

Energy sector in Europe

In 2006, the roughly 22 thousand enterprises in the EU-27's energy sector generated turnover of approximately EUR 885 billion and employed over 1.2 million persons, i.e. 3% of the total industrial workforce. At the same time, these enterprises generated a value added of EUR 180 billion, 9% of total industry.

Between 2000 and 2006, apparent labour productivity increased by 57% and the total number of enterprises in the energy sector increased by 52%.

In this period, the highest increase in the total number of enterprises in the energy sector was observed in Spain, Portugal and Hungary, where there were more than 3 times as many enterprises in 2006 as in 2000.

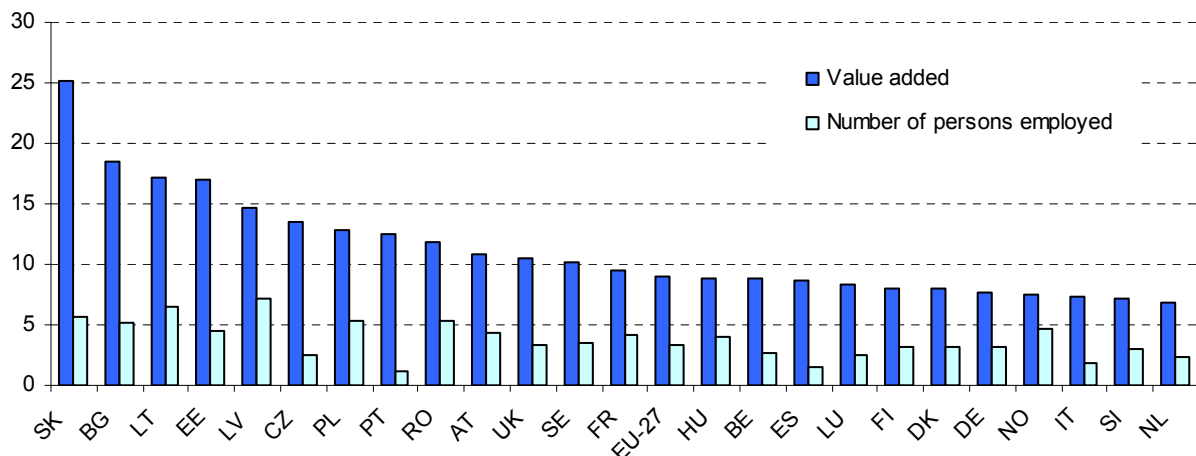
The highest investment rates in the energy sector were reported by Slovakia and Romania,

which also posted the highest investment rates in industry as a whole.

As shown in Figure 1, in all countries, and therefore in the EU-27 as a whole, the share of the energy sector in industry in terms of value added is higher than its share in terms of employment. The difference is higher than that observed on average in the industry sector. This indicates higher apparent labour productivity of the sector than observed in industry as a whole.

The sector was relatively more important for new Member States, most of which showed above-average shares for both value added and employment. Three of the new Member States show higher than the average ratio (EU-27 - 2.7) of value added to employment (Slovakia - 4.5, Estonia - 3.7, Bulgaria - 3.6).

**Figure 1: Value added and employment in 'electricity, gas and hot water supply' (NACE 40)
 Share of the total industry (NACE C, D, E) values, EU-27 and Norway, 2006 (%)**



CY, EL, IE and MT: data not available or confidential

Source: Eurostat ([sbs_na_2a_el](#))

In terms of value added at national level, Slovakia had by far the highest share (25%) of the energy sector in total industry value. It was followed by Bulgaria (18%), Lithuania and Estonia (17%) while an additional nine countries (four of them new Member States) showed above EU-27 average shares. At the other end of the scale, the Netherlands had the lowest share (7%) of value added of energy sector in total industry value.

In terms of employment, Latvia had the highest share (7%) of the energy sector in total industry followed by Lithuania (6.5%) and ten more countries (six of them new Member States) with above EU-27 average shares of energy sectoral employment in the total industrial workforce. Portugal (1.2%) and Spain (1.5%), on the other hand, had the lowest share of energy sector in total industry employment.

Seven new Member States (Slovakia, Bulgaria, Lithuania, Estonia, Latvia, Poland and Romania)

showed above EU-27 average shares for both value added and employment.

In 2006, EU-27 apparent labour productivity in the energy sector was EUR 147 000 (Table 1), which was 2.7 times the industrial average – NACE sections C to E (EUR 54 539). Average personnel costs amounted to EUR 47 000. Subsequently, wage-adjusted labour productivity, which is the ratio of value added per person employed to average personnel costs, was 314.4%. At the same time, the EU-27 gross operating rate (gross operating surplus as a share of turnover) was 14%.

Overall, old Member States' economies have higher average personnel costs and apparent labour productivity than new EU economies. For the wage adjusted labour productivity ratio there is no apparent trend between bigger or smaller or between new and old Member States. Slovakia, the Czech Republic and Estonia have the highest ratios, which are almost double the EU-27 average.

Table 1: Main indicators in 'electricity, gas and hot water supply' (NACE 40), Member States and Norway, 2006

	Number of persons employed	Number of enterprises	Value added at factor cost	Turnover	Average personnel costs	Apparent labour productivity	Wage adjusted labour prod. ratio	Gross operating rate
			(EUR million)		(EUR 1 000)		(%)	
EU-27	1227400	22200	180392.4	885212.8	46.7	147.0	314.4	14.0
BE	16624	112	4968.3	34445.2	105.6	298.9	283.1	9.4
BG	38435	236	985.1	4456.2	6.8*	21.7*	321.4*	15.2*
CZ	37055	867	4435.3	19525.6	18.1	119.7	660.8	19.3
DK	13805	1865	3031.7	18479.3	48.2	219.6	455.3	13.1
DE	234701	1468	39198.2	258607.5	74.0	167.0	225.6	8.4
EE	6655	189	423.1	1112.7	11.2	63.6	566.8	31.3
ES	39208	5158	13030.5	54658.5	64.0	332.3	519.5	19.8
FR	159946	2582	23260.5	73837.6	64.5	145.4	225.3	17.5
IT	88944	1886	18096.4	138088.3	51.8	203.5	393.2	9.9
LV	13050	269	317.2	1041.5	9.1	24.3	266.2	19.0
LT	19352	188	573.6	1873.4	10.2	29.6	291.0	20.1
LU	946	48	253.2	1858.9	77.7	267.6	344.4	9.7
HU	32880	430	1704.1	11369.5	20.4	51.8	254.0	9.1
NL	19207	520	4982.9	35517.4	60.8	259.4	426.5	10.7
AT	28788	1327	5583.8	22252.2	71.2	194.0	272.6	16.1
PL	156943	1321	7824.7	31260.6	15.4	49.9	324.3	17.4
PT	10525	521	2870.9	11967.2	61.9	272.8	440.9	18.8
RO	96012	292	1868.4	10070.1	9.1	19.5	213.3	9.9
SI	7711	336	521.0	2135.3	28.6	67.6	236.3	14.4
SK	25875	179	2471.8	7195.7	13.8	95.5	691.2	29.4
FI	13810	663	2958.8	10737.4	51.8	214.2	413.4	20.9
SE	29155	1291	6346.3	22825.0	59.8	217.7	363.9	20.3
UK	110610	403	30173.3	101116.8	55.5	272.8	491.8	23.8
NO	14465	937	5384.9	13609.0	68.9	372.3	540.5	32.2

* 2005

Note. EU-27 rounded estimate based on non confidential data. IE, EL, CY, MT: data not available or confidential.

Source: Eurostat ([sbs_na_2a_el](#))

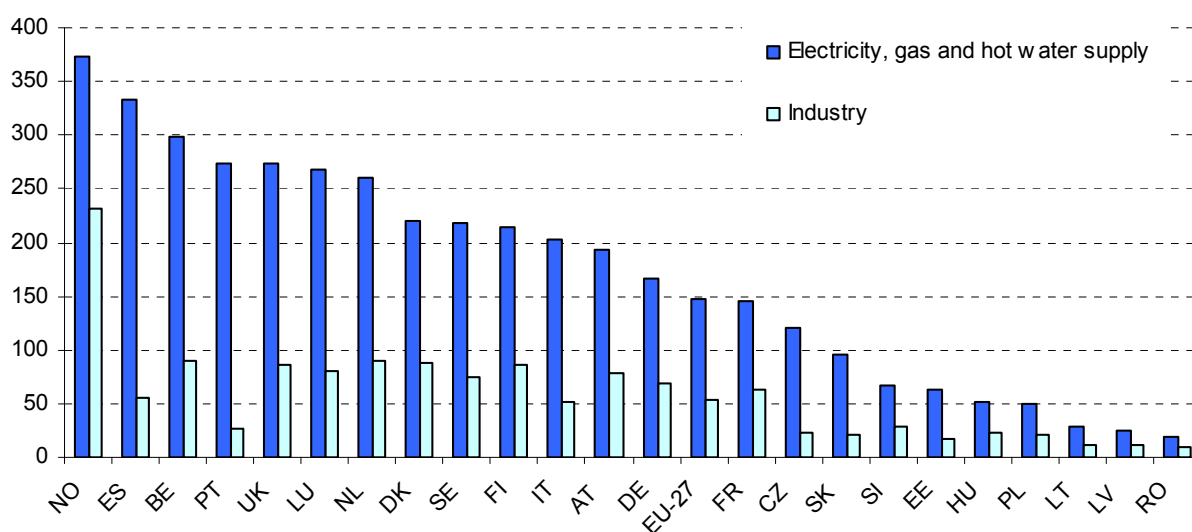
Apparent labour productivity grew much faster than the industrial average

As already mentioned in the previous section, apparent labour productivity in the EU energy sector is 2.7 times higher than in total industry. At national level, this ratio ranges from 1.6 (Norway) to 10.4 (Portugal).

In 2006, Norway, Spain and Belgium reported the highest values of apparent labour

productivity for the energy sector (Figure 2). Norway and Belgium also posted a high value for total industry. At the other end of the scale, Lithuania, Latvia and Romania reported the lowest values in apparent labour productivity for both the energy sector and industry.

Figure 2: Apparent labour productivity in 'electricity, gas and hot water supply' (NACE 40) and industry, EU-27 and Norway, 2006 (EUR 1 000)

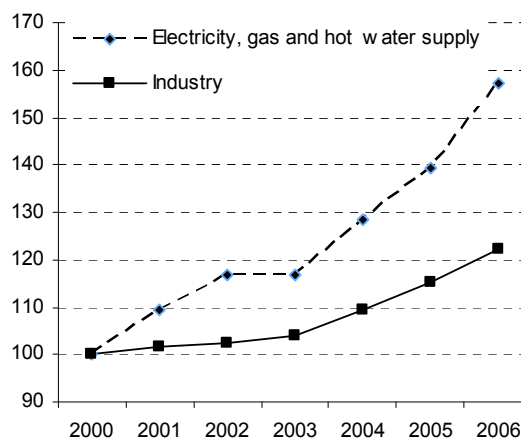


CY, EL, IE, MT: data not available or confidential.

Source: Eurostat ([sbs_na_2a_el](#))

Between 2000 and 2006, apparent labour productivity in the energy sector increased by 57%, much higher than the industrial average growth of 22% (Figure 3). The rapid increase in the energy sector compared with the industrial sector was already apparent in 2001, at 9.3% and 1.8% respectively. From 2001 to 2002 the situation was similar with a further 7.5% increase in the energy sector compared with an 0.8% increase in the industrial sector. It is only from 2002 to 2003 that apparent labour productivity in the energy sector remained almost constant, while at the same time growth in total industry rose to almost 2%. A steep increase in apparent labour productivity was observed from 2003 onwards for both the energy sector and total industry, but it was more pronounced for the energy sector.

Figure 3: Apparent labour productivity in 'electricity, gas and hot water supply' (NACE 40) and industry, EU-27, 2000 to 2006 (2000=100)



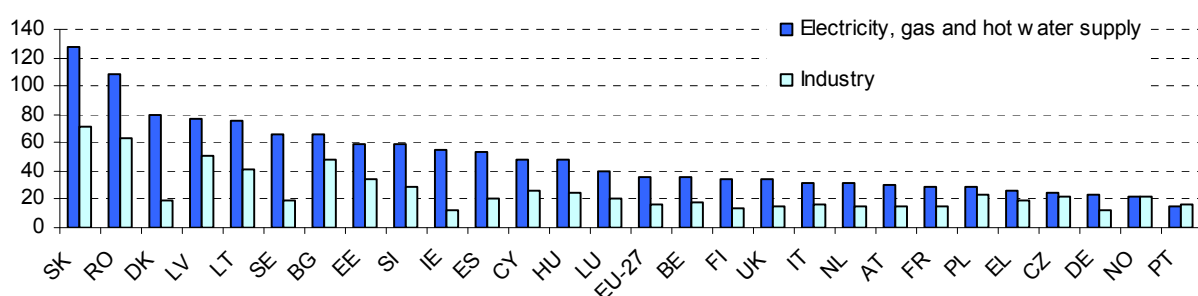
Source: Eurostat ([sbs_na_2a_el](#))

High investment rates in the energy sector

Figure 4 shows the investment rate by country in 2006 in 'electricity, gas and hot water supply' (NACE 40) and industry. The EU average indicates that the investment rate in the energy sector is almost double the investment rate in total industry. In Spain, Finland, Sweden, Denmark and Ireland, in particular, the ratio of the two rates is above 2.5, which reflects substantially higher investment in the energy sector than in total industry.

The highest investment rates for the energy sector were reported by Slovakia and Romania (for which investment rates exceeded 100%), followed by Denmark, Latvia and Lithuania. Slovakia, Romania, Latvia and Bulgaria had the highest investment rates for total industry. On the other hand, Portugal reported the lowest investment rate for both the energy sector and industry and it was the only country where the investment rate for industry was higher than for the energy sector.

Figure 4: Investment rate in 'electricity, gas and hot water supply' (NACE 40) and industry, EU-27 and Norway, 2006 (%)



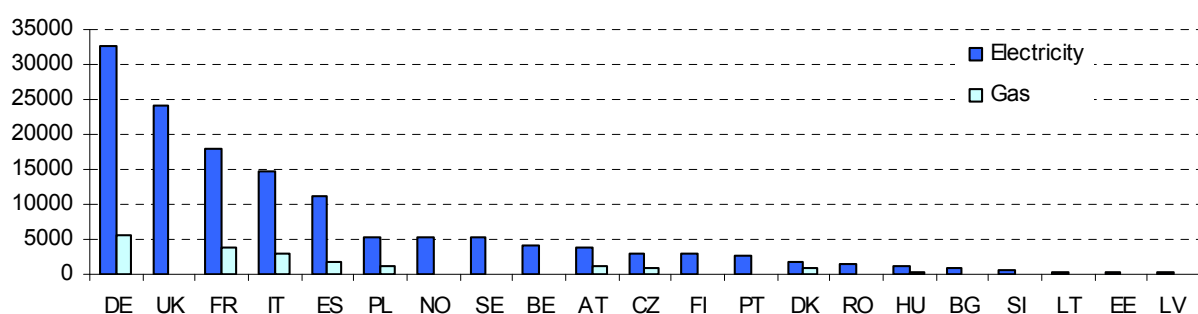
BG: 2005; MT: data unavailable.
Source: Eurostat ([ebd_all](#))

Electricity enterprises generate higher value added than gas enterprises

As can be seen from Figure 5, the electricity sub-sector has much higher value added than the gas sub-sector. All countries for which data are available for both sectors report more than double the value added for electricity than gas sector. The smallest difference is reported by Denmark, where electricity is 2.2 times the 'size' of the gas sector, while the highest difference is reported by Finland (electricity is 560.7 times the 'size' of the gas sector).

The big Member States (Germany, the United Kingdom, France, Italy and Spain) report from 2 to more than 5 times higher levels of value added in the electricity sub-sector than other countries. At the same time, these countries (with the exception of the United Kingdom, for which no data are available) also report the highest levels of value added in the gas sector.

Figure 5: Value added of electricity (NACE 40.1) and gas (NACE 40.2), Member States and Norway, 2006 (EUR million)



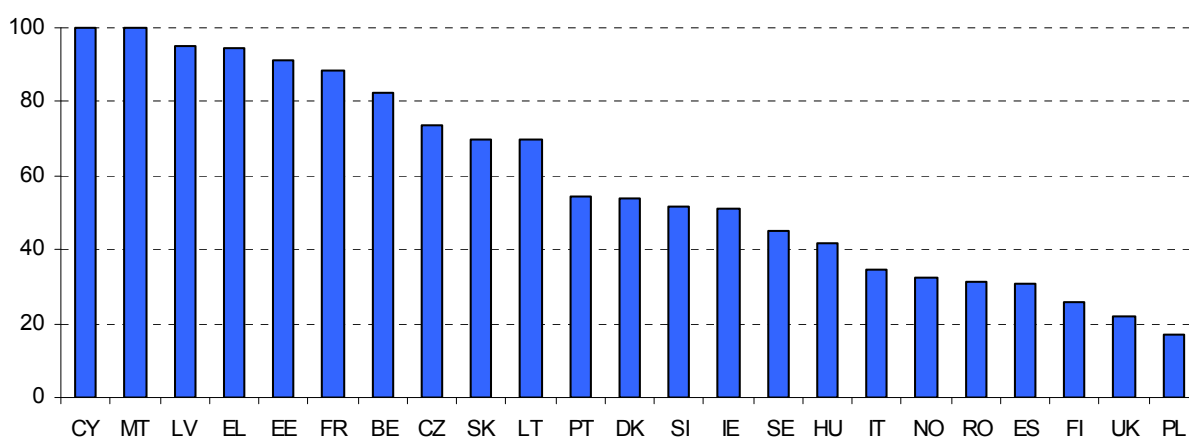
BE, EL, LV, PT, RO, UK: unavailable or confidential gas data.
Source: Eurostat ([sbs_na_2a_el](#))

Significant increase in the number of energy enterprises in recent years, with the largest electricity generator claiming a large share in the electricity market

In 2006, the market share of the largest generator in the electricity market was over 80% in almost a third of all countries (Cyprus, Malta, Latvia, Greece, Estonia, France and Belgium). The highest market shares were observed in Cyprus and Malta, where the largest generator is the

only one on the market. On the other hand, the lowest share (less than 30%) of the largest electricity generator in the electricity market was reported by Finland, the United Kingdom and Poland.

Figure 6: Market share of the largest generator in the electricity market, Member States and Norway, 2006 (% of the total generation)



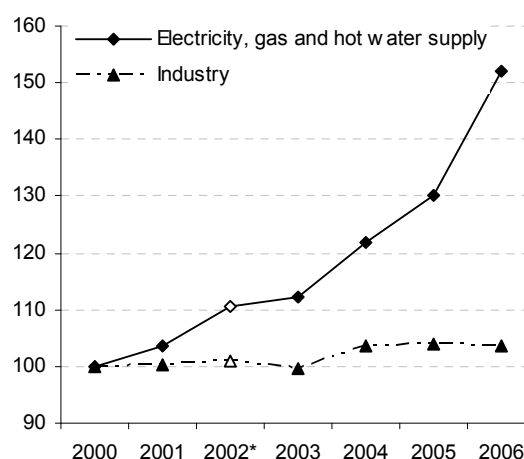
AT, BG, DE, LU, NL: unavailable or confidential data.
Source: Eurostat ([nrg_ind_331a](#))

The total number of enterprises in the energy sector increased by 52% between 2000 and 2006 (Figure 7). In absolute terms, the growth in the number of enterprises means 7 595 new market players, given that the number of energy enterprises in 2000 was 14 605. It should be noted that this growth includes both 'real' enterprise births and entries into the population due to mergers, break-ups, split-offs or other forms of reconstruction of the existing population of enterprises.

More specifically, the number of enterprises in the energy sector increased by 30% in the EU-27 between 2000 and 2005 and grew even more rapidly in 2006 (by another 22% compared with 2000) (Table 2).

On the other hand, the change in the number of enterprises in total industry over the years is less pronounced and has been at a much slower pace than in the energy sector. Starting from 2000, a slight increase is observed by 2002, followed by a 1.2% drop from 2002 to 2003. The 3% increase from 2003 to 2004 was the largest growth recorded over the years. Subsequently, changes are minor.

Figure 7: Number of enterprises in 'electricity, gas and hot water supply' (NACE 40) and industry, EU-27, 2000-2006 (2000=100)



* estimated data

Source: Eurostat ([sbs_na_2a_mi](#), [sbs_na_2a_dade](#), [sbs_na_2a_el](#))

Between 2000 and 2006, the highest increase was observed in Spain (403%), Portugal (317.7%) and Hungary (300.7%). In Luxembourg, a sudden increase in 2004 was followed by a sharp drop in 2005 (to less than 1/5 of the previous value) - numbers also remained low in 2006.

Looking closer at the trend in the number of enterprises, the following observations can be made. In Spain, the change was gradual from 2000 to 2005 and then 'boomed' in 2006 (217.1% increase from 2005 to 2006). The same phenomenon, but to a lesser extent, is observed

in Portugal, where the number of enterprises increased significantly in the last two years (2005 and 2006). Only Hungary exhibits small changes over the years.

Moreover, the number of energy enterprises at least doubled in the six-year period in Austria (257.2%), Bulgaria (253.8%) and Romania (200%).

By contrast, Denmark and Estonia were the only two Member States, where the number of enterprises in the energy sector fell over the period 2000-2006 - by around 20%.

Table 2: Number of enterprises in 'electricity, gas and hot water supply' (NACE 40), Member States, 2000-2006 (2000=100)

	2001	2002	2003	2004	2005	2006
EU-27	103.7	:	112.1	121.9	130.1	152.0
BE	119.7	:	140.9	150.0	159.1	169.7
BG	116.1	117.2	149.5	183.9	219.4	253.8
CZ*	78.1	95.8	91.6	115.7	117.7	118.1
DK	99.8	101.7	75.7	85.1	80.1	74.7
DE	100.9	101.2	100.9	105.4	106.6	107.1
EE	96.1	81.5	80.6	82.3	80.6	81.5
ES	118.5	139.8	168.1	180.6	186.5	403.6
FR	103.8	104.9	115.5	122.6	135.2	148.2
IT	104.9	111.7	125.3	129.4	138.0	149.4
LV	113.5	120.2	132.7	132.2	137.5	129.3
LT	106.8	129.5	133.3	138.6	140.9	142.4
LU	110.9	106.5	147.8	467.4	87.0	104.3
HU	173.4	176.2	214.0	251.7	262.9	300.7
NL	101.6	119.4	133.9	143.5	158.1	167.7
AT	105.2	112.0	150.0	169.8	242.2	257.2
PT	114.6	135.4	158.5	159.8	299.4	317.7
RO	103.4	124.7	158.9	163.7	175.3	200.0
SI	125.6	112.1	97.8	104.8	114.7	123.1
SK	100.0	143.7	130.1	160.2	177.7	173.8
FI	100.7	101.4	104.1	105.6	108.2	112.8
SE	101.3	101.5	106.5	107.9	113.1	116.3
UK	127.3	155.5	185.0	153.6	175.9	183.2

* provisional data.

Note. IE, EL, CY, MT, PL: data not available or confidential.

Source: Eurostat ([sbs_na_2a_el](#))

Overall, the energy sector is characterized by higher apparent labour productivity than industry and has grown at a rapid pace in recent years (2000 – 2006). Moreover, the investment rate in energy is almost double the investment rate in total industry. Looking closer at enterprise growth in the electricity and gas sub-sectors, it is evident that the former generates higher value added than the latter,

especially in large economies. In many countries, the largest electricity generator accounts for a large share of the electricity market. Finally, the figures reveal the growing number of energy enterprises compared with the industry sector, where changes in the number of energy enterprises are much slower and less pronounced.

METHODOLOGICAL NOTES

Structural Business Statistics (SBS) is the main data source for this publication. The 'annual detailed enterprise statistics on electricity, gas and water supply' was the main SBS data set that has been used supplemented by the 'annual detailed enterprise statistics on mining and quarrying' and the 'annual detailed enterprise statistics on manufacturing'.

SBS- main indicators and Energy statistics on market share were also used.

EU-27 aggregates include estimates for missing components where necessary. EU-27 aggregates from the SBS data set was supplemented by rounded estimates based on non-confidential data where necessary and appropriate. Some differences may exist between aggregates and sub-components due to the rounding. In some cases when no EU totals are available, averages of available countries are presented.

Definitions

The **number of enterprises** is a count of enterprises active during at least a part of the reference period.

The **number of persons employed** is all persons who work in the observation unit (inclusive of working proprietors and unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it. Part-time, seasonal and home workers on the payroll are included, as well as apprentices.

Value added (at factor cost) can be calculated from turnover, plus capitalised production, plus other operating income, plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products which are linked to turnover but not deductible, minus the duties and taxes linked to production.

Turnover comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties.

Average personnel costs are calculated as personnel costs divided by the number of (paid) employees.

Apparent labour productivity is calculated as value added divided by the number of persons employed.

The **wage adjusted labour productivity ratio** is calculated by dividing the apparent labour productivity by average personnel costs, and is expressed as a percentage.

The **gross operating rate** is the gross operating surplus divided by turnover, expressed as a percentage. Gross operating surplus is the surplus generated by operating activities after the labour factor input has been recompensed. It is calculated as value added less personnel costs.

Gross tangible investment includes new and existing capital goods bought or produced for own use having a useful life of more than one year, and includes also land.

The **investment rate** is tangible investment divided by value added expressed as a percentage.

Classifications

The classification of activities used in this publication is NACE Rev. 1.1. For the purposes of this publication the industry is defined as Sections C to E.

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
NO	Norway

: (in tables) not available

c (in tables) confidential

Further information

Data: [Eurostat Website: http://ec.europa.eu/eurostat](http://ec.europa.eu/eurostat)

Data on "Structural business statistics":

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

Select "SBS – industry and construction" and "Annual detailed enterprise statistics"

More information about "Structural business statistics":

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Manuscript completed on: 10.09.2009

Data extracted on: 18.05.2009

ISSN 1977-0316

Catalogue number: KS-SF-09-072-EN-N

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