

Information and communication business statistics

A sector crucial for enterprise competitiveness
August Götzfried

Main results

- A highly educated labour force, where women are under-represented.
- Austria, Sweden and Finland specialise in telecommunications equipment, Ireland and the United Kingdom in computer manufacturing.
- Telecommunication services record the highest productivity; post and courier activities the lowest.

Statistics in focus

INDUSTRY, TRADE AND SERVICES

THEME 4 – 31/1999

Contents

Main results	1
Introduction	2
Functional indicators	2
Enterprises and employment...	4
Turnover	5
Production and productivity	6

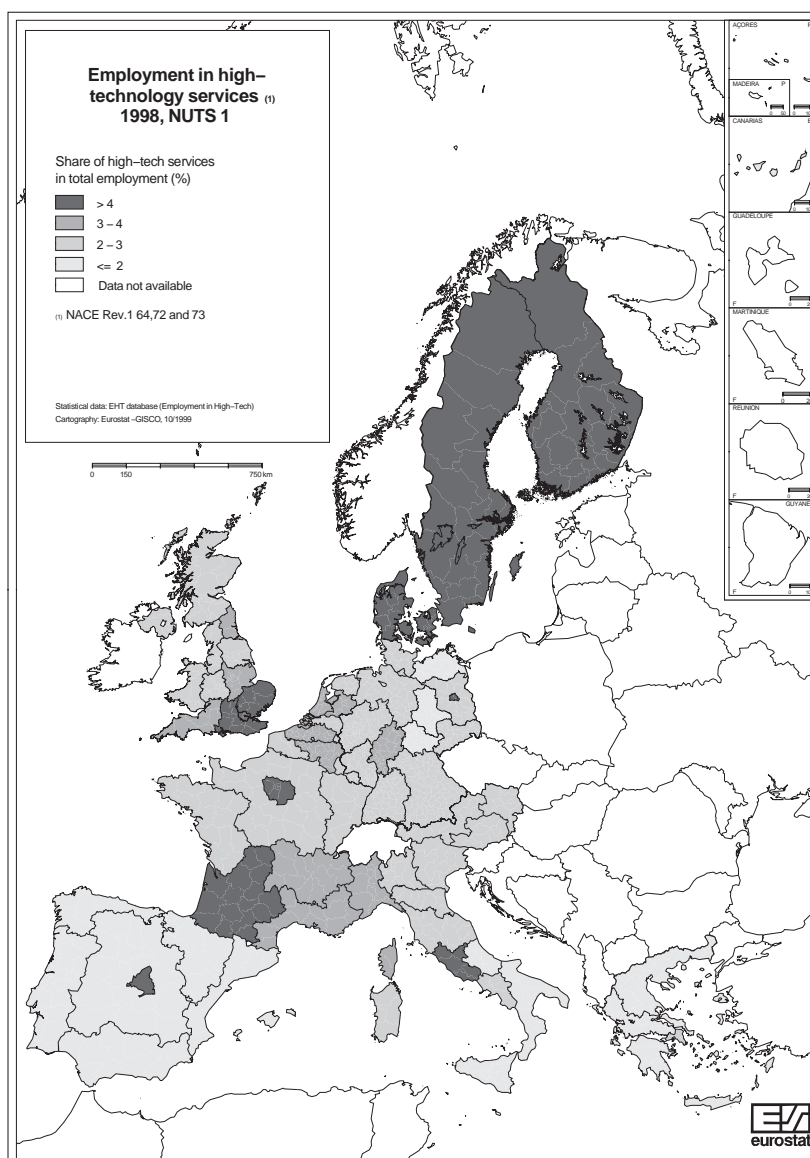


Figure 1: employment in high-technology services, 1998 (%)



Introduction

The enterprise environment has experienced dramatic evolution in recent years, with the emergence of a new paradigm of doing business. The dawn of the so-called "information society", a society whose wealth and growth is based on its ability to efficiently handle information, has already prompted significant reorganisation of traditional production and distribution

models, and influenced enterprise strategies as to where, what, how or when to produce or distribute goods and services.

Activities related to information and communication technologies are central to this evolution.

This report aims to give statistical evidence on the structure of these

sectors. It relies mainly on the latest available structural business statistics (extracted 17/08/99) collected under Council Regulation no. 58/97, supplemented with data extracted from the COINS (= Statistics on Communication) and LFS (= Labour force survey) databases.

Functional indicators

The EU telecommunications infrastructure consisted of 188 million telephone lines in 1996, which corresponds to a penetration rate of 50 lines per 100 inhabitants. Luxembourg and Sweden witnessed the highest penetration, at 67 and 68 lines respectively, against only 40 lines or less in Spain, Ireland and Portugal.

As data transfer takes an ever rising share of traffic, infrastructure has rapidly moved from traditional analogue lines to digital ones. On the user side, however, ISDN or equivalent subscriptions still represented in 1996 a very small share of the total (1.4%), although this figure is expected to rapidly swell in future years.

One of the strongest trends in telecommunications in recent years has been the adoption of cellular technologies, whose success is such that they are expected to replace fixed wire line technology in many applications. The number of

	Telephone lines (millions)	ISDN subscriptions (thousands)	Mobile phone subscriptions (thousands)	Outgoing international calls per main line (units)	Receipts from telecom services (million ECU)	Gross investment (million ECU)	Total staff (thousands)
EU-15 (1)	188.0	2,714	33,485	123	135,583	35,494	874
EUR-11	143.0	2,420	22,017	116	101,482	28,877	668
B (2)	4.9	99	974	249	3,529	868	21
DK	3.3	30	1,317	175	3,167	557	16
D	44.1	1,964	5,790	118	33,032	11,838	208
EL	5.3	0	550	97	2,468	583	24
E (3)	15.9	228	4,338	77	9,676	2,068	73
F (4)	33.0	1,278	5,817	90	21,537	4,677	166
IRL	1.4	0	289	417	1,396	335	12
I	25.3	105	6,422	84	18,127	4,640	100
L (5)	0.3	10	67	1,011	275	70	1
NL	8.4	100	804	182	6,672	1,133	30
A	3.8	42	563	251	3,163	702	18
P	3.7	20	664	91	2,390	461	19
FIN (5)	2.9	58	2,162	130	2,708	770	18
S (1)	6.0	20	2,492	156	5,971	799	:
UK (1)	30.7	260	7,109	148	22,496	4,678	141

(1) 1995 data for ISDN subscribers.

(2) 1997 data except receipts and investment.

(3) 1997 data except international calls.

(4) 1997 data for mobile phone subscribers; 1995 data for ISDN subscribers.

(5) 1997 data.

Source: Eurostat - COINS database

Table 1: main indicators of telecommunication services, 1996

mobile phone lines in the EU in 1996 was already equal to almost 33.5 million lines, or 9 per 100 inhabitants, ranging from 5% in Greece to 28% in Sweden and 42% in Finland. The rapid diffusion of mobile phones is illustrated by the

corresponding figures from the beginning of 1999: 16% for Greece, 51% for Sweden and 58% for Finland.

Activities covered in this publication:

NACE Rev. 1 30:	manufacture of office machinery and computers
NACE Rev. 1 30.01:	manufacture of office machinery
NACE Rev. 1 30.02:	manufacture of computers and other information processing equipment
NACE Rev. 1 32:	manufacture of radio, television and communication equipment and apparatus
NACE Rev. 1 32.1:	manufacture of electronic valves and tubes and other electronic components
NACE Rev. 1 32.2:	manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy
NACE Rev. 1 32.3:	manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
NACE Rev. 1 64:	post and telecommunications
NACE Rev. 1 64.1:	post and courier activities
NACE Rev. 1 64.2:	telecommunications
NACE Rev. 1 72:	computer and related activities
NACE Rev. 1 73:	research and development

Small countries recorded the largest average outgoing international telephone traffic, with a peak in Luxembourg of one thousand calls per line. However, it is interesting to note the low levels of international calls shown by Spain (77 per line) and Italy (84) compared to Germany (118) or the United Kingdom (148).

The second pillar of the communication sector is that of postal and courier activities. Indeed, besides efficient voice and data communication networks, economic flows must also count on efficient physical transportation of information and goods. It is also an important sector by its size, as it accounted for 60% of the 2.2 million persons employed in the communications sector as a whole in 1996.

The regional distribution of employment in "high-technology" service enterprises as a whole (Figure 1) shows that NUTS 1 regions including capital cities of Member States displayed a higher share of persons employed in these activities. This was the case in 1998 in the Île de France (5.6% of total employment), London (5.2%), Lazio (4.6%), Madrid (4.3%) or Berlin (4.1%). Nordic countries (DK, S,

	Number of permanent post offices (units)	Letter boxes (thousand units)	Letter post items handled, domestic service (million units)	Letter post items handled, international dispatch (million units)	Receipts from postal services (million ECU)	Investment aimed at postal service (million ECU)	Total staff (thousands)
EU-15 (1)	92,734	667	87,775	:	56,296	:	1,325
EUR-11	69,036	495	63,559	1,720	44,913	:	1,033
B (3)	1,593	20	3,139	214	1,680	77	43
DK (4)	1,247	10	1,668	130	1,221	39	25
D (3)	15,331	140	20,000	403	14,808	982	267
EL	1,281	13	392	:	257	3	11
E (3)	4,212	35	4,013	156	1,022	67	65
F (5)	17,069	149	23,914	395	12,911	423	287
IRL (3)	1,917	4	523	65	493	29	8
I (6)	14,142	73	6,237	147	6,010	:	191
L (3)	106	1	102	33	86	7	2
NL (2)	2,009	19	5,970	27	3,136	913	54
A (5)	2,593	24	2,438	136	3,027	95	58
P	3,632	18	964	51	452	34	16
FIN (3)	1,619	12	1,519	28	916	52	24
S	1,720	37	4,360	86	2,669	200	47
UK	19,128	112	17,296	863	7,827	511	209

- (1) 1995 data for receipts, number of offices and post items handled.
(2) 1995 data for number of offices and post items handled.
(3) 1997 data.
(4) 1995 data for receipts, investment and international dispatch of post items handled.
(5) 1995 data for investment.
(6) 1995 data for number of post offices.

Source: Eurostat - COINS database

Table 2: main indicators of postal services, 1996

FIN) also displayed above average shares.

Eurostat's annual Labour Force Survey reveals other interesting characteristics of employment in these sectors. Data for 1997 shows that women were under-represented, especially in computer services where they accounted for only one-quarter of employment. This compares with average female employment of 42% in the whole economy.

On the other hand, these activities were amongst the sectors with the lowest share of persons employed working part-time (equal to 14% in communication services, and only 8% in computer services, compared to 17% in the economy as a whole).

Finally, a distinctive characteristic of these activities is the relatively high level of education of their workforce. The share of persons employed that had a higher education level reached 52% in computer services, the third highest level of all services activities after research and development (63%) and education (62%). This strongly contrasts with communication services where only 15% of the persons employed held a higher education degree, an average strongly influenced by postal and courier activities.

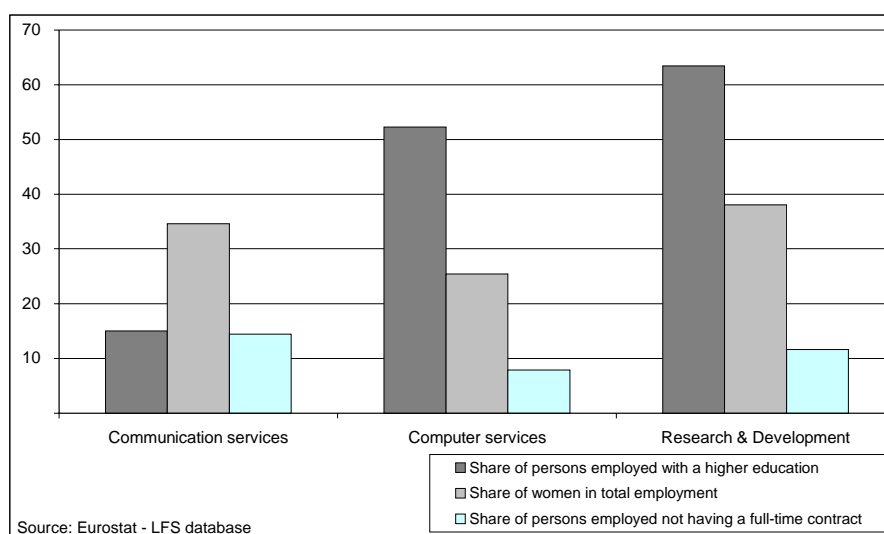


Figure 2: characteristics of employment in information and communication services, 1997 (%)

Enterprises and employment

Enterprises were generally larger in post and telecommunication activities, which reflects the still important weight of national providers. In contrast, computer services recorded the smallest enterprise size, less than 10 persons per enterprise on average

in all countries for which data is available, and the highest share of non-salaried persons employed, e.g. self-employed persons.

As regards industrial activities, the largest enterprises were found in broadcasting equipment and

telecommunications equipment (NACE Rev. 1 32.2), especially in Germany and Austria.

Personnel costs per head were in a majority of countries highest in computer related activities, either manufacturing or services.

NACE Rev. 1	B	DK (1)	D	EL (2)	E (3)	F	IRL (4)	I	L (5)	NL (6)	A (7)	P	FIN (4)	S	UK
Number of enterprises (units)															
30	:	173	156	2	152	562	69	502	2	205	65	54	60	367	1,394
30.01	:	13	40	:	38	50	6	101	0	15	30	9	5	60	198
30.02	:	160	116	:	114	512	63	401	2	190	35	45	55	307	1,196
32	:	279	446	14	748	2,966	53	9,521	1	210	153	304	336	457	2,969
32.1	:	115	202	5	520	1,101	25	1,307	0	100	70	165	211	227	1,077
32.2	:	53	98	6	118	1,353	19	7,685	0	35	26	55	74	98	866
32.3	:	111	146	3	110	512	9	529	1	75	57	84	51	132	1,026
64	:	1,565	3,845	:	5,258	2,109	525	1,556	65	1,541	302	132	404	412	:
64.1	:	1,427	3,651	:	4,199	1,282	472	1,318	:	1,287	203	19	229	174	:
64.2	:	138	194	:	1,059	827	53	238	:	254	99	113	175	238	:
72	:	6,734	33,914	:	15,411	25,819	1,098	47,261	370	9,573	4,830	2,316	2,934	12,234	64,295
73	:	:	5,232	:	11,486	1,750	106	6,205	:	:	53	41	169	1,178	2,365
Number of persons employed (thousands)															
30	1,365	2,054	56,229	:	8,637	38,997	15,239	21,485	:	:	371	347	3,045	4,582	58,774
30.01	139	307	10,479	:	300	5,628	164	1,978	0	:	195	21	56	1,582	13,527
30.02	1,226	1,781	45,750	:	8,337	33,369	15,075	19,507	:	:	166	326	2,989	3,000	45,247
32	18,137	12,002	150,317	2,388	30,268	138,339	8,277	119,243	:	:	32,088	17,543	24,880	39,109	138,151
32.1	3,801	3,032	39,871	270	11,636	47,728	4,466	32,167	0	:	6,747	7,765	4,104	3,910	54,596
32.2	8,127	3,070	63,580	2,032	12,649	72,733	2,897	78,419	0	:	20,282	1,814	19,434	32,803	47,410
32.3	6,209	5,900	46,866	86	5,983	17,878	914	8,657	:	:	5,820	7,964	1,342	2,396	36,144
64	82,584	55,468	:	:	451,805	24,125	289,557	3,570	:	:	55,108	37,117	44,570	:	:
64.1	51,435	37,782	:	:	288,267	10,896	193,264	:	:	:	16,057	27,678	:	:	:
64.2	31,149	17,686	:	:	163,538	13,229	96,293	:	:	:	56,391	21,060	16,892	:	:
72	24,074	21,515	:	:	65,554	188,958	9,688	200,051	2,306	:	16,188	9,396	18,139	:	:
73	3,916	:	:	:	19,927	385	18,941	:	:	:	1,172	113	1,410	:	:
Average number of persons employed per enterprise (units)															
30	:	11.9	360.4	:	56.8	69.4	220.9	42.8	:	:	5.7	6.4	50.8	12.5	42.2
30.01	:	27.9	262.0	:	7.9	112.6	27.3	19.6	:	:	8.9	2.3	11.2	26.4	68.3
30.02	:	11.9	394.4	:	73.1	65.2	239.3	48.6	:	:	6.1	7.2	54.3	9.8	37.8
32	:	43.0	337.0	170.6	40.5	46.6	156.2	12.5	:	:	209.7	57.7	74.0	85.6	46.5
32.1	:	26.4	197.4	54.0	22.4	43.3	178.6	24.6	:	:	116.3	47.1	19.5	17.2	50.7
32.2	:	57.9	648.8	338.7	107.2	53.8	152.5	10.2	:	:	845.1	33.0	262.6	334.7	54.7
32.3	:	53.2	321.0	28.7	54.4	34.9	101.6	16.4	:	:	123.8	94.8	26.3	18.2	35.2
64	:	35.4	:	:	:	214.2	46.0	186.1	54.9	:	182.5	281.2	110.3	:	:
64.1	:	26.5	:	:	:	224.9	23.1	146.6	:	:	845.1	120.9	:	:	:
64.2	:	128.2	:	:	:	197.7	249.6	404.6	:	:	679.4	186.4	96.5	:	:
72	:	3.2	:	:	5.2	7.3	8.8	4.2	6.2	:	3.4	4.1	6.2	:	:
73	:	:	:	:	11.4	3.6	3.1	3.1	:	:	22.1	2.8	8.3	:	:
Share of employees in persons employed (%)															
30	92.7	96.6	100.0	:	98.9	99.9	99.9	96.7	:	:	88.7	91.4	99.7	100.0	99.8
30.01	100.0	99.0	99.9	:	93.3	99.9	100.0	94.0	:	:	91.3	76.2	100.0	100.0	99.4
30.02	91.8	95.7	100.0	:	99.1	99.9	99.9	97.0	:	:	86.7	92.3	99.7	99.9	99.9
32	99.6	99.3	99.9	100.0	97.6	99.6	99.9	89.8	:	:	99.8	99.1	99.7	100.0	99.7
32.1	99.3	98.4	99.9	100.0	94.6	99.5	99.9	94.4	:	:	99.5	98.8	98.7	100.0	99.5
32.2	100.0	99.7	100.0	100.0	99.4	99.7	100.0	87.8	:	:	100.0	98.5	99.9	100.0	100.0
32.3	99.1	99.4	99.9	100.0	99.3	99.4	100.0	91.3	:	:	99.6	99.5	98.6	100.0	99.6
64	97.5	98.7	:	:	:	99.8	97.9	99.3	99.7	:	99.7	99.8	99.7	:	:
64.1	96.5	98.1	:	:	:	99.8	95.4	99.1	:	:	100.0	99.7	:	:	:
64.2	99.3	99.9	:	:	:	100.0	99.9	99.7	:	:	100.0	99.7	99.7	:	:
72	79.0	79.9	:	:	85.4	98.8	90.4	70.3	94.8	:	83.8	86.3	92.7	:	:
73	95.9	:	:	:	:	99.8	81.0	65.2	:	:	98.0	69.0	95.3	:	:
Personnel costs per employee (unit personnel cost) (thousand ECU)															
30	49.8	41.8	58.1	:	39.1	61.8	24.4	41.0	:	:	36.4	12.4	29.0	41.7	27.5
30.01	31.2	32.1	48.1	:	20.6	40.1	18.9	29.1	:	:	30.1	5.0	31.8	35.5	23.3
30.02	52.1	41.0	60.4	:	39.7	65.5	24.4	42.2	:	:	44.3	12.8	29.0	45.0	28.7
32	48.5	32.3	46.7	20.5	28.1	41.3	24.7	31.5	:	:	49.2	17.1	31.9	39.2	24.7
32.1	39.3	36.3	38.0	14.3	22.9	35.4	22.7	29.0	:	:	38.0	18.5	27.7	32.9	23.3
32.2	60.6	37.6	55.0	21.3	34.7	47.4	29.7	33.3	:	:	55.2	21.9	33.0	40.3	29.6
32.3	38.1	27.5	42.8	15.1	23.9	32.3	18.7	25.2	:	:	41.0	14.7	29.5	34.4	20.4
64	38.5	32.2	:	:	:	36.0	:	31.1	40.4	27.6	:	22.4	24.3	38.4	:
64.1	29.2	23.4	:	:	:	33.1	:	27.6	:	:	:	18.7	20.6	33.3	:
64.2	53.4	50.8	:	:	:	41.2	:	38.2	:	:	44.9	25.3	30.6	45.1	:
72	51.4	47.0	:	:	26.2	46.8	:	32.2	42.7	43.8	45.1	19.9	41.3	49.1	:
73	67.6	:	:	:	:	49.8	:	41.2	:	:	58.2	8.4	36.4	45.7	:

(1) 1995 data for NACE Rev. 1 72, and for NACE Rev. 1 30.01 and 30.02 except number of enterprises.

(2) 1995 data for number of persons employed and number of employees.

(3) 1995 data for NACE Rev. 1 72, except number of enterprises (1997); 1997 data for NACE Rev. 1 64, 64.1, 64.2 and 73.

(4) 1997 data for NACE Rev. 1 64, 64.1, 64.2, 72 and 73, except share of employees in persons employed (1996) and personnel costs per employee in Finland (1996).

(5) 1995 data for number of enterprises for NACE Rev. 1 30, 30.02, 32 and 32.3.

(6) 1995 data for NACE Rev. 1 64, 64.1, 64.2 and 72.

(7) 1995 data for NACE Rev. 1 30.01, 30.02, 32.1 to 32.3 and 64.2 (except number of enterprises), and for personnel costs per employee.

Source: Eurostat - SBS database

Table 3: enterprises and employment, 1996

Turnover

The sector of telecommunications (NACE Rev. 1 64.2) recorded in most countries the highest absolute turnover level of the activities covered in the table below. It was also often the one where enterprises achieved the highest average turnover.

Otherwise, Austria, Sweden and Finland were specialised in broadcasting and telecommunications equipment, and Ireland and the United Kingdom in computer manufacturing.

Telecommunications generally required the highest investment rate, equal to as much as 38% of turnover in Denmark. The same was true in the electronic components sector, whilst it was the opposite in computer manufacturing.

NACE Rev. 1	B	DK (1)	D	EL (2)	E (3)	F	IRL (4)	I	L	NL (5)	A (6)	P (7)	FIN (4)	S	UK
Turnover (million ECU)															
30	308	245	15,237	:	3,549	13,344	7,223	6,005	:	1,806	48	46	923	682	17,461
30.01	20	38	2,178	:	49	1,902	17	454	0	1,175	21	1	4	258	1,654
30.02	288	199	13,059	:	3,500	11,442	7,205	5,551	:	631	27	45	918	423	15,807
32	3,017	1,442	25,455	270	4,590	24,160	1,577	15,433	:	9,990	6,052	1,802	5,190	10,742	19,639
32.1	461	306	5,288	13	1,035	7,148	784	4,099	0	322	882	850	440	430	6,001
32.2	1,214	518	10,686	254	2,015	12,204	703	9,965	0	:	3,909	165	4,542	9,866	8,068
32.3	1,342	618	9,482	3	1,540	4,808	89	1,369	:	:	1,407	787	207	445	5,569
64	6,782	5,077	34,965	:	:	38,595	2,674	26,174	861	10,511	5,018	3,140	3,713	8,259	:
64.1	2,081	1,413	1,818	:	:	13,357	685	6,444	:	:	:	456	1,116	2,639	:
64.2	4,701	3,664	33,147	:	:	25,238	1,989	19,730	:	:	4,844	2,683	2,597	5,620	28,393
72	3,044	2,624	21,918	:	3,843	20,763	894	16,236	250	5,017	2,432	597	1,869	6,071	21,770
73	517	:	2,549	:	:	3,038	22	1,536	:	:	65	3	109	927	5,054
Average turnover per enterprise (million ECU)															
30	:	1.4	97.7	:	23.4	23.7	104.7	12.0	:	8.8	0.7	0.8	15.4	1.9	12.5
30.01	:	3.5	54.4	:	1.3	38.0	2.9	4.5	:	78.3	1.0	0.1	0.9	4.3	8.4
30.02	:	1.3	112.6	:	30.7	22.3	114.4	13.8	:	3.3	1.0	1.0	16.7	1.4	13.2
32	:	5.2	57.1	19.3	6.1	8.1	29.8	1.6	:	47.6	39.6	5.9	15.4	23.5	6.6
32.1	:	2.7	26.2	2.5	2.0	6.5	31.4	3.1	:	3.2	15.2	5.2	2.1	1.9	5.6
32.2	:	9.8	109.0	42.3	17.1	9.0	37.0	1.3	:	:	162.9	3.0	61.4	100.7	9.3
32.3	:	5.6	64.9	1.0	14.0	9.4	9.9	2.6	:	:	29.9	9.4	4.1	3.4	5.4
64	:	3.2	9.1	:	:	18.3	5.1	16.8	13.2	6.4	16.6	23.8	9.2	20.0	:
64.1	:	1.0	0.5	:	:	10.4	1.5	4.9	:	:	:	24.0	4.9	15.2	:
64.2	:	26.6	170.9	:	:	30.5	37.5	82.9	:	:	58.4	23.7	14.8	23.6	:
72	:	0.4	0.6	:	0.3	0.8	0.8	0.3	0.7	0.5	0.5	0.3	0.6	0.5	0.3
73	:	:	0.5	:	:	1.7	0.2	0.2	:	:	1.2	0.1	0.6	0.8	2.1
Average turnover per person employed (thousand ECU)															
30	226	119	271	:	411	342	474	280	:	:	130	132	303	149	297
30.01	142	125	208	:	163	338	106	230	:	:	107	48	76	163	122
30.02	235	112	285	:	420	343	478	285	:	:	164	137	307	141	349
32	166	120	169	121	152	175	191	129	:	:	189	103	209	275	142
32.1	121	101	133	54	89	150	176	127	:	:	131	109	107	110	110
32.2	149	169	168	134	159	168	243	127	:	:	193	91	234	301	170
32.3	216	105	202	37	257	269	98	158	:	:	242	99	154	186	154
64	82	92	:	:	:	85	111	90	241	:	91	85	83	:	:
64.1	40	37	:	:	:	46	63	33	:	:	:	28	40	:	:
64.2	151	207	:	:	:	154	150	205	:	:	86	127	154	:	:
72	126	122	:	:	59	110	92	81	108	:	150	64	103	:	:
73	132	:	:	:	:	152	56	81	:	:	56	24	77	:	:
Personnel costs as a share of turnover (%)															
30	20.4	33.8	21.4	:	9.4	18.0	5.1	14.2	:	15.4	24.4	8.6	9.6	28.0	9.2
30.01	22.0	25.4	23.1	:	11.8	11.9	17.8	11.9	:	18.2	25.6	7.8	41.6	21.7	18.9
30.02	20.3	35.2	21.2	:	9.4	19.1	5.1	14.4	:	10.3	23.5	8.6	9.4	31.9	8.2
32	29.0	26.7	27.5	17.9	18.1	23.5	13.0	21.9	:	18.2	26.0	16.5	15.3	14.3	17.3
32.1	32.2	35.4	28.6	24.5	24.3	23.5	12.9	21.5	:	25.0	28.9	16.7	25.5	29.9	21.1
32.2	40.6	22.2	32.7	17.4	21.6	28.2	12.2	23.0	:	:	28.6	23.7	14.1	13.4	17.4
32.3	17.5	26.1	21.1	36.0	9.2	11.9	19.1	14.6	:	:	16.9	14.8	18.8	18.5	13.2
64	45.7	34.7	:	:	:	42.1	:	34.2	16.7	25.9	:	26.5	31.1	37.2	:
64.1	69.6	61.3	:	:	:	71.2	:	81.9	:	:	:	65.7	54.1	57.2	:
64.2	35.1	24.5	:	:	:	26.7	:	18.6	:	:	52.3	19.8	21.2	27.8	24.6
72	32.1	30.8	:	:	38.2	42.1	:	27.8	37.3	41.5	27.6	27.0	37.0	34.1	32.6
73	49.1	:	:	:	:	32.6	:	33.1	:	:	100.2	23.6	39.9	37.9	39.7
Share of gross investment in turnover (%)															
30	:	3.9	2.5	:	2.1	3.1	4.9	2.5	:	3.0	4.1	2.1	1.3	3.7	2.2
30.01	:	2.9	2.5	:	2.1	3.4	1.2	5.9	:	:	7.0	:	0.9	5.5	6.0
30.02	:	2.6	2.5	:	2.1	3.1	4.9	2.3	:	:	2.0	:	1.3	2.6	1.8
32	:	6.9	6.3	3.5	3.6	5.5	5.8	5.8	:	6.5	4.5	4.8	3.9	2.9	7.0
32.1	:	13.6	18.3	10.0	11.0	10.2	7.5	12.0	:	5.2	11.5	:	6.3	4.5	14.8
32.2	:	3.7	3.1	3.2	1.7	3.3	4.5	3.7	:	:	3.5	:	3.7	2.7	3.5
32.3	:	6.3	3.3	5.3	1.1	3.8	2.2	2.9	:	:	2.7	:	2.3	5.3	3.6
64	:	28.8	:	:	:	10.9	16.5	16.1	:	18.3	:	22.9	18.7	15.2	:
64.1	:	4.1	:	:	:	2.2	4.8	1.6	:	:	:	16.4	4.5	6.5	:
64.2	:	38.3	:	:	:	15.5	20.6	20.9	:	:	25.2	24.0	24.9	19.3	27.2
72	:	:	:	:	6.8	3.2	7.1	4.3	:	:	6.8	23.6	4.8	4.0	6.0
73	:	:	:	:	:	7.0	4.8	9.7	:	:	5.5	5.5	7.2	8.6	11.8

(1) 1995 data for NACE Rev. 1 30.01, 30.02 and 72.

(2) 1995 data for turnover per person employed.

(3) 1995 data for NACE Rev. 1 72.

(4) 1997 data for NACE Rev. 1 64, 64.1, 64.2, 72 and 73.

(5) 1995 data for NACE Rev. 1 72 and for turnover per enterprise of NACE Rev. 1 64.

(6) 1995 data for NACE Rev. 1 30.01, 30.02, 32.1 to 32.3 and 64.2, for personnel costs as a share of turnover and for share of gross investment in turnover.

(7) 1995 data for share of gross investment in turnover for NACE Rev. 1 30 and 32.

Source: Eurostat - SBS database

Table 4: characteristics of turnover, 1996

Production and productivity

The amount of value added generated by each person employed is a first approach to assessing productivity. Again, telecommunication activities recorded the highest level, with 133 thousand ECU per head in Italy and 111 thousand ECU

in Belgium. Post and courier activities usually closed the ranking. Amongst manufacturing activities, the lowest productivity levels were recorded in office manufacturing and TV, video and audio equipment manufacturing.

This measure can however be affected by different levels of personnel costs. Wage adjusted labour productivity therefore provides a better approximation of productivity levels, leading to less clear-cut conclusions.

NACE Rev. 1	B	DK (1)	D	EL (2)	E (3)	F (4)	IRL (5)	I	L (6)	NL	A (7)	P (6)	FIN (5)	S	UK
Value added at factor cost (million ECU)															
30	93	:	3,497	:	816	3,315	1,464	1,063	:	411	16	10	108	252	3,599
30.01	7	:	587	:	6	395	7	75	0	341	8	0	1	96	574
30.02	86	:	2,909	:	810	2,920	1,457	988	:	69	8	10	106	156	3,026
32	1,169	:	6,647	75	1,387	6,486	482	5,018	:	2,398	1,970	391	1,670	2,316	6,179
32.1	207	:	1,809	4	411	2,094	244	1,451	0	106	436	183	160	166	2,077
32.2	551	:	3,073	70	728	3,871	214	3,251	0	:	1,261	51	1,470	2,044	2,880
32.3	412	:	1,765	1	248	520	24	316	:	:	273	156	40	107	1,221
64	5,036	:	:	:	:	26,795	1,678	17,776	521	6,567	:	2,219	2,123	4,394	:
64.1	1,574	:	:	:	:	10,099	456	5,007	:	:	:	363	715	1,486	:
64.2	3,462	:	:	:	:	16,696	1,222	12,769	:	:	4,256	1,856	1,408	2,907	:
72	1,304	:	:	:	2,000	9,748	516	7,133	111	:	974	209	968	2,670	:
73	301	:	:	:	:	1,042	13	958	:	:	45	1	51	263	:
Labour productivity (value added per person employed) (thousand ECU)															
30	68.1	:	62.2	:	94.5	85.0	96.1	49.5	:	:	44.5	28.4	35.3	55.0	61.2
30.01	48.6	:	56.0	:	21.1	70.2	42.6	37.9	:	:	39.7	6.5	20.2	60.8	42.4
30.02	70.3	:	63.6	:	97.2	87.5	96.7	50.7	:	:	50.3	29.8	35.6	51.9	66.9
32	64.5	:	44.2	27.4	45.8	46.9	58.2	42.1	:	:	60.0	22.3	67.1	59.2	44.7
32.1	54.4	:	45.4	10.4	35.3	43.9	54.7	45.1	:	:	64.6	23.6	39.0	42.4	38.1
32.2	67.8	:	48.3	30.2	57.6	53.2	73.7	41.5	:	:	62.2	28.3	75.6	62.3	60.8
32.3	66.4	:	37.7	14.5	41.5	29.1	26.4	36.5	:	:	46.8	19.6	29.9	44.7	33.8
64	61.0	:	:	:	:	59.3	69.6	61.4	145.8	:	:	59.8	47.6	:	:
64.1	30.6	:	:	:	:	35.0	41.8	25.9	:	:	:	22.6	25.9	:	:
64.2	111.2	:	:	:	:	102.1	92.4	132.6	:	:	75.5	88.1	83.3	:	:
72	54.2	:	:	:	30.5	51.6	53.2	35.7	48.1	:	64.8	22.3	53.3	:	:
73	77.0	:	:	:	:	52.3	32.6	50.6	:	:	41.9	7.0	36.5	:	:
Wage adjusted labour productivity (%)															
30	137	:	107	:	242	138	394	121	:	:	122	230	122	132	223
30.01	155	:	116	:	102	175	225	130	:	:	132	130	64	171	182
30.02	135	:	105	:	245	134	396	120	:	:	114	234	123	115	233
32	133	:	95	139	163	114	236	134	:	:	122	130	210	151	181
32.1	138	:	120	80	154	124	241	155	:	:	170	128	141	129	163
32.2	112	:	88	144	166	112	248	124	:	:	113	129	229	155	205
32.3	174	:	88	102	173	90	141	145	:	:	114	133	101	130	166
64	158	:	:	:	:	165	:	197	361	:	:	266	176	:	:
64.1	105	:	:	:	:	106	:	94	:	:	:	121	120	:	:
64.2	208	:	:	:	:	248	:	347	:	:	168	348	241	:	:
72	105	:	:	:	117	110	:	111	113	:	144	112	131	:	:
73	114	:	:	:	:	105	:	123	:	:	72	83	117	:	:
Gross operating surplus (million ECU)															
30	30	4	230	:	415	908	1,093	211	:	450	4	6	20	61	1,989
30.01	2	-1	83	:	1	170	4	21	0	270	2	0	-1	40	260
30.02	28	-11	147	:	415	738	1,089	191	:	180	2	6	21	21	1,729
32	294	56	-365	27	369	797	278	1,645	:	3,854	358	93	901	784	2,779
32.1	58	-18	297	1	152	415	143	570	0	28	181	41	50	37	812
32.2	58	15	-424	25	115	435	128	958	0	:	142	12	850	722	1,479
32.3	178	59	-238	0	102	-53	7	117	:	:	35	39	1	24	487
64	1,935	:	:	:	:	10,542	:	8,830	377	3,844	:	1,388	967	1,322	:
64.1	125	:	:	:	:	587	:	-271	:	:	:	63	111	-22	:
64.2	1,810	:	:	:	:	9,955	:	9,101	:	:	:	1,325	856	1,344	:
72	326	:	:	:	534	1,004	:	2,614	18	:	:	48	276	599	:
73	47	:	:	:	:	51	:	449	:	:	:	0	8	-88	:
Gross investment in tangible goods (million ECU)															
30	:	9	380	:	75	398	355	152	:	54	2	1	12	25	385
30.01	:	1	55	:	1	53	0	27	0	:	1	:	0	14	99
30.02	:	5	324	:	74	345	354	125	:	:	1	:	12	11	286
32	:	100	1,614	10	165	1,101	92	900	:	652	276	74	201	307	1,373
32.1	:	42	967	1	114	608	59	494	0	:	101	:	28	19	887
32.2	:	19	335	8	35	347	31	366	0	:	137	:	168	264	284
32.3	:	39	311	0	17	146	2	40	:	:	38	:	5	24	202
64	:	1,461	:	:	:	4,192	442	4,223	:	1,926	:	718	696	1,259	:
64.1	:	59	:	:	:	290	33	106	:	:	:	75	50	172	:
64.2	:	1,402	:	:	:	3,902	409	4,117	:	:	1,220	643	646	1,087	7,729
72	:	:	:	:	261	665	64	690	:	:	141	141	90	240	1,309
73	:	:	:	:	:	212	1	150	:	:	3	0	8	79	596

(1) 1995 data for NACE Rev. 1 30.01 and 30.02.

(2) 1995 data for labour productivity (also wage adjusted) and investment per person employed.

(3) 1995 data for NACE Rev. 1 72.

(4) 1995 data for NACE Rev. 1 30, 30.01, 30.02, 32, 32.1, 32.2 and 32.3.

(5) 1997 data for NACE Rev. 1 64, 64.1, 64.2 and 72, except wage adjusted labour productivity for Finland (1996).

(6) 1995 data for gross investment in tangible goods of NACE Rev. 1 30, 30.01, 32, 32.1 and 32.2.

(7) 1995 data.

Source: Eurostat - SBS database

Table 5: production and productivity, 1996

NACE Rev. 1	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU-15
Share of persons employed with a higher education (%) (1)																
30 (2)	60.3	:	43.2	:	66.1	55.7	46.9	13.6	:	32.0	:	:	:	58.0	38.3	:
32 (3)	34.4	25.5	32.1	:	41.3	26.5	51.7	6.7	:	37.7	:	16.4	40.2	41.3	30.4	:
64	17.5	10.5	17.4	18.2	30.6	11.3	13.3	7.0	:	19.4	:	21.8	7.4	12.9	16.8	15.1
72	73.5	47.5	53.0	53.4	68.7	61.8	73.8	25.2	:	56.4	17.5	28.6	35.1	66.6	56.2	52.3
73 (4)	75.4	72.2	53.7	66.8	79.7	66.4	75.5	57.7	:	66.3	45.8	69.9	76.6	79.6	71.1	63.4
Share of women in total employment (%)																
30 (5)	26.6	:	22.4	:	36.9	36.8	40.0	26.6	:	:	:	:	:	:	23.9	:
32	37.0	46.6	34.2	:	22.1	41.9	40.9	33.8	:	22.8	28.3	49.1	36.6	35.9	34.2	:
64	27.8	29.9	39.7	19.0	30.4	45.1	30.5	28.7	31.9	27.3	19.4	38.2	45.8	42.1	28.9	34.6
72	23.1	24.3	23.7	:	23.4	27.2	33.0	29.1	:	18.4	25.3	30.2	20.2	28.0	25.4	25.4
73 (5)	40.7	39.9	31.9	:	45.2	42.2	52.0	41.7	:	33.7	42.0	70.0	42.1	41.6	37.9	38.0
Share of persons employed not having a full-time contract (%)																
30 (6)	5.9	3.5	8.1	:	1.5	12.4	1.7	2.2	:	13.8	7.3	:	0.0	0.0	4.1	:
32 (7)	7.5	5.0	6.0	0.0	0.6	6.4	1.6	1.7	:	13.4	5.5	0.0	1.9	6.0	6.4	5.6
64	6.7	27.5	19.3	1.9	4.0	17.6	5.8	2.0	10.4	32.9	7.6	1.0	12.6	22.8	15.0	14.4
72	2.4	2.9	12.0	2.9	3.8	4.7	2.7	4.6	2.9	8.8	9.4	12.7	4.9	7.9	10.4	7.9
73	7.1	11.2	14.9	1.6	0.0	9.5	15.1	11.3	:	24.4	14.8	2.8	2.7	7.7	9.6	11.7

(1) Tertiary education (ISCED 5-7).
(2) 1995 data for NL; 1996 data for S.
(3) 1996 data for DK; 1995 data for P.
(4) 1996 data for EL.
(5) 1996 data for B.
(6) 1995 data for DK.
(7) 1995 data for EU-15.
Source: Eurostat - LFS database

Table 6: characteristics of employment for information and communication activities, 1997 (%)

➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

The "information and communication technology" sector has been defined commonly between Eurostat and the OECD. For the purpose of this publication, however, the choice of activities was based both on existing definitions, such as that of the EHT (Employment in high-technology) database, and on data availability. Not included in this report are, for example, business statistics on some telecom-related services that may be classified within NACE Rev. 1 74, or on television and radio broadcasting activities that are included within NACE Rev. 1 92.2. Additional information on services activities can be found in the soon to be published "Services in Europe 1999", which includes a section dedicated to the "cyber-economy".

All structural enterprise statistics were extracted from the SBS database in August 1999, and provide the most recent data collected under Council Regulation (EC, EURATOM) no. 58/97 of 20 December 1996. Lengthy time-series are not yet available for service activities, but the situation is likely to improve at a rapid pace as the Regulation is fully implemented.

- **Number of enterprises:** a count of the number of enterprises registered to the population concerned in the business register corrected for errors, in particular frame errors. Dormant units are excluded.
- **Number of persons employed:** 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.
- **Number of employees:** persons who work for an employer and have an employment contract and receive compensation (wages, salaries, fees, gratuities, remuneration in kind). Includes part-time and seasonal workers.
- **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.
- **Production value:** turnover, plus or minus the changes in stocks of finished products, work in progress and goods and services purchased for resale, minus the purchases of goods and services for resale, plus capitalised production, plus other operating income (excluding subsidies).
- **Value added at factor cost:** gross income from operating activities after adjusting for operating subsidies and indirect taxes. This is 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..
- **Personnel costs:** total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the reference period. Personnel costs also include taxes and employees' social security contributions retained by the unit as well as the employer's compulsory and voluntary social contributions.
- **Gross operating surplus:** surplus generated by operating activities after the labour factor input has been recompensed. It can be calculated from the value added at factor cost less the personnel costs.
- **Gross investment in tangible goods:** investment in all tangible goods (new and existing) bought or produced for own use, having a useful life of more than one year. Excludes capital goods used under rental/lease contracts.
- **Wage adjusted labour productivity:** (value added / personnel costs) * (employees / persons employed).

Further information:

➤ Reference publications

Title Services in Europe (to be published)
 Catalogue No CA-24-99-736-EN-C Price EUR 27.5

➤ Data bases

New Cronos
 Domains SBS, COINS, LFS, EHT

To obtain information or to order publications, data bases and special sets of data, please contact the **Data Shop** network:

BELGIQUE/BELGIË	DANMARK	DEU SCHLAND	ESPAÑA	FRANCE	I ALIA - Roma
Eurostat Data Shop Bruxelles/Brussel Chaussée d'Etterbeek 13 Etterbeeksesteenweg 13 B-1049 BRUXELLES / BRUSSEL Tel. (32-2) 299 66 66 Fax (32-2) 295 01 25 E-Mail: datashop.brussels@eurostat.cec.be	DANMARKS STATISTIK Bibliotek og Information Eurostat Data Shop Sejøgade 11 DK-2100 KØBENHAVN Ø Tel. (45-39) 17 30 30 Fax (45-39) 17 30 03 E-Mail: bib@dst.dk	STATISTISCHES BUNDESAMT Eurostat Data Shop Berlin Otto-Braun-Strasse 70-72 D-1 0178 BERLIN Tel. (49-30) 23 24 64 27/28 Fax (49-30) 23 24 64 30 E-Mail: datashop@statistik-bund.de	INE Eurostat Data Shop Paseo de la Castellana, 183 Oficina 009 Entrada por Estébanez Calderón E-28046 MADRID Tel. (34-91) 583 91 67 Fax (34-91) 579 71 20 E-Mail: datashop.eurostat@ine.es	INSEE Info Service Eurostat Data Shop 195, rue de Bergy Tour Gamma A F-75582 PARIS CEDEX 12 Tel. (33-1) 53 17 8844 Fax (33-1) 53 17 8822 E-Mail: datashop@insee.fr	ISTAT Centro di Informazione Statistica Sede di Roma, Eurostat Data Shop Via Cesare Balbo, 11a I-00184 ROMA Tel. (39-06) 46 73 31 02/06 Fax (39-06) 46 73 31 01/07 E-Mail: dipdiff@istat.it
I ALIA - Milano	LUXEMBOURG	NEDERLAND	NORGE	PORUGAL	SCHWEIZ/SUISSE/SVIZZERA
ISTAT Ufficio Regionale per la Lombardia Eurostat Data Shop Via Fieno 3 I-20123 MILANO Tel. (39-02) 65 95 133/134 Fax (39-02) 65 30 75 E-mail: mileuro@tin.it	Eurostat Data Shop Luxembourg BP 453 L-2014 LUXEMBOURG 4, rue A. Weicker L-2721 LUXEMBOURG Tel. (352) 43 35 22 51 Fax (352) 43 35 22 221 E-Mail: dslux@eurostat.datashop.lu	STATISTICS NETHERLANDS Eurostat Data Shop-Voorburg po box 4000 2270 JM VOORBURG Nederland Tel. (31-70) 337 49 00 Fax (31-70) 337 59 84 E-Mail: datashop@csb.nl	Statistics Norway Library and Information Centre Eurostat Data Shop Kongens gate 6 P. b. 81 31. dep. N-0033 OSLO Tel. (47-22) 86 46 43 Fax (47-22) 86 45 04 E-Mail: datashop@ssb.no	Eurostat Data Shop Lisboa INE/Serviço de Difusão Av. António José de Almeida, 2 P-1000-043 LISBOA Tel. (351-21) 842 61 00 Fax (351-21) 842 63 64 E-Mail: data.shop@ine.pt	Statistisches Amt des Kantons Zürich, Eurostat Data Shop Bleicherweg 5 CH-8090 Zürich Tel. (41-1) 225 12 12 Fax (41-1) 225 12 99 E-Mail: datashop@zh.ch Internetadresse: http://www.zh.ch/statistik
SUOMI/FINLAND	SVERIGE	UNITED KINGDOM	UNITED KINGDOM	UNITED STATES OF AMERICA	
Eurostat Data Shop Helsinki Tilastokirjasto Postiosoite: PL 2B Käyntiosoite: Työpajakuu 13 B, 2 krs FIN-00022 Tilastokeskus Tel. (358-9) 17 34 22 21 Fax (358-9) 17 34 22 79 S-posti datashop.tilastokeskus@tilastokeskus.fi Internetadresse: http://www.tilastokeskus.fi/tk/kk/datasop.html	STATISTICS SWEDEN Information service Eurostat Data Shop Karlavägen 100 - Box 24 300 S-104 51 STOCKHOLM Tel. (46-8) 50 69 48 01 Fax (46-8) 50 69 48 99 E-Mail: info.service@scb.se URL: http://www.scb.se/info/datasop/eudatashop.asp	Eurostat Data Shop Enquiries & advice and publications Office for National Statistics Customers & Electronic Services Unit 1 Drummond Gate - B1/05 UK-LONDON SW1V 2QQ Tel. (44-171) 533 56 76 Fax (44-1633) 812 762 E-Mail: eurostat.datashop@ons.gov.uk	Eurostat Data Shop Electronic Data Extractions, Enquiries & advice - R.CADE Unit 1L Mounjoij Research Centre University of Durham UK - DURHAM DH1 3SW Tel: (44-191) 374 7350 Fax: (44-191) 384 4971 E-Mail: r.cade@dur.ac.uk URL: http://www.rcade.dur.ac.uk	HAVER ANALYTICS Eurostat Data Shop 60 East 42nd Street Suite 3310 USA-NEW YORK, NY 10165 Tel. (1-212) 986 93 00 Fax (1-212) 986 58 57 E-Mail: eurodata@haver.com	

Media Support Eurostat (for professional journalists only):
 Bech Building Office A3/48 - L-2920 Luxembourg - Tel. (352) 4301 33408 - Fax (352) 4301 32649 - e-mail: media.support@cec.eu.int

For information on methodology:

August GÖTZFRIED, Eurostat/D2, L-2920 Luxembourg, Tel. (352) 4301 34432, e-mail: August.GOETZFRIED@cec.eu.int
 ORIGINAL: English

Please visit our web site at <http://europa.eu.int/eurostat.html> for further information!

A list of worldwide sales outlets is available at the **Office for Official Publications of the European Communities**.

2 rue Mercier - L-2985 Luxembourg
 Tel. (352) 2929 421 18 Fax (352) 2929 4 2709
 Internet Address <http://europa.eu.int/fr/generals-ad.htm>
 e-mail: info.info@cec.eu.int

BELGIQUE/BELGIË - DANMARK - DEUTSCHLAND - GREECE/ELLADA - ESPAÑA - FRANCE - IRELAND - ITALIA - LUXEMBOURG - NEDERLAND - ÖSTERREICH
 PORTUGAL - SUOMI/FINLAND - SVERIGE - UNITED KINGDOM - ISLAND - NORGE - SCHWEIZ/SUISSE/SVIZZERA - BALGARIJA - CESHÁ REPUBLIKA - CYPRUS
 EESTI - HRVATSKA - MAGYARORSZÁG - MALTA - POLSKA - ROMÂNIA - RUSSIA - SLOVAKIA - SLOVENIA - TÜRKIYE - AUSTRALIA - CANADA - EGYPT - INDIA
 ISRAËL - JAPAN - MALAYSIA - PHILIPPINES - SOUTH KOREA - THAILAND - UNITED STATES OF AMERICA

Order form

I would like to subscribe to Statistics in focus (from 1.1.1999 to 31.12.1999):
 (for the Data Shop and sales office addresses see above)

Formula 1: All 9 themes (approximately 90 issues)

Paper: 360 EUR

PDF: 264 EUR

Paper + PDF: 432 EUR

Language required: DE EN FR

Formula 2: One or more of the following seven themes:

Theme 1 'General statistics'

Paper: 42 EUR PDF: 30 EUR Combined: 54 EUR

Theme 2 'Economy and finance'

Theme 3 'Population and social conditions'

Theme 4 'Industry, trade and services'

Theme 5 'Agriculture and fisheries'

Theme 6 'External trade'

Theme 8 'Environment and energy'

Paper: 84 EUR PDF: 60 EUR Combined: 114 EUR

Language required: DE EN FR

Please send me a free copy of 'Eurostat Mini-Guide' (catalogue containing a selection of Eurostat products and services)
 Language required: DE EN FR

I would like a free subscription to 'Statistical References', the information letter on Eurostat products and services
 Language required: DE EN FR

Mr Mrs Ms

(Please use block capitals)

Name: _____ First name: _____

Company: _____ Department: _____

Function: _____

Address: _____

Post code: _____ Town: _____

Country: _____

Tel.: _____ Fax: _____

E-mail: _____

Payment on receipt of invoice, preferably by:

Bank transfer

Visa Eurocard

Card No: _____ Expires on: ____/____/____

Please confirm your intra-Community VAT number:

If no number is entered, VAT will be automatically applied. Subsequent reimbursement will not be possible.