Industry, trade and services

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Architecture, engineering and technical testing

Architectural and engineering activities and Technical testing and analysis¹ form a thriving part of the Business Services² sector. Together the 894 000 Architecture, engineering and technical testing enterprises in the EU-27 produced an estimated turnover of EUR 246.2 million in 2005, according to Structural Business Statistics (SBS), which is equal to 1.2% of turnover in the EU-27 non-financial business economy (NACE C to I and K), and 19% of Business Services turnover. Together, these enterprises employed an estimated 2.6 million persons, which was equivalent to 2.1% of employment in the EU-27 non-financial business economy and 18% in Business Services. Among the countries for which data are available (see Table 2), Architecture and engineering (NACE K 74.2) made up almost 90%, while Technical testing (NACE K 74.3) contributed to more than 10% of total turnover.

euros

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Statistics in focus



Figure 1 Architecture, engineering and technical testing (NACE K74.2 and 74.3) employment and turnover, 2005 % of non-financial business economy (NACE C to I and K)

Sweden (2.8%) and Finland (2.6%) were most specialised in these activities among the EU-27 Member States, in terms of the share of Architecture, engineering and technical testing employment in the non-financial business economy in 2005, while in Slovenia (1.9%) this sector displayed the largest proportional contribution to total business economy turnover (Figure 1). Yet, in all Member States, this sector's contribution to the nonfinancial business economy total was smaller in terms of turnover than of employment.

² Business services (NACE 72 and 74.1 to 74.5) include: Computer & related activities (72.0), Legal, accounting, bookkeeping & auditing activities, tax consultancy, market research & public opinion polling, business & management consultancy, holdings (74.1), Architectural & engineering activities & related technical consultancy (74.2), Technical testing & analysis (74.3), Advertising (74.4) and Labour recruitment & provision of personnel (74.5). Please see: Statistics in Focus 76/2007 "EU-27 business services: thriving in the wake of outsourcing" and Statistics in Focus 74/2007 "EV-27 business Services".



¹ Activities of Architectural and engineering feature under NACE group K 74.2. This covers consulting architectural activities (such as building design and drafting, supervision of construction, town and city planning and landscape architecture), various engineering and technical activities related to construction (e.g. machinery and industrial plan design, engineering, project management), as well as geological and prospecting activities, weather forecasting activities and geodetic surveying studies. Technical testing and analysis activities corresponds to NACE group K 74.3 and includes environmental measuring (such as measuring cleanness of water and air, analysis of pollution), testing of food hygiene, certification of ships, aircraft, motor vehicles, nuclear plants, as well as periodic road-safety testing of motor vehicles.

Main Characteristics

The five Member States which produced the highest turnover in Architecture, engineering and technical testing in 2005 (Figure 2), accounted for more than three quarters (76%) of EU-27 total turnover. The picture was similar in terms of value added, while Germany had the highest share of the EU-27 labour force in this sector (15.9%), followed by the United Kingdom (15.8%) and Italy (13.8%).

Apparent labour productivity (value added per person employed) amounted to EUR 46.9 thousand yearly on average in the EU-27 in 2005. The most productive Member States according to this measure were the United Kingdom (EUR 71.6 thousand), Ireland (EUR 68.1 thousand), Denmark (EUR 67.5 thousand) and France (EUR 57.7 thousand).

 Table 1
 Main characteristics of Architecture, engineering and technical testing (NACE K74.2 and 74.3), EU-27 and Norway, 2005

	Turnover	Value added at factor cost	Number of persons employed	Average personnel costs	Apparent labour productivity	Wage adjusted labour productivity	Gross operating rate	
	Million EUR	Million EUR	1 000	1 000 EUR	1 000 EUR	%	%	
EU-27	246 243	122 939	2 624.1	38.7	46.9	121	20	
BE	4 942	1 985	41.9	52.0	47.3	91	15	
BG	308	94	17.2	3.7	5.5	149	16	
CZ*	3 432	1 240	80.0	12.6	15.5	123	18	
DK	6 437	2 643	39.1	56.7	67.5	119	9	
DE	36 409	21 698	416.6	40.9	52.1	127	23	
EE	161	83	6.2	9.9	13.5	135	15	
IE	2 785	1 435	21.1	45.8	68.1	149	24	
EL	3 427	1 180	53.6	29.4	22.0	75	11	
ES	20 605	10 353	265.1	30.7	39.1	127	24	
FR	45 752	19 263	333.7	50.6	57.7	114	9	
п	27 367	14 173	361.4	40.3	39.2	97	40	
CY	110	79	2.3	29.9	34.5	116	25	
LV	221	97	8.2	6.0	11.9	199	23	
LT	258	131	11.3	7.6	11.6	153	22	
LU	556	262	4.8	57.8	54.3	94	4	
HU	2 355	606	47.4	11.9	12.8	107	10	
MT**	44	32	1.1	14.5	29.8	206	55	
NL	11 827	6 147	111.6	48.1	55.1	115	14	
AT	4 942	2 513	48.5	43.0	51.8	121	16*	
PL	3 622	1 424	108.6	9.0	13.1	146	23	
PT	2 651	934	56.1	11.0	16.6	152	13	
RO	877	442	49.4	4.9	9.0	183	24	
SI	1 145	352	11.9	22.7	29.5	130	10	
SK	553	181	11.0	9.2	16.5	179	15	
FI	3 523	1 832	32.2	45.5	57.0	125	14	
SE	7 908	3 892	72.7	51.7	53.6	104	8	
UK	53 523	29 680	414.3	46.1	71.6	155	23	
NO	6 191	2 971	33.4	72.0	88.9	124	13	

* 2004; ** 2002.

Average personnel costs (personnel costs per employee) amounted to an annual EUR 38.7 thousand on average in the EU-27 in 2005, ranging between EUR 3.7 thousand in Bulgaria and EUR 57.8 thousand in Luxembourg, while Norway recorded average personnel costs of EUR 72.0 thousand. These costs were below 40% of the EU-27 average in Portugal and ten of the twelve new Member States (2004 and 2007 enlargements), the exceptions being Slovenia (around 60%) and Cyprus (77%). Source: Eurostat (SBS)

The gross operating rate (gross operating surplus in percentage of turnover) is a profitability indicator which ranged between 3.7% in Luxembourg, 40% in Italy and 55% in Malta (2002). The gross operating rate stood above the EU-27 average in 2005 in some of the Member States for which the Building permits index rose by more than 15% yearly between 2002 and 2004: Lithuania, Cyprus, Ireland, Poland and Spain.



technical testing (NACE K74.2 and 74.3),

Figure 2 Architecture, engineering and

Rising to above 200% in Malta in 2002, wage adjusted labour productivity (apparent labour productivity divided by average personnel costs) was high in many of the new Member States (2004 and 2007 enlargements) as well as in Portugal, where low average personnel costs more than compensated for relatively low apparent labour productivity. However, this was not the case in Hungary and Cyprus where wage adjusted labour productivity was below the EU-27 average. The United Kingdom and Ireland also recorded relatively high wage adjusted labour productivity in this sector of Business Services.

Short-Term Statistics (STS) show that EU-27 turnover in Architecture, engineering and technical testing grew at a robust 6% yearly annual average from 2000 to 2006. Rising strongly by almost 15% from 2000 to 2001, it increased at a slower yearly average 2% during the three subsequent years. Turnover then grew more strongly again, by 7% from 2004 to 2005, and by almost 10% from 2005 to 2006.

Enterprises from Denmark, the United Kingdom, the Netherlands, Norway, Ireland, France and Luxembourg displayed the highest turnover per enterprise - ranging between one half million EUR

Turnover by Product

The statistics presented in the following sections were collected from a more limited set of countries which participated in the SBS Business Services Development Project.

A total sum of EUR 130 billion turnover was produced in Architecture, engineering and technical testing, in 2004, in the 16 countries for which detailed product data are available (Table 2). Architecture and engineering activities produced nine tenths of this turnover. 14% of turnover was in Architectural services. With 43%, the largest contribution to turnover was however made by Engineering design services including integrated (Luxembourg) to one million EUR (Denmark) for these countries.

Architecture, engineering and technical testing are activities dominated by very small enterprises. On average in 2005, in the Member States for which detailed size-class data are available³, a little under three quarters (74%) of the enterprises active in Architecture, engineering and technical testing employed a single person while 22% employed between two and nine persons.

In terms of employment, just over half of the persons active in Architecture, engineering and technical testing worked for micro enterprises with between one and nine persons employed. In comparison, in the EU-27 non-financial business economy, that share was 30%. In Architecture, engineering and technical testing in Italy, this share rose to 85% and in Portugal to 73% while in Denmark it was 22%.

Small enterprises with between 10 and 49 persons employed accounted for 20% of the sector's labour force in 2005, close to the EU-27 non-financial business economy average. The share was 50% in Latvia and 37% in Estonia compared to 7% in Italy and 12% in Poland.

Consequently, less than 30% of the persons employed in Architecture, engineering and technical testing worked in medium-sized and large enterprises, with 50 or more persons employed, well below the 49% average in the non-financial business economy. In Denmark however, 57% were employed by large Architecture, engineering and technical testing enterprises, 40% alone in enterprises with 250 or more persons.

Although small enterprises prevailed, close to 25% of total turnover in Architecture, engineering and technical testing was produced by the small number of large enterprises - employing 250 or more persons in 2004: 0.1% of enterprises on average in the Member States for which detailed data are available. That proportion is noticeably less than the 42% of turnover generated by large enterprises in the EU-27 non-financial business economy on average in 2004.

engineering services for turnkey projects, services that, in large part, feed into large-scale building projects. In Finland for example, Engineering design services contributed to 63% of Architectural and engineering turnover and, in Germany, they made up 58%.

Urban planning contributed 2% while, also underlining the importance of large-scale projects in these activities, Project management services made up 8% of Architecture and engineering turnover. Other architectural and engineering services contributed a 12% share of activity turnover.

³ EU-27 (excl. CY, LT, LU, MT, SI & SK); 2004: CZ, EL & UK and NO.

Yet, in some Member States, this share rose to above 20%. In Sweden for example, 18% of Architectural and engineering total turnover were produced by Technical advisory and consultative services. In Norway, Geological and geophysical consulting services made up 18% of the turnover. In Technical testing and analysis, the proportional weight of different products is clearly affected by national legal requirements and quality standards. An extreme case is Technical automobile inspection which accounted for as much as three quarters of the turnover in this activity in Finland.

Table 2	Turnover detailed by product, 2004 (million EUR and % of activity	total)
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Architecture and engineering (NACE 74.2)		DK	DE	EL	ES	LV	LT	МТ	PL	PT	RO	SI	SK	FI	SE	UK	NO
Turnover (EUR Million)	115 824	5 095 3	31 030	2 508 1	4 761	121	201	55	:	2 158	564	1 031	472	2 800	6 651 4	14 025	4 352
%, by product																	
Architectural services	14	12	21	26	26	23	18	14	:	24	25	6	7	18	7	5	9
- advisory & pre-design architectural services	2	4	2	4	4	4	1	1	:	9	5	2	2	2	2	1	1
- architectural design services for buildings & other structures	10	8	18	20	18	18	15	11	:	12	16	3	1	15	4	2	7
- other architectural services	2	1	2	2	4	0	2	2	:	2	4	0	4	1	1	2	1
Engineering design serv. incl. integr. engin. serv. for turnkey projects	43	45	58	43	30	:c	30	8	:	33	32	27	50	63	44	:c	39
- for the construction of foundations & building structures	4	7	4	8	3	4	6	1	:	5	6	4	4	14	3	4	2
- for mechanical and electrical installations for buildings	:c	7	9	11	3	18	3	4	:	3	1	8	3	6	4	:c	5
- for the construction of civil engineering works	8	14	10	19	7	11	9	3	:	11	8	5	15	1	3	7	12
- for industrial process & production	:c	12	14	2	8	:c	10	0	:	3	6	6	4	24	19	19	12
- n.e.c.	11	5	21	3	10	3	2	1	:	11	10	5	24	18	14	4	9
Urban planning services	2	4	1	2	2	1	2	0	:	3	1	2	1	2	0	3	1
Project management services		10	7	3	16	9	30	7	:	9	5	10	1	1	4	7	9
Other architectural & engineering services	12	16	8	18	21	:c	14	10	:	0	21	12	5	4	27	:c	29
- technical advisory & consultative services	:c	1	4	8	11	:C	4	4	:	0	7	5	1	1	18	4	3
- landscape architectural services		0	0	0	1	2	1	0	:	0	0	0	0	0	0	0	1
- surface & subsurface surveying services & map making serv.		0	1	4	2	4	5	0	:	0	1	1	1	0	1	:c	4
- geological, geophysical & other technical consulting services		2	1	1	1	4	2	0	:	0	8	1	2	0	0	1	18
- other technical-related services		13	2	4	7	1	2	4	:	0	5	4	1	2	8	2	3
Other products		13	5	8	4	:c	6	:c		32	16	42	36	13	17	41	14
		1															
Technical testing and analysis (NACE 74.3)	Total**	DK	DE	EL	ES	LV	LT	МТ	PL	PT	RO	SI	SK	FI	SE	UK	NO
Turnover (EUR Million)	13 169	321	4 491	107	2 512	32	29	6	406	:	64	48	37	285	602	3 529	701
%, by product																	
Technical testing & analysis services		90	93	94	92	:c	90	:C	71	:	75	58	87	89	97	42	75
- composition & purity testing & analysis services		14	20	23	12	16	26	:c	12	:	5	9	35	3	13	12	15
- testing & analysis services of physical properties		4	11	24	11	:c	13	0	4	:	2	6	7	2	6	4	4
- testing & analysis serv. of integr. mech. & electr. systems serv.		19	8	3	5	28	11	:c	6	:	4	16	1	5	14	:c	4
- technical automobile inspection services		0	16	2	17	18	27	:c	10	:	5	16	12	67	27	:c	0
- other technical testing inspection & analysis services	33	52	37	42	47	25	13	87	40	:	58	10	32	12	37	13	52
Other products	23	10	7	6	8	:c	10	:c	29		25	42	13	11	3	58	25

* excluding PL; ** excluding PT; ":" not available; ":c": confidential.

Source: Eurostat (SBS - Business Services)

Turnover by Type of Client

Looking at the industries' clients, manufacturing enterprises accounted for a higher proportion of turnover in Architecture and engineering and particularly in Technical testing and analysis, as compared with the Business services average. Architecture and engineering sales were relatively high to enterprises in Real estate, renting and business activities, including to other enterprises in Business Services activities. Reflecting the diversity of industries supplied, the highest proportion of turnover came from Enterprises in other activities, albeit somewhat below the Business services average.

Outside the business sector, the public sector accounted for a relatively high proportion of Architecture and engineering services turnover (17%), while a much higher proportion of Technical testing and analysis services were sold to households (9%) than in Architecture and engineering (2%) or Business Services as a whole (3%).





* DK, DE, ES, LT, RO, SI, SK, FI, SE, UK and NO. ** Excluding NACE 74.15. *Source:* Eurostat (SBS – Business Services)

This may be explained in part by obligatory technical automobile inspection services as well as by inspections and tests related to insurance technical requirements.

Turnover Exported

Technological innovation has greatly contributed to industry diversification and export capacity. In Architecture for example, a number of agreements, beginning with the EEC Architects' Directive (1985), has encouraged growth. Global architectural professional practice and education standards gained from the General Agreement on the Trade in Services (1995) and bilateral agreements are currently under discussion, for example aiming at the mutual recognition of training and the elimination of barriers to practicing abroad.

Benefitting from these developments, Architecture, engineering and technical testing were both among the top exporting Business Services sub-sectors in 2004. Among the countries for which data are available⁴, 17% of Architecture and engineering services turnover was exported while a somewhat smaller share of 16% of Technical testing turnover was exported. While close to equal shares of Technical testing services were exported intra- and extra-EU, above two thirds of Architecture and engineering exports (68%) were exported extra-EU.

Figure 4 shows the importance of exports in Architecture and engineering by Member State. It is interesting to note that the two top exporters, Denmark and the United Kingdom, as well as

Figure 4 Exports as share of total turnover in Architecture and engineering (NACE K74.2), 2004 (%)



Finland, were all among the countries where enterprises with 50 or more persons employed accounted for the largest share of the workforce. This suggests that, in Architecture and engineering, as in many other activities, economies of scale contribute to international comparative advantage.

It also appears that, in Architecture, engineering and related services, the higher exports were as a proportion of turnover, the greater was the share exported extra-EU in 2004.

Types of Exports

In the following sections, the results of a qualitative survey are presented. The types of commercial relations reported by exporting enterprises in Architecture, engineering and technical testing are analysed in this section. Please note that multiple answers were permitted.

A share of 67% of all Technical testing and analysis enterprises qualified their export relations as being Non-permanent, while 63% of Architecture and engineering enterprises qualified their export relations thus, compared to 54% in Business Services as a whole. This reflects the uniqueness of individual contracts in Architecture, engineering and technical testing. It also contributes to explaining why only around 20% of Architecture, engineering and technical testing enterprises reported Trade relations based on long-term contracts, below the Business Services average of 26%.

⁴ DK, DE, EL, ES, LV, LT, MT, PL, PT, RO, SI, SK, FI, SE, UK and NO. (Architecture and engineering excl. PL and Technical testing excl. PT. Architecture and engineering Intra-: Extra-EU ratio excl. LV, PL and PT). Figure 5 Export type of exporting enterprises, 2004 (%)



* Excluding NACE 74.15. Source: Eurostat (SBS – Business Services)

In Technical testing and analysis, the low proportion of exporting enterprises engaged in joint ventures or in networking with enterprises abroad possibly reflects a different mode of supply of exports, due to the immobility of testing infrastructure in some cases.

Reasons for exporting

The fact that the products are considered as being cutting edge or in a specialised niche was reported as being the strongest export motive, both by exporting enterprises in Technical testing and analysis (60%), and in Architecture and engineering (52%), underlining the specialised nature of these activities. In Business Services as a whole, 47% of enterprises on average reported this motive for exporting.

The other reasons for exporting were expressed to a similar or lesser degree by Architecture engineering and technical testing firms than in Business Services as a whole. An exception is the motive that the domestic market is too small, which was seen by 22% of all exporting enterprises in Architecture and engineering as being a reason for exporting.

The relatively low share of enterprises in Architecture and engineering reporting that they were part of a multinational enterprise (12% compared to 22% in Business Services, on average) reflects the large number of small enterprises in this activity mentioned above. However, according to the OECD and the World Bank, in exporting, smaller enterprises active in Architecture also tend to seek cooperation with a

Barriers met in exporting

In contrast to the last two sections, all enterprises (exporting and non-exporting) were asked to qualify the relevance of a list of barriers to international trade with a different degree of importance (some, fairly, very), or as 'not important' or as 'unknown'.

Figure 6 Reasons for exporting of exporting enterprises, 2004 (%)



local firm, avoiding the necessity for the foreign architect to become registered, while large enterprises may instead buy firms in order to acquire foreign market shares⁵.

⁵ See: R.Keune: "Architectural Services in Global Trade in Professional Services" OECD and World Bank, 2007.

Difficulties in identifying potential clients abroad, establishing a commercial presence abroad and the non-relevance of cross border trade (products not exportable) were seen as being the main barriers to trade by enterprises in both Architecture and engineering (NACE 74.2) and in Technical testing (NACE 74.3).

Table 3 Barriers met in exporting, by degree of importance, share of all enterprises, average of available countries*, 2004 (%)

	Some importance			Fa	irly import	ant	Very important			
	Business Services	Arch., Engin & Tech consult.	Tech. testing & analysis	Business Services	Arch., Engin & Tech consult.	Tech. testing & analysis	Business Services	Arch., Engin & Tech consult.	Tech. testing & analysis	
Cross border trade not relevant (products not exportable)	6	6	10	7	7	7	19	18	25	
Establishing a commercial presence abroad	7	5	11	9	10	14	16	18	21	
Movement of personnel on a temporary basis	8	7	15	7	8	8	12	15	14	
Taxation issues	8	10	11	8	8	12	10	9	6	
Insurance, guarantee systems, etc. issues	9	8	9	8	8	14	9	11	9	
Lack of international standards for services**	8	8	7	10	11	12	14	13	13	
Difficulties in identifying potential clients abroad	8	8	12	10	10	15	14	17	21	
Language and cultural barriers	10	10	17	10	12	10	12	10	14	
Other barriers***	1	1	1	1	1	2	6	7	7	

 * DK, DE, EL, ES, LV, LT, RO, SI, SK, FI, SE, UK and NO.

** No reply by the UK to the question; *** Non-significant reply by EL and RO to the question.

While the replies given by Architectural and engineering enterprises were generally in line with those of Business Services as a whole, enterprises active in Technical testing and analysis generally Source: Eurostat (SBS - Business Services)

ranked export barriers with a higher degree of importance, reflecting the specialised nature of the activity, as well as country-legal specificities.

ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

DATA SOURCES

The source of all figures presented is Eurostat (unless specifically stated otherwise). Most data sources are continually updated and revised where necessary. This publication reflects the state of data availability in Eurostat's reference database as of January 2008.

Structural Business Statistics (SBS) is the main data source used in this publication. SBS annual enterprise statistics is the main data source for the first part of this publication. SBS Business Services Development Project data form the basis of the sections 'Main products', 'Main clients' and 'Exports'. The Development Project was carried out in 16 countries: Denmark (DK), Germany (DE), Greece (EL), Spain (ES), Latvia (LV), Lithuania (LT), Malta (MT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE), the United Kingdom (UK) and Norway (NO). It covers the reference year 2004.

These and other SBS data sets are available under theme 'Industry, trade and services' on the Eurostat website: http://epp.eurostat.ec.europa.eu/ (select 'Data' / 'Industry, trade and services' / 'Horizontal view' / 'Structural Business Statistics'). Please note, SBS data do not include estimates for the "black" economy.

Selected publications, data and background information are available in the section dedicated to European Business, located directly under the theme 'Industry, trade and services' on the Eurostat website, see in particular the special topic Business services:

http://ec.europa.eu/eurostat/europeanbusiness

Short-Term Statistics (STS) 'Trade and other services, other services (NACE Rev.1 H-K)' were used to calculate the growth rates of Turnover between 2000 and 2006.

COUNTRIES

This publication covers the European Union, including the 27 Member States (EU-27): Belgium (BE), Bulgaria (BG), the Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), the Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK). Also included is the EFTA country with data available: Norway (NO).

EU-27

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 rounding.

EXCHANGE RATES

All data are presented in EUR, with national currencies converted using average exchange rates prevailing for the year in question.

SYMBOLS ":" not available and ":c" confidential.

SECTORS

Statistics are presented by sectors of activity according to the NACE Rev. 1.1 system of classification (statistical classification of economic activities in the European Community). Comparisons are made with the non-financial business economy (NFBE), which consists of NACE sections: Mining and quarrying (C), Manufacturing (D), Electricity, gas and water supply (E), Construction (F), Wholesale and retail trade (G), Hotels and restaurants (H), Transport, storage and communication (I) and Real estate, renting and business activities (K).

The aggregate for Ireland and Norway excludes NACE E, and that for Cyprus excludes NACE K73 (Research and development). In the EU-27 aggregate, NACE C and E are estimated.

OBSERVATION UNIT

The observation unit is the enterprise. An enterprise carries out one or more activities at one or more locations. Enterprises are classified into sectors (by NACE) according to their main activity. The enterprise should not be confused with the local unit, which is an enterprise or part thereof situated in one geographically identified place.

STRUCTURAL BUSINESS STATISTICS VARIABLES

Variables are defined according to Commission Regulation Nº 2700/98 and include:

Turnover

The totals invoiced by the observation unit during the reference period. This corresponds to market sales of goods or services supplied to third parties.

Value added at factor cost

The gross income from operating activities after adjusting for operating subsidies and indirect taxes (including value added tax).

Number of persons employed

The total number of persons who work in the observation unit, as well as persons who work outside the unit who belong to it and are paid by it. It includes working proprietors, unpaid family workers, part-time workers, seasonal workers etc.

Average personnel costs

Personnel costs are the total remuneration, in cash or in kind, payable by an employer to an employee for work carried out. This is divided by the number of employees (paid workers), which includes part-time workers, seasonal workers etc, but excludes persons on long-term leave.

Apparent labour productivity

This is a simple indicator of productivity calculated as value added divided by persons employed.

Wage adjusted labour productivity (%)

Value added divided by personnel costs, after the latter has been divided by the share of employees (paid workers) in the number of total persons employed. It can also be calculated by dividing apparent labour productivity by average personnel costs.

Gross operating rate (%)

This is an indicator of profitability where the gross operating surplus is related to the turnover generated.

Further information

Data: Eurostat Website: http://ec.europa.eu/eurostat

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