in activity were recorded for capital goods manufacturing activities, such as motor vehicles, fabricated metal products, or machinery and equipment.

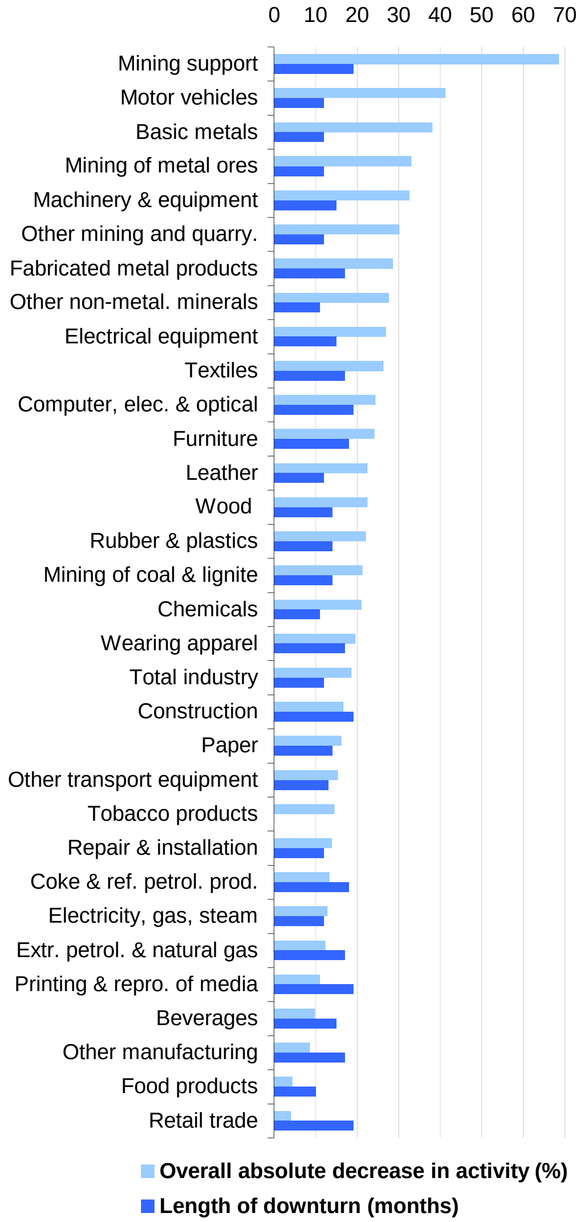
At the other end of the ranking, the smallest contractions in EU-27 output were recorded for retail trade, the manufacture of food products and beverages, and the miscellaneous category of other manufacturing; these were the only NACE Divisions for which output did not fall by more than 10 % between the most recent peak and trough. There were also relatively small contractions in industrial output for a number of energy-related activities.

It is also interesting to note the effect of the recession on the few industrial activities which have traditionally been in decline. The downward evolution of output for the manufacture of tobacco products, textiles, wearing apparel and leather products is well established and began well before the onset of the latest recession. The recession does not appear to have hit these activities particularly strongly, as their contractions in output were quite closely grouped around the total industry average.

The length of the downturn was generally quite high for a number of activities manufacturing consumer goods, such as furniture, wearing apparel, parts of computer, electronic and optical goods, printing and the reproduction of recorded media.

It is also important to draw attention to the fact that there was one industrial activity (therefore not shown in the graph below) where there was no downturn in output, namely, the manufacture of pharmaceuticals, where the most recent level for the EU-27 index of production in September 2009 was the highest recorded.

Figure 6: Length and depth of the recession – output measures, seasonally adjusted, EU-27



Source: Eurostat (sts_inpr_m, sts_copr_m, sts_trtu_m)

METHODOLOGICAL NOTES

The source for the majority of the data presented in this publication is Eurostat's short-term business statistics (STS). The legal basis for the STS is Council Regulation No 1165/98 of 19 May 1998 ([1]) concerning short-term statistics and Regulation (EC) No 1158/2005 of the European Parliament and of the Council of 6 July 2005 ([2]) amending Council Regulation (EC) No 1165/98.

Definitions

The definitions of short-term statistics variables are laid down in Commission Regulation (EC) No 1503/2006 of 28 September 2006 ([3]).

The **production index** is a business cycle indicator showing the output and activity of industry (extraction, manufacturing and energy-related activities). The index provides a measure of the volume trend in value added at factor cost over a given reference period. A similar index exists for construction.

The volume measure of the retail trade turnover index is more commonly referred to as the index of the **volume of (retail) sales** and is a short-term indicator for final domestic demand. It is a deflated version of the turnover index. Turnover comprises the totals invoiced by the observation unit during the reference period. This corresponds to market sales of services supplied to third parties. It includes all duties and taxes on the services invoiced by the unit with the exception of the VAT invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover.

Geographical coverage

The data for the European Union (EU-27) and the euro area presented in this publication are based on a consistent composition: for the EU data are presented for the 27 countries that (at the time of writing) are EU Member States, while for the euro area data are presented for the 16 countries currently participating in the euro. Both of these geographical aggregates are stable over the whole of the time-series and their composition therefore does not change to take account of changes in EU or euro area membership.

Classification

The classification of activities used in this publication is NACE Rev. 2 ([4]). Under NACE Rev. 2, total industry is defined as NACE Sections B to D (covering mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply), construction is defined as NACE Section F and retail trade is defined as NACE Division 47.

Decomposition – forms of indices

The basic form of an index is its gross (also known as unadjusted) form. To facilitate analysis this has been adjusted. Generally the indices used relate to seasonally adjusted data, which have been adjusted for working day effects, in other words to adjust for the impact of calendar effects (such as weekdays/weekends, official holidays, leap years), as well as to take account for seasonal effects (known seasonal factors that have been observed in the past).

If the national statistical office providing Eurostat with data does seasonal adjustment, these series are used. If no seasonally adjusted series are supplied, Eurostat perform the adjustments.

Other sources

There are two other sources of information (outside of short-term business statistics) used within this publication, namely: quarterly national accounts and stock market indices.

The main aggregate from national accounts is that of **gross domestic product (GDP)**, which is most frequently used to measure the overall size of an economy. It corresponds to the final result of the production activity of all producer units. These data are presented in terms of a volume index and have also been adjusted for working day and seasonal effects. For more information, refer to:

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

Stock market indices are compiled by national institutions. These data cover share price indices and are normally based on a selection of shares, whose aim is to represent share price movements in stock markets. For more information, refer to:

http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/mny_stk_spy_esms.htm

Abbreviations and symbols

EU-27 European Union of 27 Member States

Euro area Euro area of 16 Member States

NACE statistical classification of economic activities in the European Community

For more information:

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

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

([2]) *Official Journal No L 191, of 22 July 2005.*

([3]) *Official Journal No L 291, of 12 October 2006.*

([4]) *Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006. Official Journal No L 393/1 of 30 December 2006.*

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

Data on “Economy and Finance, National accounts”
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database
then select “quarterly national accounts”

More information about “short-term business statistics”
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