

Recession in the EU-27: output measures

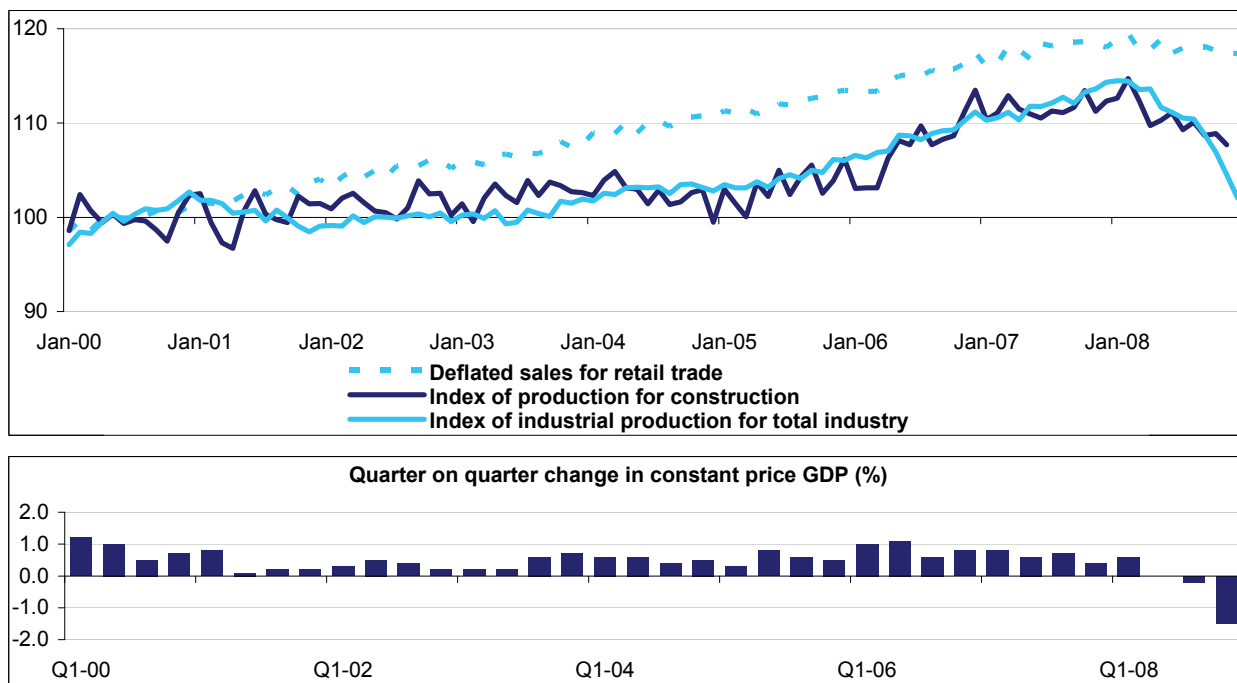
At the end of 2008 there were significant signs of a downturn in industrial, construction and retail sectors; some other service sectors continued to report growth

Following the credit crisis in sub-prime markets, falling stock market indices and a reduction in consumer and business confidence, the attention of many economic commentators has subsequently switched to reductions in output within the non-financial economy and fears of a deep, widespread, global recession.

This publication uses short-term business indicators to trace recent developments in a range of output measures across industrial, construction and services sectors of the European economy. The results confirm a considerable downward trend in output across a wide range of activities and across almost all of the 27 Member States.

A recession is often defined as two successive negative quarter on quarter changes in constant price GDP. As shown below, having remained unchanged in the second quarter of 2008, there was a 0.2 % quarter on quarter reduction in the EU-27's GDP in the third quarter of 2008, followed by a reduction of 1.5 % in the final quarter of the year. Information for a range of Member States showed that, at the time of writing, many of these had also slipped into recession.

Figure 1: output measures, seasonally adjusted indices, EU-27 (2000=100)



Source: Eurostat STS, national accounts

The contraction in activity observed in the EU-27 during 2008 was particularly severe in respect to industrial and construction activities. For example, the EU-27's seasonally adjusted index of production for total industry fell to 102.0 (2000=100) in December 2008, its lowest level since March 2004 ⁽¹⁾. EU-27 industrial output was more than 10 % below its peak level recorded in January 2008. The index of production for construction fell by 6.1 % from a peak in February 2008 through to November 2008, while the volume of EU-27 retail sales stagnated. In contrast, the turnover index for services continued to grow (note this index is in current prices and is not deflated to take account of changes in prices).

A similar picture was observed for the construction activity, where the index of production fell, on average, by 0.4 % each month during the 12 months to November 2008, compared with an expansion of 0.1 % per month since the start of 2000.

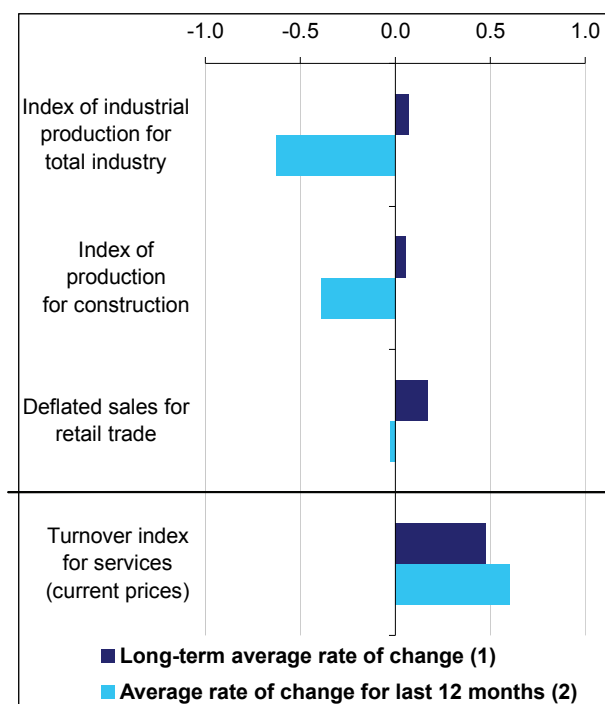
There was some evidence of a slowdown in EU-27 activity for retail trade (as measured by deflated sales), with a slight contraction over the last 12 months. In contrast, the value of turnover within services continued to expand (note again that these figures are not deflated, but in current prices).

EU-27 sales of services rose by an average of 0.6 % during the 12 months to September 2008 (slightly faster than their average growth rate since 2000, 0.5 %), compared with an average month on month percentage change of 0.2 % for the all-items consumer price index over the same period.

Given the largest contractions in activity in the EU-27 economy were recorded for industry, Figure 3 provides more detail by showing the evolution of indices of production (seasonally adjusted) for the five main industrial groupings – MIGs. The cyclical nature of these indices is apparent, with a reduction in activity in the EU-27 (other than for energy related activities) during the period between 1991 and 1993, followed by a relatively rapid increase in output through to the end of 2000. There was another (slight) downturn in EU-27 industrial activity from the start of 2001, which lasted a relatively short period of time for most of the MIGs, with the exception of the manufacture of consumer durables, where EU-27 output was reduced by more than 13 % through to May 2003. Thereafter, EU-27 indices of production tended to increase again, other than for energy related activities (where there was no lasting trend). Growth among the other MIGs was generally modest in the middle of the decade, accelerating in 2006 and 2007 to reach a peak in output in August 2007 (consumer durables and consumer non-durables) or February 2008 (capital and intermediate goods).

Long-term evolution in EU-27 output trends

Figure 2: comparison of average monthly rates of change, seasonally adjusted indices, EU-27 (%)



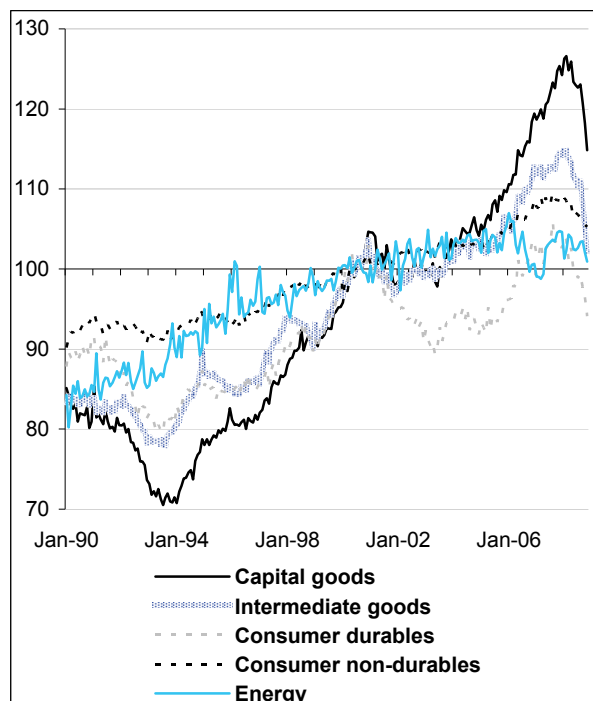
(1) Based on latest 104 monthly observations from January 2000-November 2008 (except for index of turnover to September 2008).

(2) Based on latest 12 monthly observations, November 2007-2008 (except for index of turnover, September 2007-2008).

Source: Eurostat STS

⁽¹⁾ Just before publication (March 2009), production and retail trade indices for December 2008 became available: these have been included on this opening page, while the more in-depth analysis that follows reflects the data situation from the end of January 2009.

Figure 3: index of production, main industrial groupings, seasonally adjusted indices, EU-27 (2000=100)



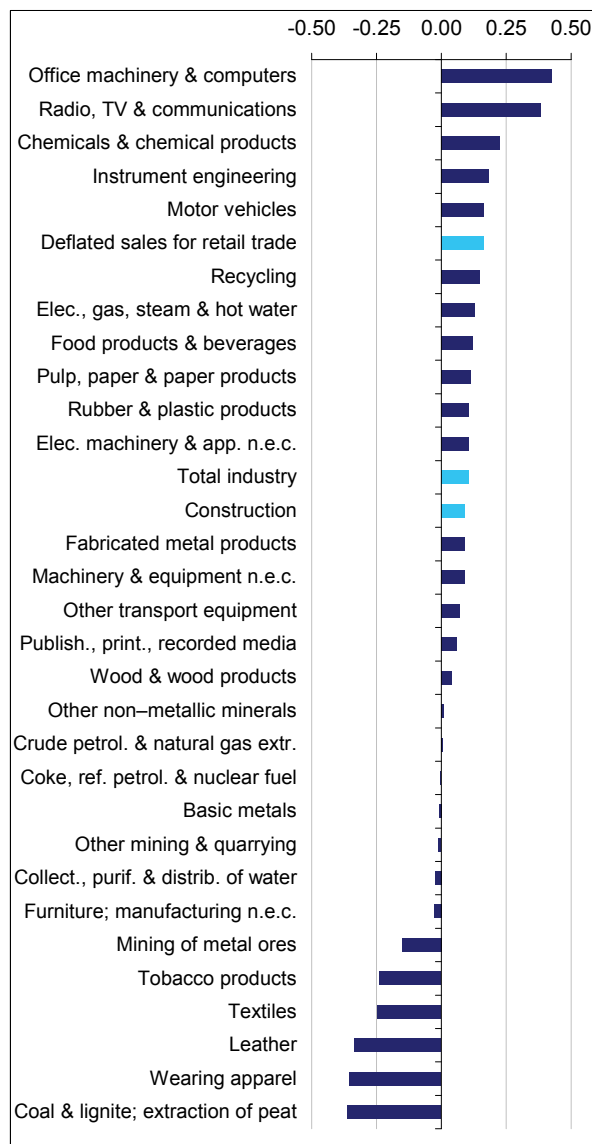
Source: Eurostat STS

One of the most striking features of Figure 3 is the severity of the reductions in EU-27 output at the end of 2008. Indeed, EU-27 production of consumer durables and consumer non-durables fell by 11.1 % and 3.9 % respectively between August 2007 and November 2008, while the output of intermediate goods and capital goods contracted by 11.0 % and 9.3 % respectively between February and November 2008.

Figures 4 and 5 present a more detailed picture of the evolution of EU-27 output across economic activities, using the NACE Rev. 1.1 Division level for the purpose of this analysis (note the STS Regulation only covers NACE Sections C to I and Divisions 72 and 74).

A number of industrial activities have been in steady decline within the EU-27 for a period of two decades or more – these include extractive industries, the processing of tobacco, textiles and leather, or the manufacture of clothing, furniture and other manufacturing not elsewhere classified (which includes items such as jewellery, toys and sports goods). The majority of these activities concern bulk, raw materials or the manufacture of non-food consumer goods.

Figure 4: long-term evolution of output (industry, construction and retail trade), average month on month growth rate, seasonally adjusted indices, EU-27 (%) (1)



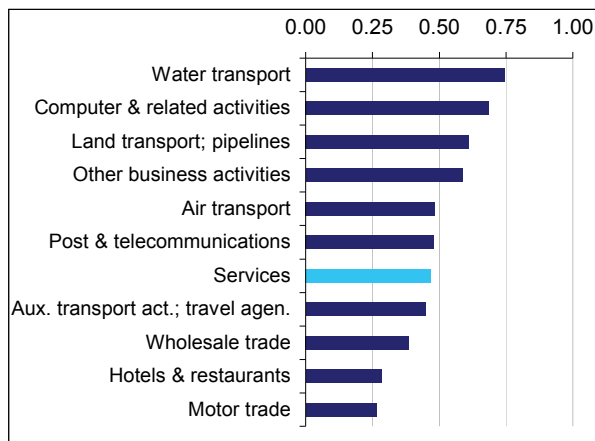
(1) Average month on month rates of change over the period; long-term average is generally based on information from 1990 onwards (sometimes later); mining of uranium & thorium ores, not available; index of production for industry and construction; deflated sales index for retail trade.

Source: Eurostat STS

Aside from these activities that have been in almost continual decline, the remaining activities (including all of the services sectors) in the EU-27 tended to display growth through to recent peaks in output that were recorded in either 2007 or 2008. Within the industrial economy, a number of activities recorded a positive, long-term evolution in EU-27 output. The main areas of growth were often in technology-related activities (office machinery and computers; radio, television and communications equipment; chemicals and chemical products; or, instrument engineering).

Among the services activities, there was consistent, positive growth in current price terms during the period 2000 to 2008 (while the all-items index of consumer prices rose, on average, by 2.5 % each year during the same period). Sales growth was particularly high among transport-related activities (water, land, and supporting/auxiliary transport services, perhaps reflecting increased fuel charges), as well as other business activities and wholesale trade.

Figure 5: long-term evolution of turnover among service sectors, average month on month growth rate, seasonally adjusted indices, EU-27 (%) (1)



(1) Average month on month rates of change over the period; long-term average is generally based on information from 1998 or 2000 onwards; current price index of turnover for other services.

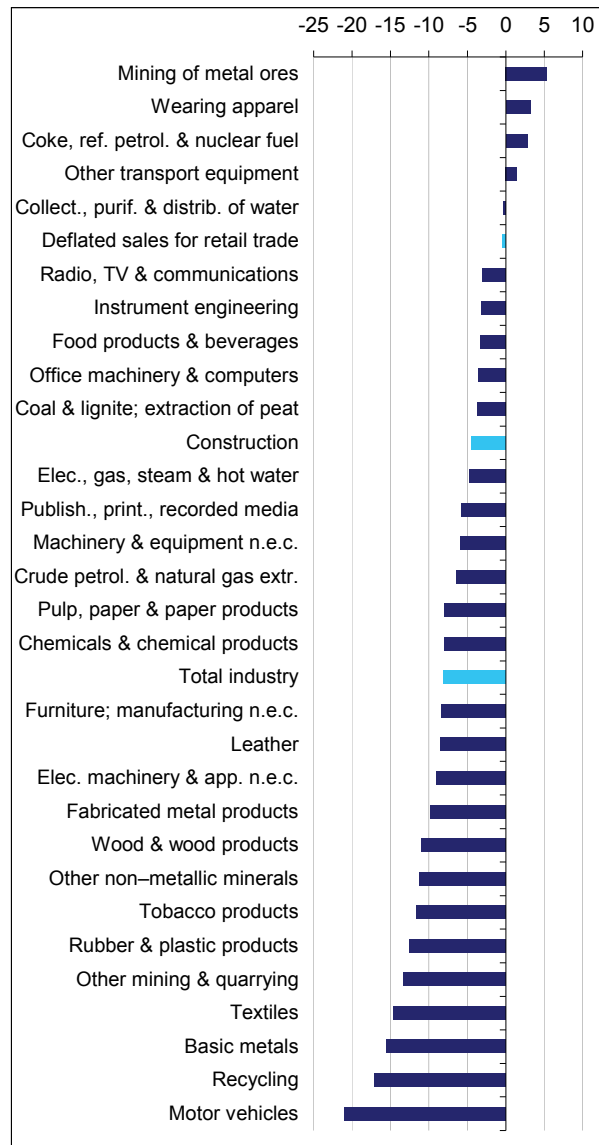
Source: Eurostat STS

Evolution of EU-27 output over the previous 12-month period

Figures 6 and 7 show the activities ranked according to their latest rates of change for the EU-27, presented on the basis of a comparison with the same month of the year before. The first of these graphs contains information on volume measures for changes in output, while Figure 7 presents information in current prices.

The contraction in the EU-27's motor vehicles manufacturing activity was 21.0 % between November 2007 and November 2008; this downturn may, at least in part, explain the double-digit losses recorded for basic metals or rubber and plastics manufacturing.

Figure 6: changes in output (industry, construction and retail trade), on the basis of a comparison with the same month of the year before, working day adjusted indices, November 2008, EU-27 (%) (1)

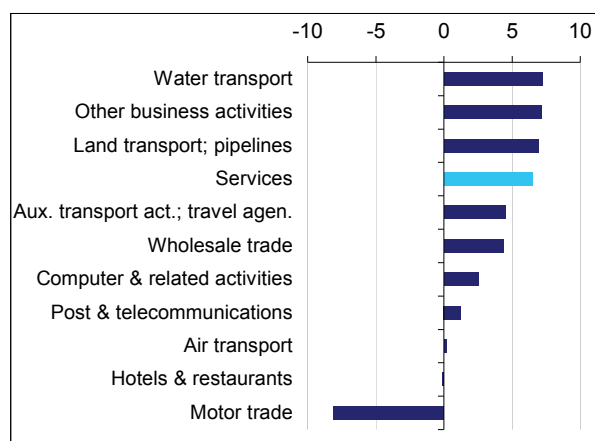


(1) Generally based on information from November 2008; mining of uranium & thorium ores, not available; index of production for industry and construction; deflated sales index for retail trade.

Source: Eurostat STS

The largest declines in EU-27 activity were generally concentrated among the manufacturing activities. Indeed, all ten of the bottom places – when ranking all activities together – were occupied by industrial sectors. Furthermore, many of the sectors that appear to have been worst hit during the start of the recession may be characterised by the fact that they have, for a fairly lengthy period of time, displayed contractions in their respective levels of output (as shown on the previous page).

Figure 7: changes in turnover among service sectors, on the basis of a comparison with the same month of the year before, working day adjusted indices, November 2008, EU-27 (%) (1)



The skewed nature of the distribution is of interest, with only four industrial activities reporting growth within the EU-27 for the previous twelve month period, while the bottom end of the ranking showed that the four activities to have been worst hit by the recession all recorded contractions in their levels of output of 15 % or more.

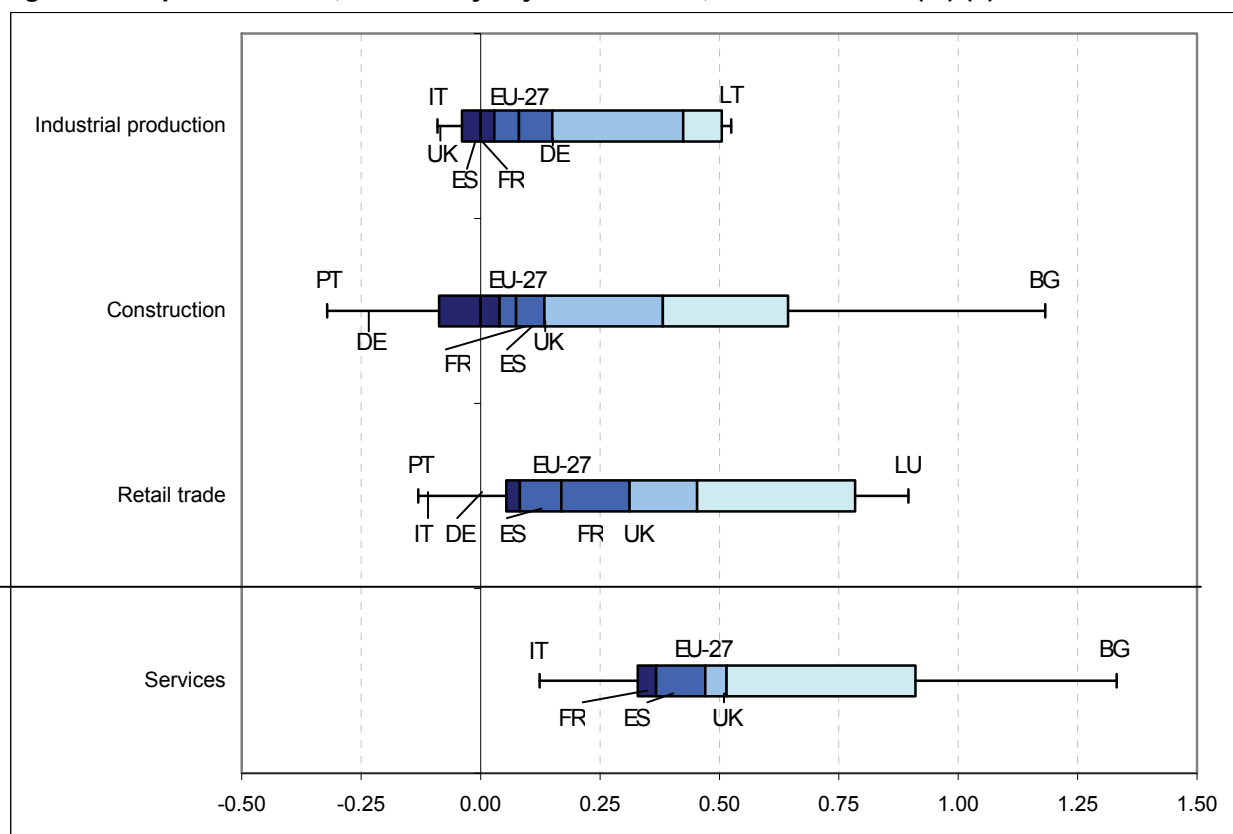
In contrast, the latest information available for the services sector showed that output continued to grow in the EU-27 for almost all of the activities; the exceptions being air transport and hotels and restaurants (both of which are characterised as having important business and consumer markets), and motor trades, where EU-27 sales were down by 8.1 %.

(1) Generally based on information from October 2008 or September 2008; current price index of turnover for other services.

Source: Eurostat STS

Long-term evolution of output within the Member States

Figure 8: output measures, seasonally adjusted indices, Member States (%) (1)



(1) Average month on month growth across the 27 Member States based on lengthy time-series (generally from 1990 onwards for industrial production and construction and from 2000 onwards for retail trade and services; the vertical lines show (from left to right for each activity), the minimum value, the bottom decile, the first quartile, the EU-27 mean, the median, the third quartile, the top decile and the maximum value; the country with the minimum value, the country with the maximum value and the five largest Member States are indicated (subject to availability); index of production for industry and construction; deflated sales index for retail trade; current price index of turnover for other services.

Source: Eurostat STS

The graph on the previous page gives an indication of how output within the economies of the 27 Member States has evolved since 2000. Some of the larger EU economies reported some of the lowest growth rates, while the highest rates of growth were often achieved by the Member States that joined the EU in 2004 or 2007.

Industrial output in the United Kingdom and Italy peaked in November and December 2000 and was relatively unchanged through to mid-2007, after which both indices fell rapidly to levels not seen since 1994. In contrast, industrial activity in Spain and France continued to grow through to October 2007, while it peaked in Germany in April 2008. A comparison (based on a working day adjusted series) between November 2007 and November 2008 shows that the index of production for total industry fell by 6.6 % in Germany, 8.0 % in the United Kingdom, 9.7 % in Italy, 10.7 % in France and 15.1 % in Spain.

Within the construction activity, output peaked in Germany in February 1995 (following a boom in activity post-reunification). By November 2008 it stood some 38 % lower than this peak – although most of these losses took place in the second half of the 1990s.

In Spain, there was a construction boom during the decade up to the end of 2006, after which output fell by 20 %. On the basis of a comparison between November 2007 and November 2008, the working day adjusted index of production for construction was 1.8 % lower in Germany, 2.2 % lower in France, 5.7 % lower in the United Kingdom and 9.7 % lower in Spain.

The volume of retail sales peaked in Italy in November 1999 and stood more than 14 % below this level in November 2008, contracting by 5.6 % during the 12 months to November 2008. Using the same measure, the volume of retail sales in Spain was 7.8 % lower in November 2008 (than 12 months earlier), having peaked in July 2007. Retail sales were almost unchanged in Germany, where there was a variation of no more than +/- 5 % over a period of more than a decade. In both France and the United Kingdom they continued to grow and the latest information available shows that sales volumes in both countries were only slightly down on their peak levels recorded in February 2008 and May 2008 respectively.

Figure 9: output measures, seasonally adjusted indices (2000=100)

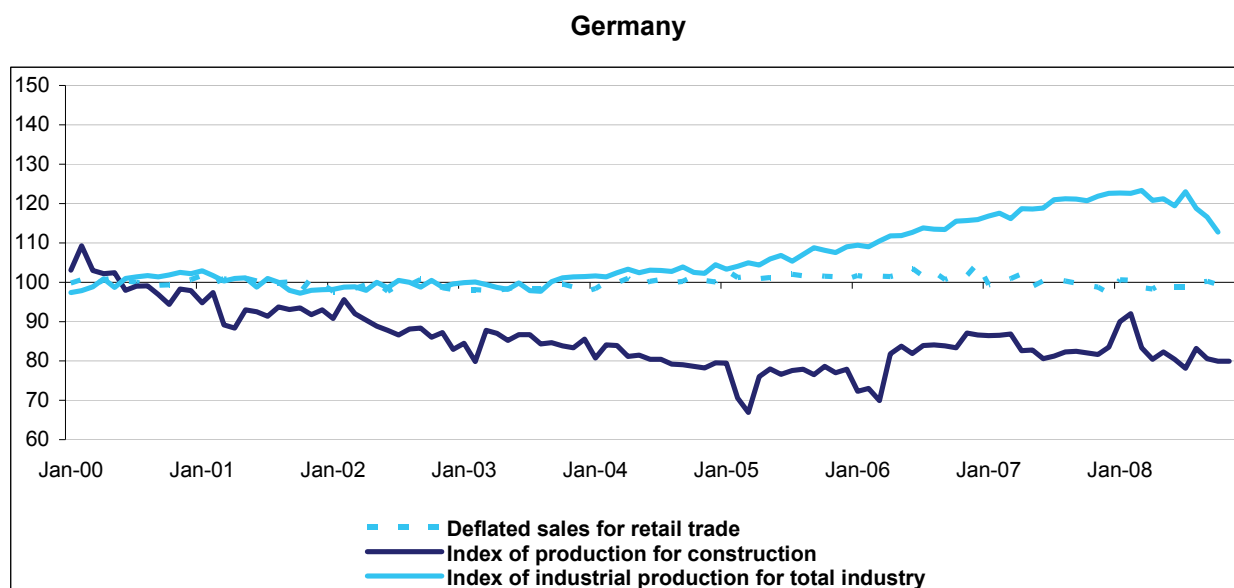
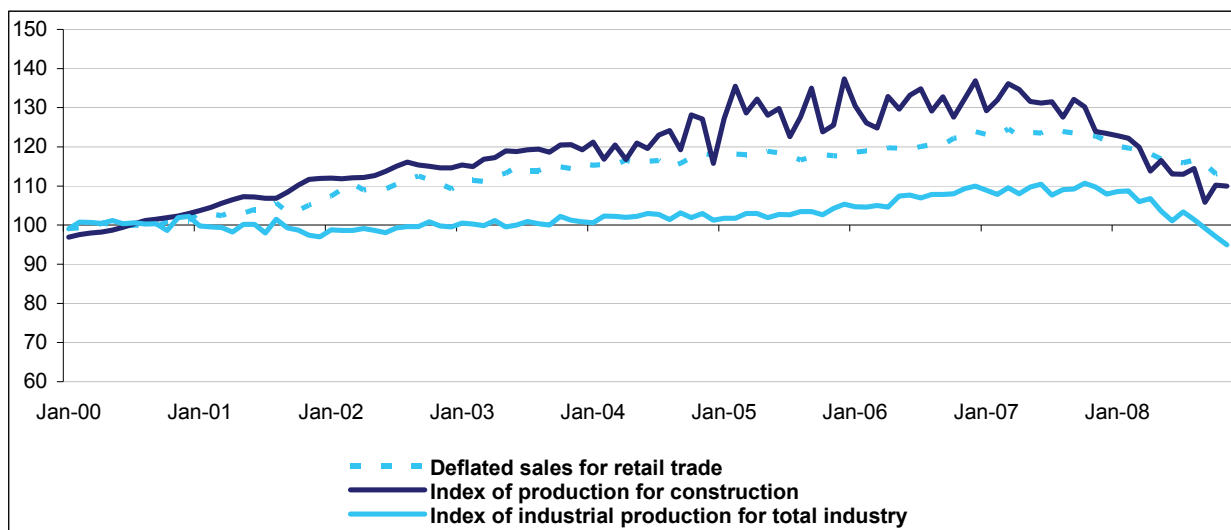
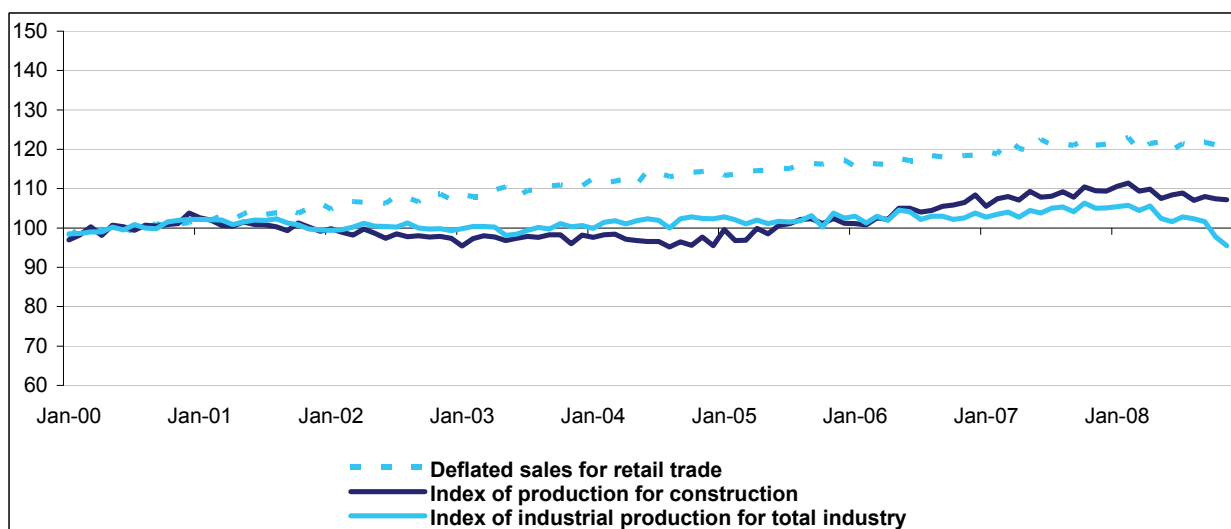


Figure 10 continued: output measures, seasonally adjusted indices (2000=100)

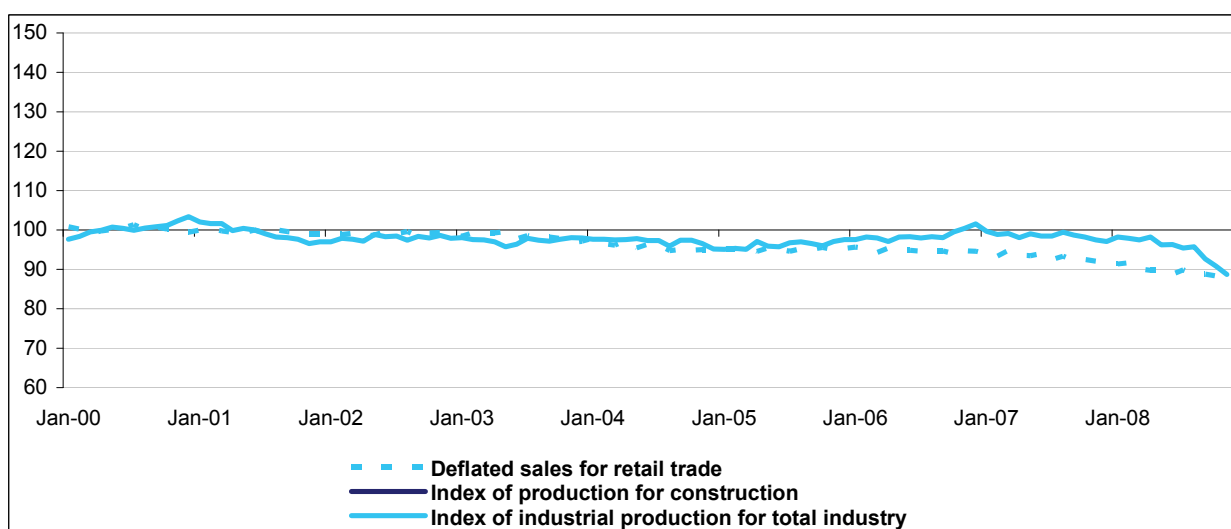
Spain



France

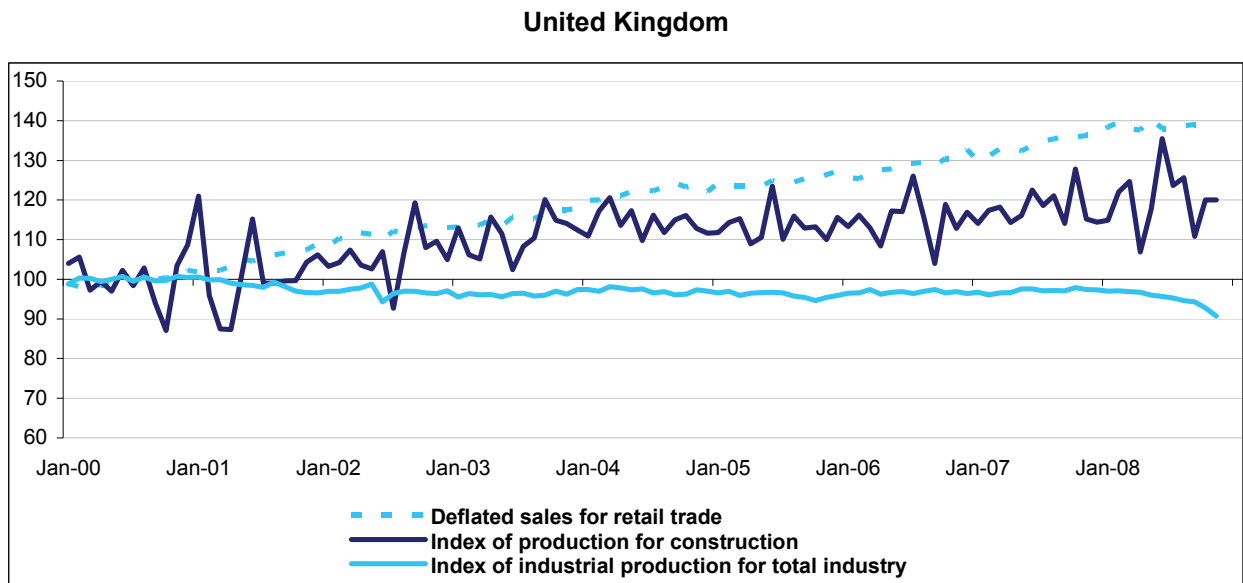


Italy (1)



(1) Index of production for construction, not available.

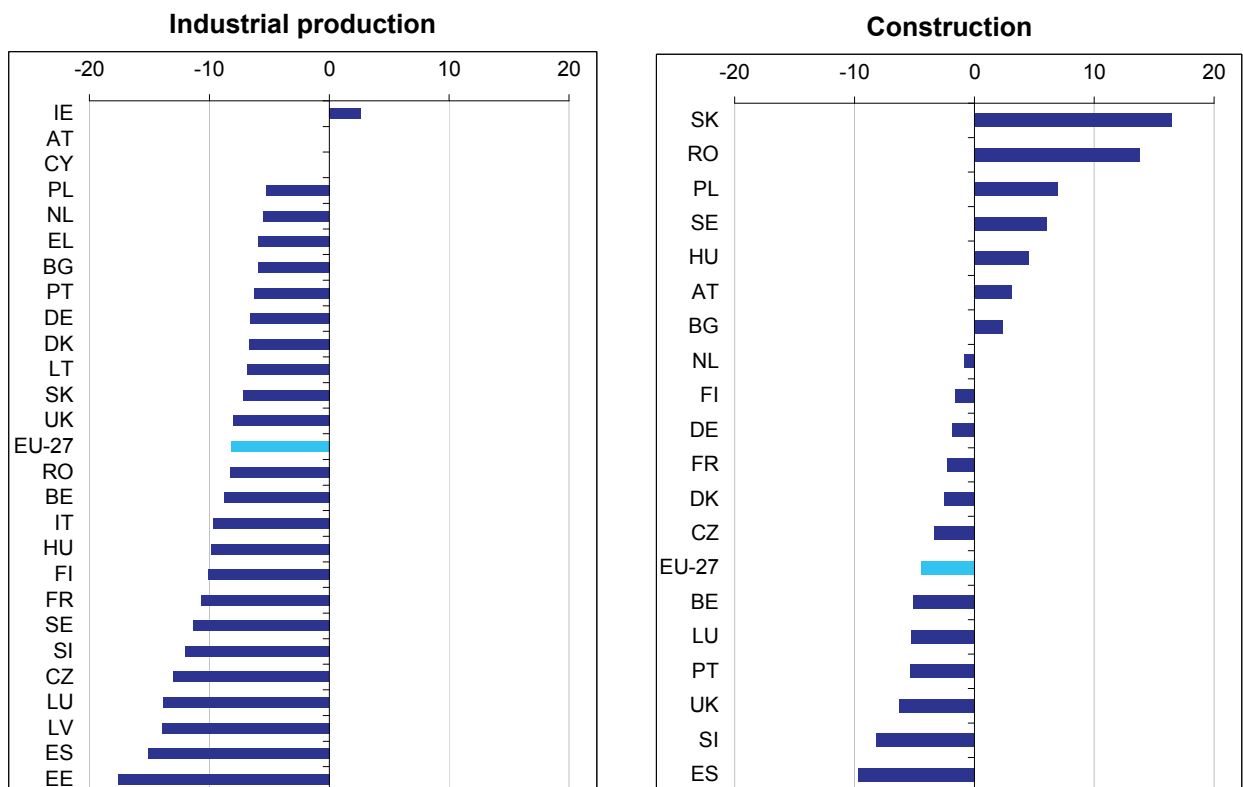
Figure 11 continued: output measures, seasonally adjusted indices (2000=100)

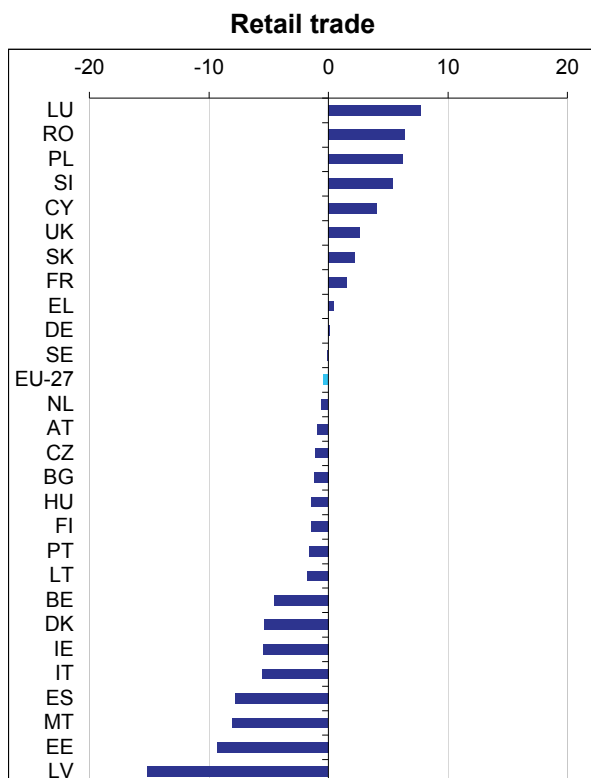


Source: Eurostat STS

Evolution of output over the previous 12-month period within the Member States

Figure 12: change in output compared with the same month of the previous year, working day adjusted indices, November 2008 (%) (1)





(1) Index of production for industry and construction; deflated sales index for retail trade.

Source: Eurostat STS

While the long-term evolution of output showed that the highest rates of growth tended to be among those Member States that joined the EU in 2004 or 2007, figure 10 shows that some of the largest declines in output in the past twelve-month period have been recorded among the same group of countries. Note, however, that as the level of output accelerated rapidly during the past decade in most of these countries, the latest levels (despite recent contractions) still remain well above their averages recorded in 2000. For example, in Bulgaria, Estonia, Lithuania and Romania, industrial output was still almost double its level of 2000 in November 2008.

Aside from Ireland, Austria and Cyprus, each of the Member States reported a contraction in output between November 2007 and November 2008 for their respective industrial economies. Nine of the Member States reported a reduction of more than 10 %.

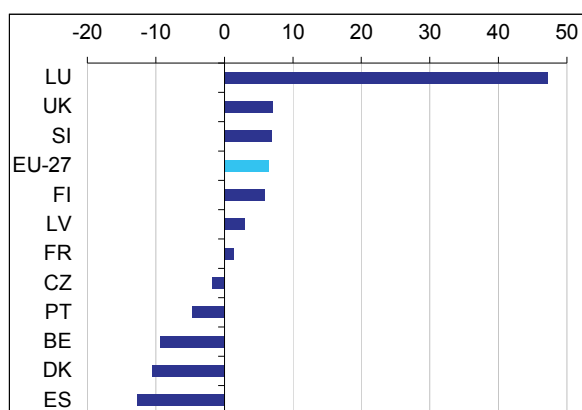
There were seven Member States (among those for which data are available) that reported an increase in construction activity between November 2007 and November 2008.

A similar pattern was evident in relation to the volume of retail sales, as nine of the Member States recorded an expansion in their turnover.

In contrast to industrial and construction activities where the latest rates of change for the five largest Member States tended to show a decline in activity, the United Kingdom and France both continued to record increasing sales volumes for retail trade, while there was no change in Germany. On the other hand, retail sales fell by 5.6 % and 7.8 % in Italy and Spain during the twelve months to November 2008.

Among the other services (for which only a limited set of data are available, 11 countries), there was continued growth in turnover (in current prices) in a majority of Member States.

Figure 13: change in turnover among service sectors, comparison with the same month of the previous year, working day adjusted indices, November 2008 (%) (1)



(1) Current prices; some data for October or September 2008.

Source: Eurostat STS

Table 1: biggest declines in industrial output, comparison with the same month of the previous year, working day adjusted indices, November 2008 (%) (1)

		Value (2000=100)	Rate of change (m/m-12, %)			Value (2000=100)	Rate of change (m/m-12, %)
EA-16	Motor vehicles	96.8	-23.0	EU-27	Motor vehicles	106.6	-21.0
BE	Radio, TV & communications	39.5	-39.7	BG	Motor vehicles	62.5	-33.2
DE	Tobacco products	40.1	-25.6	CZ	Textiles	72.0	-26.8
IE	Wood & wood products	77.7	-32.4	DK	Wearing apparel	26.0	-37.2
EL	Textiles	36.2	-31.5	EE	Basic metals	265.8	-42.6
ES	Motor vehicles	69.3	-35.0	LV	Machinery & equipment n.e.c.	111.5	-38.8
FR	Motor vehicles	66.0	-35.9	LT	Recycling	74.2	-63.9
IT	Motor vehicles	54.5	-35.4	HU	Coal & lignite; extraction of peat	32.2	-63.6
CY	Recycling	171.6	-43.5	PL	Basic metals	78.8	-32.5
LU (2)	Wood & wood products	114.8	-29.6	RO	Basic metals	73.2	-41.9
MT	-	:	:	SE	Motor vehicles	121.5	-31.1
NL (2)	Wearing apparel	66.5	-21.5	UK	Other mining & quarrying	101.1	-30.8
AT	Recycling	140.2	-36.9				
PT	Chemicals & chemical products	82.0	-23.6				
SI (3)	Mining and quarrying	115.6	-20.6				
SK	Electrical machinery and apparatus n.e.c.	175.6	-25.3				
FI	Wearing apparel	39.6	-32.3				

(1) Based on a ranking of rates of change in output for NACE Divisions.

(2) October 2008.

(3) Information is unavailable for NACE Divisions within the industrial economy; the activity presented recorded the lowest rate of change among the MIGs and the NACE Sections.

Source: Eurostat STS

Table 1 presents information on industrial activities at the NACE Division level. It shows, for each Member State, the biggest decline in output during the latest twelve-month period. The table is split into two halves; the left-hand side presents the euro area countries, while the remaining Member States are on the right.

Motor vehicle manufacturing recorded some of the biggest declines in output between November 2007 and November 2008 – in particular, within Bulgaria, Spain, France, Italy and Sweden, where reductions were between 31 % and 36 % overall.

Many of the activities most affected by the slowdown appear to be industries that have historically been in decline. The largest declines in output between in Denmark and Finland were recorded for the manufacture of clothing, while in Greece the biggest losses were recorded for the manufacture of textiles, in Germany for tobacco processing, in Hungary for coal mining, and in

Belgium for the manufacture of radio, TV and communications equipment. Aside from posting the biggest declines, each of these activities also reported that output had fallen to below 50 % of its level in 2000.

At the time of writing (end of January 2009), there were a large number of headlines concerning job losses and reductions in economic activity; many of these have not yet fed through into the official statistics presented here. Further evidence of the likelihood of the recession worsening may be found in relation to consumer and business confidence indicators. Overall economic sentiment for the EU-27 was more than 30 % below its average level for 1990-2007 in January 2009, while the balance of respondents (in percentage points) for industrial, construction and consumer confidence surveys was below -30.

METHODOLOGICAL NOTES

The source for all 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](#) ⁽²⁾ concerning short-term statistics and Regulation (EC) [No 1158/2005](#) of the European Parliament and of the Council of 6 July 2005 ⁽³⁾ 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 ⁽⁴⁾.

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 the construction sector.

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.

The objective of the services **turnover index** is to show the evolution of the market for services. 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.

Classifications

The classification of activities used in this publication is NACE Rev. 1.1 ⁽⁵⁾. The classification by the main industrial groupings (MIGs) ⁽⁶⁾ is a specific activity aggregation starting from the Group level of NACE Rev. 1.1.

Under NACE Rev. 1.1, industry is defined as NACE Sections C to E. Construction is NACE Section F. Retail trade is NACE Division 52.

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 in a number of ways.

Production, turnover and volume of sales indices in this publication 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) on the indices.

These indices have also been adjusted to account for seasonal effects. Seasonal adjustment aims to take account of the impact of the known seasonal factors that have been observed in the past.

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

Abbreviations and symbols

EU-27	European Union of 27 Member States
BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom

NACE	statistical classification of economic activities in the European Community
MIG(s)	Main industrial grouping(s)
-	(in tables) not applicable
:	(in tables) not available

For more information:

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⁽²⁾ [Official Journal No L 162, of 5 June 1998.](#)

⁽³⁾ [Official Journal No L 191, of 22 July 2005.](#)

⁽⁴⁾ [Official Journal No L 281, of 12 October 2006.](#)

⁽⁵⁾ [Commission Regulation \(EC\) No 29/2002 of 19 December 2001. Official Journal No L 6, of 10 January 2002.](#)

⁽⁶⁾ [Commission Regulation No 586/2001 of 26 March 2001. Official Journal No L 86, of 27 March 2001.](#)




Further information

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Manuscript completed on: 06.03.2009

Data extracted on: 23.01.2009

ISSN 1977-0316

Catalogue number: KS-SF-09-017-EN-N

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