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European business

Facts and figures

Part 1: Energy, water and construction

Data 1991-2001

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European business, Facts & figures
This publication has been produced by unit D2 of Eurostat, responsible for structural business statistics. The opinions expressed are those of the individual authors alone and do not necessarily reflect the position of the European Commission.

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Guide to the publication

CONTENTS OF THE PUBLICATION

European business aims to provide a standard set of information for industrial and service activities within the EU. The data provided in European business traces the major developments of output (in terms of value added), employment and external trade. The commentaries concentrate largely on the 3-digit level of the NACE Rev. 1 classification of economic activities [(1)].

Structure of the publication

European business is divided into three main sections:

1. The first provides a general overview of the structure of the EU's business economy, looking at changes in output, employment and external trade.

2. The second provides a sectoral breakdown of industrial activities into 15 separate chapters, each of which contains a number of subchapters usually based on the 3-digit level of the NACE classification. Each chapter concludes with a statistical annex presenting structural business statistics and external trade statistics.

3. The third section provides a sectoral breakdown of service activities into 9 separate chapters (again with subchapters and a statistical annex, usually based on structural business statistics or alternatively a functional database specific to the subject area).

The chapters in European business are structured on the basis of their NACE code, starting with energy and the extractive industries and finishing with business services, the information society and media. Each chapter begins with a preliminary section explaining the sectoral coverage of the data provided.

NACE is a hierarchical classification made up of Sections (1-letter codes), Subsections (2-letter codes), Divisions (2-digit codes), Groups (3-digit codes) and Classes (4-digit codes). NACE establishes a direct link between the European classification and the internationally recognised ISIC Rev.3 developed under the auspices of the United Nations. These two classifications are directly compatible at the 2-digit level and the lower levels of ISIC Rev.3 can be calculated by aggregating the more detailed levels of NACE.

The compilation of industrial data has followed a different historical development to that of other sectors of the business economy. It is generally easier to compile activity and product statistics about goods/merchandise than it is to collect information, for example, relating to knowledge or information-based services. Hence, the balance of this publication reflects to some degree the information that is currently available from official statistical sources. For this reason too, a different form of presentation is employed for the majority of the manufacturing chapters, using long time-series for enterprises with 20 or more persons employed.

There has been a rapid improvement in data availability for service sectors during the last few years and most EU Member States now compile annual statistics. Clearly it will take a number of years to build up robust time-series and considerable work still needs to be done in the area of product statistics for services.

The weak availability of energy, mining and quarrying, construction and services' data often renders it difficult to provide a standard set of information and where this is the case, Eurostat's functional databases have been used to complement structural business statistics. Furthermore, for these chapters it is important to note that structural business statistics that are presented for those sectors take account of all enterprises (in other words, with one or more persons employed), as opposed to the threshold of 20 or more persons employed for manufacturing chapters.

[(1)] Published by Eurostat, ISBN 92-826-8767-8, available from the usual outlets for Commission publications.

Differences compared to the 2002 edition

This edition of European business focuses increasingly on official sources of information, as the European statistical system continues to make advances. Nowhere is this development more felt in the 2003 edition than for service sectors, as a result of a rapid improvement in the availability of data - allowing EU totals to be calculated for the first time.

As a result, the chapter on distributive trades has been split into the three activities of motor, wholesale and retail trade, each with their own chapter. Furthermore, the media services have been separated from the information society chapter.

Within industrial activities there have also been some changes, such as the separation of water supply and sewerage industries from the energy chapter and the inclusion of a subchapter on recycling and waste treatment - once more reflecting an improvement in data availability in areas that were traditionally less well covered by business statistics.

Furthermore, several chapters have had their activity definitions modified in an attempt to improve data coverage, at both the chapter and subchapter level. Hence, readers should take care if comparing data across different editions of the publication.

Another development in this edition is the inclusion of candidate country data. For the moment this is found in the overview chapter (together with a short commentary), as well as in the statistical annex to each industrial and service chapter. It is hoped that as the accession of the various candidate countries moves forward their statistics will become fully integrated in the publication.

GUIDE TO THE STATISTICS

Two main data sources should be distinguished when using this publication: those originating from official sources (collected normally by the national statistical institutes in each Member State and harmonised by Eurostat) and those provided by professional trade associations (representative organisations of manufacturers and service providers) and other non-official bodies. Non-official sources are easily recognised as they always appear in a shaded box.

Time frame

The data within this publication was extracted from various Eurostat databases during the first two weeks of November 2002. Fresher data may well be available on the CD-ROM or by consulting the Eurostat Datashop network and asking for a tailor-made extraction from the NewCronos database. The accompanying text was written during the fourth quarter of 2002 and the first quarter of 2003.

Where possible the time-series for industrial activities are presented for the EU between 1991 and 2001. Individual country data are generally available up until 1999 or 2000 depending upon the country and activity in question. EU totals have been estimated for 2000 and/or 2001 where sufficient data exists. Services data are usually presented in the form of a snapshot for the latest year available.

Exchange rates

All data are reported in ECU/EUR terms, with national currencies converted using average exchange rates prevailing for the year in question. As of 1 January 1999, eleven of the Member States entered into an economic and monetary union (EMU). These countries formed what has become known as the euro-zone. Technically data available prior to that date should continue to be denominated in ECU terms, whilst data available afterwards should be denominated in euro. However, as the conversion rate was ECU 1 = EUR 1, for practical purposes the terms may be used interchangeably and this publication denotes all such monetary series in euro. On 1 January 2001, Greece also became a member of the euro-zone.

Whilst the conversion to a common currency of data originally expressed in national currencies facilitates comparison, large fluctuations in currency markets are partially responsible for movements identified when looking at the evolution of a series in euro terms (especially at the level of an individual country). For the exchange rates used, please refer to table SA.1 in the statistical annex of the overview chapter.

Geographical coverage

EU totals cover all 15 Member States. Footnotes are added when a partial total is created from an incomplete set of country information.

Figures for Germany are on a post-unification basis, unless otherwise stated.

Non-availability

The colon (:) is used to represent data that is not available, either because it has not been provided to Eurostat or because it is confidential. In figures (charts), missing information is footnoted as not available.

OFFICIAL DATA SOURCES

SBS

The bulk of the information contained within European business is derived from the structural business statistics (SBS) database. This data has been collected within the legal framework provided by the SBS Regulation [2]. Structural business statistics for the candidate countries are collected on a comparable basis, although data are currently provided to Eurostat on the basis of specific agreements rather than with a legal basis.

There are three main collections of SBS data that have been used in this publication. The first covers long time-series [3] for enterprises with 20 or more persons employed (often available from 1985 onwards). These series are only used in this publication for manufacturing activities. Not all Member States have transmitted data relating to the enterprise as the statistical unit and the specified size threshold. The table below presents the main discrepancies with respect to these standards.

[2] Council Regulation (EC, EURATOM) No. 58/97 of 20 December 1996 concerning structural business statistics.

[3] Public access to data for the Member States is available via the Eurostat Datashop network: NewCronos, theme 4, domain SBS, collection Enterpr, table ent_l_ms.

Table 1

Country	Year	Statistical unit and coverage
Belgium	1985-1994	Enterprises with 20 employees or more
	1995-2000	Enterprises with 1 person employed or more
Greece	1985-2000	Local kind-of-activity units with 20 persons employed or more
Spain	1985-1998	Enterprises with 1 employee or more
	1999-2000	Enterprises with 1 person employed or more
France	1985-1995	Enterprises with 20 employees or more; NACE Section D excludes Divisions 16 and 37; Subsection DA excludes Division 16; Subsection DN excludes Division 37
Ireland	1985-2000	Enterprises with 3 persons employed or more for NACE Sections C to E
	1995	NACE Subsection DN also includes Subsection DF
Luxembourg	1985-1994	Kind-of-activity units with 20 persons employed or more
	1995-1998	Kind-of-activity units with 1 person employed or more
	1985-1995	NACE Group 15.9 also includes Group 16.0
Netherlands	1997	Number of enterprises: data for this variable are rounded to multiples of 5; a "0" therefore means 2 or less enterprises
Austria	1985-1994	Establishments with 20 persons employed or more for NACE Sections C and D
Portugal	1985-2000	Enterprises with 1 person employed or more
	1990-1995	NACE Section D and Subsection DA exclude Division 37
Finland	1986-1994	Establishments with 5 persons employed or more
	1995-2000	Enterprises with 1 person employed or more
United Kingdom	1997	NACE Group 10.3 also includes Group 10.2; NACE Group 13.2 also includes Group 13.1

The second collection covers all enterprises [4] and these series have been used for non-manufacturing activities. The data generally start in 1995, although a small number of Member States have provided longer time-series. Not all Member States/candidate countries have transmitted data relating to this population. In particular, some Member States/candidate countries can only provide data for units with employment above a certain size threshold. The table below presents the main deviations from the standard population as laid down in the SBS Regulation (all enterprises, regardless of their level of employment).

[4] Public access to data for the Member States is available via the Eurostat Datashop network: NewCronos, theme 4, domain SBS, collection Enterpr, table enter_ms and by consulting theme 4, domain SBS, collection Enterpr, table enter_cc for the candidate countries.

Table 2a

Country	Statistical unit and coverage used from 1995 onwards			
	Industry (NACE Sections C - E)	**Construction (NACE Section F)**	**Trade (NACE Section G)**	**Services (NACE Sections H - K)**
Denmark	No major deviations	NACE Class 45.21 also includes data for NACE Classes 45.23 and 45.24; NACE Class 45.31 also includes data for NACE Class 45.34	No major deviations	
Germany	No major deviations			1998 onwards: data are not comparable with previous years 1999: for Section I to K the number of enterprises and turnover come from a different source than the other variables and the two groups of variables can not be compared 1999: for production value and value added NACE Class 60.21 also includes Class 60.23, Class 74.13 also includes Class 74.14, Class 74.11 also includes Classes 74.12 and 74.15
Greece	No major deviations		Enterprises with a turnover of 15 million GRD or more	
Spain	1995 to 1998: enterprises with 1 employee or more	No major deviations	1995-1998: enterprises with 1 employee or more	
France	1995: NACE Section D excludes Divisions 16 and 37; Subsection DA excludes Division 16; Subsection DN excludes Division 37	No major deviations		In some transport activities within NACE Group 61.2 the coverage is only enterprises with 6 employees or more
Ireland	Enterprises with 3 persons employed or more 1995: NACE Subsection DN also includes Subsection DF	No major deviations		
Italy	Turnover from the principal activity at the NACE 4-digit level: this data is supplied only for enterprises with 200 employees or more	No major deviations		
Luxembourg	1996 onwards: kind-of-activity units with 1 person employed or more		No major deviations	1995-1998: NACE Class 66.01 also includes Class 66.02
Netherlands	Number of enterprises: data for this variable are rounded to multiples of 5; a "0" therefore means 2 or less enterprises			
	Enterprises with 20 employees or more for NACE Section E; total intramural R&D expenditure and total number of R&D personnel refer to enterprises with 10 employees or more	No major deviations		Survey on holdings (NACE Class 74.15): enterprises with 5 employees or more

Table 2b

Country	Statistical unit and coverage used from 1995 onwards			
	Industry (NACE Sections C - E)	**Construction** (NACE Section F)	**Trade** (NACE Section G)	**Services** (NACE Sections H - K)
Portugal	1995: NACE Subsection DN and Section D exclude Division 37	No major deviations		
United Kingdom	1996: NACE Class 14.12 also includes Class 14.13; Class 15.94 also includes Class 15.95; Class 17.15 also includes Class 17.14; Class 17.16 also includes Class 17.17; Class 21.11 also includes 21.12 1997: NACE Group 10.3 also includes Group 10.2; Group 13.2 also includes Group 13.1; Class 14.12 also includes Class 14.13; Class 17.15 also includes Class 17.14: Class 17.16 also includes 17.17; Class 21.12 also includes Class 21.11 1998: NACE Group 10.3 also includes Group 10.2; Class 14.12 also includes Class 14.13	No major deviations	1998: NACE Class 51.35 also includes Classes 51.36 and 51.37	No major deviations
Czech Republic	Sampling errors at 3-digit level are significant (due to low coverage). The 3-digit level is only an estimation based on the sample, but the sample differs between years. The sample is only representative for data at the 2-digit level of NACE Rev. 1			
Estonia	In 1995, Section D data at the 2-digit level cover enterprises with 20 and more employees, except investment data which cover enterprises with 50 and more employees. Data at the Section level cover all enterprises	No major deviations		1995: NACE Division 71 also includes Division 72
Hungary	Enterprises with 5 or more persons employed			
Latvia	No major deviations		It is recommended not to use 4-digit level data as the sampling plan for the survey was designed at the 3-digit level only	No major deviations
Slovak Republic	Covers enterprises with 20 or more persons employed as well as enterprises with less than 20 persons employed which were considered statistically important			

The third collection covers information broken down by employment size class. Again, not all Member States/candidate countries have transmitted data to Eurostat that relates to this statistical unit or population. In particular, some Member States/candidate countries can only provide data for units with employment above a certain size threshold. The table below summarises the main deviations from the standard statistical unit and coverage.

Data in this publication are generally available at the 3-digit NACE level, whilst more detailed information is often available within the SBS Enter tables at the 4-digit NACE level.

Table 3

Country	Statistical units and coverage			
	Industry (NACE Sections C - E)	Construction (NACE Section F)	Trade (NACE Section G)	Services (NACE Sections H - K and M - 0)
Germany	1995 onwards: enterprises with 20 persons employed or more		No major deviations	
Spain	1995 onwards: enterprises with 1 employee or more	No major deviations		
France	1995: enterprises with 20 employees or more		No major deviations	
Ireland	1995 onwards: enterprises with 3 persons employed or more	1995 onwards: enterprises with 20 persons employed or more	No major deviations	1997: NACE Group 60.1 also includes data for Classes 60.21, 60.22 and 60.23; NACE Group 74.6 also includes data for NACE Group 74.7
Netherlands	1999 onwards: employment size classes are defined in terms of employees; size class 1-9 has been approximated with size class 0-9 employees; size class 500-999 includes size class 1000+		1999 onwards: employment size classes are defined in terms of employees; size class 1 has been approximated with size class 0 employee; size class 2-4 has been approximated with size class 1-4 employees; size class 500-999 includes size class 1000+	1999 onwards: employment size classes are defined in terms of employees; size class 1-4 has been approximated with size class 0-4 employees; size class 1-9 has been approximated with size class 0-9 employees; size class 500-999 includes size class 1000+
Portugal	1996 onwards: employment size classes are defined in terms of employees; size class 1-9 has been approximated with size class 0-9 employees		1996 onwards: employment size classes are defined in terms of employees	
Sweden	1996: employment size classes are defined in terms of employees; size class 1-9 has been approximated with size class 0-9 employees	No major deviations		
United Kingdom	1995: enterprises with 20 persons employed or more 1997: NACE Group 10.3 also includes data for NACE Group 10.2; NACE Group 13.2 also includes data for NACE Group 13.1	1995: enterprises with 20 persons employed or more	No major deviations	
Estonia	1995: Section D data at the 2-digit level cover enterprises with 20 and more employees, except investment data which cover enterprises with 50 and more employees. Data at the Section level cover all enterprises 1995 to 1999: employment size classes are defined in terms of employees 1995 to 1998: data for size class 500-999 includes data for size class 1000+ as well 1996 to 1999: the size class total is not equal to the sum of the size classes published as the total also includes data for the size class 0 employees	1995 to 1999: employment size classes are defined in terms of employees 1995 to 1998: data for size class 500-999 includes data for size class 1000+ as well 1996 to 1999: data for size class 1-9 employees also includes data for size class 0 employees	1995 to 1999: employment size classes are defined in terms of employees 1995 to 1998: data for size class 500-999 includes data for size class 1000+ as well 1996 to 1999: size classes 0 and 1-9 employees are provided instead of size classes 1, 2-4 and 5-9 employees; data for size class 0 are published under the size class 1 and data for size class 1-9 are published under the size class 5-9	1995 to 1999: employment size classes are defined in terms of employees 1995 to 1998: data for size class 500-999 includes data for size class 1000+ as well 1996 to 1999: size classes 0 and 1-9 employees are provided instead of size classes 1-4 and 5-9 employees; data for size class 0 are published under the size class 1-4 and data for size class 1-9 are published under the size class 5-9 1995: NACE Division 71 also includes Division 72
Hungary	1998: enterprises with 5 persons employed or more; data for size class 1-9 persons employed are not available; data for size class 5-9 persons employed have been provided Data for the total of the size classes refer to enterprises with 5 persons employed or more		1998: enterprises with 5 persons employed or more; data for the total of the size classes refer to enterprises with 5 persons employed and more	
Slovenia	1995 to 1998: employment size classes are defined in terms of employees			
Slovak Republic	1995 to 1998: size classes are defined in terms of employees; data for the total of the size classes refer to enterprises with 20 and more employees			

Standard definitions of variables have been laid down. As such the figures are largely comparable across activities and countries. There are nevertheless some known divergences from the standard definitions. Until the reference year 1994 inclusive, Member States transmitted their data to Eurostat according to either the legal basis preceding the SBS Regulation for industry or on a voluntary basis for services. As far as possible Eurostat and the Member States have worked to convert these data in line with the variable definitions as implemented following the adoption of the SBS Regulation. However, the results of the conversion may not be of the same quality as the data collected from the 1995 reference year onwards. For France, this conversion is applied until the reference year 1995 inclusive. For Greece, this conversion is applied until the reference year 1996 inclusive. The table below presents the main known discrepancies with respect to the standard variable definitions as regards data from Member States and candidate countries.

Table 4

SBS enter long time series: enterprises employing 20 or more persons			
Country	**Year**	**Variable**	**Discrepancy**
Belgium	1995-1998	Production value	The purchase of goods and services for resale are not removed, resulting in the values being overestimated
Denmark	1990-1998	Value added at factor cost Gross operating surplus	Value added at basic prices Value added at basic prices - personnel costs
Spain	1985-1999	Gross investment in tangible goods	Gross investment in land and gross investment in machinery and equipment
Ireland	1991-1994 (and possibly later years) 1991-1994	Value added at factor cost Gross operating surplus	Value added is calculated at market prices excluding VAT; for sectors where other indirect taxes play an important role, for example where there are taxes on petroleum products, Irish value added is disproportionately large; this non-standard definition of value added influences the Irish manufacturing total (through aggregation of NACE), EU totals (through aggregation across countries) and ratios, notably labour productivity measures Value added at market price excluding VAT - personnel costs
Italy	1992-1995	Number of persons employed	Number of employees
Finland	1986-1995	Value added at factor cost Gross operating surplus	Value added at market price Value added at market price - personnel costs
SBS enter: enterprises employing 1 or more persons			
Country	**Year**	**Variable**	**Discrepancy**
Belgium	1995-1998	Production value	The purchase of goods and services for resale are not removed, resulting in the values being overestimated
Germany	1999	Sections I to K: value added at factor cost	Does not include subsidies
Spain	1995-1998	Gross investment in tangible goods	Gross investment in land and gross investment in machinery and equipment
Ireland	1998-2000	Sections H, I and K: personnel costs	Wages and salaries
Finland	1995	Value added at factor cost Gross operating surplus	Value added at market prices Value added at market prices - personnel costs
Sweden	1995-1996	Number of persons employed: the number of persons employed and the number of employees are very close as self-employed persons are not included and for enterprises with less than 10 employees the number of employees is collected in full time equivalent units	
United Kingdom	1996-1999 1997	Gross investment in existing buildings and structures Turnover from trading and intermediary activities	Includes gross investment in land Turnover from trading activities of purchase and resale
Norway	1996-1997	For Sections C and D the definitions of variables 15 13 0 and 15 14 0 (concerning investment) are non-standard, however their sum is conform with the standard definitions	
Bulgaria	1996-1998 1996-1999 1999	Changes in stocks Investment in existing buildings and structure Turnover and production value	Concerns only changes in stocks of goods, and therefore excludes changes in stocks of services Includes also investment in construction and alteration of buildings Does not includes duties and taxes on services invoiced by the unit
Cyprus	1995-1998	Change in stocks of finished products and work in progress manufactured by the unit	Includes change in stocks of all goods and services
Czech Republic	1995-1998 1995-1998	Number of enterprises Personnel costs and social security costs	Average number of enterprises calculated on the basis of the length of the activity of the unit during the year; this means that an enterprise active only a part of the year is not counted as 1 but as a percentage (3 months=0.25 enterprises) Non-standard definitions
Hungary	1998	Number of employees	Estimated as a fixed percentage (99.5%) of the number of persons employed
Slovenia	1995-1998	Value added and wages and salaries	Non-standard definitions
SBS enter size class data			
Country	**Year**	**Variable**	**Discrepancy**
Denmark	1995-1996	Sections C to G: number of employees	Employees in full-time equivalents
Sweden	1996	Sections C to E: the number of persons employed and the number of employees are very close as self-employed persons are not included and for enterprises with less than 10 employees the number of employees is collected in full time equivalent units Sections H to K: number of persons employed shows in fact the number of employees	
Czech Republic	1995-1998	Number of enterprises Sections C to F: wages and salaries	Average number of enterprises calculated on the basis of the length of the activity of the unit during the year; this means that an enterprise active only a part of the year is not counted as 1 but as a percentage (3 months=0.25 enterprises) Non-standard definition
Hungary	1998	Sections C to F: number of employees	Estimated as a fixed percentage (99.5%) of the number of persons employed
Slovenia	1995-1998	Value added	Non-standard definition
Slovak Republic	1995-1998	Sections G to K: number of persons employed	Number of employees

Estimates

EU-15 data for 2000 and 2001 are estimated. Estimates are made using individual country information and short-term indicators such as indices of production, output prices and employment. The individual country estimates are not published and as a result the information by Member State is generally only available up until 1999 or 2000 depending upon the country in question. The majority of estimates have been made for manufacturing series that concern 20 or more persons employed. It is important to note that these time-series for manufacturing activities will under-report absolute values and that this can be particularly important in activities where smaller enterprises (with less than 20 persons employed) play an important role - for example, the manufacture of textiles or clothing.

Prodcom

The legal basis of the data is Council Regulation (EEC) No 3924/91 on the establishment of a Community survey of industrial production (Prodcom Regulation).

This Regulation requires that production be recorded according to the product headings of the Prodcom list. The list is based on the Community's external trade classification, the Combined Nomenclature (CN). The list does not, however, cover all products. The list is divided into Divisions corresponding to the (2-digit) Divisions of NACE Rev. 1. Each Prodcom code is identified by an eight-digit code. The first six digits are the CPA code (Community Classification of Products by Activity). The last two digits normally provide a reference to the Combined Nomenclature (CN), although there are exceptions to this rule.

The physical volume and the value of production are normally recorded for the products in the Prodcom list. Different production concepts are used in the survey, namely:
a) production sold during the survey period;
b) actual production (total production) during the survey period. This includes any production which is incorporated into the manufacture of other products. Such production is normally taken to mean own products which are either processed into another product or fitted into another product in the reporting unit itself, in another plant belonging to it, or under contract in another unit;
c) production during the survey period which is intended for sale.

The value of production sold/production intended for sale should be calculated on the basis of the ex-works selling price obtained/-obtainable during the reporting period. It also includes packaging costs, even if they are charged separately. However, the following are not included: any turnover tax and consumer tax charged; separately charged freight costs; any discounts granted to customers.

The particular physical units of the CN classification have normally been adopted for recording the volume of production. In exceptional cases a different and/or supplementary unit is recorded. All units belonging to the individual Prodcom headings are specifically indicated in the data set.

The Prodcom statistics normally cover all enterprises/local units which manufacture products contained in the Prodcom list. Among the rules on representativeness the Regulation stipulates that all enterprises in Sections C, D and E of NACE Rev. 1 employing at least 20 persons must be included. In addition, at least 90% of production in each (4-digit) Class of NACE Rev. 1 must also be recorded.

There is currently no Prodcom data available on NewCronos for candidate countries. Eurostat is migrating the Prodcom data set from NewCronos to Comext.

External trade

EU external trade statistics are available in the Comext database, and can be compiled according to a product classification (CPA). The analysis focuses on external trade data for the period between 1991 and 2001. No estimates are made for external trade statistics, although it is possible that subsequent revisions may occur. The data are processed by summing together product statistics (using a conversion table from CN to CPA). The data for EU-15 are reported in terms of trade flows with the rest of the world, in other words extra-EU trade. However, for the individual Member States total trade flows are used (in other words intra-EU and extra-EU trade). All trade figures are given in current EUR terms.

European Business Trends

Tracking the business cycle is indispensable for many economic actors. The European Business Trends (EBT) database provides politicians, government agencies, bankers, business owners, consumers and trade unionists with information that is crucial when making decisions on whether industries grow, stagnate or decline. The legal base of the European system of quantitative Short Term Statistics is the Council Regulation No. 1165/98, which was adopted on 19 May 1998 and is in the process of being implemented.

One variable from the EBT database is directly presented in this publication, namely the domestic output price index. Output price indices report the short-term changes in the prices of commodities produced and sold in a given Member State. Converted to an annual series, this index has also been used to deflate SBS turnover, production value and value added data, using appropriate activity indices to create series in constant price terms. Production and employment indices from the EBT database also provide valuable information that is used to nowcast SBS data for 2000 and 2001.

All price-determining characteristics of the products should be taken into account when compiling these indices, including the quantity of units sold, transport provided, rebates, service conditions, guarantee conditions and destination. The specification must be such that in subsequent reference periods, the observation unit is able to identify the product and to provide the appropriate price per unit. The appropriate price is the ex-factory price that includes all duties and taxes on the goods and services invoiced by the unit but excludes VAT invoiced by the unit vis-à-vis its customer and similar deductible taxes directly linked to turnover.

There is currently no EBT data available for candidate countries on NewCronos. However, the development of these short-term indices is in an advanced state for many of the countries.

Labour Force Survey

The methodological basis and the contents of this survey are described in the publication '*Labour Force Survey - Methods and Definitions*', 2001 edition. The main statistical objective of the Labour Force Survey is to divide the population of working age (generally 15 years and above into three mutually exclusive and exhaustive groups - persons in employment, unemployed persons and inactive persons - and to provide descriptive and explanatory data on each of these categories. Respondents are assigned to one of these groups on the basis of the most objective information possible, obtained through a survey questionnaire, which relates principally to their actual activity within a defined reference week.

Table 5

	A	B
EU-15 (1)	57 000	-
Belgium	2 500	4 500
Denmark	2 500	4 500
Germany	8 000	-
Greece	2 500	4 500
Spain	2 500	5 000
France	3 500	8 500
Ireland	2 500	4 500
Italy	3 500	7 500
Luxembourg	500	1 500
Netherlands	4 500	10 000
Austria	2 000	-
Portugal	7 500	15 000
Finland	2 500	4 500
Sweden (2)	2 500	-
United Kingdom	10 000	-
Bulgaria	5 500	10 000
Cyprus	500	1 500
Czech Republic	1 000	-
Estonia (3)	5 000	10 000
Hungary	2 500	4 500
Lithuania	5 000	-
Latvia	4 500	7 500
Malta	:	:
Poland	5 000	20 000
Romania	2 000	-
Slovak Republic	2 500	-
Slovenia	1 000	3 500
Turkey	:	:

A: threshold for publishing data.
B: threshold for reliable data.

(1) The limits applicable to data prior to 2001 are:
A: 9 000 B: - /
(2) The limits applicable to data prior to 2001 are:
A: 83 500 B: - /
(3) The limits applicable to data prior to 2000 are:
A: 4 000 B: 8 000 (1997); A: 1 500 B: 3 000 (1998-99)

It is important to note that the information is not collected from enterprises (as with the SBS database) but through a survey addressed to individual households. The National Statistical Institutes are responsible for selecting the sample, preparing the questionnaires, conducting the interviews and forwarding the results to Eurostat in accordance with a common coding scheme. Eurostat devises the programme for analysing the results and is responsible for processing and disseminating the information.

The Community Labour Force Survey [(5)], is based upon a sample of the population. The results are therefore subject to the usual types of errors associated with sampling techniques. Eurostat implement basic guidelines intended to avoid the publication of figures which are statistically unreliable. Figures below these thresholds are not published. A second threshold is applied to data that may only be published with a warning concerning its reliability. These data are footnoted in the tables that use LFS data.

There was a methodological change between 1998 and 1999 in the collection of Belgian Labour Force Survey data. As such there may well be a rupture in the series in 1999.

There is currently no LFS data available for candidate countries on NewCronos. However, the development of these indicators is in an advanced state for many of the countries and data for candidate countries have already been published in the Statistics in Focus series (theme 3, 20/2002 - ISSN 1024-4352). Many data are already stored in the LFS production database.

National Accounts

The European System of National and Regional Accounts (1995 ESA, or simply: ESA) is an internationally compatible accounting framework for a systematic and detailed description of a total economy (that is a region, country or group of countries), its components and its relations with other economies.

[(5)] Council Regulation (EC) No. 577/98 of 9 March 1998 on the organisation of a labour force sample survey in the Community.

The 1995 ESA, replaces the European System of Integrated Economic Accounts published in 1970 (1970 ESA; a second, slightly modified, edition appeared in 1978).

The 1995 ESA is fully consistent with the revised world-wide guidelines on national accounting, the System of National Accounts (1993 SNA, or simply: SNA; these guidelines have been produced under the joint responsibility of the United Nations, the IMF, the Commission of the European Communities, the OECD and the World Bank). However, the ESA is focused more on the circumstances and data needs of the European Union. Like the SNA, the ESA is harmonised with the concepts and classifications used in many other, social and economic statistics. Cases in point are statistics on employment, statistics on manufacturing and statistics on external trade. The ESA can therefore serve as the central framework of reference for the social and economic statistics of the European Union and its Member States.

The ESA framework consists of two main sets of tables:
(a) the sector accounts;
(b) the input-output framework and the accounts by industry.
The sector accounts provide, by institutional sector, a systematic description of the different stages of the economic process: production, generation of income, distribution of income, redistribution of income, use of income and financial and non-financial accumulation. The sector accounts also include balance sheets to describe the stocks of assets, liabilities and net worth at the beginning and the end of the accounting period.

The input-output framework and the accounts by industry describe in more detail the production process (cost structure, income generated and employment) and the flows of goods and services (output, imports, exports, final consumption, intermediate consumption and capital formation by product group).

National Accounts data for the candidate countries are available within the NewCronos database. These data have been fully integrated into the database and are found alongside the data for the Member States. Candidate country information is provided for the main National Accounts aggregates, as well as more detailed sectoral breakdowns.

GLOSSARY OF TERMS

There follows a brief list of the main terms employed within this publication:

Annual average growth rate: constant rate of growth that would be required in each year to achieve the same overall growth rate as that observed between two periods.

Apparent labour productivity: value added at factor cost/number of persons employed (expressed in thousand EUR per person employed); care should be taken in the interpretation of this ratio between different activities and countries because of the use of a simple head count for the labour input measure, as a proxy for the volume of work done; values may exceptionally be negative.

Average personnel costs: personnel costs/number of employees (expressed in thousand EUR per employee).

Constant prices: data presented with the effect of price fluctuations over time removed from them (deflated series); note that, as these are expressed in EUR, time series are influenced by fluctuations in the exchange rate.

Cover ratio: exports/imports (expressed as a percentage).

Current prices: data presented including the effects of price changes.

Domestic output price index: an index of the prices of commodities produced and sold within any given country in national currency terms; output price indices are often used to deflate production and value added data (in value) in order to obtain production and value added in constant price terms; this index shows the change in ex-works selling prices of all products sold on domestic markets, excluding VAT and similar deductible taxes.

Employees: are defined as those persons who work for an employer and who have a contract of employment and receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind; employees include part-time workers, seasonal workers, persons on strike or on short-term leave, but exclude those persons on long-term leave and voluntary workers.

Enterprise: an enterprise is the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources; an enterprise carries out one or more activities at one or more locations; an enterprise may be a sole legal unit.

Extra-EU exports: goods which leave the statistical territory of a Member State bound for a non-Community country.

Extra-EU imports: goods which enter the statistical territory of a Member State from a non-Community country.

Gross operating surplus: is the surplus generated by operating activities after the labour factor input has been recompensed; it can be calculated from value added at factor cost less personnel costs.

Gross operating rate: gross operating surplus/turnover (profitability measure, expressed as a percentage).

Local unit: the local unit is an enterprise or part thereof (e.g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place. At or from this place economic activity is carried out for which - save for certain exceptions - one or more persons work (even if only part-time) for one and the same enterprise.

Number of persons employed (employment): 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. sales representatives, delivery personnel, repair and maintenance teams); it includes persons absent for a short period (e.g. sick leave, paid leave or special leave), and also those on strike, but not those absent for an indefinite period; it also includes part-time workers who are regarded as such under the laws of the country concerned and who are on the pay-roll, as well as seasonal workers, apprentices and home workers on the pay-roll.

Personnel costs: the total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees as well as home workers) 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.

Production value: measures in value the amount actually produced by the unit, based on sales adjusted for changes in stocks and the resale of goods and services; the production value is defined as 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).

Simple wage adjusted labour productivity: value added at factor cost/personnel costs * 100 (expressed as a percentage).

Trade balance: exports - imports.

Turnover: comprises the totals invoiced by the observation unit during the reference period, corresponding to market sales of goods or services supplied to third parties; turnover includes all duties and taxes on the goods or services invoiced by the unit with the exception of the VAT invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover; it also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice; reductions in prices, rebates and discounts as well as the value of returned packing must be deducted.

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; alternatively it can be calculated from gross operating surplus by adding personnel costs; income and expenditure classified as financial or extra-ordinary in company accounts is excluded from value added.

Value added specialisation: relative index that compares the value added share of a given manufacturing activity in total manufacturing value added for a given country with the same ratio for the EU (expressed as a percentage - if a country displays a ratio above 100 then it is relatively more specialised than the average for the EU).

Wage adjusted labour productivity: (value added at factor cost/personnel costs) * (number of employees/number of persons employed) * 100 (expressed as a percentage).

ABBREVIATIONS

Countries

EU	European Union
EU-15	Fifteen Member States of the European Union
B	Belgium
BENELUX	Belgium, the Netherlands and Luxembourg
DK	Denmark
D	Germany
EL	Greece
E	Spain
F	France
IRL	Ireland
I	Italy
L	Luxembourg
NL	the Netherlands
A	Austria
P	Portugal
FIN	Finland
S	Sweden
UK	the United Kingdom
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
EE	Estonia
HU	Hungary
LV	Latvia
LT	Lithuania
MT	Malta
PL	Poland
RO	Romania
SK	Slovakia
SI	Slovenia
TR	Turkey
CH	Switzerland
EEA	European Economic Area
IS	Iceland
JP	Japan
NO	Norway
US	United States (of America)

Professional trade associations

ACEA	Association des Constructeurs Européens d'Automobiles
ACI	Airports Council International (European Region)
AEA	Association of European Airlines
AECMA	Association Européenne des Constructeurs de Matériel Aérospatial
AESGP	Association of the European Self–Medication Industry
APEAL	The Association of European Producers of Steel for Packaging
APME	Association of Plastics Manufacturers in Europe
AWES	Association of European Shipbuilders and Shiprepairers
CAEF	Comité des Associations Européennes de Fonderie
CAOBISCO	Association of the Chocolate, Biscuit & Confectionery Industries of the EU
CBMC	Brewers of Europe
CECCM	Confederation of European Community Cigarette Manufacturers
CEPI	Confederation of European Paper Industries
Cerame-Unie	Liaison Office of the European Ceramic Industry
CIAA	Confédération des Industries Agro-alimentaires de la CE
CPDP	Comité Professionnel du Pétrole
CPIV	Comité Permanent de l'Industrie du Verre de la CEE
ECMT	European Conference of Ministers of Transport
EDA/ZMP	Europäischer Milchindustrieverband/Zentrale Markt- und Preisberichtstelle der Land- und Ernährungswirtschaft
EFCA	European Federation of Engineering Consultancy Associations
EMF	European Mortgage Federation (and national associations)
EOS	European Organisation of the Sawmill Industry
ERMCO	European Ready Mixed Concrete Association
ESBG	European Savings Bank Group
ESOMAR	European Society for Opinion and Marketing Research
ESTA	European Security Transport Association
EURATEX	European Apparel and Textile Organisation
FBE	Fédération Bancaire Européenne
FEA	European Aerosol Federation
FEACO	Fédération Européenne des Associations de Conseil en Organisation
Fediol	Fediol - EC Seed Crushers' and Oil Processors' Federation
FEDMA	Federation of European Direct Marketing
FEFSI	Fédération Européenne des Fonds et Sociétés d'Investissement
FEP	European Federation of the Parquet Industry
FEVE	Fédération Européenne du Verre d'Emballage
FIBV	Fédération Internationale des Bourses de Valeurs
FIEC	Fédération de l'Industrie Européenne de la Construction
GEBC	Groupement Européen des Banques Coopératives
IAAPA	International Association of Amusement Parks and Attractions
IACA	International Air Carrier Association
ICAO	International Civil Aviation Organization, European and North Atlantic Office
IMACE	International Margarine Association of the Countries of Europe
ISL	Institute of Shipping Economics and Logistics
Leaseurope	European Federation of Leasing Company Associations
STD	Swedish Federation of Consulting Engineers and Architects (Svensk Teknik och Design)
UIC	Union Internationale des Chemins de Fer
UITP	Union Internationale des Transports Publics
UNAFPA	Union des Associations de Fabricants de Pâtes Alimentaires de la Communauté Européene
UNESDA	Union of EU Soft Drinks Associations

Other organisations and publications

EITO	European Information Technology Observatory
IISI	International Iron and Steel Institute
LME	London Metal Exchange Limited
UN	United Nations
USGS	US Geological Survey
WTO	World Tourism Organisation
WTO	World Trade Organization
ITU	International Telecommunication Union
UNEX	Unipost External Monitoring System, International Post Corporation
Media Salles	Media Salles
EAO	European Audiovisual Observatory
CTcon	CTcon
Software Magazine	Software Magazine, Wiesner Publishing, Framingham, Mass., USA
The Bankers' Almanac	The Bankers' Almanac
International Insurance Facts	Insurance Information Institute
Zenithmedia	Zenithmedia Western European Market and Mediafact
meatnews.com	Meatnews.com & Meat Processing Global
PricewaterhouseCoopers	PricewaterhouseCoopers 2002 Global Forest and Paper Survey
McGraw-Hill	Engineering News-Record, McGraw-Hill
Hotels Magazine	Hotels Magazine
Containerisation Yearbook	Containerisation Yearbook

Statistical abbreviations

CIS	Community Innovation Survey
COICOP	Classification Of Individual Consumption according to Purpose
CPA	Classification of Products by Activity
ECHP	European Community Household Panel
FATS	Foreign Affiliates Trade Statistics
FDI	Foreign Direct Investment
HBS	Household Budget Survey
LFS	Labour Force Survey
NACE	Nomenclature statistique des Activités économiques dans la Communauté Européenne (Statistical Classification of economic activities in the European Community)
n.e.c.	not elsewhere classified
Prodcom	PRODucts of the European COMmunity
SBS	Structural Business Statistics
SME	Small and medium sized enterprise
ZPA1	Eurostat's agricultural products database

Other abbreviations

ABS	Antilock Braking System
AM	After-Market
ATC	Agreement on Textiles and Clothing
ATM	Automatic Teller Machine
BSE	Bovine Spongiform Encephalopathy (Mad-cow disease)
CD-ROM	Compact disc read-only memory
CFP	Common Fisheries Policy
DIY	Do-It-Yourself
DTP	Desk-top Publishing
DVD	Digital Versatile Disc
ECSC	European Coal and Steel Community
EEE	Electrical and Electronic Equipment
EER	Energy Efficiency Requirements
GDP	Gross Domestic Product
ICT	Information and Communications Technologies
ISDN	Integrated Services Digital Network
IT	Information Technology
JIT	Just In Time
MDF	Medium Density Fibreboard
NASDAQ	National Association of Securities Dealers' Quotation System
n.p.r.s.	not put up in form for retail sale
NYSE	New York Stock Exchange
OE	Original Equipment
OJ	Official Journal (of the European Communities)
OPT	Outward Processing Trade
OSB	Oriented StrandBoard
PC	Personal Computer
p.r.s.	put up in form for retail sale
PVC	Polyvinyl Chloride
R & D	Research and Development
TENs	Trans-European Networks
TGV	Train à Grand Vitesse (High-speed train)
TV	Television
VAT	Value Added Tax
WEEE	Waste Electrical and Electronic Equipment

Weights and measures

AAGR	Average Annual Growth Rate
CGT	Compensated Gross Tonnes
DWT	Dead-Weight-Tonnes
GW	Gigawatt (10^6 kW)
Ha	Hectare (ten thousand square metres)
Hl	Hectolitre (hundred litres)
Kg	Kilogram(s)
Km	Kilometre
Kms	Kilometres
M	Metre
MW	Megawatt (10^3 kW)
PPS	Purchasing Power Standard
RPK	Revenue Passenger Kilometres
TEU	Twenty Foot Equivalent Unit
TOE	Tonne of Oil Equivalent (41 868 kilojoules net calorific value per kilogram)
TU	Tonnes of contained Uranium
TW	Terawatt (10^9 kW)

Currencies

EUR	Euro
BEF	Belgian Franc
DKK	Danish Krone
DEM	German Mark
GRD	Greek Drachma
ESP	Spanish Peseta
FRF	French Franc
IEP	Irish Pound
ITL	Italian Lira
LUF	Luxembourg Franc
NLG	Dutch Guilder
ATS	Austrian Schilling
PTE	Portuguese Escudo
FIM	Finnish Markka
SEK	Swedish Krone
GBP	Pound sterling
BGN	New bulgarian Lev
CYP	Cyprus Pound
CZK	Czech Koruna
EEK	Estonian Kroon
HUF	Hungarian Forint
LTL	Lithuanian Litas
LVL	Latvian Lats
MTL	Malta Lira
PLN	New Polish Zloty
ROL	Romanian Leu
SIT	Slovenian Tolar
SKK	Slovak Koruna
TRL	Turkish Lira
JPY	Japanese Yen
USD	US Dollar

Symbols

: not available

\- not applicable

Overview - the EU's business economy

INTRODUCTION

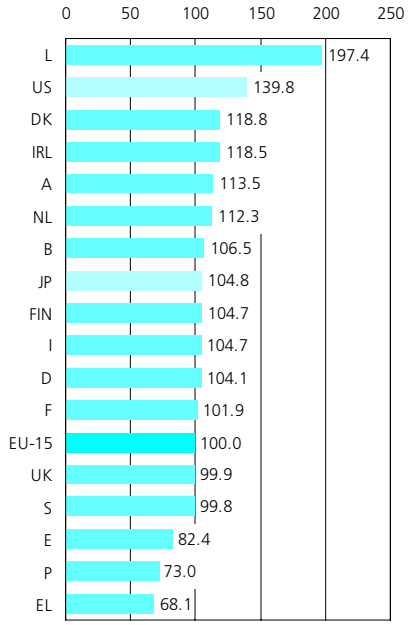
One of the most common measures of living standards is gross domestic product (GDP) per head. In order to make comparisons more meaningful it is usual to adjust this ratio to account for different price levels between countries and to therefore express the series in terms of purchasing power standards (PPS). GDP per capita in the EU averaged PPS 23 200 in 2001 (or EUR EUR 23 210 per head). Among the Member States, GDP per capita in PPS terms ranged from just over two thirds (68 %) of the EU average in Greece to almost double (197 %) the average in Luxembourg. The figure for Luxembourg was well ahead of Denmark and Ireland (the second and third placed countries), where GDP per inhabitant was some 18 % above average – see Figure 1.

According to national accounts, the EU economy generated EUR 8 200 billion of value added in 2001. This figure can be split between six major branches – see Table 1 – with the relative importance of agriculture, hunting, forestry and fishing (2.1 % of total value added) and construction (5.4 %) being fairly limited compared to the other branches [(1)].

The respective shares of the three service branches in total value added all rose between 2000 and 2001, while the share of industry (NACE Sections C to E) fell by 0.7 percentage points. This continued an established trend of the EU economy becoming increasingly dominated by the service sector.

Between 1991 and 2001 financial intermediation and business services (NACE Sections J and K) gained 3.0 percentage points of total value added, while distributive trades, hotels and restaurants, transport, storage and communications (NACE Sections G, H and I) gained 0.8 points. On the other hand, the share of industry fell by 2.5 points, construction by 0.9 points and that of agriculture, hunting, forestry and fishing by 0.6 points.

Figure 1
GDP per inhabitant, 2001 (EU-15=100) (1)



(1) At current market prices and PPS; L, UK and JP, forecasts.
Source: Eurostat, National Accounts - ESA95 - aggregates (theme2/aggs).

Table 1
Breakdown of GDP in the EU, 2001 (%)

NACE label (NACE code)	
Agriculture, hunting, forestry & fishing (A & B)	2.1
Mining & quarrying; manufacturing; electricity, gas & water supply (C to E)	22.1
Construction (F)	5.4
Distributive trades; hotels & restaurants; transport, storage & communication (G to I)	21.6
Financial intermediation; real estate, renting & business activities (J & K)	27.2
Public administration, community, social & personal services (L to Q)	21.7

Source: Eurostat, National Accounts - Breakdowns by branch of activity (theme2/brkdowns).

[(1)] Please note that agriculture, fishing and forestry (NACE Sections A and B), as well as public administration, community, social and personal services (NACE Sections L to Q) are generally not covered by this publication, as large parts of them are not usually covered by European business statistics, which are generally limited to NACE Sections C to K. Selected parts of other community, social and personal services (NACE Section O) are found in Chapters 13, 14 and 24.

The progressive shift towards a service-orientated economy is represented in Figure 2, with the two fastest growing sectors (in constant price terms) both part of the market services' economy. The value added generated by the financial intermediation and business services sector grew at an average rate of 3.1 % per annum between 1991 and 2001, and was followed by distributive trades, hotels and restaurants, transport, storage and communications (2.7 % growth per annum).

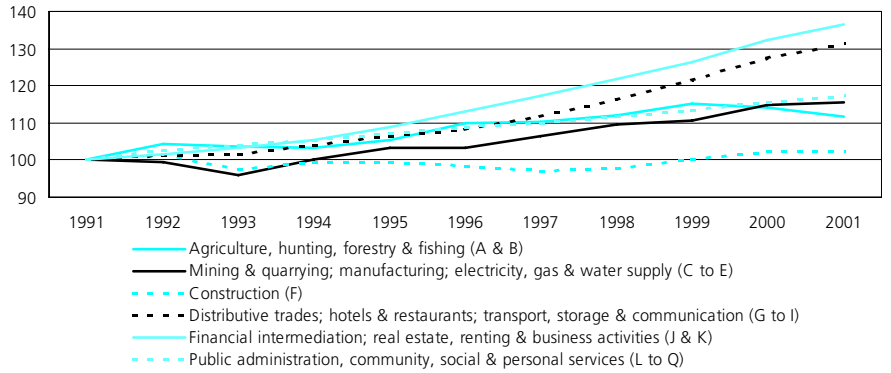
Although growth in the other branches of the EU economy was not as fast, it did, on average, remain positive during the 10–year period from 1991 to 2001. Industry and construction experienced the largest downturns in activity during 1993, with industry recovering at a much more rapid pace during the second half of the 1990s, resulting in average growth of 1.5 % per annum for the whole of the period from 1991 to 2001.

The increasing importance of the service sector may, in part, be attributed to manufacturers and other service enterprises switching from in-house provision to external suppliers of services such as accounting, IT services, advertising, training, management consultancy, security, catering or cleaning. This trend is often referred to as outsourcing and may, at least in part, explain the rapid growth of the business service sectors during the 1990s.

At the same time, manufacturing enterprises have tended to relocate their production, with relatively high wages, free trade and developments in communications driving output away from the EU towards low labour cost regions, particularly for more standardised products. Manufacturers within the EU increasingly concentrate on higher added value tasks, for example in the areas of research, design and development.

Figure 2

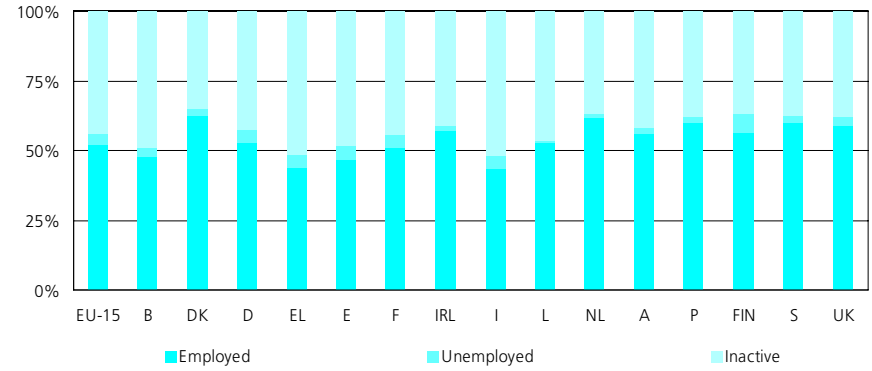
Breakdown of development of GDP in constant prices in the EU (1991=100)



Source: Eurostat, National Accounts - Breakdowns by branch of activity (theme2/brkdowns).

Figure 3

Breakdown of the labour force by employment status, 2001 (share of persons aged 15 or more) (1)



(1) NACE Sections A to Q.
Source: Eurostat, Labour Force Survey.

According to the labour force survey (LFS) [(2)], there were 310 million persons aged 15 years and above living in the EU in 2001; of these, some 174 million were either employed or seeking work, while the remaining 136 million were inactive (retired, in education, chose not to work, etc.) – see Figure 3. The activity rate measures the share of those employed in the total population aged between 15 and 64. In 2001, this ratio ranged from 60.3 % in Italy up to 79.2 % in Denmark; the EU average was 69.0 %. Higher activity rates tend to generate on the one hand more revenue for governments, while at the same time removing some of the social security burden, as persons (re-)join the labour force.

[(2)] The use of the Labour Force Survey, which is based on a household survey, may produce quite different results to those obtained through enterprise surveys that are the basis for the vast majority of the statistics presented in this publication.

Approximately one in six (18.0 %) persons in the EU were working on a part-time basis in 2001 – see Figure 4. Part-time employment accounted for less than 10 % of employment in just three of the Member States: Greece, Spain and Italy. The share of part–time employment was higher than average in Denmark, Germany, Sweden and the United Kingdom (all between 20 and 25 %), and significantly higher in the Netherlands (42.2 %).

There were considerable differences between Member States as regards the share of women in the total number of persons employed in 2001. The highest shares (at least 45 %) were registered in Denmark, the Netherlands, Portugal, Finland, Sweden and the United Kingdom. The EU average stood at 42.9 %, while three countries were below the threshold of 40 % (Greece, Spain and Italy).

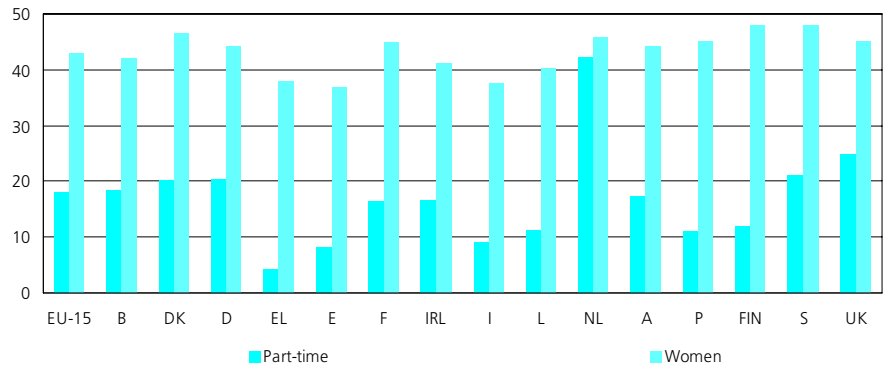
The service sector (NACE Sections G to Q) accounted for the majority of jobs in the EU in 2001, with just over two thirds (67.2 %) of those employed – see Figure 5. There were six countries where services accounted for more than 70 % of total employment, the highest share being recorded in Luxembourg (77 %). The shift towards services, evident for value added, was also present when studying the evolution of employment within the EU. Between 1995 and 2001 the number of persons employed in the service sector rose in every Member State, with the share of services in total employment increasing in every country, except Portugal. By 2001, Portugal was the only country to report that services did not account for more than 60 % of total employment.

There were large differences in the importance of the agriculture, hunting, forestry and fishing sectors (NACE Sections A and B): ranging from less than 2 % of total employment in Belgium, Luxembourg and the United Kingdom to 13 % of employment in Portugal and 16 % in Greece. The industrial and construction sectors (NACE Sections C to F) generally accounted for between 20 and 30 % of total employment, with their share rising above 30 % in Germany, Spain, Italy and Portugal.

Between 1995 and 2001 there was a 13 million net increase in the number of persons employed in the EU, with services accounting for 12.7 million of the net increase – see Table 2. The largest net gains were made by public administration, community, social and personal services (NACE Sections L to Q) and financial intermediation, real estate, renting and business activities (NACE Sections J and K), where employment in the EU rose by 5.1 million and 4.4 million respectively over the period considered. The only branch to register a net reduction in the number of persons employed was agriculture, hunting, forestry and fishing, with a decline of 1.1 million.

Figure 4

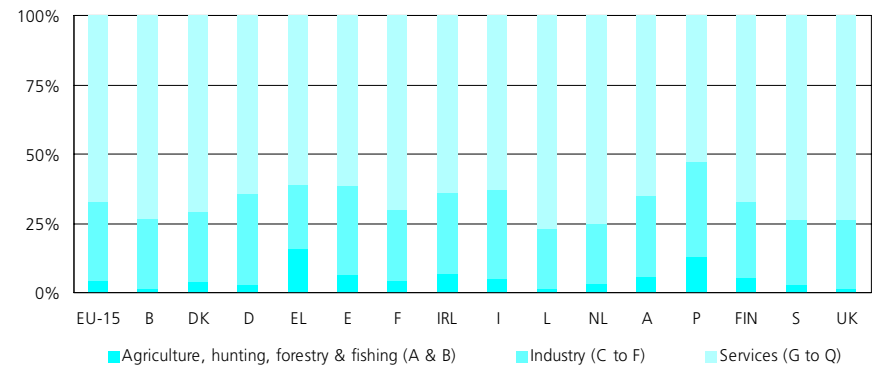
Labour force characteristics, 2001 (% share of those employed aged 15 or more) (1)



(1) NACE Sections A to Q.
Source: Eurostat, Labour Force Survey.

Figure 5

Breakdown of persons in employment by activity, 2001 (share of those employed aged 15 or more)



Source: Eurostat, Labour Force Survey.

Table 2

Evolution of total employment in the EU (millions)

NACE label (NACE code)	1995	2001	Share (%) 1995	Share (%) 2001	Growth rate, 2001/1995 (%)	Average annual growth rate, 1995-2001 (%)
Total (A to Q)	148.0	160.9	100.0	100.0	8.8	1.7
Agriculture, hunting, forestry & fishing (A & B)	7.8	6.7	5.3	4.2	-14.5	-3.1
Mining & quarrying; manufacturing; electricity, gas & water supply (C to E)	33.1	33.4	22.4	20.8	1.0	0.2
Construction (F)	11.6	12.7	7.9	7.9	9.4	1.8
Distributive trades; hotels & restaurants; transport, storage & comm. (G to I)	37.1	40.3	25.1	25.0	8.4	1.6
Financial intermediation; real estate, renting & business activities (J & K)	15.5	19.9	10.5	12.4	28.5	5.1
Public administration, community, social & personal services (L to Q)	42.8	47.9	28.9	29.8	12.0	2.3

Source: Eurostat, Labour Force Survey.

INTANGIBLES AND GLOBALISATION

Traditional economic theories were often based upon the exchange of tradable, physical goods in a one-to-one relationship. In recent years, intangibles (non-material factors) have been considered as playing an increasing role in determining economic performance. The exploitation of property rights, brands, R & D, know-how, skills and supply networks are thought to be some of the key drivers of intangible wealth creation.

At the Lisbon European Council in March 2000, the European Union set itself the ambitious goal '*to become the most competitive and dynamic knowledge-driven economy in the world*' by 2010. Enterprise policy is one area that will play a major role in setting the conditions for this objective to be met. In order to measure business performance, a benchmarking initiative was set up at the request of the Lisbon Council. The structural indicators' database was launched in the European Commission's Communication '*Realising the potential of the European Union – Consolidating and extending the Lisbon strategy*' [3]. Table 3 shows some selected indicators from this database. The aim of the database is to act as a tool, whereby countries can seek to improve their own performance (to the benefit of the whole EU) by comparing themselves with other Member States and adapting their enterprise policy to reflect best practices identified in other countries.

Globalisation encompasses a wide range of issues, such as the development of intra-enterprise trade, financial flows, forms of linkages between businesses and cross-border operations. Multi-national enterprises and networks are at the core of the process, acting as economic agents controlling or interacting with entities situated in different countries. The qualitative nature of information required to define a group's perimeter can often make it difficult to obtain reliable statistical information (such as the statistical system stands today). One of the key constraints is that global enterprises make their decisions against a worldwide backdrop, while these decisions continue to be analysed using national data collections truncated by geographical borders.

[3] COM(2001) 79. Eurostat's structural indicators homepage may be found at: http://www.europa.eu.int/comm/eurostat/Public/datashop/print-product/EN?catalogue=Eurostat&product=1-structur-EN&mode=download

Table 3

Selected structural indicators

	Business enterprise R&D expenditure relative to GDP, 2001 (%) (1)	Number of patent applications at the EPO per million inhabitants, 2000 (units) (2)	Venture capital investment relative to GDP - early stage, 2001 (%) (3)
EU-15	1.28	152.7	0.05
B	1.45	151.2	0.04
DK	1.32	169.5	0.08
D	1.80	296.8	0.06
EL	0.19	5.2	0.02
E	0.52	22.1	0.02
F	1.36	139.7	0.04
IRL	0.88	87.6	0.03
I	0.53	72.3	0.02
L	1.19	170.9	:
NL	1.14	217.7	0.04
A	1.14	154.1	0.02
P	0.17	3.9	0.01
FIN	2.68	320.3	0.10
S	2.84	346.4	0.10
UK	1.21	124.0	0.06
JP	2.11	148.5	:
US	2.04	158.2	0.14

(1) B, DK, F, L and US, 2000; EL, IRL, NL, P and S, 1999; A, 1998; B, FIN and UK, forecast; DK, D and F, estimate; US and L, provisional; EU-15, Eurostat estimate.
(2) All values are provisional.
(3) US, Eurostat estimate.
Source: Eurostat, Structural indicators (theme1/strind).

Many enterprises have concentrated on extending their operations beyond national borders in an attempt (among other things) to circumvent trade barriers, increase proximity to customers, reduce costs (labour, transportation or other inputs), guarantee a supply of materials or avoid regulations. Such changes in business structure, conduct and performance have created significant challenges for national statistical systems.

Foreign affiliates trade statistics (FATS) is a data collection exercise that measures the commercial presence of enterprises in the territory of another country. The statistics describe the overall activity of foreign controlled enterprises and have been developed for inward FATS – in other words, foreign owned affiliates in the reporting economy. Table 4 provides some of the main results from this study.

Table 4

Main indicators for foreign affiliates trade statistics, 1998 (1)

	Nationally owned	Foreign owned	Non-EU foreign owned
Value added at factor cost (million EUR)			
DK	66 734	8 518	:
NL	143 931	26 865	14 427
FIN	49 421	6 788	2 934
S	98 272	18 889	8 819
UK	540 963	100 858	:
Number of persons employed (units)			
DK	1 317 464	111 194	:
NL	3 948 904	412 477	184 228
FIN	972 426	119 264	47 073
S	2 090 256	327 904	142 794
UK	:	:	:

(1) NACE Section C to K, excluding Section J.
Source: Eurostat, Structural Business Statistics (theme4/sbs/fats).

STRUCTURAL BUSINESS STATISTICS

Structural business statistics (SBS) provide the majority of data used in this publication. The data are collected within the legal framework provided by the SBS regulation [4]. Figures relating to enterprises of all sizes (with one or more persons employed) [5] are used in this publication to provide a snapshot of the latest situation in the EU's business economy for the reference year 2000.

A second collection of SBS data provides a longer time-series, but only for industrial enterprises with 20 or more persons employed [6]. In this publication these figures are used to provide a comparison of the evolution of the manufacturing sector.

A SNAPSHOT OF THE EU'S BUSINESS ECONOMY

Estimates based on SBS data suggest that the value added of the EU's business economy (NACE Sections C to K) was EUR 4 700 billion in 2000, while there were over 100 million persons employed.

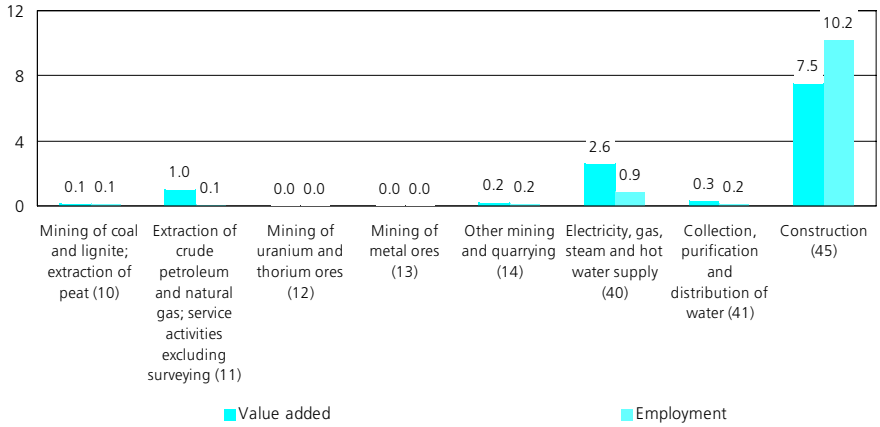
At the NACE section level, manufacturing was the largest activity, accounting for 31.2 % of value added and 27.7 % of employment. These two shares imply that the manufacturing sector is relatively productive when compared to the average performance of the whole economy. However, the remaining industrial activities were even more productive, as mining and quarrying accounted for a 1.4 % share of total value added, but just 0.4 % of employment, and electricity, gas and water supply was responsible for generating 2.9 % of total value added, while employing 1.0 % of the workforce. These figures may be explained in part by the transformation of the industrial base, as enterprises increasingly specialise in skills-intensive sectors, while low-skilled, labour-intensive activities have been driven out to lower cost countries.

This switch in productive capacity has also brought with it a change in demand between businesses, most notably an increase in the demand for business services. Real estate, renting and business activities generated 17.9 % of value added (the highest share among service sectors), while employing 17.0 % of the total. Financial intermediation accounted for 8.5 % of the EU's value added in 2000, while employing 5.1 % of those working.

Looking in more detail, at the two–digit level of NACE, construction (NACE Division 45) was by far the largest non-manufacturing industrial activity in every Member State in 2000, accounting on average for 7.5 % of the value added generated in the EU's business economy and 10.2 % of those employed – see Figure 6. The next largest activity was usually the supply of electricity, gas, steam and hot water (NACE Division 40), although in Denmark and the United Kingdom the extraction of petroleum and gas (NACE Division 11) generated more value added. The extraction of petroleum and gas was also relatively important in the Netherlands, where it generated almost as much value added as the supply of electricity, gas, steam and hot water – see Table 5.

Figure 6

Breakdown of activity in non-manufacturing industrial sectors in the EU, 2000 (% share of business economy) (1)



(1) Based on NACE Divisions 10 to 14 and 40, 41 and 45; estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 5

Three largest non-manufacturing industrial sectors, 2000 (1)

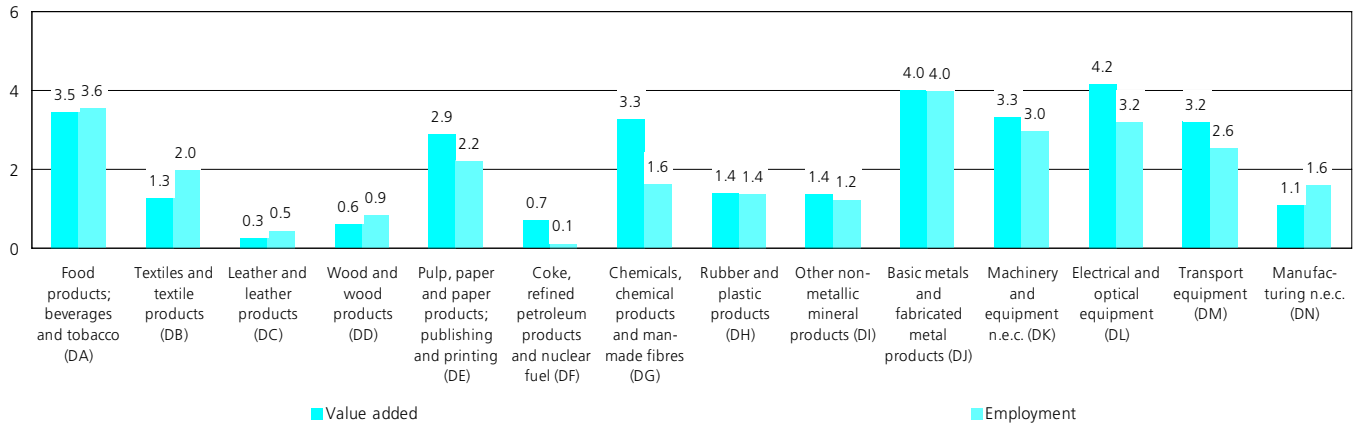
	Largest	Second largest	Third largest
EU-15	Construction	Electricity, gas, steam & hot water	Extraction of petroleum & gas
B	Construction	Electricity, gas, steam & hot water	Collection, purification & distribution of water
DK	Construction	Extraction of petroleum & gas	Electricity, gas, steam & hot water
D	Construction	Electricity, gas, steam & hot water	Mining of coal & lignite; extraction of peat
EL	Construction	Electricity, gas, steam & hot water	Other mining and quarrying
E	Construction	Electricity, gas, steam & hot water	Collection, purification & distribution of water
F	Construction	Electricity, gas, steam & hot water	Collection, purification & distribution of water
IRL	Construction	Electricity, gas, steam & hot water	Mining of coal & lignite; extraction of peat
I	Construction	Electricity, gas, steam & hot water	Extraction of petroleum & gas
L	Construction	Electricity, gas, steam & hot water	Other mining and quarrying
NL	Construction	Electricity, gas, steam & hot water	Extraction of petroleum & gas
A	Construction	Electricity, gas, steam & hot water	Other mining and quarrying
P	Construction	Electricity, gas, steam & hot water	Collection, purification & distribution of water
FIN	Construction	Electricity, gas, steam & hot water	Collection, purification & distribution of water
S	Construction	Electricity, gas, steam & hot water	Mining of metal ores
UK	Construction	Extraction of petroleum & gas	Electricity, gas, steam & hot water

(1) Based on value added for non-manufacturing industrial sectors (NACE Divisions 10 to 14 and 40, 41 and 45); estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

[4] Council Regulation (EC, EURATOM) No. 58/97 of 20 December 1996 concerning structural business statistics.
[5] These data can be found on Eurostat's NewCronos database at: theme4/sbs/enterpr/enter_ms.
[6] These data can be found on Eurostat's NewCronos database at: theme4/sbs/enterpr/ent_l_ms.

Figure 7

Breakdown of activity in manufacturing sectors in the EU, 2000 (% share of business economy) (1)



(1) Based on NACE Subsections DA to DN; estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Within the manufacturing sector, the three largest activities (in terms of value added) were machinery and equipment (NACE Division 29), food products and beverages (NACE Division 15) and chemicals and chemical products (NACE Division 24) – see Figure 7. At least two of these three activities appeared in the ranking of the three largest manufacturing activities in 10 of the Member States. However, manufacturing in Greece, Luxembourg, Portugal, Finland and Sweden was more concentrated in activities that did not have such a predominant position in the EU as a whole. In the larger Member States, Germany reported a higher than average share of its output concentrated within the manufacture of motor vehicles, France and Italy produced more fabricated metal products than average and the share of publishing and printing was relatively high in the United Kingdom – see Table 6.

Table 6

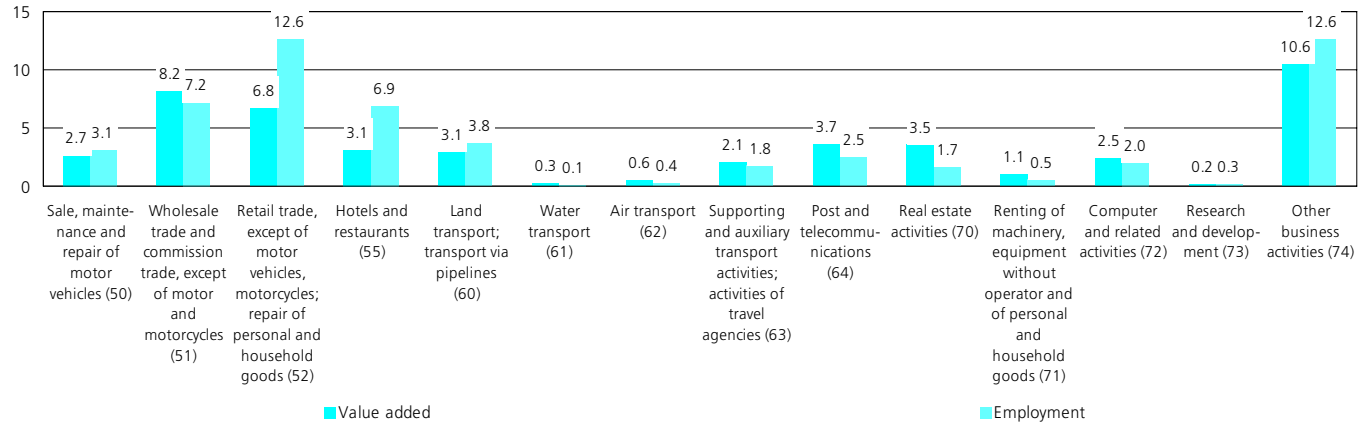
Three largest manufacturing sectors, 2000 (1)

	Largest	Second largest	Third largest
EU-15	Machinery & equipment n.e.c.	Food products & beverages	Chemicals & chemical products
B	Chemicals & chemical products	Food products & beverages	Basic metals
DK	Food products & beverages	Machinery & equipment n.e.c.	Chemicals & chemical products
D	Machinery & equipment n.e.c.	Motor vehicles	Chemicals & chemical products
EL	Food products & beverages	Textiles	Coke, petroleum & nuclear fuel
E	Food products & beverages	Fabricated metal products	Chemicals & chemical products
F	Food products & beverages	Chemicals & chemical products	Fabricated metal products
IRL	Chemicals & chemical products	Food products & beverages	Publishing & printing
I	Machinery & equipment n.e.c.	Fabricated metal products	Food products & beverages
L	Basic metals	Rubber & plastic products	Fabricated metal products
NL	Food products & beverages	Chemicals & chemical products	Publishing & printing
A	Machinery & equipment n.e.c.	Coke, petroleum & nuclear fuel	Food products & beverages
P	Food products & beverages	Other non-metallic minerals	Textiles
FIN	Radio, TV & communications	Pulp, paper & paper products	Machinery & equipment n.e.c.
S	Motor vehicles	Machinery & equipment n.e.c.	Pulp, paper & paper products
UK	Food products & beverages	Publishing & printing	Chemicals & chemical products

(1) Based on value added for manufacturing (NACE Divisions 15 to 37); estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Figure 8

Breakdown of activity in service sectors in the EU, 2000 (% share of business economy) (1)



(1) Based on NACE Divisions 50 to 64 and 70 to 74; estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Within the service sector the three largest activities (still at the two–digit level of NACE) were generally wholesale trade (NACE Division 51), retail trade (NACE Division 52) and other business activities (NACE Division 74). The latter two activities both accounted for a particularly high share of total employment, 12.6 % of those employed in the EU. However, in terms of value added, wholesale trade was more important than retail trade – see Figure 8. Considering the individual Member States, other business activities and wholesale trade were the two largest sectors in terms of value added generated in every country in 2000, except for Ireland and Portugal, where retail trade displaced other business activities. In the remaining countries, retail trade was usually the third most important activity, except in Greece (hotels and restaurants), Luxembourg (post and telecommunications) and Sweden (real estate activities) – see Table 7.

The promotion of small and medium-sized enterprises (SMEs) is thought to be fundamental when fostering an environment that encourages economic growth and job opportunities. The size class domain of the SBS database provides information on the enterprise size structure within the EU's business economy in 1999. SMEs are found to be particularly important in the activities of hotels and restaurants, construction, distributive trades and real estate, renting and business activities, where they provide employment to a large number of persons – see Table 8.

Table 7

Three largest service sectors, 2000 (1)

	Largest	Second largest	Third largest
EU-15	Other business activities	Wholesale trade	Retail trade
B	Wholesale trade	Other business activities	Retail trade
DK	Wholesale trade	Other business activities	Retail trade
D	Other business activities	Wholesale trade	Retail trade
EL	Other business activities	Wholesale trade	Hotels and restaurants
E	Wholesale trade	Other business activities	Retail trade
F	Other business activities	Wholesale trade	Retail trade
IRL	Retail trade	Wholesale trade	Other business activities
I	Other business activities	Wholesale trade	Retail trade
L	Other business activities	Wholesale trade	Post and telecommunications
NL	Wholesale trade	Other business activities	Retail trade
A	Wholesale trade	Other business activities	Retail trade
P	Wholesale trade	Retail trade	Other business activities
FIN	Wholesale trade	Other business activities	Retail trade
S	Wholesale trade	Other business activities	Real estate activities
UK	Other business activities	Wholesale trade	Retail trade

(1) Based on value added for services (NACE Divisions 50 to 64 and 70 to 74); estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Indeed, SMEs employed as many as 87 % of the EU's workforce in the construction sector in 1999, 80 % of those employed in hotels and restaurants and 72 % in distributive trades. Transport, storage and communication was the only NACE section to report that SMEs did not employ more than 50 % of its workforce – see Table 9.

The apparent labour productivity of micro enterprises was below the average of all enterprises for each NACE section except in real estate, renting and business activities, where micro-enterprises accounted for 32.2 % of employment, but generated 33.9 % of value added.

In the construction, distributive trades and hotels and restaurants sectors, there was no significant difference in apparent labour productivity of small, medium or large-sized enterprises. Real estate, renting and business activities reported that apparent labour productivity in the EU increased between micro, small and medium-sized enterprises before tailing off for large enterprises. There were, however, two sectors that did report increasing apparent labour productivity returns for larger enterprises, namely manufacturing and transport, storage and communication. Both of these activities often require significant capital investment to set up efficient production lines or maintain national networks at a minimum efficient scale.

Table 8

Importance of small enterprises in the value added of manufacturing activities in the EU, 2000 (% share of enterprises with less than 20 persons employed) (1)

NACE label (NACE code)	Share of enterprises with <20 persons employed in total value added (%)
Food products and beverages (15)	15.3
Tobacco products (16)	0.2
Textiles (17)	19.1
Wearing apparel; dressing; dyeing of fur (18)	27.7
Tanning, dressing of leather; luggage (19)	30.1
Wood, except furniture; articles of straw and plaiting materials (20)	34.8
Pulp, paper and paper products (21)	5.3
Publishing, printing, reproduction of recorded media (22)	23.0
Coke, refined petroleum products and nuclear fuel (23)	1.1
Chemicals and chemical products (24)	3.1
Rubber and plastic products (25)	12.0
Other non-metallic mineral products (26)	13.8
Basic metals (27)	3.7
Fabricated metal products, except machinery and equipment (28)	30.4
Machinery and equipment n.e.c. (29)	12.4
Office machinery and computers (30)	6.2
Electrical machinery and apparatus n.e.c. (31)	8.6
Radio, television and communication equipment and apparatus (32)	4.2
Medical, precision and optical instruments, watches and clocks (33)	18.4
Motor vehicles, trailers and semi-trailers (34)	1.9
Other transport equipment (35)	4.2
Furniture; manufacturing n.e.c. (36)	29.3
Recycling (37)	39.1

(1) Extraction of data made in March 2003; the data presented in this table shows the importance of enterprises with less than 20 persons employed, enterprises that are generally not covered within SBS LONG, the principal data set used when drafting chapters for manufacturing activities.
Source: Eurostat, Structural Business Statistics (theme4/sbs/sizclass).

Table 9

Breakdown of activity by enterprise size class in the EU, 1999 (1)

	Value added				Employment			
NACE label (NACE code)	Micro (1-9 persons employed)	Small (10-49 persons employed)	Medium (50-249 persons employed)	Large (250 or more persons employed)	Micro (1-9 persons employed)	Small (10-49 persons employed)	Medium (50-249 persons employed)	Large (250 or more persons employed)
Manufacturing (D)	7.7	16.3	22.2	53.7	13.4	21.7	23.3	41.5
Construction (F)	32.5	32.5	17.2	17.9	41.2	31.4	14.3	13.0
Distributive trades (G)	29.2	23.9	16.6	30.3	38.9	21.4	11.7	27.9
Hotels & restaurants (H)	39.7	24.6	11.9	23.8	45.6	24.5	9.9	20.0
Transport, storage & communication (I)	10.8	11.8	9.8	67.6	15.9	14.8	12.5	56.8
Real estate, renting & business activities (K)	33.9	23.9	22.3	19.9	32.2	19.0	16.5	32.2

(1) NACE Sections C, E and J, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/sizclass).

THE EU'S MANUFACTURING SECTOR FROM 1990 TO 2001

After a reduction in manufacturing activity at the start of the 1990s, the EU's value added in constant price terms increased during six consecutive years from 1996 to 2001 – see Figure 9. By 2001, the value added generated by the EU's manufacturing sector had reached EUR 1 327 billion.

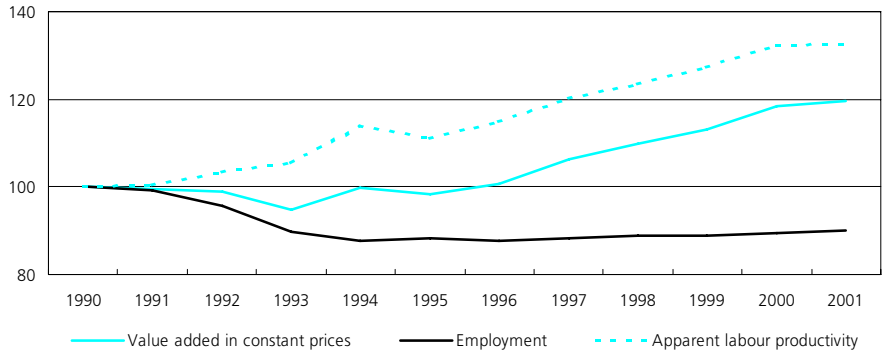
There were a total of 23.7 million persons employed in the EU's manufacturing sector in 2001, down from 26.3 million in 1990. The decline in manufacturing employment was almost exclusively confined to the first half of the 1990s, since when employment levelled off. There was an absolute gain of 3.0 % in the number of persons employed between the low reached in 1996 and the latest data for 2001.

The decline in employment levels during the first half of the 1990s was the main contributing factor to overall productivity gains in the EU's manufacturing economy between 1990 and 1995. Nevertheless, since 1996 apparent labour productivity gains have been stimulated mainly by a sharp increase in real value added rather than a fall in employment. It is also important to remember that while the level of employment in manufacturing has itself fallen between 1990 and 2001, a large proportion of employment in the tertiary sector is dependent on the manufacturing sector as the source of demand for their services.

As the role of intangibles becomes more important, most commentators agree that the fastest growing areas of the EU's economy are those driven by marketing, innovation and technology. SBS data for the EU between 1990 and 2001 reports that the fastest growth among manufacturing activities was recorded in the chemicals, chemical products and man-made fibres sector (NACE Subsection DG), rubber and plastic products' sector (NACE Subsection DH) and the transport equipment sector (NACE Subsection DM). All of these can be considered as either research-driven with a high degree of technological innovation (for example, aerospace, pharmaceuticals or plastics manufacture), or alternatively marketing-driven, with brand image playing an important role in differentiating products (for example, motor vehicles or detergents) – see Table 10.

Figure 9

Evolution of main indicators for manufacturing (NACE Section D) in the EU (1990=100)



Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 10

Share of manufacturing value added in the EU (%)

NACE label (NACE code)	1990	2001
Food products; beverages and tobacco (DA) (1)	11.0	11.3
Textiles and textile products (DB)	5.3	3.7
Leather and leather products (DC)	1.0	0.8
Wood and wood products (DD)	1.6	1.6
Pulp, paper and paper products; publishing and printing (DE)	8.3	8.8
Coke, refined petroleum products and nuclear fuel (DF)	1.8	2.1
Chemicals, chemical products and man-made fibres (DG)	10.7	11.8
Rubber and plastic products (DH)	4.2	4.8
Other non-metallic mineral products (DI)	4.8	4.4
Basic metals and fabricated metal products (DJ)	12.4	11.7
Machinery and equipment n.e.c. (DK)	11.4	10.6
Electrical and optical equipment (DL) (2)	13.6	13.3
Transport equipment (DM)	11.9	12.5
Manufacturing n.e.c. (DN) (1)	2.0	2.7

(1) 2001, estimate.
(2) 1990, estimate.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 11

Relative specialisation in the manufacturing sector, 2000 (1)

B	DK	D	EL	E
Accumulators, cells & batteries	Fish	Electricity distribn. & control app.	Cement, lime & plaster	Cement, lime & plaster
Other first processing of iron & steel	Games & toys	Machine tools	Oils & fats	Ceramic tiles & flags
Other textiles	Optical & photographic equipment	Motor vehicles	Textile fibres	Stone
F	**IRL**	**I**	**L**	**NL**
Aircraft & spacecraft	Basic chemicals	Ceramic tiles & flags	Basic iron & steel (ECSC)	Audio-visual household goods
Processing of nuclear fuel	Office machinery & computers	Motorcycles & bicycles	Other textiles	Oils & fats
Steam generators	Reproduction of recorded media	Tanning & dressing of leather	Rubber products	Other transport equipment n.e.c.
A	**P**	**FIN**	**S**	**UK**
Railway rolling stock	Footwear	Pulp, paper & paperboard	Pulp, paper & paperboard	Aircraft & spacecraft
Sawmilling & planing of wood	Knitted & crocheted fabrics	Sawmilling & planing of wood	Sawmilling & planing of wood	Pesticides & other agro-chemical products
Sports goods	Other wood products	Telecommunications equipment	Tubes	Publishing

(1) Three most specialised manufacturing activities per country; based on NACE Groups and their specialisation ratios in terms of value added at factor cost; excluding recycling; only NACE Groups with a share >0.5% of national manufacturing are included; activities are ranked in alphabetical order; estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 11 provides information on specialisation ratios, which compare for a given country the importance of a particular NACE group in total manufacturing value added to the same ratio for the EU as a whole. The results show that natural endowments of resources, reinforced by long-standing traditions, can be an important contributing factor to the composition of a country's manufacturing sector, as high ratios were recorded for sawmilling and planing of wood in Finland and Sweden, stone in Spain, other wood products (namely, cork) in Portugal and ceramic tiles and flags in Italy. High-technology sectors featured in several countries: for example, aircraft and spacecraft in France and the United Kingdom, office machinery and computers in Ireland and audiovisual household goods in the Netherlands. It is important to note that smaller countries tend to register a broader range (both much higher and much lower) of relative specialisation ratios than larger countries, as some manufacturing sectors do not exist in smaller countries, thus magnifying the relative importance of those that do. It is also important to consider that specialisation ratios, per se, provide no information as to whether or not an industry accounts for an important share of total manufacturing. For this reason, very small activities that accounted for less than 0.5 % of a country's manufacturing value added in 2000 were removed from the table, even when one country dominated the EU total in a very small industry.

One factor that plays an important role in determining the competitiveness of industrial sectors is price. The European business trends (EBT) database provides information for annual domestic output price indices. Table 12 shows that output prices in manufacturing as a whole rose by 7.6 % between 1995 and 2001. Prices at the NACE subsection level rose for all but one activity, as the price of electrical and optical equipment in the EU was 5.3 % lower in 2001 than it had been in 1995. The vast majority of price increases registered in the EU's manufacturing sector were less than 10 % overall between 1995 and 2001, while the harmonised index of consumer prices rose by 11.5 % during the same period. Indeed, there were just two exceptions to this rule, the leather and leather products' sector (where prices rose by 12.2 %) and the coke, refined petroleum products and nuclear fuel sector (where prices rose by as much as 57.6 %). Prices in the refined petroleum products and nuclear fuel sector are to a very large degree dependent upon the cost of crude oil.

EXTERNAL TRADE STATISTICS

THE EU'S EXTERNAL TRADE SITUATION FROM 1991 TO 2001

External trade statistics for manufactured goods are available within the Comext database, and can be compiled according to the classification of products by activity (CPA). The EU totals cited in this section refer to extra-EU trade only and do not include intra-EU flows (in other words, trade between the Member States). On the other hand, the data presented for the Member States takes account of all external trade flows, both with intra and extra-EU partners.

As the EU data only refer to extra-EU trade, it is important to bear in mind that certain products have characteristics that mean they are less likely to be traded over long distances (for example, goods with low unit values relative to their transportation cost, perishable goods or fragile goods). Extra-EU exports of manufactured products (CPA Section D) expanded by 153.5 % between 1991 and 2001, equivalent to an average rate of 9.7 % per annum. These growth rates reflect the growing importance of globalisation and world markets.

Table 12

Development of domestic output prices in the EU (1995=100)

NACE label (NACE code)	1995	1996	1997	1998	1999	2000	2001
Manufacturing (D)	100.0	101.1	101.8	100.9	101.2	106.6	107.6
Food products; beverages and tobacco (DA)	100.0	102.1	103.4	103.1	102.3	103.9	107.5
Textiles and textile products (DB)	100.0	100.9	101.8	102.6	102.3	103.5	105.1
Leather and leather products (DC)	100.0	102.1	103.7	105.1	105.4	107.6	112.2
Wood and wood products (DD)	100.0	98.9	100.0	100.7	100.2	101.1	101.7
Pulp, paper and paper products; publishing and printing (DE)	100.0	99.3	98.4	99.3	99.0	104.1	106.1
Coke, refined petroleum products and nuclear fuel (DF)	100.0	111.7	116.9	103.4	117.3	168.2	157.0
Chemicals, chemical products and man-made fibres (DG)	100.0	98.8	99.6	98.0	97.2	103.2	104.3
Rubber and plastic products (DH)	100.0	100.0	99.4	98.8	97.9	100.0	101.2
Other non-metallic mineral products (DI)	100.0	100.8	101.7	102.7	103.8	105.8	108.3
Basic metals and fabricated metal products (DJ)	100.0	97.5	98.0	98.5	96.3	100.7	101.0
Machinery and equipment n.e.c. (DK)	100.0	102.6	104.1	105.1	106.0	107.1	108.6
Electrical and optical equipment (DL)	100.0	99.4	98.3	96.7	95.2	95.2	94.7
Transport equipment (DM)	100.0	101.9	102.1	103.1	103.6	103.9	104.6
Manufacturing n.e.c. (DN)	100.0	102.7	103.7	104.9	106.1	107.6	109.9

Source: Eurostat, European Business Trends (theme4/ebt/ebt_ind/ind_pric).

The EU's manufacturing trade surplus in 2001 was EUR 95.7 billion, which was a EUR 42.1 billion increase on 2000. This rapid gain of 79 % was entirely the result of expanding exports, while imports remained at almost the same level as in 2000 (down by EUR 1.9 billion). As a result, the EU recorded its highest trade surplus in manufactured products since 1997.

Table 13 details the external trade position of each Member State for manufactured products in 2001. In absolute terms the highest trade surplus was recorded in Germany (EUR 132 billion). However, in relative terms the German cover ratio was 130.2 % (indicating that total exports of manufactured goods were some 30.2 % higher than the corresponding total for imports). This was not the highest ratio among the Member States, as it was surpassed marginally by the cover ratio for Sweden (130.4 %), and more significantly by the cover ratios for Finland (157.7 %) and Ireland (167.2 %).

On the other hand, there were six Member States that reported trade deficits for manufactured goods in 2001. The largest of these was in the United Kingdom (EUR 62 billion), where total exports of manufactured goods accounted for 81.1 % of imports; the cover ratios of Portugal (69.2 %) and Greece (37.1 %) were considerably lower still.

Table 13

External trade flows of manufactured goods (CPA Section D), 2001 (million EUR)

	Exports	Share in EU total (%)	Imports	Share in EU total (%)	Trade balance	Cover ratio (%)
EU-15 (1)	910 433	-	814 760	-	95 673	111.7
B	190 815	8.2	167 602	7.8	23 213	113.9
DK	49 601	2.1	45 595	2.1	4 006	108.8
D	568 221	24.4	436 281	20.3	131 940	130.2
EL	9 627	0.4	25 927	1.2	-16 299	37.1
E	118 059	5.1	144 778	6.7	-26 719	81.5
F	339 904	14.6	328 180	15.3	11 724	103.6
IRL	84 755	3.6	50 691	2.4	34 064	167.2
I	260 418	11.2	217 886	10.2	42 532	119.5
L	11 086	0.5	12 362	0.6	-1 276	89.7
NL	205 413	8.8	182 363	8.5	23 049	112.6
A	73 416	3.1	76 261	3.6	-2 845	96.3
P	26 431	1.1	38 205	1.8	-11 775	69.2
FIN	47 248	2.0	29 953	1.4	17 295	157.7
S	78 467	3.4	60 172	2.8	18 295	130.4
UK	267 428	11.5	329 573	15.4	-62 145	81.1

(1) Trade with non-Community countries only.
Source: Eurostat, Comext.

Looking at the EU's external trade performance, broken down by CPA subsection, Table 14 shows that in 2001 some 68.5 % of the EU's manufactured exports were concentrated within the four product groups of chemicals, machinery and equipment, electrical and optical equipment, and transport equipment. This share was 7 percentage points higher than in 1991. A similar pattern was observed for imports, with the share of the four most important subsections rising from 56.5 % in 1991 to 61.6 % by 2001.

The increase in manufactured imports and exports over the period 1991 to 2001 was concentrated within two CPA subsections. Electrical and optical equipment (CPA Subsection DL) and transport equipment (CPA Subsection DM) recorded 5.1 and 2.1 percentage point gains in their respective shares of total manufactured imports and 6.2 and 2.4 point gains in their shares of total exports. Hence, these products consolidated their position as the most important CPA subsections for imports (together they accounted for 43.0 % of the EU's total manufacturing imports in 2001 compared to 36.3 % in 1991). Furthermore, they supplanted machinery and equipment (CPA Subsection DK) as the EU's most exported manufactured goods (together accounting for 38.8 % of exports in 2001, compared to 30.3 % in 1991).

The EU's largest trade surpluses were recorded for chemicals, machinery and equipment, and transport equipment in 2001. Although not as important in size, the EU also enjoyed a positive external trade position for pulp, paper and paper products, publishing and printing and other non-metallic mineral products. On the other hand, the largest trade deficits were recorded for electrical and optical equipment and textiles, while the EU also relied heavily on imports of wood and wood products, and coke, refined petroleum products and nuclear fuel.

Table 14

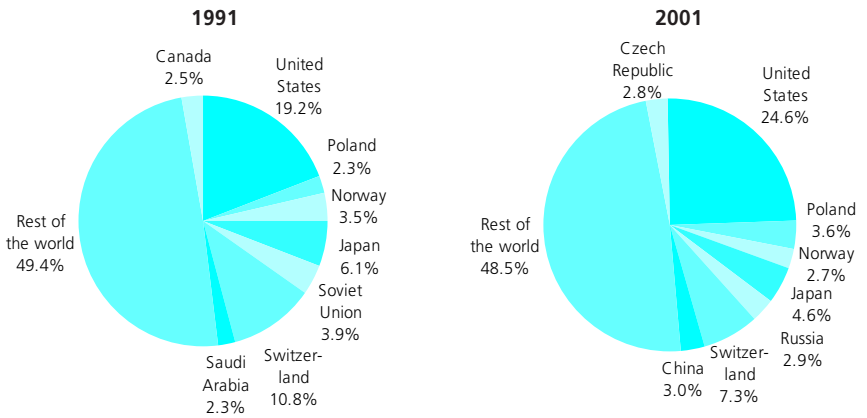
EU-15 external trade flows with non-Community countries (% share of manufacturing total)

CPA label (CPA code)	Exports 1991	Exports 2001	Imports 1991	Imports 2001
Food products; beverages and tobacco (DA)	7.6	5.3	7.2	5.0
Textiles and textile products (DB)	5.7	4.7	10.7	8.8
Leather and leather products (DC)	1.7	1.6	2.3	2.2
Wood and wood products (DD)	0.6	0.8	1.9	1.4
Pulp, paper and paper products; publishing and printing (DE)	3.2	2.8	2.6	2.1
Coke, refined petroleum products and nuclear fuel (DF)	2.0	1.9	4.4	2.8
Chemicals, chemical products and man-made fibres (DG)	13.1	14.7	9.5	9.8
Rubber and plastic products (DH)	2.3	2.5	1.9	2.2
Other non-metallic mineral products (DI)	2.3	1.9	1.0	1.2
Basic metals and fabricated metal products (DJ)	9.2	7.0	9.5	8.8
Machinery and equipment n.e.c. (DK)	18.1	14.9	8.2	8.3
Electrical and optical equipment (DL)	14.3	20.4	23.5	28.6
Transport equipment (DM)	16.0	18.4	12.8	14.4
Manufacturing n.e.c. (DN)	4.0	3.3	4.3	4.4

Source: Eurostat, Comext.

Figure 10

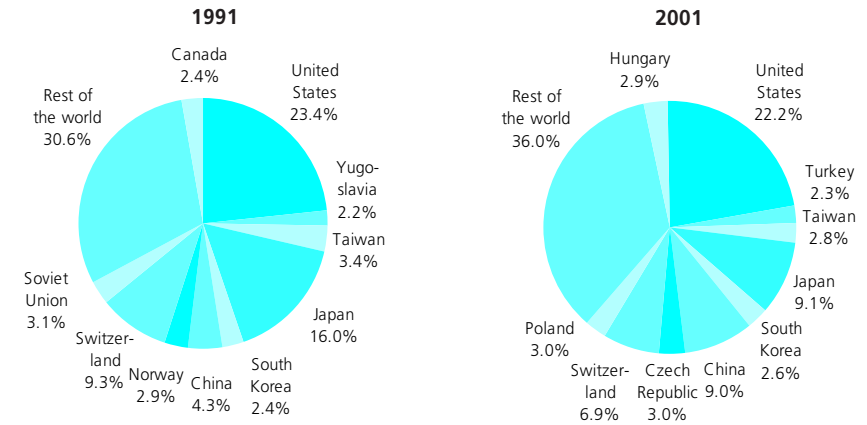
Destination of EU manufacturing (CPA Section D) exports



Source: Eurostat, Comext.

Figure 11

Origin of EU manufacturing (CPA Section D) imports



Source: Eurostat, Comext.

The share of the top 10 export markets for EU manufactured goods remained relatively stable between 1991 and 2001, rising from 54.7 to 56.0 %. The largest market was the United States, which accounted for almost one quarter (24.6 %) of the EU's exported manufactured products in 2001; this equated to a 5.4 percentage point increase when compared to 1991 – see Figure 10. On the other hand, the second and third most important export markets both saw their relative importance decline during the 1990s. The share of exports to Switzerland fell by 3.5 percentage points to 7.3 %, while there was a 1.5 point reduction in the share of total exports that were destined for Japan, reaching 4.6 % by 2001. Exports were, in part, redirected towards the candidate countries (as witnessed by the appearance of the Czech Republic in the top eight and the 1.3 point increase in the share of exports to Poland, which was already in the top eight), as well as towards China (which also entered the top eight export markets in 2001).

The United States was also the most important supplier of manufactured products into the EU – see Figure 11. It accounted for 22.2 % of EU manufactured imports in 2001, which was 1.2 percentage points below its corresponding share in 1991. There were more significant reductions in the shares of Japan, Switzerland and Taiwan; however, all three of these countries remained in the top 10 importers into the EU. The main beneficiary was China, whose share of EU imports of manufactured products rose from 4.3 % in 1991 to 9.0 % by 2001. There were also significant gains made by several of the candidate countries, most notably Poland, the Czech Republic and Hungary, who occupied fifth, sixth and seventh places in the ranking in 2001.

Table 15

EU-15 international trade in services with non-Community countries, 2001 (million EUR)

	Credit	Debit	Net balance
Services	313 806	304 763	9 043
Transportation	78 082	74 059	4 023
Travel	71 866	77 445	-5 579
Communication services	6 201	6 934	-732
Construction services	10 046	6 390	3 656
Insurance services	7 892	3 285	4 606
Financial services	21 248	11 502	9 746
Computer and information services	11 880	7 457	4 423
Other business services	82 503	82 669	-167
Personal, cultural and recreational services	3 282	6 634	-3 352
Government services n.e.c.	7 108	5 974	1 133

Source: Eurostat, International trade in services (theme2/bop/its).

Services have increasingly become the subject of free trade negotiations and this has stimulated trade in services. However, according to balance of payments statistics, goods exported from the EU to non-Community countries were valued at more than three times the value of similar service transactions in 2001. EU credits for service transactions reached EUR 313.8 billion, equivalent to a 5.0 % increase on 2000. Debits grew by 4.3 % to reach EUR 305 billion, such that the EU recorded a net surplus of EUR 9.0 billion on its service transactions in 2001 – see Table 15. Three service sectors collectively accounted for almost three quarters (74.1 %) of the EU's external transactions of services in 2001: transportation, travel and other business services.

The United Kingdom had the highest share of credits from international trade in services in the EU, accounting for 17.5 % of the total in 2001 (see Table 16). This was well ahead of Germany, where EUR 98 billion of credits were recorded in 2001 (13.8 % of the total). Looking at the debits, as well as the credits, the United Kingdom registered the largest deficit for manufactured products but the highest net surplus for service transactions, while Germany recorded the largest surplus for manufactured products and the highest deficit for service transactions.

Table 16

International trade in services, 2001 (million EUR)

	Credit	Debit
EU-15 (1)	313 806	304 763
B/L	56 195	48 414
DK	30 066	26 294
D	97 804	154 744
EL	21 733	12 935
E	64 763	37 625
F	89 581	69 655
IRL	22 577	38 934
I	64 279	63 917
NL	59 131	61 340
A	36 704	35 259
P	9 835	6 917
FIN	6 512	9 049
S	24 571	25 628
UK	123 509	105 703

(1) Trade with non-Community countries only.
Source: Eurostat, International trade in services (theme2/bop/its).

CANDIDATE COUNTRIES

As with the data for the EU, this description of the business economies of the candidate countries begins with data relating to living standards. The candidate countries all possessed lower GDP per inhabitant than the EU average in 2001. However, Cyprus and Slovenia reported levels of GDP per inhabitant that were higher than some of the EU Member States – see Figure 12.

Table 17 provides information on the structure of the candidate country economies. Some still reflect the process of transition towards market economies. For example, the importance of agriculture, hunting, forestry and fishing was often considerably higher in the candidate countries than in the EU. Distributive trades, hotels and restaurants, transport, storage and communication also generally accounted for a higher share of activity in the candidate countries.

LFS data provides a measure of working characteristics in 11 of the candidate countries (no data were available for Malta or Turkey at the time of writing). There were 96 million persons living in the 11 countries for which data are available for 2001, with the vast majority of the population (some 85.2 million) aged 15 years or more. About half of those who had reached a working age were in employment, some 42.7 million persons, with 6.4 million persons unemployed and the remaining 36.1 million non-active – see Figure 13. Although part-time employment accounted for almost one in five persons in employment in the EU (18 %), there were only three candidate countries where the share of part-time employment in total employment rose into double digits; namely, Latvia (10.0 %), Poland (10.2 %) and Romania (16.8 %). Part-time employment accounted for 5 % or less of the workforce in Bulgaria, the Czech Republic, Hungary and the Slovakia.

Some 42.8 % of those employed in the EU in 2001 were women. In the majority of candidate countries the share of women in total employment was higher, surpassing 50 % in Latvia and Lithuania, and only below the EU average in Cyprus (41.5 %) – see Figure 14.

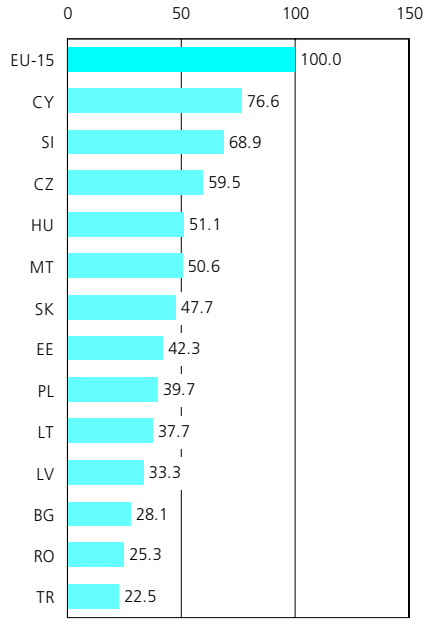
As regards the breakdown of employment, agriculture, hunting, forestry and fishing accounted for a higher share of those employed when compared to the EU average of 4.2 % in every candidate country – see Figure 15. In four of the candidates, the share of this sector in total employment rose into double digits, climbing as high as 44.4 % in Romania [7]. The industrial (and construction) economies of the candidate countries also tended to account for a somewhat higher share of total employment than the EU average of 28.7 %. However, this was not the case in Cyprus, Lithuania, Romania or Latvia, while at the other extreme more than 40 % of the workforce in the Czech Republic worked in the industrial economy. The service sector accounted for more than half of those employed in all but one of the candidate countries – Romania, where the share of services in total employment was 29.7 %. The vast majority of the candidates did not, however, report employment rates in the service sector as high as the EU average of 67.1 %. Indeed, the only one above the EU average was Cyprus, where 71.1 % of those employed worked in the service sector.

More detailed activity data are available for the majority of candidate countries from SBS for 2000. These data are generally available for most NACE sections within the business economy (Sections C to K).

[7] A high proportion of persons working in the candidate countries may have more than one occupation and it may therefore be difficult to distinguish their main occupation.

Figure 12

GDP per inhabitant in the candidate countries, 2001 (EU-15=100) (1)



(1) At current market prices and PPS; MT, 1999.
Source: Eurostat, National Accounts - ESA95 - aggregates (theme2/aggs).

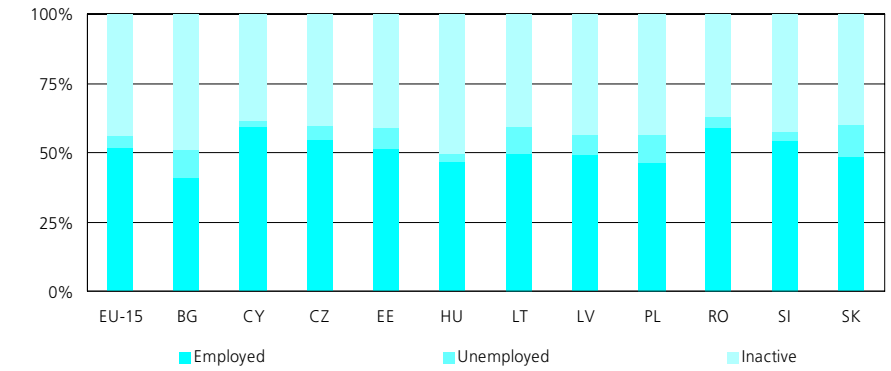
Table 17

Breakdown of GDP in the candidate countries, 2001 (%)

NACE label (NACE code)	EU-15	BG (1)	CY (2)	CZ	EE	HU	LT	LV	MT	PL	RO (1)	SI	SK	TR
Agriculture, hunting, forestry & fishing (A & B)	2.1	13.8	4.0	4.2	5.8	4.3	7.1	4.7	2.4	3.4	14.6	3.1	4.6	12.1
Mining & quarrying; manufacturing; electricity, gas & water supply (C to E)	22.1	23.0	12.9	32.9	22.8	27.1	27.8	18.7	24.5	25.4	28.5	31.0	27.5	23.8
Construction (F)	5.4	3.5	7.1	7.2	5.9	4.9	6.1	6.2	2.8	7.5	5.5	5.9	5.2	4.8
Distributive trades; hotels & restaurants; transport, storage & comm. (G to I)	21.6	:	32.5	25.2	32.1	22.0	29.5	35.4	22.1	30.0	51.3	22.4	29.1	34.4
Financial intermediation; real estate, renting & business activities (J & K) (3)	27.2	:	20.9	15.7	15.6	21.7	10.6	16.0	19.5	16.1	9.4	16.5	18.3	11.3
Public administration, community, social & personal services (L to Q) (3)	21.7	:	22.5	15.0	17.9	20.0	19.0	19.0	28.8	17.6	16.9	21.2	15.4	13.6

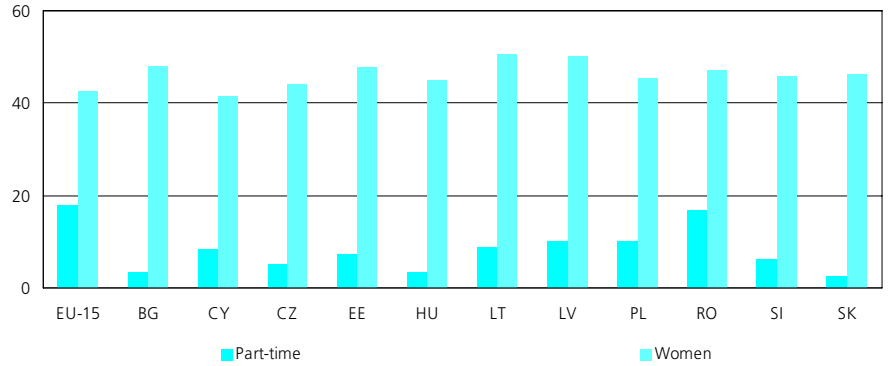
(1) 2000.
(2) Provisional.
(3) RO, 2000.
Source: Eurostat, National Accounts - Breakdowns by branch of activity (theme2/brkdowns).

Figure 13
Breakdown of the labour force by employment status in the candidate countries, 2001 (share of persons aged 15 or more) (1)



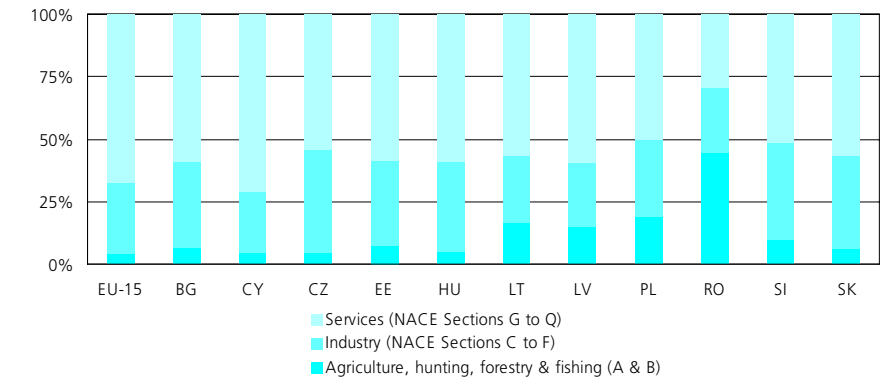
(1) NACE Sections A to Q.
Source: Eurostat, Labour Force Survey.

Figure 14
Labour force characteristics in the candidate countries, 2001 (% share of those employed aged 15 or more) (1)



(1) NACE Sections A to Q.
Source: Eurostat, Labour Force Survey.

Figure 15
Breakdown of persons in employment by activity in the candidate countries, 2001 (share of those employed aged 15 or more)



Source: Eurostat, Labour Force Survey.

Poland had by far the largest business economy in the candidate countries with EUR 92.6 billion of value added in 2000; a level that was in excess of that recorded in Denmark, Greece, Ireland, Luxembourg, Portugal and Finland. The next largest economy was the Czech Republic, with EUR 31.1 billion of value added in 2000, with Hungary and Romania the only other candidate countries to report that their respective business economies generated more than EUR 10 billion of value added.

At the NACE section level, manufacturing was the largest activity in the candidate countries, accounting for 39.1 % of value added, compared to 31.2 % of the total in the EU (see Table 18). The next largest was distributive trades (17.7 %), while transport and communications (12.7 %) and business services (10.3 %) were the only other sectors to account for a double-digit share of the business economy total. Unlike the EU, where mining and quarrying (Section C) was often the smallest activity, in the candidate countries the smallest activity was frequently hotels and restaurants (Section H), which accounted on average for just 1.8 % of business activity in the candidate countries. Taking an aggregate of all candidate countries is somewhat misleading, as there were naturally country differences away from the patterns reported above. For example, the hotels and restaurants sector accounted for as little as 0.9 % of total value added in Slovakia, to as much as 20.2 % of the total in Cyprus. In the same way, the share of the manufacturing sector varied considerably, from less than 30 % of the total in Cyprus, Estonia and Latvia to more than 40 % in the Czech Republic, Hungary, Slovenia and Slovakia and more than 50 % in Romania (55.3 %).

Table 18

Three largest activities in the candidate countries, 2000 (1)

	Largest	Second largest	Third largest
BG	Electricity, gas, steam & hot water	Post and telecommunications	Wholesale trade
CY (2)	Hotels and restaurants	Construction	Wholesale trade
CZ (3)	Wholesale trade	Construction	Other business activities
EE	Wholesale trade	Supporting and auxiliary transport activities; travel agencies	Post and telecommunications
HU (4)	Post and telecommunications	Electricity, gas, steam & hot water	Manufacture of food products and beverages
LT	Wholesale trade	Electricity, gas, steam & hot water	Post and telecommunications
LV	Wholesale trade	Construction	Supporting and auxiliary transport activities; travel agencies
MT	:	:	:
PL (5)	Wholesale trade	Construction	Other business activities
RO (6)	Construction	Land transport; transport via pipelines	Post and telecommunications
SI (7)	Construction	Wholesale trade	Other business activities
SK (8)	Wholesale trade	Electricity, gas, steam & hot water	Post and telecommunications
TR	:	:	:

(1) Ranking based on value added for NACE Divisions 15 to 74.
(2) 1998; NACE Divisions 60 to 74, not available.
(3) NACE Divisions 15 and 16, not available.
(4) NACE Divisions 50 to 52, 1998.
(5) NACE Division 26, 1999; NACE Divisions 15, 40, 41, 61 and 63, 1998.
(6) NACE Divisions 52 and 62, 1998; NACE Division 51, 1997.
(7) 1999.
(8) NACE Divisions 15, 19 and 62, 1999; NACE Divisions 23 and 61, 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Table 19

Breakdown of value added by enterprise size class in manufacturing sector of the candidate countries, 2000 (%)

	1-9 persons employed	10-19 persons employed	20-49 persons employed	50-99 persons employed	100-249 persons employed	250+ persons employed
EU-15	7.2	6.2	9.4	8.3	13.1	55.8
CZ	5.9	3.7	7.5	8.2	15.0	59.6
EE	4.1	6.1	13.5	15.6	24.0	36.6
HU (1)	:	3.8	5.7	6.8	12.6	:
LT	4.1	3.9	9.5	9.4	16.4	56.7
LV	4.6	4.8	12.7	11.4	21.5	44.9
PL	11.0	2.4	6.7	7.3	14.1	58.5
RO	1.7	2.7	4.8	5.3	12.2	73.3
SI	10.1	4.0	6.2	7.7	17.6	54.4
SK	3.9	3.5	5.1	5.5	11.7	70.3

(1) Only enterprises with 5 or more persons employed are considered.
Source: Eurostat, Structural Business Statistics (theme4/sbs/sizclass/indus_cc and theme4/sbs/sizclass/indus_ms).

Among, non-manufacturing, industrial activities there was particular importance for the electricity, gas, steam and hot water supply subsector (NACE Division 40) and the construction sector (NACE Division 45). Turning to service activities, a completely different picture was apparent in the candidate countries. While the largest three service activities in almost every EU Member State were wholesale trade, retail trade and other business activities (NACE Divisions 51, 52 and 74), post and telecommunications (NACE Division 64) had considerably more importance in the candidate countries. This position may have been influenced by the rapid take-up of communication technologies in some of the candidate countries, with investment in telecommunications infrastructure fuelling growth. Another service activity that was relatively more important in several of the candidate countries was supporting and auxiliary transport activities and travel agencies (NACE Division 63) – see Table 18.

In terms of the distribution of enterprises across size classes there was also great diversity according to the candidate country being studied (see Table 19). Large enterprises with 250 or more persons employed accounted for a very high share of manufacturing activity in Romania and Slovakia (more than 70 % of total value added), while the corresponding share in Estonia was 36.6 %. This latter value was well below the EU average of 55.8 %, around which most of the remaining candidate countries were grouped – see Table 19.

Statistical annex

There follows a short set of tables giving some general information which may be of use in interpreting the data that follows in the remaining chapters. This data is of a horizontal nature and may prove relevant for a number of chapters.

Table SA.1

Exchange rates, annual average rates (1 ECU/EUR=... national currency)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 (1)
BEF/LUF	42.2233	41.5932	40.4713	39.6565	38.5519	39.2986	40.5332	40.6207	40.3399	40.3399	40.3399	-
DKK	7.90859	7.80925	7.59359	7.54328	7.32804	7.35934	7.48361	7.49930	7.43556	7.45382	7.45207	7.43052
DEM	2.05076	2.02031	1.93639	1.92453	1.87375	1.90954	1.96438	1.96913	1.95583	1.95583	1.95583	-
GRD	225.216	247.026	268.568	288.026	302.989	305.546	309.355	330.731	325.820	336.678	340.750	-
ESP	128.469	132.526	149.124	158.918	163.000	160.748	165.887	167.184	166.386	166.386	166.386	-
FRF	6.97332	6.84839	6.63368	6.58262	6.52506	6.49300	6.61260	6.60141	6.55957	6.55957	6.55957	-
IEP	0.767809	0.760718	0.799952	0.793618	0.815525	0.793448	0.747516	0.786245	0.787564	0.787564	0.787564	-
ITL	1 533.24	1 595.52	1 841.23	1 915.06	2 130.14	1 958.96	1 929.30	1 943.65	1 936.27	1 936.27	1 936.27	-
NLG	2.31098	2.27482	2.17521	2.15827	2.09891	2.13973	2.21081	2.21967	2.20371	2.20371	2.20371	-
ATS	14.4309	14.2169	13.6238	13.5396	13.1824	13.4345	13.8240	13.8545	13.7603	13.7603	13.7603	-
PTE	178.614	174.714	188.370	196.896	196.105	195.761	198.589	201.695	200.482	200.482	200.482	-
FIM	5.00211	5.80703	6.69628	6.19077	5.70855	5.82817	5.88064	5.98251	5.94573	5.94573	5.94573	-
SEK	7.47927	7.53295	9.12151	9.16308	9.33192	8.51472	8.65117	8.91593	8.80752	8.44519	9.25511	9.16107
GBP	0.701012	0.737650	0.779988	0.775903	0.828789	0.813798	0.692304	0.676434	0.658735	0.609478	0.621874	0.628831
JPY	166.493	164.223	130.148	121.322	123.012	138.084	137.077	146.415	121.317	99.475	108.682	118.063
USD	1.23916	1.29810	1.17100	1.18952	1.30801	1.26975	1.13404	1.12109	1.06578	0.92194	0.89563	0.94557
BGN	0.03385	0.05105	0.03231	0.06439	0.08787	0.22515	1.90157	1.96913	1.95584	1.94792	1.94819	1.94921
CYP	0.573350	0.583675	0.582941	0.583931	0.591619	0.591904	0.582628	0.577418	0.578850	0.573924	0.575892	0.575301
CZK	:	:	34.1690	34.1509	34.6960	34.4572	35.9304	36.3196	36.8843	35.5995	34.0685	30.8036
EEK	:	:	15.4911	15.3962	14.9900	15.2763	15.7150	15.7530	15.6466	15.6466	15.6466	15.6466
HUF	142.202	172.777	107.611	125.030	164.545	193.741	211.654	240.573	252.767	260.045	256.591	242.958
LTL	:	2.14329	5.08682	4.73191	5.23203	5.07899	4.53616	4.48437	4.26405	3.69516	3.58229	3.45943
LVL	:	0.896066	0.793600	0.664101	0.689537	0.699605	0.659401	0.660240	0.625601	0.559227	0.560060	0.581048
MTL	0.399820	0.412953	0.447021	0.448852	0.461431	0.458156	0.437495	0.434983	0.425773	0.404138	0.403007	0.408936
PLN	2.01692	2.97484	2.12217	2.70153	3.17049	3.42232	3.71545	3.91784	4.22741	4.00817	3.67214	3.85742
ROL	145.4	673.7	885.8	1971.6	2661.8	3922.2	8111.5	9984.9	16345.2	19921.8	26004.0	31269.7
SIT	36.969	98.434	132.486	152.766	154.880	171.778	180.996	185.958	194.473	206.613	217.980	225.977
SKK	:	:	36.0317	38.1182	38.8649	38.9229	38.1061	39.5407	44.1229	42.6017	43.3001	42.6935
TRL	5153	8931	12879	35535	59912	103214	171848	293736	447237	574816	1102430	1439680

(1) National currencies marked as not applicable were replaced by the euro on 1 January 2002.
Source: Eurostat, Exchange rates (theme2/exint/exchrt/eurer/eurer_an).

Table SA.2

Population, as of 1 January (thousands)

	1991	1992	1993	1994	1995	1996	1997	1998	1999 (1)	2000 (2)	2001 (3)
EU-15	365 382	367 061	368 935	370 323	371 442	372 476	373 487	374 345	375 277	376 482	:
B	9 987	10 022	10 068	10 101	10 131	10 143	10 170	10 192	10 214	10 239	10 263
DK	5 146	5 162	5 181	5 197	5 216	5 251	5 275	5 295	5 314	5 330	5 349
D	79 753	80 275	80 975	81 338	81 539	81 817	82 012	82 057	82 037	82 163	82 260
EL	10 200	10 294	10 349	10 410	10 443	10 465	10 487	10 511	10 522	10 554	:
E	38 875	38 965	39 057	39 136	39 197	39 249	39 308	39 388	39 519	39 733	40 122
F	56 841	57 111	57 369	57 565	57 753	57 936	58 116	58 299	58 497	58 749	59 037
IRL	3 521	3 547	3 569	3 583	3 598	3 620	3 652	3 694	3 735	3 777	3 826
I	56 744	56 757	56 960	57 138	57 269	57 333	57 461	57 563	57 613	57 680	57 844
L	384	390	395	401	407	413	418	424	429	436	441
NL	15 010	15 129	15 239	15 342	15 424	15 494	15 567	15 654	15 760	15 864	15 987
A	7 769	7 868	7 962	8 015	8 040	8 055	8 068	8 075	8 083	8 103	8 121
P	9 877	9 961	9 965	9 983	10 013	10 041	10 070	10 108	10 150	10 198	10 263
FIN	4 998	5 029	5 055	5 078	5 099	5 117	5 132	5 147	5 160	5 171	5 181
S	8 591	8 644	8 692	8 745	8 816	8 837	8 844	8 848	8 854	8 861	8 883
UK	57 685	57 907	58 099	58 293	58 500	58 704	58 905	59 090	59 391	59 623	59 863
BG	8 669	8 595	8 485	8 460	8 427	8 385	8 341	8 283	8 230	8 191	8 149
CY	687	700	714	723	730	736	741	746	752	755	759
CZ	10 364	10 313	10 326	10 334	10 333	10 321	10 309	10 299	10 290	10 278	10 267
EE	1 570	1 562	1 527	1 507	1 492	1 476	1 462	1 454	1 446	1 372	1 367
HU	10 355	10 337	10 310	10 277	10 246	10 212	10 174	10 135	10 092	10 043	:
LT	3 736	3 747	3 736	3 724	3 718	3 712	3 707	3 704	3 701	3 699	3 693
LV	2 668	2 657	2 606	2 566	2 530	2 502	2 480	2 458	2 439	2 380	2 366
MT	356	360	363	366	369	371	374	377	379	380	391
PL	38 183	38 309	38 418	38 505	38 581	38 609	38 639	38 660	38 667	38 654	38 644
RO	23 192	22 811	22 779	22 748	22 712	22 656	22 582	22 526	22 489	22 455	22 430
SI	2 000	1 999	1 994	1 989	1 989	1 990	1 987	1 985	1 978	1 988	1 990
SK	5 272	5 296	5 314	5 336	5 356	5 368	5 379	5 388	5 393	5 399	5 403
TR	:	:	:	:	:	:	:	:	:	:	:

(1) E, IRL, L and BG, estimates.
(2) E, L and BG, estimates; IRL and EE, provisional.
(3) I, L, P and UK, estimates; IRL and EE, provisional.
Source: Eurostat, Demography - population (theme3/demo/dpop/pjan).

Table SA.3

Gross domestic product in constant prices, annual rate of change (%)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 (1)
EU-15	1.3	-0.4	2.8	2.4	1.6	2.5	2.9	2.8	3.4	1.5	0.9
B	1.5	-1.0	3.2	2.4	1.2	3.6	2.0	3.2	3.7	0.8	0.7
DK	0.6	0.0	5.5	2.8	2.5	3.0	2.5	2.3	3.0	1.0	1.7
D	2.2	-1.1	2.3	1.7	0.8	1.4	2.0	2.0	2.9	0.6	0.4
EL	0.7	-1.6	2.0	2.1	2.4	3.6	3.4	3.6	4.2	4.1	3.5
E	0.9	-1.0	2.4	2.8	2.4	4.0	4.3	4.2	4.2	2.7	1.9
F	1.5	-0.9	2.1	1.7	1.1	1.9	3.4	3.2	3.8	1.8	1.0
IRL	3.3	2.7	5.8	9.9	8.1	10.9	8.8	11.1	10.0	5.7	3.3
I	0.8	-0.9	2.2	2.9	1.1	2.0	1.8	1.6	2.9	1.8	0.4
L	1.8	4.2	3.8	1.3	3.7	7.7	7.5	6.0	8.9	1.0	0.1
NL	1.7	0.9	2.6	3.0	3.0	3.8	4.3	4.0	3.3	1.3	0.2
A	2.3	0.4	2.6	1.6	2.0	1.6	3.9	2.7	3.5	0.7	0.7
P	1.1	-2.0	1.0	4.3	3.5	3.9	4.5	3.5	3.5	1.7	0.7
FIN	-3.3	-1.1	4.0	3.8	4.0	6.3	5.3	4.1	6.1	0.7	1.4
S	-1.7	-1.8	4.1	3.7	1.1	2.1	3.6	4.5	3.6	1.2	1.6
UK	0.2	2.5	4.7	2.9	2.6	3.4	2.9	2.4	3.1	2.0	1.6
BG	-7.3	-1.5	1.8	2.9	-9.4	-5.6	4.0	2.3	5.4	4.0	4.0
CY	:	0.7	5.9	6.2	1.9	2.5	5.0	4.8	5.2	4.1	1.8
CZ	-0.5	0.1	2.2	5.9	4.3	-0.8	-1.0	0.5	3.3	3.3	2.2
EE	:	:	-2.0	4.3	3.9	9.8	4.6	-0.6	7.1	5.0	4.5
HU	:	:	:	1.5	1.3	4.6	4.9	4.2	5.2	3.7	3.4
LT	-21.3	-16.2	-9.8	3.3	4.7	7.3	5.1	-3.9	3.8	5.9	5.0
LV	-34.9	-14.9	0.6	-1.6	3.7	8.4	4.8	2.8	6.8	7.7	5.0
MT	4.7	4.5	5.7	6.2	4.0	4.9	3.4	4.1	4.8	-0.4	2.8
PL	:	:	:	:	6.0	6.8	4.8	4.1	4.0	1.1	0.8
RO	-8.7	1.5	3.9	7.1	3.9	-6.1	-4.8	-1.2	1.8	5.3	4.2
SI	-5.5	2.8	5.3	4.1	3.5	4.6	3.8	5.2	4.6	3.0	2.6
SK	:	:	5.2	6.5	5.8	5.6	4.0	1.3	2.2	3.3	3.9
TR	6.0	8.0	-5.5	7.2	7.0	7.5	3.1	-4.7	7.4	-7.4	3.9

(1) Forecasts.

Source: Eurostat, National Accounts - ESA95 - aggregates (theme2/aggs).

Table SA.4

Gross domestic product in constant prices in the EU, annual rate of change (%)

NACE label (NACE code)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total (A to Q)	1.2	-0.3	2.5	2.4	1.7	2.5	3.0	2.7	3.7	1.8
Agriculture, hunting, forestry and fishing (A & B)	4.4	-0.6	-0.5	2.2	4.1	0.5	1.7	2.6	-0.9	-2.0
Mining & quarrying; manufacturing; electricity, gas & water supply (C to E)	-0.7	-3.5	4.3	3.1	0.0	3.0	3.0	1.1	3.8	0.6
Construction (F)	1.4	-4.1	2.2	0.0	-1.1	-1.3	0.8	2.4	2.3	-0.1
Distributive trades; hotels & restaurants; transport, storage & comm. (G to I)	1.4	0.1	2.7	2.2	1.6	3.4	4.0	4.6	4.9	2.8
Financial intermediation; real estate, renting & business activities (J & K)	1.5	1.9	1.9	3.5	3.7	3.7	4.1	3.7	4.6	3.0
Public administration, community, social & personal services (L to Q)	2.5	1.4	1.6	1.4	1.7	1.0	1.6	1.5	1.9	1.4

Source: Eurostat, National Accounts - Breakdowns by branch of activity (theme2/brkdowns).

Table SA.5

Long-term interest rate for government bond yields following the Maastricht Treaty, annual average rates (%)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-15 (1)	9.8	8.3	8.5	8.9	7.5	6.3	4.9	4.7	5.4	5.0
B	8.7	7.2	7.8	7.5	6.5	5.8	4.8	4.8	5.6	5.1
DK	8.9	7.3	7.8	8.3	7.2	6.3	4.9	4.9	5.6	5.1
D	7.9	6.5	6.9	6.9	6.2	5.6	4.6	4.5	5.3	4.8
EL	:	23.3	20.7	17.0	14.5	9.9	8.5	6.3	6.1	5.3
E	11.7	10.2	10.0	11.3	8.7	6.4	4.8	4.7	5.5	5.1
F	8.6	6.8	7.2	7.5	6.3	5.6	4.6	4.6	5.4	4.9
IRL	9.3	7.7	7.9	8.3	7.3	6.3	4.8	4.7	5.5	5.0
I	13.3	11.2	10.5	12.2	9.4	6.9	4.9	4.7	5.6	5.2
L	7.9	6.9	7.2	7.2	6.3	5.6	4.7	4.7	5.5	4.9
NL	8.1	6.4	6.9	6.9	6.2	5.6	4.6	4.6	5.4	5.0
A	8.3	6.7	7.0	7.1	6.3	5.7	4.7	4.7	5.6	5.1
P	11.7	11.2	10.5	11.5	8.6	6.4	4.9	4.8	5.6	5.2
FIN	12.0	8.8	9.1	8.8	7.1	6.0	4.8	4.7	5.5	5.0
S	10.0	8.5	9.7	10.2	8.0	6.6	5.0	5.0	5.4	5.1
UK	9.1	7.6	8.2	8.3	7.9	7.1	5.6	5.0	5.3	5.0

(1) 1992, excluding EL.
Source: Eurostat, Interest rates (theme2/exint/intrt/govyield/govyie_a).

Table SA.6

Harmonised consumer price indices, annual rate of change (%)

	1991 (1)	1992 (1)	1993 (1)	1994 (1)	1995 (1)	1996 (2)	1997 (2)	1998	1999	2000	2001
EU-15	5.2	4.0	3.4	2.8	2.8	2.4	1.7	1.3	1.2	2.1	2.3
B	:	2.3	2.5	2.4	1.3	1.8	1.5	0.9	1.1	2.7	2.4
DK	2.2	1.9	0.9	1.8	2.0	2.1	1.9	1.3	2.1	2.7	2.3
D	:	:	:	:	:	1.2	1.5	0.6	0.6	2.1	2.4
EL	:	:	:	:	:	7.9	5.4	4.5	2.1	2.9	3.7
E	:	:	4.9	4.6	4.6	3.6	1.9	1.8	2.2	3.5	2.8
F	3.4	2.4	2.2	1.7	1.8	2.1	1.3	0.7	0.6	1.8	1.8
IRL	:	:	:	:	:	2.2	1.2	2.1	2.5	5.3	4.0
I	6.2	5.0	4.5	4.2	5.4	4.0	1.9	2.0	1.7	2.6	2.3
L	:	:	:	:	:	1.2	1.4	1.0	1.0	3.8	2.4
NL	3.2	2.8	1.6	2.1	1.4	1.4	1.9	1.8	2.0	2.3	5.1
A	3.1	3.5	3.2	2.7	1.6	1.8	1.2	0.8	0.5	2.0	2.3
P	11.4	8.9	5.9	5.0	4.0	2.9	1.9	2.2	2.2	2.8	4.4
FIN	4.5	3.3	3.3	1.6	0.4	1.1	1.2	1.4	1.3	3.0	2.7
S	8.7	1.3	4.8	2.9	2.7	0.8	1.8	1.0	0.6	1.3	2.7
UK	7.5	4.2	2.5	2.0	2.7	2.5	1.8	1.6	1.3	0.8	1.2

(1) EU-15, B, DK, E, F, I, P, FIN, S and UK, estimates.
(2) EU-15 and IRL, estimates.
Source: Eurostat, Harmonized indices of consumer prices (theme2/price/hicp/haind).

Table SA.7

Share in total mean consumption expenditure by households, 1999 (%) (1)

COICOP	EU-15 (2)	B	DK	D	EL	E	F (2)	IRL	I	L	NL	A	P (2)	FIN	S	UK
Food and non-alcoholic beverages	16.1	13.3	13.1	11.1	16.6	18.3	16.2	15.4	19.0	10.1	10.5	13.4	21.2	14.2	15.4	10.5
Alcoholic beverages, tobacco and narcotics	2.8	2.3	4.2	2.8	3.5	2.7	2.7	7.7	1.9	2.0	2.1	2.6	2.8	2.9	2.9	3.0
Clothing and footwear	6.9	5.4	5.5	5.7	8.6	7.4	5.6	6.2	7.5	5.9	6.0	6.6	6.3	4.6	5.2	5.5
Housing, water, electricity, gas and other fuels	24.6	26.2	28.4	31.2	21.9	27.5	23.2	17.4	24.7	27.4	26.7	23.9	19.9	28.1	26.8	28.3
Furnishings, household equipment & maintenance	7.0	6.5	6.4	7.4	7.5	5.0	7.6	4.5	7.6	8.2	7.2	7.2	6.7	4.5	5.0	7.3
Health	3.1	4.7	2.4	3.6	6.3	2.5	5.2	1.6	4.4	2.4	1.1	2.4	4.6	3.7	3.0	1.1
Transport	13.1	12.5	14.1	13.3	11.2	12.5	14.5	13.0	13.7	15.4	10.3	14.4	15.7	17.0	13.4	13.6
Communication	2.0	2.2	2.1	2.5	3.3	2.0	2.0	2.5	2.5	2.1	2.2	2.6	2.0	2.8	2.6	2.3
Recreation and culture	9.4	10.7	11.2	11.9	4.5	6.2	7.6	9.1	6.3	8.7	10.4	12.3	3.7	10.7	14.6	13.4
Education	0.7	0.5	0.4	0.5	2.4	1.4	0.5	1.4	0.8	0.1	1.2	0.3	1.3	0.2	0.1	1.3
Restaurants and hotels	6.4	5.7	4.1	4.9	8.8	9.3	6.9	5.1	4.6	9.6	7.0	5.4	9.2	4.1	3.8	7.9
Miscellaneous goods and services	7.9	10.0	8.1	5.0	5.5	5.1	8.1	8.1	7.1	8.0	15.3	8.9	6.5	7.1	7.2	5.8

COICOP	EU-15 (2)	BG	CY	CZ	EE	HU	LT	LV	MT	PL	RO	SI	SK	AL
Food and non-alcoholic beverages	16.1	46.5	:	25.2	35.7	28.9	48.1	42.1	:	35.1	55.3	26.1	33.0	63.2
Alcoholic beverages, tobacco and narcotics	2.8	3.9	:	3.5	3.4	4.3	4.0	2.8	:	3.3	2.7	3.4	3.6	4.7
Clothing and footwear	6.9	8.2	:	7.7	7.7	6.6	8.0	7.1	:	7.0	7.4	8.4	10.3	2.7
Housing, water, electricity, gas and other fuels	24.6	14.2	:	17.1	18.7	19.5	12.3	17.0	:	18.4	15.3	10.7	12.4	3.4
Furnishings, household equipment & maintenance	7.0	4.4	:	7.8	5.4	5.4	4.8	4.2	:	5.5	4.3	6.8	6.4	12.4
Health	3.1	3.3	:	1.5	1.6	3.0	3.5	3.5	:	4.4	2.3	1.6	1.2	1.0
Transport	13.1	7.2	:	10.2	6.8	9.2	6.7	6.9	:	8.6	5.2	16.5	8.9	5.4
Communication	2.0	1.9	:	2.0	2.8	4.4	1.9	3.2	:	2.3	1.4	1.9	2.1	0.5
Recreation and culture	9.4	3.0	:	11.0	7.5	6.7	3.5	5.6	:	6.5	2.6	8.8	8.2	3.9
Education	0.7	0.6	:	0.6	1.2	0.4	0.3	1.0	:	1.3	0.6	0.7	0.5	0.3
Restaurants and hotels	6.4	3.5	:	5.0	3.5	3.0	3.8	2.5	:	1.3	0.8	5.9	5.8	0.5
Miscellaneous goods and services	7.9	3.3	:	8.4	5.7	8.6	2.9	4.1	:	6.3	2.1	9.2	7.6	2.0

(1) Classified according to the COICOP classification.
(2) 1994.
Source: Eurostat, Household Budget Survey (theme3/hbs/struc/s_glob).

Table SA.8

Consumer confidence (balance)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
EU-15 (1)	-15.8	-19.2	-25.7	-13.5	-8.0	-14.8	-10.2	-3.8	-2.5	1.2	-4.3	-8.8
B	-6.5	-13.3	-24.7	-10.3	-8.6	-13.1	-12.8	1.7	2.6	13.5	0.6	-2.7
DK	-4.0	-2.4	-2.6	11.3	14.3	8.0	14.0	10.3	4.3	11.3	9.2	8.8
D	-10.8	-15.4	-25.3	-10.9	-6.0	-19.9	-18.0	-5.1	-1.6	2.9	-3.3	-11.4
EL	-33.3	-37.0	-31.1	-29.6	-37.3	-27.3	-29.9	-34.8	-27.0	-15.3	-26.6	-27.8
E	-13.4	-25.9	-30.9	-16.3	-12.8	-9.4	-2.9	0.1	1.7	2.2	-4.0	-11.6
F	-28.2	-27.3	-29.9	-18.6	-13.8	-29.8	-21.5	-11.6	-8.7	-2.8	-11.1	-15.8
IRL	-23.8	-25.7	-20.8	-10.3	-4.6	-0.2	11.7	12.4	14.0	12.5	-1.6	-7.5
I	-15.4	-21.9	-31.9	-13.1	-5.3	-12.0	-14.1	-7.7	-9.9	-7.6	-2.8	-8.6
L	:	:	:	:	:	:	:	:	:	:	:	7.4
NL	-5.3	-4.5	-15.6	-2.3	7.2	7.9	19.5	23.2	19.3	24.4	3.8	-1.6
A	:	:	:	:	-6.7	-12.7	-9.2	-1.7	4.7	5.9	3.0	4.4
P	-3.8	-13.7	-33.2	-30.9	-22.8	-25.1	-13.7	-14.8	-14.1	-18.0	-24.2	-33.7
FIN	-14.1	-8.3	-8.3	8.8	11.8	12.0	18.3	18.2	17.4	19.7	11.9	13.2
S	:	:	:	:	2.0	-4.8	4.4	10.0	12.4	21.8	5.0	9.6
UK	-17.3	-17.0	-17.8	-15.8	-10.4	-5.5	3.2	-1.8	-3.6	-3.8	-4.6	-3.8

(1) Average of available data.
Source: Directorate-General for Economic and Financial Affairs, Business and consumer surveys (theme1/euroind/bs/bsco_m).

Table SA.9

Gross fixed capital formation as a percentage of GDP (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 (1)
EU-15 (2)	21.9	21.2	19.9	19.8	19.8	19.6	19.4	19.9	20.2	20.6	20.1	19.4
B	21.0	20.7	20.0	19.5	19.9	19.9	20.4	20.6	20.9	21.2	20.8	19.7
DK	19.1	17.9	17.1	17.3	18.6	18.6	19.6	20.6	20.3	21.7	21.0	21.2
D	23.8	24.0	23.0	23.1	22.4	21.8	21.4	21.4	21.5	21.6	20.1	18.8
EL (2)	22.6	21.3	20.3	18.6	18.6	19.5	19.8	21.1	21.7	22.6	22.8	23.0
E	25.1	23.1	21.3	21.1	22.0	21.6	21.9	22.8	24.1	25.3	25.0	25.0
F	22.0	20.9	19.4	19.1	18.8	18.5	18.0	18.4	19.2	20.1	20.2	20.0
IRL	17.1	16.9	15.5	16.5	17.5	19.1	20.7	22.2	23.7	24.1	23.3	22.8
I	21.0	20.5	18.4	18.0	18.3	18.3	18.3	18.5	19.1	19.8	19.8	19.3
L	25.3	21.4	23.7	22.4	21.6	21.3	22.3	22.6	24.0	20.5	21.7	21.2
NL	21.9	21.6	20.7	20.3	20.3	21.1	21.5	21.5	22.5	22.5	21.9	20.9
A	24.2	23.7	23.2	23.5	23.3	23.3	23.6	23.6	23.5	23.9	23.2	22.5
P	24.9	23.7	22.2	22.3	22.8	23.3	25.6	26.9	27.4	28.6	27.5	25.8
FIN	24.4	19.9	16.4	15.5	16.3	17.0	18.0	18.7	19.0	19.2	19.8	19.4
S	20.6	18.0	15.3	15.1	15.5	15.7	15.2	16.0	17.0	17.3	17.5	17.0
UK	17.9	16.5	15.7	15.9	16.3	16.5	16.5	17.6	17.0	16.7	16.5	15.6
BG	18.2	16.2	13.0	13.8	15.3	13.5	11.0	13.0	15.1	15.7	17.8	18.3
CY (3)	:	:	:	:	19.2	20.4	19.0	19.2	18.1	17.6	17.3	16.0
CZ	24.1	27.9	28.4	28.7	32.0	32.0	30.6	29.1	27.8	28.3	28.3	27.2
EE	:	:	24.2	26.8	25.9	26.7	28.1	29.6	24.9	25.4	26.1	28.3
HU	20.9	19.9	18.9	20.1	20.1	21.4	22.2	23.6	23.9	24.2	23.7	22.9
LT	22.5	23.0	23.1	23.1	23.0	23.0	24.4	24.3	22.1	18.5	19.3	20.4
LV	6.2	11.2	13.8	14.9	15.2	18.3	18.8	27.3	25.2	26.5	27.3	26.2
MT	29.6	27.5	29.5	29.7	31.9	28.7	25.3	24.5	23.4	26.3	23.2	22.8
PL	19.5	16.8	15.9	17.9	18.6	20.7	23.5	25.2	25.5	24.9	21.5	19.4
RO	14.4	19.2	17.9	20.3	21.4	23.0	21.2	18.2	17.7	18.9	19.0	19.0
SI	20.6	18.6	18.8	20.1	21.4	22.5	23.4	24.6	27.4	26.7	24.9	24.7
SK	:	:	30.4	26.6	25.2	32.4	34.3	36.2	30.3	29.3	31.1	30.2
TR	23.8	23.6	26.5	24.6	23.8	25.1	26.4	24.6	21.9	22.4	17.8	17.5

(1) Forecast. (2) 1991-1994, estimates. (3) 1999 and 2000, provisional.
Source: Eurostat, National Accounts - ESA95 - aggregates (theme2/aggs).

Table SA.10

Business enterprise expenditure on R&D relative to GDP (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
EU-15 (1)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	:
B (2)	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.4	1.5	:	:
DK (3)	1.0	1.0	1.0	:	1.1	1.1	1.2	1.3	1.3	1.3	:	:
D	1.8	1.7	1.6	1.5	1.5	1.5	1.5	1.6	1.7	1.8	1.8	:
EL (4)	0.1	:	0.1	:	0.1	0.1	0.1	:	0.2	:	:	:
E (5)	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	:
F (6)	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	:	:
IRL (7)	0.6	0.7	0.8	0.9	1.0	0.9	0.9	0.9	0.9	:	:	:
I (8)	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	:
L	:	:	:	:	:	:	:	:	:	1.2	:	:
NL (9)	1.0	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	:	:	:
A (10)	:	:	0.8	:	:	:	:	1.1	:	:	:	:
P	:	0.1	:	:	0.1	:	0.1	:	0.2	:	:	:
FIN (11)	1.2	1.2	1.3	1.4	1.5	1.7	1.8	1.9	2.2	2.4	2.7	:
S (10)	1.9	:	2.2	:	2.6	:	2.8	2.9	2.8	:	:	:
UK (12)	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.2

(1) Estimates. (2) 1992-2000, estimates. (3) 1992, 1996, 1999 and 2000, estimates. (4) 1991, 1993 and 1999, estimates. (5) 1996, 2000 and 2001, estimates.
(6) 1991 and 2000, estimates. (7) 1991-1998, estimates. (8) 1997-2001, estimates. (9) 1993 and 1999, estimates. (10) 1998, estimate.
(11) 2000, estimate; 2001, provisional. (12) 2000, estimate; 2001 and 2002, provisional.
Source: Eurostat, R&D expenditure at the national level (theme9/rd_ex_p/rd_nat/nat_exp/nat_exp).

Table SA.11

industrial confidence indicator (balance)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
EU-15 (1)	-13.1	-18.4	-25.4	-4.9	-1.3	-14.4	-3.9	-2.8	-8.3	3.2	-9.5	-11.8
B	-15.0	-20.4	-28.8	-6.3	-9.1	-17.8	-2.9	-7.8	-8.6	1.9	-14.0	-11.9
DK	-7.8	-7.3	-9.5	12.5	5.4	-8.7	5.5	-0.8	-12.9	5.7	-1.7	-4.0
D	0.7	-17.3	-33.3	-14.8	-5.9	-21.2	-10.1	-5.0	-14.4	-2.3	-14.8	-19.4
EL	-6.6	-3.7	-6.0	-0.1	3.8	-2.4	3.6	4.3	1.3	8.8	4.3	3.1
E	-21.8	-24.8	-34.8	-8.7	-3.3	-14.4	-1.4	1.4	-3.1	3.2	-4.2	-5.7
F	-21.0	-21.2	-34.4	-3.3	-2.3	-17.5	-5.3	5.3	-2.2	11.8	-4.0	-9.2
IRL	-8.8	-3.9	-12.8	2.5	7.1	-1.1	3.3	3.2	5.0	9.8	-7.7	-7.2
I	-12.6	-15.4	-17.6	1.3	6.4	-11.5	-0.3	0.3	-4.0	11.7	-2.8	-3.7
L	-24.1	-27.7	-25.0	-7.7	9.7	-22.0	4.2	6.7	-11.0	5.3	-15.5	-22.5
NL	-4.4	-6.3	-10.3	-0.9	1.5	-2.4	2.5	1.7	-0.4	4.1	-3.5	-4.8
A	-8.8	-17.4	-27.2	-7.5	-12.2	-23.9	-9.5	-8.6	-13.8	-2.8	-13.3	-16.3
P	-7.3	-11.8	-24.8	-3.9	-3.9	-9.6	0.4	2.2	-4.3	2.1	-5.8	-12.0
FIN	:	:	-4.5	18.2	7.8	-11.3	11.2	2.0	-3.8	17.4	-6.8	-5.7
S	:	:	:	:	:	-15.9	-0.9	3.1	-7.1	10.8	-18.7	-13.1
UK	-31.8	-23.6	-10.9	1.8	2.6	-5.1	-1.4	-15.5	-14.3	-6.6	-15.6	-14.6

(1) Average of available data.
Source: Directorate-General for Economic and Financial Affairs, Business and consumer surveys (theme1/euroind/bs/bssi_m).

Table SA.12

Capacity utilisation rates for total industry (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
EU-15 (1)	83.4	81.5	78.3	79.5	83.1	81.2	81.8	83.3	81.9	83.8	83.1	81.0
B	79.4	77.4	74.8	77.6	80.9	79.5	81.4	82.7	80.9	84.0	82.3	79.6
DK	81.0	79.7	77.7	81.8	83.4	81.7	83.3	85.5	82.2	82.5	82.8	81.2
D	88.2	84.8	78.8	80.2	84.6	82.2	83.2	85.5	84.0	85.9	85.1	82.0
EL	77.2	78.3	76.0	74.5	76.6	75.6	74.4	75.8	75.7	78.1	77.6	77.0
E	77.6	76.6	72.8	74.5	78.4	77.1	78.3	80.3	79.7	80.6	79.6	77.2
F	86.0	84.3	81.4	80.4	85.4	83.5	82.3	83.8	85.3	87.5	87.4	85.3
IRL	75.5	77.1	73.6	74.9	79.9	77.6	75.9	76.6	75.9	78.6	78.4	75.9
I	77.3	76.3	74.4	75.2	78.1	76.5	76.4	78.5	76.0	78.8	78.9	77.3
L	82.1	79.8	80.1	81.3	82.9	79.0	82.4	88.0	84.9	87.8	88.7	85.1
NL	84.6	83.5	81.0	82.4	84.4	83.9	84.4	85.3	84.0	84.7	84.6	82.9
A	:	:	:	:	:	80.2	82.0	83.7	81.9	84.5	83.1	80.6
P	79.1	77.4	73.9	77.3	79.7	78.9	80.9	81.4	80.8	81.2	81.7	79.4
FIN	:	:	82.3	86.9	87.7	83.2	87.2	88.9	86.1	86.8	85.7	82.7
S	:	:	:	:	:	85.0	85.7	85.1	85.8	87.5	83.6	83.1
UK	79.2	78.5	80.0	82.8	84.4	82.5	83.8	83.7	79.4	81.3	79.7	79.0

(1) Average of available data.
Source: Directorate-General for Economic and Financial Affairs, Business and consumer surveys (theme1/euroind/bs/bsin_q).

Table SA.13

Trade balance of goods (million EUR) (1)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-15	:	-34 709	11 946	21 293	28 225	43 040	70 137	44 984	12 056	-59 965	-483
B/L	1 674	2 879	5 039	5 740	7 297	6 848	6 909	11 326	10 925	8 780	10 201
DK	4 135	5 738	6 672	6 397	5 093	6 077	4 741	3 450	6 038	7 387	7 768
D	15 405	21 563	35 171	42 970	48 814	54 737	62 097	68 572	65 815	61 995	98 875
EL	-8 160	-8 939	-9 015	-9 556	-11 092	-12 278	-13 647	-12 364	-16 901	-21 935	-21 302
E	-24 924	-23 304	-12 764	-12 426	-14 046	-12 818	-11 838	-18 391	-28 585	-37 778	-35 265
F	-7 602	1 857	6 349	6 719	8 417	11 784	23 728	23 437	18 791	-3 580	3 786
IRL	3 391	5 434	6 927	7 844	10 359	12 391	16 472	20 809	22 733	27 698	33 561
I	-155	2 414	28 236	29 865	33 680	47 796	41 412	31 854	22 051	10 360	17 783
NL	:	9 523	14 482	15 739	16 862	16 007	20 663	18 873	19 170	19 852	23 592
A	:	-7 900	-7 706	-8 924	-5 087	-5 734	-3 761	-3 268	-3 376	-2 990	-1 469
P	-6 350	-7 274	-6 806	-6 788	-6 860	-7 120	-8 709	-10 852	-12 943	-15 107	-14 507
FIN	:	2 915	5 342	6 339	9 443	8 856	10 136	11 157	11 453	14 896	14 142
S	:	5 216	6 442	8 059	12 301	14 660	16 067	15 180	15 806	16 460	15 220
UK	-14 670	-17 765	-17 257	-13 959	-13 975	-16 862	-17 827	-32 247	-41 552	-49 757	-53 924

(1) EU-15, trade with non-Community countries; Member States, trade with all partners (intra-EU and extra-EU).
Source: Eurostat, International trade in services (theme2/bop/its).

Table SA.14

Trade balance of services (million EUR) (1)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-15	:	13 840	12 904	11 852	12 017	12 837	16 183	10 446	8 002	6 649	9 043
B/L	1 381	2 065	2 591	3 015	1 806	2 297	3 272	3 630	5 739	8 574	7 781
DK	2 240	1 775	1 397	447	544	1 020	293	-502	1 487	2 575	3 772
D	-18 208	-24 366	-28 878	-34 509	-35 012	-34 866	-36 445	-40 268	-49 039	-54 128	-56 940
EL	4 887	4 963	6 898	7 892	6 580	7 012	9 253	6 073	6 852	8 733	8 798
E	10 292	9 598	10 002	12 515	14 224	16 100	17 636	19 532	21 524	24 244	27 138
F	12 864	13 573	13 749	15 622	13 712	12 821	16 176	16 837	17 930	21 492	19 926
IRL	-945	-2 354	-2 526	-3 463	-4 808	-6 048	-7 945	-11 859	-10 688	-13 065	-16 357
I	-641	-2 688	706	1 594	1 301	1 599	1 772	3 582	1 104	1 142	362
NL	:	206	587	1 162	1 690	3 054	3 737	3 272	2 341	-939	-2 209
A	:	9 053	8 471	8 346	3 527	3 586	870	2 107	1 647	1 744	1 445
P	937	817	1 198	1 064	1 234	1 118	1 292	1 716	1 765	2 079	2 918
FIN	:	-1 896	-1 700	-1 189	-1 618	-988	-1 057	-930	-1 324	-2 442	-2 537
S	:	-2 191	-657	-838	-1 136	-1 421	-2 179	-1 952	-2 197	-3 419	-1 058
UK	4 766	6 632	6 885	5 587	8 440	11 793	18 096	18 725	17 904	19 423	17 806

(1) EU-15, trade with non-Community countries; Member States, trade with all partners (intra-EU and extra-EU).
Source: Eurostat, International trade in services (theme2/bop/its).

Table SA.15

Labour force characteristics, 2001 (1)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Number of persons employed (thousands)																
Total	160 947	4 039	2 712	36 528	3 918	15 877	23 672	1 709	21 373	185	7 621	3 697	4 984	2 396	4 330	27 908
Male	92 447	2 338	1 457	20 376	2 431	10 007	13 043	1 014	13 358	111	4 570	2 063	2 731	1 256	2 267	15 425
Female	69 061	1 700	1 260	16 152	1 486	5 870	10 635	703	8 015	74	3 495	1 634	2 252	1 147	2 073	12 565
Activity rate (% share of persons employed aged 15-64)																
Total	69.0	63.6	79.2	71.3	62.1	64.2	68.6	67.6	60.3	64.1	75.7	70.7	71.7	77.1	78.1	75.2
Male	78.1	72.7	83.3	78.8	76.2	78.1	75.1	79.0	73.7	76.1	84.2	79.0	79.3	79.6	80.2	82.5
Female	60.0	54.5	75.0	63.7	48.8	50.3	62.3	56.0	47.1	52.0	66.9	62.3	64.5	74.7	76.0	67.7
Full-time and part-time work (% share of persons employed)																
Part-time	18.0	18.5	20.1	20.3	4.1	8.1	16.4	16.6	9.1	11.3	42.2	17.2	11.1	12.0	21.0	24.8
Full-time	82.0	81.5	79.9	79.7	95.9	91.9	83.6	83.4	90.9	88.7	57.8	82.8	88.9	88.0	79.0	75.2
Unemployment rate (% share of labour force aged 15-64)																
Total	7.4	6.2	4.2	7.8	10.4	10.4	8.6	3.7	9.7	1.8	2.1	4.0	4.1	10.4	4.8	4.7
Male	6.5	5.7	3.7	7.8	6.9	7.3	7.0	3.8	7.5	1.6	1.8	4.0	3.1	10.0	5.1	5.2
Female	8.5	6.9	4.8	7.8	15.6	15.2	10.5	3.5	13.1	2.2	2.5	4.1	5.3	10.8	4.4	4.1

(1) NACE Sections A to Q.
Source: Eurostat, Labour Force Survey.

Table SA.16

Average number of hours usually worked per week by persons aged 15-64, 2001 (hours)

NACE label (NACE code)	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Total (A to Q)	37.7	37.5	36.4	36.8	43.3	40.1	36.9	37.7	39.0	38.2	31.7	38.4	40.1	38.4	36.9	38.1
Mining and quarrying (C)	42.3	38.6	:	39.6	41.9	40.1	39.1	42.0	40.0	:	38.0	38.0	42.4	:	:	51.0
Manufacturing (D)	39.2	39.0	37.2	37.4	43.7	40.8	37.8	39.5	40.4	40.2	35.2	38.5	40.8	39.3	38.3	42.3
Electricity, gas & water supply (E)	38.7	38.7	38.3	38.1	39.9	39.9	35.9	39.2	39.1	:	36.1	38.9	38.9	38.8	39.2	41.5
Construction (F)	41.2	40.5	40.0	40.0	43.8	41.1	39.4	42.1	41.6	40.3	39.5	39.4	41.8	41.5	39.8	44.5
Distributive trades (G)	37.6	39.7	34.9	35.5	45.9	41.5	37.9	35.4	42.3	38.9	30.4	36.5	42.2	37.4	36.5	34.4
Hotels and restaurants (H)	39.1	42.2	31.8	38.9	49.5	43.9	41.1	34.1	42.4	43.8	26.8	39.7	48.1	36.6	36.1	31.0
Transport, storage & communication (I)	40.2	40.1	38.6	39.3	47.5	42.3	37.2	40.2	40.2	39.1	35.0	39.9	41.8	39.7	37.9	43.2
Financial intermediation (J)	38.0	38.3	37.5	37.8	40.3	39.5	37.2	37.8	38.5	38.7	34.3	36.9	37.7	38.4	37.5	38.6
Real estate, renting & business activities (K)	37.9	38.4	38.0	36.6	43.1	38.2	37.8	38.1	39.2	38.3	33.8	36.1	40.0	37.4	37.6	39.5

Source: Eurostat, Labour Force Survey (theme3/lfs/worktime/ewhana).

Table SA.17

Unemployment rates (% share of labour force aged 15-64)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-15	:	:	:	:	10.8	11.0	10.9	10.3	9.5	8.5	7.4
B	7.0	6.7	8.1	9.7	9.4	9.5	9.0	9.4	8.7	6.6	6.2
DK	9.2	9.2	10.9	8.1	7.0	6.9	5.4	5.1	5.2	4.5	4.2
D	5.3	6.4	7.7	8.8	8.2	8.9	9.9	9.9	8.9	8.0	7.8
EL	7.8	8.1	8.8	9.1	9.3	9.9	9.8	11.0	12.0	11.3	10.4
E	16.1	17.9	22.4	24.5	22.9	22.4	21.0	18.9	15.7	14.0	10.4
F	9.2	10.3	11.4	12.7	11.9	12.5	12.7	12.1	12.0	10.3	8.6
IRL	16.1	15.4	15.9	14.8	12.2	11.9	10.4	7.8	5.8	4.3	3.7
I	10.2	9.6	10.4	11.5	11.9	12.3	12.5	12.3	11.8	11.0	9.7
L	1.5	2.0	2.3	3.5	2.9	3.3	2.5	2.8	2.4	2.4	1.8
NL	7.3	5.6	6.3	7.2	7.2	6.5	5.6	4.4	3.6	2.7	2.1
A	:	:	:	:	4.4	5.3	5.2	5.5	4.7	4.7	4.0
P	4.1	4.1	5.5	7.0	7.4	7.7	6.9	4.9	4.9	4.1	4.1
FIN	:	:	:	:	17.2	15.7	15.1	13.3	11.8	11.2	10.4
S	:	:	:	:	8.2	9.7	10.5	9.1	7.7	5.5	4.8
UK	8.6	9.9	10.4	9.7	8.8	8.3	7.2	6.3	6.1	5.6	4.7

Source: Eurostat, Labour Force Survey (theme3/lfs/unempl/urgan).

Energy

Price and quality of energy supply are crucial for the growth and competitiveness of businesses, as well as the general standard of living. These two aspects form the background against which the internal electricity and gas markets have been developed, based on two directives [1], which foresee market opening within the EU, spread over a period of several years.

Energy also plays a crucial role with respect to sustainable development, linked to concerns about global warming. The Kyoto Protocol was turned into a legal framework in October 2001, when the EU and many other industrialised countries agreed to reduce greenhouse gas emissions by an average of 5.2 % compared to 1990 levels by 2012.

Changes in energy supply and demand are also strongly linked to technological change, a research-intensive activity that requires long lead-in periods and faces uncertain returns on investment. Technological change may also result from changes in the legal framework (in particular environmental standards) faced by the energy sector. For example, in Germany, investment in electricity generation using wind power or biomass is supported by favourable compensation paid by electricity distributors through a fee fixed by the government.

In the field of conventional power plants, combined-cycle gas turbines (CCGTs) have become the most popular type of plant. Alternatives such as advanced coal technologies may reach a competitive level of capital costs and efficiency within the coming decade, perhaps resulting in a return to coal. Integrated combined-cycle gasification (ICCG) is also seen as a future option for power generation, especially if more stringent emission standards are introduced. More generally the energy sector has seen a trend towards developing gas turbines, CCGTs and combustion engines for small-scale industrial co-generation of heat and electricity.

[1] Gas Market Directive (98/30/EC) and Electricity Market Directive (96/92/EC).

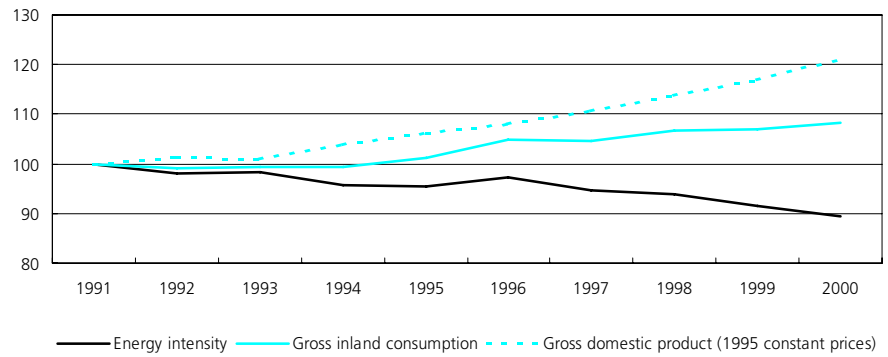
This chapter describes the activities involved in the supply of energy, which include the mining and quarrying of energy producing materials (NACE Divisions 10 to 12), the manufacture of coke, refined petroleum products and nuclear fuel (NACE Division 23) and the supply of electricity and gas (NACE Division 40). Sewage and distribution of water is treated separately in Chapter 14.

NACE

10: mining of coal and lignite; extraction of peat;
10.1: mining and agglomeration of hard coal;
10.2: mining and agglomeration of lignite;
10.3: extraction and agglomeration of peat;
11: extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying;
11.1: extraction of crude petroleum and natural gas;
11.2: service activities incidental to oil and gas; extraction, excluding surveying;
12: mining of uranium and thorium ores;
23: manufacture of coke, refined petroleum products and nuclear fuel;
23.1: manufacture of coke oven products;
23.2: manufacture of refined petroleum products;
23.3: processing of nuclear fuel;
40: electricity, gas, steam and hot water supply;
40.1: production and distribution of electricity;
40.2: manufacture of gas; distribution of gaseous fuels through mains;
40.3: steam and hot water supply.

Figure 1.1

Energy intensity in the EU (1991=100)



Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_100a).

STRUCTURAL PROFILE

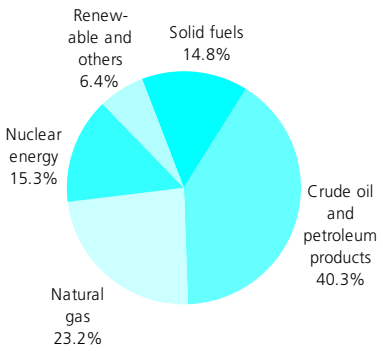
The energy sector plays a significant role in the EU's economy. In 2000 it generated gross value added of EUR 212 billion, representing some 4.5 % of the wealth created by EU businesses that year (total of NACE Sections C to K). Employment reached 1.2 million persons, or only 1.2 % of those employed in EU businesses, underlining the high apparent productivity level (the value added produced by each person employed) of the labour force in this sector.

Splitting the energy sector into three parts, namely mining and extraction of energy products (Divisions 10 to 12), fuel processing (Division 23) and the supply of electricity and gas (Division 40), the last of these was by far the largest activity. Note that Division 40 covers only the distribution of electricity and gas by the electricity grid and gas mains: the distribution by other means (such as bottled gas) and of other energy products (automotive fuel, solid and liquid heating fuels) is considered as part of the regular distribution activities and is covered by Chapters 16 to 18 of this publication. It should also be underlined that Division 40 includes the manufacture and distribution of gas and electricity, while the extraction of gas is covered by NACE Division 11. While gas can be stocked and accumulated before being distributed, this is less easily done for electricity for which production, distribution and consumption generally take place more or less simultaneously.

The electricity and gas supply and distribution subsector accounted for more than half of the value added created in the energy sector, with EUR 124 billion in 2000. That was twice the size of the energy mining and extraction activities: petroleum and gas extraction generated EUR 48.4 billion of value added and the mining and extraction of energy products (coal, lignite and peat) added a further EUR 6.8 billion. Fuel processing was the smallest activity within the energy sector with value added of EUR 33.3 billion in 2000.

Figure 1.2

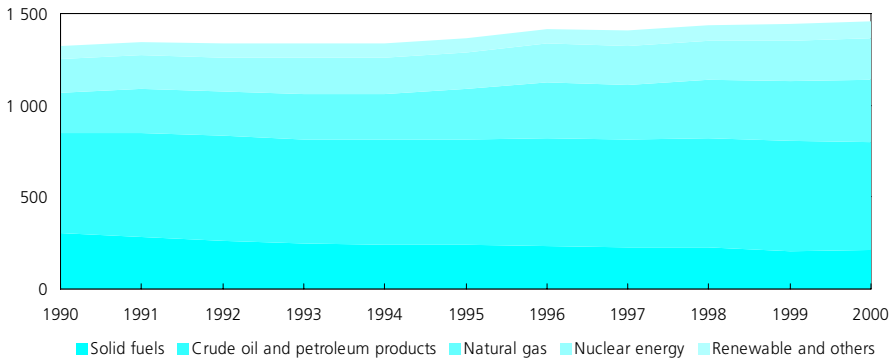
Gross inland energy consumption by fuel type in the EU, 2000



Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10).

Figure 1.3

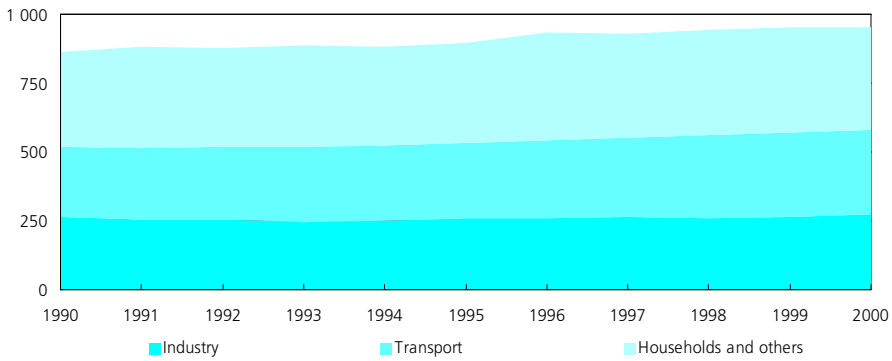
Gross inland consumption by fuel type in the EU (million TOE)



Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10).

Figure 1.4

Final energy consumption by end-use in the EU (million TOE)



Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10).

On the EU energy balance sheet, primary production measures the sum of energy extraction, heat produced in reactors and the use of renewable energy sources. The sum of primary production, net imports and stock changes amounts to gross inland energy consumption, which is the key aggregate in the energy balance sheet. This indicator refers to the quantity of energy necessary to satisfy inland consumption and corresponds to the amount available for final consumption plus the sum of distribution and transformation losses and consumption by the energy branch itself. Energy available for final consumption refers to the sum of all energy products placed at the disposal of consumers, and includes non-energy consumption, for example the use of some energy products as raw materials by the chemical industry.

Gross inland energy consumption in the EU was equal to 1 457 million tonnes of oil equivalent (TOE) in 2000, a 1.1 % increase over 1999. At the same time, primary production in the EU decreased by 0.8 % to 759 million TOE. In fact, over the last decade primary production grew at a much slower pace than gross inland consumption, which means that the EU's dependency on energy imports has been growing over time. However, during the same period, the energy intensity of the EU's economy, defined as gross inland consumption per unit of GDP, declined from 215.7 TOE per million EUR in 1990 to 193.8 TOE per million EUR in 2000, meaning that less energy was required to produce the same amount of GDP.

Most of the energy used in the EU was of fossil origin. In 2000, crude oil and petroleum products represented 40.3 % of gross inland energy consumption, or 588 million TOE, natural gas accounted for 23.2 %, or 338 million TOE, and solid fuels some 14.8 %, or 215 million TOE. In total, fossil fuels accounted for 78.3 % of total gross inland consumption. Nuclear power was the second main source of energy, with gross inland consumption equal to 223 million TOE, which was 15.3 % of the total gross inland consumption. Renewable sources and industrial waste accounted for an additional 89 million TOE or 6.1 % of the total.

While the share of crude oil and petroleum products remained stable over the past decade, there was an increase in demand for natural gas, whose share in the total increased by more than 6 percentage points from 16.8 % in 1990. This development has mainly been at the expense of solid fuels, whose share in the EU's energy mix dropped by 8.1 percentage points between 1990 and 2000. Solid fuels are indeed characterised by higher extraction costs in the EU, while being less efficient than other energy sources. As a result, they faced increased competition in supplying conventional thermal power stations - their main market - as electricity producers increasingly turned to natural gas as their preferred input. The share of solid fuels as input for the EU's conventional thermal power stations fell from 67.6 % in 1990 to 52.2 % in 2000. As a consequence, natural gas replaced solid fuels as the second largest energy source in the EU from 1993 onwards and in 1999 nuclear energy also moved above solid fuels in the ranking. The use of nuclear fuels remains controversial: as although they are seen as an alternative to fossil fuels in terms of reduced emissions of greenhouse gases, public approval of nuclear energy has fallen (due to security reasons and waste management problems). As a result, some Member States have decided to opt out of using nuclear energy, notably Belgium and Germany. There are no nuclear power plants in six Member States (Denmark, Greece, Ireland, Luxembourg, Austria and Portugal), while since 1999 the Italian nuclear sector has been limited to the decommissioning of nuclear power plants.

Turning to renewable energy sources [2], their weight in the energy mix steadily increased during the 1990s, passing from 5.0 % of total gross inland consumption in 1990 to 6.1 % in 2000. More than half was accounted for by biomass, with gross inland consumption of 53.9 million TOE in 2000 (3.7 %). One of the main objectives of the EU's energy policy is to increase the share of renewable energy in gross inland consumption by 2010, both for environmental reasons and to improve the EU's security of energy supply. The tentative target [3] is that by 2010 one fifth of the EU's gross electricity production should originate from renewable sources.

[2] Hydro-electric, wind, solar, geothermal energy and biomass/waste.
[3] Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market.

EMPLOYMENT AND PRODUCTIVITY

Employment in the energy sector (NACE Divisions 10 to 12, 23 and 40) reached 1.2 million persons in 2000, or 1.2 % of the business economy. Almost three quarters of this total worked in the supply and distribution of electricity and gas (NACE Division 40), representing 877 000 persons. The manufacturing of energy products (NACE Division 23) and the mining of solid fuels (NACE Division 10) each accounted for approximately 10 % of those employed in the EU's energy sector.

Apparent labour productivity was particularly high in the energy sector. On average, each person employed generated no less than EUR 175 100 of value added in 2000, a level that was three and a half times above the industrial average (EUR 50 000 for NACE Sections C to F).

EXTERNAL TRADE

The EU depends to a large degree on non-Community countries to satisfy its energy needs. In 2000, the EU exported 392 million TOE of energy, while imports were almost three times this amount at 1 133 million TOE. Net imports (or the trade balance) hence reached 742 million TOE, or 50.9 % of total gross inland consumption, a share that remained fairly stable during the 1990s. This ratio was highest for crude oil/petroleum products (80.4 % of consumption was accounted for by imports in 2000), compared to a ratio of 45.8 % for natural gas.

Table 1.1

Mining and quarrying of energy producing materials; manufacture of coke, refined petroleum products and nuclear fuel; electricity, gas, steam and hot water supply (NACE Divisions 10, 11, 12, 23 and 40)
Labour force characteristics (% of total employment)

	Female		Part-time		Self-employed	
	1996	2001	1996	2001 (1)	1996	2001
EU-15	16.6	17.5	:	4.7	:	:
B	11.1	17.9	:	8.8	:	:
DK	26.1	16.6	:	:	:	:
D	17.1	16.7	4.2	4.2	:	:
EL	15.1	13.8	:	:	:	:
E	10.2	11.5	:	2.5	:	:
F	22.0	21.1	3.2	8.2	:	:
IRL	:	:	:	:	:	:
I	11.9	16.0	:	3.9	4.4	5.2
L	:	:	:	:	:	:
NL	14.9	14.4	14.8	14.7	:	:
A	17.4	15.8	:	7.1	:	:
P	:	:	:	:	:	:
FIN	24.2	24.0	:	:	:	:
S (2)	:	28.8	:	:	:	:
UK	18.3	19.2	:	5.0	:	:

(1) B, E and A, 2000.
(2) 2000.
Source: Eurostat, Labour Force Survey.

1.1: CRUDE OIL AND NATURAL GAS

This subchapter looks at the extraction of crude petroleum and natural gas and related supporting services (NACE Division 11), the manufacture of refined petroleum products (NACE Group 23.2) and the manufacture and distribution of gas (NACE Group 40.2). The related activities of exploration and surveying are covered in Chapter 22 and the retail sale of automotive fuels is covered within Chapter 16.

Unlike the markets for oil and petroleum products, the gas distribution sector in the EU has for a long period been protected. This situation is changing following the gradual implementation of the 1998 Gas Directive [4], which aims to open up the market by laying down common rules for the internal market in natural gas. In the directive, a market opening of at least 20 % was initially foreseen by covering all gas-fired power generators, as well as final customers consuming more than 25 million m³ of gas annually. This annual consumption threshold will fall to 5 million m³ in two further stages after 5 and 10 years. According to the Commission's second benchmarking report on the implementation of the internal electricity and gas market [5], several Member States have liberalised their gas markets beyond these legal requirements, with the degree of market opening varying widely from the 20 % minimum in France, and 35 % in Denmark, to 100 % in Germany, Austria and the United Kingdom [6]. All Member States except France and Luxembourg envisage full market opening by 2006.

[4] Directive 98/30/EC of the European Parliament and of the Council concerning common rules for the internal market in natural gas.
[5] Document SEC (2002) 1038 of 1.10.2002.
[6] In EL, P and FIN gas markets have not been opened at all, based on derogations.

STRUCTURAL PROFILE

EU primary production of crude oil and natural gas was 351 million TOE in 2000. Compared to 1999, production was down 0.8 %, which can be explained by a 4.7 % reduction in crude oil production, which fell to 160 million TOE. In contrast, natural gas production increased by 2.6 % to 191 million TOE. Among the Member States, the United Kingdom was by far the largest producer of hydrocarbons in the EU, contributing 79.8 % of the EU's total production of crude oil and 51.2 % of its natural gas in 2000. Other important producers included Denmark for crude oil, with 11.3 % of the EU's production, and the Netherlands, which accounted for 27.2 % of natural gas production.

EU oil output experienced strong growth in the first half of the 1990s, passing from 133 million TOE in 1990 to 189 million TOE by 1996, after which output stabilised and then fell somewhat. The initial increase in oil output was largely a result of higher North Sea output by the United Kingdom and Denmark. As for natural gas, the United Kingdom strongly increased its production over the 1990s, surpassing the Netherlands since 1995 as the main producer in the EU, with production growing on average by 3.7 % per annum during the decade to 2000.

Turning to the demand side, EU gross inland consumption of oil and natural gas reached 926 million TOE in 2000, virtually the same level as the preceding year. Oil represented the largest share of consumption, with 588 million TOE, while natural gas accounted for just over 338 million TOE. Oil consumption has been growing at a slower pace than that of natural gas: it progressed, on average, by 0.7 % per annum between 1990 and 2000, while gas consumption grew by 4.3 % per annum.

Crude oil is mainly used as a transformation input in refineries. EU output of derived petroleum products was 654 million TOE in 2000, broken down as follows: gas/diesel oil, 35.5 %; motor spirit, 21.5 %; residual fuel oils, 16.0 %; kerosene and jet fuels, 6.8 %; naphtha, 6.6 %; refinery gas, 3.6 %; liquefied petroleum gases (LPG), 3.1 %; and various other petroleum products, 6.9 %.

In contrast, most of the gross inland consumption of natural gas was accounted for by final consumption (72.4 %), whilst one quarter (28.2 %) was used as a transformation input. The use of natural gas as an input is gaining importance however, mainly due to increased demand from conventional thermal power stations.

The transport sector was the key market for final consumption of oil, accounting for two thirds (69.7 %) of final energy consumption in 2000. Households accounted for only 12.8 % of oil consumption, but as much as 42.1 % of natural gas consumption in 2000.

Table 1.2

Manufacture of refined petroleum products (NACE Group 23.2)
Main indicators in the EU

	1995	1996	1997	1998	1999	2000
Production (million EUR)	162 055	198 072	199 857	183 021	204 563	:
Number of persons employed (thousands)	106	:	110	110	111	107
Value added (million EUR)	11 878	13 967	14 392	17 890	16 296	25 918
Personnel costs (million EUR)	6 326	6 403	6 300	6 407	6 701	7 000
App. labour productivity (thous. EUR/pers. emp.)	112.3	:	130.7	162.9	146.5	242.7
Simple wage adjusted labour productivity (%)	187.8	218.1	228.4	279.2	243.2	370.3

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 1.3

Crude petroleum and natural gas; services incidental to oil and gas extraction, excluding surveying (CPA Division 11)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	2 120	2 351	3 189	3 758	3 338	2 819	2 530	1 863	3 558	7 451	5 745
Extra-EU imports (million EUR)	53 945	50 299	51 856	52 356	47 377	61 012	66 241	46 017	60 382	119 892	112 173
Trade balance (million EUR)	-51 825	-47 948	-48 667	-48 597	-44 039	-58 193	-63 711	-44 154	-56 824	-112 441	-106 428
Cover ratio (%)	3.9	4.7	6.1	7.2	7.0	4.6	3.8	4.0	5.9	6.2	5.1

Source: Eurostat, Comext.

Table 1.4

Refined petroleum products (CPA Group 23.2)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	6 365	6 103	9 730	10 225	8 374	10 402	12 432	9 929	10 906	19 896	15 628
Extra-EU imports (million EUR)	14 250	11 016	10 306	10 032	10 640	10 940	11 754	8 290	10 991	20 721	20 648
Trade balance (million EUR)	-7 886	-4 913	-576	193	-2 267	-538	678	1 639	-85	-825	-5 020
Cover ratio (%)	44.7	55.4	94.4	101.9	78.7	95.1	105.8	119.8	99.2	96.0	75.7

Source: Eurostat, Comext.

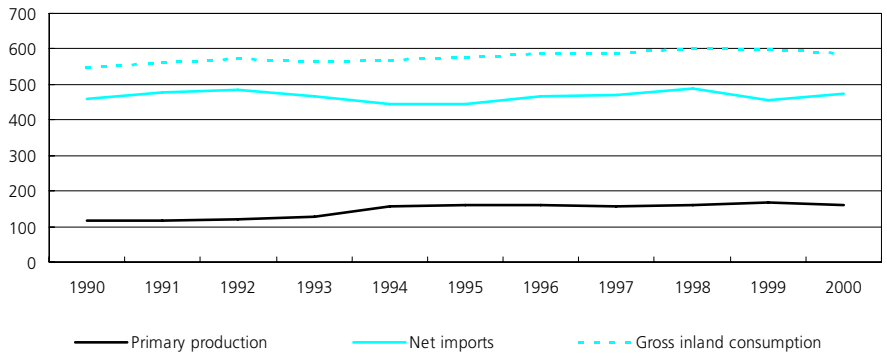
EMPLOYMENT

Employment in the extraction of crude petroleum and natural gas subsector was estimated at 55 800 persons in 2000. Partial SBS data (it should be noted that data are not available for some of the larger Member States) for the two other activities add a further 80 900 persons in the manufacture of refined petroleum products' subsector [7] and 101 000 persons in the manufacture and distribution of gas subsector [8].

[7] D, EL, IRL and A, not available; DK, E, NL, P and S, 1999; B, 1998; FIN, 1997.
[8] EL, F, IRL and L, not available; NL and S, 1999; B and UK, 1998.

Figure 1.5

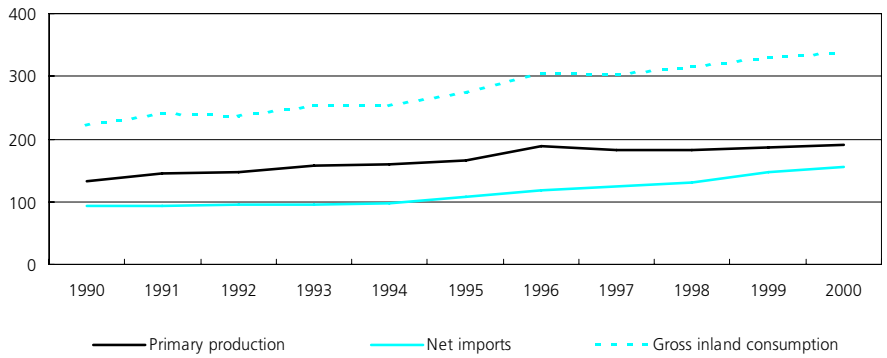
Main indicators for crude oil and petroleum products in the EU (million TOE)



Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_102a).

Figure 1.6

Main indicators for natural gas in the EU (million TOE)



Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_102a).

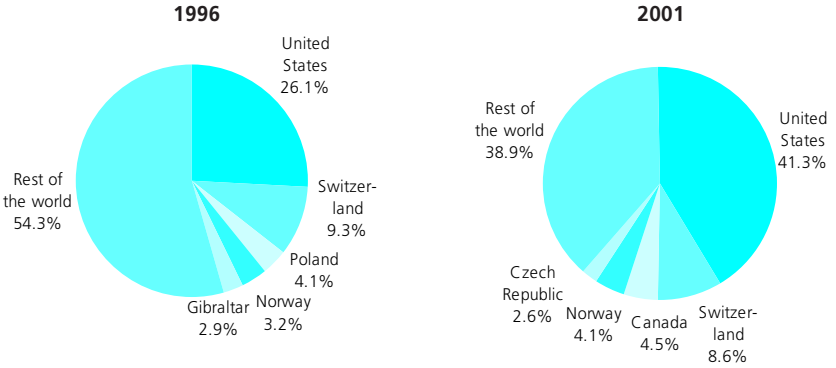
EXTERNAL TRADE

The EU is highly dependent on crude oil imports, as 80.4 % of gross inland consumption was covered by net imports in 2000. However, EU production has risen faster than imports during the past decade and as a result the EU's dependency has been reduced somewhat from a high of 84.6 % in 1990. For natural gas, the opposite trend was observed, as net imports accounted for 45.8 % of gross inland consumption in 2000, the highest share recorded throughout the period 1990 to 2000, as imports rose at a faster pace than primary production.

Norway was the most important supplier of crude oil to the EU (23.7 % of the total in 2000), ahead of Russia (16.1 %) and Saudi Arabia (13.8 %). The main suppliers of natural gas were Russia (41.1 % of the total imported volume of gas in 2000), Algeria (29.1 %) and Norway (23.3 %).

Figure 1.7

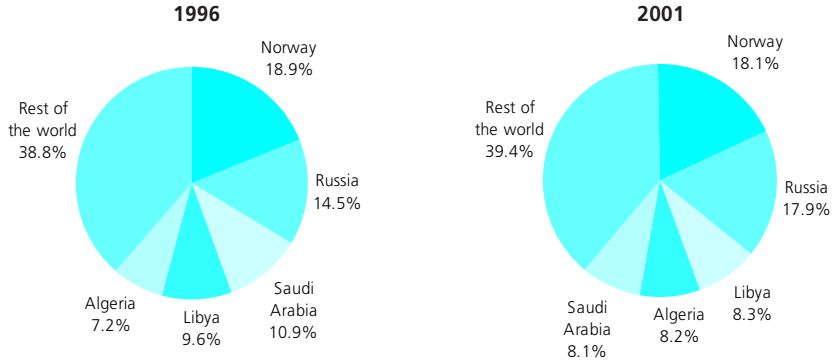
Crude petroleum and natural gas; services incidental to oil and gas extraction, excluding surveying; refined petroleum products (CPA Division 11 and Group 23.2)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 1.8

Crude petroleum and natural gas; services incidental to oil and gas extraction, excluding surveying; refined petroleum products (CPA Division 11 and Group 23.2)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 1.5

Production and proven reserves of crude oil, 2002

	Production (million tonnes)	Proven reseserves (million tonnes) (1)	Production capacity (years) (2)
North America	**396.6**	**27 622**	**69.6**
Canada	109.3	24 559	224.7
United States	287.3	3 062	10.7
Latin America	**455.6**	**15 167**	**33.3**
Mexico	158.3	1 722	10.9
Venezuela	120.3	10 614	88.2
Africa	**339.5**	**10 563**	**31.1**
Algeria	42.3	1 255	29.7
Libya	64.7	4 025	62.2
Nigeria	96.1	3 274	34.1
Western Europe	**302.1**	**2 469**	**8.2**
Norway	156.9	1 400	8.9
United Kingdom	112.0	643	5.7
Eastern Europe	**455.0**	**10 827**	**23.8**
Russia	444.8	10 618	23.9
Middle East	**972.4**	**93 539**	**96.2**
Saudi Arabia	380.8	35 716	93.8
Iraq	101.1	15 348	151.8
Iran	171.8	12 237	71.2
Kuwait	93.0	13 165	141.6
Far East & Pacific	**367.3**	**5 281**	**14.4**
China	169.3	2 490	14.7
Indonesia	55.8	682	12.2
World	**3 288.6**	**165 468**	**50.3**

(1) As of 1 January 2003.
(2) Ratio of reserves divided by production.
Source: CPDP.

1.2: ELECTRICITY GENERATION AND DISTRIBUTION

This subchapter covers the production, transmission and distribution of electricity, whether generated from fossil, nuclear or renewable fuels. All of these activities are classified in NACE Group 40.1.

Electricity is used in almost every sphere of human activity, and its consumption is hence very closely correlated with economic activity. Improvements in energy efficiency are often offset by the introduction of new equipment and applications that use electricity. As a consequence, electricity consumption in the EU has grown at a relatively fast rate. Over the past decade, the electricity sector has also undergone a profound structural change, initiated by the development of an internal energy market, which has stimulated greater competition in electricity markets. The cornerstone of this process is the opening up of access to transmission grids for consumers and distributors. The Electricity Directive [9] legislates for access to networks to be based on objective, transparent and non-discriminatory criteria. By 2001, all Member States had adopted national legislation to implement the directive. In terms of market opening, several Member States went beyond the legally required degree of market opening of about 33 % by 2003. Indeed, according to the Commission's second benchmarking report on the implementation of the internal electricity and gas market, five Member States (Germany, Austria, Finland, Sweden and the United Kingdom) had fully liberalised their electricity markets by 2001 and four others (Denmark, Spain, the Netherlands and Portugal) planned to do so by 2003.

[9] Directive 96/92/EC of the European Parliament and of the Council concerning common rules for the Internal Market in electricity.

STRUCTURAL PROFILE

The EU's net installed capacity of electricity generation strongly increased during the 1990s to reach 582 GW in 2000, up from 500 GW in 1990. Thermal power stations provided 56.1 % of this capacity, nuclear power plants 21.3 %, hydro-electric plants 20.4 % and the remainder was split between wind energy (2.1 %) and geothermal energy (0.1 %). These shares have remained fairly stable over the past decade, with the exception of the development of wind energy in recent years, whose capacity rose from 2.5 GW in 1995 (0.1 % of the total) to 12.3 GW by 2000. Another important evolution within the category of thermal power plants was the growing importance of combined cycle power plants, where capacity increased from 3.3 GW in 1990 to 40.0 GW by 2000.

EU net electricity production was 2 475 TWh in 2000, an average increase of 2.4 % per annum since 1990. Germany and France were the largest electricity producing countries in the EU, each accounting for approximately one fifth of total net production, with respectively 534 TWh and 517 TWh. Electricity production was approximately two thirds of that level in the United Kingdom (361 TWh) and half in Italy (264 TWh).

Table 1.6

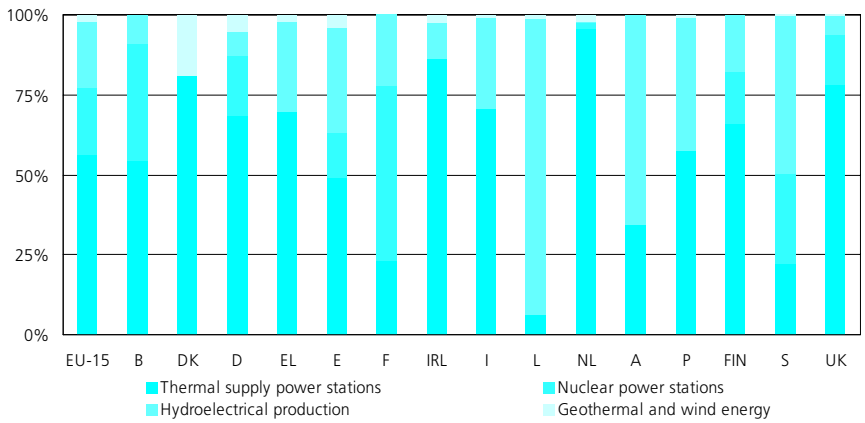
Change in electricity prices between 1 January 1998 and 1 July 2002, prices before taxes and VAT (%) (1)

	Large industrial consumer (2)	Household consumer (3)
B	3.0	-13.7
DK	-8.2	18.6
D	-19.7	16.1
EL	1.2	-6.9
E	-10.7	-9.2
F	-5.5	-1.9
IRL	22.1	19.9
I	22.4	63.6
L	-17.4	-1.2
NL	-1.4	21.8
A	:	-29.8
P	-4.4	-0.5
FIN	2.5	1.0
S	-21.4	2.3
UK	-12.9	-12.9

(1) D, Western Germany; EL, Athinai; E, Madrid; F, Paris; IRL, Dublin; NL, Rotterdam; A, Oberösterreich/Tirol/Wien; P, Lisboa; UK, London for household consumer.
(2) Industrial consumer consuming 24 GWh per year; L, 50 % power reduction; DK and NL, between 1 January 1998 and 1 July 1999.
(3) Households consuming 600 kWh per year for a standard dwelling of 50 m²; NL, between 1 January 2000 and 1 July 2002.
Source: Eurostat, Energy statistics (theme8/sirene/es_price).

Figure 1.9

Mix of net electricity capacity in the EU, 2000



Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_11/es_113a).

The differences in the energy source used for electricity generation across the EU reflect access to primary energy, as well as differences in national energy policies. In 2000, nuclear power plants were by far the most important source of electricity in France (76.5 % of total net production) and Belgium (57.1 %). In contrast, approximately 90 % of electricity supply in Denmark, Greece, Ireland and the Netherlands originated from conventional thermal power stations, compared to less than 10 % in France and Sweden. Hydro-electric energy dominated production in Luxembourg (74.5 %), Austria (71.5 %) and Sweden (54.9 %), while Denmark was the only country where wind energy contributed a double-digit share (12.3 %).

Electricity steadily increased its penetration of total final energy consumption during the 1990s, rising from 18.1 % of the total in 1990 to 20.1 % by 2000. The share of electricity in the final energy mix varies substantially between countries, reflecting the structure of industry, its level of automation, the use of electricity for space heating or the availability of alternative energy sources. The Benelux countries, for example, had low shares of electricity in final energy consumption (less than 18.0 % in 2000) mainly because of the maturity of their natural gas supply networks. In contrast, electricity accounted for 26.4 % of final consumption in Finland and 32.4 % in Sweden because of the prevalence of electrical space heating and the use of more lighting leading to higher energy consumption compared to southern Member States (especially during winter months).

EMPLOYMENT

The EU's electricity generation and distribution sector employed 533 200 persons in 2000 [10]: this figure excludes four Member States of which notably France, for which no data are available from SBS. The sector has seen employment decrease at a rapid pace over the past decade. Most countries for which fairly lengthy time-series are available reported a contraction in the number of persons employed in excess of 15 % between 1990 and 2000.

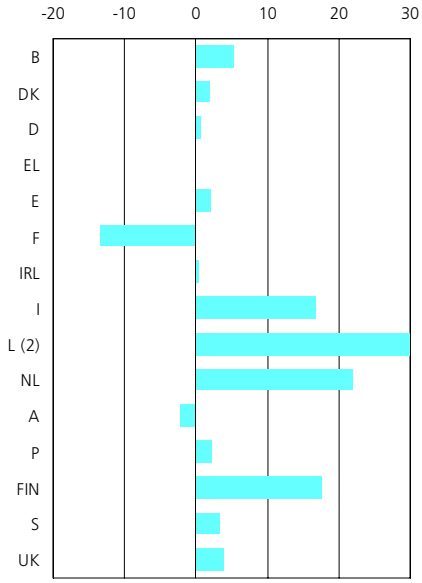
EXTERNAL TRADE

External trade of electricity with non-Community countries is very limited due to a lack of interconnections. Only Switzerland and Norway currently exchange significant amounts of electricity with the EU. Net imports of electricity into the EU amounted to 42.4 TWh in 2000, equivalent to less than 2.0 % of total net production.

[10] EL, F, IRL and NL, not available; UK, 1998.

Figure 1.10

Net electricity imports as a share of national net production, 2000 (%) (1)



(1) A negative sign indicates net exports.
(2) Luxembourg = 498.9.
Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_102a).

Table 1.7

Production and distribution services of electricity (CPA Group 40.1)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	659	699	824	903	1 115	1 427	1 185	1 242	1 193	1 309	1 638
Extra-EU imports (million EUR)	605	510	515	561	526	546	567	677	731	680	1 579
Trade balance (million EUR)	54	189	308	342	588	882	618	565	463	629	59
Cover ratio (%)	108.9	136.9	159.8	160.9	211.9	261.6	209.1	183.4	163.3	192.5	103.7

Source: Eurostat, Comext.

1.3: OTHER ENERGY ACTIVITIES

This subchapter covers the mining and extraction of hard coal (NACE Group 10.1), lignite (Group 10.2) and peat (Group 10.3), and the manufacture of coke oven products (Group 23.1). It also addresses nuclear fuels in the form of mining of uranium and thorium ores (NACE Division 12) and the processing of nuclear fuels (NACE Group 23.3), which includes the production of enriched uranium, fuel elements for nuclear reactors, radioactive elements for industrial or medical use and the treatment of nuclear waste. Finally, steam and hot water supply are covered by NACE Group 40.3.

Table 1.8

Processing of nuclear fuel (NACE Group 23.3)
Main indicators in the EU

	1995	1996	1997	1998	1999	2000
Production (million EUR)	7 618	:	8 313	8 430	8 671	:
Number of persons employed (thousands)	28	:	:	27	27	30
Value added (million EUR)	3 754	:	3 746	3 928	4 065	3 704
Personnel costs (million EUR)	1 259	:	1 414	1 567	1 746	1 719
App. labour productivity (thous. EUR/pers. emp.)	133.6	:	:	144.4	151.1	122.2
Simple wage adjusted labour productivity (%)	298.2	:	264.9	250.7	232.8	215.4

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

STRUCTURAL PROFILE

Solid fuels (NACE Division 10) are used less and less to satisfy energy demand within the EU. Gross inland consumption fell on average by 3.3 % per annum between 1990 and 2000 to reach 215 million TOE, down from 302 million TOE. On the supply side, the production of hard coal in the EU also witnessed decline from the mid-1980s onwards, largely as a result of cuts in production capacity and the termination of coal production in several Member States. Solid fuel production in the EU fell by an average of 7.2 % per annum between 1990 and 2000, halving production to just over 98 million TOE. This was partly offset by a rise in the level of net imports, that progressed on average by 2.2 % per annum, to reach 111 million TOE in 1997. The highest output of solid fuels in the EU was in Germany, with 60 million TOE in 2000. The only other countries with significant production were the United Kingdom (18 million TOE), Greece and Spain (both 8 million TOE).

Two main factors can be put forward to explain the decreasing production of solid fuels in the EU. Firstly, there has been a growing gap between extraction costs in the EU and those from lower cost countries, stemming both from lower labour costs in competing countries and geological constraints within the EU as seams of coal become increasingly difficult to exploit in an economical manner. In addition, a 1975 Community restriction on the use of natural gas for electricity generation came to an end in 1991, resulting in a shift towards more efficient gas-fired power stations.

Nevertheless, the power generation market remained the most important market for solid fuels, as it accounted for 72.3 % of gross inland consumption in 2000. A further 22.9 % was accounted for as inputs into patent fuel and briquetting plants, coke-ovens or blast furnaces. After taking into account all transformation inputs, outputs, and losses as well as own consumption within the energy branch, there were some 38 million TOE of solid fuels available for final energy consumption in the EU in 2000, less than half the quantity some ten 10 before. Most of this total was used by energy-intensive intermediate goods' industries, mainly iron and steel (60.4 % of final energy consumption in 2000). Households accounted for 10.9 % of final energy consumption of solid fuels, a drop of 14 percentage points compared to 1990.

Turning to nuclear fuels, capacity in uranium production within the EU has been on a downward trend since the early 1990s. In general, mines have been closed because of exhausted deposits and high extraction costs relative to world prices. Most of the cuts in production capacity have taken place in France, where production plummeted from 980 tU in 1995 to 124 tU in 2001. Spain also cut back its output from 255 tU in 1995 to 30 tU in 2001. EU production decreased from 1 276 tU in 1995 to 178 tU in 2001.

EMPLOYMENT

Estimates of the level of employment can be made for the mining and extraction of coal, lignite and peat (Division 10), where some 131 200 persons were employed in the EU in 2000, representing approximately one tenth of total employment in the whole energy sector. The mining of nuclear fuels (Division 12) was an extremely small subsector accounting for only 3 970 persons employed in 2000.

Table 1.9

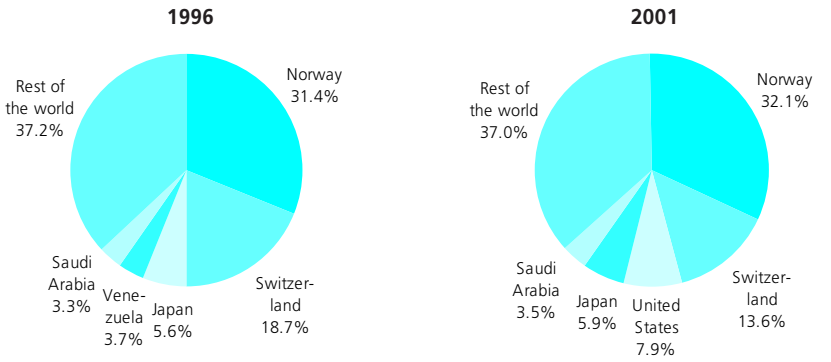
Coal and lignite; peat (CPA Division 10)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	85	57	67	68	69	74	89	88	82	93	87
Extra-EU imports (million EUR)	6 395	6 105	4 789	5 246	5 365	5 530	5 802	5 840	5 395	6 651	9 014
Trade balance (million EUR)	-6 310	-6 049	-4 722	-5 178	-5 296	-5 455	-5 712	-5 752	-5 313	-6 558	-8 927
Cover ratio (%)	1.3	0.9	1.4	1.3	1.3	1.3	1.5	1.5	1.5	1.4	1.0

Source: Eurostat, Comext.

Figure 1.11

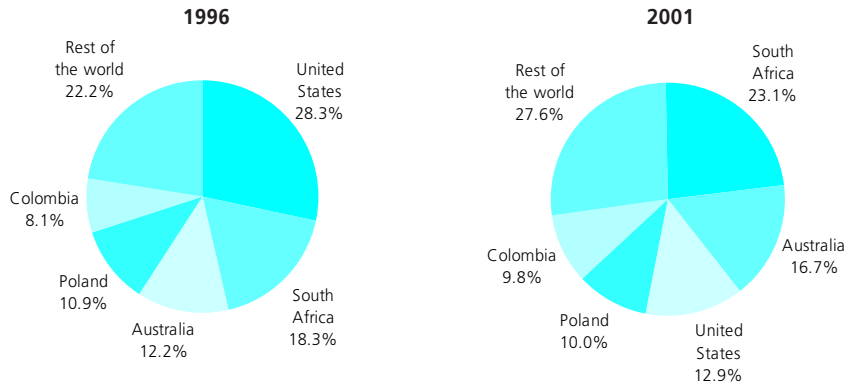
Coal and lignite; peat (CPA Division 10)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 1.12

Coal and lignite; peat (CPA Division 10)
Origin of extra-EU imports



Source: Eurostat, Comext.

EXTERNAL TRADE

The EU is one of the main importers of solid fuels from international markets. Indigenous production accounted for less than half of gross inland consumption in 2000, as net imports covered 51.4 % of the total in 2000 (up from 29.5 % in 1990).

Similarly, the EU is largely dependent upon imports to satisfy its demand for nuclear fuels. The EU produced only 5 % of its annual uranium requirements in 2001, the rest being imported, mainly from Canada (25 % of imported volumes) and Russia (20 %) [11]. Canada was also the largest uranium producer in the world, with 12 520 tU in 2001, followed by Australia (7 720 tU) and Niger (3 096 tU).

[11] Euratom Supply Agency, *Annual report 2001*.

Table 1.10

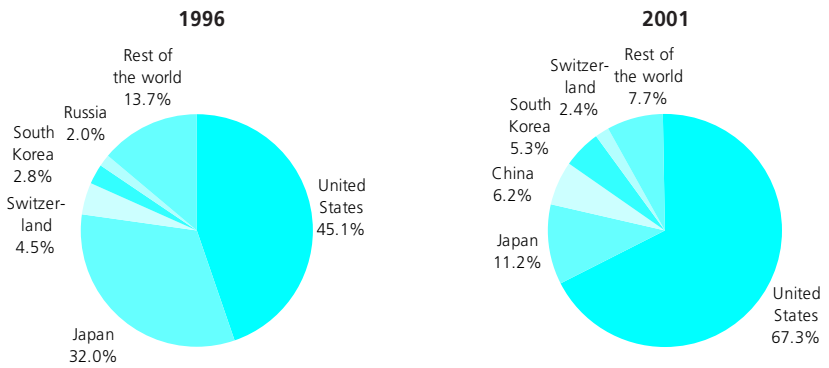
Nuclear fuel (CPA Group 23.3)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	754	773	921	832	869	777	834	684	1 013	1 170	1 302
Extra-EU imports (million EUR)	952	898	837	1 059	1 017	1 004	1 209	1 100	1 026	1 019	1 249
Trade balance (million EUR)	-198	-126	84	-227	-148	-227	-375	-416	-13	151	53
Cover ratio (%)	79.3	86.0	110.1	78.6	85.4	77.4	69.0	62.2	98.7	114.8	104.3

Source: Eurostat, Comext.

Figure 1.13

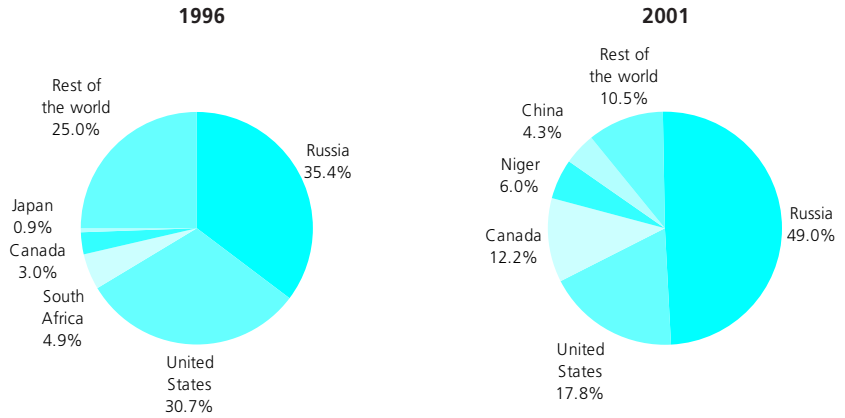
Nuclear fuel (CPA Group 23.3)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 1.14

Nuclear fuel (CPA Group 23.3)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 1.11

Mining of coal and lignite; extraction of peat (NACE Division 10)
Main indicators, 2000

	B	DK	D	EL	E	F	IRL	I (1)	L	NL	A	P	FIN	S	UK
Production (million EUR)	32	:	5 183	:	987	:	:	18	0	1	:	0	226	130	2 023
Number of persons employed (thousands)	0	:	89	:	17	:	:	1	0	0	:	0	1	1	13
Value added (million EUR)	12	:	4 698	:	702	:	:	6	0	1	:	0	91	41	845
Purchases of goods and services (million EUR)	21	:	4 502	:	517	:	:	12	0	0	:	0	157	96	1 387
Personnel costs (million EUR)	4	:	4 673	:	615	:	:	5	0	1	:	0	34	22	624
Gross investment in tangible goods (million EUR)	2.7	:	558.1	:	103.4	:	:	1.8	:	0.1	:	0	24.9	8.3	126.3
App. labour productivity (thous. EUR/pers. emp.)	69.9	:	52.8	:	40.2	:	:	6.8	:	121.7	:	:	71.2	58.6	64.5
Simple wage adjusted labour productivity (%)	327.8	:	100.5	:	114.1	:	:	125.0	:	150.0	:	:	269.5	181.7	135.6
Gross operating rate (%)	25.2	:	0.5	:	9.2	:	:	6.9	:	17.6	:	:	24.6	13.7	9.9

(1) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 1.12

Mining of coal and lignite; extraction of peat (NACE Division 10)
Main indicators, 2000

	BG (1)	CY	CZ	EE (1)	HU	LV	LT	MT	PL	RO	SK (1)	SI	TR
Production (million EUR)	229	:	1 278	22	50	22	12	:	:	:	82	:	:
Number of persons employed (thousands)	30	:	46	:	2	1	1	:	:	:	:	:	:
Value added (million EUR)	137	:	679	9	24	9	6	:	:	:	36	:	:
Purchases of goods and services (million EUR)	139	:	776	12	27	13	6	:	:	:	40	:	:
Personnel costs (million EUR) (2)	97	:	402	7	14	6	5	:	:	:	39	:	:
Gross investment in tangible goods (million EUR) (2)	31.0	:	100.8	3.1	0.2	2.3	2.0	:	:	:	4.1	:	:
App. labour productivity (thous. EUR/pers. emp.)	4.6	:	14.6	:	13.5	7.5	4.9	:	:	:	:	:	:
Simple wage adjusted labour productivity (%)	141.6	:	:	144.6	175.4	147.5	111.8	:	:	:	92.6	:	:
Gross operating rate (%) (2)	19.1	:	16.2	14.5	17.5	14.0	5.0	:	:	:	-3.4	:	:

(1) 1999.
(2) CZ, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Table 1.13

Interior flows of solid fuels, 2000 (thousand TOE)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Primary production	98 402	0	0	59 570	8 222	7 740	2 021	894	4	0	0	293	0	1 207	231	18 221
Recovery	792	191	0	0	0	0	245	0	0	0	0	0	0	0	0	356
Net imports	110 518	7 566	3 784	21 908	768	12 636	13 201	1 700	13 189	125	8 166	3 112	3 913	3 533	2 340	14 576
Gross inland consumption	215 209	8 200	4 013	83 909	9 040	20 643	15 188	2 566	12 660	125	7 979	3 648	3 803	5 047	2 442	35 945
Transformation input	205 140	6 638	3 668	82 614	8 256	21 120	12 807	2 036	11 781	0	7 984	2 993	3 589	4 604	2 190	34 860
-conventional thermal power stations	155 566	3 025	3 667	68 066	8 226	18 249	6 231	1 909	5 828	0	5 114	1 224	3 198	3 168	467	27 195
Transformation output	28 285	2 116	0	8 809	51	1 681	3 648	153	3 066	0	1 448	943	253	619	780	4 717
Consumption of the energy branch	481	9	0	174	0	58	110	0	67	0	0	22	0	0	0	40
Available for final consumption	37 873	3 670	345	9 930	836	1 146	5 919	683	3 878	125	1 443	1 575	467	1 062	1 032	5 762
Final non-energy consumption	1 224	0	0	345	0	0	0	0	0	0	107	758	0	0	14	0
Final energy consumption	37 713	3 378	307	11 363	888	1 671	5 640	557	3 512	121	1 294	756	465	1 075	1 141	5 546
Industry	32 889	3 164	282	10 098	852	1 607	5 057	51	3 449	120	1 266	499	465	1 050	1 141	3 789
Transport	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
-railways	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Households, etc.	4 823	215	25	1 265	35	64	583	506	63	1	28	256	0	25	0	1 757
-households	4 127	215	1	860	22	48	583	502	63	1	4	234	0	15	0	1 580
-others	696	0	25	406	14	16	0	4	0	0	23	22	0	10	0	177
Statistical divergence	-1 064	292	39	-1 779	-52	-525	279	127	366	5	42	62	1	-13	-123	216

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_101a).

Table 1.14

Evolution of interior flows of solid fuels, EU-15 (thousand TOE)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Primary production	208 166	188 056	175 006	153 958	136 770	136 614	130 109	125 122	113 579	107 348	98 402
Recovery	1 656	1 965	1 047	1 040	728	1 416	1 255	1 147	1 045	936	792
Net imports	88 948	95 102	97 759	86 644	86 388	94 466	95 337	98 476	101 496	98 638	110 518
Gross inland consumption	301 688	285 221	265 117	246 663	242 752	237 905	234 904	223 415	223 069	206 967	215 209
Transformation input	282 730	266 298	248 252	227 621	223 406	220 604	216 318	204 407	207 494	196 255	205 140
-conventional thermal power stations	182 285	184 414	176 390	163 189	162 833	161 854	160 880	150 015	154 360	146 947	155 566
Transformation output	66 028	52 734	45 089	40 017	37 495	34 714	34 275	32 064	30 690	28 350	28 285
Consumption of the energy branch	952	1 222	863	753	768	493	521	506	600	590	481
Available for final consumption	84 033	70 435	61 090	58 306	56 073	51 523	52 339	50 566	45 666	38 471	37 873
Final non-energy consumption	3 575	3 040	3 011	2 765	3 139	2 332	2 217	1 213	1 249	1 142	1 224
Final energy consumption	79 890	68 892	60 748	54 394	51 443	48 457	45 814	45 623	42 172	38 455	37 713
Industry	53 318	47 585	44 581	39 530	39 695	38 573	35 818	36 961	35 307	32 806	32 889
Transport	16	17	15	7	6	7	3	7	2	1	1
-railways	16	17	15	7	6	7	3	7	2	1	1
Households, etc.	26 555	21 290	16 153	14 857	11 743	9 877	9 993	8 655	6 863	5 647	4 823
-households	19 783	18 838	12 705	12 091	10 116	8 102	8 301	7 551	6 149	4 895	4 127
-others	6 773	2 452	3 447	2 766	1 627	1 774	1 692	1 104	714	753	696
Statistical divergence	568	-1 498	-2 670	1 147	1 490	734	4 308	3 730	2 244	-1 125	-1 064

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_101a).

Table 1.15

Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction excluding surveying (NACE Division 11)
Main indicators, 2000

	B	DK	D	EL	E	F	IRL	I (1)	L	NL	A	P	FIN	S	UK
Production (million EUR)	3	:	2 500	:	:	2 196	:	3 219	0	7 443	:	0	0	6	45 962
Number of persons employed (thousands)	0	:	4	:	:	3	:	6	0	6	:	0	0	0	28
Value added (million EUR)	2	:	1 455	:	:	859	:	2 167	0	4 967	:	0	0	1	33 758
Purchases of goods and services (million EUR)	1	:	2 262	:	:	1 379	:	911	0	10 285	:	0	0	5	16 020
Personnel costs (million EUR)	1	:	323	:	:	198	:	348	0	344	:	0	0	1	2 269
Gross investment in tangible goods (million EUR)	0	:	132.6	:	:	2 639.5	:	435	:	717.1	:	0	0	0	5 267
App. labour productivity (thous. EUR/pers. emp.)	161.3	:	379.8	:	:	312.0	:	352.4	:	821.6	:	:	:	23.8	1 207.2
Simple wage adjusted labour productivity (%)	184.6	:	450.6	:	:	433.8	:	622.4	:	1 446.0	:	:	:	81.8	1 487.6
Gross operating rate (%)	33.4	:	29.6	:	:	52.6	:	60.3	:	28.9	:	:	:	-5.9	63.2

(1) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 1.16

Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction excluding surveying (NACE Division 11)
Main indicators, 2000

	BG (1)	CY	CZ	EE (1)	HU	LV	LT	MT	PL	RO (2)	SK (1)	SI (1)	TR
Production (million EUR)	4	:	:	85	54	0	77	:	:	3 155	122	0	:
Number of persons employed (thousands)	1	:	:	:	1	0	0	:	:	107	:	:	:
Value added (million EUR)	0	:	:	42	23	0	42	:	:	1 327	58	0	:
Purchases of goods and services (million EUR)	4	:	:	36	33	0	21	:	:	3 787	63	0	:
Personnel costs (million EUR)	4	:	:	34	13	0	4	:	:	487	10	0	:
Gross investment in tangible goods (million EUR)	:	:	:	2.9	0.6	0	11.4	:	:	676.9	3.0	0	:
App. labour productivity (thous. EUR/pers. emp.)	-0.1	:	:	:	21.4	:	123.3	:	:	12.4	:	:	:
Simple wage adjusted labour productivity (%)	-5.1	:	:	124.2	183.3	:	963.6	:	:	272.5	571.3	:	:
Gross operating rate (%)	3.7	:	:	9.4	18.2	:	49.8	:	:	11.1	38.2	:	:

(1) 1999.
(2) 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Table 1.17

Interior flows of crude oil and petroleum products, 2000 (thousand TOE)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Primary production	160 171	0	18 132	3 208	280	225	2 402	0	4 606	0	2 373	1 055	0	0	0	127 891
Recovery	311	0	0	241	0	0	70	0	0	0	0	0	0	0	0	0
Net imports	472 680	27 331	-8 094	125 974	19 527	69 866	90 452	8 147	88 578	2 332	41 670	10 661	15 556	10 566	15 635	-45 518
Marine bunkers	42 169	5 341	1 321	2 177	3 565	5 929	2 976	150	2 706	0	13 294	0	657	662	1 343	2 049
Gross inland consumption	587 577	21 950	9 037	129 872	15 929	63 223	88 385	7 676	88 898	2 283	28 442	11 822	15 083	9 343	14 363	81 272
Transformation input	700 961	37 257	9 837	121 652	24 440	64 650	91 426	4 323	115 834	0	82 806	9 109	13 921	13 589	22 138	89 979
-conventional thermal power stations	34 125	172	1 344	1 107	2 036	4 442	1 272	1 009	18 955	0	618	288	1 670	131	276	806
-refineries	665 341	37 085	8 452	119 856	22 404	60 048	90 084	3 314	96 874	0	82 188	8 764	12 251	13 231	21 618	89 173
Transformation output	654 158	36 843	8 393	117 628	22 316	59 483	86 534	3 296	95 621	0	81 131	8 644	12 241	13 100	21 418	87 509
Exchanges, transfers, returns	2 719	1 283	35	237	96	496	32	-47	-50	0	-83	0	29	-7	-42	739
Consumption of the energy branch	36 516	1 596	343	7 140	1 089	4 175	5 398	136	4 770	0	3 298	713	661	626	529	6 041
Available for final consumption	506 977	21 222	7 286	118 945	12 812	54 376	78 127	6 466	63 866	2 283	23 386	10 644	12 772	8 222	13 071	73 501
Final non-energy consumption	82 616	5 005	278	22 858	567	8 619	13 350	174	10 065	14	6 844	1 099	2 330	809	1 431	9 173
Final energy consumption	436 523	16 193	6 946	97 917	12 584	45 808	71 465	6 748	56 312	2 266	16 497	9 566	10 469	7 834	12 655	63 263
Industry	42 034	1 420	750	5 296	1 935	5 659	4 456	902	6 409	73	1 632	991	2 326	1 475	1 909	6 802
Transport	304 401	9 538	4 690	64 399	7 177	32 425	50 265	3 892	40 241	1 869	13 679	6 234	6 485	4 344	7 843	51 320
-railways	2 528	60	73	571	40	489	369	124	138	7	35	47	57	47	24	446
-road transport	252 562	7 819	3 680	56 187	5 320	26 061	42 409	3 155	36 403	1 541	9 629	5 593	5 592	3 670	6 731	38 772
-air transport	43 986	1 524	822	7 362	1 325	4 497	6 712	575	3 497	320	3 348	586	793	508	934	11 182
-inland navigation	5 324	136	115	279	491	1 378	775	38	202	0	667	7	43	118	154	920
Households, etc.	90 088	5 235	1 506	28 222	3 472	7 725	16 744	1 953	9 662	325	1 186	2 341	1 658	2 014	2 903	5 142
-households	55 751	3 748	766	19 354	2 393	4 033	9 824	903	6 648	300	87	1 760	676	1 115	1 129	3 016
-others	34 337	1 487	740	8 868	1 079	3 692	6 920	1 051	3 014	26	1 099	581	982	900	1 774	2 126
Statistical divergence	-12 163	24	62	-1 830	-339	-51	-6 688	-456	-2 512	3	45	-21	-28	-422	-1 014	1 065

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_102a).

Table 1.18

Evolution of interior flows of crude oil and petroleum products, EU-15 (thousand TOE)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Primary production	117 530	117 934	121 122	127 412	156 474	158 861	158 711	157 604	161 290	168 035	160 171
Recovery	166	200	182	176	175	358	396	266	371	317	311
Net imports	460 492	476 262	483 421	467 174	446 515	446 419	464 930	468 686	488 957	457 508	472 680
Marine bunkers	34 165	33 905	34 180	35 082	33 772	34 692	36 841	40 007	41 540	39 624	42 169
Gross inland consumption	545 513	562 793	571 025	564 453	568 161	575 224	586 512	586 774	600 776	596 257	587 577
Transformation input	639 406	651 922	671 546	674 108	681 497	681 082	698 898	707 660	725 638	692 100	700 961
-conventional thermal power stations	42 559	44 338	46 178	42 225	40 417	43 822	41 715	38 531	38 728	37 842	34 125
-refineries	593 761	603 959	622 075	628 709	638 281	635 232	655 051	666 734	684 808	652 632	665 341
Transformation output	590 196	601 570	620 109	625 436	634 315	630 937	649 108	661 739	678 456	642 669	654 158
Exchanges, transfers, returns	1 334	1 436	1 210	6 260	6 921	6 236	5 767	5 231	1 489	2 074	2 719
Consumption of the energy branch	32 279	32 359	34 140	35 294	36 357	37 274	38 205	37 293	38 753	37 300	36 516
Available for final consumption	465 357	481 518	486 657	486 747	491 543	494 040	504 284	508 791	516 330	511 600	506 977
Final non-energy consumption	68 390	72 261	75 580	71 154	77 809	80 342	78 876	84 370	81 488	81 436	82 616
Final energy consumption	397 202	409 105	414 271	418 282	416 594	419 687	431 318	430 420	437 532	439 424	436 523
Industry	49 339	49 083	49 329	48 270	49 653	49 432	46 998	45 986	43 580	42 050	42 034
Transport	249 135	252 382	260 580	266 329	267 214	270 579	278 104	283 461	294 228	302 489	304 401
-railways	2 893	2 873	2 883	2 884	2 713	2 764	2 758	2 757	2 695	3 042	2 528
-road transport	212 131	215 122	222 051	226 635	226 361	228 703	234 249	238 212	245 592	251 274	252 562
-air transport	27 758	27 812	28 775	29 931	31 190	32 457	34 230	35 971	39 462	42 120	43 986
-inland navigation	6 352	6 576	6 871	6 879	6 949	6 655	6 868	6 521	6 480	6 052	5 324
Households, etc.	98 728	107 640	104 362	103 683	99 727	99 676	106 216	100 973	99 724	94 886	90 088
-households	59 767	65 195	61 901	62 268	58 674	59 306	63 850	59 928	60 947	58 004	55 751
-others	38 962	42 446	42 461	41 415	41 053	40 371	42 365	41 044	38 778	36 882	34 337
Statistical divergence	-235	152	-3 194	-2 689	-2 859	-5 989	-5 909	-5 998	-2 690	-9 261	-12 163

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_102a).

Table 1.19

Interior flows of gas, 2000 (thousand TOE)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Primary production	190 581	2	7 411	15 800	42	148	1 505	958	13 622	0	51 904	1 533	0	0	0	97 654
Net imports	154 829	13 278	-2 882	56 865	1 689	15 467	35 329	2 478	47 008	670	-17 191	5 268	2 039	3 422	699	-9 310
Gross inland consumption	338 287	13 369	4 449	71 853	1 705	15 219	34 748	3 436	57 940	670	34 711	6 534	2 034	3 422	699	87 500
Transformation input	95 421	3 820	2 180	14 106	1 334	3 075	3 925	1 825	19 747	47	11 071	2 104	1 292	2 356	464	28 074
-conventional thermal power stations	91 566	3 790	2 117	12 906	1 334	3 075	3 925	1 825	19 747	47	11 071	1 963	1 234	2 117	383	26 031
Transformation output	18 600	1 441	0	6 212	0	972	2 580	0	1 600	0	1 217	691	154	604	607	2 524
Exchanges, transfers, returns	-1	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0
Consumption of the energy branch	13 717	270	598	1 942	33	252	749	0	602	0	1 627	548	24	257	104	6 709
Distribution losses	2 968	0	4	577	1	251	170	28	277	0	0	5	6	0	71	1 579
Available for final consumption	244 780	10 719	1 666	61 438	337	12 612	32 485	1 583	38 913	623	23 230	4 567	865	1 413	667	53 662
Final non-energy consumption	11 010	720	0	2 150	84	481	2 322	383	977	0	2 506	248	0	33	0	1 105
Final energy consumption	233 661	10 010	1 672	58 629	252	12 130	31 004	1 201	37 936	623	21 008	4 314	852	1 371	652	52 007
Industry	96 465	5 172	793	24 300	239	9 387	12 699	470	16 950	413	6 150	2 462	680	1 308	488	14 955
Transport	343	0	0	0	0	0	15	0	327	0	0	0	0	1	0	0
-road transport	343	0	0	0	0	0	15	0	327	0	0	0	0	1	0	0
Households, etc.	136 852	4 838	879	34 329	13	2 744	18 289	730	20 659	210	14 857	1 852	172	62	164	37 052
-households	98 380	3 293	658	23 646	5	2 020	9 402	438	20 542	210	7 968	1 353	99	21	99	28 626
-others	38 472	1 545	221	10 684	9	724	8 887	293	117	0	6 889	499	73	41	65	8 426
Statistical divergence	109	-11	-6	660	0	0	-841	0	0	0	-284	5	13	9	15	550

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_103a).

Table 1.20

Evolution of interior flows of gas, EU-15 (thousand TOE)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Primary production	132 905	145 705	146 875	157 949	159 785	166 648	188 700	182 212	181 538	185 708	190 581
Net imports	92 292	94 334	95 220	94 910	97 377	108 625	118 451	124 156	131 479	147 287	154 829
Gross inland consumption	222 084	239 716	237 148	252 242	253 716	273 404	305 199	302 610	315 547	329 600	338 287
Transformation input	:	:	:	:	:	:	:	:	:	:	95 421
-conventional thermal power stations	36 564	36 745	36 894	42 479	46 887	54 768	64 099	70 943	76 100	86 595	91 566
Transformation output	26 252	23 709	21 680	20 634	20 035	20 007	19 581	19 566	18 929	18 113	18 600
Exchanges, transfers, returns	39	21	76	29	32	41	41	33	32	-108	-1
Consumption of the energy branch	11 650	11 537	10 931	11 264	11 573	12 473	13 256	12 986	13 503	13 471	13 717
Distribution losses	2 868	3 126	2 650	1 497	1 582	1 635	3 068	2 524	1 895	1 969	2 968
Available for final consumption	:	:	:	:	:	:	:	:	:	:	244 780
Final non-energy consumption	12 487	11 925	9 821	10 307	11 256	11 417	10 419	11 081	11 161	10 783	11 010
Final energy consumption	178 258	193 580	193 104	198 435	195 430	206 256	227 654	216 614	222 058	228 776	233 661
Industry	77 168	76 519	77 304	77 394	78 216	82 609	88 153	87 002	88 499	91 832	96 465
Transport	208	213	236	239	250	267	289	298	292	299	343
-road transport	208	213	236	239	250	267	289	298	292	299	343
Households, etc.	100 882	116 848	115 564	120 802	116 964	123 380	139 212	129 314	133 267	136 645	136 852
-households	76 062	84 132	83 314	87 248	84 323	88 677	100 902	92 719	95 799	99 338	98 380
-others	24 820	32 716	32 250	33 555	32 641	34 703	38 309	36 595	37 468	37 307	38 472
Statistical divergence	:	:	:	:	:	:	:	:	:	:	109

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_103a).

Table 1.21

Interior flows of other energy sources, 2000 (thousand TOE)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
NUCLEAR ENERGY																
Primary production	222 846	12 422	0	43 750	0	16 046	107 093	0	0	0	1 013	0	0	5 799	14 781	21 942
Transformation input	222 846	12 422	0	43 750	0	16 046	107 093	0	0	0	1 013	0	0	5 799	14 781	21 942
-nuclear power stations	222 846	12 422	0	43 750	0	16 046	107 093	0	0	0	1 013	0	0	5 799	14 781	21 942
Available for final consumption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statistical divergence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DERIVED HEAT																
Transformation output	16 634	532	2 856	0	28	74	0	0	0	27	2 631	1 070	134	2 990	3 777	2 515
-conventional thermal power stations	10 598	532	2 325	0	28	74	0	0	0	27	2 631	684	134	2 259	1 903	0
Consumption of the energy branch	48	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0
Distribution losses	1 539	42	565	0	0	0	0	0	0	0	395	100	0	210	227	0
Available for final consumption	15 051	490	2 246	0	28	74	0	0	0	27	2 236	969	134	2 780	3 550	2 515
Final energy consumption	15 044	490	2 246	0	28	74	0	0	0	27	2 236	969	127	2 780	3 550	2 515
Industry	4 145	426	152	0	0	74	0	0	0	17	1 174	0	127	730	344	1 099
Households, etc.	10 898	64	2 094	0	28	0	0	0	0	9	1 062	969	0	2 050	3 206	1 416
-households	5 481	16	1 421	0	28	0	0	0	0	9	150	455	0	1 276	2 081	44
-others	5 418	48	673	0	0	0	0	0	0	0	912	514	0	774	1 125	1 371
Statistical divergence	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
RENEWABLE ENERGIES																
Primary production	87 170	731	2 062	9 587	1 403	6 994	17 392	258	12 348	57	1 622	6 616	3 131	7 799	14 554	2 618
Transformation input	17 626	487	1 139	1 825	0	653	1 968	24	3 626	28	1 220	590	427	1 539	2 665	1 434
-conventional thermal power stations	14 911	487	700	1 169	0	653	1 651	24	3 614	28	1 220	327	427	1 428	1 747	1 434
Exchanges, transfers, returns	-29 548	-41	-367	-2 804	-356	-2 941	-5 812	-94	-3 862	-13	-84	-3 604	-988	-1 267	-6 796	-519
Consumption of the energy branch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Distribution losses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Available for final consumption	40 032	203	592	4 957	1 046	3 400	9 612	141	4 860	16	317	2 422	1 716	4 992	5 092	665
Final energy consumption	39 860	205	590	4 754	1 046	3 399	9 646	141	4 861	16	317	2 422	1 716	4 989	5 092	665
Industry	14 715	46	92	381	241	1 303	1 639	96	946	0	69	636	547	3 902	4 475	340
Households, etc.	24 727	159	498	4 373	805	2 096	7 684	45	3 837	16	249	1 770	1 168	1 086	617	324
-households	23 040	156	379	3 783	801	2 019	7 593	40	3 668	16	201	1 454	1 161	936	617	215
-others	1 687	2	119	590	4	77	91	4	170	0	48	316	7	150	0	109
Statistical divergence	173	-2	2	203	0	0	-34	0	-1	0	0	1	0	4	0	0

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10).

Table 1.22

Evolution of interior flows of other energy sources, EU-15 (thousand TOE)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
NUCLEAR ENERGY											
Primary production	181 439	187 021	188 267	197 558	197 271	201 239	208 864	212 615	212 052	220 206	222 846
Transformation input	181 351	187 021	188 267	197 558	197 271	201 239	208 864	212 615	212 052	220 206	222 846
-nuclear power stations	181 351	187 021	188 267	197 558	197 271	201 239	208 864	212 615	212 052	220 206	222 846
Available for final consumption	88	0	0	0	0	0	0	0	0	0	0
Statistical divergence	88	0	0	0	0	0	0	0	0	0	0
DERIVED HEAT											
Transformation output	18 853	18 921	17 985	19 968	20 421	21 885	23 791	23 336	23 622	26 765	16 634
-conventional thermal power stations	4 884	5 736	5 524	6 071	6 949	15 184	17 082	16 947	17 251	17 773	10 598
Consumption of the energy branch	376	225	237	256	313	317	345	473	378	289	48
Distribution losses	2 074	1 993	1 914	2 177	2 102	2 441	2 542	2 533	2 605	2 533	1 539
Available for final consumption	16 403	16 703	15 834	17 535	18 006	19 127	20 904	20 333	20 644	23 946	15 051
Final energy consumption	16 394	16 657	15 798	17 524	18 004	19 089	20 692	20 511	20 861	21 440	15 044
Industry	3 824	3 179	2 371	2 521	2 583	3 091	4 078	4 163	3 877	4 264	4 145
Households, etc.	12 570	13 477	13 426	15 003	15 422	15 998	16 614	16 348	16 984	17 176	10 898
-households	6 926	7 816	7 745	9 821	10 095	9 787	10 028	9 520	9 734	9 877	5 481
-others	5 644	5 662	5 681	5 182	5 327	6 211	6 586	6 828	7 250	7 300	5 418
Statistical divergence	10	46	37	10	1	38	212	-178	-217	2 506	7
RENEWABLE ENERGIES											
Primary production	66 306	69 385	71 359	73 043	72 955	73 670	76 148	78 683	82 630	83 886	87 170
Transformation input	9 466	9 873	11 223	12 170	12 046	12 842	14 035	15 097	15 710	16 644	17 626
-conventional thermal power stations	7 379	7 790	9 077	9 885	10 025	10 718	11 330	12 375	12 903	13 691	14 911
Exchanges, transfers, returns	-22 341	-23 178	-24 721	-25 087	-25 837	-25 299	-25 234	-26 088	-27 309	-27 315	-29 548
Consumption of the energy branch	0	0	0	0	0	0	0	0	0	0	0
Distribution losses	0	0	0	0	0	0	0	0	0	1	0
Available for final consumption	34 499	36 334	35 415	35 786	35 075	35 534	36 890	37 512	39 630	39 956	40 032
Final energy consumption	34 498	36 333	35 408	35 778	35 043	35 502	36 697	37 435	39 548	39 839	39 860
Industry	12 292	12 334	11 921	12 772	13 509	13 753	13 753	14 186	14 143	14 346	14 715
Households, etc.	22 206	23 989	23 476	22 969	21 324	21 521	22 658	22 876	25 055	25 122	24 727
-households	20 876	22 616	22 062	21 746	20 177	20 256	21 381	21 585	23 958	23 615	23 040
-others	1 330	1 374	1 414	1 223	1 147	1 264	1 277	1 291	1 097	1 507	1 687
Statistical divergence	1	1	7	8	32	32	193	78	82	117	173

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10).

Table 1.23

Manufacture of coke, refined petroleum products and nuclear fuel (NACE Division 23)
Main indicators, 2000

	B	DK (1)	D	EL	E	F	IRL	I	L	NL	A	P (1)	FIN	S	UK
Production (million EUR)	17 271	49	53 768	:	21 374	59 490	:	58 195	0	19 307	:	4 250	4 270	924	51 630
Number of persons employed (thousands)	5	0	22	:	8	29	:	25	0	6	:	3	4	3	28
Value added (million EUR)	1 327	20	5 407	:	2 799	6 316	:	3 930	0	2 156	:	412	553	260	4 824
Purchases of goods and services (million EUR)	15 906	38	49 045	:	22 854	42 613	:	45 479	0	17 801	:	3 749	4 820	691	26 515
Personnel costs (million EUR)	453	11	1 669	:	451	2 090	:	1 228	0	475	:	119	185	145	1 576
Gross investment in tangible goods (million EUR)	190.8	2.4	724.8	:	475.0	857.0	:	1 382.8	:	216.1	:	221.1	44.6	45.1	1 202.1
App. labour productivity (thous. EUR/pers. emp.)	244.1	96	242.2	:	352.5	219.0	:	154.5	:	377.1	:	155.7	131.1	100.6	171
Simple wage adjusted labour productivity (%)	292.7	184.5	324.0	:	620.0	302.2	:	319.9	:	454.0	:	346.3	299.6	179.3	306
Gross operating rate (%)	5.1	15.3	4.9	:	9.4	7.0	:	4.1	:	8.4	:	7.2	6.9	12.4	6.3

(1) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 1.24

Manufacture of coke, refined petroleum products and nuclear fuel (NACE Division 23)
Main indicators, 2000

	BG (1)	CY (2)	CZ (3)	EE (4)	HU	LV (2)	LT	MT	PL	RO	SK (2)	SI (4)	TR
Production (million EUR)	746	110	1 117	23	2 464	2	:	:	7 948	799	814	84	:
Number of persons employed (thousands) (5)	10	0	4	:	13	0	:	:	20	14	:	:	:
Value added (million EUR)	:	11	198	-9	595	1	:	:	1 629	117	138	12	:
Purchases of goods and services (million EUR)	600	:	1 070	22	3 015	2	:	:	8 028	701	678	71	:
Personnel costs (million EUR)	67	:	33	3	164	0	:	:	286	140	32	10	:
Gross investment in tangible goods (million EUR) (6)	15.6	1.6	135.5	1.4	288.2	0.2	:	:	450.9	52.0	220.3	1.2	:
App. labour productivity (thous. EUR/pers. emp.) (5)	:	76.2	:	:	45.9	8.2	:	:	117.1	8.4	:	:	:
Simple wage adjusted labour productivity (%)	:	:	:	-338.5	363.1	266.7	:	:	569.7	83.6	426.3	121.6	:
Gross operating rate (%)	:	:	8.3	-42.4	12.0	22.7	:	:	12.9	-2.9	12.6	2.6	:

(1) All except persons employed and investment, 1998.
(2) 1998.
(3) All except value added, 1999.
(4) 1999.
(5) PL, 1998.
(6) HU, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Table 1.25

Electricity, gas, steam and hot water supply (NACE Division 40)
Main indicators, 2000

	B	DK	D	EL	E	F	IRL (1)	I	L	NL	A	P	FIN	S	UK
Production (million EUR)	24 018	10 224	105 608	:	23 756	48 706	2 399	55 287	371	21 912	10 190	8 041	3 806	13 546	70 675
Number of persons employed (thousands)	20	14	251	:	43	168	10	129	1	28	32	15	15	24	104
Value added (million EUR) (2)	5 076	2 081	33 022	:	9 739	18 805	1 015	19 483	190	5 162	4 419	2 458	1 789	4 946	16 968
Purchases of goods and services (million EUR)	18 920	6 489	75 719	:	20 369	27 292	1 366	34 506	513	17 418	5 583	5 538	5 763	12 171	51 618
Personnel costs (million EUR) (2)	1 663	504	15 853	:	2 019	9 431	437	5 617	70	1 270	2 033	564	600	1 194	5 396
Gross investment in tangible goods (million EUR) (3)	1 130	714	12 025	:	3 235	5 325	369	5 245	:	1 048	1 230	790	448	2 274	7 129
App. labour productivity (thous. EUR/pers. emp.) (2)	255.4	149.0	114.5	:	224.3	111.8	103.9	151.0	165.9	185.5	136.0	161.0	116.4	203.9	163.7
Simple wage adjusted labour productivity (%) (2)	305.2	412.7	208.3	:	482.3	199.4	232.2	346.9	270.3	406.5	217.4	435.7	298.2	414.4	314.4
Gross operating rate (%) (2)	14.3	17.6	14.7	:	26.3	20.0	27.8	25.9	16.9	17.9	23.7	24.1	17.5	23.4	16.7

(1) 1998.
(2) D, 1998.
(3) DK, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 1.26

Electricity, gas, steam and hot water supply (NACE Division 40)
Main indicators, 2000

	BG	CY (1)	CZ	EE (2)	HU	LV	LT	MT	PL (1)	RO	SK	SI (2)	TR
Production (million EUR)	1 355	196	6 670	561	2 640	704	814	:	8 638	4 469	3 468	1 649	:
Number of persons employed (thousands)	40	1	51	:	49	17	30	:	201	133	32	:	:
Value added (million EUR)	539	137	1 875	122	1 327	231	328	:	3 622	763	915	152	:
Purchases of goods and services (million EUR)	1 450	:	5 048	445	4 226	460	755	:	13 237	3 742	2 452	1 338	:
Personnel costs (million EUR)	203	:	441	83	452	111	184	:	1 667	778	228	141	:
Gross investment in tangible goods (million EUR) (3)	253.9	153.6	1 701.8	98.9	11.3	150.8	170.8	:	1 995.8	4 689.6	662.6	262.9	:
App. labour productivity (thous. EUR/pers. emp.)	13.5	117.4	37.0	:	27.3	13.6	10.9	:	18.0	5.7	28.7	:	:
Simple wage adjusted labour productivity (%)	265.4	:	425.4	146.0	293.5	207.1	178.4	:	217.3	98.2	401.4	108.1	:
Gross operating rate (%)	16.9	:	21.1	6.4	15.1	18.0	13.9	:	12.0	-0.3	20.3	0.7	:

(1) 1998.
(2) 1999.
(3) CZ, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Table 1.27

Interior flows of electricity, 2000 (thousand TOE)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Net imports	3 644	372	57	263	-1	382	-5 974	8	3 813	492	1 626	-118	80	1 022	402	1 219
Gross inland consumption	3 644	372	57	263	-1	382	-5 974	8	3 813	492	1 626	-118	80	1 022	402	1 219
Transformation output	192 040	7 066	2 731	46 108	4 237	16 218	40 257	1 942	19 361	25	7 622	1 570	2 741	4 751	5 719	31 692
-conventional thermal power stations	117 757	2 925	2 731	31 525	4 237	10 869	4 559	1 942	19 361	25	7 284	1 570	2 741	2 818	790	24 378
-nuclear power stations	74 283	4 141	0	14 583	0	5 349	35 698	0	0	0	338	0	0	1 933	4 928	7 314
Exchanges, transfers, returns	29 539	41	367	2 799	356	2 940	5 812	94	3 861	13	83	3 603	988	1 267	6 796	519
Consumption of the energy branch	18 889	495	185	4 851	515	1 612	4 408	133	1 950	26	559	339	196	316	895	2 409
Distribution losses	14 623	317	180	2 822	367	1 723	2 573	174	1 650	12	352	263	314	237	954	2 686
Available for final consumption	191 711	6 667	2 791	41 496	3 710	16 205	33 114	1 737	23 435	491	8 421	4 454	3 299	6 487	11 068	28 335
Final energy consumption	191 711	6 667	2 791	41 496	3 710	16 205	33 114	1 737	23 435	491	8 421	4 454	3 299	6 487	11 068	28 335
Industry	81 867	3 428	860	19 082	1 165	7 364	11 620	664	12 197	331	3 491	1 948	1 372	3 669	4 896	9 780
Transport	5 128	124	30	1 368	20	358	1 004	2	695	8	140	280	31	46	275	747
-railways	5 128	124	30	1 368	20	358	1 004	2	695	8	140	280	31	46	275	747
Households, etc.	104 715	3 115	1 901	21 046	2 526	8 483	20 489	1 070	10 543	152	4 790	2 225	1 897	2 772	5 898	17 808
-households	54 702	2 041	881	11 084	1 222	3 751	11 068	597	5 255	64	1 874	1 211	865	1 559	3 613	9 617
-others	50 014	1 074	1 021	9 962	1 304	4 732	9 421	473	5 288	87	2 916	1 014	1 032	1 212	2 285	8 191
Statistical divergence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_105a).

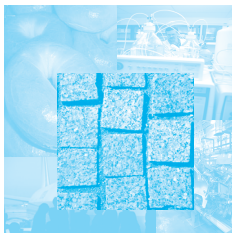
Table 1.28

Evolution of interior flows of electricity, EU-15 (thousand TOE)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Net imports	2 333	1 218	1 616	1 881	1 552	1 496	-136	669	1 127	2 037	3 644
Gross inland consumption	2 333	1 218	1 616	1 881	1 552	1 496	-136	669	1 127	2 037	3 644
Transformation output	161 617	165 963	165 109	165 114	167 283	173 214	180 213	180 830	185 274	188 368	192 040
-conventional thermal power stations	99 692	101 702	99 768	96 817	99 187	103 544	107 023	106 893	111 827	113 799	117 757
-nuclear power stations	61 925	64 261	65 342	68 296	68 096	69 670	73 190	73 937	73 446	74 570	74 283
Exchanges, transfers, returns	22 342	23 176	24 708	25 066	25 835	25 297	25 227	26 088	27 362	27 310	29 539
Consumption of the energy branch	17 982	18 341	18 226	17 714	17 373	18 016	18 305	18 095	18 634	18 773	18 889
Distribution losses	11 583	12 012	11 624	11 866	12 380	12 623	13 147	12 217	13 443	13 453	14 623
Available for final consumption	156 727	160 004	161 583	162 481	164 917	169 369	173 852	177 276	181 687	185 489	191 711
Final energy consumption	155 972	158 810	160 135	161 053	163 632	169 369	173 851	177 269	181 683	185 491	191 711
Industry	69 287	68 142	67 815	66 935	67 983	71 356	71 734	74 264	75 970	77 930	81 867
Transport	4 004	4 237	4 283	4 469	4 609	4 691	4 831	4 886	4 871	4 975	5 128
-railways	4 004	4 237	4 283	4 469	4 609	4 691	4 831	4 886	4 871	4 975	5 128
Households, etc.	82 680	86 431	88 037	89 649	91 040	93 321	97 285	98 119	100 843	102 587	104 715
-households	44 618	47 291	47 952	49 032	49 554	50 046	52 662	52 146	53 346	54 331	54 702
-others	38 062	39 140	40 085	40 617	41 485	43 275	44 624	45 974	47 497	48 256	50 014
Statistical divergence	755	1 194	1 448	1 428	1 285	0	1	7	3	-2	0

Source: Eurostat, Energy statistics (theme8/sirene/es_quant/es_10/es_105a).

Non-metallic mineral products



The non-metallic mineral products' sector performs the intermediate role of taking minerals that have often been mined or quarried and transforming them into products that can be used in downstream industries, often the construction sector. In addition, some non-metallic mineral products are sold directly to end-consumers in the form of consumer durables, such as ceramic tableware and glassware, while some products are used in other manufacturing sectors, for example refractory bricks in steel-making or glass for motor vehicles.

This sector has a relatively high reliance on energy, as high temperatures are often required as part of the manufacturing process. Some manufacturers have responded to this challenge by developing and investing in cleaner and more efficient production processes, as well as encouraging the use of recycled materials.

STRUCTURAL PROFILE

The EU's non-metallic mineral products' sector generated EUR 58.3 billion of value added in 2001, which equated to 4.4 % of manufacturing value added. As such, the relative share of this sector in total manufacturing value added fell by 0.3 percentage points between 1991 and 2001.

A breakdown of EU output within the non-metallic mineral products' industry (see Figure 7.2) shows that articles of concrete, plaster and cement (NACE Group 26.6) were the largest subsector in terms of value added in 2000, followed by the glass industry (NACE Group 26.1). Two other NACE groups reported at least a 10 % share in output: the manufacture of cement, lime and plaster (NACE Group 26.5) and the manufacture of ceramics, other than tiles and flags (NACE Group 26.2).

Germany was by far the largest producer of non-metallic mineral products in 2000, accounting for just under one quarter (24.0 %) of the EU total of value added. Italy and Spain followed with 14.9 % and 14.2 % respectively, with France and the United Kingdom having slightly lower levels. In relation to the size of their respective manufacturing sectors, Luxembourg, Greece, Portugal and Spain all reported above average activity in this sector [(1)].

[(1)] EL, IRL and S, 1999.

This chapter focuses on the manufacture of other non-metallic mineral products (NACE Division 26). The eight NACE groups that are included in Division 26 are split between the glass sector (NACE Group 26.1); the manufacture of ceramic goods and clay products (NACE Groups 26.2 to 26.4); and the manufacture and working of cement, concrete, stone and other non-metallic mineral products (NACE Groups 26.5 to 26.8). Note that the quarrying of non-metallic mineral products is covered by Chapter 2.

NACE

26: manufacture of other non-metallic mineral products;
26.1: manufacture of glass and glass products;
26.2: manufacture of non-refractory ceramic goods other than for construction purposes; manufacture of refractory ceramic products;
26.3: manufacture of ceramic tiles and flags;
26.4: manufacture of bricks, tiles and construction products, in baked clay;
26.5: manufacture of cement, lime and plaster;
26.6: manufacture of articles of concrete, plaster and cement;
26.7: cutting, shaping and finishing of stone;
26.8: manufacture of other non-metallic mineral products.

Table 7.1

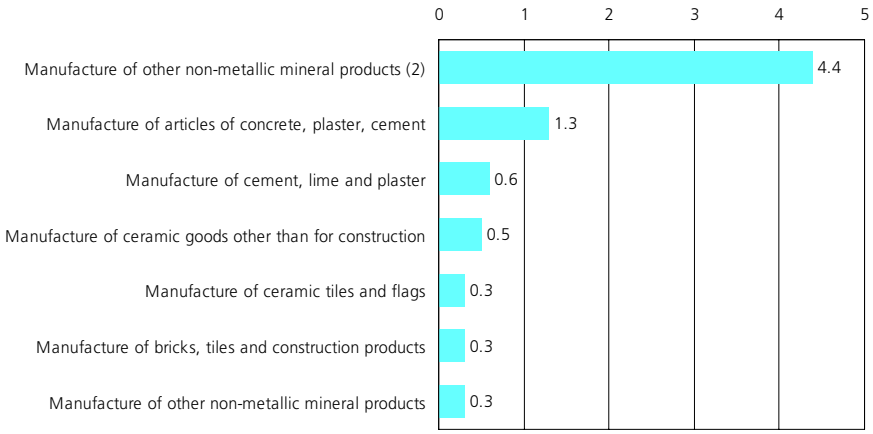
Manufacture of other non-metallic mineral products (NACE Division 26)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	111 939	114 072	108 351	114 526	121 894	121 951	127 350	131 183	138 126	143 417	147 047
Number of persons employed (thousands)	1 235	1 195	1 106	1 077	1 090	1 070	1 064	1 064	1 063	1 072	1 075
Value added (million EUR)	45 858	46 068	43 851	47 314	49 488	49 227	50 097	51 930	55 032	57 084	58 276
Personnel costs (million EUR)	30 822	31 501	29 919	29 975	31 387	31 795	32 015	32 291	33 415	34 126	34 350
App. labour productivity (thous. EUR/pers. emp.)	37.1	38.5	39.7	43.9	45.4	46.0	47.1	48.8	51.8	53.2	54.2
Simple wage adjusted labour productivity (%)	148.8	146.2	146.6	157.8	157.7	154.8	156.5	160.8	164.7	167.3	169.7

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Figure 7.1

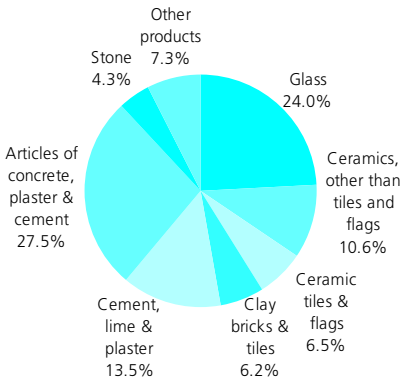
Manufacture of other non-metallic mineral products (NACE Division 26)
Share of manufacturing value added in the EU, 1999 (%) (1)



(1) Glass and glass products (NACE Group 26.1) and cutting, shaping and finishing of stone (NACE Group 26.7), not available.
(2) 2001.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Figure 7.2

Manufacture of other non-metallic mineral products (NACE Division 26)
Breakdown of value added in the non-metallic mineral products industry in the EU, 2000 (1)



(1) Estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Between 1991 and 1994 the non-metallic mineral products' sector in the EU saw its value added in constant price terms fall for three consecutive years, since when not a single negative year-on-year rate of change has been registered. Between 1995 and 2000 the average rate at which value added grew was 2.4 % per annum. During the second half of the 1990s, growth was most pronounced in Greece, Spain, Ireland and Finland. On the other hand, Germany experienced a reduction in its real output of non-metallic mineral products during three of the five years between 1996 and 2000, as did Belgium [(2)].

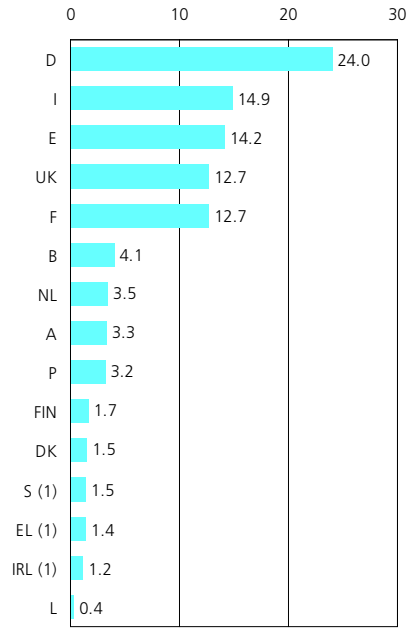
[(2)] EL, I, P, FIN and S, data available until 1999; IRL, L and NL, data available until 1998; A and UK, no recent data available.

The evolution of output within the non-metallic mineral products' sector often follows closely that of the construction sector. This trend was most pronounced in subsectors that supplied the majority of their output to the construction sector, for example, articles of concrete, plaster and cement (NACE Group 26.6), which followed an almost identical progression of output between 1994 and 1998. Similar developments were registered for the manufacture of bricks and tiles (NACE Group 26.4), as well as cement, lime and plaster (NACE Group 26.5), although the amplitude of the fluctuations for these two subsectors was more pronounced than developments in the construction sector as a whole.

The non-metallic mineral products' sector reports a high proportion of SMEs. This is in part due to the high concentration of the non–metallic mineral products' sector in the southern Member States, where SMEs tend to be the predominant size class. This was particularly the case in Italy and Spain, where SMEs accounted for more than 60 % of the value added generated in this sector in 2000. SMEs generated just 35.4 % of French value added in 2000, which was in part due to a relatively high concentration of large enterprises in the glass subsector, where SMEs accounted for 23.2 % of French value added.

Figure 7.3

Manufacture of other non-metallic mineral products (NACE Division 26)
Share of value added in the EU, 2000 (%)



(1) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

LABOUR AND PRODUCTIVITY

There were 1.08 million persons employed in the EU's non-metallic mineral products' sector in 2001. This marked a net reduction of 160 000 persons compared to 1991, although all of these jobs were lost during the period 1991 to 1994. Between 1994 and 2001, employment in the EU was almost unchanged in this sector, fluctuating between 1.06 and 1.08 million persons.

The proportion of persons working as employees in the EU's other non-metallic mineral products' sector matched closely the average for the whole of the manufacturing sector (90.1 % compared to an average of 91.8 % in 2001). However, a higher than average proportion of the EU's labour force were men (79.3 % compared to 71.6 % for manufacturing) and this may well explain why the proportion of persons working on a part-time basis in the EU's non-metallic mineral products' sector (5.4 %) was below the manufacturing average (7.5 %).

Table 7.2

Manufacture of other non-metallic mineral products (NACE Division 26)
Labour force characteristics (% of total employment)

	Female		Part-time		Self-employed	
	1996	2001	1996	2001 (1)	1996	2001 (2)
EU-15	20.5	20.7	:	5.4	7.6	8.8
B	13.8	7.1	:	:	12.1	:
DK	:	22.6	:	17.0	:	:
D	24.7	22.1	7.4	9.1	5.9	7.8
EL	13.0	13.2	:	:	18.7	18.7
E	11.8	14.9	:	1.8	8.9	8.5
F	19.9	24.0	5.8	4.5	6.1	6.2
IRL (3)	:	17.5	:	:	:	:
I	23.2	23.8	4.5	4.0	9.8	15.3
L	:	:	:	:	:	:
NL	:	:	:	13.6	:	:
A	24.4	21.7	10.2	9.6	:	:
P	31.5	25.1	:	:	:	12.1
FIN	:	18.6	:	:	:	:
S	:	:	:	:	:	:
UK	22.5	23.3	:	7.8	6.8	7.5

(1) DK, 1998.
(2) P, 1999.
(3) 2000.
Source: Eurostat, Labour Force Survey.

Table 7.3

Manufacture of other non-metallic mineral products (NACE Division 26)
Labour productivity and personnel costs in the EU, 2001

	Apparent labour productivity (thousand EUR per person employed)	Simple wage adjusted labour productivity (%)
Manufacture of other non-metallic mineral products	54.2	169.7
Manufacture of glass and glass products	:	:
Manufacture of non-refractory ceramic goods other than for construction purposes; manufacture of refractory ceramic products	38.0	138.2
Manufacture of ceramic tiles and flags	47.9	154.0
Manufacture of bricks, tiles and construction products	57.2	186.1
Manufacture of cement, lime and plaster	120.2	265.6
Manufacture of articles of concrete, plaster, cement	52.7	159.9
Cutting, shaping and finishing of stone	:	:
Manufacture of other non-metallic mineral products	61.9	155.1

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

The share of employees in total employment was over 90 %, except in Portugal, Italy and Greece, three countries where the proportion of employees in the manufacturing labour force was also below 90 %. In a similar manner, the share of persons working on a part-time basis in the non-metallic mineral products' sector was usually below 6 % in 2001, except in Germany, the Netherlands, Austria, Sweden and the United Kingdom (the five countries with the highest proportions of part-time staff in their manufacturing sectors). The contribution of women to the non-metallic mineral products' labour force was generally situated within the range of 15 to 25 % of the total, with only three exceptions, Belgium, Greece and the Netherlands, that were all below the lower end of this range.

The apparent labour productivity of the EU's non-metallic mineral products' sector was EUR 54 200 per person employed in 2001, close to the manufacturing average of EUR 55 900. With the exception of the value for Portugal (EUR 26 000 per person employed in 2000), apparent labour productivity among the Member States ranged between EUR 44 400 in Spain and EUR 70 300 in the Netherlands in 2000 [3].

Average personnel costs were also generally close to manufacturing averages in each Member State, with differences ranging from 9 % higher in the non-metallic mineral products' sector in Portugal and Ireland to 9 % lower in Germany and Luxembourg and 11 % less in the United Kingdom in 2000 [4].

[3] EL, IRL and S, 1999.
[4] DK, F, IRL and S, 1999; EL, 1998.

EXTERNAL TRADE

The EU runs a trade surplus for non-metallic mineral products (CPA Division 26), which was equal to EUR 7.6 billion in 2001, a gain of just over EUR 3 billion compared to 1991. Although the trade surplus widened, imports coming into the EU grew at a faster pace than exports, as the cover ratio declined from 226 % to 180 % over the 10-year period considered.

Between 1991 and 2001 the value of non-metallic mineral exports increased by between two and two-and-a-half-fold for the majority of products covered in this chapter. Growth was threefold for ceramic tiles and flags (CPA Group 26.3), while exports of ceramics, other than tiles and flags (CPA Group 26.2), cement, lime and plaster (CPA Group 26.5) and stone products (CPA Group 26.7) failed to double. As a result of these differentials, the structure of non-metallic mineral product exports shifted in favour of ceramic tiles and flags, whose share rose from 13.0 % in 1991 to 18.4 % by 2001.

The largest export market was that of glass products (CPA Group 26.1), which accounted for just under one third (31.1 %) of the EU's exports of non-metallic mineral products in 2001. Despite relatively slow export growth in the 1990s, ceramics, other than tiles and flags, remained the second largest market (20.3 % of total exports). The only other group of products that accounted for more than 10 % of the EU's exports was the miscellaneous category of other non-metallic mineral products (11.7 %).

The main market for EU exports was the United States (25.6 % of exports in 2001). No other country reported a share of EU exports that was above 10 %. Aside from the United States, whose share in total exports rose by 4.2 percentage points between 1991 and 2001, Poland, the Czech Republic and Russia were the three markets that expanded their shares at the quickest rate. Between 1991 and 2001 the share of EU exports destined for developed nations such as Switzerland, Japan, Australia and Canada was reduced.

Two thirds of the EU's imports of non-metallic mineral products in 2001 were either glass (41.8 %) or ceramics, other than tiles and flags (23.9 %). Glass imports into the EU grew almost threefold between 1991 and 2001, although faster growth was registered for stone products, with an expansion that was almost sixfold.

The main suppliers of EU imports of non-metallic mineral products were the United States, China, the Czech Republic, Turkey, Japan and Poland. Together these countries accounted for almost 60 % of the EU's imports in 2001. Compared to a decade before, the relative shares of Switzerland, Taiwan, Japan and Norway were all reduced by at least 3 percentage points. The main beneficiaries were China (4.4 points increase in imports between 1991 and 2001), India (1.9 points), Turkey (1.8 points), Vietnam (1.4 points) and Thailand (1.3 points).

Table 7.4

Other non metallic mineral products (CPA Division 26)
Extra-EU exports from the EU

	1991 (million EUR)	1991 (%)	2001 (million EUR)	2001 (%)	Change in export value 2001/1991 (%)	Change in export share 2001/1991 (% points)
Other non metallic mineral products	8 176.0	100.0	17 105.5	100.0	109.2	-
Glass and glass products	2 467.0	30.2	5 327.4	31.1	115.9	1.0
Non-refractory ceramic goods other than for construction purposes; refractory ceramic products	1 873.4	22.9	3 472.4	20.3	85.4	-2.6
Ceramic tiles and flags	1 064.6	13.0	3 153.2	18.4	196.2	5.4
Bricks, tiles and construction products, in baked clay	65.7	0.8	154.3	0.9	134.9	0.1
Cement, lime and plaster	340.4	4.2	515.3	3.0	51.4	-1.2
Articles of concrete, plaster and cement	391.7	4.8	800.6	4.7	104.4	-0.1
Monumental or building stone and articles thereof	1 047.1	12.8	1 668.9	9.8	59.4	-3.1
Other non-metallic mineral products	910.0	11.1	2 002.3	11.7	120.0	0.6

Source: Eurostat, Comext.

Table 7.5

Other non metallic mineral products (CPA Division 26)
Extra-EU imports into the EU

	1991 (million EUR)	1991 (%)	2001 (million EUR)	2001 (%)	Change in import value 2001/1991 (%)	Change in import share 2001/1991 (% points)
Other non metallic mineral products	3 619.5	100.0	9 527.1	100.0	163.2	-
Glass and glass products	1 394.5	38.5	3 981.9	41.8	185.5	3.3
Non-refractory ceramic goods other than for construction purposes; refractory ceramic products	947.5	26.2	2 279.7	23.9	140.6	-2.3
Ceramic tiles and flags	133.7	3.7	299.8	3.1	124.3	-0.5
Bricks, tiles and construction products, in baked clay	16.3	0.5	45.5	0.5	178.7	0.0
Cement, lime and plaster	310.8	8.6	734.5	7.7	136.3	-0.9
Articles of concrete, plaster and cement	145.9	4.0	325.0	3.4	122.7	-0.6
Monumental or building stone and articles thereof	85.1	2.4	505.6	5.3	493.8	3.0
Other non-metallic mineral products	585.5	16.2	1 345.6	14.1	129.8	-2.1

Source: Eurostat, Comext.

7.1: GLASS

NACE Group 26.1 covers the manufacture of glass and glass products, such as flat glass, container glass, glass fibres or specialised glass.

Glass comes in a variety of forms and has a multiplicity of uses, ranging from container glass (bottles and jars), to flat glass (glazing in the building and automotive sectors), and from household glass (tableware and decorative items) to special glass (cathode ray tubes, light bulbs and optical glass). As such, demand for glass is spread across a wide range of downstream sectors, with a small proportion of products going straight to the end-consumer.

The collection and recycling of glass started more than 25 years ago and the majority of the EU's glass container consumption is now recycled. This closed loop can be repeated without any loss of technical quality in the glass that is being produced. Table 7.6 provides information on the volume of glass that was recycled in each Member State in 1990 and 2001. According to the European Glass Container Association (FEVE), the fastest growth rates between these two dates were recorded in Portugal, Sweden and Ireland. The highest recycling figures were recorded in France and Germany, where an average of more than 30 kg of glass was recycled for each inhabitant in 2001.

STRUCTURAL PROFILE

The manufacture of glass generated EUR 13.6 billion of value added in the EU in 2000 [5] and thus accounted for almost one quarter of the output of the non-metallic mineral products' sector. Germany was the largest producer, with EUR 3.6 billion of value added (some 26.8 % of the EU total) and France was the next most important contributor with 18.7 % of the EU total. However, in relative terms, Austria, Belgium, Portugal and France were the most specialised countries, while the contribution of the glass sectors of Denmark, Greece and Finland to total manufacturing value added was less than half of the EU average.

[5] EL, IRL and S, 1999; L, not available.

Table 7.6
Glass recycling (thousand tonnes collected) (1)

	1990	2001
EU-15 (2)	4 966	8 364
B	204	279
DK (3)	61	125
D	1 791	2 666
EL	18	44
E	304	506
F	906	1 950
IRL (3)	13	46
I	732	1 100
L	:	:
NL	310	400
A	135	200
P	46	122
FIN	24	46
S	50	144
UK	372	736

(1) Glass collected from the general public and from bottlers.
(2) Excluding L.
(3) Estimates.
Source: FEVE (The European Glass Container Association) – Glass Gazette, N° 28 / October 2002.

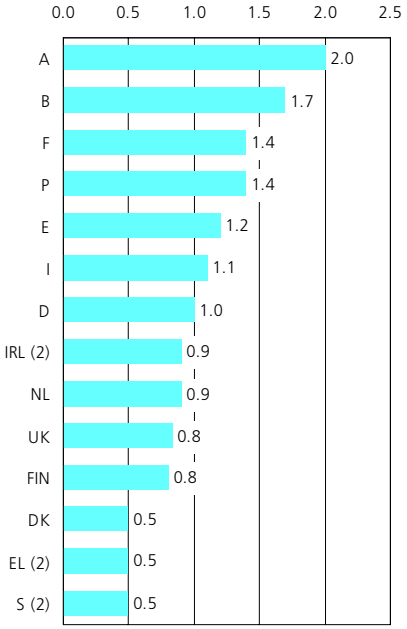
Table 7.7
Glass production in the EU (thousand tonnes)

	1995	2001
Flat glass	6 458	7 414
Container glass	16 938	17 818
Tableware (1)	998	968
Reinforcement fibres	488	546
Others (1)	1 531	1 371

(1) E, not available.
Source: CPIV (Comité Permanent de l'Industrie du Verre de l'UE) - 89, avenue Louise, Bruxelles, B-1050.

According to CPIV (Comité Permanent de l'Industrie du Verre de l'UE) the most important glass product group in 2001 was container glass, with 17.8 million tonnes of output in 2001, approximately 60 % of the total volume of glass produced in the EU. Flat glass (7.4 million tonnes or approximately 22 % of the total in volume terms) was the second largest product group. Together the remaining subsectors accounted for less than 20 % of glass output in the EU (see Table 7.7). It is important to note that price-weight ratios of different glass products can vary considerably and hence volume measures do not always capture the importance of each product.

Figure 7.4
Manufacture of glass and glass products (NACE Group 26.1)
Share of value added in manufacturing, 2000 (%) (1)



(1) EU-15 and L, not available.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

The glass industry has a relatively high degree of concentration of output within large enterprises that employ 250 or more persons. Large enterprises accounted for at least 75 % of the value added generated in the glass industries of Belgium, France, Ireland and Austria and more than 50 % of value added in every other country for which data are available, except Italy [6]. Container glass is produced in every Member State, except for Luxembourg, with approximately 140 production installations spread across the EU. The flat glass sector is much more concentrated, as there are just 10 manufacturing plants which are owned by Pilkington (United Kingdom), Saint-Gobain (France), Japanese and American enterprises. Special glass products also have a relatively high degree of concentration, with the majority of production located in Germany, France and the United Kingdom. On the other hand, the household glass sector is widely dispersed across SMEs in each Member State, most of which tend to specialise in higher value added products, for example lead crystal.

[6] B, IRL and FIN, 1999; DK and S, 1998; P and UK, 1997; L, not available.

LABOUR AND PRODUCTIVITY

There were 249 000 persons employed in the EU's glass industry in 2000 [7]. This was approximately 39 000 fewer than in 1990, although as with the non-metallic mineral products' sector in general, all job losses were recorded in the early and mid-1990s (between 1990 and 1997).

Apparent labour productivity in the glass sector was considerably higher than in the respective manufacturing sectors of Portugal, Greece or Spain (more than 20 %). Otherwise, for the majority of countries, apparent labour productivity in the glass industry ranged between +/– 10 % of the manufacturing average, except in Ireland, Finland and Sweden, where productivity was at least 25 % below the manufacturing average [8].

[7] EL, IRL and S, 1999; L, not available.
[8] EL, IRL and S, 1999; L, not available.

EXTERNAL TRADE

Glass products make up the largest Group of non-metallic mineral products in terms of both imports and exports, accounting for 41.8 % of imports and 31.1 % of exports in 2001. The EU ran a trade surplus of EUR 1.3 billion for glass products in 2001, which although larger than that recorded in 1991 (EUR 1.1 billion), was below the levels registered during the mid-1990s when the surplus fluctuated between EUR 1.4 billion and EUR 1.9 billion. The cover ratio declined from a high of 193 % in 1994 to 134 % by 2001, as the rate at which imports grew exceeded the corresponding increase for exports.

The main destination of EU exports was the United States, which accounted for just over one quarter (25.6 %) of the total. No other country accounted for more than 10 % of the EU's exports of glass in 2001, with Switzerland, Japan and Poland the next largest export markets (accounting for between 5 and 8 % of the total). Between 1991 and 2001, the proportion of EU exports that were destined for the Czech Republic, Poland, Russia and China increased by at least 2 percentage points.

The main origin of glass imports was also the United States, which accounted for 21.2 % of the total, followed by the Czech Republic (10.9 %), while Japan, China, Poland and Turkey all supplied at least 5 % of imports in 2001. The shift in the composition of the EU's glass imports between 1991 and 2001 showed that the main beneficiary was China (with a 4.3 percentage point gain), followed by South Korea, Thailand and India.

Table 7.8

Glass and glass products (CPA Group 26.1)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	2 467	2 473	2 738	3 137	3 366	3 661	4 239	4 148	4 223	5 032	5 327
Extra-EU imports (million EUR)	1 395	1 444	1 461	1 622	1 974	1 955	2 252	2 559	2 825	3 627	3 982
Trade balance (million EUR)	1 072	1 029	1 276	1 515	1 392	1 706	1 986	1 589	1 398	1 405	1 346
Cover ratio (%)	176.9	171.2	187.3	193.4	170.5	187.3	188.2	162.1	149.5	138.7	133.8

Source: Eurostat, Comext.

7.2: CERAMIC GOODS AND CLAY PRODUCTS

This subchapter includes information on three NACE groups (26.2 to 26.4). The data is largely presented in an aggregated form for all three activities. The manufacture of ceramic goods, other than tiles or flags is covered by NACE Group 26.2, while ceramic tiles and flags are classified within NACE Group 26.3. The third NACE group covered in this subchapter (26.4) is the manufacture of clay bricks and tiles, as well as other construction products made of clay.

Ceramic goods and clay products are used by a wide variety of downstream industries. The largest proportion is destined for use in the construction sector, for example, tiles, bricks and pipes and demand for items such as ceramic sanitaryware is also closely linked to the evolution of the building sector, although there is also an important renovation market. Manufacturers of steel, cement, glass, ceramics and petrochemicals use refractory products when they require high temperatures in their production process, while the demand for ceramic ornaments and tableware is largely split between households and hotels and restaurants.

STRUCTURAL PROFILE

The output of the EU's ceramic goods and clay products' sector (NACE Groups 26.2 to 26.4) was EUR 13.3 billion of value added in 2000, equivalent to 23.3 % of the non-metallic mineral products' total. Italy was the largest producer of ceramic goods and clay products with 23.8 % of the EU total in 2000, followed by Germany and Spain (20.1 % and 19.0 % respectively) [9].

[9] EL, IRL, A and FIN, 1999; NL and S, not available.

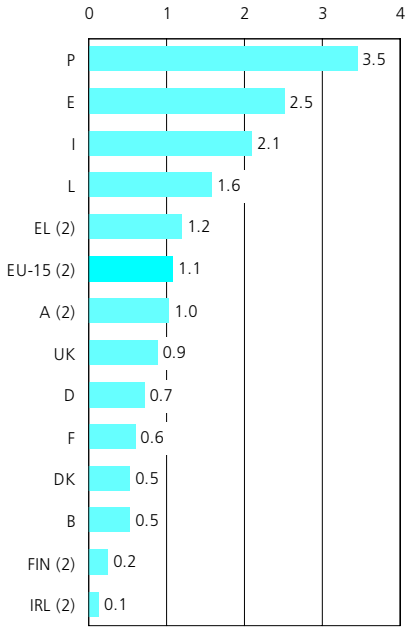
There were 298 500 persons employed in the ceramic goods and clay products sector in 2000, some 3 400 more than in 1995 when the lowest number of persons employed during the last decade was recorded.

A breakdown of sales in the ceramics' industry is available from Cerame-Unie (see Table 7.9). It shows that wall and floor tiles accounted for approximately 37 % of ceramics' sales in the EU in 2001, followed by roof tiles and bricks (22 %). Table and ornamentalware was highly labour-intensive and accounted for 26 % of employment (almost 16 percentage points higher than its corresponding share of sales).

The ceramic goods and clay products' sector is dominated by SMEs, which are particularly prevalent in southern Europe. For example, SMEs generated 67.2 % of value added in the ceramic goods and clay products' sector in Spain in 1999. There are several regions where the production of ceramics is concentrated, namely Castellón (Spain) and Sassuolo (Italy), as well as parts of Portugal, Germany and France.

Figure 7.5

Manufacture of ceramic goods, tiles and flags; manufacture of clay bricks, tiles and construction products (NACE Groups 26.2, 26.3 and 26.4) Share of value added in manufacturing, 2000 (%) (1)



(1) NL and S, not available.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.9

Main indicators for the ceramics industry in the EU, 2001

	Sales (billion EUR)	Employment (thousands)
Wall/floor tiles	10.0	71
Roof tiles & bricks	6.0	45
Refractories	3.0	21
Table/ornamentalware	2.7	59
Sanitaryware	2.3	16
Technical ceramics	2.5	12
Clay pipes	0.3	3

Source: Cerame-Unie.

EXTERNAL TRADE

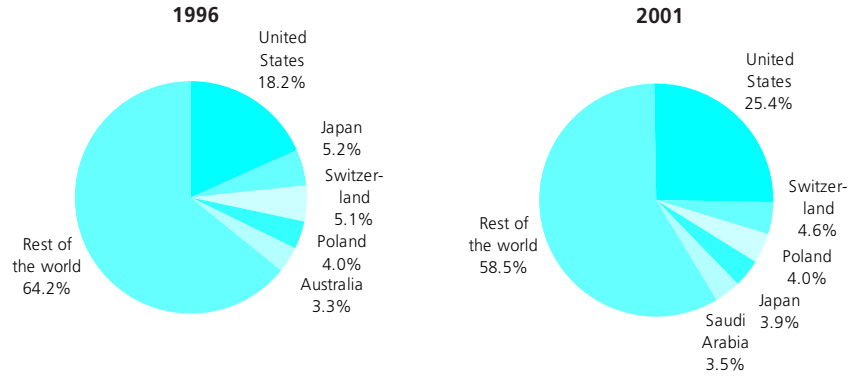
The EU runs a considerable trade surplus for ceramic goods and clay products (CPA Groups 26.2 to 26.4) that was EUR 4.2 billion in 2001. The surplus increased throughout the period 1991 to 1997, before falling for two consecutive years to EUR 3.6 billion by 1999. There followed growth of 13.5 % in 2000 and a more moderate expansion of 2.7 % in 2001. Ceramic goods and clay products accounted for almost 40 % of the EU's exports and 28 % of its imports of non-metallic mineral products in 2001.

Exports of ceramic goods were principally destined for the United States in 2001. However, the EU's main export markets for clay products were countries that are geographically close to the EU, namely, Poland, Switzerland, the Czech Republic and Croatia.

The origin of the EU's imports varied considerably. China (23 %) was by far the largest supplier of ceramic goods, other than tiles and flags in 2001, Turkey was the main origin (40 %) of ceramic tiles and flags, while the Czech Republic and Poland together contributed more than half (55 %) of the EU's imports of clay products.

Figure 7.6

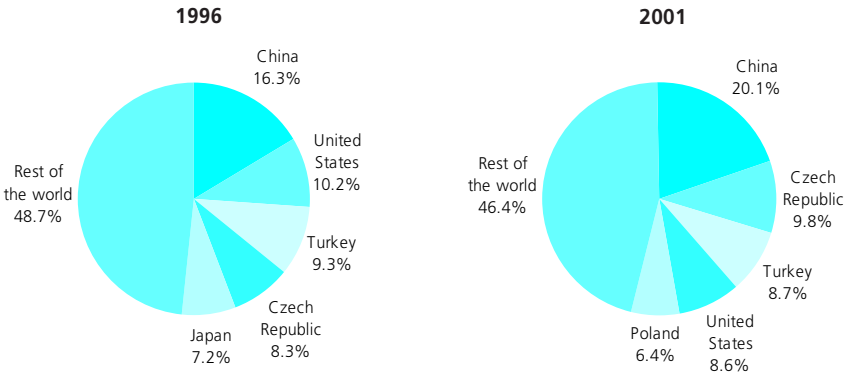
Ceramic goods, tiles and flags; clay bricks, tiles and construction products (CPA Groups 26.2, 26.3 and 26.4)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 7.7

Ceramic goods, tiles and flags; clay bricks, tiles and construction products (CPA Groups 26.2, 26.3 and 26.4)
Origin of extra-EU imports



Source: Eurostat, Comext.

7.3: CEMENT, CONCRETE, STONE AND OTHER NON-METALLIC MINERAL PRODUCTS

This final subchapter groups together the four remaining activities that make-up NACE Division 26. The manufacture of cement, lime and plaster (NACE Group 26.5) is treated together with the manufacture of articles made from cement, lime or plaster (NACE Group 26.6). There are also separate sections covering the activities of cutting, shaping and finishing stone (NACE Group 26.7) and the manufacture of other non-metallic mineral products (NACE Group 26.8), a miscellaneous collection of activities that includes the production of abrasive products, non-metallic mineral yarns and mineral insulating materials (be they for heat or sound insulation).

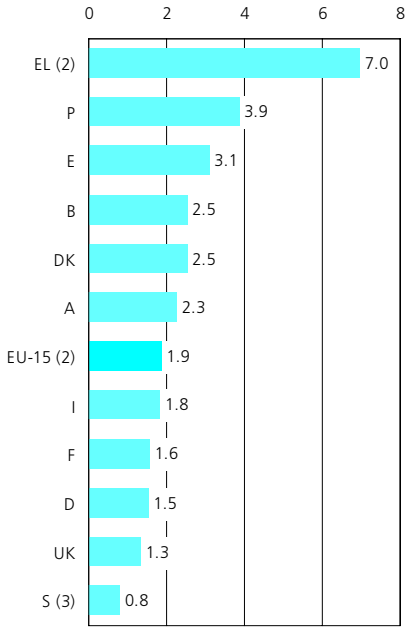
MANUFACTURE OF CEMENT AND CONCRETE

The cement and concrete manufacturing subsector (NACE Groups 26.5 and 26.6) generated EUR 23.4 billion of value added in 2000. This figure equated to 41 % of the non-metallic mineral products' total. Germany was by far the largest producer of cement and concrete in the EU with output equal to EUR 5.8 billion in 2000. However, in relative terms the southern Member States of Greece, Portugal and Spain were the most specialised in these activities. Cement and concrete also made a larger than average contribution to manufacturing value added in Austria, Belgium and Denmark.

Transporting cement and concrete entails major costs. On the one hand, ready-mixed concrete is transported in a freshly mixed form that has a useful life of only a few hours, and on the other hand, road transport costs for cement have risen at a dramatic pace. According to Cembureau, it is now cheaper to cross the Atlantic Ocean with 35 000 tonnes of cement than it is to transport the same volume of cement 300 km by road. This sub–sector also faces significant start-up costs, as investment in new plant is estimated to be equivalent to three years of turnover. Otherwise, cement manufacturers also face relatively high operating costs, arising from the substantial amounts of energy that are consumed during the production process.

Figure 7.8

Manufacture of cement, lime and plaster; manufacture of articles of concrete, plaster, cement
(NACE Groups 26.5 and 26.6)
Share of value added in manufacturing, 2000 (%) (1)



(1) IRL, L, NL and FIN, not available.
(2) 1999.
(3) 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.10

Manufacture of cement, lime and plaster; manufacture of articles of concrete, plaster and cement (NACE Groups 26.5 and 26.6)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A	P	FIN	S (2)	UK
Production (million EUR)	3 454	1 288	15 573	1 245	8 873	8 693	:	8 767	:	:	1 796	1 871	:	922	7 519
Number of persons employed (thousands)	16	9	96	9	56	38	:	41	:	:	11	13	:	6	39
Value added (million EUR)	1 132	547	5 752	561	3 111	2 909	:	2 780	:	:	715	699	:	315	2 827
Purchases of goods and services (million EUR)	2 444	832	10 765	745	6 099	6 301	:	6 064	:	:	1 282	1 396	:	644	4 914
Personnel costs (million EUR) (3)	636	:	4 009	244	1 392	1 434	:	1 298	:	:	499	220	:	213	1 346
Gross investment in tangible goods (million EUR) (4)	382.6	:	981.8	:	617.5	:	:	623.9	:	:	156.2	163.7	:	59.7	:
App. labour productivity (thous. EUR/pers. emp.)	72.4	60.1	59.6	65.7	55.7	75.6	:	67.3	:	:	64.4	55.3	:	52.5	71.9
Simple wage adjusted labour productivity (%) (3)	178.1	:	143.5	215.8	223.5	192.7	:	214.1	:	:	143.3	317.9	:	148.4	210.0
Gross operating rate (%) (3)	13.9	:	10.5	23.9	19.0	15.3	:	16.9	:	:	10.8	23.3	:	11.1	19.1

(1) 1999.
(2) 1998.
(3) F, 1999; EL, 1998.
(4) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Unlike many of the other non-metallic mineral products' subsectors, the cement industry has witnessed a growing trend towards internationalisation and merger activity is quite high. EU enterprises have positioned themselves in the global cement business and some of the main producers include Blue Circle (United Kingdom), Dyckerhoff (Germany), Heidelberger (Germany), Italcementi (Italy) and Lafarge (France). On the other hand, the structure of the ready-mixed concrete sector is dominated by SMEs. According to the European Ready-Mixed Concrete Association (ERMCO), there were almost 10 500 plants producing ready-mixed concrete in the EU in 2001 [10] (see Table 7.11). Unlike the majority of manufacturing sectors the average size of ready-mixed concrete plants in Spain was higher than in Germany, France or the United Kingdom.

There were almost 362 000 persons employed in the EU's cement and concrete subsector in 2000, some 34 % of those employed in the non-metallic mineral products' sector. As such this subsector was very productive, as it registered a share of non-metallic mineral products' employment that was 7 percentage points less than its corresponding share of value added. Apparent labour productivity stood at EUR 65 000 per person employed in 2000, compared to a non-metallic mineral products' average of EUR 53 000.

[10] EL, IRL and L, not available.

The EU exported EUR 1.3 billion of cement, lime, plaster and concrete products (CPA Groups 26.5 and 26.6) in 2001, compared to imports of EUR 1.1 billion. The EU's trade surplus grew between 1992 and 1998 to reach EUR 588 million, after which it fell for three consecutive years to EUR 257 million in 2001. Cement, lime, plaster and concrete products accounted for 11.1 % of the EU's imports of non-metallic mineral products and 7.7 % of its exports in 2001.

Given the relatively low price-to-weight ratio of these products, it is no surprise to find that the main trading partners of the EU were generally countries that were geographically close. The highest share of imports originated from Turkey (22.8 % in 2001 compared to 11.5 % in 1996). However, in the past five years there has been a switch in imports away from neighbouring countries to those countries transporting concrete by sea. The main beneficiaries of this trend were Thailand, Venezuela, Russia, Saudi Arabia and Indonesia.

Table 7.11

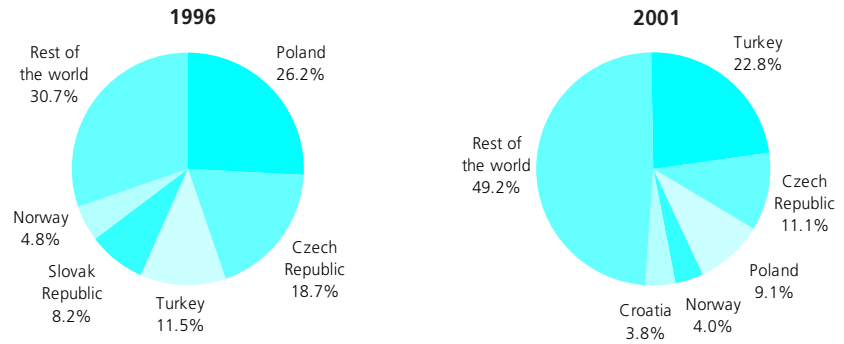
Main indicators for the ready mixed concrete industry, 2001

	Number of plants	Production (million m³)
B	300	10.9
DK	108	2.1
D	2 132	51.1
EL	:	:
E	1 500	71.1
F	1 626	34.5
IRL	:	6.0
I	2 450	66.8
L	:	:
NL (1)	180	8.5
A	260	7.3
P	270	11.3
FIN	200	2.6
S	212	2.6
UK (1)	1 250	23.0

(1) Estimates.
Source: ERMCO (European Ready-Mixed Concrete Association) available at http://www.ermco.org and secretariat@ermco.org.

Figure 7.9

Cement, lime and plaster; articles of concrete, plaster and cement (CPA Groups 26.5 and 26.6)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 7.12

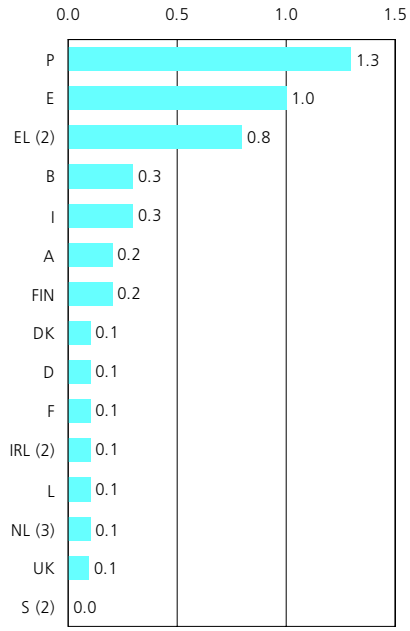
Cutting, shaping and finishing of stone (NACE Group 26.7)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL (2)	A	P	FIN	S (1)	UK
Production (million EUR)	496	31	601	124	2 661	440	70	1 635	5	64	108	610	146	40	301
Number of persons employed (thousands)	4	0	7	2	36	5	1	11	0	:	1	15	1	0	5
Value added (million EUR)	135	13	271	61	997	173	28	488	2	25	54	234	64	17	198
Purchases of goods and services (million EUR)	391	18	422	75	1 766	293	43	1 143	2	43	72	407	87	23	135
Personnel costs (million EUR) (3)	85	9	227	30	622	132	16	269	1	18	48	147	39	14	83
Gross investment in tangible goods (million EUR) (4)	33.2	:	26.2	:	153.1	:	4.1	73.0	:	:	5.4	86.9	11.2	2.1	:
App. labour productivity (thous. EUR/pers. emp.)	37.7	41.0	39.1	27.8	27.8	35.1	34.9	43.1	39.7	:	37.4	16.0	46.4	40.9	37.6
Simple wage adjusted labour productivity (%) (3)	158.6	141.9	119.4	181.8	160.3	117.9	170.4	181.2	176.9	138.3	112.1	159.8	161.7	121.8	239.3
Gross operating rate (%) (3)	9.6	12.8	6.6	20.5	13.9	5.4	16.3	13.6	20.8	10.3	4.6	13.9	17.3	8.0	35.9

(1) 1999.
(2) 1998.
(3) DK and F, 1999; EL, 1998.
(4) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Figure 7.10

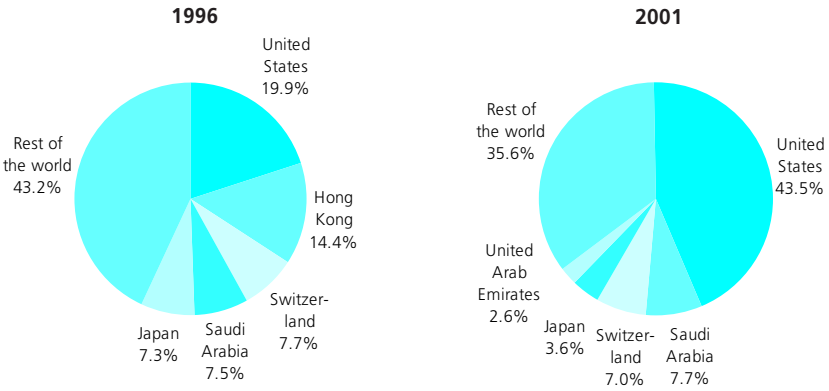
Cutting, shaping and finishing of stone (NACE Group 26.7)
Share of value added in manufacturing, 2000 (%) (1)



(1) EU-15, not available.
(2) 1999.
(3) 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Figure 7.11

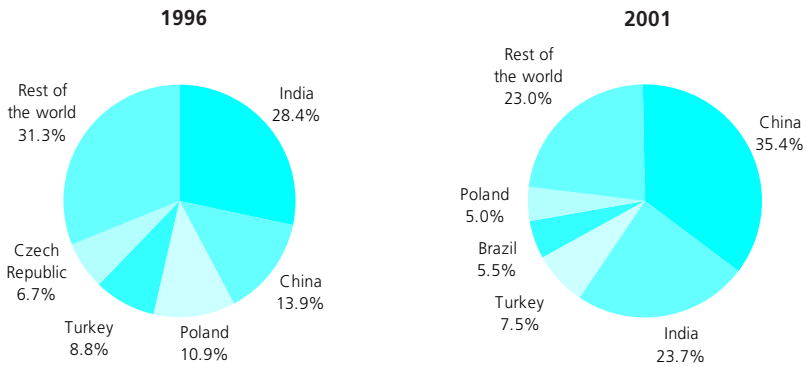
Monumental or building stone and articles thereof (CPA Group 26.7)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 7.12

Monumental or building stone and articles thereof (CPA Group 26.7)
Origin of extra-EU imports



Source: Eurostat, Comext.

WORKING OF STONE

The EU's cutting, shaping and finishing of stone sector (NACE Group 26.7) is relatively small and generated 4.8 % of the value added of the non-metallic mineral products' sector in the EU in 2000 [11], some EUR 2.8 billion. Spain generated over one third of the EU's value added in 2000 in this subsector (practically EUR 1 billion) which was more than twice the level of value added generated in any other Member State. Italy accounted for almost 18 % of the EU's value added, with no other country generating more than a 10 % share.

The EU's trade surplus for monumental and building stone products (CPA Group 26.7) was fairly stable during the period 1995 to 2001, within the range of EUR 1.0 billion to EUR 1.3 billion. In 2001, exports of EUR 1.7 billion and imports of EUR 505 million led to a surplus of EUR 1.2 billion.

Some 43.5 % of the EU's exports of stone were destined for the United States, with Saudi Arabia the second most important export market (7.7 %). The main change in export partners between 1991 and 2001 was the dramatic reduction in the share of exports destined for Japan, which fell from 18.0 to 3.6 %. China (35.4 %) and India (23.7 %) were the principal suppliers of stone to the EU market. Their combined share of imports rose from 24.7 % in 1991 to 59.1 % some 10 years later.

[11] EL, IRL and S, 1999; NL, 1998.

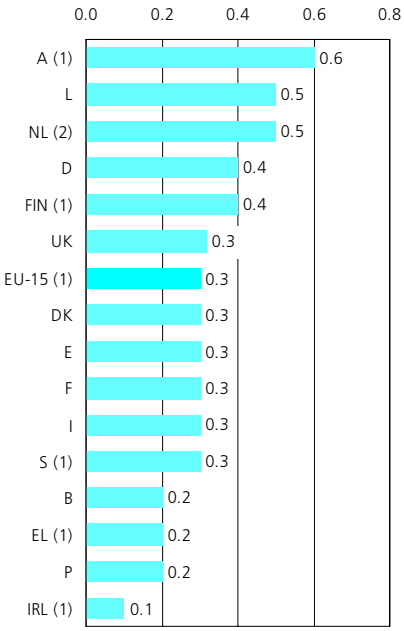
MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS

This miscellaneous grouping of the manufacture of other non-metallic mineral products (NACE Group 26.8) generated EUR 4.2 billion of value added in 2000 in the EU, equivalent to 7.3 % of the non-metallic mineral products sector. By far the largest share was accounted for by Germany (EUR 1.4 billion), whose output was more than double the level of the second largest producer, which was the United Kingdom (EUR 667 million) [12]. The EU ran a trade surplus of EUR 657 million for other non-metallic mineral products (CPA Group 26.8) in 2001.

[12] EL, IRL, A, FIN and S, 1999; L, not available.

Figure 7.13

Manufacture of other non-metallic mineral products (NACE Group 26.8)
Share of value added in manufacturing, 2000 (%)



(1) 1999.
(2) 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.13

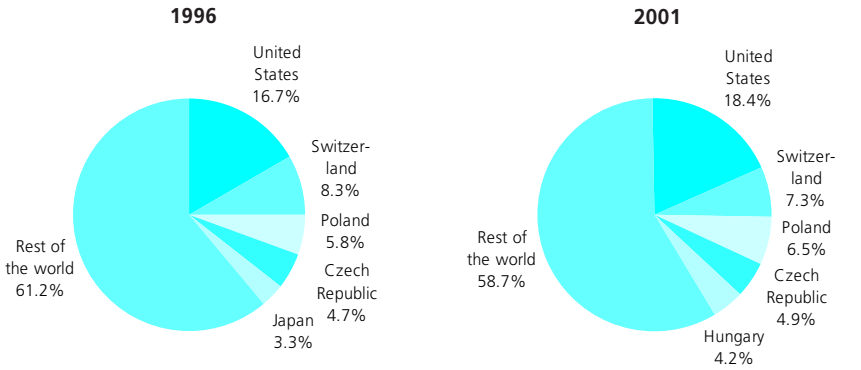
Manufacture of other non-metallic mineral products (NACE Group 26.8)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL (2)	A (1)	P	FIN (1)	S (1)	UK
Production (million EUR)	297	168	3 571	41	1 136	1 572	77	1 334	31	510	452	98	232	322	1 556
Number of persons employed (thousands)	1	1	22	0	7	9	0	6	0	3	3	1	2	2	10
Value added (million EUR)	70	74	1 375	13	315	523	21	475	12	206	178	30	99	113	667
Purchases of goods and services (million EUR)	248	102	2 846	32	1 056	1 652	58	1 139	20	383	331	77	141	245	1 059
Personnel costs (million EUR) (3)	50	95	1 006	8	192	407	9	188	9	110	127	18	53	78	382
Gross investment in tangible goods (million EUR) (4)	12.0	:	169.6	:	78.0	:	4.7	63.6	:	:	15.4	14.5	10.6	14.0	:
App. labour productivity (thous. EUR/pers. emp.)	58.7	54.1	61.6	38.1	47.1	58.1	71.1	80.1	47.4	:	60.9	25.6	64.1	50.1	68.1
Simple wage adjusted labour productivity (%) (3)	141.6	145.3	136.7	142.9	164.4	129.7	237.1	252.4	143.0	187.8	139.7	170.2	187.8	144.6	174.7
Gross operating rate (%) (3)	6.5	13.9	8.8	8.4	9.2	6.2	15.5	18.2	11.5	16.6	10.0	12.0	19.6	9.8	16.5

(1) 1999.
(2) All except persons employed, 1998.
(3) DK and F, 1999; EL, 1998.
(4) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Figure 7.14

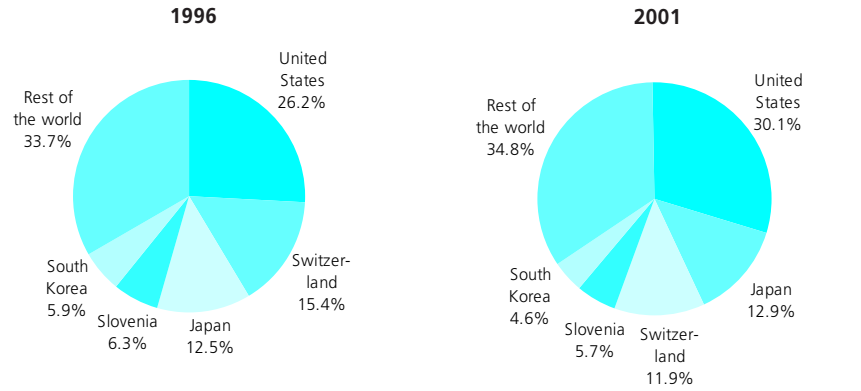
Other non-metallic mineral products (CPA Group 26.8)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 7.15

Other non-metallic mineral products (CPA Group 26.8)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 7.14

Manufacture of glass and glass products (NACE Group 26.1)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	2 182	255	8 976	72	2 886	6 927	418	4 756	:	1 089	1 062	635	571	456	3 899
Number of persons employed (thousands)	11	2	67	1	25	48	4	28	:	7	9	9	5	4	28
Value added (million EUR)	748	104	3 646	37	1 160	2 542	249	1 616	:	418	620	256	250	196	1 741
Purchases of goods and services (million EUR)	1 794	156	5 866	40	1 963	4 517	217	3 306	:	716	547	426	363	300	2 247
Personnel costs (million EUR) (2)	513	146	2 616	17	636	1 819	130	928	:	246	355	142	165	152	1 026
Gross investment in tangible goods (million EUR) (3)	248.5	:	579.1	:	228.8	:	19.1	398.7	:	:	135.2	130.3	35.1	56.6	:
App. labour productivity (thous. EUR/pers. emp.)	65.4	46.4	54.5	45.9	46.7	52.6	64.7	57.4	:	62.1	65.6	28.2	51.5	44.7	63.1
Simple wage adjusted labour productivity (%) (2)	145.7	137.0	139.4	188.8	182.5	137.6	191.8	174.3	:	169.7	174.6	179.8	151.7	128.8	169.7
Gross operating rate (%) (2)	9.2	8.3	10.9	22.9	17.4	10.2	25.4	14.2	:	15.1	23.2	17.3	14.0	9.0	17.9

(1) 1999. (2) DK and F, 1999; EL, 1998. (3) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.15

Manufacture of non-refractory ceramic goods other than for construction purposes; manufacture of refractory ceramic products (NACE Group 26.2)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL (2)	A	P	FIN	S (1)	UK
Production (million EUR)	205	151	3 420	72	1 624	1 451	59	1 625	81	114	514	630	106	255	2 390
Number of persons employed (thousands)	2	2	37	1	22	16	1	16	1	:	4	23	1	2	30
Value added (million EUR)	90	79	1 626	34	751	603	25	697	37	63	257	325	47	112	1 272
Purchases of goods and services (million EUR)	128	71	2 335	51	1 269	972	40	1 042	49	75	280	387	67	183	1 267
Personnel costs (million EUR) (3)	66	58	1 273	31	468	537	17	453	19	43	180	227	26	78	895
Gross investment in tangible goods (million EUR) (4)	19.0	:	141.3	:	64.4	:	6.5	90.2	:	:	19.4	76.2	4.3	8.2	:
App. labour productivity (thous. EUR/pers. emp.)	47.9	42.4	44.4	25.8	34.6	38.6	30.6	42.5	46.3	:	69.9	14.3	51.9	52.9	42.2
Simple wage adjusted labour productivity (%) (3)	136.1	106.6	127.7	113.7	160.5	113.2	152.1	153.9	194.2	147.8	143.0	143.1	180.9	144.2	142.2
Gross operating rate (%) (3)	10.8	2.9	8.9	5.4	14.3	4.6	14.1	14.4	23.2	14.7	14.4	14.2	18.7	11.6	14.9

(1) 1999. (2) 1998. (3) F, 1999; DK and EL, 1998. (4) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.16

Manufacture of ceramic tiles and flags (NACE Group 26.3)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A (1)	P	FIN (1)	S	UK
Production (million EUR)	6	2	492	30	3 037	333	3	5 325	0	:	0	335	11	:	142
Number of persons employed (thousands)	0	0	5	0	27	4	0	33	0	:	0	5	0	:	2
Value added (million EUR)	2	1	222	16	1 232	115	1	1 880	0	:	0	137	7	:	52
Purchases of goods and services (million EUR)	4	1	357	18	2 078	307	2	3 704	0	:	0	211	15	:	135
Personnel costs (million EUR) (2)	2	:	184	8	690	112	1	1 238	0	:	0	70	4	:	64
Gross investment in tangible goods (million EUR) (3)	0.3	:	41.6	:	326.7	:	0.1	340.6	:	:	0	73.7	0.5	:	:
App. labour productivity (thous. EUR/pers. emp.)	20.6	37.8	44.9	35.2	46.3	32.9	24.4	56.2	:	:	:	26.6	57.5	:	28.0
Simple wage adjusted labour productivity (%) (2)	91.7	:	120.4	171.1	178.6	120.3	157.1	151.8	:	:	:	196.8	158.1	:	81.6
Gross operating rate (%) (2)	-3.3	:	6.6	20.7	17.1	5.2	16.3	11.6	:	:	:	20.2	12.2	:	-6.0

(1) 1999. (2) F, 1999; EL, 1998. (3) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.17

Manufacture of bricks, tiles and construction products (NACE Group 26.4)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL (2)	A	P	FIN	S (1)	UK
Production (million EUR)	335	74	1 717	94	1 180	804	24	1 447	0	381	146	321	21	0	960
Number of persons employed (thousands)	2	1	14	1	11	5	0	9	0	2	1	6	0	0	9
Value added (million EUR)	141	37	825	46	552	407	12	591	0	206	54	163	9	0	517
Purchases of goods and services (million EUR)	212	45	1 123	51	665	410	14	886	0	215	109	165	13	0	431
Personnel costs (million EUR) (3)	89	24	561	19	214	172	6	300	0	79	53	65	6	0	322
Gross investment in tangible goods (million EUR) (4)	20.4	:	181.7	:	135.9	:	1.5	114.8	:	:	19.1	74.9	1.8	0	:
App. labour productivity (thous. EUR/pers. emp.)	58.2	68.3	59.1	33.1	49.3	81.7	51.9	62.4	:	:	44.9	29.5	46.3	:	57.0
Simple wage adjusted labour productivity (%) (3)	159.2	218.3	147.0	213.4	257.8	213.7	190.5	197.1	:	260.6	100.4	249.7	157.9	:	160.8
Gross operating rate (%) (3)	14.8	29.1	13.8	26.9	28.5	25.7	22.0	20.4	:	31.2	0.1	31.1	15.5	:	20.2

(1) 1999. (2) All except persons employed, 1998. (3) DK and F, 1999; EL, 1998. (4) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.18

Manufacture of cement, lime and plaster (NACE Group 26.5)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A	P	FIN	S (2)	UK
Production (million EUR)	1 001	217	3 120	741	2 717	2 531	:	2 827	:	254	343	786	:	194	1 460
Number of persons employed (thousands)	3	1	15	4	9	7	:	11	:	:	2	2	:	1	7
Value added (million EUR)	437	94	1 381	418	1 347	1 072	:	1 213	:	129	154	420	:	69	703
Purchases of goods and services (million EUR)	604	128	1 794	364	1 424	1 487	:	1 564	:	142	206	526	:	128	786
Personnel costs (million EUR) (3)	182	:	750	157	402	341	:	417	:	42	84	65	:	27	294
Gross investment in tangible goods (million EUR) (4)	237.9	:	274.3	:	252.4	:	:	289.9	:	:	35.6	68.0	:	15.9	:
App. labour productivity (thous. EUR/pers. emp.)	126.4	117.5	94.2	103.3	142.2	164.8	:	109.6	:	:	98.0	215.7	:	90.2	95.6
Simple wage adjusted labour productivity (%) (3)	239.7	:	184.1	252.5	334.8	312.3	:	291.1	:	303.8	183.5	651.3	:	251.1	239.2
Gross operating rate (%) (3)	24.4	:	19.6	33.9	34.8	29.0	:	28.6	:	32.1	19.7	38.3	:	21.5	26.8

(1) 1999. (2) 1998. (3) F, 1999; EL, 1998. (4) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.19

Manufacture of articles of concrete, plaster, cement (NACE Group 26.6)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	2 453	1 071	12 453	504	6 156	6 162	:	5 940	117	:	1 453	1 084	1 122	758	6 060
Number of persons employed (thousands)	12	8	82	4	46	32	:	30	1	13	10	11	7	5	32
Value added (million EUR)	695	453	4 371	143	1 765	1 837	:	1 567	41	:	561	279	408	284	2 123
Purchases of goods and services (million EUR)	1 840	704	8 971	381	4 675	4 814	:	4 500	77	:	1 076	870	759	526	4 128
Personnel costs (million EUR) (2)	453	263	3 259	87	990	1 093	:	882	25	:	415	155	215	195	1 052
Gross investment in tangible goods (million EUR) (3)	144.7	:	707.5	:	365.1	:	:	334.0	:	:	120.6	95.7	77.5	40.1	:
App. labour productivity (thous. EUR/pers. emp.)	57.1	54.6	53.4	31.8	38.0	57.5	:	51.8	65.7	:	58.9	26.1	61.2	56.0	66.4
Simple wage adjusted labour productivity (%) (2)	153.3	156.6	134.1	149.9	178.2	155.4	:	177.7	169.0	:	135.1	179.5	189.5	145.4	201.9
Gross operating rate (%) (2)	9.6	14.8	8.3	9.2	12.2	9.8	:	11.5	14.3	:	8.9	10.9	16.5	11.1	17.2

(1) 1999. (2) DK and F, 1999; EL, 1998. (3) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.20

Cutting, shaping and finishing of stone (NACE Group 26.7)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL (2)	A	P	FIN	S (1)	UK
Production (million EUR)	496	31	601	124	2 661	440	70	1 635	5	64	108	610	146	40	301
Number of persons employed (thousands)	4	0	7	2	36	5	1	11	0	:	1	15	1	0	5
Value added (million EUR)	135	13	271	61	997	173	28	488	2	25	54	234	64	17	198
Purchases of goods and services (million EUR)	391	18	422	75	1 766	293	43	1 143	2	43	72	407	87	23	135
Personnel costs (million EUR) (3)	85	9	227	30	622	132	16	269	1	18	48	147	39	14	83
Gross investment in tangible goods (million EUR) (4)	33.2	:	26.2	:	153.1	:	4.1	73.0	:	:	5.4	86.9	11.2	2.1	:
App. labour productivity (thous. EUR/pers. emp.)	37.7	41.0	39.1	27.8	27.8	35.1	34.9	43.1	39.7	:	37.4	16.0	46.4	40.9	37.6
Simple wage adjusted labour productivity (%) (3)	158.6	141.9	119.4	181.8	160.3	117.9	170.4	181.2	176.9	138.3	112.1	159.8	161.7	121.8	239.3
Gross operating rate (%) (3)	9.6	12.8	6.6	20.5	13.9	5.4	16.3	13.6	20.8	10.3	4.6	13.9	17.3	8.0	35.9

(1) 1999. (2) 1998. (3) DK and F, 1999; EL, 1998. (4) D, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 7.21

Manufacture of other non-metallic mineral products (NACE Division 26)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL (2)	RO	SK	SI (2)	TR
Production (million EUR)	346	191	3 102	163	1 124	91	172	:	4 621	1 005	705	547	:
Number of persons employed (thousands) (3)	25	3	88	4	31	4	12	:	166	91	24	:	:
Value added (million EUR)	82	80	1 164	57	434	30	48	:	1 975	356	201	164	:
Purchases of goods and services (million EUR)	287	:	2 129	115	717	60	126	:	3 150	744	498	352	:
Personnel costs (million EUR)	59	:	517	27	189	16	45	:	900	229	122	127	:
Gross investment in tangible goods (million EUR) (4)	70.6	16.4	333.5	21.0	5.1	13.4	16.9	:	646.2	167.0	65.4	55.6	:
App. labour productivity (thous. EUR/pers. emp.) (3)	3.2	31.4	13.3	12.8	14.2	7.2	4.1	:	9.4	3.9	8.4	:	:
Simple wage adjusted labour productivity (%)	139.0	:	225.4	211.5	229.4	186.9	106.7	:	219.5	155.4	165.0	129.4	:
Gross operating rate (%)	8.0	:	20.1	17.4	19.8	16.1	1.7	:	21.9	12.7	10.9	6.6	:

(1) 1998. (2) 1999. (3) PL, 1998. (4) CZ, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Water supply and sewerage

The EU's sixth environmental action program [1] includes the following targets specific to water:

- to achieve levels of water quality that do not give rise to unacceptable impacts on, and risks to, human health;
- to ensure that the rates of extraction from water resources are sustainable over the long term.

The programme's aims should be met by improving the implementation of existing legislation, integrating environmental concerns into other policies, encouraging the market to work for the environment, and empowering citizens and changing behaviour.

[1] Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002, OJ No L 242, 10.9.2002.

STRUCTURAL PROFILE

In 2000 the EU's [2] water supply sector generated EUR 15.0 billion of value added. Germany (EUR 4.4 billion, 1999) and the United Kingdom (EUR 4.0 billion) together accounted for more than half of this total. This sector employed 175 300 persons in 2000 [3]. In most Member States (see Table 14.1) the majority of the workforce was employed in medium-sized or large enterprises (with 50 or more persons employed). The most notable exception was Denmark, where the whole workforce was employed in small and very small enterprises.

[2] IRL, 1999; D, 1998; EL, not available.
[3] IRL, 1999; EL, not available.

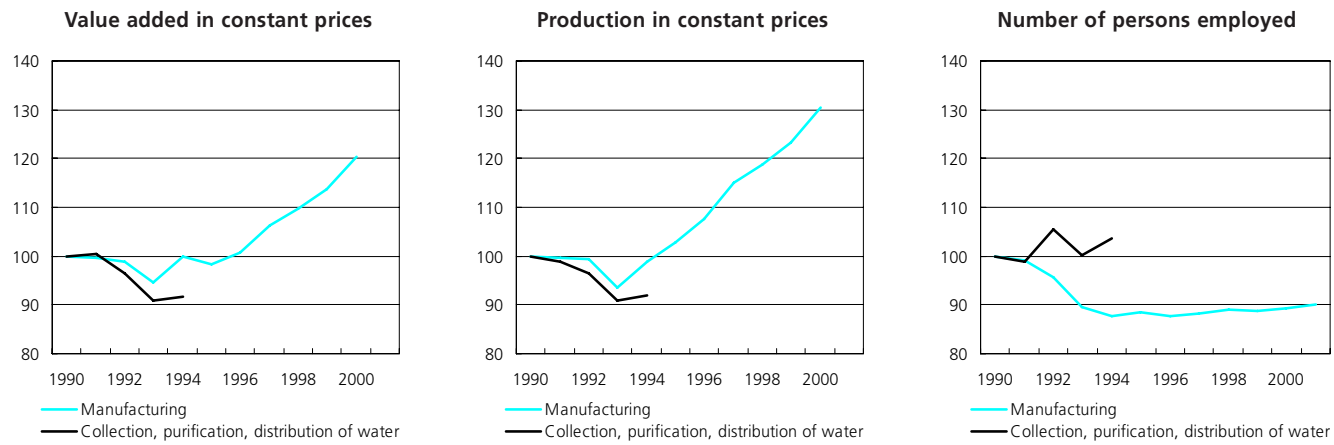
This chapter describes the activities involved in water supply and sewerage. The former provides for the collection, purification, desalinisation and distribution of water (NACE Division 41) and is treated in NACE separately from sewerage treatment (part of liquid waste treatment, found in NACE Division 90).

NACE

41: collection, purification and distribution of water;
90: sewage and refuse disposal, sanitation and similar activities.

Figure 14.1

Collection, purification and distribution of water (NACE Division 41)
Main indicators in the EU (1990=100)



Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 14.1

Number of persons employed in medium and large enterprises, Division 41, 2000

	Number (thousands)	Share of all size classes (%)
B (1)	7 002	97.6
DK	0	0.0
D (2)	30 908	67.9
EL	:	:
E	16 392	81.7
F	31 487	94.1
IRL (1) (3)	0	:
I (1)	12 629	78.7
L	:	:
NL	:	:
A	947	45.7
P	11 810	95.2
FIN	1 132	60.6
S	:	
UK	33 689	99.4

(1) 1999.
(2) 1998.
(3) No persons employed in NACE Division 41.
Source: Eurostat, Structural Business Statistics (theme4/sbs/sizclass/indus_ms).

Table 14.2

Fresh water abstraction (million m³ per year)

		Total surface and ground water (1)	Public water supply	Of which, for: Manu-facturing	Electricity (cooling)
B	1998	7 442	730	1 404	4 244
DK	1998	754	:	:	:
D	1998	40 591	5 557	5 822	26 372
EL	1997	8 695	861	110	124
E	2000	26 054	3 840	743	0
F	1999	32 323	5 898	3 716	19 498
IRL		:	:	:	:
I	1998	56 200	10 116	9 554	10 678
L	1999	61	38	14	0
NL	1999	:	1 263	:	:
A (2)	1998	3 561	604	1 300	1 312
P (3)	1998	11 136	872	385	:
FIN (4)	2001	2 328	404	1 566	250
S	2000	2 688	923	1 406	97
UK (5)	2000	15 895	5 988	1 621	2 626

(1) EL estimate.
(2) Total and public water supply, 1997.
(3) Public water supply and manufacturing, fresh water only.
(4) Total and public water supply, 1999.
(5) England and Wales only.
Source: Eurostat, Environment statistics (theme8/milieu/water).

One aspect of the EU's water framework directive (adopted on 23 October 2000) is the introduction of pricing regimes to reflect the true costs of water use. By 2010, Member States must ensure that water pricing policies provide adequate incentives for the efficient use of water resources and that various economic sectors contribute to the recovery of the costs of water services. The domestic output price index for water supply in the EU rose by 16.0 % between 1995 and 2001. Most of this growth came between 1995 and 1997, since when the rate of increase tailed off to under 1 % per year in 2000 and 2001. Only Sweden [4] recorded lower domestic output prices for water supply in 2001 compared to 1995 (10 % lower), while Austria and Finland recorded overall growth of less than 4 %.

The volume of fresh water abstracted in the EU, for selected purposes, is shown in Table 14.2. In Luxembourg more than 60 % was for public water supply, while in most other Member States [5] this proportion was between 10 and 40 %, with three countries below this range, mainly due to a high abstraction for agriculture (Greece and Portugal) or for cooling and manufacturing (Belgium).

[4] DK, E, IRL, L and NL, not available.
[5] DK, IRL, NL, A and P, not available.

Waste water generally has impaired quality whether from industrial or domestic users and is usually collected by urban sewerage systems and then treated (see Tables 14.3 and 14.4). Most waste water is treated after collection: in the Netherlands, the United Kingdom, Luxembourg and Germany more than 90 % of the population is connected to an urban waste water system with treatment. Only in Belgium was a larger proportion of the population connected to an urban waste water system without treatment [6].

Treatment of waste water can be classified as one of three types: primary, mechanical methods such as sedimentation and flotation; secondary, biological methods employing aerobic or anaerobic micro-organisms; and other methods, such as chemical coagulation, classified as tertiary or advanced methods. Secondary and tertiary treatment methods are the most common methods of waste water treatment in the Member States [7], with only Greece reporting primary treatment as the most common method.

[6] E, IRL and I, not available.
[7] E, F, IRL and I, not available.

Table 14.3

Urban waste water treatment (all treatment methods)

		Number of plants	Design capacity BOD (thousand kg O_2/day) (1)
B		:	:
DK	1998	1 475	724
D	1998	10 312	9 367
EL	1997	140	452
E		:	:
F	2000	4 119	4 291
IRL		:	:
I		:	:
L	1998	301	:
NL	2000	399	1 363
A	2001	1 487	:
P		:	:
FIN	2001	:	415
S	2000	1 260	:
UK (2)	2000	8 617	:

(1) The total quantity of oxygen-demanding material that a waste water treatment plant is designed for which can be treated daily with a certain efficiency.
(2) Scotland, 1997; Wales, 1998.
Source: Eurostat, Environment statistics (theme8/milieu/water).

LABOUR AND PRODUCTIVITY

The EU's water supply sector has a high proportion of full-time employment (94.5 %) and a high proportion of men (79.5 %) in the workforce, as both of these shares were above the EU manufacturing average. This situation is apparent in nearly all Member States [8] for which data are available, except Belgium, where there was a relatively low proportion of men (60.6 %, 16.1 percentage points less than the manufacturing average), a situation that has developed since 1999. In the EU as a whole the proportion of full-time employment and male workers in the EU was almost the same in 2001 as it was in 1996.

[8] DK, IRL, L, A and S, not available.

Apparent labour productivity in the EU's [9] water supply sector was EUR 80 900 in 2000, nearly EUR 30 000 higher than the manufacturing average. Average personnel costs were, however, only slightly higher than the manufacturing average at EUR 37 700 per employee. Wage adjusted labour productivity (the extent to which value added covers personnel costs) was 214.5 % in this sector, compared to a manufacturing average of 147.2 %. Only France and Italy recorded a lower wage adjusted labour productivity in this sector than they did in manufacturing, and all Member States, except for Denmark and Finland, recorded average personnel costs in this sector higher than the manufacturing average.

[9] The analysis of labour input ratios is based on 2000 data except: IRL, 1999; D, 1998; EL, not available. Manufacturing averages use the same availability except German data is for 2000.

Table 14.4

Share of the population connected to waste water systems (%)

	B	DK	D	EL	E	F (1)	IRL	I	L	NL	A (2)	P	FIN	S	UK (3)
Latest year	1998	1998	1998	1997		1999			1999	2000	2001	1998	2001	2000	2000
Urban waste water collecting system with treatment	38	89	91	56	:	77	:	:	93	98	86	46	81	86	95
— primary treatment	0	2	1	32	:	:	:	:	:	0	1	18	0	0	4
— secondary treatment	22	3	6	14	:	:	:	:	:	18	17	26	0	5	64
— tertiary treatment	16	84	83	10	:	:	:	:	:	80	64	2	81	81	27
Urban waste water collecting system without treatment	44	0	2	11	:	2	:	:	0	0	0	36	0	:	2
Independent waste water collecting system	17	11	7	32	:	19	:	:	7	2	14	18	19	14	3
— of which with independent treatment	:	11	5	:	:	:	:	:	7	:	14	5	:	13	:

(1) Public sewerage treatment, 1998.
(2) Breakdown of public sewerage treatment, public sewerage without treatment, 1998.
(3) England and Wales only.
Source: Eurostat, Environment statistics (theme8/milieu/water).

Table 14.5

Collection, purification and distribution of water (NACE Division 41)
Main indicators, 2000

	B	DK	D	EL	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	1 143	4	:	:	2 338	9 807	0	2 112	33	1 615	240	567	344	165	6 390
Number of persons employed (thousands)	7	0	:	:	20	33	0	15	0	:	1	12	2	1	34
Value added (million EUR)	596	2	:	:	1 137	1 880	0	806	24	947	163	348	245	108	3 938
Purchases of goods and services (million EUR)	523	3	:	:	1 326	7 660	0	1 319	24	524	78	268	101	58	2 068
Personnel costs (million EUR) (2)	339	:	:	:	639	1 515	0	583	12	316	60	190	63	43	1 258
Gross investment in tangible goods (million EUR)	285.7	:	:	:	305.5	:	0	249.5	:	:	41.8	470.6	32.2	44.3	:
App. labour productivity (thous. EUR/pers. emp.)	82.8	86.6	:	:	56.6	57.3	:	54.3	104.2	:	132.9	28.0	131.0	126.6	116.4
Simple wage adjusted labour productivity (%) (2)	176.1	:	:	:	177.8	115.5	:	138.3	205.9	299.2	271.7	183.2	386.1	249.3	312.9
Gross operating rate (%) (2)	23.6	:	:	:	21.6	2.5	:	11.1	26.5	40.2	43.0	27.5	55.6	41.9	43.3

(1) 1999.
(2) F, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 14.6

Collection, purification and distribution of water (NACE Division 41)
Main indicators, 2000

	BG	CY (1)	CZ	EE (2)	HU	LV	LT	MT	PL (1)	RO	SK	SI (2)	TR
Production (million EUR)	151	50	613	51	450	9	84	:	910	407	197	177	:
Number of persons employed (thousands)	19	0	23	:	24	1	7	:	44	57	14	:	:
Value added (million EUR)	82	28	264	28	213	6	50	:	575	208	87	58	:
Purchases of goods and services (million EUR)	73	:	352	19	220	3	28	:	358	222	90	86	:
Personnel costs (million EUR)	56	:	150	11	143	3	31	:	276	138	68	57	:
Gross investment in tangible goods (million EUR) (3)	22.0	9.7	151.1	22.7	1.1	11.1	34.2	:	209.6	223.4	62.1	53.4	:
App. labour productivity (thous. EUR/pers. emp.)	4.2	82.6	11.7	:	9.0	8.0	7.1	:	13.0	3.7	6.0	:	:
Simple wage adjusted labour productivity (%)	145.8	:	175.8	241.2	149.0	200.0	160.2	:	208.4	150.8	128.0	102.1	:
Gross operating rate (%)	17.2	:	18.6	32.1	13.6	37.0	22.5	:	34.0	17.5	10.3	0.7	:

(1) 1998.
(2) 1999.
(3) CZ, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Construction and real estate

Construction activities have been given a special place within the NACE, in between manufacturing and service activities. Indeed, the construction sector has specific characteristics that differentiate it from other industrial sectors. Perhaps the most important of these is that the final product is one of the few non-transportable, industrial products, as well as being one of the most durable of human artefacts, forming the physical infrastructure where people live and work.

Many construction projects are prototypes in the sense that they are one-off designs. Construction is also a highly heterogeneous sector depending on a large number of very different professions. The structure of the construction sector can be viewed as a pyramid, with project coordinating enterprises at the top, subcontracting out work to smaller, specialised enterprises in lower tiers. Logistical and transport aspects are very important, as construction is one of the most geographically dispersed sectors with marked regional differences. Finally, construction is closely linked to the economic cycle, and, being generally conducted outside in the open air, it is also affected by seasonal, climatic variations.

STRUCTURAL PROFILE

Construction and real estate services contributed one of the largest shares of wealth creation in the EU's business economy in 2000 (at the level of NACE divisions). Together these activities generated EUR 522.8 billion of value added, broken down as EUR 355.5 billion for construction and EUR 167.3 billion for real estate services. In comparison, other business services (NACE Division 74) contributed EUR 497.4 billion and wholesale trade (NACE Division 51) EUR 388.3 billion. These figures mean that for every hundred euros of value added generated in the EU's business economy (NACE Sections C to K) in 2000, some EUR 11.1 originated in construction or real estate activities.

Restricting the analysis to the construction sector, an estimated 17.5 % of industrial (NACE Sections C to F) value added was generated in 2000. Real estate activities are covered in more detail in chapter 15.3.

At a country level, Luxembourg (31.1 %) and Spain (26.4 %, 1999) both reported the construction sector accounting for shares of industrial activity that were clearly above the EU average [(1)]. Portugal, Austria and Denmark also saw their respective construction sectors contribute more than one fifth of industrial wealth creation. In contrast, construction was of relatively less importance in Sweden (14.8 %), Italy (14.8 %) and Finland (13.2 %). France and Sweden were not particularly specialised in the construction sector despite being the home country of world heavyweights of the sector, such as Vinci, Bouygues (France) or Skanska (Sweden) – see Table 15.4.

[(1)] D, EL, IRL and NL, not available.

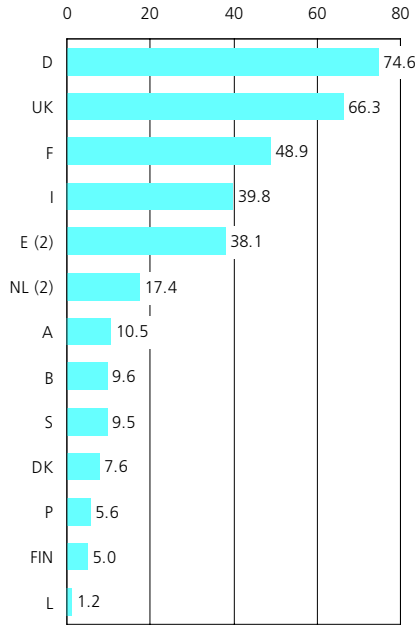
The statistical classification of economic activities covers construction activities and real estate services within NACE Section F and Division 70 respectively. Other activities related to the construction sector although not formally part of it, such as architectural services or landscaping, are covered within Chapter 22.

Within NACE, construction is defined according to chronological stages of the construction process, starting with demolition and site preparation (NACE Group 45.1), passing through general construction activities (NACE Group 45.2), and ending with installation (NACE Group 45.3) and completion work (NACE Group 45.4). One additional activity in Division 45 covers the renting with an operator of construction equipment (NACE Group 45.5). Please note that SBS data presented in this chapter relates to the whole enterprise population, and are not limited to enterprises employing 20 or more persons.

NACE

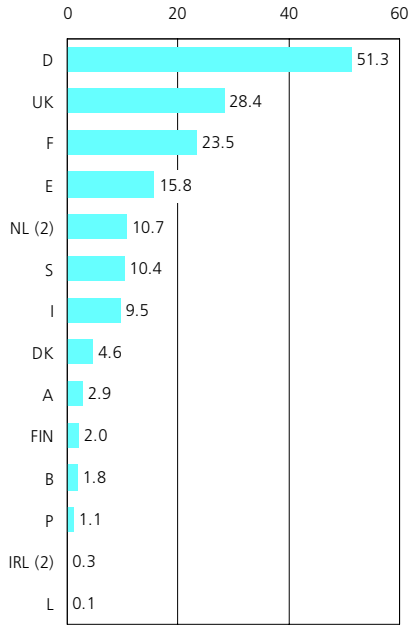
45: construction;
45.1: site preparation;
45.2: building of complete constructions or parts thereof; civil engineering;
45.3: building installation;
45.4: building completion;
45.5: renting of construction or demolition equipment with operator;
70: real estate activities;
70.1: real estate activities with own property;
70.2: letting of own property;
70.3: real estate activities on a fee or contract basis.

Figure 15.1
Construction (NACE Division 45)
Value added, 2000 (billion EUR) (1)



(1) EL and IRL, not available.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Figure 15.2
Real estate activities (NACE Division 70)
Value added, 2000 (billion EUR) (1)



(1) EL, not available.
(2) 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

In the second half of the 1990s, construction has clearly benefited from the positive evolution of the European economy. Among the countries reporting fairly lengthy time-series [2] of SBS data, growth (in current prices) was particularly buoyant in the United Kingdom, where value added generated in the construction sector rose on average by 20.4 % per annum between 1996 and 2000, while in Finland output expanded on average by 14.7 % per annum between 1995 and 2000. At the other end of the scale, Belgium and Austria reported the slowest growth in value added in current prices, equivalent on average to 3.5 % and 1.2 % per annum between 1995 and 2000 respectively.

[2] All Member States except D, EL, E and IRL.

As mentioned above, construction is a sector where very small enterprises play an important role. In effect, enterprises with less than 10 persons employed accounted for one third or more of the value added generated in this sector in 2000 in a majority of the Member States [3], while in Italy very small enterprises were responsible for more than half of the wealth created in the construction sector (55.7 %). For the purpose of comparison, the corresponding share of very small enterprises in manufacturing value added was below 10 % in most countries.

Very small enterprises were particularly prevalent in the building completion sector (NACE Group 45.4), where a sizeable share of the workforce were self employed persons, such as independent plasterers, decorators, plumbers or electricians. As a result, enterprises with between 1 and 9 persons employed accounted for more than half of the value added generated in a majority of countries [4], with highs of 70.5 % in Portugal and 85.1 % in Italy.

[3] E, 1999; EL, IRL, L and NL, not available.
[4] EL, E, IRL, L and NL, not available.

In contrast, activities where scale economies played a more important role, notably general construction activities (i.e. building of complete constructions (or parts thereof) and civil engineering, NACE Group 45.2) reported the lowest contribution from small enterprises.

Results from the European Community household panel (ECHP) provide information on the residential market for dwellings. The panel shows that in 1998, the majority of EU households lived in houses (51.8 %), as opposed to flats (41.9 %), and that most households (59.4 %) owned the dwelling they lived in. Houses tended to be owner-occupied (76.7 %), while flats were more likely to be rented (only 35.5 % of owner-occupiers) – see Table 15.1. In 1998, 82.0 % of Spanish, 74.5 % of Irish and 74.0 % of Greek households owned the dwelling they lived in. Germany was the only country [5] where less than half (40.9 %) of the households were owners of the dwelling they lived in.

The European Construction Industry Federation (FIEC) divides the output of the construction sector into four main categories: private house-building; non-residential construction; renovation and maintenance; and civil engineering. According to FIEC, construction of non-residential buildings was the largest activity in terms of output value, as it accounted in 2000 for 30.7 % of the EU's total (see Figure 15.3). New house-building (individual dwellings and apartment blocks) came next, accounting for 24.9 % of the total. Renovation and maintenance activities also represented almost one quarter of the total, proof of the increasingly important role they play in the construction sector. The smallest sector according to this classification was civil engineering (for example roads, railways, bridges or tunnels), which generated 19.6 % of production value.

[5] FIN, not available.

Table 15.1
Types of dwelling in the EU, 1998 (% of households) (1)

	House	Flat	Other (2)
Total	51.8	41.9	6.4
Socio-economic status			
Employed	53.5	41.2	5.3
Unemployed	40.2	51.3	8.5
Retired	51.8	40.4	7.8
Other	45.3	48.0	6.8
Type of household			
One adult younger than 30 years	22.7	69.9	7.4
One adult aged between 30 and 64 years	34.2	58.9	6.9
One adult older than 65 years	43.8	48.1	8.1
Single parent with dependent children	38.3	57.7	4.0
Two adults with one dependent child	56.4	38.7	4.8
Two adults with two dependent children	61.3	33.7	5.1
Two adults with three or more dependent children	69.3	28.3	2.4
Two adults, at least one aged 65 years and over	60.1	32.6	7.3
Income group (3)			
High	53.4	42.3	4.3
Mid-high	50.9	40.4	5.6
Mid-low	49.6	39.7	7.6
Low	48.1	40.5	8.4

(1) Excluding L and FIN.
(2) For example hotel, institution or campsite.
(3) Income breakdown expressed in relation to median income: low income, less than 60%; mid-low income, 60% to 100%; mid-high income, 100% to 140%; high income, more than 140%.
Source: Eurostat, European Community Household Panel (theme3/housing/prholds/type).

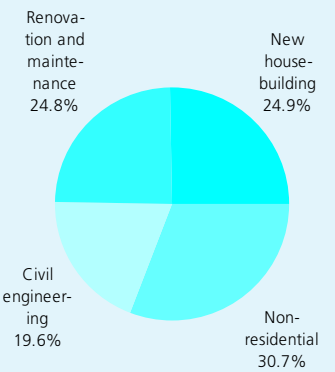
Table 15.2
Proportion of households owning their own dwelling, breakdown by housing type, 1998 (%) (1)

	House	Flat	Other (2)	Total
EU-15	76.7	35.5	43.0	59.4
B	81.8	35.5	43.2	71.2
DK	77.5	23.8	40.4	55.7
D	68.0	15.1	49.4	40.9
EL	88.6	61.1	86.2	74.0
E (3)	86.7	79.1	:	82.0
F	75.9	22.7	35.3	53.5
IRL	79.8	5.1	42.0	74.5
I	82.1	65.9	71.6	71.4
L (3)	87.9	34.2	:	69.7
NL	66.4	18.6	28.4	51.0
A	83.4	20.4	62.2	51.2
P	70.7	57.0	18.7	65.6
FIN	:	:	:	:
S (3)	89.9	29.6	:	58.6
UK	77.8	33.0	21.9	68.8

(1) L, 1996; FIN, not available.
(2) For example hotel, institution or camp.
(3) Other, not available.
Source: Eurostat, European Community Household Panel (theme3/housing/prholds/tenure).

FIEC's data indicate that the general economic slowdown experienced by the EU economy in 2001 brought to a halt the expansion that the construction sector enjoyed since 1994. Estimated growth was 0.1 % in the EU in 2001 (in constant price terms), a quasi stagnation that was the result of two opposing developments: a steep decline in new house-building (– 3.9 %), compensated for by strong growth in the number of non-residential buildings (2.3 %) and the development of civil engineering projects (3.1 %).

Figure 15.3
Breakdown of construction output in the EU, 2001 (1)



(1) Estimates.
Source: FIEC.

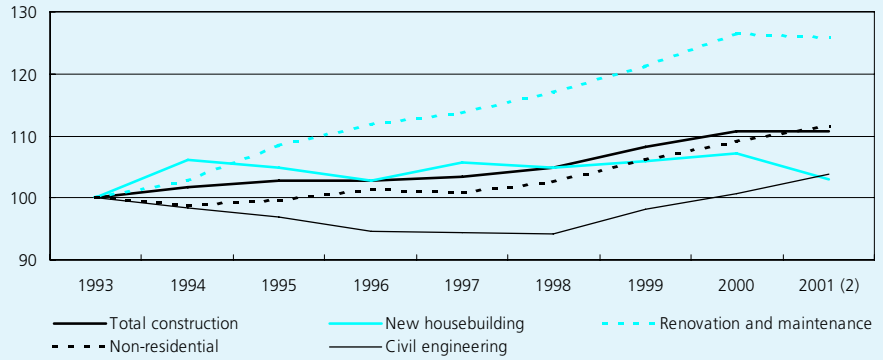
At a national level, there were contrasting developments. For example, in Germany, the construction sector endured one of its most difficult periods in recent years with a fall of production equal to 5.5 % in constant prices in 2001. All subsectors recorded negative figures, with house-building, and notably the construction of new dwellings (– 11.0 %), particularly affected. Denmark (– 4.9 %) and Belgium (– 4.6 %) also reported significant reductions in construction output in 2001. Spain, however, continued to display strong growth (5.4 %), led by the non-residential sector (7.2 %) and civil engineering (10.0 %). There was also high growth in Sweden (4.2 %), as a result of new house-building (12.2 %) and civil engineering (6.2 %), and in the United Kingdom (3.8 %), thanks to non-residential building (4.4 %) and civil engineering (15.0 %).

Growth in the construction sector in recent years has mainly been in the area of renovation and maintenance, where output increased on average by 3.0 % per annum over the period 1995 to 2001. Non-residential building also reported healthy growth averaging 2.3 % per annum over the same period. On the other hand, civil engineering experienced a downturn in activity from 1993 onwards, with a recovery not occurring until 1999. This subsector had to wait until the year 2000 before it returned to its production levels of 1993, in the main due to a contraction in publicly financed projects.

Construction is traditionally a local activity that is dominated by small enterprises and displays little export activity. However, several large EU companies are successful in world markets, as witnessed by the fact that 8 of the 10 largest international contractors were of EU origin (see Table 15.4).

Figure 15.4

Evolution of production in constant prices in the construction sector in the EU (1993=100) (1)



(1) EL and L, not available.
(2) Estimates.
Source: FIEC.

Table 15.3

Annual growth rate of production in constant prices in the construction sector in the EU (%) (1)

	1995	1996	1997	1998	1999	2000	2001 (2)
Total construction	0.9	0.1	0.6	1.3	3.3	2.3	0.1
New housebuilding	-1.1	-2.1	3.0	-0.9	1.1	1.1	-3.9
Renovation and maintenance	5.5	3.1	1.7	2.9	3.6	4.3	-0.5
Non-residential	0.9	1.7	-0.4	1.6	3.6	2.7	2.3
Civil engineering	-1.4	-2.5	-0.1	-0.4	4.3	2.6	3.1

(1) EL and L, not available.
(2) Estimates.
Source: FIEC.

Table 15.4

Top 10 international construction contractors, 2001 (1)

		Total international revenue (million EUR)	Share of international revenue in total revenue (%)
Skanska AB	S	13 568	84.7
Hochtief	D	10 625	81.5
VINCI	F	6 733	39.2
Bouygues	F	6 445	45.0
Halliburton KBR	US	4 982	76.2
Bechtel	US	4 458	35.3
Bovis Lend Lease	UK	4 078	76.3
AMEC plc	UK	3 166	54.1
TECHNIP-COFLEXIP	F	2 742	99.6
Bilfinger Berger AG	D	2 561	60.6

(1) Ranked according to the construction revenue generated outside of each company's home country.
Source: Engineering News-Record, McGraw-Hill, 20 August, 2001, available at http://enr.construction.com/people/topLists/topIntlCont/topIntlCont_1-50.asp.

LABOUR AND PRODUCTIVITY

Construction and real estate activities employed some 12.3 million persons in the EU in 2000, of which 10.6 million were working in the construction sector and 1.7 million in real estate services. As such, these activities together employed slightly less than the retail trade sector (NACE Division 52) or other business services (NACE Division 74), where employment numbered around 13.0 million persons. The following analysis of labour force characteristics concentrates on construction activities as LFS and SBS data for real estate activities are presented in Subchapter 15.3.

Construction is a very labour-intensive activity, with a highly mobile workforce. Increased skill levels are required in this sector of the economy as construction technology becomes more sophisticated. The duration of working contracts is often linked to the length of the site construction phase.

SBS figures reveal that construction has been an important contributor to industrial job creation in recent years. In all countries reporting fairly lengthy time-series [6], the number of persons employed in the construction sector has increased during the second half of the 1990s, and in all cases growth has been above the average for the whole industrial economy (NACE Sections C to F).

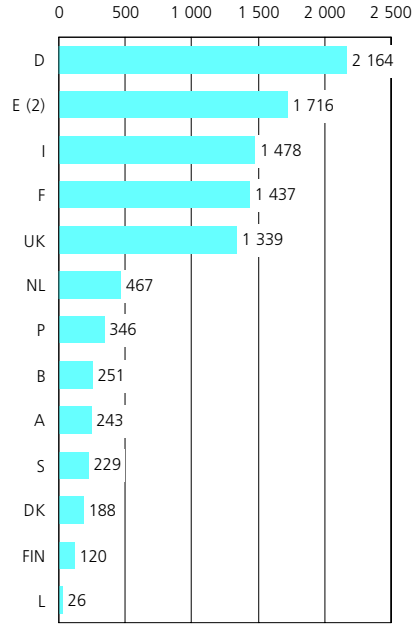
Three countries reported a significant number of net job creations: Finland, with a 10.8 % per annum increase of employment between 1995 and 2000, Portugal (8.3 % per annum over the same period) and the United Kingdom (7.1 % between 1996 and 2000). Belgium, France (between 1996 and 2000), Luxembourg and Austria reported net increases of employment below 1 % per annum.

According to the LFS, construction was a predominantly male activity, as some 91.5 % of the EU's workforce in this sector were men in 2001, far above the industrial average (NACE Sections C to F) that was equal to 77.5 %.

[6] All Member States except D, EL, E and IRL.

Figure 15.5

Construction (NACE Division 45)
Number of persons employed, 2000 (thousands) (1)



(1) EL and IRL, not available.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 15.5

Construction (NACE Division 45)
Labour force characteristics (% of total employment)

	Female		Part-time		Self-employed	
	1996	2001	1996	2001 (1)	1996	2001
EU-15	8.8	8.5	5.3	5.2	23.2	22.1
B	6.4	8.5	3.6	5.5	21.1	22.5
DK	9.3	8.5	5.8	3.8	13.2	17.3
D	12.7	13.1	5.6	7.3	10.3	13.3
EL	1.2	1.8	6.0	2.4	36.6	31.9
E	4.2	4.9	1.8	1.5	23.5	19.1
F	9.1	9.2	5.4	5.0	19.1	17.1
IRL	5.9	4.5	4.3	4.2	25.7	26.0
I	5.2	6.0	4.1	4.3	36.5	35.9
L	7.4	8.2	:	4.1	8.3	5.4
NL	6.5	8.1	9.9	10.2	11.4	15.1
A	9.3	9.8	3.9	5.3	5.1	6.8
P	4.2	3.6	2.8	2.3	27.3	24.9
FIN	6.6	5.8	5.6	4.0	26.5	19.4
S	7.0	7.6	8.1	8.1	22.6	19.0
UK	10.4	9.7	7.3	6.4	43.7	32.2

(1) L, 1999.
Source: Eurostat, Labour Force Survey.

Self-employment was relatively important in the EU's construction sector, as 22.1 % of those persons in employment were classified in this category in 2001. This rate was practically twice the average for industry (11.2 %), and was also higher than the share of the self-employed in services' employment (17.4 % for NACE Sections G to K). Only in Spain, Luxembourg and Austria was self-employment in the construction sector less frequent than their respective national averages for the whole of the business economy.

As regards work duration patterns, construction reported a low frequency of part-time work. Only 5.2 % of the persons employed in the construction sector in the EU in 2001 worked part-time, less than the industrial average of 6.8 % and practically one quarter of the average for services (19.8 %). At a national level, only Greece reported a higher frequency of part-time work in the construction sector than in industry as a whole. In Belgium and Finland recourse to part-time work in the construction sector was also relatively important, with the share of those in part-time employment close to (although slightly lower than) the national average for the industrial sector. At the other end of the scale, Spain, Denmark and the Netherlands all reported that part-time work was of far less significance in the construction sector than in their respective industrial sectors.

In most Member States, average personnel costs in the construction sector were equal to or greater than EUR 30 000 per employee in 2000 [7], with a maximum of EUR 37 500 recorded in Sweden. Spain and Portugal recorded levels noticeably below these averages, with average personnel costs of EUR 18 300 per employee and EUR 12 000 per employee respectively. In all countries reporting data, the level of average personnel costs was below the respective average for industry [8], sometimes by a small amount (2.6 % less in Portugal and 3.1 % in Denmark), but usually to a greater extent, exceeding a 15 % difference in Belgium (16.7 %), Spain (17.2 %, 1999), Italy (18.2 %) and Luxembourg (19.7 %).

Wage adjusted labour productivity ratios in the construction sector in 2000 were below industrial averages in all countries; they ranged between 104 % in Germany and 162 % in the United Kingdom [9].

[7] E and NL, 1999; EL and IRL, not available.
[8] D, EL, IRL and NL, not available.
[9] E and NL, 1999; EL and IRL, not available.

15.1: SITE PREPARATION AND GENERAL CONSTRUCTION

Site preparation (NACE Group 45.1) includes relatively diverse activities, ranging from test drilling and boring to determine ground conditions, through demolition of existing buildings and structures, site clearance, ground stabilisation, excavation, to earth moving and trench digging. The building of complete constructions (or parts thereof) and civil engineering (NACE Group 45.2), hereafter referred to as general construction, constitutes the core activities of the construction sector.

Site preparation and the building of complete constructions (or parts thereof) and civil engineering are chronologically the first stages of construction activity; they are covered by NACE Groups 45.1 and 45.2. Note that the activities of architects or landscapers, which generally precede construction, are addressed in Subchapter 22.4.

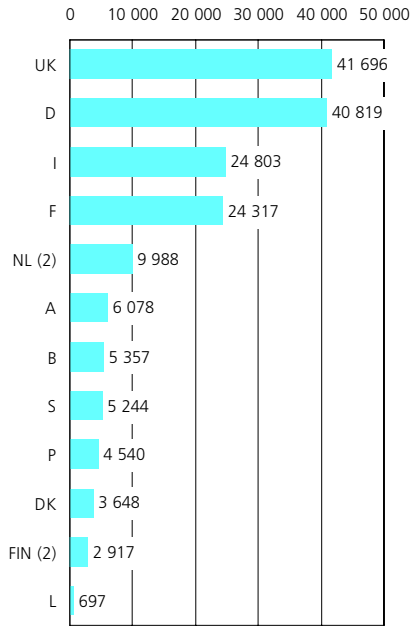
STRUCTURAL PROFILE

Available SBS data [10] show that site preparation and general construction activities (NACE Groups 45.1 and 45.2) were the most important subsectors within the construction sector in terms of their contribution to value added. Where data are available [11], these two subsectors accounted for around 57.6 % of the value added generated in the whole of the construction sector (NACE Section F) in 2000. If this ratio is applied to an estimate of total construction value added, this would mean that approximately EUR 205 billion of value added were generated in the subsectors of site preparation and general construction in 2000. This figure should be treated as a rough estimate, as it relies on the assumption that the structure of the construction sector in the missing countries is similar to the average in the countries for which data are available. In Denmark (47.7 %) and France (49.7 %) site preparation and general construction activities accounted for less than 50 % of the value added generated in their respective construction sectors, while site preparation and general construction contributed as much as 80.8 % of the value added generated in the construction sector of Portugal, and over 60 % of total construction value added in Italy (62.4 %), the United Kingdom (62.9 %) and Finland (66.3 %, 1999).

[10] In the absence of SBS data for several countries, notably Spain, it is not possible to calculate EU aggregates for this subchapter.
[11] EL, E and IRL, not available; NL and FIN, 1999.

Figure 15.6

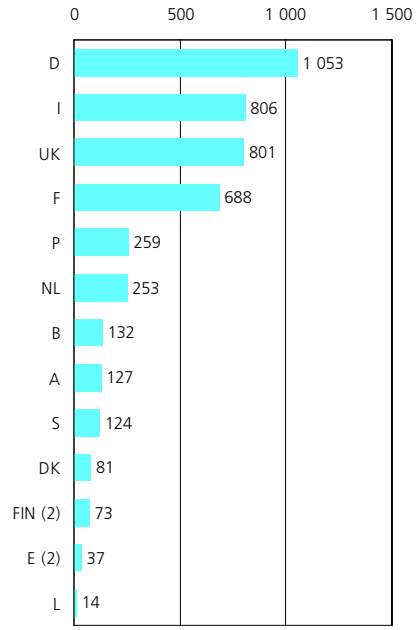
Site preparation; building of complete constructions or parts thereof; civil engineering (NACE Groups 45.1 and 45.2) Value added, 2000 (million EUR) (1)



(1) EL, E and IRL, not available.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Figure 15.7

Site preparation; building of complete constructions or parts thereof; civil engineering (NACE Groups 45.1 and 45.2) Number of persons employed, 2000 (thousands) (1)



(1) EL and IRL, not available.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

In most countries reporting fairly lengthy time-series [12], growth of value added in recent years has been slower in this subsector than in the other activities that form part of the construction sector (building installation and completion and renting of construction equipment).

[12] All Member States except D, EL, E, IRL and L.

LABOUR AND PRODUCTIVITY

Available data from SBS indicate that site preparation and general construction activities accounted for 56.2 % of total employment in the EU's construction sector in 2000 [13]. Estimates put total employment at around 6 million persons. It is notable that these activities accounted for a lower share of total construction employment than their share of value added, an indication of productivity levels that were higher than the construction average. In all countries reporting data, employment rose at a slower pace than value added, a further sign of productivity gains over time. Nevertheless, when compared to the industry average, the apparent labour productivity of site preparation and general construction activities was clearly lower.

[13] E and FIN, 1999; EL and IRL, not available.

On average each person employed in site preparation and general construction activities in 2000 [14] generated EUR 38 600 of value added, some EUR 5 000 more than the average for the whole construction sector, but 20 % less than the industrial average (EUR 50 000).

Similarly, wage adjusted labour productivity ratios for site preparation and general construction activities exceeded 120 % in the majority of countries for which data are available in 2000 [15]. This was above the corresponding ratio for construction (except in Austria), but approximately 20 % below the industrial average in the majority of countries. It should be noted that the productivity gap was much narrower in the United Kingdom (167 % compared to 182 % in industry) and Luxembourg (158 % compared to 162 % in industry).

[14] EL, E and IRL, not available; NL and FIN, 1999.
[15] EL, E and IRL, not available; NL and FIN, 1999.

Enterprises operating in the activities of site preparation and general construction faced higher average personnel costs than in construction as a whole, but the differences were narrower than those recorded for apparent labour productivity. In other words, higher than average personnel costs were more than compensated for by higher productivity levels.

15.2: INSTALLATION AND COMPLETION

Installation and completion work for buildings (residential and non-residential) and civil engineering works is divided into nine classes at the NACE four-digit level: installation of electrical wiring and fittings (Class 45.31); insulation (Class 45.32); plumbing (Class 45.33); plastering (Class 45.41); joinery installation (Class 45.42); floor and wall covering (Class 45.43); painting and glazing (Class 45.44); and other building installation and completion activities (Class 45.34 and 45.45). This subchapter also covers the activities of renting construction or demolition equipment with an operator (Group 45.5).

Installation and completion enterprises intervene in the last stages of the production process, once a construction structure is completed. The renovation, repair and maintenance market is also particularly important for these sectors.

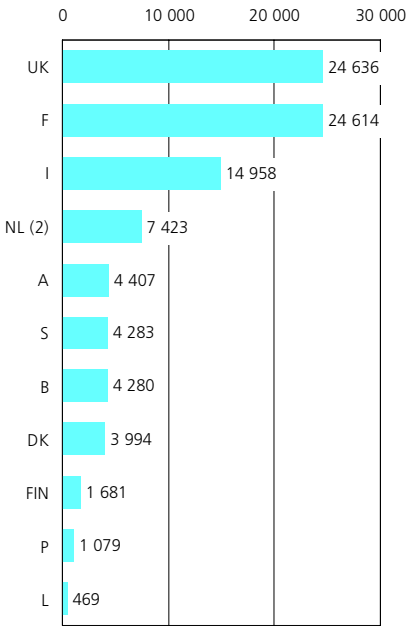
STRUCTURAL PROFILE

According to available SBS data, the activities of building installation and completion and renting of construction equipment accounted for 42.4 % of the value added generated in the EU's construction sector in 2000 [16], approximately EUR 150 billion of value added. This figure should be treated as a rough estimate, as it relies on the assumption that the structure of the construction sector in the missing countries is similar to the average in the countries for which data are available.

Within these activities, building installation (NACE Group 45.3) was the most important subsector, generating 24.7 % of total construction value added in 2000 [17]; The installation of electrical wiring (Class 45.31) and plumbing (Class 45.33) made up virtually the whole of this figure, providing 11.4 % and 10.4 % respectively of total construction value added.

[16] EL, E and IRL, not available; NL and FIN, 1999; D, excluding NACE Group 45.5.
[17] EL, E and IRL, not available; NL and FIN, 1999

Figure 15.8
Building installation; building completion; renting of construction or demolition equipment with operator (NACE Groups 45.3, 45.4 and 45.5) Value added, 2000 (million EUR) (1)



(1) D, EL, E and IRL, not available.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

The second largest subsector was that of building completion (NACE Group 45.4), which accounted for 16.9 % of the value added in the EU's construction sector in 2000 [18]. The two main classes of activities within this group were painting and glazing (Class 45.44) and joinery installation (Class 45.42), which accounted for 5.9 % and 4.9 % of total construction value added respectively.

The smallest subsector was the renting of construction or demolition equipment with an operator (NACE Group 45.5), which accounted for a marginal share of construction activity, about 1.0 % of value added in the EU in 2000 [19]. This subsector was relatively important in Finland (1.8 % of total value added in the construction sector), in the United Kingdom (1.9 %) and in the Netherlands (2.2 %, 1999).

As noted in the overview chapter, renovation and rehabilitation activities have enjoyed the fastest growth rates among construction activities in recent years (see Figure 15.2 in the overview). Denmark (6.0 % per annum compared to 7.7 % per annum for the whole of construction between 1995 and 2000), Finland (13.3 % compared to 14.7 % over the same period) and France (3.7 % compared to 4.5 % over the period 1996 to 2000) were the only three countries, subject to data availability [20], where value added in the building installation and completion subsector grew at a slower pace than the average for the whole of the construction sector.

While the construction sector in general is characterised by a large population of SMEs, the activities covered in this subchapter report even higher shares. This is notably the case for micro-enterprises (with between one and nine persons employed), which accounted for 35.0 % of value added in the construction sector in 2000 [21], a proportion that rose to 35.9 % for the renting of construction equipment (NACE Group 45.5), to 37.0 % for building installation (NACE Group 45.3) and 54.7 % for building completion (NACE Group 45.4).

[18] EL, E and IRL, not available; NL and FIN, 1999.
[19] D, EL, E and IRL, not available; NL and FIN, 1999.
[20] All Member States except D, EL, E and IRL.
[21] E, IRL, L and NL, not available; B, 1999; D and A, excluding NACE Group 45.5.

Table 15.6

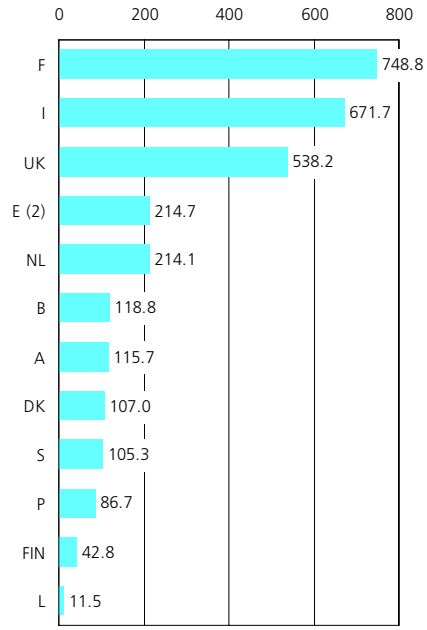
Building installation; building completion; renting of construction or demolition equipment with operator (NACE Groups 45.3, 45.4 and 45.5)
Main indicators, growth rates (%)

	Turnover					Value added					Number of persons employed				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
EU-15	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
B	-4.1	-6.7	17.0	5.3	16.9	-14.2	-6.2	15.8	4.9	23.8	-5.9	-1.4	4.2	4.1	5.8
DK	3.5	6.7	6.3	6.2	7.5	3.8	4.8	9.5	6.8	5.2	1.1	3.1	-3.5	1.6	7.4
D	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
EL	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
E	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
F	:	-3.4	3.2	6.1	9.8	:	-2.9	1.9	5.7	10.5	:	-2.3	0.0	2.1	2.1
IRL	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
I	13.9	10.7	13.9	7.7	9.8	20.3	4.3	14.2	3.9	9.6	-2.2	-1.4	9.3	6.0	6.0
L	:	:	:	:	10.0	:	:	:	:	9.9	:	:	:	:	3.0
NL	6.8	0.7	10.6	11.2	0.2	3.0	1.6	11.0	9.5	:	13.1	5.2	4.7	0.6	4.2
A	:	:	1.5	:	:	:	:	3.7	:	:	:	:	-0.9	:	:
P	:	15.7	67.3	13.2	-8.0	:	10.9	49.1	16.4	-8.7	:	10.0	36.9	13.3	-7.4
FIN	9.9	17.1	12.4	9.1	7.7	17.1	14.7	16.8	4.9	13.4	9.6	17.7	11.6	3.1	5.3
S	:	:	2.5	7.7	18.6	:	:	4.1	13.9	15.7	:	:	5.9	-2.1	6.1
UK	:	39.4	7.3	16.0	21.2	:	49.1	3.8	17.9	22.5	:	-1.4	20.0	12.2	4.6

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Figure 15.9

Building installation; building completion; renting of construction or demolition equipment with operator (NACE Groups 45.3, 45.4 and 45.5) Number of persons employed, 2000 (thousands) (1)



(1) D, EL and IRL, not available.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

LABOUR AND PRODUCTIVITY

According to SBS data, EU employment in the installation and completion sector represented 43.8 % of total construction employment in 2000 [22], or an estimated 4.6 million persons. In most countries reporting reasonably long time-series, employment in this subsector developed at a faster pace than the construction average. The increases recorded did not, however, exceed the growth of value added, and hence did not hinder apparent labour productivity gains (in current prices). Apparent labour productivity was equal to EUR 32 500 per person employed in those countries for which data are available in 2000 [23], some EUR 1 100 less than the corresponding figure for the whole of the construction sector.

Average personnel costs in the activities of installation and completion were generally below national averages for the whole of the construction sector. However, relatively low average personnel costs were often accompanied by even lower apparent labour productivity levels. For example, average personnel costs in the United Kingdom in 2000 were, at EUR 29 700 per employee, some 2.9 % below the average for the construction sector in the United Kingdom, while apparent labour productivity was 7.5 % below average, at EUR 45 800 of value added per person employed.

[22] EL, E and IRL, not available; NL and FIN, 1999; D, excluding NACE Group 45.5.
[23] EL, E and IRL, not available; NL, 1999; D, excluding NACE Group 45.5.

15.3: REAL ESTATE SERVICES

In NACE real estate services are covered by Division 70. Real estate activities are, strictly speaking, a service activity, classified in NACE alongside other business services within NACE Section K. They are nevertheless included in this chapter because of their close relationship with the construction sector.

Real estate services have a dual nature: some relate to primary demand and the completion of property development, while others relate to the functioning of the secondary market. Developers and consultants specialising in feasibility studies are found in the first category, while estate agents operate largely in the secondary market, with expertise in surveying and valuation, as well as transactions and estate management.

Note that measures of value added (and hence also of labour productivity) have to be interpreted with care. The nature of real estate services, in particular NACE Groups 70.1 and 70.2 that concern the development, selling and letting of real estate, mean that the cost structures faced by these enterprises are not comparable to other activities. In particular, when real estate enterprises are the owner of a good that they rent or lease they may well face considerably higher financial and depreciation charges.

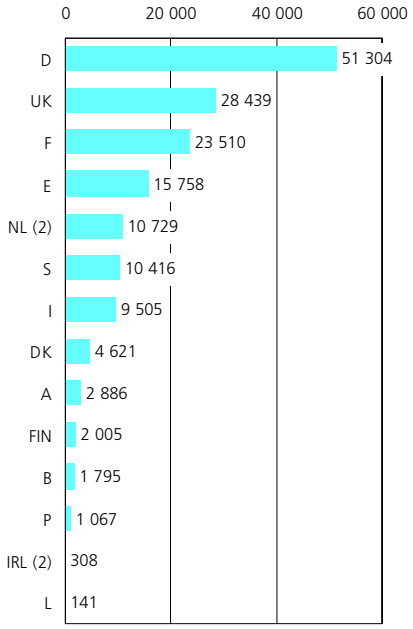
STRUCTURAL PROFILE

On the basis of available SBS data, it is estimated that real estate services generated EUR 167 billion of value added in the EU in 2000. This represented some 3.5 % of the wealth generated in the EU's business economy and 6.2 % of the value added generated in the service sector. For means of comparison and to appraise the size of real estate activities, it is possible to say that they generated more value added than, for example, hotels and restaurants (NACE Division 55) or land transport services (NACE Division 60).

Germany alone was responsible for almost one third of the total wealth created in this subsector (EUR 51.3 billion), practically twice the contribution of the United Kingdom (EUR 28.4 billion) or France (EUR 23.5 billion). Among the larger economies, it was interesting to note the relatively small size of real estate activities in Italy (EUR 9.5 billion). In comparison, Sweden generated EUR 10.4 billion of value added in this subsector in 2000, and emerged together with Denmark and Spain as the countries where real estate services were most developed in comparison to the other Member States.

Figure 15.10

Real estate activities (NACE Division 70)
Value added, 2000 (million EUR) (1)



(1) EL, not available.
(2) 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

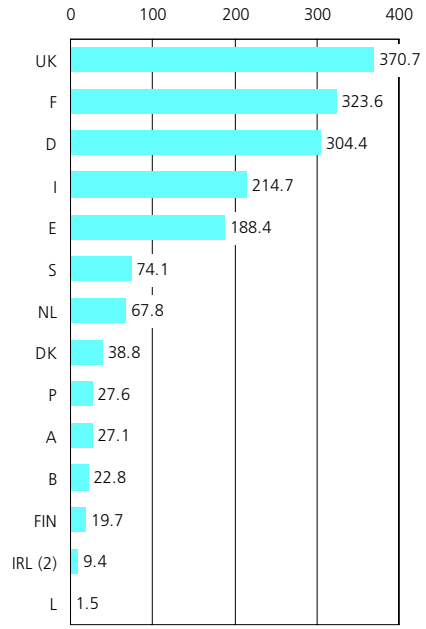
Table 15.7

Real estate activities (NACE Division 70)
Main indicators, growth rates (%)

	Turnover					Value added					Number of persons employed				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
EU-15	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
B	3.5	7.3	7.4	36.0	-11.6	-10.9	7.2	-0.2	8.0	16.8	3.0	0.2	8.1	-0.6	6.8
DK	:	:	:	:	-22.5	:	:	:	:	-15.6	:	:	:	:	-14.9
D	:	:	4.0	0.8	-33.1	:	:	:	:	-76.1	:	:	:	:	-22.5
EL	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
E	:	:	:	:	25.1	:	:	:	:	2.7	:	:	:	:	11.2
F	40.2	2.6	5.7	6.2	8.2	38.4	-14.2	-1.4	24.1	13.9	29.2	-1.2	1.1	0.7	5.0
IRL	25.8	36.6	66.7	:	:	38.3	30.3	14.3	:	:	1.5	20.1	36.1	:	:
I	8.8	7.2	27.6	22.0	-2.8	-7.4	-7.2	51.2	18.8	-22.1	1.1	5.3	17.0	3.8	1.7
L	53.6	26.7	-47.6	12.0	5.3	244.1	14.7	-73.0	63.8	0.9	112.4	-1.1	-12.7	4.9	5.6
NL	:	:	:	:	:	:	:	:	:	:	14.3	-3.8	7.9	:	:
A	4.4	5.9	7.6	0.1	7.0	:	:	23.3	5.1	0.8	0.2	5.1	20.8	0.3	7.5
P	384.4	-35.3	36.0	35.3	-41.7	:	-51.8	65.6	13.2	-31.4	58.7	-11.5	17.6	0.2	-0.6
FIN	-23.0	28.1	16.0	37.8	17.2	26.6	-8.3	38.4	46.4	19.2	-5.5	32.9	-15.0	1.0	3.0
S	:	:	1.6	8.5	14.8	:	:	1.3	9.3	8.3	:	:	1.3	0.1	0.7
UK	:	:	5.8	13.5	13.8	:	:	:	:	15.8	:	:	:	5.7	1.8

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Figure 15.11
Real estate activities (NACE Division 70)
Number of persons employed, 2000 (thousands) (1)



(1) EL, not available.
(2) 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Real estate services witnessed diverging developments in the second half of the 1990s for those Member States reporting reasonably long time-series [24]. Several countries recorded vigorous growth, notably Finland, where value added expanded from EUR 715 million in 1995 to EUR 20 billion in 2000, equivalent to an average increase of 22.9 % per annum (in current prices). Luxembourg and France also boasted double-digit growth over the same period (12.0 % and 10.6 % per annum respectively). In Portugal, in contrast, value added fell from EUR 1.7 billion in 1996 to EUR 1.1 billion in 2000.

[24] B, F, I, L, A, P, FIN and S.

Table 15.8
Real estate activities (NACE Division 70)
Labour force characteristics (% of total employment)

	Female		Part-time		Self-employed	
	1996	2001	1996	2001	1996	2001
EU-15	48.7	48.7	20.0	22.0	19.2	17.4
B	46.2	52.5	21.8	40.1	34.7	14.3
DK	44.4	36.3	17.5	21.6	:	18.8
D	45.3	47.6	20.5	26.4	26.1	24.3
EL	:	:	:	:	:	:
E	47.0	55.6	10.7	9.2	36.2	25.8
F	54.9	52.1	16.6	17.2	12.9	9.4
IRL	:	46.1	:	:	:	36.4
I	35.5	41.7	6.7	11.9	48.0	51.5
L	:	:	:	:	:	:
NL	41.8	36.0	29.8	34.4	12.8	14.2
A	68.1	72.6	33.4	41.3	7.6	6.2
P (1)	:	45.8	:	:	:	:
FIN	44.3	39.4	18.9	18.6	21.8	13.9
S	32.6	30.8	20.0	21.1	:	16.5
UK	51.6	49.9	24.1	23.4	14.3	12.8

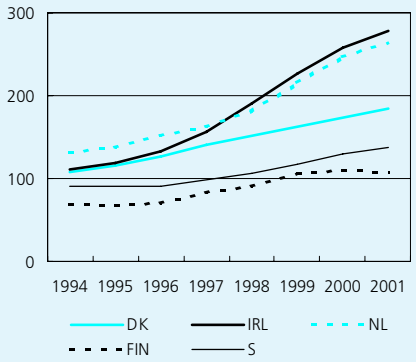
(1) 1999.
Source: Eurostat, Labour Force Survey.

Table 15.9
Number of housing transactions (units)

	1991	1995	2000	2001
B	99 654	96 262	108 073	110 973
DK	52 441	74 050	71 245	67 953
D	543 000	619 500	550 000	550 000
F	712 500	617 700	863 000	863 000
IRL	37 058	49 288	80 856	69 062
I	555 888	502 468	688 284	739 826
L	3 082	3 861	4 300	4 300
NL	211 100	224 000	269 000	265 000
FIN	62 128	68 225	85 203	85 300
S	57 200	41 900	54 400	54 000
UK	1 305 000	1 134 000	1 431 000	1 457 000

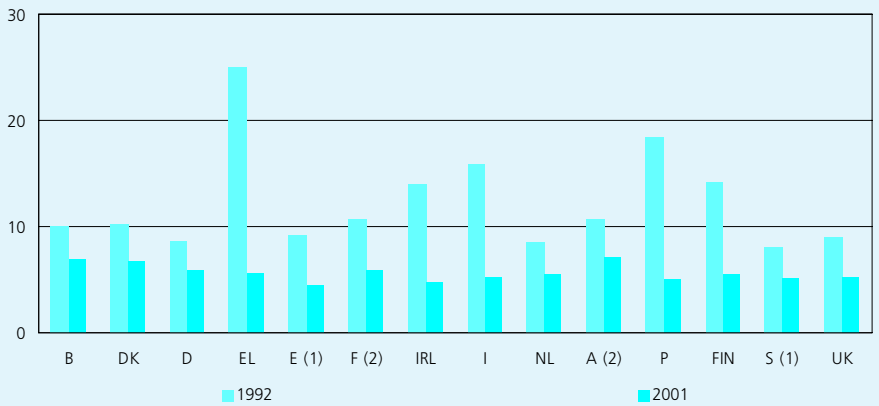
Source: European Mortgage Federation and national associations.

Figure 15.12
Trend in the price of dwellings in selected EU countries (1990=100)



Source: European Mortgage Federation and national associations.

Figure 15.13
Indicative interest rates for new mortgage loans (%)



(1) 1993 instead of 1992. (2) 2000 instead of 2001.
Source: European Mortgage Federation and national associations.

LABOUR AND PRODUCTIVITY

Real estate services employed an estimated 1.7 million persons in the EU in 2000. Most were working in the United Kingdom (371 000) and France (324 000), while Germany had only the third largest workforce (304 000 persons employed). Sweden reported a relatively high figure (74 000 persons employed), which mirrored the importance of this subsector in terms of value added.

Data from the LFS shows that real estate services had a relatively balanced workforce in 2001 as regards its gender composition (48.7 % of those employed in the EU were women), while 17.5 % were self-employed (a relatively high figure compared to other sectors). Part-time work was also relatively widespread, as it concerned 22.0 % of those persons employed in the EU in 2001, somewhat higher than the 19.8 % average for the whole of services (NACE Sections G to K).

At a national level, part-time work was particularly developed in this subsector in Ireland, Denmark, Germany and Italy. In contrast, Belgium, France and Austria were the only countries where the share of part-time work in total employment was lower for real estate activities than it was for services in general.

Apparent labour productivity in real estate services reached an estimated EUR 97 700 of value added per person employed in 2000. This meant that this subsector was at the top end of the ranking, with the third highest productivity ratio (at the NACE division level) among service sectors.

Most countries had average personnel costs of around EUR 30 000 per employee in 2000 [25]. In the majority of Member States, average personnel costs were below the national average for business services (NACE Section K), sometimes by a large extent. For example, in Denmark average personnel costs were 31 % lower than the business services' average at EUR 23 100, while in Sweden the difference was 16 % and in Luxembourg 13 %. In two countries, however, real estate enterprises faced average personnel costs that were significantly higher than the average for all business services: Spain (20 % at EUR 21 200) and Germany (23 % at EUR 38 200).

[25] IRL and NL, 1998; EL, not available.

The positive general development of economic conditions and the decrease of real interest rates in the second half of the 1990s were reflected in the growth experienced by the EU's property sector in terms of housing transactions (see Table 15.9). After a difficult start to the beginning of the decade, most countries registered increasing activity from 1993 onwards, with the notable exception of Germany, where transactions fell from 754 300 in 1993 to 550 000 in 2001. The United Kingdom recorded almost twice the number of housing transactions when compared to either France or Italy, which could be related to a relatively low level of taxation on real estate.

The price of dwellings (in current prices) increased in all Member States over the last decade. In Austria, Finland, Sweden and the United Kingdom, prices remained below their level of 1990 until at least 1995 before picking up. The highest rates of increase were recorded in Ireland and the Netherlands, where dwelling prices more than doubled between 1990 and 2001. It must be borne in mind that these figures refer to national averages and that significant variations can be recorded for different regions, cities or even local suburbs.

Table 15.10

Construction (NACE Division 45)
Main indicators, 2000

	B	DK	D	EL	E (1)	F	IRL	I	L	NL	A	P	FIN	S	UK
Number of enterprises (units)	52 977	27 967	279 426	:	266 416	319 755	:	511 017	1 738	66 205	18 415	78 381	29 215	53 189	190 832
Turnover (million EUR)	29 586	20 071	188 134	:	109 803	136 651	:	129 136	2 532	56 406	23 980	21 086	15 184	29 163	194 818
Number of persons employed (thousands)	251	188	2 164	:	1 716	1 437	:	1 478	26	467	243	346	120	229	1 339
Value added (million EUR) (2)	9 636	7 642	74 597	:	38 062	48 930	:	39 761	1 166	17 411	10 485	5 619	5 038	9 527	66 332
Purchases of goods and services (million EUR)	20 254	12 904	112 381	:	75 235	87 313	:	98 046	1 430	39 412	13 569	17 797	10 547	19 994	128 666
Personnel costs (million EUR) (2)	6 466	5 616	65 141	:	27 211	38 705	:	19 850	741	13 407	7 920	3 401	3 439	7 451	35 599
Gross investment in tangible goods (million EUR)	2 627	715	5 582	:	:	3 858	:	5 831	:	149 235	834	1 201	546	1 309	5 179
App. labour productivity (thous. EUR/pers. emp.) (2)	38.4	40.7	34.5	:	22.2	34.1	:	26.9	45.0	38.8	43.2	16.2	42.0	41.6	49.5
Wage adjusted labour productivity (%) (2)	110.9	121.5	104.0	:	121.2	110.6	:	116.9	150.5	111.9	124.8	134.9	133.9	111.0	162.0
Gross operating rate (%) (2)	10.7	10.1	5.0	:	9.6	7.5	:	15.4	16.8	7.4	10.7	10.5	0.0	7.1	15.8

(1) 1999.
(2) NL, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 15.11

Construction (NACE Division 45)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (2)	TR
Number of enterprises (units)	16 886	:	126 040	2 218	7 379	3 108	2 740	:	205 047	12 021	2 911	13 695	:
Turnover (million EUR)	1 479	:	12 322	1 073	4 913	1 108	993	:	25 344	3 975	1 996	2 908	:
Number of persons employed (thousands) (3)	126	24	392	31	112	40	68	:	801	387	77	:	:
Value added (million EUR)	378	621	2 411	188	889	431	290	:	7 658	1 224	360	716	:
Purchases of goods and services (million EUR)	1 189	508	9 959	901	2 908	700	692	:	18 759	3 397	1 552	2 105	:
Personnel costs (million EUR)	282	378	1 665	130	481	130	226	:	4 084	730	345	587	:
Gross investment in tangible goods (million EUR) (4)	110	:	4	37	157	69	76	:	1 283	21	68	131	:
App. labour productivity (thous. EUR/pers. emp.) (3)	3.0	25.8	6.2	6.1	7.9	10.7	4.3	:	7.4	3.2	4.7	:	:
Wage adjusted labour productivity (%) (3)	104.9	142.1	102.0	142.1	183.5	330.0	126.6	:	127.2	151.0	103.8	:	:
Gross operating rate (%)	7.2	:	6.1	5.4	8.3	27.1	6.5	:	14.1	11.0	0.7	4.4	:

(1) 1998.
(2) 1999.
(3) PL, 1998.
(4) HU, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Table 15.12

Real estate activities (NACE Division 70)
Main indicators, 2000

	B	DK	D	EL	E	F	IRL (1)	I	L	NL (2)	A	P	FIN	S	UK
Number of enterprises (units)	10 232	23 896	124 110	:	78 063	75 916	2 969	134 938	945	19 200	4 478	10 437	9 321	29 756	68 767
Turnover (million EUR)	4 495	7 301	75 286	:	48 188	65 468	835	23 743	350	22 860	6 458	4 574	4 293	19 900	47 640
Number of persons employed (thousands)	23	39	304	:	188	324	9	215	2	68	27	28	20	74	371
Value added (million EUR)	1 795	4 621	51 304	:	15 758	23 510	308	9 505	141	10 729	2 886	1 067	2 005	10 416	28 439
Purchases of goods and services (million EUR)	2 879	2 830	33 460	:	43 213	38 444	653	16 099	231	6 746	3 858	4 161	2 338	10 337	20 512
Personnel costs (million EUR)	431	733	7 138	:	2 915	7 916	117	1 236	37	2 396	761	296	533	2 007	8 689
Gross investment in tangible goods (million EUR)	1 210	2 877	21 515	:	7 973	20 374	125	3 796	:	3 234	2 965	909	1 559	8 427	27 098
App. labour productivity (thous. EUR/pers. emp.)	78.8	119.0	168.5	:	83.6	72.6	32.9	44.3	93.9	172.4	106.4	38.6	101.6	140.5	76.7
Wage adjusted labour productivity (%)	241.9	514.2	441.2	:	395.2	217.5	148.6	165.0	294.1	389.5	333.7	277.5	338.4	365.7	266.0
Gross operating rate (%)	30.4	53.3	58.7	:	26.7	23.8	22.9	34.8	29.9	41.4	32.9	16.9	34.3	42.3	41.5

(1) 1998.
(2) All except number of enterprises, turnover and persons employed, 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 15.13

Real estate activities (NACE Division 70)
Main indicators, 2000

	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (1)	TR
Number of enterprises (units)	1 768	:	14 859	1 847	1 176	1 570	1 544	:	19 028	1 941	1 051	1 087	:
Turnover (million EUR)	81	:	1 639	375	941	300	451	:	6 423	220	408	175	:
Number of persons employed (thousands) (2)	9	:	40	13	23	21	19	:	125	19	16	:	:
Value added (million EUR)	32	:	531	132	260	202	126	:	2 308	123	135	42	:
Purchases of goods and services (million EUR)	53	:	1 071	258	550	127	324	:	4 673	104	259	120	:
Personnel costs (million EUR)	17	:	199	45	140	75	66	:	926	34	71	26	:
Gross investment in tangible goods (million EUR)	64	:	671	167	305	158	91	:	2 615	261	202	34	:
App. labour productivity (thous. EUR/pers. emp.) (2)	3.5	:	13.1	10.3	11.4	9.5	6.5	:	9.9	6.5	8.6	:	:
Wage adjusted labour productivity (%) (2)	159.7	:	221.6	268.0	183.6	266.7	187.0	:	163.5	285.4	185.6	:	:
Gross operating rate (%)	19.3	:	20.2	23.1	12.8	42.1	13.2	:	21.5	40.4	15.8	9.7	:

(1) 1999.
(2) PL, 1998.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).