Statistics in focus

INDUSTRY, TRADE AND SERVICES

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Author

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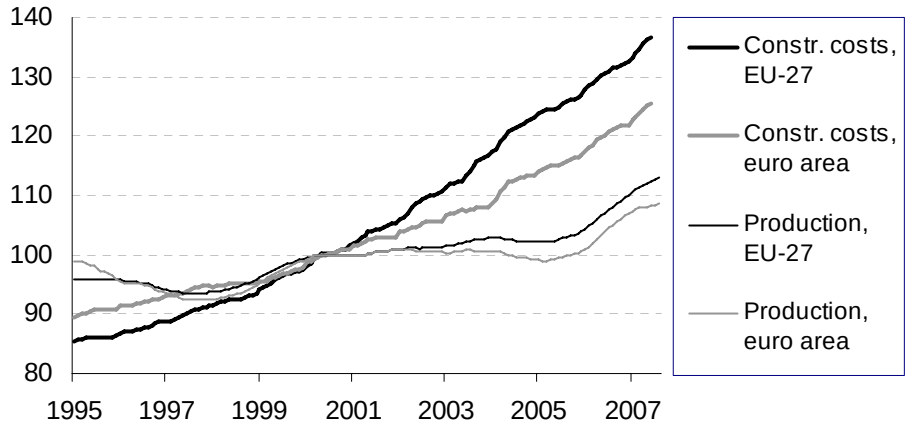
Contents

A decade and more of monthly construction statistics

Through the efforts of the Member States to implement the short-term statistics (STS) Regulation the availability of short-term statistics for construction has improved greatly. Eurostat has also worked on procedures to develop and establish monthly time series for European aggregates such as the EU-27 and euro area and as a result monthly data is now available for around ten years for most of the short-term indicators for construction: this publication gives an overview of the developments in construction during this period and finishes with a brief analysis of the latest developments in this important activity.

National accounts data indicate that in 2006 construction generated EUR 640 billion of value added in the EU-27, equivalent to 8.2 % of the value added by the business economy (NACE Sections C to K), up from 7.5 % five years earlier and 7.7 % ten years earlier.

Figure 1: Selected construction indices (2000=100) (1)



(1) Production index, trend; construction costs index, gross, new residential buildings only.

Source: Eurostat (STS)

Construction costs have increased constantly and quite evenly over the past decade and more, with costs increasing faster for the EU-27 as a whole than for the euro area: between January 1995 and June 2007 costs increased on average by 3.8 % per annum in the EU-27 and by 2.8 % per annum in the euro area.

In contrast, the development of production in construction has been less steady, with output stable or declining in the mid-1990s, followed by an upswing in the late 1990s. From early 2000 until early 2004 stability returned, followed by a small, short-lived contraction of output till the end of 2004/beginning of 2005 since when there has been a sustained and relatively rapid increase in output. The overall increase in production for the EU-27 was again slightly greater than for the euro area: between January 1995 and June 2007 production increased on average by 1.3 % per annum in the EU-27 and by 0.7 % per annum in the euro area.

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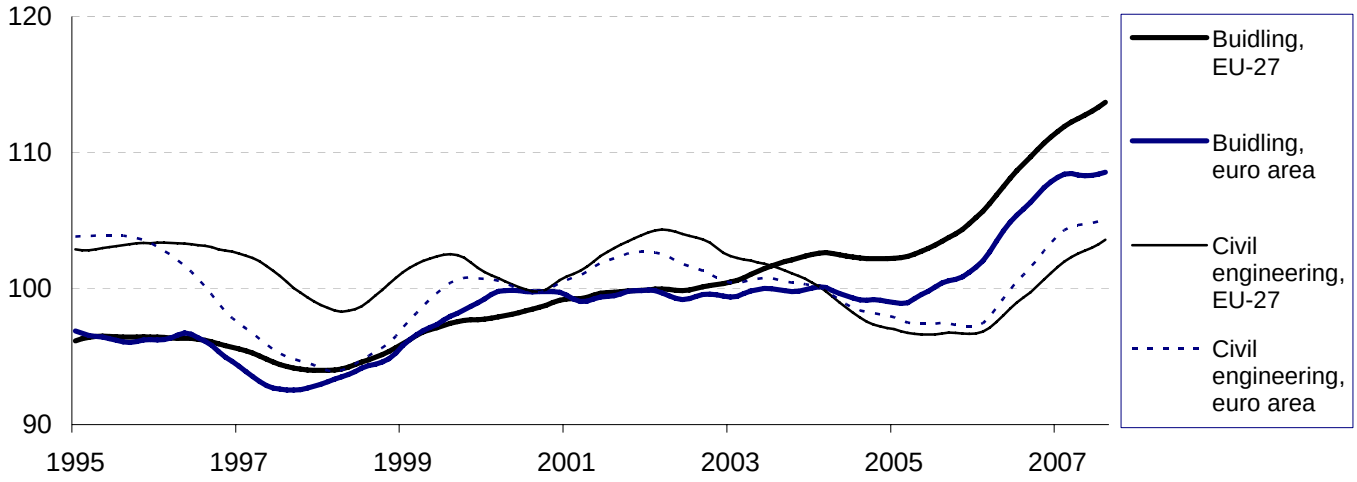
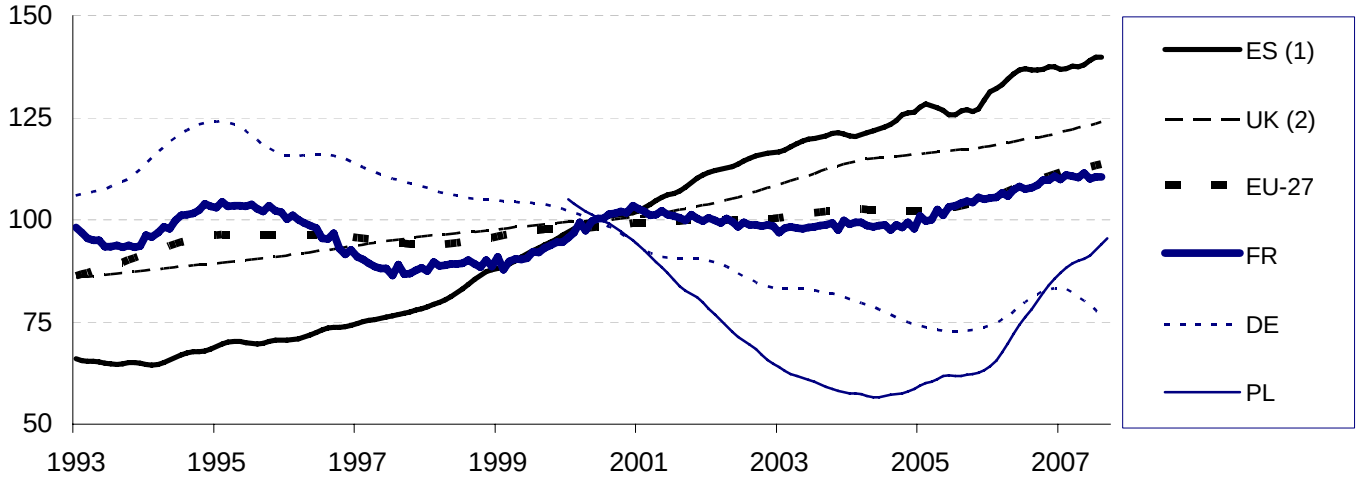
Construction output: building and civil engineering

Figure 2: Index of production (trend; 2000=100)



Source: Eurostat (STS)

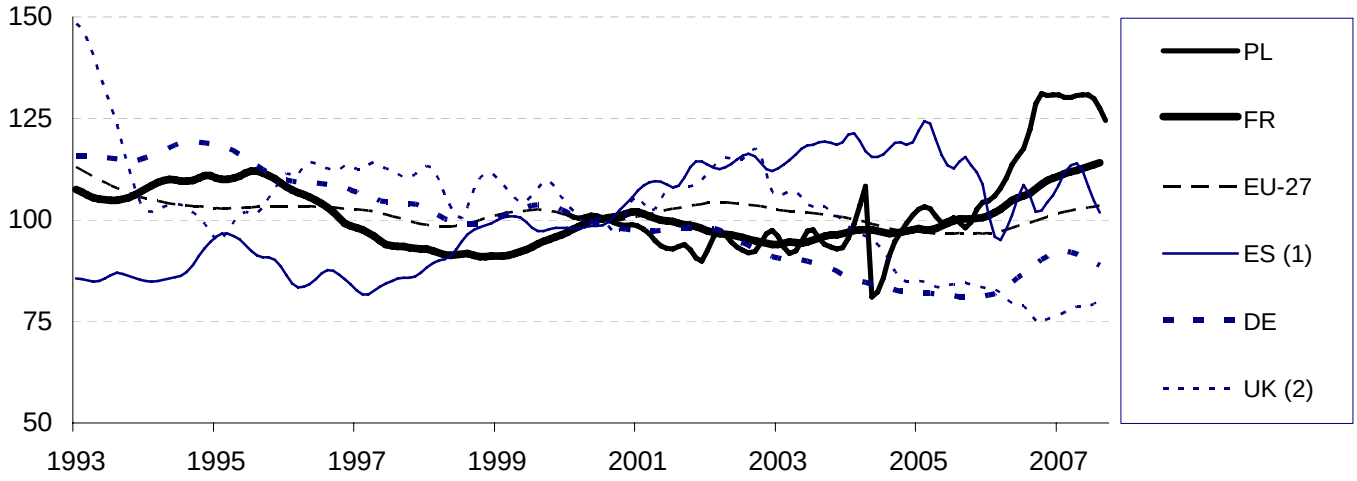
Figure 3: Index of production for selected Member States, building (trend; 2000=100)



(1) Eurostat estimates. (2) Includes Eurostat estimates and provisional data.

Source: Eurostat (STS)

Figure 4: Index of production for selected Member States, civil engineering (trend; 2000=100)



(1) Eurostat estimates. (2) Includes Eurostat estimates and provisional data.

Source: Eurostat (STS)

The production index for civil engineering indicates no real periods of stability, but equally no overall growth, with each period of growth followed by a period of contraction in output. Whereas the euro area recorded a stronger contraction in civil engineering output during 1996 and 1997 than experienced by the EU-27 as a whole, it also recovered more strongly in 1998 and 1999, since when the civil engineering production indices for the EU-27 and the euro area have developed in concert.

In contrast, the development of the production index for building over the last decade was similar to that for construction as a whole, but with overall greater growth. The building production indices for the euro area and for the EU-27 were very similar until the beginning of 2002, with more volatility for the euro area. However, during the later part of 2002 and through 2003 the EU-27 recorded a period of stronger growth/weaker contraction than for the euro area, after which the indices again show a similar trend, with only the most recent data showing a new divergence with the building production index for the EU-27 continuing to increase while that for the euro area entered another period of stability.

Note that Figures 2, 3 and 4 use different scales.

Focusing on building (Figure 3) the varied development of the production indices among the larger EU economies (data for Italy not available) can be clearly seen. In particular, the downward trend of the EU's largest economy, Germany, contrasts strongly with the overall upward trend for Spain and the United Kingdom.

Table 1 completes the country coverage, showing the six latest annual rates of change. Several of the countries that joined the EU in 2004 and 2007 have recorded large increases in the building and civil engineering production indices, with only occasional annual contractions: over the period shown, the strongest growth for both building and civil engineering was recorded in the Baltic Member States and Bulgaria. In building the change in developments in Poland and Germany can also be noted, with relatively strong contractions in output being reversed, Poland recording growth in 2005 and Germany in 2006. In contrast, Greece and Portugal have moved from growth to a sustained period of contraction in building output.

Table 1: Production indices, rate of change on previous year (working-day adjusted; %)

	Building						*Civil engineering*					
	2001	2002	2003	2004	2005	2006	2001	2002	2003	2004	2005	2006
EU-27	-0.4	0.3	1.4	1.1	0.9	4.8	2.3	1.8	-2.2	-3.3	-1.2	1.0
Euro area	-0.6	0.2	0.2	-0.1	0.5	4.8	1.8	0.0	-1.2	-1.6	-1.1	1.7
BE (1)	-0.4	-2.0	-3.8	-1.7	-4.2	3.0	-10.2	-11.0	-0.6	-1.6	-2.4	4.6
BG	:	:	:	36.2	30.5	-6.6	:	:	:	32.8	34.9	30.0
CZ	6.1	-3.3	3.7	9.3	-1.0	7.0	11.1	12.0	14.8	3.8	6.6	5.1
DK (2)	-5.0	-3.3	2.4	8.8	7.9	15.4	-5.6	-2.0	1.0	-5.3	2.9	-1.4
DE	-10.1	-4.9	-3.9	-4.9	-6.8	7.3	-3.4	-3.3	-4.7	-5.4	-3.5	5.0
EE	:	23.2	10.4	5.6	26.6	20.4	:	19.9	-1.5	22.0	16.9	26.4
IE	1.7	-0.8	6.7	13.8	12.1	-1.7	12.2	15.4	1.4	-1.0	14.7	12.1
EL	2.1	6.8	-0.6	-16.5	-15.3	-10.6	9.7	60.4	-8.0	-15.5	-49.8	21.6
ES (2)	6.6	7.2	4.6	2.5	3.7	7.6	10.4	3.1	3.0	0.7	-0.9	-12.6
FR	1.0	-1.8	-1.1	0.5	4.5	4.6	-0.4	-4.1	-0.7	2.3	2.1	6.7
IT	:	:	:	:	:	:	:	:	:	:	:	:
CY	7.3	3.9	4.0	4.4	3.6	4.5	-9.7	0.7	18.3	4.9	-0.3	1.6
LV	2.1	7.9	16.9	9.5	18.1	9.1	9.1	17.5	8.4	15.1	15.1	21.5
LT	15.2	19.1	32.0	9.4	6.6	28.9	-3.3	25.7	21.6	2.7	19.9	9.7
LU	6.2	1.3	0.4	3.1	1.0	2.3	-3.0	5.0	2.7	-14.5	-7.9	3.7
HU	19.2	13.6	0.9	-4.1	13.0	4.0	-4.8	23.9	-0.1	20.0	19.9	-7.3
MT	:	:	:	:	:	:	:	:	:	:	:	:
NL	:	:	:	:	:	:	:	:	:	:	:	:
AT	-1.9	-1.3	11.4	6.7	4.6	0.3	2.8	6.4	16.1	0.9	5.4	10.0
PL	-13.8	-19.8	-13.1	-2.8	13.2	14.2	-6.1	2.2	-0.7	0.9	6.0	18.2
PT	3.2	-1.8	-7.6	-5.5	-5.3	-6.6	6.6	-0.2	-9.7	-2.9	-4.0	-6.4
RO	:	:	5.8	4.9	2.2	16.4	:	:	7.1	12.3	17.0	22.0
SI	7.1	-2.7	0.7	9.2	10.3	14.0	-20.2	15.4	15.6	-3.6	-4.5	16.8
SK	2.4	3.1	4.5	8.9	8.5	18.1	-3.4	7.8	5.0	-2.0	33.2	13.0
FI (3)	1.1	1.6	4.1	3.8	4.5	6.7	8.6	1.9	2.2	3.1	4.6	5.9
SE	0.9	-5.1	1.1	1.0	3.3	9.1	6.6	0.5	5.6	-1.4	9.2	-1.0
UK (4)	1.6	3.3	6.5	4.4	-0.2	1.9	6.1	8.1	-8.7	-12.8	-7.9	-6.8

(1) Provisional. (2) Eurostat estimate. (3) Estimate. (4) 2006, provisional.

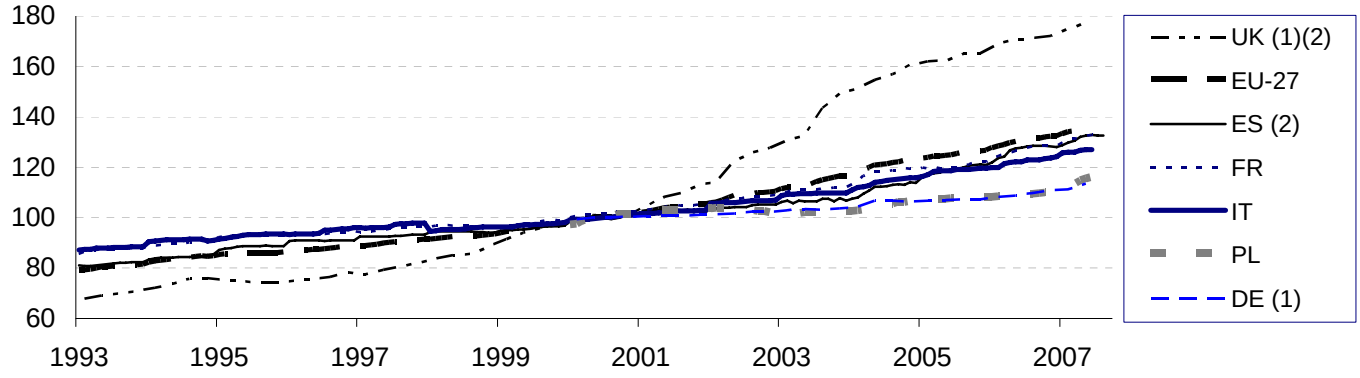
Source: Eurostat (STS)

Construction cost developments

Unlike the varied developments in output, construction costs for new residential buildings generally increased over the last decade in all of the large Member States.

The fastest increases (annual rates of change, Table 2) were in Romania, Ireland and the United Kingdom, whilst the slowest were in Germany and Poland.

Figure 5: Construction costs index for new residential buildings (gross; 2000=100)



(1) Quarterly series. (2) Includes provisional data.

Source: Eurostat (STS)

Table 2: Construction cost index, rate of change on previous period (gross; %)

	Change on previous year						*Change on previous quarter*					
							2006			2007		
	2001	2002	2003	2004	2005	2006	Q2	Q3	Q4	Q1	Q2	Q3
EU-27	4.0	4.6	4.9	6.0	3.6	4.2	1.3	1.0	0.6	1.3	1.6	:
Euro area	2.5	2.4	2.4	4.1	3.1	4.1	1.5	1.1	0.6	1.1	1.5	:
BE	:	:	:	:	:	:	:	:	:	:	:	:
BG	:	:	:	:	:	:	:	:	:	:	:	:
CZ	:	:	:	6.0	3.8	2.1	0.1	1.2	1.6	1.1	2.3	:
DK	3.2	2.1	2.4	1.5	2.7	4.7	1.7	1.7	0.8	2.5	1.6	:
DE	0.9	1.1	1.4	2.6	1.0	2.3	0.3	1.1	1.2	0.1	2.2	:
EE	5.7	4.0	3.5	5.3	6.2	10.4	2.3	4.2	4.4	3.9	2.1	:
IE	16.8	4.1	10.1	12.8	8.6	9.6	3.4	3.0	0.6	1.1	-1.1	:
EL	2.7	2.3	2.7	3.0	3.2	4.0	1.3	1.3	1.4	1.0	1.3	0.5
ES (1)	2.7	1.6	2.2	4.7	6.7	6.5	3.3	0.9	-0.1	1.1	2.1	:
FR	2.7	3.2	3.3	5.8	2.3	5.3	1.5	1.4	0.4	1.6	1.4	:
IT	2.2	4.0	3.0	4.2	4.0	3.1	1.4	0.6	0.8	1.7	0.8	:
CY	3.7	4.1	5.6	7.8	4.7	4.6	1.1	0.9	0.6	2.4	1.3	0.5
LV	:	:	:	:	:	:	:	:	:	:	:	:
LT	-1.1	0.2	1.4	7.0	8.3	10.7	3.5	3.4	2.7	2.1	7.1	:
LU	4.1	2.7	2.1	2.8	3.0	2.9	0.8	0.8	0.4	1.2	0.8	:
HU (2)	10.8	6.6	3.8	5.6	3.5	5.8	2.2	3.5	4.3	-1.5	2.7	:
MT	:	:	:	:	:	:	:	:	:	:	:	:
NL (3)	4.6	3.2	1.5	2.0	1.8	2.9	0.7	1.5	0.4	1.9	0.7	:
AT (3)	2.1	1.5	2.6	5.1	2.2	4.6	2.2	1.9	0.4	1.3	1.6	0.2
PL	3.1	-0.2	-0.8	2.6	2.8	1.4	0.3	0.6	0.9	1.8	2.8	:
PT	1.1	3.3	1.7	3.8	2.5	3.5	1.9	0.2	0.3	0.9	2.0	:
RO (1)	40.6	24.6	22.3	19.1	13.1	10.4	5.1	-0.2	0.4	7.3	1.4	:
SI	6.5	5.3	5.8	10.4	6.1	3.4	1.9	1.6	0.9	1.1	1.8	:
SK	6.3	5.0	4.2	6.9	4.8	4.0	1.0	1.0	0.8	1.5	0.9	1.1
FI	2.5	0.8	1.9	2.4	3.6	3.8	1.3	1.3	1.2	1.8	2.0	0.9
SE	4.4	3.5	3.4	3.9	3.9	5.0	2.0	1.5	1.0	1.7	1.9	:
UK (4)	8.9	12.6	13.4	12.1	5.0	4.4	0.9	0.5	0.4	1.6	1.4	:

(1) Provisional. (2) Estimate. (3) Includes provisional data for latest quarter(s). (4) 2006, provisional.

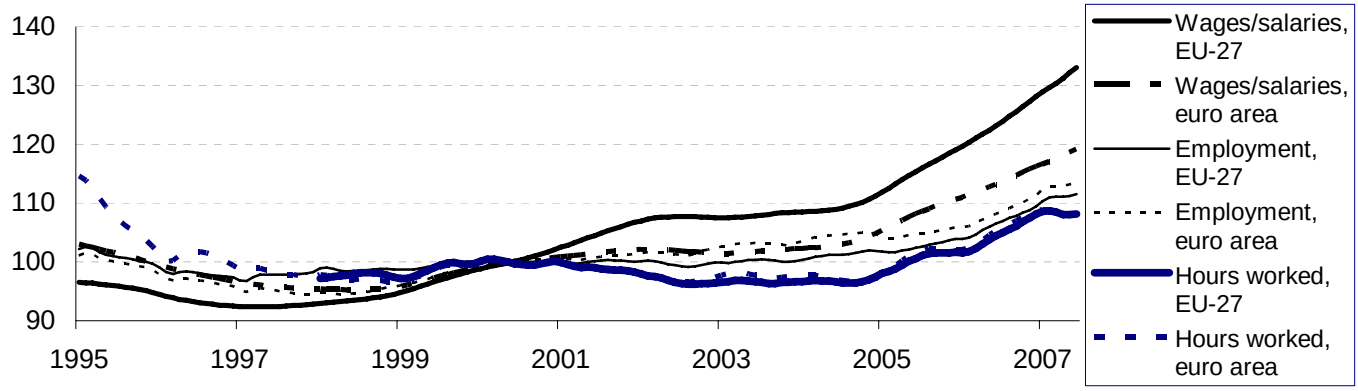
Source: Eurostat (STS)

Construction labour input

The employment index is relatively stable, particularly for the EU-27, whereas the hours worked index has slightly greater volatility. Unsurprisingly these both follow broadly the development of the production index.

In contrast, the wages and salaries index, which effectively shows the overall value of the payroll, has a similar development to that of employment but with a greater rate of change, reflecting wage inflation.

Figure 6: Labour input indicators (seasonally adjusted; 2000=100)



Source: Eurostat (STS)

Table 3: Employment index, rate of change on previous period (%)

	Change on previous year (gross)						*Change on previous quarter (seasonally adjusted)*					
							2006				2007	
	2001	2002	2003	2004	2005	2006	Q1	Q2	Q3	Q4	Q1	Q2
EU-27	0.0	-0.4	0.5	1.1	1.3	3.9	0.5	1.8	1.3	1.3	1.9	0.4
Euro area	0.8	0.7	1.5	1.5	0.2	3.4	0.4	1.4	1.3	1.6	1.9	0.0
BE (1)	0.9	-0.9	-2.8	-4.3	-2.4	2.5	0.9	0.9	1.6	0.9	-1.4	2.2
BG (2)	-3.9	0.5	9.5	15.6	3.3	13.1	1.2	1.9	0.9	0.9	13.5	1.4
CZ	-3.8	-1.3	-1.8	2.7	2.3	0.3	-0.1	0.2	-0.3	-0.2	-0.3	-0.7
DK	-1.3	-2.0	-3.6	0.2	4.3	6.1	-4.8	8.6	5.5	-2.2	3.7	-1.4
DE	-9.1	-7.8	-7.5	-5.8	-6.5	-0.9	-1.1	1.9	0.2	-0.1	0.6	-2.7
EE	2.8	6.7	4.0	5.9	7.7	14.5	2.5	5.5	3.1	4.6	8.2	1.1
IE	1.7	-2.4	0.5	3.4	3.7	2.4	0.2	1.1	0.7	0.2	-1.1	-0.4
EL	6.1	-1.0	-2.6	-3.4	-16.9	12.3	3.1	5.9	3.7	2.9	0.5	0.8
ES	8.9	5.5	6.1	7.2	4.6	7.9	1.3	2.1	2.8	1.8	2.3	0.5
FR	3.0	0.9	0.6	2.0	2.7	4.4	1.1	1.1	1.1	1.1	1.1	1.0
IT	:	:	:	:	:	:	:	:	:	:	:	:
CY	5.0	5.2	6.9	5.0	4.4	3.8	0.7	0.9	0.9	1.6	1.4	1.0
LV (2)	1.8	4.0	12.7	5.6	13.4	16.3	2.9	3.4	4.4	4.6	6.6	4.6
LT	-1.7	14.8	8.7	4.2	5.0	10.1	1.5	3.4	2.8	3.1	7.3	3.5
LU	3.4	3.0	1.3	0.5	1.0	1.3	0.0	0.4	0.6	-0.3	0.1	-0.4
HU (2)	1.0	3.7	1.6	3.4	3.7	6.6	2.8	1.8	0.0	0.7	-4.2	-2.5
MT	21.4	-1.5	2.4	12.9	12.1	12.0	6.2	-2.7	-0.8	-4.1	:	:
NL (2)	2.3	-0.4	-3.9	-3.6	-0.4	:	-0.2	0.1	0.2	:	:	:
AT	-5.1	-3.5	4.2	-1.0	-1.1	-0.2	-0.9	1.1	0.9	0.8	1.6	0.0
PL	-7.8	-10.9	-15.2	-10.2	0.2	4.8	1.9	2.0	1.3	1.4	4.2	0.7
PT	3.7	0.0	-7.4	-3.6	-3.5	-5.9	-1.4	-2.0	-1.8	-1.0	-0.8	-0.6
RO	2.6	-5.4	4.0	-3.9	10.8	1.1	-4.6	2.5	3.2	2.4	8.9	-0.9
SI	0.4	-1.0	-0.2	-1.6	4.6	7.5	1.3	2.6	2.7	2.7	2.7	2.3
SK	-2.3	1.6	4.0	2.7	6.9	9.3	3.6	1.2	1.9	1.4	1.7	1.2
FI	-2.5	1.7	2.0	-1.8	6.6	2.8	-1.5	2.2	0.0	2.0	1.9	1.6
SE	1.2	0.0	1.1	-1.2	1.1	7.3	2.2	3.2	2.3	3.0	2.0	0.9
UK (3)	0.8	-1.8	-0.4	2.4	4.4	5.1	1.6	2.6	1.2	-0.3	-2.8	0.9

(1) Includes some provisional data. (2) Includes provisional data for latest year(s) and quarter(s). (3) 2006, provisional.

Source: Eurostat (STS)

Latest output developments and leading indicators

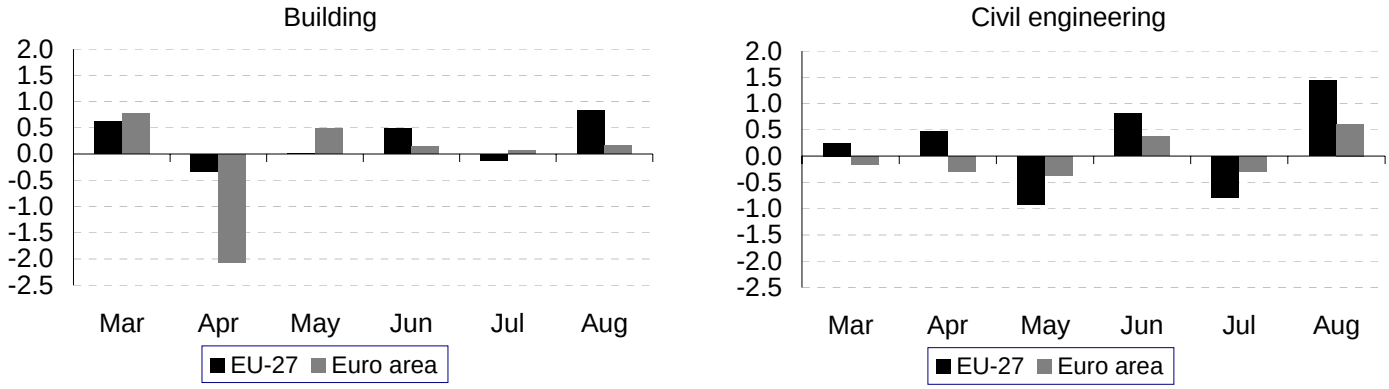
The six figures on this page show the latest monthly developments for production, as well as for two leading indicators. Note that the periods shown are different for each indicator, as are the scales of the figures.

The rate of change for the production index for building was generally positive or close to zero since March 2007, except in April when a contraction of around 2 % was recorded for the euro area. For civil engineering, growth and contraction generally alternated, with greater volatility in the latest months.

The new orders index for building was stable or growing until June 2007 when it fell by around 3 % in the EU-27 and the euro area. For civil engineering, the rate of change for the new orders index was particularly strong in January and February in the EU-27 (but not in the euro area), since when it stabilised.

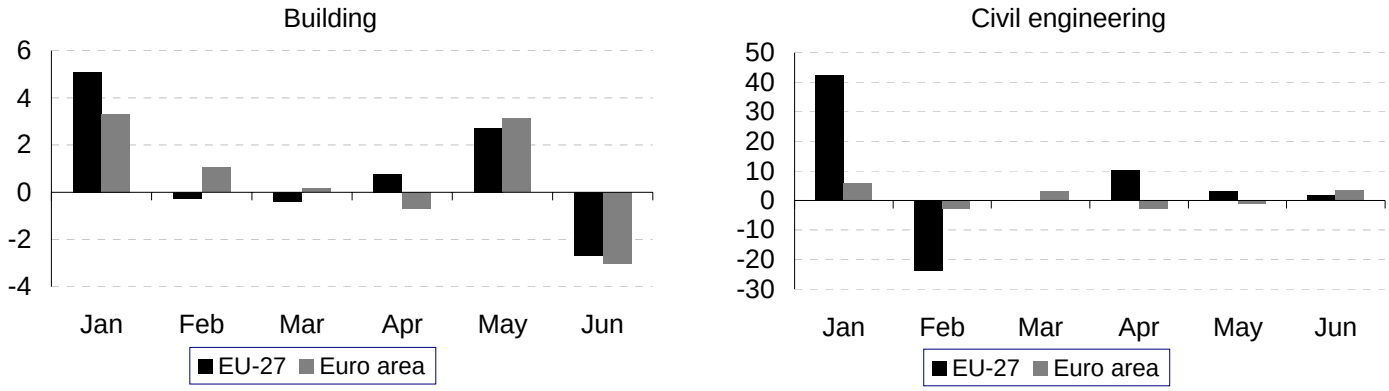
The building permits indicators show a monthly alternation of increases and decreases, both for residential and non-residential building, with the index for non-residential building particularly volatile.

Figure 7: Production indices, rate of change on previous period (seasonally adjusted; %), 2007



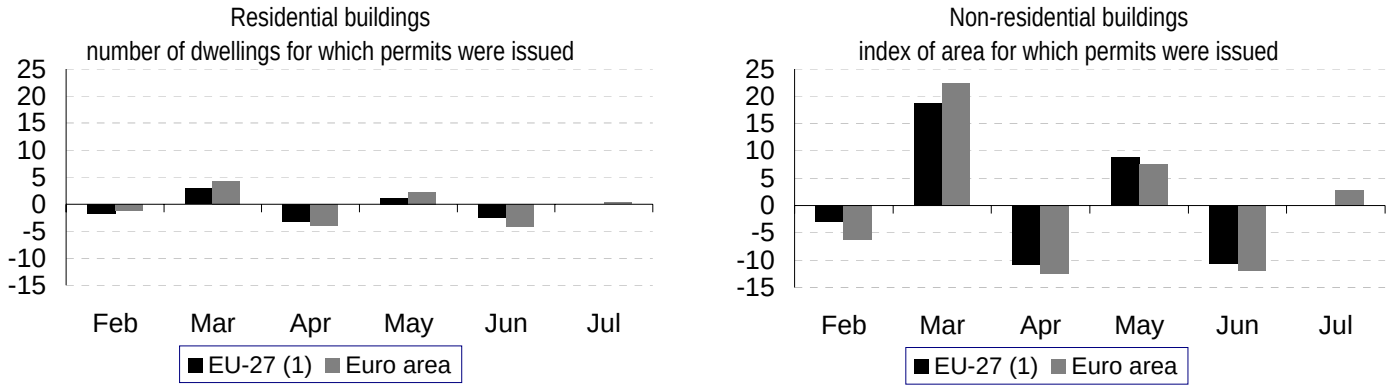
Source: Eurostat (STS)

Figure 8: New orders indices, rate of change on previous period (seasonally adjusted; %), 2007



Source: Eurostat (STS)

Figure 9: Building permits indices, rate of change on previous period (seasonally adjusted; %), 2007



(1) July 2007, not available.

Source: Eurostat (STS)

➢ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

LEGAL BASIS
The legal basis for the STS indices 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.

GEOGRAPHICAL COVERAGE
The reporting entities of EU-27 and the euro area are aggregates that are consistently composed, in the first case with the current 27 Member States, and in the second case with the current 13 euro area countries.

INFORMATION BROKEN DOWN BY TYPE OF CONSTRUCTION
The distinction between building and civil engineering, and within building between residential and non-residential building, is based on the classification of types of construction (CC).

DEFINITION OF INDICATORS ([3])
The **production index** aims to show changes in the volume of output and provides a measure of the volume trend in value added over a given period. The production index is a theoretical measure that must be approximated by practical measures, for example using deflated gross production values, labour input measures, measures of raw material input. Dependent on the approximation method used, the index of production should take account of: variations in type and quality of inputs and outputs; changes in stocks of finished goods and work in progress; changes in technical input-output relations (processing techniques); changes in related services. The theoretical formula for an index of production is a Laspeyres-type volume index.

The **construction cost index** aims to show the development of costs incurred by the contractor to carry out the construction process. The component costs index (material costs and labour costs) shows the price development of production factors used in construction. Costs that constitute components of the construction costs are also plant and equipment, transport, energy and other costs. Architect's fees are not part of the construction costs.

The **number of persons employed** is 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. repair and maintenance teams). It includes persons absent for a short period (e.g. sick, paid 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 and apprentices on the payroll. The number of persons employed should be determined as a representative figure for the reference period. Note that Member States may use an index of (paid) employees to approximate the index of the number of persons employed.

The **hours worked index** aims to show the development in the volume of work done. The total number of hours worked represents the hours actually worked for the output of the observation unit during the reference period, and so excludes hours paid but not actually worked (such as paid or sick leave), as well as meal breaks and commuting between home and work. Included are normal and overtime hours and time at the place of work preparing the site and short periods of rest at the work place.

The **wages and salaries index** aims to approximate the development of the wage and salaries bill. Wages and salaries are defined as the total remuneration, in cash or in kind, payable to all persons on the payroll, in return for work done regardless of whether it is paid on the basis of working time, output or piecework and whether it is paid regularly. Wages and salaries include the values of any social contributions, income taxes, etc. payable by the employee even if they are actually withheld by the employer and paid directly to social insurance schemes, tax authorities, etc. on behalf of the employee. Wages and salaries do not include social contributions payable by the employer. Payments for agency workers are not included in wages and salaries.

The **new orders received index** aims to show the development of demand for products and services 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 order is accepted if, in the producer's judgement, there is sufficient evidence for a valid agreement. New orders refer to goods and services to be provided by the observation unit, including those originating from sub-contractors. Orders of previous periods that have been cancelled during the reference period are not to be deducted from the new orders received.

A **building permit** is an authorisation to start work on a building project, and as such, is the final stage of authorisation from public authorities prior to the start of work. An index based on these permits should provide an indication of the workload for the building industry in the near future, although this may not be the case when a large proportion of permits are not used or when there is a long time lag between permits and building starts.

A **dwelling** is a room or suite of rooms and its accessories in a permanent building or structurally separated part thereof which by the way it has been built/converted is intended for private habitation. It should have separate access to a street or to a common space within the building. A dwelling may be constituted of separate buildings within the same enclosure, provided they are clearly intended for habitation by the same private household.

The **useful floor area** of a building is measured within its external walls, excluding construction areas (e.g. supports, columns, pillars, chimneys), functional areas for ancillary use (e.g. for heating installations), thoroughfares (e.g. areas of stairwells, lifts, escalators).

FURTHER INFORMATION
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([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 281, of 12 October 2006.

Further information:

Data:

Industry, trade and services

- Industry and construction
  - Industry (NACE Rev.1 C-F)
  - Construction (NACE Rev.1 F) - Building and civil engineering
    - Construction - Monthly growth rates
    - Construction - Quarterly growth rates
    - Construction - Production indices (2000=100)
    - Construction - New orders indices (2000=100)
    - Construction - Labour input indices (2000=100)
    - New residential buildings - Price indices (2000=100)
    - Building permits - Indices (2000=100)

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