

An international comparison of short-term statistics: EU-27 industrial output fell 19 % during the financial and economic crisis – similar in magnitude to losses in the US (-17 %)

This publication provides an insight into short-term business statistics (STS) for three important areas of the economy – industry, construction and retail trade. It presents developments for a range of STS indicators over the last decade and shows the relative performance of the EU-27, providing international comparisons.

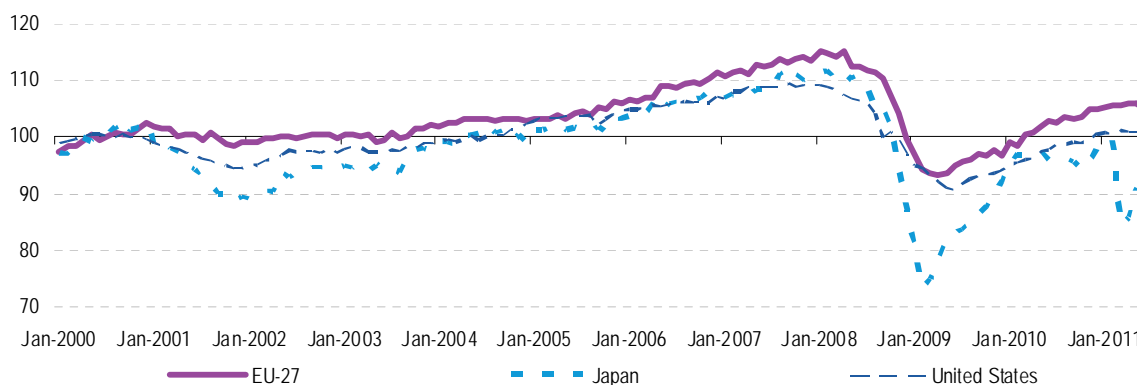
Figure 1 shows seasonally adjusted indices of production for the EU-27, Japan and the United States over the past decade. Industrial output had grown rapidly in the late 1990's. However, a change took place at the start of the new decade and this was evident in slowly increasing or declining output through to the second half of 2003. Thereafter, there was a period of steady growth through to the end of 2007.

The recent financial and economic crisis began in the United States: its effects were evident in the American industrial economy by the start of 2008, as the production index for total industry peaked in

December 2007. American industrial output fell for 18 months, with output contracting by 17.0 % through to June 2009. Japanese industrial output peaked in February 2008 and declined by 34.3 % during a 12-month period through to February 2009. The EU-27's industrial output peaked in April 2008 and its downturn in activity also lasted 12 months. Output fell by 19.1 % overall through to April 2009, with the losses recorded in the EU-27 similar in magnitude to those in the United States.

There was a recovery in industrial output in all three economies during much of the second half of 2009 and through 2010. However, signs of a slowdown in activity became apparent once again in the EU-27 and the United States during the first half of 2011. In Japan, the earthquakes and tsunami in March 2011 resulted in a considerable one-off shock for Japanese industrial output, which fell by 15.1 % between February and March 2011; there were signs of a recovery by May 2011.

Figure 1: Seasonally adjusted indices of production, total industry (excluding construction)
 (2000 = 100)



Source: Eurostat (online data code : [sts_inpr_m](http://sts.inpr.m)); OECD (<http://stats.oecd.org/Index.aspx>)

Industrial output growth resumed a relatively strong upward path across a range of economies, often returning to above pre-crisis levels

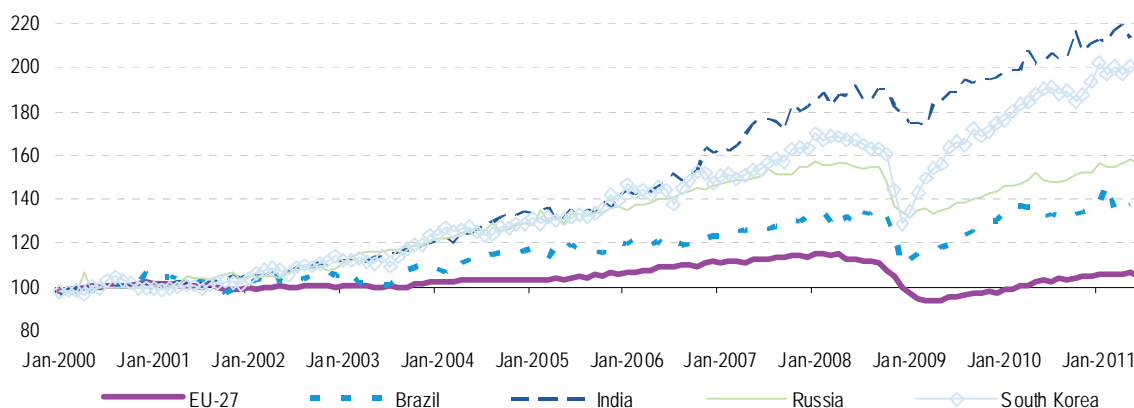
Figure 2 provides a set of additional comparisons showing the development of production indices for total industry. While industrial output in the EU-27 followed broadly the same development as in the United States (see Figure 1), the pace of growth in the other selected world economies was far quicker; this was particularly true in India and South Korea.

Whereas the financial and economic crisis resulted in the level of industrial output in the EU-27, Japan and the United States falling back below average levels recorded in 2000, the level of output in the other countries that are shown in Figure 2 remained well above their average levels for 2000 despite the considerable impact of the crisis.

A more detailed analysis of developments for the EU-27's industrial output is presented in Figure 3; this shows the development of output for the main industrial groupings (MIGs). The production index for energy is somewhat atypical as it tended not to follow the development of output for total industry during the last decade. On the other hand, developments for the other MIGs followed quite closely the cyclical patterns of the total industry aggregate, although the amplitude of developments was often more pronounced for capital and intermediate goods, and generally less so for consumer goods.

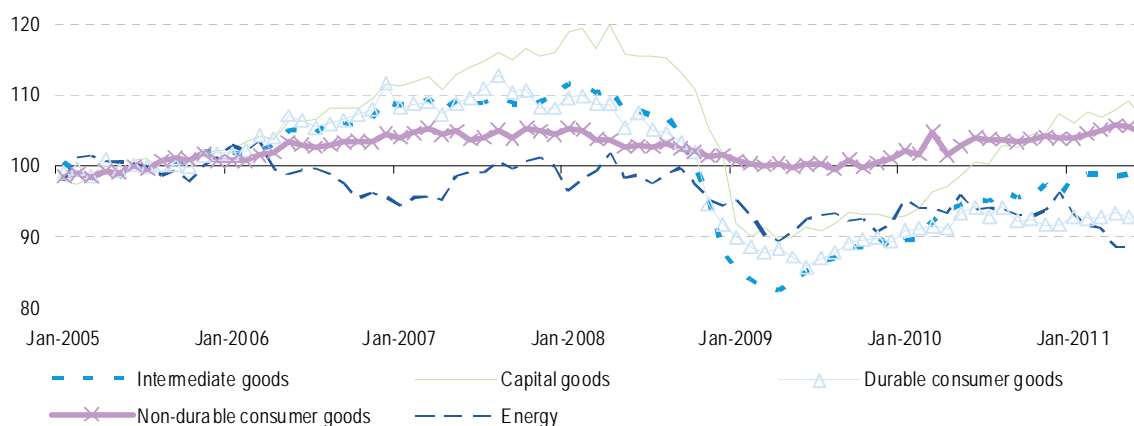
A similar pattern was observed for Japan (see Figure 4), as the crisis resulted in a marked downturn in the manufacture of capital goods; this could reflect other manufacturers delaying investment in new plant and machinery.

Figure 2: Seasonally adjusted indices of production, total industry (excluding construction) (2000 = 100)



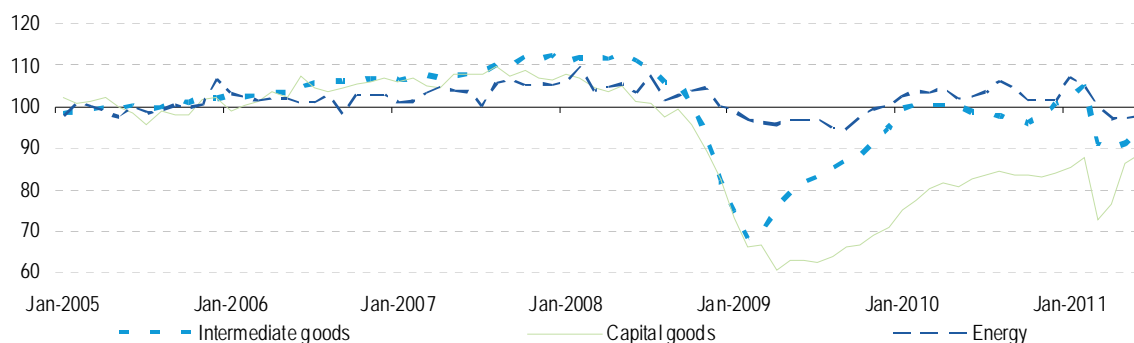
Source: Eurostat (online data code: [sts_inpr_m](#)); OECD (<http://stats.oecd.org/Index.aspx>)

Figure 3: Seasonally adjusted indices of production, main industrial groupings (MIGs), EU-27 (2005 = 100)



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

Figure 4: Seasonally adjusted indices of production, main industrial groupings (MIGs), Japan (2005 = 100)



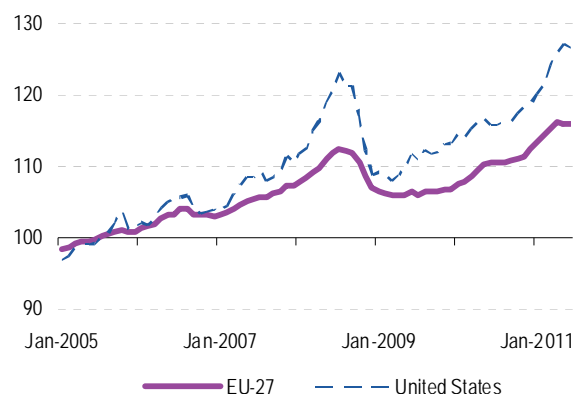
Source: OECD (<http://stats.oecd.org/Index.aspx>)

Energy prices play a key role in output price developments

The development of total output price indices (producer price indices) for the EU-27 and the United States is shown in Figure 5 – these indices cover price developments for both domestic and export markets, and concern only manufacturing activities. The development over the last decade followed a broadly similar pattern in the EU-27 and the United States, although price developments were somewhat more volatile in the United States; this likely reflects the relatively energy-intensive nature of the economy in the United States.

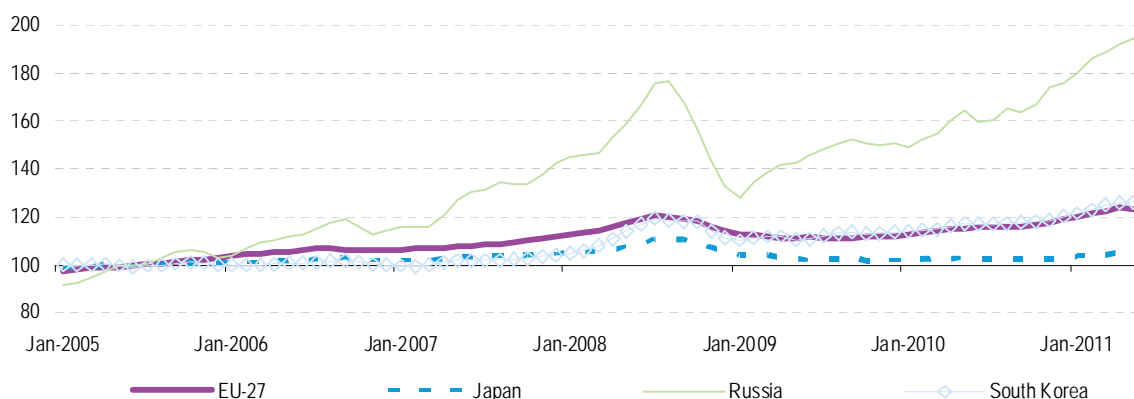
Figure 6 provides information on output price developments for a range of additional countries; note that the coverage is confined to price developments for domestic markets – but concerns a wider range of industrial activities. While the development of prices over the last decade was relatively similar for the EU-27, Japan and South Korea, price fluctuations in Russia were considerably greater; again this may be explained by the high importance of energy related activities within the Russian economy.

Figure 5: Gross indices of total output prices, manufacturing (2005 = 100)



Source: Eurostat (online data code: [sts_inpp_m](http://sts.inpp.m)); OECD (<http://stats.oecd.org/Index.aspx>)

Figure 6: Gross indices of domestic output prices, total industry (excluding construction) (2005 = 100)

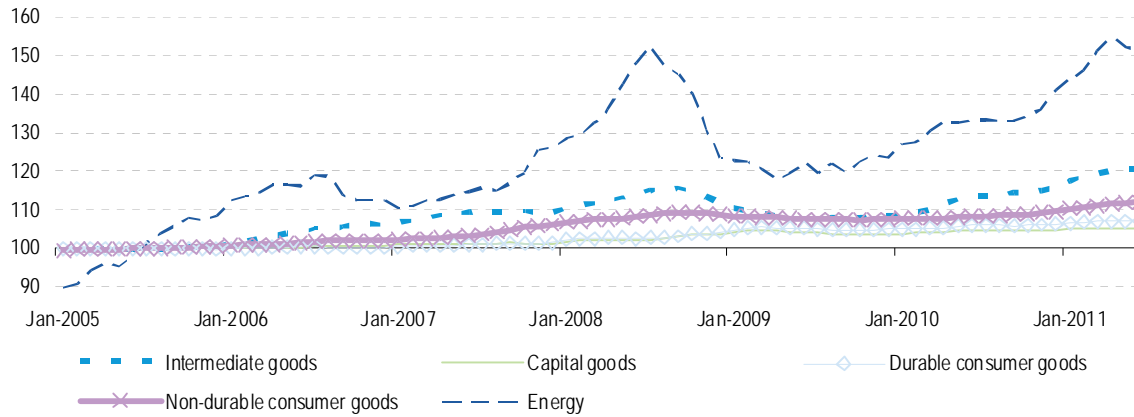


Source: Eurostat (online data code: [sts_inppd_m](http://sts.inppd.m)); OECD (<http://stats.oecd.org/Index.aspx>)

As noted, industrial output price developments during the last decade were strongly linked to the price of energy – and in particular, that of oil. This can be seen in Figures 7 and 9 (no information specific to energy is available for Japan), as price fluctuations for energy were considerably higher than for the other MIGs.

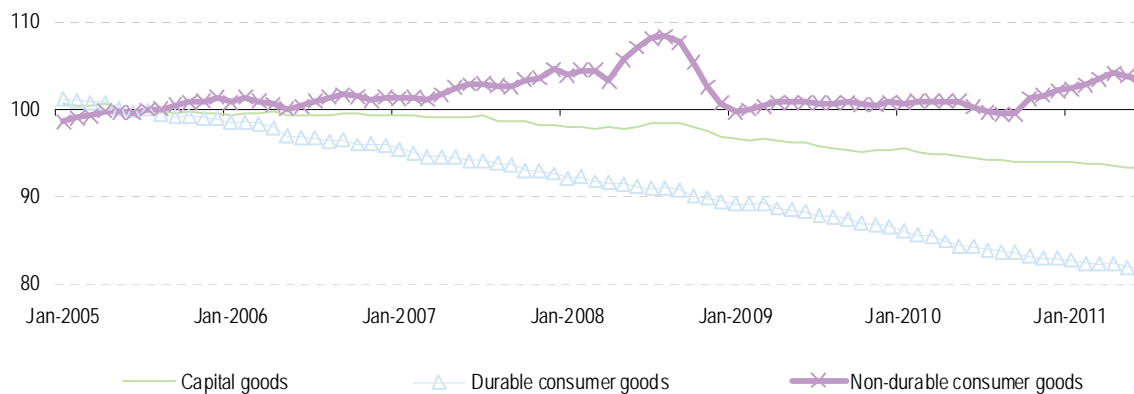
In contrast, Figures 7 to 9 (below) show that output price movements for capital and consumer durables were relatively muted during the last decade in each of the economies presented; this was particularly the case in Japan, as the output price of these goods fell between 2005 and 2011.

Figure 7: Gross indices of total output prices, main industrial groupings (MIGs), EU-27
(2005 = 100)



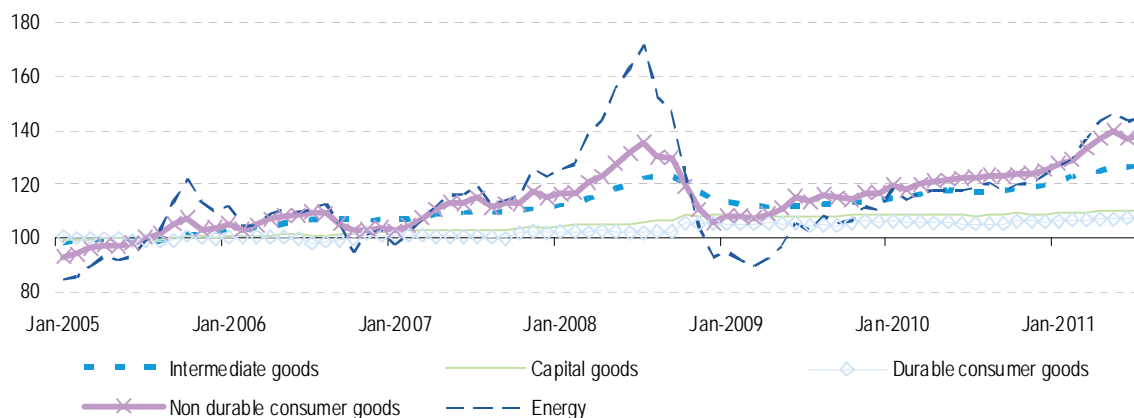
Source: Eurostat (online data code: [sts_inpp_m](http://ec.europa.eu/eurostat/tgm/table.do?tab=table))

Figure 8: Gross indices of total output prices, main industrial groupings (MIGs), Japan
(2005 = 100)



Source: OECD (<http://stats.oecd.org/Index.aspx>)

Figure 9: Gross indices of total output prices, main industrial groupings (MIGs), United States
(2005 = 100)

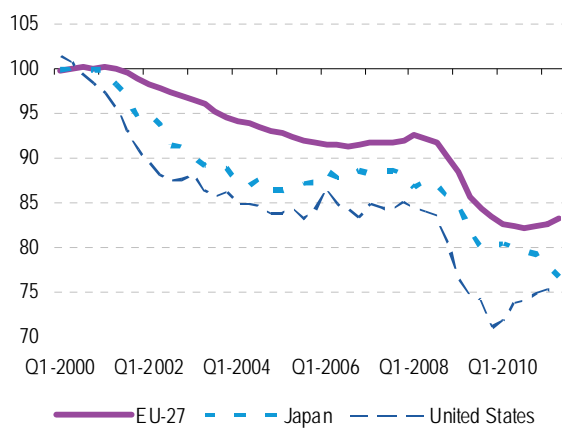


Source: OECD (<http://stats.oecd.org/Index.aspx>)

The industrial workforce was cut considerably during the last decade

There was a considerable reduction in the industrial workforces of the EU-27, Japan and the United States during the past decade (see Figure 10). During the period from 2000 to 2005, the number of persons employed in industry in the EU-27, Japan and the United States contracted at a fairly uniform pace, with the smallest reductions being registered in the EU-27.

Figure 10: Seasonally adjusted indices of employment, total industry (excluding construction)
(2000 = 100)



Source: Eurostat (online data code: [sts_inlb_q](http://sts.inlb.q)); OECD (<http://stats.oecd.org/Index.aspx>)

With steady economic growth from 2005 through to the start of 2008, there were no further losses in the respective number of persons employed within total industry; indeed, some modest gains were even recorded in both the EU-27 and Japan.

However, the effects of the financial and economic crisis were translated into further industrial job losses from the start of 2008 and the pace at which the number of persons employed was falling accelerated.

The industrial workforce in the EU-27 contracted for ten consecutive quarters from a relative high in the first quarter of 2008 through to the third quarter of 2010; during this period the number of persons employed fell by 11.3 %. From the final quarter of 2010 onwards, there was a modest expansion in the number of persons employed within the EU-27's industrial economy, and the growth rate quickened between the first and second quarters of 2011.

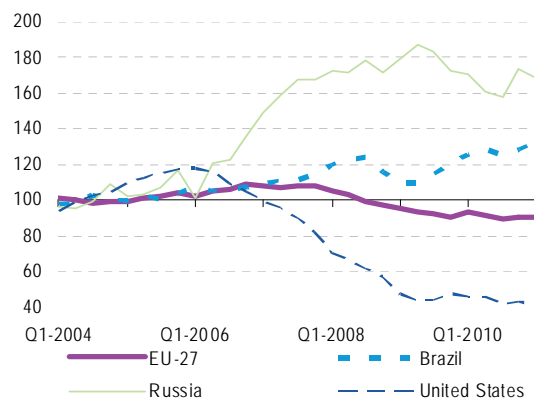
In Japan, the industrial workforce started to contract in the final quarter of 2007. The fall in persons employed was almost unbroken through to the latest period for which information is available (the second quarter of 2011) – with a temporary respite in the final quarter of 2009 and the first quarter of 2010. Between the second quarter of 2010 and the second quarter of 2011 there were five consecutive quarters of falling employment within the Japanese industrial economy, with particularly large losses in the first and second quarters of 2011.

Industrial employment fell in the United States from the final quarter of 2007 through to the final quarter of 2009; during this period the industrial workforce in the United States was reduced by 16.5 % overall – with the biggest losses being recorded in the first quarter of 2009. Having reached a relative low in the final quarter of 2009, the number of persons employed in total industry rose for five consecutive quarters in the United States; however, there was a modest decline of 0.3 % in the second quarter of 2011.

Mixed developments for construction

There was considerable variation in the respective production indices for construction (as shown in Figure 11; note there is no information available for Japan). Both the EU-27 and the United States reported a lower level of construction activity in the second quarter of 2011 than they had done in 2004. The contraction in the United States was particularly marked, as construction output fell by 62.7 % between the final quarter of 2005 and the third quarter of 2009; thereafter output remained stable at the new lower level of activity.

Figure 11: Seasonally adjusted indices of production, construction
(2004 = 100)



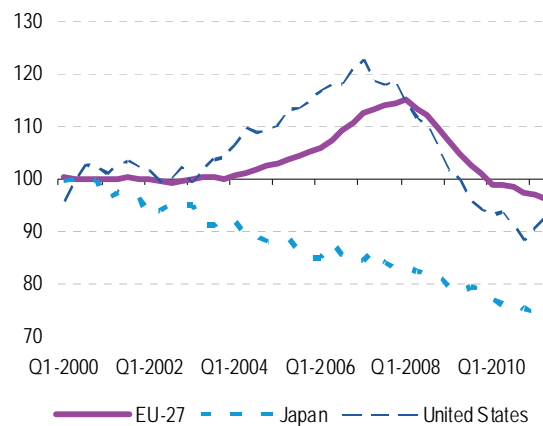
Source: Eurostat (online data code : sts_copr_m); OECD (<http://stats.oecd.org/Index.aspx>)

Construction output in the EU-27 rose at a modest pace during the second half of 2004 and most of 2005 and 2006, before stagnating in 2007. Thereafter, the EU-27 index of production for construction fell for eight consecutive quarters between the final quarter of 2007 and the final quarter of 2009, as activity declined by 16.7 %.

In Brazil and Russia developments for the index of production for construction generally reflected a period of growth. This was particularly the case in Russia, where there was a rapid expansion in activity in 2006 and 2007.

The development of labour market indicators for construction followed a somewhat different pattern to the development witnessed for industry, insofar as the number of persons employed in the EU-27 and the United States rose at a relatively fast pace in the run up to the financial and economic crisis. The index of employment then fell at an even faster pace, such that employment levels in construction during 2010 and the first half of 2011 were below their average levels for 2000 in the EU-27, Japan and the United States.

Figure 12: Seasonally adjusted indices of employment, construction
(2000 = 100)



Source: Eurostat (online data code: [sts_colb_q](http://sts.colb.q)); OECD (<http://stats.oecd.org/Index.aspx>)

Retail trade: emerging consumer markets expand rapidly

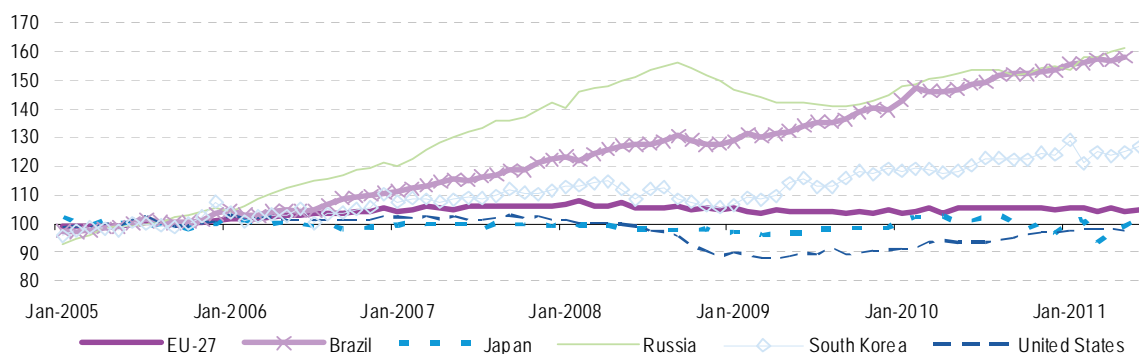
Indices of deflated turnover for retail trade provide an indication of final domestic demand. The information presented in Figure 13 confirms the developments seen for other STS indicators, insofar as the lowest levels of growth among the selected countries were recorded in the EU-27, Japan and the United States.

Retail trade activities were generally less affected by the financial and economic crisis than industrial or construction activities. This may be linked to consumers having to make necessity purchases for a range of goods – for example, food or energy – although it is likely that they seek out special

offers, reduce the volume of goods purchased, change brands, or defer big-ticket purchases.

Deflated retail sales in the EU-27 fell by 4.2 % between February 2008 and September 2009, thereafter remaining almost unchanged through to mid-2011. The effects of the crisis were more evident for the United States and Russia, as sales fell by 14.6 % and 9.7 % from pre-crisis highs to post-crisis lows; thereafter Russian sales growth resumed its upward path, whereas the volume of sales in the United States remained below its average level for 2000.

Figure 13: Seasonally adjusted indices of deflated turnover, retail trade
(2005 = 100)



Source: Eurostat (online data code: [sts_trtu_m](http://sts.trtu.m)); OECD (<http://stats.oecd.org/Index.aspx>)

METHODOLOGICAL NOTES

Data sources

The source for all of the EU-27 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. Eurostat data may be found at: <http://ec.europa.eu/eurostat>.

The non-EU data is principally sourced from the OECD – Main Economic Indicators; it is available at: <http://stats.oecd.org/index.aspx?>. For more details relating to the methodology of these statistics, please refer to the [IMF website](#)

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 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). Note that the EU-27 data for the total industry aggregate refer to NACE Rev. 2 Sections B to D (mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply). Data are also presented for the five main industrial groupings (MIGs) ⁽²⁾. The OECD data covers also Section E (water supply; sewerage, waste management and remediation activities), although in practise the coverage varies between countries.

Output (or producer price) indices, are a business-cycle indicator showing the development of transaction prices across economic activities. The output price index can be an early indicator of inflationary pressures; it also records the development of prices over longer time periods. The output price index measures the gross monthly change in the trading price of products. Output price indices may be calculated for the total, domestic and non-domestic markets, according to the destination of the product. The residency of the third party which has ordered or bought the product defines the destination.

⁽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.

The **employment index** is based on the number of persons employed, defined as the total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams). It includes persons absent for a short period (e.g. sick leave, paid leave or special leave), and also those on strike, but not those absent for an indefinite period. It also includes part-time workers who are regarded as such under the laws of the country concerned and who are on the payroll, as well as seasonal workers, apprentices and home workers on the payroll.

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.

Presentation

Data are generally presented in a seasonally adjusted form; the only exception is for output price data – presented in its gross form. All of the indices are expressed with reference to a base year – these have been re-based so they have a base of 100 for the first year presented in each of the Figures.

Abbreviations and symbols

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

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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

Metadata:

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

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