



European business

Facts and figures

Part 2:

Chemicals and metals

Data 1991-2001



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**European business,
Facts & figures**

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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).

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

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.

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	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 - O)
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)	Value added at factor cost	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
	1991-1994	Gross operating surplus	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	Gross investment in existing buildings and structures	Includes gross investment in land
	1997	Turnover from trading and intermediary activities	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	Changes in stocks	Concerns only changes in stocks of goods, and therefore excludes changes in stocks of services
	1996-1999	Investment in existing buildings and structure	Includes also investment in construction and alteration of buildings
	1999	Turnover and production value	Does not include 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	Number of enterprises	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)
	1995-1998	Personnel costs and social security costs	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	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)
		Sections C to F: wages and salaries	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 Preisberichtsstelle 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 Européenne
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)
HI	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.

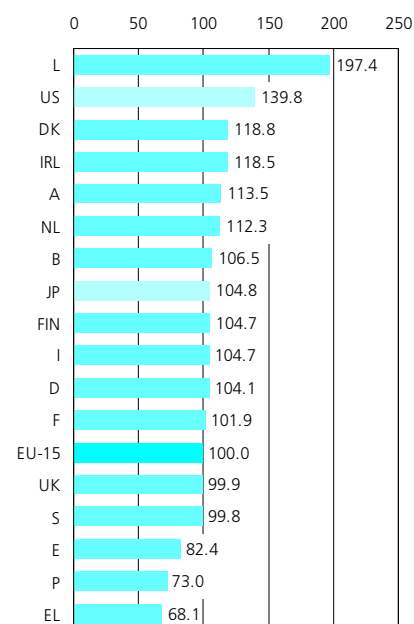
According to national accounts, the EU economy generated EUR 8 200 billion of value added in 2001. This figure can be split between six major branches – see Table 1 – with the relative importance of agriculture, hunting, forestry and fishing (2.1 % of total value added) and construction (5.4 %) being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

⁽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 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).

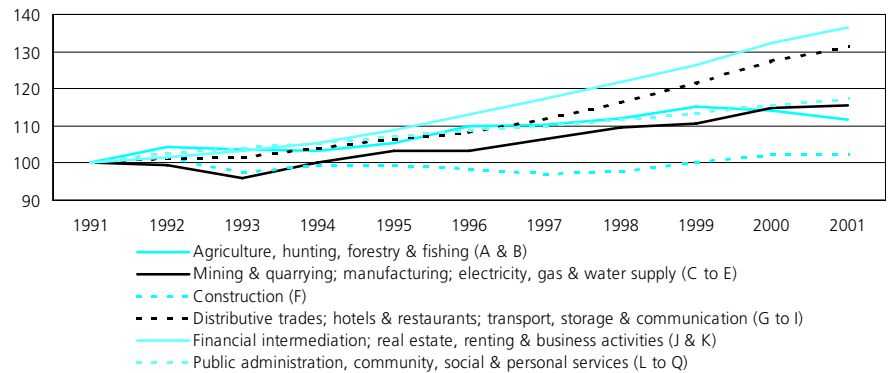
The progressive shift towards a service-orientated economy is represented in Figure 2, with the two fastest growing sectors (in constant price terms) both part of the market services' economy. The value added generated by the financial intermediation and business services sector grew at an average rate 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.

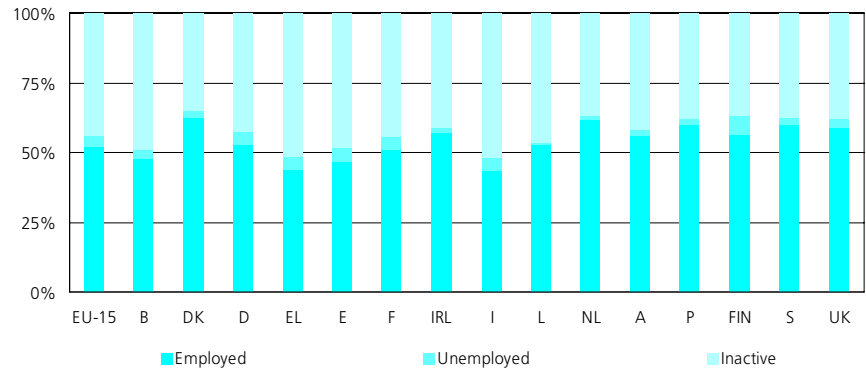
At the same time, manufacturing enterprises have tended to relocate their production, with relatively high wages, free trade and developments in communications driving output away from the EU towards low labour cost regions, particularly for more standardised products. Manufacturers within the EU increasingly 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

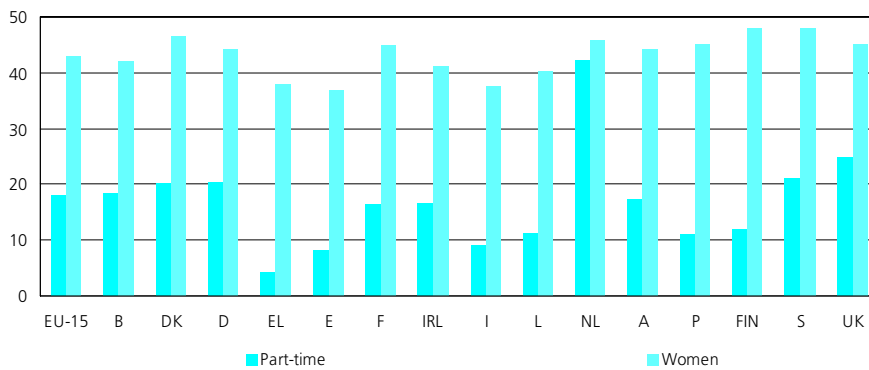
evolution of employment within the EU. Between 1995 and 2001 the number of persons employed in the service sector rose in every Member State, with the share of services in total employment increasing in every country, except Portugal. By 2001, Portugal was the only country to report that services did 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)

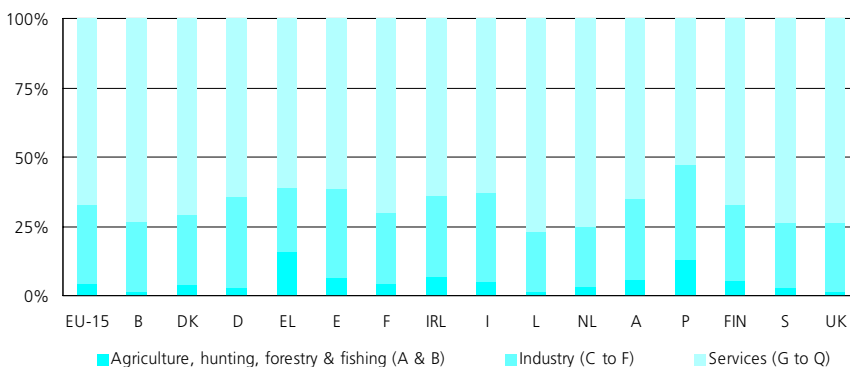


(1) NACE Sections A to Q.

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 (%)		Growth rate, 2001/1995 (%)	Average annual growth rate, 1995-2001 (%)
			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.

⁽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.

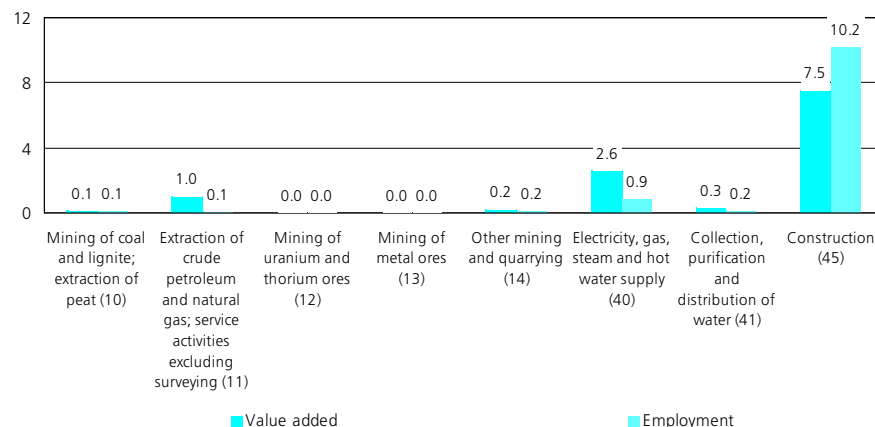
⁽⁶⁾ These data can be found on Eurostat's NewCronos database at: theme4/sbs/enterpr/ent_l_ms.

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)

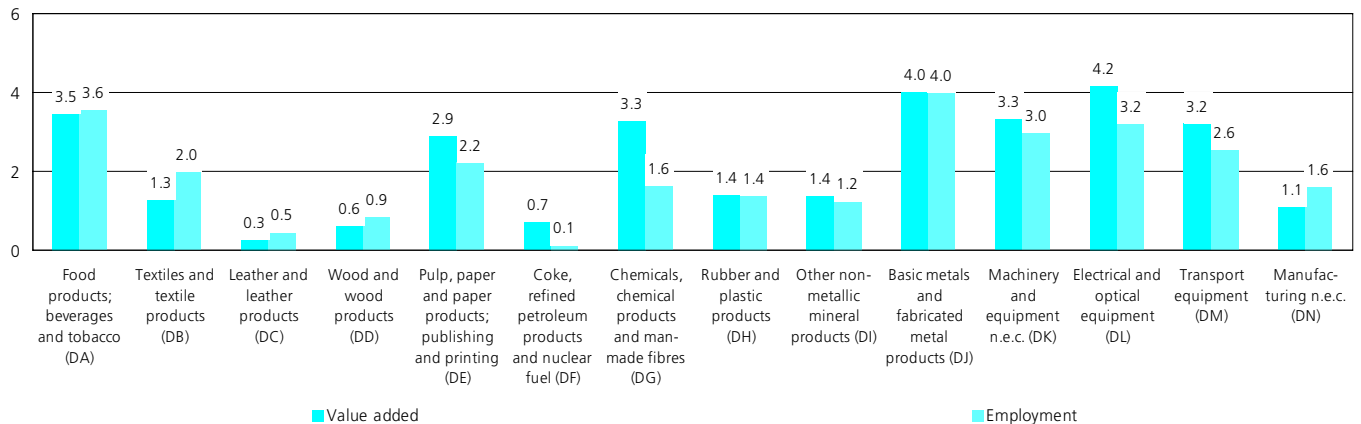
	Largest	Second largest	Third largest
EU-15	Construction	Electricity, gas, steam & hot water	Extraction of petroleum & gas
B	Construction	Electricity, gas, steam & hot water	Collection, purification & distribution of water
DK	Construction	Extraction of petroleum & gas	Electricity, gas, steam & hot water
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).

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)

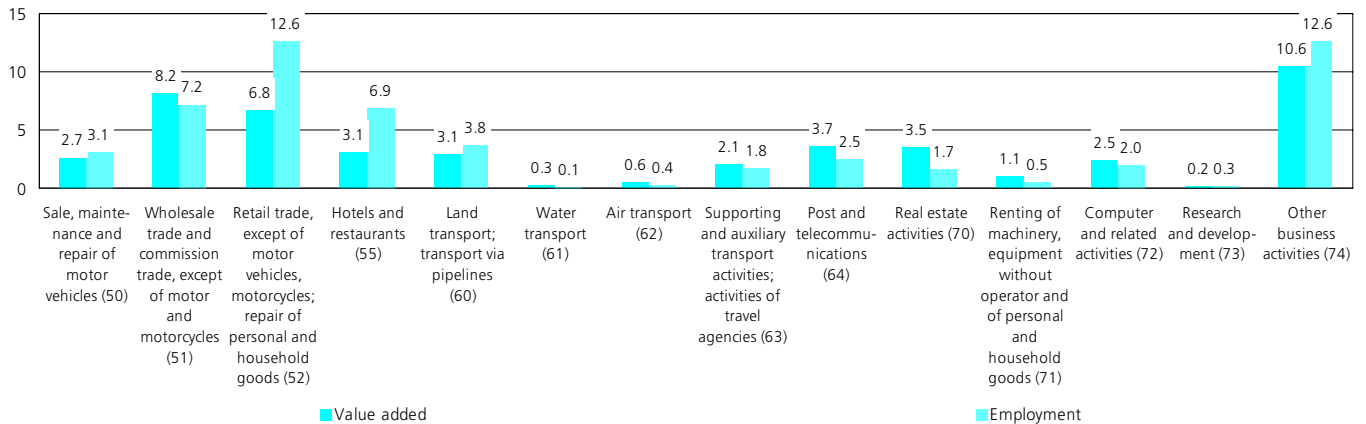
	Largest	Second largest	Third largest
EU-15	Machinery & equipment n.e.c.	Food products & beverages	Chemicals & chemical products
B	Chemicals & chemical products	Food products & beverages	Basic metals
DK	Food products & beverages	Machinery & equipment n.e.c.	Chemicals & chemical products
D	Machinery & 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)

NACE label (NACE code)	Value added				Employment			
	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

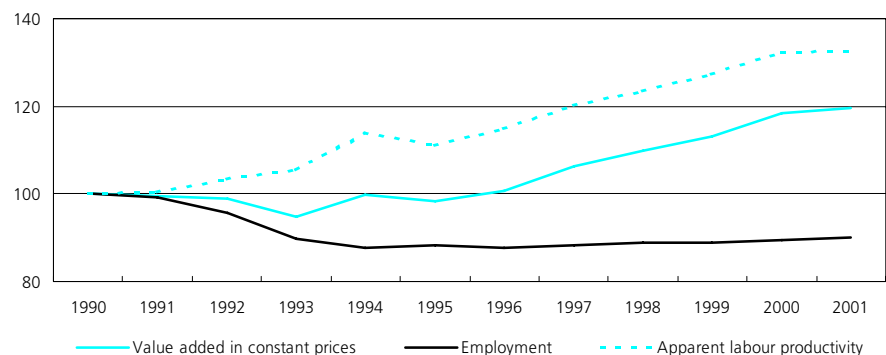
After a reduction in manufacturing activity at the start of the 1990s, the EU's value added in constant price terms increased during six consecutive years from 1996 to 2001 – see Figure 9. By 2001, the value added generated by the EU's manufacturing sector had reached EUR 1 327 billion.

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

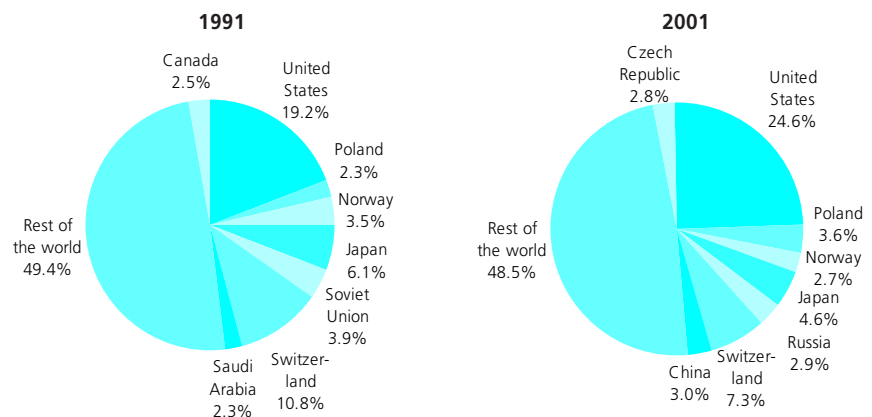
EU-15 external trade flows with non-Community countries (% share of manufacturing total)

CPA label (CPA code)	Exports		Imports	
	1991	2001	1991	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

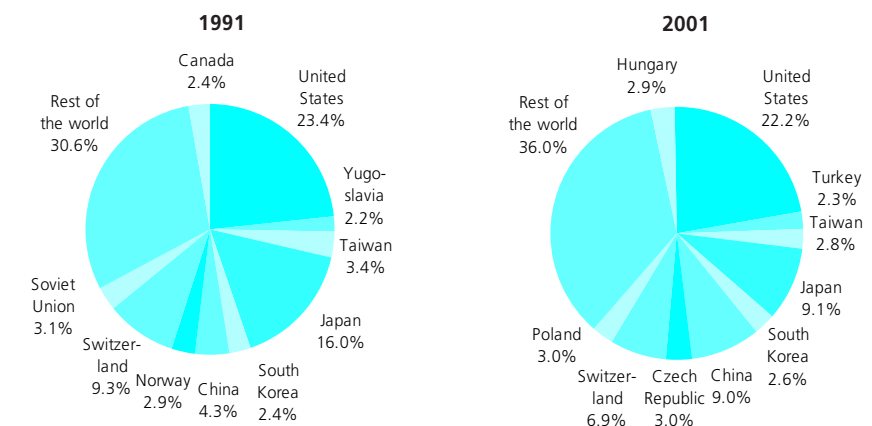
Destination of EU manufacturing (CPA Section D) exports



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.

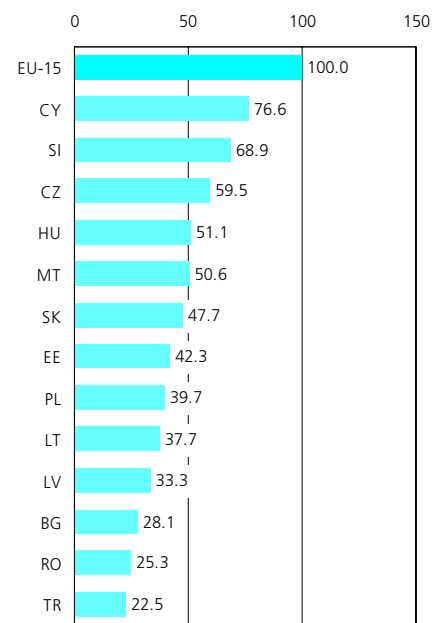
Some 42.8 % of those employed in the EU in 2001 were women. In the majority of candidate countries the share of women in total employment was higher, surpassing 50 % in Latvia and Lithuania, and only below the EU average in Cyprus (41.5 %) – see Figure 14.

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)	BG		CY		CZ	EE	HU	LT	LV	MT	RO			
	EU-15	(1)	(2)	(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

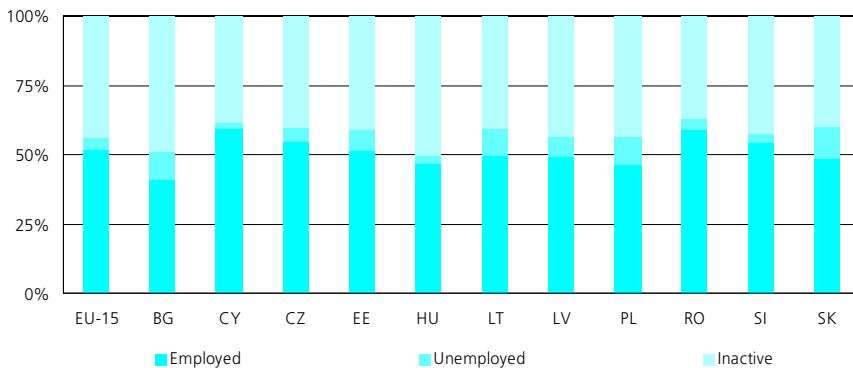
(1) 2000.

(2) Provisional.

(3) RO, 2000.

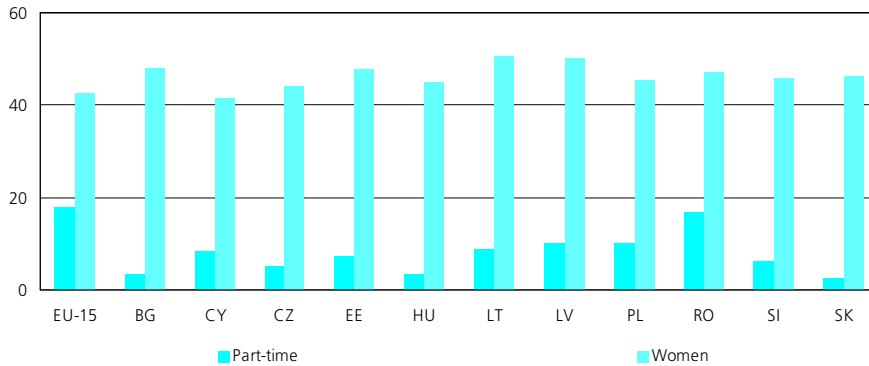
Source: Eurostat, National Accounts - Breakdowns by branch of activity (theme2/brkdowns).

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



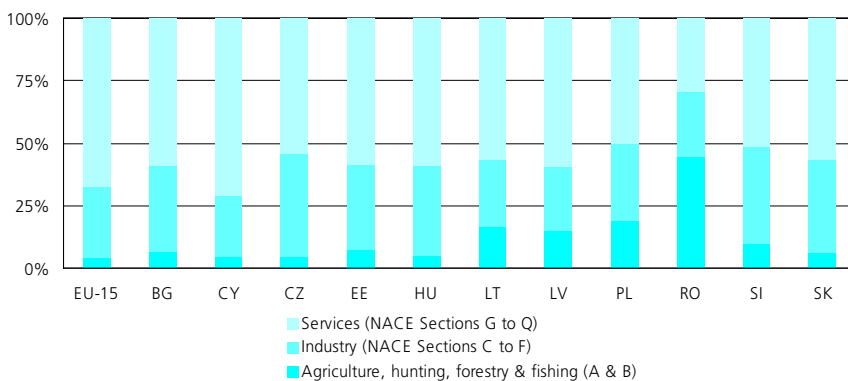
(1) NACE Sections A to Q.
 Source: Eurostat, Labour Force Survey.

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).

Non-energy mining and quarrying



Many of the products extracted by enterprises in these sectors are further processed before final use. This is particularly the case for metal ores and industrial minerals but less so for construction materials. As well as being used by many sectors as inorganic raw materials, minerals are also used to assist processing, for example as absorbents, filters and polishing and lubricating agents.

STRUCTURAL PROFILE

It is estimated that this sector (NACE Subsection CB) generated approximately EUR 12 billion of value added in the EU in 2000, equivalent to 18 % of value added in mining and quarrying as a whole. Estimates based on SBS data indicate that employment in this sector was just over 200 000 persons, more than half (51 %) of the mining and quarrying total.

This sector is dominated by the other (non-metallic) mining and quarrying sector (NACE Division 14) which accounted for 94 % of value added and 93 % of employment in the EU. Using these same measures, non-metallic mining and quarrying accounted for 98 % or more of all non-energy mining and quarrying in 2000 ⁽¹⁾ in Denmark, Germany, France, Italy (1999), Luxembourg, the Netherlands and the United Kingdom. Only in Sweden did the share of the mining of metal ores (NACE Division 13) account for more than half of the activity in this sector.

⁽¹⁾ B, EL, IRL and A, not available.

In absolute terms Sweden dominated the EU's mining of metal ores sector with 6 000 persons employed in 2000, out of an estimated total of 14 000, while contributing more than half of the EU's estimated value added.

Many mineral deposits are dispersed across the EU and are extracted for local use, notably for construction. This provides opportunities for small, local enterprises and this is reflected in a more even distribution of the other (non-metallic) mining and quarrying sector across the Member States. The five largest Member States accounted for approximately four fifths of the EU's activity in this sector in 2000 (in value added terms), with the United Kingdom accounting for the largest share of value added (one quarter) and Germany the largest share of employment (one fifth). The quarrying of sand and clay (NACE Group 14.2) was the largest of the other (non-metallic) mining and quarrying activities in many Member States. The quarrying of stone (NACE Group 14.1) was generally the second largest group within this division in value added terms.

This chapter covers both underground and open-cast mining of ferrous and non-ferrous metal ores (NACE Division 13), as well as other mining and quarrying of non-energy producing materials (NACE Division 14), which includes the extraction of a variety of basic materials such as stone, sand, salt and other minerals. Together these NACE divisions make up NACE Subsection CB. Mineral prospecting is not covered by these NACE activities.

NACE

- 13: mining of metal ores;
- 13.1: mining of iron ores;
- 13.2: mining of non-ferrous metal ores, except uranium and thorium ores;
- 14: other mining and quarrying;
- 14.1: quarrying of stone;
- 14.2: quarrying of sand and clay;
- 14.3: mining of chemical and fertilizer minerals;
- 14.4: production of salt;
- 14.5: other mining and quarrying n.e.c.

Table 2.1 shows the importance of very small enterprises in this sector. Across the EU enterprises with less than 10 persons employed accounted for around 18 % of employment in this sector in 2000, compared to a share of about 14 % for manufacturing. Spain, Portugal and Italy typically reported high proportions of employment accounted for by very small enterprises, while the proportions in Denmark (25.7 %) and Finland (23.3 %) were 3.3 and 2.7 times higher than those recorded for manufacturing.

The output price index for non-energy mining and quarrying activities has risen in the EU each year since 1995, reaching a level of 111.2 in 2001 (1995 = 100). Much of this increase occurred in 2000 and 2001 when annual increases in excess of 2.7 % were recorded. Because of its weight, this development is almost entirely due to price increases in other (non-metallic) mining and quarrying (NACE Division 14).

The output price index for the mining of metal ores (NACE Division 13) demonstrated a very different development over the same period. During the five years from 1996 to 2000 (inclusive) four annual rates of change of 10 % or more were recorded, two positive and two negative, such that by 2000 the index was 0.7 % lower than in 1995. There was a break from this widely fluctuating pattern in 2001, as the price index fell by 0.2 % compared to its level in 2000.

With the exception of Germany, the output price indices for non-energy mining and quarrying among the five large Member States that make up the majority of the sector all showed a more or less similar pattern to the EU total, rising between 11 and 19 % overall from 1995 to 2001. In Germany between 1995 and 1999, the output price index for this sector fell gently but steadily by a total of 2.7 % before rising to a 2001 level that was less than 0.5 % below that recorded in 1995.

Table 2.1
Mining and quarrying, except of energy producing materials (NACE Subsection CB)
Number of persons employed in very small enterprises, 2000

	Number (thousands)	Share of all size classes (%)
B (1)	132	12.1
DK	408	25.7
D	4 739	13.2
EL	:	:
E	5 226	23.7
F	4 689	15.0
IRL (2) (3)	84	3.1
I (2)	10 228	34.5
L	:	:
NL (1)	211	14.9
A (2)	724	13.7
P (3)	3 043	23.1
FIN	559	23.3
S	905	11.1
UK	2 669	8.4

(1) NACE Group 14.2.

(2) 1999.

(3) NACE Division 14.

Source: Eurostat, Structural Business Statistics (theme4/sbs/sizclass/indus_ms).

LABOUR AND PRODUCTIVITY

According to the LFS, the proportion of men in the workforce of non-energy mining and quarrying has remained stable between 88 and 90 % for several years. The proportion of full-time employment was 96.8 % in 2001, notably higher than the manufacturing average (92.5 %).

The five largest Member States, who collectively accounted for more than three quarters of the EU's employment in non-energy mining and quarrying, recorded apparent labour productivity in 2000 of EUR 61 300. This was much lower than the mining and quarrying average (EUR 170 900) but still higher than the equivalent manufacturing figure (EUR 50 400). The wage adjusted labour productivity was 182.0 %, again higher than the manufacturing average of 142.8 % for the same countries but also considerably lower than the mining and quarrying average of 374.3 %. For the same five Member States, apparent labour productivity in 2000 was slightly lower than in 1999 (EUR 63 100), as was wage adjusted labour productivity (187.3 %). Average personnel costs for the five largest Member States remained constant between 1999 and 2000 at EUR 33 700. This was below the equivalent manufacturing average of EUR 35 300 in 2000 and much below the mining and quarrying average of EUR 45 700.

The quarrying of sand and clay (NACE Group 14.2) was the largest of the NACE groups in this sector and it is estimated that the five largest Member States accounted for approximately 85 % of employment in this NACE group. In 2000 these five countries together recorded apparent labour productivity of EUR 69 600, wage adjusted labour productivity of 199.4 % and average personnel costs of EUR 34 900. All of these values were higher than the non-energy mining and quarrying average.

The lowest levels of wage adjusted labour productivity in non-energy mining and quarrying among the individual Member States were recorded in Finland (139.4 %) and France (147.5 %) in 2000. The other Member States reported ratios in the range of 166 to 222 %.

Table 2.2

Metal ores and other mining and quarrying products (CPA Subsection CB)

External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	4 728	4 762	5 959	6 445	6 725	7 385	8 431	7 058	9 340	12 044	11 763
Extra-EU imports (million EUR)	9 169	8 596	11 179	12 719	13 765	14 195	16 567	15 571	17 781	22 653	22 018
Trade balance (million EUR)	-4 441	-3 834	-5 220	-6 274	-7 040	-6 810	-8 136	-8 513	-8 441	-10 609	-10 255
Cover ratio (%)	51.6	55.4	53.3	50.7	48.9	52.0	50.9	45.3	52.5	53.2	53.4

Source: Eurostat, Comext.

Table 2.3

Metal ores and other mining and quarrying products (CPA Subsection CB)

Extra-EU exports from the EU

	1991		2001		Change in export value 2001/1991 (%)	Change in export share 2001/1991 (% points)
	(million EUR)	(%)	(million EUR)	(%)		
Metal ores and other mining and quarrying products	4 728.1	100.0	11 762.6	100.0	148.8	-
Iron ores	71.1	1.5	118.2	1.0	66.3	-0.5
Non-ferrous metal ores, except uranium and thorium ores	206.7	4.4	302.5	2.6	46.4	-1.8
Stone	211.9	4.5	497.2	4.2	134.7	-0.3
Sand and clay	211.9	4.5	397.7	3.4	87.7	-1.1
Chemical and fertilizer minerals	105.9	2.2	186.0	1.6	75.6	-0.7
Salt	44.2	0.9	84.9	0.7	92.2	-0.2
Other mining and quarrying products n.e.c.	3 871.5	81.9	10 159.4	86.4	162.4	4.5

Source: Eurostat, Comext.

Table 2.4

Metal ores and other mining and quarrying products (CPA Subsection CB)

Extra-EU imports into the EU

	1991		2001		Change in import value 2001/1991 (%)	Change in import share 2001/1991 (% points)
	(million EUR)	(%)	(million EUR)	(%)		
Metal ores and other mining and quarrying products	9 168.8	100.0	22 017.6	100.0	140.1	-
Iron ores	2 882.5	31.4	3 436.0	15.6	19.2	-15.8
Non-ferrous metal ores, except uranium and thorium ores	2 524.0	27.5	4 657.3	21.2	84.5	-6.4
Stone	385.8	4.2	801.7	3.6	107.8	-0.6
Sand and clay	390.1	4.3	927.9	4.2	137.9	0.0
Chemical and fertilizer minerals	790.4	8.6	641.4	2.9	-18.9	-5.7
Salt	14.3	0.2	26.5	0.1	85.4	0.0
Other mining and quarrying products n.e.c.	2 175.6	23.7	11 520.1	52.3	429.5	28.6

Source: Eurostat, Comext.

EXTERNAL TRADE

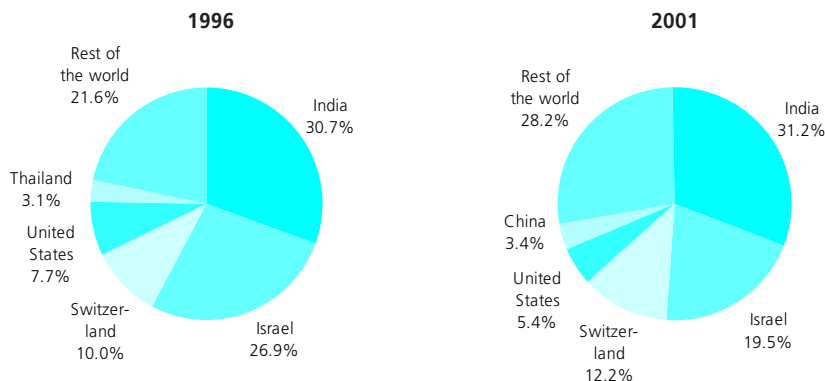
In 2001 the EU ran a trade deficit in non-energy mining and quarrying products (CPA Subsection CB), as it had done throughout the 1990s. At EUR 10.3 billion, the deficit was slightly less than in 2000. Exports fell in 2001 by 2.3 % to EUR 11.8 billion, while imports fell at a faster pace (2.8 %) to EUR 22.0 billion. Metal ores (CPA Division 13) accounted for only 3.6 % of the EU's exports of non-energy mining and quarrying products, reflecting the low level of mining of metal ores in the EU. However, metal ores accounted for 36.8 % of the EU's imports of non-energy mining and quarrying products.

In value terms the other mining and quarrying products n.e.c. (not elsewhere classified) (CPA Group 14.5 covering precious and semi-precious stones, as well as bitumen and asphalt) was the single largest product group within this subsection for both exports and imports. In 2001 this group accounted for 52.3 % of the EU's imports of non-energy mining and quarrying products, and 86.4 % of its exports. Because of the importance of the jewellery and precious stones' sector in Belgium (see Subchapter 13.2), Belgian imports and exports of products classified within CPA Group 14.5 are traditionally very high: in 2001 Belgium accounted for 46.1 % of the total imports of all of the Member States of these products and 47.7 % of exports.

In 2001 the EU recorded a trade deficit in each of the seven CPA groups that make up non-energy mining and quarrying products, other than a small surplus (EUR 58.5 million) for salt (CPA Group 14.4). The largest deficits were in the two metal ore groups which both exceeded EUR 3 billion. As in previous years, only three Member States recorded a trade surplus (intra- and extra-EU combined) in non-energy mining and quarrying products in 2001, namely Greece, Portugal and Sweden. In all cases these surpluses were lower than in 2000. The largest trade deficits for these products were recorded in Germany (EUR 2.6 billion) and Italy (EUR 1.7 billion).

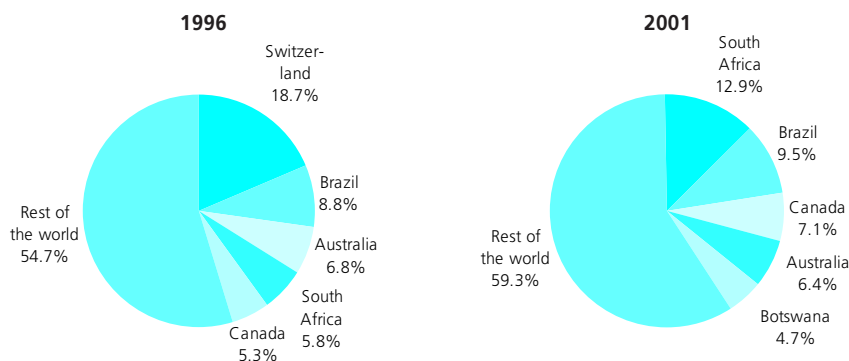
The main import sources of iron ores (CPA Group 13.1) in 2001 were Brazil, Canada and Australia who together accounted for more than 70 % of the EU's imports, as they had done ten years earlier. Indonesia, Australia, Canada and South Africa together provided more than 50 % of the EU's imports of non-ferrous metal ores (CPA Group 13.2); from 1991 Canada's share fell by 4.2 percentage points to 12.3 % by 2001, while the share of Indonesia rose from 1.7 to 17.0 %, thus becoming the most important origin of EU imports.

Figure 2.1 Metal ores and other mining and quarrying products (CPA Subsection CB) Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 2.2 Metal ores and other mining and quarrying products (CPA Subsection CB) Origin of extra-EU imports



Source: Eurostat, Comext.

Table 2.5

Mining and quarrying except energy producing materials (NACE Subsection CB)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I (2)	L	NL	A	P (2)	FIN	S (2)	UK
Production (million EUR)	701	161	3 812	443	2 326	3 684	:	1 627	56	614	:	953	408	1 350	6 902
Number of persons employed (thousands)	3	1	26	5	22	22	:	11	0	2	:	16	2	8	27
Value added (million EUR)	295	60	1 699	255	912	1 284	:	643	28	212	:	384	122	449	2 536
Purchases of goods and services (million EUR)	422	102	2 410	208	1 461	2 480	:	1 030	27	418	:	625	293	914	4 658
Personnel costs (million EUR) (3)	128	34	1 042	133	481	825	:	314	13	96	:	197	84	325	1 157
Gross investment in tangible goods (million EUR) (4)	61.1	:	411.0	:	275.3	:	:	190.1	:	:	:	178.6	40.8	265.6	:
App. labour productivity (thous. EUR/pers. emp.)	85.8	65.9	66.5	40.9	41.3	58.6	:	58.8	90.6	101.9	:	24.5	51.0	59.1	92.7
Simple wage adjusted labour productivity (%) (3)	231.0	186.0	163.1	191.6	189.5	151.1	:	204.9	218.5	220.7	:	195.3	146.6	138.0	219.3
Gross operating rate (%) (3)	22.9	17.9	15.9	27.4	18.9	11.7	:	20.5	27.4	18.4	:	18.8	10.0	9.4	19.0

(1) 1998, except persons employed, 1999.

(2) 1999.

(3) DK and F, 1999.

(4) D, 1999.

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

Table 2.6

Mining and quarrying except energy producing materials (NACE Subsection CB)
Main indicators, 2000

	BG	CY	CZ	EE	HU	LV	LT	MT	PL (1)	RO (1)	SK	SI (2)	TR
Production (million EUR)	295	:	268	11	129	9	32	:	1 602	197	113	64	:
Number of persons employed (thousands)	16	:	8	0	4	0	2	:	51	49	5	:	:
Value added (million EUR)	92	:	107	4	57	5	12	:	766	103	33	21	:
Purchases of goods and services (million EUR)	220	:	174	7	67	4	21	:	873	182	77	40	:
Personnel costs (million EUR)	52	:	55	2	25	2	8	:	468	147	30	15	:
Gross investment in tangible goods (million EUR) (3)	40.3	:	61.4	1.1	1.5	1.5	4.6	:	238.0	56.5	28.9	8.1	:
App. labour productivity (thous. EUR/pers. emp.)	5.6	:	13.7	10.5	16.0	11.6	7.1	:	15.1	2.1	6.0	:	:
Simple wage adjusted labour productivity (%)	175.9	:	195.6	182.6	226.4	240.9	151.3	:	163.7	69.8	110.5	135.1	:
Gross operating rate (%)	13.5	:	18.9	17.7	21.6	33.8	12.7	:	18.8	-27.6	2.7	8.7	:

(1) 1998.

(2) 1999.

(3) CZ, 1999.

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

Table 2.7

Mining of metal ores (NACE Division 13)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I (2)	L	NL	A	P (2)	FIN (2)	S (2)	UK
Production (million EUR)	:	0	0	116	84	36	:	13	0	:	:	115	82	1 015	:
Number of persons employed (thousands)	:	0	0	1	1	0	:	0	0	:	:	1	1	6	:
Value added (million EUR)	:	0	0	73	28	13	:	8	0	:	:	59	23	335	:
Purchases of goods and services (million EUR)	:	0	0	45	61	22	:	16	0	:	:	56	59	680	:
Personnel costs (million EUR) (3)	:	0	0	44	34	16	:	6	0	:	:	32	23	265	:
Gross investment in tangible goods (million EUR) (4)	:	:	0	:	14.2	:	:	0.6	:	:	:	10.1	3.0	241.0	:
App. labour productivity (thous. EUR/pers. emp.)	:	:	:	49.1	22.8	33.7	:	27.0	:	:	:	45.7	45.0	55.6	:
Simple wage adjusted labour productivity (%) (5)	:	:	:	168.0	82.8	113.4	:	128.8	:	:	:	182.9	100.4	126.1	:
Gross operating rate (%) (5)	:	:	:	24.8	-8.3	4.6	:	14.0	:	:	:	23.9	0.1	7.2	:

(1) 1998, except persons employed, 1999. (2) 1999. (3) DK and F, 1999. (4) D, 1999. (5) F, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Table 2.8

Mining of metal ores (NACE Division 13)
Main indicators, 2000

	BG	CY	CZ	EE	HU	LV	LT (1)	MT	PL	RO (2)	SK	SI	TR
Production (million EUR)	218	:	0	0	25	0	0	:	:	98	27	:	:
Number of persons employed (thousands)	9	:	0	0	1	0	0	:	:	32	2	:	:
Value added (million EUR)	66	:	-2	0	11	0	0	:	:	52	8	:	:
Purchases of goods and services (million EUR)	165	:	:	0	14	0	0	:	:	126	17	:	:
Personnel costs (million EUR)	34	:	3	0	8	0	0	:	:	112	8	:	:
Gross investment in tangible goods (million EUR)	30.9	:	:	0	0.4	0	0	:	:	35.5	1.4	:	:
App. labour productivity (thous. EUR/pers. emp.)	7.2	:	-12.9	:	11.5	:	:	:	:	1.6	4.6	:	:
Simple wage adjusted labour productivity (%)	196.7	:	-60.0	:	140.3	:	:	:	:	46.6	98.8	:	:
Gross operating rate (%)	14.7	:	-1 200	:	12.4	:	:	:	:	-80.9	-0.5	:	:

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

Table 2.9

Other mining and quarrying (NACE Division 14)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (2)	I (2)	L	NL	A (2)	P	FIN (2)	S (2)	UK
Production (million EUR)	:	161	3 812	327	2 242	3 649	557	1 614	56	614	567	768	268	335	6 902
Number of persons employed (thousands)	:	1	26	3	21	22	3	11	0	2	3	13	2	2	27
Value added (million EUR)	:	60	1 699	181	884	1 271	174	636	28	212	269	331	104	114	2 536
Purchases of goods and services (million EUR)	:	102	2 410	163	1 400	2 458	400	1 014	27	418	351	494	188	234	4 658
Personnel costs (million EUR) (3)	:	34	1 042	89	448	809	95	308	13	96	141	160	48	60	1 157
Gross investment in tangible goods (million EUR) (4)	:	:	411.0	:	261.1	:	59.6	189.4	:	:	87.5	176.9	42.1	24.6	:
App. labour productivity (thous. EUR/pers. emp.)	:	65.9	66.5	38.3	42.4	59.1	64.1	59.6	90.6	101.9	79.5	25.1	59.0	72.8	92.7
Simple wage adjusted labour productivity (%) (3)	:	186.0	163.1	203.3	197.5	151.9	183.1	206.4	218.5	220.7	190.2	206.6	216.7	190.2	219.3
Gross operating rate (%) (3)	:	17.9	15.9	28.3	19.7	11.8	13.7	20.5	27.4	18.4	20.5	20.9	19.5	15.9	19.0

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

Table 2.10

Other mining and quarrying (NACE Division 14)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
Production (million EUR)	78	43	268	11	104	9	32	:	:	128	86	:	:
Number of persons employed (thousands)	7	1	8	0	3	0	2	:	:	14	4	:	:
Value added (million EUR)	26	24	109	4	46	5	12	:	:	58	25	:	:
Purchases of goods and services (million EUR)	55	:	:	7	53	4	21	:	:	84	59	:	:
Personnel costs (million EUR)	19	:	52	2	17	2	8	:	:	42	21	:	:
Gross investment in tangible goods (million EUR)	9.4	5.5	:	1.1	1.1	1.5	4.6	:	:	25.1	27.5	:	:
App. labour productivity (thous. EUR/pers. emp.)	3.6	39.8	14.1	10.5	17.6	11.6	7.1	:	:	4.2	6.6	:	:
Simple wage adjusted labour productivity (%)	138.2	:	210.4	182.6	264.7	240.9	151.3	:	:	139.0	115.0	:	:
Gross operating rate (%)	10.0	:	20.7	17.7	23.6	33.8	12.7	:	:	12.6	3.7	:	:

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

Chemicals, rubber and plastics



In February 2001 the European Commission adopted and released its White Paper ⁽¹⁾ outlining a strategy for a future chemicals policy, notably for a sustainable use of chemicals. The multi-objective strategy aims to ensure a high level of protection for human health and the environment, an efficient internal market, while stimulating innovation and competitiveness in chemical manufacturing. An assessment of the business impact of the proposals was carried out and presented in June 2002 and extensive consultations with experts have been undertaken.

⁽¹⁾ COM(2001) 88.

STRUCTURAL PROFILE

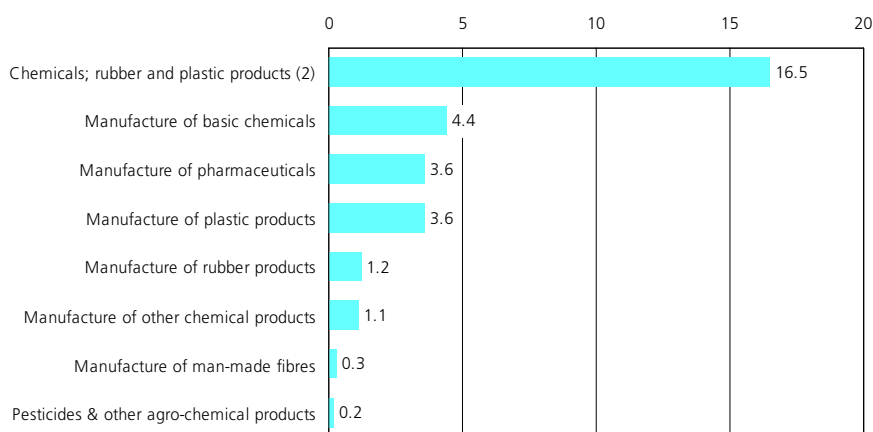
Across the EU the chemicals, rubber and plastics sector employed 2.9 million persons in 2001, 12.4 % of the manufacturing total, a larger share than at any time during the 1990s. The combined chemicals, rubber and plastics sector accounted for 16.5 % of EU manufacturing value added in 2001, an increase of half a percentage point since 1998 and close to its peak of 16.6 % in 1995. The total value added of this sector was made up of EUR 155.9 billion for chemical manufacturing (Division 24) and EUR 63.5 billion for rubber and plastics manufacturing (Division 25).

The manufacture of chemicals, rubber and plastics are covered by NACE Divisions 24 and 25. The former of these two NACE divisions includes the manufacture of man-made fibres.

NACE

- 24: manufacture of chemicals and chemical products;
- 24.1: manufacture of basic chemicals;
- 24.2: manufacture of pesticides and other agro-chemical products;
- 24.3: manufacture of paints, varnishes and similar coatings, printing ink and mastics;
- 24.4: manufacture of pharmaceuticals, medicinal chemicals and botanical products;
- 24.5: manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations;
- 24.6: manufacture of other chemical products;
- 24.7: manufacture of man-made fibres;
- 25: manufacture of rubber and plastic products;
- 25.1: manufacture of rubber products;
- 25.2: manufacture of plastic products.

Figure 6.1
Manufacture of chemicals and chemical products; manufacture of rubber and plastic products (NACE Subsections DG and DH)
Share of manufacturing value added in the EU, 1999 (%) (1)



(1) Paints, varnishes and similar coatings (NACE Group 24.3) and soap and detergents (NACE Group 24.5), not available. (2) 2001.

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

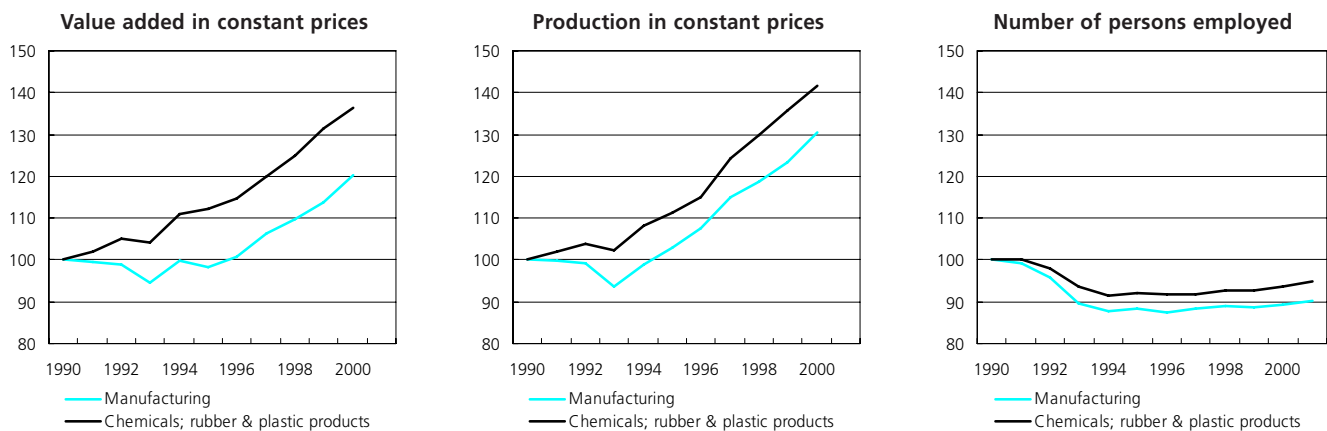
Table 6.1

Manufacture of chemicals and chemical products; manufacture of rubber and plastic products (NACE Subsections DG and DH)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	415 206	421 213	412 565	445 749	500 931	506 196	547 994	562 049	579 772	629 989	653 246
Number of persons employed (thousands)	3 096	3 034	2 898	2 836	2 849	2 839	2 841	2 867	2 867	2 896	2 936
Value added (million EUR)	144 547	148 460	146 965	159 548	175 283	175 452	184 241	188 098	196 219	210 754	219 319
Personnel costs (million EUR)	97 786	101 468	100 828	101 654	105 222	108 470	110 159	112 979	116 575	119 001	119 868
App. labour productivity (thous. EUR/pers. emp.)	46.7	48.9	50.7	56.3	61.5	61.8	64.8	65.6	68.4	72.8	74.7
Simple wage adjusted labour productivity (%)	147.8	146.3	145.8	157.0	166.6	161.8	167.3	166.5	168.3	177.1	183.0

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

Figure 6.2

Manufacture of chemicals and chemical products; manufacture of rubber and plastic products (NACE Subsections DG and DH)
Main indicators in the EU (1990=100)


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

The EU recorded growth in constant price value added for this sector in every year during the 1990s, except 1993. The average growth rate per annum over the 10-year period to 2000 was 3.2 %, notably higher than the 1.9 % manufacturing average. In current prices, the sector's value added in 2001 grew by 4.1 %, again higher than the equivalent growth rate for manufacturing. Over the 10 years to 2000 rubber and plastics manufacturing grew faster than chemicals manufacturing although in the most recent years from 1999–2001 chemical manufacturing recorded stronger growth in current price terms.

The sector's development during the 1990s in employment terms was more mixed than the development seen for value added. The number of persons employed rose more often than it fell between 1991 and 2001, but significant reductions were recorded in each year from 1992–1994. This meant that, despite growth or stability in each of the last five years, the sector employed 160 300 persons less in 2001 than it had done in 1991. The net fall in employment between 1991 and 2001 hid a larger reduction of 233 700 persons in chemical manufacturing employment, which was partially offset by an increase of 73 400 persons in rubber and plastics manufacturing. The workforce in chemical manufacturing contracted every year during the 1990s but grew by 1.7 % and 1.6 % in 2000 and 2001. In stark contrast the number of persons employed in rubber and plastics manufacturing was stable or grew every year from 1994 through to 2001, exceeding 2 % annual growth in three of the last five years.

The different rates of growth in the two parts of this sector have changed slightly its composition. The chemical manufacturing activity's share of the combined chemicals, rubber and plastics sector's value added (in current prices) fell from 72.3 % in 1995 to 70.0 % in 1998 since when it increased each year to 71.1 % in 2001. The plastics subsector was approximately three times the size of the rubber subsector in value added terms in 2000. Within chemical manufacturing, the two largest subsectors at the NACE group level in 2000 were the manufacture of basic chemicals (Group 24.1) and the manufacture of pharmaceuticals (Group 24.4) with close to or more than one third of chemical manufacturing value added each. Whereas the share of basic chemicals manufacturing stayed relatively stable during the 1990s, the share of pharmaceutical manufacturing grew most years, and was particularly strong during the second half of the decade.

In employment terms chemical manufacturing accounted for a 56.8 % proportion of the sectoral total in 2001, considerably less than its value added share. The share of plastics manufacturing and rubber manufacturing were 33.2 % and 10.1 % in 2000. The share of plastics manufacturing in the sector's workforce rose each year during the 1990s and was 6.4 percentage points higher in 2000 than a decade earlier, with 1.5 percentage points coming at the expense of rubber manufacturing and the rest from chemical manufacturing.

Germany's share of the EU's total value added was the largest among the Member States in 2000, at 27.2 %. The sector played an important role in Ireland (38.2 % of the manufacturing total, 1999), Belgium (24.6 %), Luxembourg (19.3 %) and the Netherlands (19.0 %).

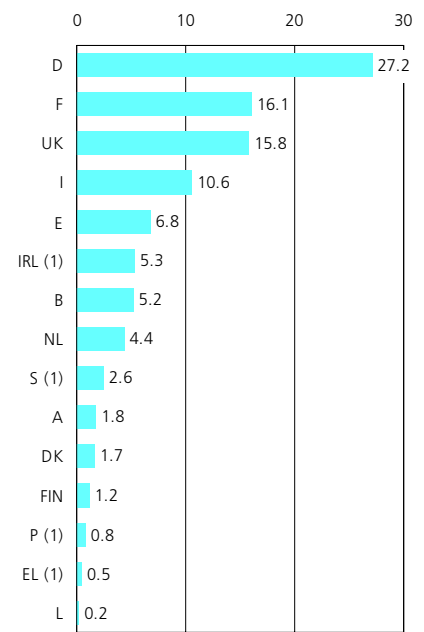
Germany's dominant position within the sector was also maintained in employment terms with 29.2 % of the EU total in 2000. This was despite recording by far the largest absolute fall in employment in the sector between 1990 and 2000, during which time a net loss of 204 300 persons employed was recorded. In percentage terms similar or larger falls were recorded in Portugal and Greece. In all of these countries the reductions were due mainly or entirely to net losses in chemical manufacturing rather than rubber and plastics manufacturing. Looking at a shorter time frame, the rate of decline in Germany fell since 1997 and in 2000 a small expansion (0.8 %) in the German workforce was recorded for the first time since 1991. By recording growth in the level of employment in 1999, Portugal also reversed a trend of several years of contraction, but in 2000 the Portuguese workforce in this sector contracted again slightly (-0.9 %). In Greece the latest figures (1999) indicated a very strong contraction in the workforce, 12.9 % smaller than in 1998. Against this backdrop of large reductions in the workforce in several Member States, Denmark and Ireland recorded a significant net expansion in employment between 1990 and 2000 (1999 for Ireland). In Denmark the high growth was driven mainly by plastics manufacturing while in Ireland it was chemical manufacturing that grew strongest. Luxembourg also recorded strong growth in employment in chemical manufacturing while Austria recorded strong growth in rubber and plastics manufacturing.

The role of large enterprises in chemical manufacturing was considerably greater than in rubber and plastics manufacturing. Large enterprises (with 250 or more persons employed) accounted for 73.9 % of value added in chemical manufacturing in 1999, compared to 43.3 % for rubber and plastics manufacturing. The corresponding figure for manufacturing as a whole was 53.7 %. Very small enterprises (one to nine persons employed) played a relatively minor role in the chemicals, rubber and plastics sector, with only 1.9 % of value added in chemical manufacturing and 5.0 % in rubber and plastics manufacturing, both less than the manufacturing average. Consequently the role of medium-sized enterprises (with between 50 and 249 persons employed) was particularly strong in rubber and plastics manufacturing, generating 32.1 % of value added.

Output prices for chemicals, rubber and plastics fell in three of the four years after 1995, but in 2000 this downward trend changed as EU prices rose by 4.8 % and in 2001 they rose by a further 1.1 %. The large increase in 2000, which was also observed in the output price index for manufacturing as a whole, can be associated with the increased cost of raw materials, notably petroleum products. The trends observed in the three parts of the sector, namely chemicals, rubber and plastics were quite different. The most apparent increase in output prices between 1999 and 2000 was for chemical manufacturing (6.1 %), while the weakest price increases were recorded in rubber manufacturing (0.2 %), which relies heavily on natural rubber. However, in 2001 output prices for rubber manufacturing grew 1.8 %, more than for chemical (1.1 %) or plastics manufacturing (1.0 %).

Raw materials for this sector are sourced mainly from petroleum refining, mining, agriculture and forestry. The chemical manufacturing activity is a major consumer of energy products. In volume terms, this activity's use of energy as a raw material accounted for 74.2 % of the consumption of energy products for non-energy purposes in the EU in 2000. Combined with the consumption for energy purposes, the chemical manufacturing activity's share of final consumption of energy products was 11.1 %.

Figure 6.3
Manufacture of chemicals and chemical products; manufacture of rubber and plastic products
(NACE Subsections DG and DH)
Share of value added in the EU, 2000 (%)



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

LABOUR AND PRODUCTIVITY

According to the LFS, the composition of the chemicals, rubber and plastics labour force in terms of the participation of women was typical of a manufacturing sector in 2000, but this was because of a higher female participation in chemical manufacturing (32.9 %) and a lower participation in rubber and plastics manufacturing (26.8 %). The rate of part-time employment (5.5 % in rubber and plastics and 7.0 % in chemicals) was generally slightly lower in this sector than the manufacturing average (7.5 %). The proportion of persons in employment classified as employees was notably above the manufacturing average, reaching 97.6 % in chemical manufacturing and 95.9 % in rubber and plastics manufacturing.

SBS data indicates that apparent labour productivity in this sector was EUR 74 700 per person employed in 2001. In chemical manufacturing it was EUR 93 400 per person employed, one of the highest levels for a manufacturing NACE division; this was mainly due to the performance of the basic chemicals, agrochemicals and pharmaceuticals manufacturing subsectors (NACE Groups 24.1, 24.2 and 24.4). In contrast the apparent labour productivity of rubber and plastics manufacturing was EUR 50 100 per person employed in 2001, below the manufacturing average; labour productivity was lower in plastics manufacturing than rubber manufacturing in 2000.

Simple wage adjusted labour productivity (value added expressed as a percentage of personnel costs) also indicated higher productivity in the chemicals, rubber and plastics sector than in manufacturing; confirming the particularly high level of productivity in chemical manufacturing. In 2001 this ratio was 194.9 % in chemical manufacturing indicating that value added was close to double the level of personnel costs. In rubber and plastics manufacturing the ratio was 159.0 %. During the 10 years to 2001 both parts of the sector recorded an annual increase in this ratio more often than an annual decline. This was particularly true during the last five years when both chemicals manufacturing and rubber and plastics manufacturing each recorded only one decline in the level of this ratio.

Table 6.2

Manufacture of chemicals and chemical products; manufacture of rubber and plastic products (NACE Subsections DG and DH) Labour force characteristics (% of total employment)

	Female		Part-time		Self-employed	
	1996	2001	1996	2001	1996	2001 (1)
EU-15	29.3	30.4	6.3	6.4	2.6	2.8
B	23.4	24.8	4.2	5.0	2.3	2.4
DK	44.3	45.4	9.2	9.6	:	:
D	30.8	30.6	7.6	8.4	2.3	1.5
EL	29.0	30.3	:	:	9.4	9.2
E	22.9	29.2	1.5	1.1	3.0	3.2
F	35.6	36.0	5.3	5.2	1.1	1.4
IRL	34.6	34.4	:	:	:	:
I	26.6	28.3	2.9	4.7	4.3	7.9
L (2)	:	11.8	:	:	:	:
NL	17.7	19.3	17.2	18.6	:	:
A	32.1	35.3	6.6	9.6	:	:
P	36.7	41.9	:	:	:	:
FIN	33.9	40.7	:	:	:	:
S	36.4	34.7	:	:	:	:
UK	26.5	25.9	7.2	6.1	3.0	2.6

(1) B, 1998.

(2) 2000.

Source: Eurostat, Labour Force Survey.

EXTERNAL TRADE

In 2001, the EUR 156.4 billion of exports of chemical, rubber and plastics products (CPA Divisions 24 and 25) represented 17.2 % of all manufactured exports from the EU to non-Community countries. The value of imports was EUR 97.8 billion, equivalent to 12.0 % of the total.

At the CPA group level only man-made fibres (CPA Group 24.7) and rubber products (CPA Group 25.1) recorded trade deficits in 2001, with pharmaceuticals (CPA Group 24.4) and basic chemical products (CPA Group 24.1) generating the largest surpluses.

Over the ten years to 2001, three groups of countries reported a significant movement in their trade balance (intra-EU and extra-EU trade combined): Denmark and Sweden moved from a trade deficit to a surplus that was in excess of EUR 1.5 billion; the Belgium–Luxembourg economic union, France and Ireland increased their trade surpluses more than fivefold, while the deficits of Spain and Portugal doubled.

The main destinations of the EU's chemicals, rubber and plastics (Divisions 24 and 25) exports in 2001 were similar to those for manufactured goods as a whole: the United States, Switzerland and Japan. China, however, was absent from the top five, ranking only 13th. Among the 10 most important destinations, Turkey (sixth) was notably higher placed for chemical products than its average for all manufactured goods. Compared to 2000 the proportion of EU exports going to Russia increased from 2.2 to 2.8 %. Over a longer period, from 1996 to 2001, the share of exports destined for the United States grew by 8.9 percentage points from 17.0 to 26.0 %. Over the same period the share of all of the Asian countries that had figured in the top 20 export destinations in 1996 experienced a fall, except for China.

The origin of the EU's chemical, rubber and plastics imports was more concentrated, as the United States and Switzerland together accounted for nearly 50 % of the total in 2001. Japan (9.0 %) and China (5.8 %) were the only other countries to provide more than 3.0 % of EU imports of these products in 2001.

Table 6.3

Chemicals, chemical products and man-made fibres; rubber and plastic products (CPA Subsections DG and DH)

External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	55 362	58 720	69 333	78 294	84 319	91 169	104 499	108 199	119 220	143 919	156 397
Extra-EU imports (million EUR)	40 017	41 609	41 793	48 351	55 081	56 848	65 667	71 292	76 048	91 853	97 487
Trade balance (million EUR)	15 344	17 111	27 540	29 942	29 238	34 320	38 832	36 907	43 172	52 066	58 910
Cover ratio (%)	138.3	141.1	165.9	161.9	153.1	160.4	159.1	151.8	156.8	156.7	160.4

Source: Eurostat, Comext.

Table 6.4

Chemicals, chemical products and man-made fibres; rubber and plastic products (CPA Subsections DG and DH)

Extra-EU exports from the EU

	1991		2001		Change in export value 2001/1991 (%)	Change in export share 2001/1991 (% points)
	(million EUR)	(%)	(million EUR)	(%)		
Chemicals, chemical products and man-made fibres; rubber and plastic products	55 361.5	100.0	156 397.2	100.0	182.5	-
Basic chemicals	19 750.3	35.7	46 470.0	29.7	135.3	-6.0
Pesticides and other agro-chemical products	1 473.9	2.7	2 692.7	1.7	82.7	-0.9
Paints, varnishes and similar coatings, printing ink and mastics	1 748.3	3.2	4 961.0	3.2	183.8	0.0
Pharmaceuticals, medicinal chemicals and botanical products	10 879.1	19.7	48 178.7	30.8	342.9	11.2
Glycerol; soap and detergents, cleaning and polishing preparations; perfumes and toilet preparations	3 907.0	7.1	10 849.6	6.9	177.7	-0.1
Other chemical products	7 171.3	13.0	17 725.0	11.3	147.2	-1.6
Man-made fibres	1 026.1	1.9	1 025.7	0.7	0.0	-1.2
Rubber products	2 792.0	5.0	6 128.6	3.9	119.5	-1.1
Plastic products	5 457.3	9.9	16 306.6	10.4	198.8	0.6

Source: Eurostat, Comext.

Table 6.5

Chemicals, chemical products and man-made fibres; rubber and plastic products (CPA Subsections DG and DH)

Extra-EU imports into the EU

	1991		2001		Change in import value 2001/1991 (%)	Change in import share 2001/1991 (% points)
	(million EUR)	(%)	(million EUR)	(%)		
Chemicals, chemical products and man-made fibres; rubber and plastic products	40 017.4	100.0	97 486.9	100.0	143.6	-
Basic chemicals	16 982.4	42.4	34 952.2	35.9	105.8	-6.6
Pesticides and other agro-chemical products	644.4	1.6	809.7	0.8	25.7	-0.8
Paints, varnishes and similar coatings, printing ink and mastics	507.8	1.3	1 189.1	1.2	134.2	0.0
Pharmaceuticals, medicinal chemicals and botanical products	6 232.4	15.6	25 615.4	26.3	311.0	10.7
Glycerol; soap and detergents, cleaning and polishing preparations; perfumes and toilet preparations	949.3	2.4	2 905.7	3.0	206.1	0.6
Other chemical products	6 576.2	16.4	11 016.5	11.3	67.5	-5.1
Man-made fibres	1 245.5	3.1	2 311.5	2.4	85.6	-0.7
Rubber products	2 449.8	6.1	6 651.9	6.8	171.5	0.7
Plastic products	4 360.6	10.9	11 366.2	11.7	160.7	0.8

Source: Eurostat, Comext.

6.1: BASIC INDUSTRIAL CHEMICALS

The manufacture of basic chemicals (NACE Group 24.1) distinguishes between industrial gases, dyes and pigments, base chemicals and fertilisers, as well as the manufacture of the primary forms of plastics and synthetic rubber.

Many basic chemicals are further processed by the chemical, rubber and plastics sector itself; other important downstream sectors include transport equipment, metals, construction and agriculture, the latter notably for fertilisers. In September 2001 the European Commission proposed that the numerous Community directives on fertilisers be recast in a single proposal for a regulation. The aim of this new proposal was to simplify compliance and inspections for large EU manufacturers and importers of mineral fertilisers. A modified proposal ⁽²⁾ was adopted by the Commission in 2002.

Petrochemicals account for a large proportion of the basic chemicals subsector and result from the processing of oil and natural gas. The manufacture of petrochemicals is not identified as an activity within NACE, but it does represent an important part of base organic chemicals, fertilisers and the primary forms of plastic and synthetic rubber, all covered within this subchapter. Basic petrochemical activities involve cracking olefins (for example, propylene and ethylene) and producing derived intermediate products such as vinyl chloride and styrene. It also includes manufacturing aromatics (such as toluene and benzene) as well as methanol and synthetic gases.

⁽²⁾ COM(2002) 318 final.

STRUCTURAL PROFILE

The EU's basic chemicals subsector generated EUR 58.5 billion of value added in 2000, 39.2 % of chemical manufacturing value added and 4.5 % of manufacturing value added. The subsector employed 532 900 persons across the EU in 2000, 2.3 % of the manufacturing total. Table 6.7 shows EU production data for a selection of basic chemicals.

This subsector's activity grew throughout most of the 1990s and in 1999 its value added was 29.9 % higher than it had been in 1990 in constant price terms. In current price terms value added grew by a further 11.5 % in 2000. Conversely, employment in the EU's basic chemicals subsector fell throughout the 1990s, with sharp contractions in 1993 and 1994. In more recent years the contraction in employment tended to be less severe, but in 2000 employment fell by 3.2 %, equivalent to 17 600 persons employed.

Germany (32.6 %) accounted for the largest share of EU output in 2000, an increase of half a percentage point compared to 1999, the first time it increased its share since the first half of the 1990s. The contribution of this subsector to the manufacturing total ranged in 1999 from 1.7 % in Portugal to 8.6 % and 8.8 % in Belgium and the Netherlands, with Ireland well above this range (24.9 %, 1999). The subsector's share of manufacturing employment reached 4.0 % in Belgium and 3.9 % in the Netherlands but only 2.8 % in Ireland.

Several Member States recorded very strong contractions in employment in this subsector during the 1990s. In relative terms the Member States ⁽³⁾ that experienced the largest fall in employment levels between 1990 and 2000 were Austria (– 56.4 %, 1991 to 2000), Greece (– 45.6 %, 1990 to 1999), Germany (– 38.9 %) and the Netherlands (– 38.8 %). In contrast, employment only grew in Denmark, Sweden, Portugal and Ireland. In absolute terms, the net reduction in German employment in this subsector (132 800 persons employed) was greater than the combined reduction in the eight other Member States that recorded a fall in employment. This subsector accounted for more than three quarters of the net reduction in German employment experienced in chemical manufacturing between 1990 and 2000.

The manufacture of basic chemicals was even more concentrated in large enterprises (with 250 or more persons employed) than chemical manufacturing as a whole. In 2000 ⁽⁴⁾ 80.0 % of value added in this subsector was generated by large enterprises while enterprises with less than 50 persons employed generated only 5.2 % of the total.

⁽³⁾ B and L, no long time series available.

⁽⁴⁾ IRL and P, 1999; A, 1998, DK, EL and L, incomplete or not available.

Table 6.6

Manufacture of basic chemicals (NACE Group 24.1)

Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	133 721	127 096	120 983	134 516	156 983	:	172 399	169 756	171 655	:	:
Number of persons employed (thousands)	730	699	651	613	588	:	564	555	551	533	:
Value added (million EUR)	40 250	39 136	37 699	43 960	53 015	:	53 120	53 653	52 438	58 462	:
Personnel costs (million EUR)	28 102	28 310	27 907	27 334	27 843	:	28 052	27 679	28 359	29 006	:
App. labour productivity (thous. EUR/pers. emp.)	55.2	56.0	57.9	71.7	90.2	:	94.3	96.7	95.3	109.7	:
Simple wage adjusted labour productivity (%)	143.2	138.2	135.1	160.8	190.4	:	189.4	193.8	184.9	201.5	:

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

Table 6.7

Selected basic chemicals (CPA Group 24.1) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Oxygen	24.11.11.70	2000	1 605.3
Dyes and preparations thereon, including disperse, acid, mordant, basic and direct dyes; other synthetic colouring matters; synthetic organic products used as fluorescent brightening agents; colour lakes	24.12.21.10 to 24.12.21.70	2000 (1)	4 380.8
Pigments and preparations based on titanium dioxide	24.12.24.15 and 24.12.24.19	2000	1 934.3
Sodium hydroxide (caustic soda, soda lye or liquid soda)	24.13.15.25 to 24.13.15.27	2000	1 208.8
o-Xylene, p-Xylene, m-Xylene and mixed xylene isomers	24.14.12.43 to 24.14.12.47	2000	1 877.5
Styrene	24.14.12.50	2000	2 347.2
Isocyanates	24.14.44.50	2000	1 392.2
Compounds with pyridine, (iso)quinoline cycle,... other heterocyclic compounds only with N	24.14.52.50	1998	4 385.5
Nucleic acids and other heterocyclic compounds - thiazole, benzothiazole, other cycles	24.14.52.90	1999	3 338.2
Fertilizers containing nitrogen, phosphorus and potassium	24.15.80.23 and 24.15.80.25	1999	2 299.3
Polyethylene in primary forms	24.16.10.35 to 24.16.10.50	2000	9 179.4
Polystyrene in primary forms	24.16.20.35 and 24.16.20.39	2000	3 439.8
Acrylonitrile-butadiene-styrene (ABS) copolymers, in primary forms	24.16.20.70	2000	1 399.2
Polyvinyl chloride, not mixed with any other substances, in primary forms	24.16.30.10	2000	3 612.3
Plasticised polyvinyl chloride mixed with any other substance, in primary forms	24.16.30.25	2000	1 198.8
Polycarbonates, in primary forms	24.16.40.40	2000	2 100.2
Polyesters, in primary forms (excluding polyacetals, polyethers, epoxide resins, polycarbonates, alkyd resins, polyethylene terephthalate, other unsaturated polyesters)	24.16.40.90	2000	1 897.8
Polypropylene, in primary forms	24.16.51.30	2000	6 750.8
Polyurethanes, in primary forms	24.16.56.70	2000	4 819.9
Silicones, in primary forms	24.16.57.00	2000	2 278.0
Cellulose nitrates, cellulose ethers and cellulose and its related derivatives, in primary forms (excluding cellulose acetates)	24.16.58.40 and 24.16.58.50	2000	1 253.6
Synthetic rubber	24.17.10.50 and 24.17.10.90	1997	707.3

(1) 1998 or 1999 for one or more headings in the aggregate.

Source: Eurostat, European production and market statistics (theme4/europrom).

Output prices for basic chemicals fluctuated significantly in the EU during the second half of the 1990s, falling quite strongly in 1996, 1998 and 1999, while in 2000 they rose by 15.4 %, easily the biggest rise of any of the NACE groups within this sector. In 2001 output prices for the subsector as a whole were relatively stable, increasing by 0.9 %. Behind this overall figure for the subsector was growth in output prices of 9.3 % in both the manufacture of other inorganic basic chemicals and the manufacture of fertilisers and nitrogen compounds (NACE Classes 24.13 and 24.15) and a fall of between 1 and 2 % in the manufacture of dyes and pigments, other organic basic chemicals and plastics in primary forms (NACE Classes 24.12, 24.14 and 24.16).

LABOUR AND PRODUCTIVITY

The apparent labour productivity of the EU's basic chemicals subsector was high, EUR 109 700 per person employed in 2000. This was an increase of EUR 14 400 per person employed compared to 1999. The productivity advantage of this subsector compared to the manufacturing average was smaller, but nevertheless significant, when measured using simple wage adjusted labour productivity: EU value added in the basic chemicals subsector represented 201.5 % of personnel costs in 2000 compared to a manufacturing average of 156.8 %.

Table 6.8

Manufacture of basic chemicals (NACE Group 24.1)
Value added specialisation ratio relative to total manufacturing (%)

	1990	1995	1999 (1)
EU-15	100.0	100.0	100.0
B	:	152.8	190.7
DK	35.3	28.0	19.2
D	130.8	114.0	109.5
EL	81.3	63.0	54.0
E	66.4	73.0	73.3
F	86.9	89.1	88.2
IRL	233.8	254.1	572.3
I	68.9	73.2	57.9
L	:	:	45.7
NL	249.9	230.4	185.4
A	:	36.7	56.7
P	:	:	40.7
FIN	77.7	77.3	84.7
S	56.6	62.4	61.1
UK	80.7	89.4	:

(1) L and NL, 1998.

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

Table 6.9

Basic chemicals (CPA Group 24.1)**External trade indicators for the EU**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	19 750	19 848	23 920	26 800	29 200	30 265	32 386	30 600	35 481	45 632	46 470
Extra-EU imports (million EUR)	16 982	17 000	16 431	19 777	23 847	22 836	26 892	28 187	28 195	35 119	34 952
Trade balance (million EUR)	2 768	2 848	7 489	7 022	5 353	7 429	5 494	2 413	7 286	10 513	11 518
Cover ratio (%)	116.3	116.8	145.6	135.5	122.4	132.5	120.4	108.6	125.8	129.9	133.0

Source: Eurostat, Comext.

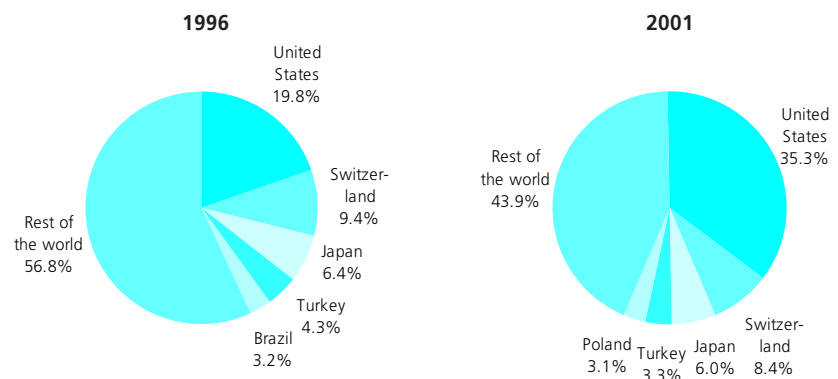
EXTERNAL TRADE

The EU experienced a record external trade surplus in basic chemicals (CPA Group 24.1) in 2001, equal to EUR 11.5 billion. Having recorded double-digit growth in the two previous years, exports to non-Community countries increased by just 1.8 % in 2001 to reach EUR 46.5 billion. Imports from non-Community countries fell by 0.5 % in value terms in 2001 to EUR 35.0 billion, the first fall in the value of imports since 1996.

Ireland, the Netherlands, Belgium and the United Kingdom were the only countries to record a trade surplus (intra- and extra-EU combined) in basic chemicals in 2001, while Italy, Germany, Spain and France all recorded trade deficits in excess of EUR 2 billion. Compared to 2000, Germany recorded an expansion in its trade deficit from EUR 1.4 billion to EUR 4.7 billion, while several other Member States also recorded an increase in their deficits but not to the same extent. Among the Member States having already recorded a surplus in 2000, the United Kingdom and the Netherlands both increased their surpluses in 2001, while Belgium and Ireland recorded falls; in Ireland's case this reversed a trend of growing surpluses recorded throughout the 1990s.

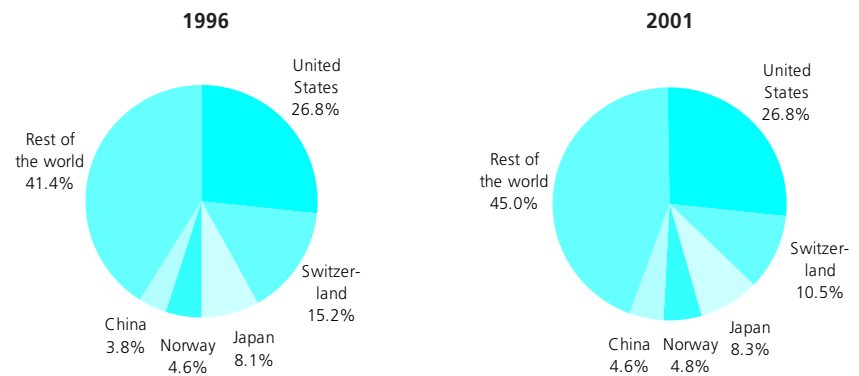
In excess of one third (35.3 %) of the EU's exports of basic chemicals were destined for the United States in 2001, 0.4 percentage points higher than in 2000, but 15.5 percentage points higher than in 1996. The EU's imports of basic chemicals were also heavily reliant on the United States, with just over one quarter (26.8 %) of all imports of these goods originating there. Singapore, China and Hungary all recorded an increase in their share of EU imports of more than half a percentage point between 2000 and 2001.

Figure 6.4

Basic chemicals (CPA Group 24.1)**Destination of extra-EU exports**

Source: Eurostat, Comext.

Figure 6.5

Basic chemicals (CPA Group 24.1)**Origin of extra-EU imports**

Source: Eurostat, Comext.

6.2: PESTICIDES AND AGROCHEMICALS

NACE Group 24.2 covers the manufacture of plant growth regulators, disinfectants and products to fight pests and diseases, such as insecticides, fungicides, herbicides and rodenticides. The manufacture of fertilisers and nitrogen compounds are not covered by this NACE group, see Subchapter 6.1.

STRUCTURAL PROFILE

The agrochemicals manufacturing subsector (Group 24.2) generated EUR 2.7 billion of value added in 2000. It was the smallest chemical manufacturing subsector in the EU, contributing only 1.8 % to total value added for chemical manufacturing in 2000. Value added generated by the agrochemicals subsector only exceeded 2.5 % of the chemical manufacturing total in 2000 in Denmark (4.2 %), the United Kingdom (3.5 %), Greece and France (both 2.9 %) ⁽⁵⁾. France and the United Kingdom collectively generated 57.1 % of the EU's value added in this subsector in 2000, a share which has been falling mainly because of a contraction in this subsector in the United Kingdom. Table 6.11 shows EU production data for a selection of pesticides and agrochemical products.

Employment in the EU's agrochemicals subsector in 2000 was 25 100 persons, a net decrease of 7.4 % compared to 1999, following two years of growth. This was mainly due to the employment situation in Spain which had risen to 4 200 persons employed in 1999 and then fell back to 2 200 in 2000, only just below its 1998 level of 2 300.

Unlike some of the other chemicals manufacturing subsectors, agrochemical output prices for the EU were relatively stable during the second half of the 1990s and through to 2001, rarely changing by more than 1 or 2 % per year. Between 1997 and 2001 they fell by a total of 5.2 %. As in 2000, this was the only chemicals subsector where output prices fell in 2001.

⁽⁵⁾ EL and IRL, 1999; B, NL, A, FIN and S, not available.

Table 6.10

Manufacture of pesticides and other agro-chemical products (NACE Group 24.2)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	:	:	5 609	6 662	:	:	8 377	9 829	8 952	:	:
Number of persons employed (thousands)	:	:	29	28	:	:	26	27	27	25	:
Value added (million EUR)	:	:	2 029	2 118	:	:	2 546	2 382	2 584	2 676	:
Personnel costs (million EUR)	:	:	1 015	1 040	:	:	1 255	1 345	1 456	1 466	:
App. labour productivity (thous. EUR/pers. emp.)	:	:	70.7	74.9	:	:	96.6	89.0	95.3	106.6	:
Simple wage adjusted labour productivity (%)	:	:	199.9	203.7	:	:	202.9	177.1	177.5	182.5	:

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

Table 6.11

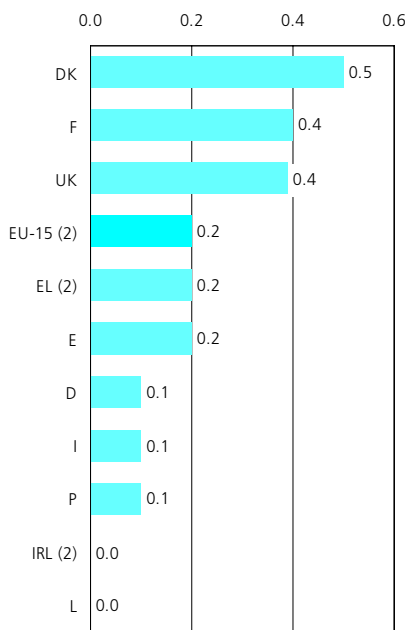
Selected pesticides and other agro-chemicals (CPA Group 24.2) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Insecticides based on chlorinated hydrocarbons, carbamates, organophosphorus products or pyrethroids, put up in forms or packings for retail sale or as preparations or articles	24.20.11.30 to 24.20.11.60	2000 (1)	1 129.0
Herbicides put up in forms or packings for retail sale or as preparations or articles, excluding herbicides based on triazines	24.20.12.20 to 24.20.12.90, excluding 24.20.12.30	2000 (1)	2 951.5
Anti-sprouting products put up in forms or packings for retail sale or as preparations or articles	24.20.13.50	2000	30.0
Plant-growth regulators put up in forms or packings for retail sale or as preparations or articles	24.20.13.70	2000	129.9
Disinfectants put up in forms or packings for retail sale or as preparations or articles	24.20.14.30 to 24.20.14.90	2000 (1)	528.4
Inorganic fungicides, bactericides and seed treatments, put up in forms or packings for retail sale or as preparations or articles	24.20.15.52	2000	240.7
Other fungicides, bactericides and seed treatments, put up in forms or packings for retail sale or as preparations or articles, excluding those based on diazines or morpholines	24.20.15.53 to 24.20.15.59, excluding 24.20.15.57	2000 (1)	1 653.3

(1) 1998 for one or more headings in the aggregate.

Source: Eurostat, European production and market statistics (theme4/europrom).

Figure 6.6
Manufacture of pesticides and other agro-chemical products (NACE Group 24.2)
Share of value added in manufacturing, 2000 (%) (1)



(1) B, NL, A, FIN and S, not available.
 (2) 1999.

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

LABOUR AND PRODUCTIVITY

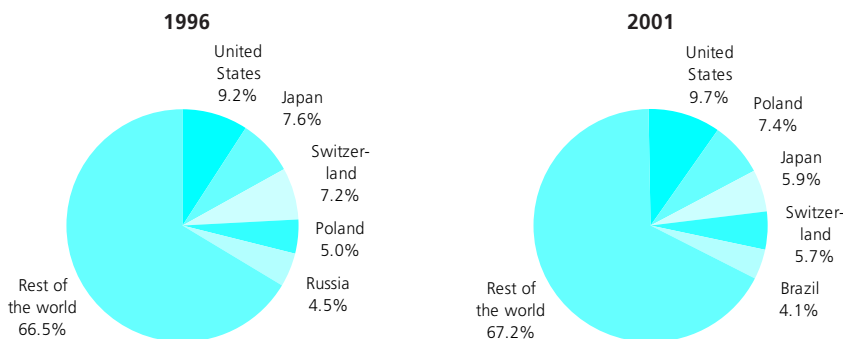
Value added per person employed was higher in the agrochemicals manufacturing subsector (EUR 106 600) in 2000 than the average for chemical manufacturing. However value added in this subsector was equivalent to 182.5 % of personnel costs in 2000, slightly less than the chemical manufacturing average, suggesting that average personnel costs in this subsector were relatively high.

EXTERNAL TRADE

Although small in absolute size, EUR 1.9 billion, the EU's external trade surplus in agro-chemicals (CPA Group 24.2) reflected a high cover ratio (332.5 %) compared to the average for all chemical products (168.6 %). The trade surplus in 2001 represented a 7.8 % increase compared to 2000 and was only slightly below its peak recorded in 1998 (also EUR 1.9 billion).

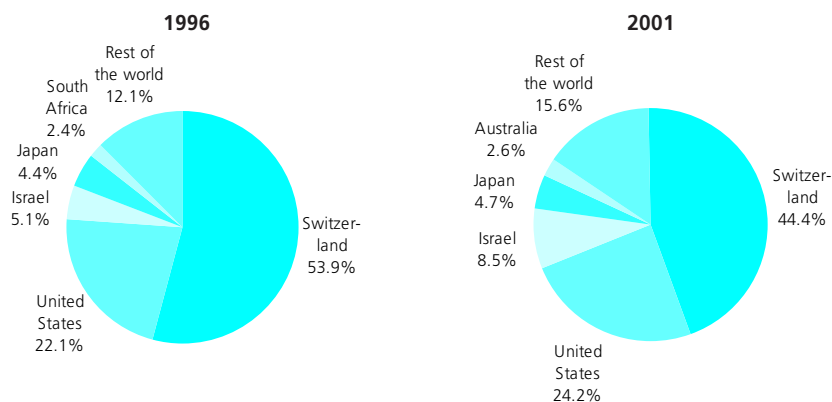
The EU's exports of agrochemicals were broadly distributed, with the largest single market, the United States, accounting for only 9.7 % of the total. The EU's imports were much more concentrated, with Switzerland (44.4 %), the United States (24.2 %) and Israel (8.5 %) the origin of more than three quarters of total imports of these products in 2001, as they had been in 2000.

Figure 6.7
Pesticides and other agro-chemical products (CPA Group 24.2)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 6.8
Pesticides and other agro-chemical products (CPA Group 24.2)
Origin of extra-EU imports



Source: Eurostat, Comext.

6.3: PAINTS, VARNISHES AND PRINTING INKS

This subchapter covers the manufacture of paints, varnishes, enamels, lacquers, solvents, thinners, varnish removers, as well as printing inks (NACE Group 24.3). This activity is referred to as the manufacture of paints, varnishes and printing inks in the rest of this subchapter.

The main users of the output of this subsector are transport equipment manufactures, printers and construction enterprises. Purchases of these products are also made by households for home decoration. Solvent based products, as opposed to water-based products have certain properties that make their use advantageous in particular circumstances, however they release volatile organic compounds (VOCs). In December 2002 the Commission adopted a proposal ⁽⁶⁾ to reduce the content of VOCs in decorative paints and varnishes with EU-wide limits on solvent content to come into effect in two phases to be completed by 2010.

⁽⁶⁾ COM(2002) 750 final.

STRUCTURAL PROFILE

The manufacture of paints, varnishes and printing inks (Group 24.3) generated EUR 8.9 billion of value added in 2000 ⁽⁷⁾, some 6.2 % of the chemical manufacturing total. In most Member States the manufacture of paints, varnishes and printing inks contributed between 3 and 10 % to chemical manufacturing value added, with Portugal (15.3 %) and Ireland (0.3 %, 1999) outside of this range. The number of persons employed in the paints, varnishes and printing inks subsector in the EU was 149 100 in 2000 ⁽⁸⁾, equivalent to 9.2 % of employment in chemical manufacturing or 0.6 % of total manufacturing employment. German employment levels in this subsector fell sharply in 1995 and continued to fall each year to 1999, but in 2000 an expansion of 2.0 % was recorded. With 46 100 persons employed in 2000 the German workforce in this subsector was still close to double the size of that in the next largest Member State.

⁽⁷⁾ EL, IRL and S, 1999; NL, not available.

⁽⁸⁾ EL, IRL and S, 1999.

Table 6.12 shows EU production data for a selection of paints, varnishes and similar coatings, printing inks and mastics.

Output prices of the manufacture of paints, varnishes and printing inks grew in the EU each year during the 1990s and through to 2001, though notably slower in the second half of the 1990s than the first half. Nevertheless, the increase of 1.5 % in 2001 was above the chemical manufacturing average.

Table 6.12

Selected paints, varnishes and similar coatings, printing ink and mastics (CPA Group 24.3) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Paints and varnishes, based on polyesters dispersed/dissolved in a non-aqueous medium, including enamels and lacquers	24.30.12.25 and 24.30.12.29	2000	2 775.3
Vitrifiable enamels and glazes, engobes (slips) and similar preparations for ceramics, enamelling or glass	24.30.21.50	2000	841.3
Liquid lustres and similar preparations, glass frit and other glass in powder, granules or flakes	24.30.21.70	2000	576.3
Paints, varnishes and prepared water pigments for finishing leather (including enamels, lacquers and distempers)	24.30.22.13 and 24.30.22.15	2000 (1)	579.7
Non-refractory surfacing preparations for façades, indoor walls, floors, ceilings or the like	24.30.22.60	1999	932.9
Artists, students, or signboard painters', colours, amusement colours and modifying tints in sets of tablets, tubes, jars, bottles or pans	24.30.23.50	1999	132.5
Black printing inks	24.30.24.50	1997	675.8
Printing inks (excluding black)	24.30.24.70	2000	3 577.5

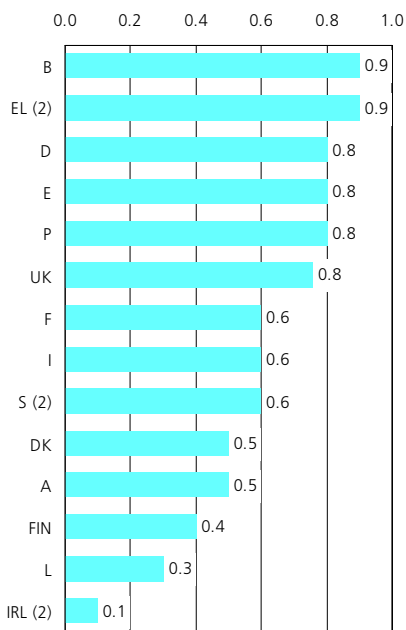
(1) 1999 for one heading in the aggregate.

Source: Eurostat, European production and market statistics (theme4/europrom).

Figure 6.9

Manufacture of paints, varnishes and similar coatings, printing ink and mastics (NACE Group 24.3)

Share of value added in manufacturing, 2000 (%) (1)

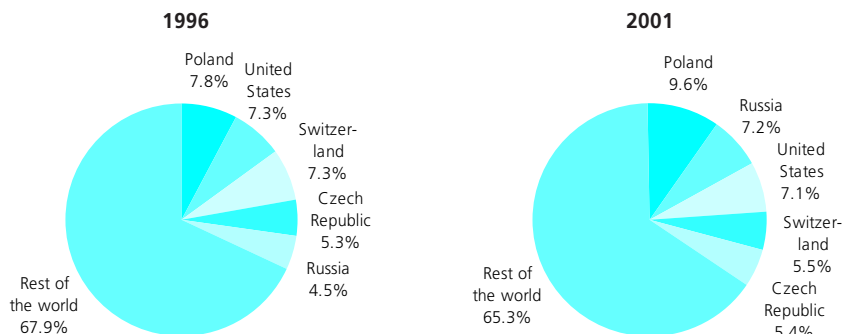


(1) 1999.

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

Figure 6.10

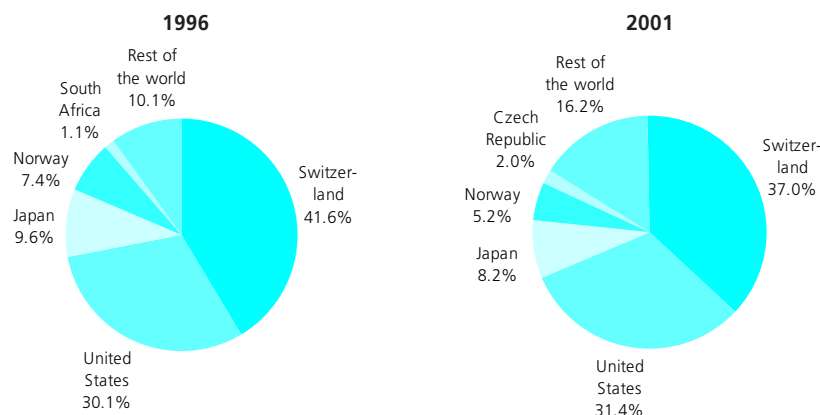
Paints, varnishes and similar coatings, printing ink and mastics (CPA Group 24.3)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 6.11

Paints, varnishes and similar coatings, printing ink and mastics (CPA Group 24.3)
Origin of extra-EU imports



Source: Eurostat, Comext.

LABOUR AND PRODUCTIVITY

All Member States reported that apparent labour productivity in this subsector was below the average for chemical manufacturing in 2000⁽⁹⁾; a similar situation was reported for average personnel costs per employee⁽¹⁰⁾.

⁽⁹⁾ EL, IRL and S, 1999; NL, not available.

⁽¹⁰⁾ DK, F, IRL and S, 1999; EL, 1998; NL, not available.

EXTERNAL TRADE

The EU recorded a very high cover ratio (417.2 %) for external trade of paints, varnishes and printing inks (CPA Group 24.3) in 2001. The external trade surplus with non-Community countries was EUR 3.8 billion derived from exports of EUR 5.0 billion.

This was the only chemicals CPA group where the United States was not the main export destination for the EU; Poland accounted for a 9.6 % share of the EU's exports of these products in 2001, Russia 7.2 % and the United States 7.1 %. Like agrochemicals, the EU's exports of these products were widespread, with the top 10 destinations accounting for less than 50 % of the total. In stark contrast the EU's imports were heavily concentrated. Switzerland (37.0 %) and the United States (31.4 %) were the main origins of imports and these two countries along with Japan and Norway collectively provided more than 80 % of total imports in 2001.

6.4: PHARMACEUTICALS

The manufacture of pharmaceuticals is broken down into two classes within NACE: the manufacture of basic pharmaceutical products (NACE Class 24.41) and pharmaceutical preparations (NACE Class 24.42) such as medicaments, vaccines, homeopathic preparations, chemical and hormonal contraceptives, dental fillings, as well as medical impregnated bandages and dressings. This subsector covers prescription and non-prescription (self-medication) pharmaceuticals, including homeopathic preparations, for human and veterinary use.

Self-care products (non-prescription medicines including herbal remedies, vitamin and mineral supplements) are a market segment whose value has grown for several years: according to AESGP (11) the EU self-medication market (12) grew in 2001 by 5.5 % in current prices, the third consecutive year of increased growth.

(11) The Association of the European Self-Medication Industry. AESGP represents the manufacturers of non-prescription medicines and of food supplements at the European level.

(12) Measured by sales of non-prescription medicines bought without a medical prescription at public price level (including value added tax); EU excluding L.

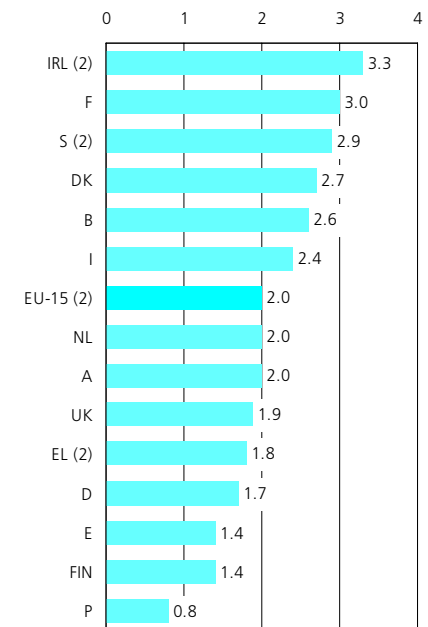
In 2001 the European Commission made three legislative proposals under its review of pharmaceuticals legislation in the EU. These concerned a regulation for the authorisation and supervision of medicinal products and two directives for amending the Community codes relating separately to human and veterinary medicinal products. The twofold objective of these proposals was to guarantee a high level of health protection and to complete the internal market for pharmaceutical products, boosting the competitiveness of the EU's pharmaceuticals subsector, within an environment of rapid scientific advances in medicines. In December 2002 the Commission adopted a revised proposal (13) of the Regulation for the establishment of a European Agency for the Evaluation of Medicinal Products.

STRUCTURAL PROFILE

The pharmaceutical manufacturing subsector (Group 24.4) generated EUR 48.6 billion of value added in 2000, equal to 3.8 % of the manufacturing total. This was the second largest NACE group within chemical manufacturing in the EU after the manufacture of basic chemicals (Group 24.1). Its share of chemical manufacturing's value added increased from 26.8 % in 1995 to 32.6 % in 2000, one percentage point more than in 1999. Although a complete time-series is not available, the EU's pharmaceutical manufacturing subsector appears to have recorded growth in constant price value added throughout the 1990s and, at least in current prices, growth continued into 2000.

(13) COM(2002) 735 final.

Figure 6.12
Manufacture of pharmaceuticals, medicinal chemicals and botanical products (NACE Group 24.4)
 Share of number of persons employed in manufacturing, 2000 (%) (1)



(1) L, not available.

(2) 1999.

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

Table 6.13

Manufacture of pharmaceuticals, medicinal chemicals and botanical products (NACE Group 24.4)
 Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	68 329	74 357	75 451	78 813	86 287	:	:	105 270	117 022	:	:
Number of persons employed (thousands)	457	466	456	443	455	:	460	469	470	477	:
Value added (million EUR)	27 107	29 394	30 487	32 207	33 997	:	37 688	37 975	43 782	48 629	:
Personnel costs (million EUR)	16 832	18 137	18 215	18 200	19 374	:	21 015	22 223	23 129	25 174	:
App. labour productivity (thous. EUR/pers. emp.)	59.4	63.1	66.9	72.7	74.8	:	82.0	81.0	93.2	101.9	:
Simple wage adjusted labour productivity (%)	161.0	162.1	167.4	177.0	175.5	:	179.3	170.9	189.3	193.2	:

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

Table 6.14

Selected pharmaceuticals, medicinal chemicals and botanical products (CPA Group 24.4) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Acyclic amides and their derivatives, and salts thereof (including acyclic carbamates)	24.41.20.60	2000	468.1
Cyclic amides and their derivatives, and salts thereof (including cyclic carbamates) (excluding ureines and their derivatives, and salts thereof)	24.41.20.70	2000	1 010.6
Compounds containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure (excluding malonylurea (barbituric acid) and its derivatives)	24.41.31.59	1999	1 424.1
Sulphonamides	24.41.32.00	2000	579.9
Penicillins and their derivatives with a penicillanic acid structure, and salts thereof	24.41.54.30	2000	624.2
Tetracyclines, chloramphenicol, erythromycin and their derivatives, and salts thereof	24.41.54.50 to 24.41.54.70	2000 (1)	409.2
Other antibiotics, n.e.c., excluding streptomycins, their derivatives and salts thereof	24.41.54.90	2000	1 126.4
Substances of human or animal origin for therapeutic or prophylactic uses, heparin and its salts (excluding glands, organs, blood)	24.41.60.30	2000	794.8
Human blood, animal blood prepared for therapeutic, prophylactic or diagnostic uses, cultures of micro-organisms, toxins (excluding yeasts)	24.41.60.50	1999	435.4
Medicaments containing penicillins or derivatives thereof, with a penicillanic acid structure, or streptomycins or their derivatives, for therapeutic or prophylactic uses, n.p.r.s.	24.42.11.30	2000	284.3
Medicaments of other antibiotics, n.p.r.s.	24.42.11.50	2000	603.4
Medicaments of penicillins, streptomycins or derivatives thereof, in doses or p.r.s.	24.42.11.60	1998	902.0
Medicaments of other antibiotics, p.r.s.	24.42.11.80	1999	6 049.4
Medicaments containing hormones but not antibiotics, for therapeutic or prophylactic uses, not put up in measured doses or for retail sale (excluding insulin)	24.42.12.50	2000	782.7
Medicaments containing insulin but not antibiotics for therapeutic or prophylactic uses, put up in measured doses or for retail sale	24.42.12.60	2000	1 647.2
Medicaments containing adrenal cortical hormones but not antibiotics for therapeutic or prophylactic uses, put up in measured doses or for retail sale	24.42.12.70	1999	1 212.7
Medicaments containing hormones but not antibiotics for therapeutic or prophylactic uses, put up in measured doses or for retail sale (excluding insulin, adrenal cortical hormones)	24.42.12.80	2000	3 995.3
Medicaments of alkaloids or derivatives thereof, p.r.s.	24.42.13.40	2000	1 858.8
Medicaments containing vitamins, provitamins, derivatives and intermixtures thereof, for therapeutic or prophylactic uses, put up in measured doses or for retail sale	24.42.13.60	2000	2 427.4
Antisera and other blood fractions	24.42.21.20	1998	1 123.8
Vaccines for human medicine	24.42.21.40	2000	2 363.6
Chemical contraceptive preparations based on hormones or spermicides	24.42.22.00	2000	887.6
Blood-grouping reagents	24.42.23.20	2000	399.5
Opacifying preparations for X-ray examinations, diagnostic reagents designed to be administered to the patient	24.42.23.40	2000	1 638.2
Dental cements and other dental fillings, bone reconstruction cements	24.42.23.60	1999	197.5
Adhesive dressings or similar articles impregnated or coated with pharmaceutical substances or put up in forms for retail sale	24.42.24.10	2000	787.6
Wadding, gauze, etc. with pharmaceutical substances, p.r.s., n.e.c.	24.42.24.30	2000	930.9
Sterile surgical catgut, similar suture materials and tissue adhesives for surgical wound closure, laminaria and laminaria tents; absorbable; surgical or dental haemostatics	24.42.24.50	2000	413.8

(1) 1999 for one heading in the aggregate.

Source: Eurostat, European production and market statistics (theme4/europrom).

Table 6.14 shows EU production data for a selection of pharmaceuticals, medicinal chemicals and botanical products.

EU employment in the pharmaceutical manufacturing subsector in 2000 was 477 200 persons, 7 400 more than in 1999 and 34 100 more than its most recent low in 1994. Those employed in this subsector represented only 2.0 % of the manufacturing total, considerably lower than the pharmaceutical subsector's share of manufacturing value added. Throughout the 1990s this subsector's share in chemical manufacturing employment rose each year from 23.1 % in 1990 to 29.1 % in 2001.

France (20.1 %) and Germany (18.1 %) each accounted for around one fifth of the EU's pharmaceutical manufacturing subsector in 2000. Measured as a share of manufacturing value added, Ireland, Denmark, Sweden, Belgium and France were notably more specialised in pharmaceutical manufacturing than the EU average. In Ireland this subsector accounted for 9.4 % of manufacturing value added in 1999, a significant gain compared to its 6.7 % share in 1998 and its 3.3 % share at the beginning of the decade. This subsector also more than doubled its share of manufacturing value added in Sweden between 1990 and 1999, from 2.5 to 5.9 %. By the same measure, the EU Member States least specialised in this subsector were Finland (1.2 %) and Greece (1.7 %) ⁽¹⁴⁾.

Large enterprises dominated the manufacture of pharmaceuticals, considerably more so than most other manufacturing NACE groups. In 2000 ⁽¹⁵⁾ large enterprises (with 250 or more persons employed) in the EU generated more than four fifths of the subsector's value added, while enterprises with less than 50 persons employed generated less than 4 % of the total.

⁽¹⁴⁾ EL, IRL and S, 1999; NL, 1998; L, not available.

⁽¹⁵⁾ B, DK and E, 1999; A and IRL, 1998; EL, L, NL, FIN and S, not available or incomplete.

Output prices for pharmaceutical manufacturing rose in the EU each and every year from 1995 to 2001, at an average rate of 1.3 % per annum, the highest rate of any of the chemical subsectors.

LABOUR AND PRODUCTIVITY

Apparent labour productivity for pharmaceutical manufacturing in the EU in 2000 was EUR 101 900 per person employed. This was above the average for chemical manufacturing but below the level recorded in some other chemical manufacturing subsectors, notably the manufacture of basic chemicals and agrochemicals (NACE Groups 24.1 and 24.2). While apparent labour productivity for the pharmaceutical manufacturing subsector was above the average for chemical manufacturing in most Member States in 2000, in Germany it was lower by EUR 1 700 per person and in Greece (1999), Ireland (1999) and Finland it was lower by a much greater differential.

Table 6.15

Manufacture of pharmaceuticals, medicinal chemicals and botanical products (NACE Group 24.4) Value added specialisation ratio relative to total manufacturing (%)

	1990	1995	1999 (1)
EU-15	100.0	100.0	100.0
B	:	125.9	161.7
DK	203.3	190.6	217.4
D	68.9	66.6	64.4
EL	98.6	83.2	46.5
E	96.5	96.9	75.0
F	141.1	145.8	136.4
IRL	128.8	198.9	258.9
I	138.1	106.3	117.9
L	:	:	:
NL	59.3	87.8	74.3
A	:	69.8	65.1
P	:	:	54.6
FIN	43.5	45.8	38.9
S	99.1	138.5	163.1
UK	109.1	112.6	:

(1) NL, 1998.

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

EXTERNAL TRADE

The EU's exports of pharmaceuticals (CPA Group 24.4) in 2001 were valued at EUR 48.2 billion. This was the highest level among chemicals (at the level of CPA groups), overtaking basic chemicals (CPA Group 24.1) which had recorded higher exports throughout the 1990s. The EU's trade surplus in pharmaceuticals grew nearly every year during the 1990s from EUR 4.1 billion in 1990 to EUR 22.6 billion in 2001. This represented the highest trade surplus among chemicals CPA groups, a position held throughout the 1990s with the exception of 1993. Considering intra-EU and extra-EU trade together, Germany, France, the United Kingdom, Belgium and Ireland all accounted for 10 % or more of the total exports by the 15 Member States in 2001. Denmark and Sweden were the most

specialised in exporting pharmaceutical products, as these products accounted for 58.3 % and 52.7 % respectively of all chemical exports; the share was below 40 % in all other Member States. Both Denmark and Sweden recorded trade surpluses (intra- and extra-EU combined) in excess of EUR 2 billion in 2001 as did Germany, the United Kingdom and France. However, Ireland recorded the largest trade surplus in pharmaceutical products in 2001, valued at EUR 9.7 billion.

The United States accounted for 30.6 % of the EU's exports of pharmaceuticals in 2001. Switzerland, Japan, Canada and Australia completed the top five ranking. All of these countries, in particular Australia, reported larger shares of the EU's exports of pharmaceuticals than their shares of all

manufactured goods. Canada's share increased by 1.1 percentage points between 2000 and 2001 to reach 4.1 %. The EU was very dependent on a small number of countries for its imports of pharmaceutical products. The United States (47.3 %) and Switzerland (32.1 %) alone accounted for nearly four fifths of all pharmaceutical imports in 2001. The further inclusion of China, Japan and Israel took the combined share of the top five countries to close to 90 %.

Table 6.16
Pharmaceuticals, medicinal chemicals and botanical products (CPA Group 24.4)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	10 879	12 428	15 383	17 394	18 766	20 194	25 338	29 593	33 470	39 340	48 179
Extra-EU imports (million EUR)	6 232	7 107	7 933	9 014	9 835	11 296	12 886	14 785	17 130	19 979	25 615
Trade balance (million EUR)	4 647	5 320	7 450	8 379	8 932	8 898	12 452	14 808	16 340	19 361	22 563
Cover ratio (%)	174.6	174.9	193.9	193.0	190.8	178.8	196.6	200.2	195.4	196.9	188.1

Source: Eurostat, Comext.

6.5: SOAPS, DETERGENTS AND TOILETRIES

This subchapter covers the manufacture of washing and cleaning products, as well as perfumes, toiletries, cosmetics and related products (NACE Group 24.5). This activity is referred to as the manufacture of soaps, detergents and toiletries in the rest of this subchapter.

Toiletries and cosmetics are destined mainly for use by households, whereas the market for soaps and detergents is split between households, manufacturers (for cleaning equipment and materials) and various service activities, notably industrial cleaners. Table 6.17 shows EU production data for a selection of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations.

In February 2003 the seventh amendment of Council Directive 76/768/EEC concerning cosmetic products was adopted ⁽¹⁶⁾. The amendment concerns in particular the question of tests on animals by the cosmetics part of the subsector, with the purpose of reconciling the reduction of animal suffering with the concern to protect the health of consumers.

⁽¹⁶⁾ Directive 2003/15/EC of the European Parliament and of the Council of 27 February 2003 amending Council Directive 76/768/EEC on the approximation of the laws of the Member States relating to cosmetic products, OJ L 66, 11.3.2003, p. 26.

In September 2002 the European Commission adopted a proposal for a regulation on detergents ⁽¹⁷⁾. The proposal aims to increase the protection of the aquatic environment against the harmful effects of surfactants, a key substance used in detergents to reduce surface tension of liquid to allow it to better penetrate solids, and that results in foam in water systems. The proposed regulation modernises and extends the scope of five existing directives on detergents as well as a Commission recommendation on the labelling of detergents.

⁽¹⁷⁾ COM(2002) 485 final.

Table 6.17

Selected products of soap, detergents, cleaning and polishing preparations, perfumes and toilet preparations (CPA Group 24.5) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Anionic surface-active agents (excluding soap)	24.51.20.20	1999	982.3
Cationic surface-active agents (excluding soap)	24.51.20.30	2000	348.0
Non-ionic surface-active agents (excluding soap)	24.51.20.50	2000	1 284.9
Organic surface-active agents (excluding soap and anionic, cationic and non-ionic agents)	24.51.20.90	2000	242.4
Soap and organic surface-active products in bars, etc.; soap in the form of flakes, wafers, granules or powders	24.51.31.20 to 24.51.31.79	2000 (1)	1 600.0
Surface-active preparations whether or not containing soap p.r.s. (excluding those for use as soap)	24.51.32.30	2000	810.4
Washing preparations and cleaning preparations, with/without soap, p.r.s. including auxiliary washing preparations excluding those for use as soap, surface-active preparations	24.51.32.50	1997	7 451.0
Surface-active preparations, whether or not containing soap, n.p.r.s. (excluding those for use as soap)	24.51.32.60	1998	569.9
Preparations for perfuming or deodorizing rooms (including odoriferous preparations used during religious rites)	24.51.41.00	1998	536.8
Artificial and prepared waxes (including sealing waxes) (excluding of chemically modified lignite)	24.51.42.70 and 24.51.42.90	2000	561.8
Perfumes and toilet waters	24.52.11.50 and 24.52.11.70	2000	3 625.2
Lip and eye make-up preparations	24.52.12.50 and 24.52.12.70	1999 (1)	1 285.9
Manicure or pedicure preparations	24.52.13.00	1999	481.8
Powders, whether or not compressed, for cosmetic use (including talcum powder)	24.52.14.00	1999	266.9
Other beauty, make-up & skin care preparations including suntan (excluding medicaments)	24.52.15.00	1999	4 926.8
Shampoos	24.52.16.30	1997	1 443.6
Hair lacquers	24.52.16.70	2000	625.9
Dentifrices (including toothpaste, denture cleaners)	24.52.18.50	2000	1 272.1
Preparations for oral or dental hygiene (including denture fixative pastes, powders and tablets, mouth washes and oral perfumes, dental floss)	24.52.18.90	1997	328.9
Personal deodorants and anti-perspirants	24.52.19.50	2000	1 372.1
Other personal preparations (perfumeries, toilet, depilatories...)	24.52.19.90	1998	748.7

(1) 1997 for one or more headings in the aggregate.

Source: Eurostat, European production and market statistics (theme4/europrom).

STRUCTURAL PROFILE

The soaps, detergents and toiletries subsector (Group 24.5) generated EUR 15.2 billion of value added in the EU in 2000 ⁽¹⁸⁾, equivalent to 1.2 % of manufacturing value added and 10.2 % of chemicals manufacturing value added. EU employment in this subsector in 2000 ⁽¹⁹⁾ was 211 000 persons, 13.0 % of the chemicals total.

France, Germany and the United Kingdom each accounted for close to or in excess of one fifth of the EU's employment and value added in this subsector. This subsector in 2000 accounted for just 0.1 % of manufacturing value added in Finland, 0.2 % in Sweden (1999) and 0.3 % in Austria, and reached its highest shares in Greece (2.8 %, 1999) and France (2.1 %) ⁽²⁰⁾.

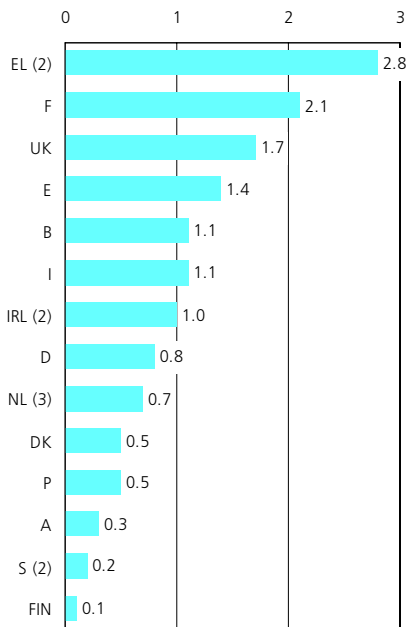
⁽²⁰⁾ EL, IRL and S, 1999; NL, 1998; L, not available.

⁽¹⁸⁾ EL, IRL and S, 1999; NL, 1998; L, not available.

⁽¹⁹⁾ EL, IRL and S, 1999; L, not available.

EU output prices for the manufacture of soaps, detergents and toiletries grew each year between 1995 and 2000, but never by more than 1 %. By 2000 the output price index for this subsector was 4.7 % higher than it had been in 1995. However in 2001 output prices increased by 2.1 % compared to 2000, the highest growth rate recorded by any of the chemicals subsectors. Different developments were recorded in the two parts of this subsector. Between 1995 and 2001 the annual average growth rate of output prices for the manufacture of soaps and detergents, cleaning and polishing preparations (NACE Class 24.51) was 0.1 %, while for the manufacture of perfumes and toiletries (NACE Class 24.52) the annual average rise was 2.0 %.

Figure 6.13
Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations (NACE Group 24.5)
Share of value added in manufacturing, 2000 (%) (1)



(1) EU-15 and L, not available.
 (2) 1999.
 (3) 1998.

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

LABOUR AND PRODUCTIVITY

Apparent labour productivity in the EU's soaps, detergents and toiletries manufacturing subsector was EUR 72 100 per person employed in 2000 (21). Average personnel costs in the EU (22) were EUR 42 600 per employee. Both of these were lower than the average for chemical manufacturing, particularly apparent labour productivity, which was more than 20 % lower. In 2000 (23) only in Greece and Italy was apparent labour productivity in the soaps, detergents and toiletries manufacturing subsector above the average for chemical manufacturing. In all Member States average personnel costs per employee in this subsector were below the average for chemical manufacturing in 2000 (24).

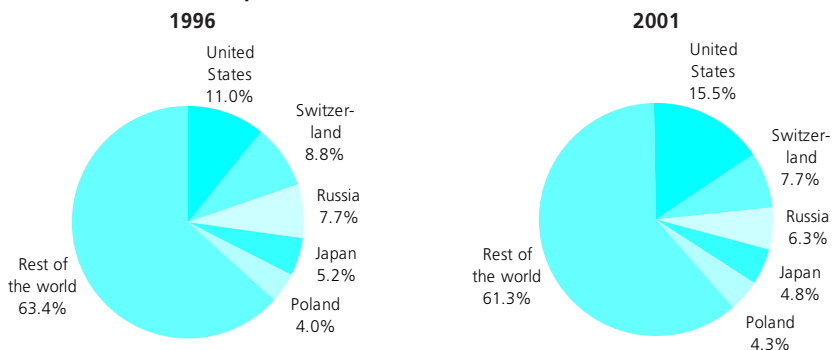
(21) EL, IRL and S, 1999; L and NL, not available.
 (22) DK, F, IRL and S, 1999; EL, 1998; L and NL, not available.
 (23) EL, IRL and S, 1999; L and NL, not available.
 (24) DK, F, IRL and S, 1999; EL, 1998; L and NL, not available.

EXTERNAL TRADE

The EU recorded an external trade surplus of EUR 7.9 billion for soaps, detergents and toiletries (CPA Group 24.5) in 2001 based on exports to non-Community countries of EUR 10.9 billion. Compared to 2000, exports grew by 9.8 %, imports by 7.7 % and the trade balance by 10.6 %. This continued a trend established during the 1990s of almost uninterrupted year-on-year growth in all of these indicators. France was by far the largest exporter (intra- and extra-EU combined) of these products, accounting for 28.9 % of the total exports by the 15 Member States in 2001. The share of these products in the total exports of chemical products was 15.6 % in France, a share that was only surpassed by Greece (18.5 %).

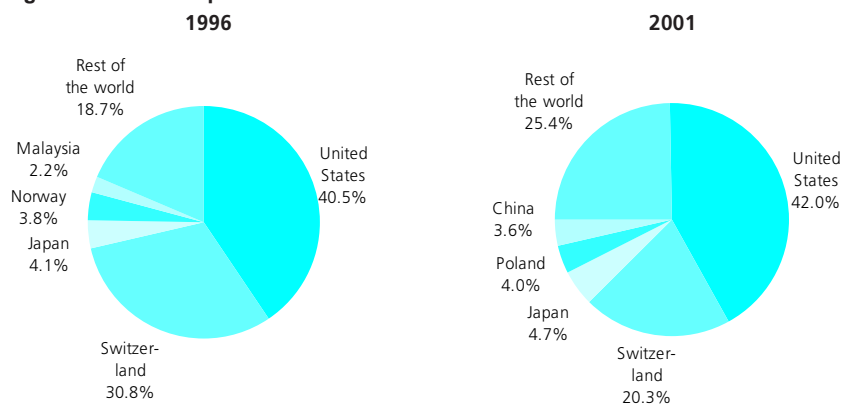
Russia's share of EU exports of soaps, detergents and toiletries grew from 4.9 % in 2000 to 6.3 % making it the third most important market behind the United States (15.5 %) and Switzerland (7.7 %). As for several other chemical products the United States' and Switzerland dominated the EU's imports of these products, together supplying 62.3 % of the total.

Figure 6.14
Glycerol; soap and detergents, cleaning and polishing preparations; perfumes and toilet preparations (CPA Group 24.5)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 6.15
Glycerol; soap and detergents, cleaning and polishing preparations; perfumes and toilet preparations (CPA Group 24.5)
Origin of extra-EU imports



Source: Eurostat, Comext.

6.6: MISCELLANEOUS CHEMICALS

NACE Group 24.6 is a residual group covering the manufacture of a miscellaneous selection of chemicals. The product range of this subsector is extensive. Photographic chemical materials include plates and film, as well as chemical preparations used for photographic purposes but not cinematographic film. A large share of the output from the explosives subsector is used in mining and quarrying. This subsector also covers the manufacture of glues, gelatines and essential oils, as well as a range of products that are mainly used as intermediate inputs in other manufacturing processes.

STRUCTURAL PROFILE

The miscellaneous chemical products' subsector (Group 24.6) generated EUR 13.6 billion of value added in 2000, some 9.1 % of the total for chemical manufacturing. Employment in the EU's miscellaneous chemical products' subsector was 174 000 in 2000, 10.6 % of the workforce in chemical manufacturing. These shares of the chemical manufacturing total remained stable for several years: since 1993 the share reported for this subsector was never more than 1 percentage point higher or lower than the 2000 share. Having expanded in both 1998 and 1999, this subsector's workforce in the EU contracted by 1.2 % in 2000.

The Member State most active in the manufacture of miscellaneous chemical products relative to their total chemical manufacturing activity was Luxembourg, where this NACE group accounted for 48.9 % of chemical manufacturing value added and 3.0 % of manufacturing value added. The Netherlands along with the United Kingdom also reported a specialisation in this subsector relative to manufacturing in general, but in neither of these countries did this subsector generate more than 2.0 % of manufacturing value added ⁽²⁵⁾.

Table 6.18 (overleaf) shows EU production data for a selection of other chemical products.

⁽²⁵⁾ EL, A and FIN, 1999; NL and S, 1998; B and IRL, not available.

LABOUR AND PRODUCTIVITY

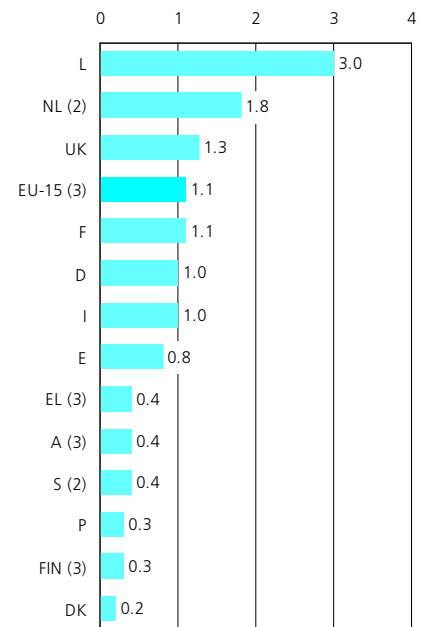
Apparent labour productivity in this subsector was EUR 77 900 per person employed in 2000, 14.3 % below the average for chemical manufacturing, but still well above the manufacturing average.

EXTERNAL TRADE

The EU's external trade surplus in miscellaneous chemical products (CPA Group 24.6) was EUR 6.7 billion in 2001, from exports of EUR 17.7 billion. The trade surplus increased by EUR 1.3 billion in 2001 thanks to growth in exports of 6.6 % and a fall in imports of 1.4 %. Germany accounted for 25.9 % of the exports (intra- and extra-EU combined) of the 15 Member States, more than 10 percentage points higher than the next largest Member State. Luxembourg was clearly the most specialised in the export of miscellaneous chemicals, as the share of these products in total chemical exports was 61.6 %; this share did not exceed 17.0 % in any other Member State.

The EU exported miscellaneous chemical products to a wide range of countries, with the 10 largest export destinations accounting collectively for only just under half (49.4 %) of all EU exports in 2001. In contrast, the EU was heavily dependent upon the United States (42.9 %), Japan (20.5 %) and Switzerland (11.0 %) for its imports of these products.

Figure 6.16
Manufacture of other chemical products (NACE Group 24.6)
Share of value added in manufacturing, 2000 (%) (1)



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

Table 6.18
Selected other chemical products (CPA Group 24.6) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Gelatin and its derivatives, isinglass (excluding casein glues and bone glues)	24.62.10.30	2000	706.6
Glues of animal origin (excluding casein glues) or based on starches; adhesives based on rubber or plastic (including artificial resins) (excluding p.r.s. in packages weighing <= 1 kg)	24.62.10.50 to 24.62.10.80	2000 (1)	2 041.0
Essential oils	24.63.10.20	2000	587.5
Photographic plates, film (including rolls and instant print film), paper, paperboard and textiles, sensitized and unexposed	24.64.11.30 to 24.64.11.70	2000	5 221.9
Chemical preparations for photographic uses, unmixed products for photographic uses put up in measured portions or p.r.s in form ready to use (excluding varnishes, glues/adhesives)	24.64.12.00	2000	707.2
Prepared unrecorded media for sound recording or similar recording (excluding photographic or cinematographic products)	24.65.10.00	1998	1 640.0
Lubricating preparations	24.66.31.55 to 24.66.31.79	2000 (2)	1 634.1
Additives for lubricating and mineral oils or for other liquids used for the same purpose (including gasoline) (excluding anti-knock preparations)	24.66.32.70 and 24.66.32.90	2000	2 072.0
Composite diagnostic or laboratory reagents, incl. paper impregnated or coated with diagnostic or laboratory reagents	24.66.42.10	1997	1 465.9
Anti-oxidising preparations and other compounds stabilizers for rubber or plastics	24.66.46.50	1998	842.7
Reaction initiators, reaction accelerators and catalytic preparations	24.66.46.60	1997	1 760.6
Prepared additives for cements, mortars or concretes	24.66.47.50	2000	625.9

(1) 1997 or 1999 for one or more headings in the aggregate.

(2) 1999 for one heading in the aggregate.

Source: Eurostat, European production and market statistics (theme4/europrom).

Table 6.19
Other chemical products (CPA Group 24.6)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	7 171	7 420	8 995	9 878	10 558	11 725	13 653	13 297	14 556	16 630	17 725
Extra-EU imports (million EUR)	6 576	6 686	6 306	6 774	6 814	7 245	8 088	8 457	9 347	11 172	11 017
Trade balance (million EUR)	595	735	2 690	3 104	3 743	4 480	5 566	4 840	5 209	5 458	6 708
Cover ratio (%)	109.0	111.0	142.7	145.8	154.9	161.8	168.8	157.2	155.7	148.9	160.9

Source: Eurostat, Comext.

6.7: MAN-MADE FIBRES

This subchapter relates to the manufacture of artificial and synthetic fibres from organic materials (NACE Group 24.7). Man-made fibres derived from minerals (carbon, ceramic, glass or metal) are not covered by this NACE Group.

Man-made fibres are either extruded as filaments (yarn) or as staple fibres; the latter may be used as filling or converted later into yarn. Synthetic polymer fibres, such as polyester and nylon, are based on petrochemicals, while fibres from natural polymers, such as viscose, are made from renewable raw material sources such as wood. Man-made fibres are generally intermediate products that are further processed into clothing and textiles. Table 6.20 shows EU production data for a selection of man-made fibres.

STRUCTURAL PROFILE

The EU's man-made fibres subsector (Group 24.7) generated just EUR 3.4 billion of value added in 2000, 2.3 % of the chemical manufacturing total. In current price terms EU value added in this subsector fell at a rapid pace in both 1998 and 1999 but expanded by 8.7 % in 2000.

Employment in this subsector was 50 900 persons in 2000, down from 57 100 in 1999. This was the third consecutive annual contraction in the man-made fibres manufacturing workforce as a result of which this subsector shed a net 13 300 persons from its workforce between 1997 and 2000. Consequently this subsector's share of the chemical manufacturing workforce fell from 3.9 % in 1997 to 3.1 % in 2000. Over the same period Germany alone recorded a contraction in the size of its man-made fibres manufacturing workforce of 6 700 persons, equivalent to half the fall recorded for the EU as a whole.

Nevertheless, in both value added and employment terms, this subsector was still dominated by Germany, which alone accounted for more than one third of the EU's activity in 2000. In Austria the manufacture of man-made fibres generated 8.5 % of chemical manufacturing value added, the highest share of any Member State and more than double the share of the next most specialised Member States ⁽²⁶⁾, namely Italy, Germany and Portugal.

Output prices for the manufacture of man-made fibres rose in 2000 by 4.8 % and in 2001 by 1.9 % having fallen in each of the previous four years. In 2001 the output price index for this subsector remained 7.5 % below its level of 1995.

⁽²⁶⁾ EL, A and FIN, 1999; IRL, L and S, not available.

Table 6.20

Selected man-made fibres (CPA Group 24.7) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Synthetic filament tow and staple fibres of polyesters, not carded, combed or otherwise processed for spinning	24.70.11.30	2000	607.5
Synthetic filament tow and staple fibres of acrylic or modacrylic, not carded, combed or otherwise processed for spinning	24.70.11.50	2000	857.9
High tenacity yarn of nylon or other polyamides n.p.r.s. (excluding sewing thread)	24.70.12.30	2000	556.3
High tenacity yarn of polyesters n.p.r.s. (excluding sewing thread)	24.70.12.50	1998	618.3
Textured yarn of nylon or other polyamides n.p.r.s. (excluding sewing thread)	24.70.13.13	1998	835.4
Textured yarn of polyesters n.p.r.s. (excluding sewing thread)	24.70.13.15	2000	633.5
Textured yarn of polypropylene n.p.r.s. (excluding sewing thread)	24.70.13.23	2000	468.9
Single yarn of nylon or other polyamides n.p.r.s. (excluding sewing thread, multiple or cabled yarns)	24.70.13.30	1998	643.6
Single yarn of polyester n.p.r.s. (excluding sewing thread, multiple or cabled yarns)	24.70.13.50	2000	316.0
Artificial filament tow and artificial staple fibres, not carded, combed or otherwise processed for spinning	24.70.21.00	2000	1 218.8
High tenacity yarn of viscose rayon n.p.r.s. (excluding sewing thread)	24.70.22.00	2000	163.4

Source: Eurostat, European production and market statistics (theme4/europrom).

Table 6.21

Manufacture of man-made fibres (NACE Group 24.7)

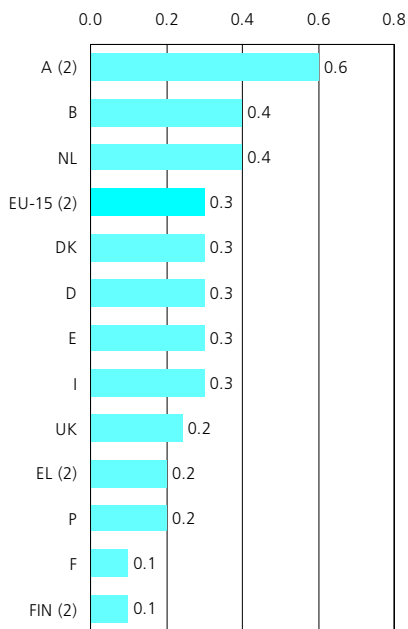
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	8 730	8 737	8 402	9 325	:	10 743	12 292	11 422	10 235	:	:
Number of persons employed (thousands)	74	68	64	60	:	:	64	58	57	51	:
Value added (million EUR)	2 917	2 891	2 652	3 011	:	3 157	3 800	3 527	3 137	3 410	:
Personnel costs (million EUR)	2 356	2 330	2 290	2 391	:	2 243	2 543	2 367	2 178	2 103	:
App. labour productivity (thous. EUR/pers. emp.)	39.2	42.3	41.5	49.9	:	:	59.2	60.7	54.9	67.0	:
Simple wage adjusted labour productivity (%)	123.8	124.1	115.8	125.9	:	140.7	149.4	149.0	144.0	162.2	:

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

Figure 6.17

**Manufacture of man-made fibres
(NACE Group 24.7)
Share of value added in manufacturing,
2000 (%) (1)**



(1) IRL, L and S, not available.

(2) 1999.

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

LABOUR AND PRODUCTIVITY

Apparent labour productivity of the EU's man-made fibre subsector fell sharply from EUR 60 700 per person employed in 1998 to EUR 54 900 in 1999 but rebounded in 2000 to EUR 67 000 as a result of a fall in employment and higher value added. Despite this strong increase in 2000, the apparent labour productivity of this subsector was still amongst the lowest within chemical manufacturing subsectors, higher only than the manufacture of paints, varnishes and printing (Group 24.3).

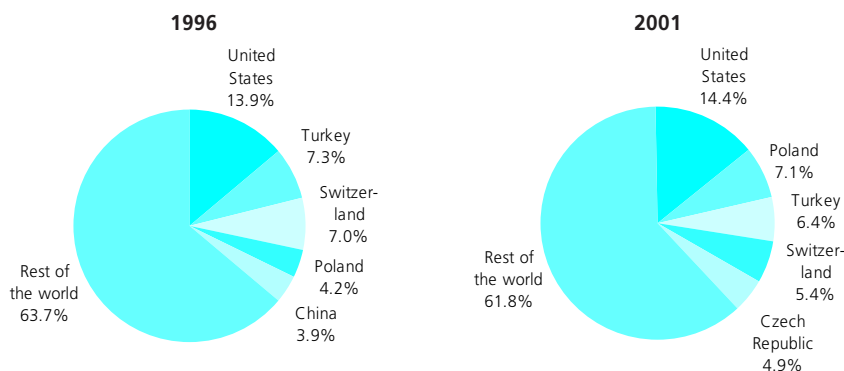
EXTERNAL TRADE

Man-made fibres (CPA Group 24.7) was the only chemicals CPA group to report a trade deficit in 2001: imports of EUR 2.3 billion from non-Community countries exceeded exports by EUR 1.3 billion. This represented a small contraction in the trade deficit compared to 2000, as imports fell more sharply (-4.3%) than exports (-2.3%) in 2001. Italy was the most important EU exporter of man-made fibres, providing 19.6% of the 15 Member States combined intra- and extra-EU exports, and Belgium was the next largest with a 14.2% share.

The EU's exports of these products in 2000 were mainly destined for the United States, as well as other European countries, most notably Turkey. The United States' share, however, fell from 16.6% in 2000 to 14.4% in 2001, while Slovenia recorded the largest increase expanding from a 2.0% share in 2000 to 3.3% in 2001. The United States was also an important origin of EU imports of man-made fibres, as were South Korea and Japan, both of which provided more than 10.0% of EU imports.

Figure 6.18

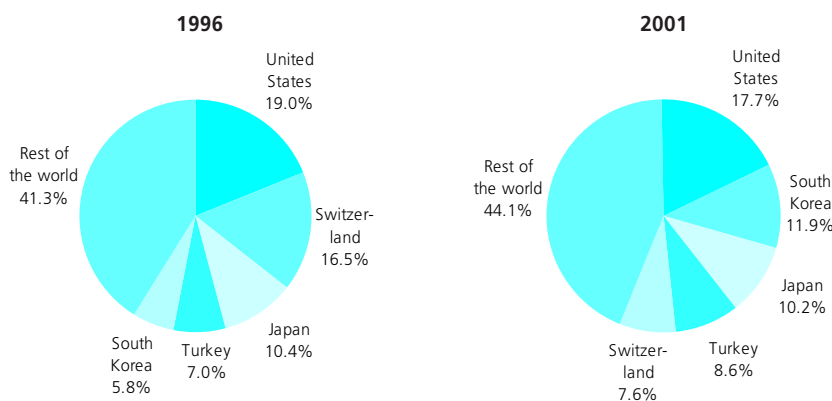
**Man-made fibres (CPA Group 24.7)
Destination of extra-EU exports**



Source: Eurostat, Comext.

Figure 6.19

**Man-made fibres (CPA Group 24.7)
Origin of extra-EU imports**



Source: Eurostat, Comext.

6.8: RUBBER

The rubber subsector (NACE Group 25.1) has three distinct parts: the manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres; the manufacture of all other rubber products.

The most important downstream sector for the rubber products subsector is the manufacture of transport equipment, with the production of tyres the largest part of the rubber subsector. As well as the original equipment market there is a large replacement tyre market. The world tyre market is dominated by a few, very large manufacturers. Transport equipment manufacturers are also important for the non-tyre markets, while rubber products are also used by other manufacturing and mining sectors, for example for conveyor belts, floor coverings, engineering components and furniture manufacturing. Table 6.22 shows EU production data for a selection of rubber products.

STRUCTURAL PROFILE

Value added in the EU's rubber manufacturing subsector (Group 25.1) in 2000 was EUR 14.7 billion, 1.1 % of manufacturing value added, and employment was 291 300 persons, 1.2 % of the manufacturing total. In constant price value added terms, the rubber subsector had recovered by 1995 beyond its previous peak (1991) and by 1999 its output was 19.3 % above the low of 1993. In current price terms growth slowed in recent years from 5.2 % in 1998 to just 0.9 % in 2000.

Table 6.22
Selected rubber products (CPA Group 25.1) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
New pneumatic rubber tyres for motor cars (including for racing cars)	25.11.11.00	2000	7 443.4
New pneumatic rubber tyres for motorcycles and scooters with rims > 33cm in diameter	25.11.12.35	2000	250.4
New pneumatic rubber bicycle tyres (excluding tyre cases with sewn-in inner tubes)	25.11.12.70	2000	59.0
New pneumatic rubber tyres for buses or lorries	25.11.13.55 and 25.11.13.57	2000	4 066.8
New pneumatic rubber tyres for aircraft	25.11.13.70	2000	162.4
New pneumatic rubber tyres for agricultural or forestry vehicles	25.11.14.04	2000	521.4
New pneumatic rubber tyres for civil engineering vehicles	25.11.14.05	2000	312.0
Retreaded tyres of rubber of a kind used on motor cars	25.12.10.30	2000	172.9
Retreaded tyres of rubber of a kind used on buses and lorries	25.12.10.50	2000	592.2
Retreaded tyres of rubber (including of a kind used on aircraft, excluding of a kind used on motor cars, buses or lorries)	25.12.10.90	2000	116.8
Unvulcanised rubber compounded including solutions, dispersions	25.13.20.13 to 25.13.20.19	2000 (1)	1 767.6
Forms and articles of unvulcanised rubber (including rods, tubes, profile shapes, discs and rings) (excluding camel-back, strips for retreading tyres)	25.13.20.30	2000	488.0
Vulcanised rubber thread, cord, plates, sheets and strip	25.13.20.50 and 25.13.20.70	2000	728.3
Extruded rods and profiles of cellular vulcanised rubber; plates, sheets and strips for floor covering of solid vulcanised rubber; extruded solid rubber rods and profiles	25.13.20.83 to 25.13.20.87	2000 (2)	1 554.6
Rubber tubing not reinforced	25.13.30.30	1997	439.9
Rubber hose reinforced or combined with other materials and rubber hose assemblies	25.13.30.55 to 25.13.30.70	2000 (3)	1 615.7
Rubber transmission belts of trapezoidal and/or striped configuration (including V-belts); rubber conveyor, synchronous and transmission belts	25.13.40.30 to 25.13.40.79	2000	1 377.6
Rubberized textile fabrics including adhesive tape of rubberized textiles	25.13.50.50 and 25.13.50.70	2000 (1)	701.4
Vulcanised rubber gloves	25.13.60.30 to 25.13.60.59	2000 (4)	215.9
Hygienic or pharmaceutical articles of rubber	25.13.71.50 to 25.13.71.90	2000	501.8
Floor coverings and mats of vulcanised rubber, non-cellular	25.13.72.00	2000	435.6
Moulded rubber articles for tractors and motor vehicles	25.13.73.47	2000	1 675.4
Rubber-to-metal bonded articles for other uses than for tractors and motor vehicles	25.13.73.49	2000	881.0

(1) 1998 for one heading in the aggregate.

(2) 1997 for one heading in the aggregate.

(3) 1997 or 1998 for one or more headings in the aggregate.

(4) 1999 for one or more headings in the aggregate.

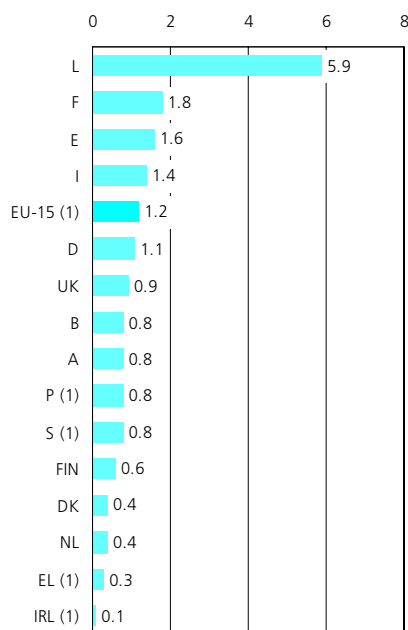
Source: Eurostat, European production and market statistics (theme4/europrom).

Table 6.23
Manufacture of rubber products (NACE Group 25.1)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	27 021	27 676	25 942	28 191	31 443	:	33 406	36 484	36 628	:	:
Number of persons employed (thousands)	345	331	309	300	301	:	296	303	297	291	:
Value added (million EUR)	12 085	12 338	11 700	12 608	13 293	:	13 638	14 347	14 612	14 739	:
Personnel costs (million EUR)	9 402	9 531	9 408	9 375	9 601	:	9 914	10 418	10 504	10 964	:
App. labour productivity (thous. EUR/pers. emp.)	35.0	37.2	37.9	42.0	44.1	:	46.0	47.4	49.1	50.6	:
Simple wage adjusted labour productivity (%)	128.5	129.5	124.4	134.5	138.5	:	137.6	137.7	139.1	134.4	:

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

Figure 6.20
Manufacture of rubber products
(NACE Group 25.1)
Share of value added in manufacturing,
2000 (%)



(1) 1999.

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

The value added growth recorded during the mid and late 1990s was not uniformly reflected in employment terms. The contraction in employment at the beginning of the 1990s continued until 1994, by which time value added had already started to increase. However, between 1998 and 2000 employment contracted again, despite growth in constant price value added. In 2000 EU employment in this subsector was 66 700 persons lower than 10 years earlier, most but not all of this fall having been registered by 1994. The contraction in the EU's workforce was concentrated in Germany, the United Kingdom and, to a lesser extent, France. The slower reduction in employment levels since 1994 was composed of continuing losses in Germany and the United Kingdom and sustained or new growth in several Member States, notably Belgium, Finland, Italy, Sweden and Spain.

Despite the high levels of contraction in employment recorded in Germany and France at the beginning of the 1990s, which continued longer in the case of Germany, these two countries still accounted for close to half of the EU's value added and employment in this subsector in 2000. Luxembourg was the most specialised Member State in 2000 (as in previous years), as the rubber manufacturing subsector contributed 5.9 % of manufacturing value added in this country. In no other Member State did this share rise above 1.8 %, although France, Spain and Italy were all relatively more specialised than the EU average. The least specialised countries were Ireland, Greece (both 1999), the Netherlands and Denmark, where this subsector generated less than 0.5 % of manufacturing value added.

Large enterprises were responsible for a larger proportion of value added in the rubber products subsector than in manufacturing on average, and in this respect this subsector displayed a structure closer to the manufacture of chemicals than to plastics manufacturing. In 2000⁽²⁷⁾ medium and large enterprises (those with 50 or more persons employed) generated 88.7 % of EU value added in this subsector.

After growing during the first half of the 1990s (2.2 % per annum on average, 1990 to 1995), and in 1996, EU output prices for the rubber manufacturing subsector fell for three consecutive years, before increasing slightly (0.2 %) in 2000 and more clearly (1.8 %) in 2001.

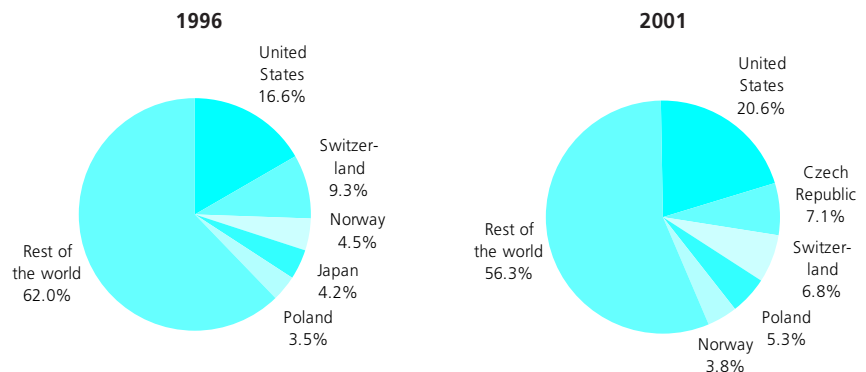
LABOUR AND PRODUCTIVITY

Apparent labour productivity in the EU's rubber manufacturing subsector was EUR 50 600 per person employed in 2000, below the manufacturing average (as it had been throughout the 1990s). This was a situation repeated in 2000 in most of the Member States, the main exceptions being Portugal (1999), Spain and Greece (1999) where apparent labour productivity was higher in rubber manufacturing, more than 50 % higher in the case of Portugal. In Luxembourg apparent labour productivity in the rubber manufacturing subsector bounced back from EUR 59 900 per person employed in 1999 to EUR 71 400 in 2000, a level that was close to that recorded already in 1998. As a result, Luxembourg recorded labour productivity in this subsector that was higher than the national manufacturing average.

⁽²⁷⁾ B, IRL, A and P, 1999; NL, 1998; EL and L, not available or incomplete.

In several Member States average personnel costs in the rubber manufacturing subsector were in excess of respective manufacturing averages. This was not only in the Member States that had recorded higher apparent labour productivity, but also in Denmark, Italy, Austria, Finland and the United Kingdom. Unsurprisingly the resulting wage adjusted labour productivity, which shows the relation between value added and personnel costs, was lower in this subsector than the manufacturing average in nearly every Member State in 2000. Portugal (1999) and Greece (1998) were the only Member States where the rubber manufacturing subsector reported higher productivity using this measure, although in Belgium there was little difference between the ratio for this subsector and for manufacturing.

Figure 6.21
Rubber products (CPA Group 25.1)
Destination of extra-EU exports

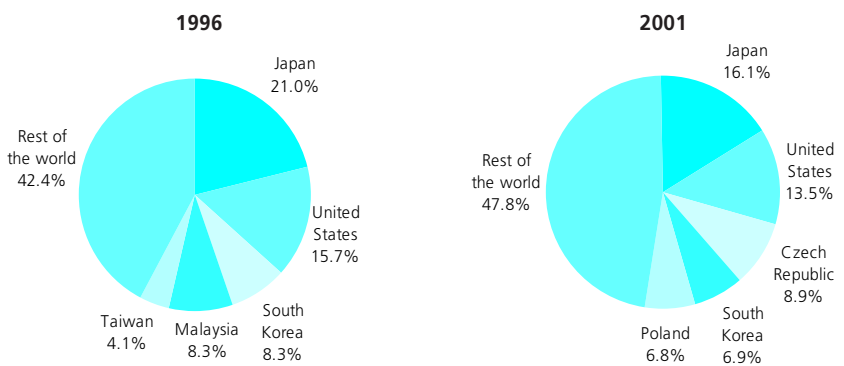


Source: Eurostat, Comext.

EXTERNAL TRADE

The EU's external trade in rubber products recorded a small deficit in 2001, as imports (EUR 6.7 billion) exceeded exports (EUR 6.1 billion) by 8.5 %, the fourth consecutive year that a deficit was recorded. Compared to 2000 the deficit increased by EUR 203 million as a result of a 4.4 % increase in imports and a 1.3 % increase in exports. Considering intra-EU and extra-EU trade together, France, Italy, Spain, Germany and Luxembourg all recorded a surplus for rubber products in 2001, although France's was the only surplus that exceeded EUR 1 billion. Austria and the United Kingdom were the only countries to record a trade deficit in these products in excess of EUR 500 million.

Figure 6.22
Rubber products (CPA Group 25.1)
Origin of extra-EU imports



Source: Eurostat, Comext.

The Czech Republic accounted for a particularly large proportion of the EU's exports of rubber products (7.1 %) relative to its share of all manufactured goods (2.8 %). It was the second largest destination for EU exports in 2001 after the United States (24.6 %), having pushed Switzerland into third place.

Rubber products were the only CPA group among chemicals, rubber and plastics where Japan was the largest source of EU imports. In 2001 Japan provided 16.1 % of EU imports, ahead of the United States (13.5 %) and the Czech Republic (8.9 %). While the United States, Japan and several other Asian countries faced a reduction in their shares of EU imports between 2000 and 2001, several European countries, notably Poland, Slovakia, the Czech Republic and Turkey, gained market share.

6.9: PLASTICS

This subchapter covers plastic products which are subdivided in the NACE classification into four categories: the manufacture of plastic sheets, pipes and tubes; the manufacture of plastic packaging goods, such as bags, containers and bottles; the manufacture of various plastic products for the construction sector such as doors, frames and baths; and the manufacture of other plastic products, such as insulating and lighting fittings. The manufacture of plastic games, toys, footwear, furniture and linoleum are not considered as part of the plastics manufacturing subsector.

The plastics manufacturing subsector converts primary plastics resulting from the manufacture of basic chemicals (see Subchapter 6.1) into intermediate or final products using a variety of methods such as injection moulding and extrusion. Table 6.24 shows EU production data for a selection of plastic products.

Table 6.24
Selected plastic products (CPA Group 25.2) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Monofilament with any cross-sectional dimension > 1 mm; rods, sticks and profile shapes of plastics	25.21.10.50 to 25.21.10.90	2000	3 594.6
Artificial guts (sausage skins) of hardened protein or cellulosic materials	25.21.21.30	2000	547.8
Rigid tubes, pipes and hoses of plastics excluding of polymers of ethylene	25.21.21.55, 25.21.21.57 and 25.21.21.70	2000	3 285.2
Other plastic tubes, pipes & hoses	25.21.22.20 to 25.21.22.50	2000	2 167.0
Plastic fittings for plastic tubes, pipes and hoses (including joints, elbows and flanges)	25.21.22.70	1999	1 274.1
Other plates etc. of polymers of ethylene, not reinforced, thickness <= 0.125 mm	25.21.30.10	2000	4 539.6
Strips, thickness > 0.1 mm	25.21.30.25 to 25.21.30.29	2000 (1)	586.7
Other plates etc. of polymers of styrene, not reinforced	25.21.30.30	2000	989.0
Other plates etc. of polymers of vinyl chloride, rigid	25.21.30.41 to 25.21.30.44	2000	1 114.0
Other plates etc. of polymers of vinyl chloride, flexible	25.21.30.46 to 25.21.30.49	2000 (2)	1 591.8
Cellular plates, sheet, film, foil or strip of polymers of styrene or vinyl chloride	25.21.41.20 and 25.21.41.30	2000	2 038.3
Plastic sacks and bags (including cones)	25.22.11.00 and 25.22.12.00	2000 (3)	6 388.1
Plastic boxes, cases, crates and similar articles for the conveyance or packing of goods	25.22.13.00	1999	3 801.6
Plastic carboys, bottles, flasks and similar articles for the conveyance or packing of goods, of a capacity <= 2 litres	25.22.14.50	2000	4 041.1
Plastic spools, cops, bobbins and similar supports	25.22.15.21 and 25.22.15.23	2000	1 058.6
Plastic stoppers, lids, caps and other closures (excluding for bottles)	25.22.15.27	2000	2 206.6
Floor coverings in rolls or in tiles and wall or ceiling coverings of plastics	25.23.11.55 to 25.23.11.90	2000	1 881.8
Plastic baths, shower-baths, wash-basins, lavatory seats and covers, bidets, lavatory pans, flushing cisterns and similar sanitary ware	25.23.12.50 to 25.23.12.90	2000	2 121.3
Plastic reservoirs, tanks, vats, intermediate bulk and similar containers, of a capacity > 300 litres	25.23.13.00	2000	843.8
Plastic doors, windows, window frames, door thresholds, shutters, blinds and similar articles and parts thereof	25.23.14.50 and 25.23.14.70	2000 (4)	9 597.2
Builder's fittings and mountings intended for permanent installation of plastics	25.23.15.50	1998	1 437.6
Other articles of plastic for construction including rawl plugs and other wall plugs, trunking, ducting and cable trays for electrical circuits	25.23.15.90	1999	1 340.2
Plastic parts for lamps, lighting fittings and illuminated signs and name-plates	25.24.24.00	2000	561.0
Insulating fittings of plastic for electrical machines, appliances or equipment (excluding electrical insulators)	25.24.26.00	2000	593.4
Plastic fittings for furniture, coachwork or the like	25.24.28.20	2000	610.1

(1) 1997 or 1999 for one or more headings in the aggregate.

(2) 1997 or 1998 for one or more headings in the aggregate.

(3) 1999 for one heading in the aggregate.

(4) 1998 for one heading in the aggregate.

Source: Eurostat, European production and market statistics (theme4/europrom).

Figure 6.23
Quantity of plastics consumption by application or sector in Europe, 2000 (1)

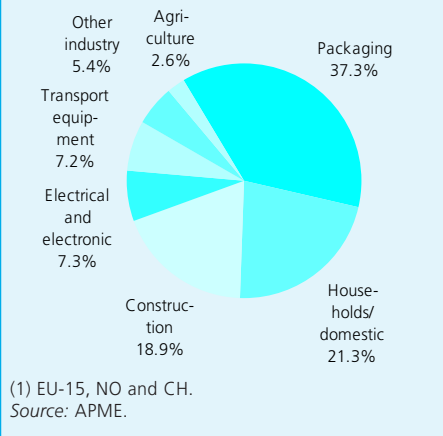


Figure 6.23 illustrates the importance of various key markets for the plastic products' subsector. Plastics are often a substitute for heavier and less robust materials, leading to reductions in the weight of packaged products and to reductions in energy consumption which counter the impact that end-of-life plastic products have on the environment. APME (28) estimate that in 2000 in western Europe (29) some 1.7 % of plastics waste was reused as raw materials (feedstock recycling), 10.3 % was recovered by mechanical recycling and 1 % exported for recycling. The proportion of waste undergoing mechanical recycling was considerably higher in 2000 than in 1999. A further 22.6 % of collectable plastics waste was used for energy recovery, while the remainder (64.4 %) was incinerated or disposed of as landfill.

STRUCTURAL PROFILE

The EU's plastics manufacturing subsector generated EUR 45.5 billion of value added in 2000. This subsector's share of manufacturing value added grew steadily for many years, rising from 2.9 % of the total in 1990 to 3.5 % 10 years later. The plastics manufacturing subsector accounted for 4.1 % of the EU's manufacturing employment in 2000, while its employment level was 962 300 persons.

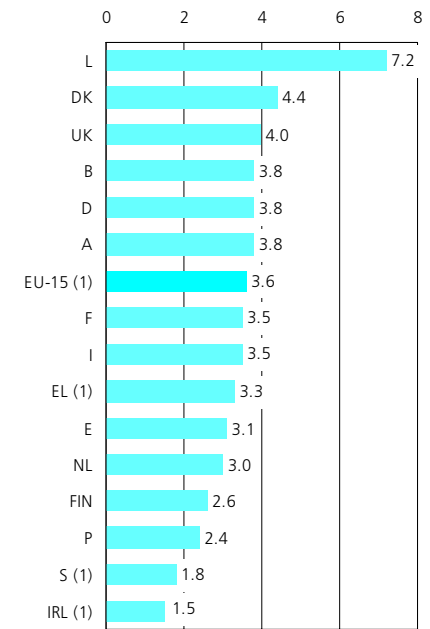
(28) Association of Plastics Manufacturers in Europe.
(29) EU-15, CH and NO.

Unlike much of the rest of manufacturing, the EU's plastics subsector did not record a contraction in value added (in constant prices) in the early 1990s. In fact, value added grew in constant price terms most years during the 1990s and recorded strong year-on-year growth in the most recent years for which data are available, up 7.4 % in 1998 and 4.2 % in 1999. More recent data for value added in current prices show a 5.2 % increase in 2000. Growth throughout the 1990s was widespread across the EU; although data are not available for all Member States, only Italy (-2.1 %, 1999) and Luxembourg (-9.6 %, 1998) reported a decrease of more than 1 % in value added at constant prices in recent years. The subsector recorded a net increase in employment in the EU of 3.8 % in 2000, continuing a sequence of positive employment growth back to 1993. In 2000 no Member State recorded a fall in employment (30), although Greece and Luxembourg both recorded a contraction of their respective workforces in 1999 in excess of 5 %.

The largest plastics manufacturing subsectors were in Germany and the United Kingdom, which together accounted for close to half of the EU's value added in this subsector and a slightly smaller proportion of employment. As with the rubber manufacturing subsector, Luxembourg was the EU's most specialised Member State in the plastics manufacturing subsector, having generated EUR 168.5 million of value added in 2000, equivalent to 7.2 % of its manufacturing value added. Denmark was the next most specialised country, where this subsector contributed 4.4 % of manufacturing value added. Apart from Ireland and Sweden (both below 2.0 %), this subsector accounted for between 2.4 % and 4.0 % of manufacturing value added in 2000 (31).

(30) EL, IRL, NL and UK, not available.
(31) EL, IRL and S, 1999.

Figure 6.24
Manufacture of plastic products (NACE Group 25.2)
Share of value added in manufacturing, 2000 (%)



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

Comparing the level of employment in 2000 (32) with that in 1993, the most recent low for EU employment in this subsector, every Member State recorded a net increase in employment, although in the case of Germany 2000 was the first year that the 1993 level of employment was surpassed. Austria, Finland, Denmark and Ireland reported the largest percentage growth in the number of persons employed over this period.

(32) EL, IRL and S, 1999; B, L and NL, time series incomplete.

Table 6.25
Manufacture of plastic products (NACE Group 25.2)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	80 928	82 876	81 639	88 874	99 585	:	110 681	116 886	119 674	:	:
Number of persons employed (thousands)	849	837	811	820	844	:	888	911	927	962	:
Value added (million EUR)	30 356	31 533	31 104	33 345	35 027	:	39 376	42 072	43 264	45 495	:
Personnel costs (million EUR)	20 563	21 679	21 658	22 513	23 504	:	26 021	27 275	28 505	30 717	:
App. labour productivity (thous. EUR/pers. emp.)	35.7	37.7	38.3	40.7	41.5	:	44.4	46.2	46.7	47.3	:
Simple wage adjusted labour productivity (%)	147.6	145.5	143.6	148.1	149.0	:	151.3	154.3	151.8	148.1	:

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

The manufacture of plastics stands out from most of the other subsectors in this chapter because of the relatively low importance of large enterprises and the greater role of medium-sized enterprises. In 2000, medium-sized enterprises (with between 50 and 249 persons employed) generated 35.4 % of the value added in the EU's ⁽³³⁾ plastics manufacturing subsector, more than 10 percentage points more than the manufacturing average. This situation was evident in all of the Member States for which 2000 data are available, with medium-sized enterprises generating at least one third of the subsector's value added in each country.

From 1996 to 1999 output prices for the EU's plastics manufacturing subsector fell by up to 1 % each year. In 2000 the output price index for this subsector rose fairly sharply (2.8 % compared to 1999) and in 2001 it rose by a further 1.0 %. Most Member States followed a similar pattern of falling prices or low price growth between 1995 and 1999, with a sharp increase in prices in 2000 and a more moderate one in 2001. Belgium was the only Member State to record a significant fall (-1.4 %) in output prices in this subsector in 2001.

⁽³³⁾ DK, IRL, L, A and FIN, not available or incomplete.

LABOUR AND PRODUCTIVITY

Like the rubber manufacturing subsector, the plastics manufacturing subsector regularly recorded a lower level of apparent labour productivity than the manufacturing average during the 1990s. Indeed, since 1992 this subsector has fallen further behind the manufacturing average every year. In 2000 the subsector recorded a level of apparent labour productivity of EUR 47 300 per person employed, some EUR 7 400 less than the manufacturing average. Among the Member States ⁽³⁴⁾ only in Luxembourg and Portugal did the plastics manufacturing subsector record higher apparent labour productivity than the manufacturing average. Equally, the same two Member States were the only ones to record higher average personnel costs per employee in plastics manufacturing than in the manufacturing average in 2000 ⁽³⁵⁾. Due to the particularly low average personnel costs, several Member States reported a wage adjusted labour productivity ratio that was higher for plastics manufacturing than that recorded for manufacturing as a whole.

⁽³⁴⁾ EL, IRL and S, 1999.

⁽³⁵⁾ DK, F, IRL and S, 1999; EL, 1998.

EXTERNAL TRADE

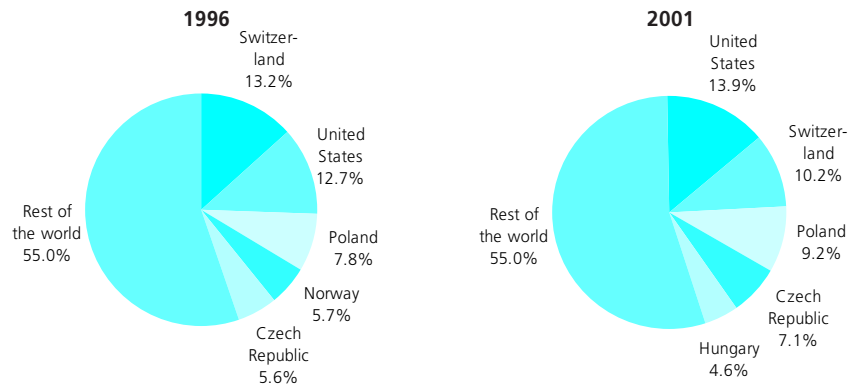
The EU's external trade in plastic products (CPA Group 25.2) was relatively low; in 2001 exports were valued at EUR 16.3 billion and imports at EUR 11.4 billion. As such, plastic products accounted for 1.8 % of manufactured exports and 1.4 % of manufactured imports, both representing a very small increase compared to 2000. The value of exports of plastic products grew by 6.7 % in 2001, while imports were relatively stable with growth of just 0.7 %. The trade surplus of EUR 4.9 billion was nearly EUR 1 billion higher than in 2000.

Combining intra- and extra-EU trade in these products, both Germany (EUR 6.3 billion) and Italy (EUR 3.7 billion) recorded large trade surpluses in 2001, both higher than in 2000. France (EUR -1.6 billion) and the United Kingdom (EUR -1.4 billion) recorded the largest deficits among the Member States although in France's case it was smaller than in 2000. The EUR 595 million of exports of plastic products from Luxembourg represented 5.4 % of the exports of all manufactured goods and made Luxembourg the most specialised of the Member States in the export of these products. The least specialised country was Ireland, where these products accounted for less than 1 % of manufactured exports.

The EU's exports of plastic products in 2001 were primarily destined for the United States, as was so often the case for manufactured goods. Nevertheless, the United States' 13.9 % share of the EU's plastic exports was 10.7 percentage points less than its share of all manufactured goods. The only Asian country in the top 10 export destinations was Japan with a 2.3 % share in ninth place: European countries dominated the top 10 EU export markets. The EU increased its share of plastics exports destined for Russia from 3.5 % of the total in 2000 to 4.3 % in 2001.

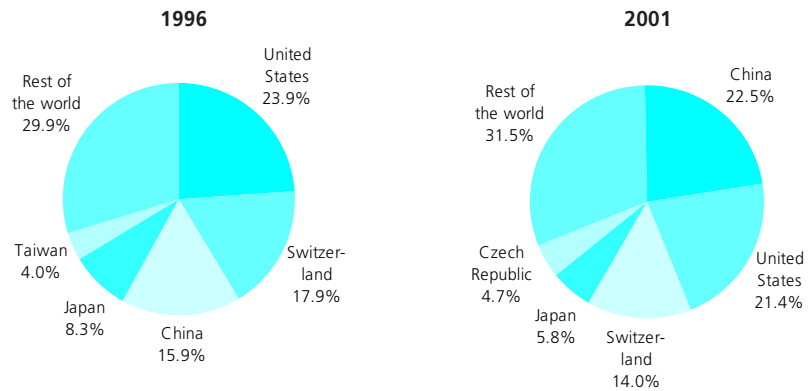
China overtook the United States as the largest supplier of EU imports of plastics in 2001, gaining 0.4 percentage points of market share compared to 2000 to reach 22.5 %, while the United States lost 1.5 percentage points to record a 21.4 % share of the total. Japan also lost 1.0 percentage points of market share but remained the fourth most important supplier behind Switzerland and ahead of the Czech Republic, both of whom gained about 0.5 percentage points of the EU's market.

Figure 6.25
Plastic products (CPA Group 25.2)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 6.26
Plastic products (CPA Group 25.2)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 6.26

Manufacture of basic chemicals (NACE Group 24.1)

Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L (2)	NL	A	P	FIN	S (1)	UK
Production (million EUR)	14 777	1 067	60 449	547	12 883	30 519	13 134	19 922	143	22 103	2 453	1 501	3 332	3 415	23 346
Number of persons employed (thousands)	27	4	209	3	35	71	7	49	0	28	6	5	9	14	65
Value added (million EUR)	3 808	387	19 082	189	3 343	6 617	6 828	3 783	45	4 288	756	315	983	1 072	5 834
Purchases of goods and services (million EUR)	12 307	720	51 457	405	11 377	27 396	6 476	17 339	86	20 775	1 857	1 269	2 586	2 766	22 124
Personnel costs (million EUR) (3)	1 754	97	12 594	120	1 375	3 806	334	2 010	7	1 630	360	137	393	642	3 698
Gross investment in tangible goods (million EUR) (4)	923.7	:	4 324.7	:	706.8	:	697.5	1 607.4	:	:	217.2	122.8	146.7	491.7	:
App. labour productivity (thous. EUR/pers. emp.)	139.2	98.3	91.4	58.0	94.3	93.1	965.7	77.8	333.5	150.8	120.5	61.8	111.9	77.8	90.2
Simple wage adjusted labour productivity (%) (3)	217.1	175.2	151.5	150.0	243.2	175.1	2 041.8	188.3	642.9	263.0	210.0	230.1	250.0	166.8	157.7
Gross operating rate (%) (3)	13.0	13.8	9.3	10.7	14.1	10.7	49.8	8.6	27.8	10.7	15.3	11.6	17.9	11.5	7.7

(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 6.27

Manufacture of pesticides and other agro-chemical products (NACE Group 24.2)

Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S	UK
Production (million EUR)	:	291	1 035	50	477	3 157	19	866	0	:	:	36	:	:	2 341
Number of persons employed (thousands)	:	1	4	1	2	7	0	2	0	:	:	0	:	:	6
Value added (million EUR)	:	105	361	20	166	713	0	220	0	:	:	10	:	:	816
Purchases of goods and services (million EUR)	:	180	695	45	471	4 103	25	767	0	:	:	37	:	:	1 789
Personnel costs (million EUR) (2)	:	:	238	17	76	386	4	113	0	:	:	7	:	:	347
Gross investment in tangible goods (million EUR) (3)	:	:	37.3	:	15.3	:	0.8	55.9	:	:	:	1.3	:	:	:
App. labour productivity (thous. EUR/pers. emp.)	:	110.9	93.8	36.0	75.8	105.2	-1.6	101.1	:	:	:	56.2	:	:	140.9
Simple wage adjusted labour productivity (%) (2)	:	:	152.0	205.2	217.6	185.7	-7.3	194.5	:	:	:	136.1	:	:	234.9
Gross operating rate (%) (2)	:	:	11.3	14.5	14.2	7.8	-17.6	10.9	:	:	:	5.4	:	:	18.2

(1) 1999. (2) F, 1999; EL, 1998. (3) D, 1999.

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

Table 6.28

Manufacture of paints, varnishes and similar coatings, printing ink and mastics (NACE Group 24.3)

Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	1 249	466	9 389	182	2 765	3 744	87	3 700	16	:	448	440	422	728	4 803
Number of persons employed (thousands)	5	2	46	2	16	19	1	15	0	7	3	5	2	3	24
Value added (million EUR)	399	115	2 997	70	824	1 142	33	981	8	:	173	149	133	244	1 590
Purchases of goods and services (million EUR)	1 435	409	9 837	121	2 273	3 169	68	2 857	10	:	371	324	366	557	3 596
Personnel costs (million EUR) (2)	244	101	2 191	29	490	799	17	579	3	:	124	82	76	142	994
Gross investment in tangible goods (million EUR) (3)	41.0	:	315.6	:	167.5	:	5.0	189.1	:	:	27.0	24.7	8.0	24.6	:
App. labour productivity (thous. EUR/pers. emp.)	85.0	46.4	65.0	41.4	51.2	61.3	60.6	66.9	69.9	:	59.4	32.7	63.8	72.3	66.9
Simple wage adjusted labour productivity (%) (2)	163.5	117.5	136.8	209.4	168.3	142.0	190.8	169.4	288.5	:	140.0	182.7	174.0	171.9	160.0
Gross operating rate (%) (2)	8.6	3.7	6.3	18.0	11.0	8.2	15.6	10.7	26.2	:	9.2	14.7	11.7	13.1	11.4

(1) 1999. (2) DK and F, 1999; EL, 1998. (3) D, 1999.

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

Table 6.29

Manufacture of pharmaceuticals, medicinal chemicals and botanical products (NACE Group 24.4)

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)	6 063	3 699	22 701	448	7 924	33 337	4 255	17 187	:	5 030	2 409	933	811	5 461	17 672
Number of persons employed (thousands)	17	11	111	4	37	97	8	69	:	15	10	7	6	19	63
Value added (million EUR)	2 745	1 660	8 802	136	2 719	9 754	2 579	6 258	:	1 034	976	337	381	2 390	8 113
Purchases of goods and services (million EUR)	4 048	2 108	16 624	529	6 734	25 477	1 766	13 540	:	4 205	1 835	749	506	3 152	11 679
Personnel costs (million EUR) (3)	1 003	747	6 236	119	1 601	4 886	271	3 632	:	551	538	189	202	977	3 525
Gross investment in tangible goods (million EUR) (4)	298.5	:	1 156.3	:	318.2	:	232.2	824.2	:	:	255.9	73.7	53.9	715.4	:
App. labour productivity (thous. EUR/pers. emp.)	156.9	145.0	79.1	34.8	73.5	100.5	312.2	91.0	:	:	93.2	46.9	64.7	123.0	127.9
Simple wage adjusted labour productivity (%) (3)	273.6	215.6	141.2	146.5	169.8	176.2	950.9	172.3	:	187.6	181.6	177.9	188.9	244.7	230.2
Gross operating rate (%) (3)	29.2	24.7	10.0	7.9	12.4	12.3	55.5	13.4	:	9.8	15.2	13.7	21.2	29.3	23.6

(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 6.30

Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations (NACE Group 24.5)
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)	1 498	351	10 699	587	5 082	15 478	598	6 867	:	911	324	320	78	241	9 029
Number of persons employed (thousands)	6	2	48	4	27	50	3	19	:	5	2	3	1	1	41
Value added (million EUR)	472	109	2 954	222	1 411	3 831	270	1 708	:	305	99	85	23	94	3 585
Purchases of goods and services (million EUR)	1 355	303	9 187	465	4 124	12 943	338	5 935	:	745	337	276	73	203	6 377
Personnel costs (million EUR) (3)	267	61	2 452	99	789	2 334	86	800	:	167	77	52	19	61	1 644
Gross investment in tangible goods (million EUR) (4)	51.8	:	430.8	:	172.7	:	35.4	170.5	:	:	9.2	15.2	1.9	12.9	:
App. labour productivity (thous. EUR/pers. emp.)	77.5	62.4	61.8	52.9	52.0	77.1	84.3	90.6	:	:	53.9	31.1	41.5	63.1	88.1
Simple wage adjusted labour productivity (%) (3)	176.7	170.3	120.5	243.8	178.8	155.2	314.7	213.5	:	182.8	128.6	164.4	124.3	153.8	218.1
Gross operating rate (%) (3)	11.4	11.3	4.2	19.5	11.4	8.4	30.7	11.9	:	13.2	5.1	9.4	8.3	11.2	19.4

(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 6.31

Manufacture of other chemical products (NACE Group 24.6)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL (2)	A (1)	P	FIN (1)	S (3)	UK
Production (million EUR)	:	114	10 929	69	2 556	7 008	:	6 432	266	2 350	314	192	224	477	7 069
Number of persons employed (thousands)	:	1	48	1	14	31	:	20	1	10	2	2	1	2	30
Value added (million EUR)	:	40	3 646	29	806	2 021	:	1 506	71	763	114	48	77	164	2 664
Purchases of goods and services (million EUR)	:	92	8 853	50	2 187	5 386	:	5 394	268	1 823	280	171	164	369	5 397
Personnel costs (million EUR) (4)	:	98	2 422	12	471	1 395	:	824	40	393	80	34	43	104	1 482
Gross investment in tangible goods (million EUR) (5)	:	:	441.3	:	125.0	:	:	380.6	:	:	10.0	38.4	10.4	16.3	:
App. labour productivity (thous. EUR/pers. emp.)	:	47.2	75.8	39.6	58.3	66.1	:	74.2	84.2	:	65.9	23.2	65.4	67.9	89.7
Simple wage adjusted labour productivity (%) (4)	:	125.6	150.5	198.3	171.2	137.6	:	182.9	176.7	194.1	142.0	140.2	180.6	157.7	179.8
Gross operating rate (%) (4)	:	8.3	9.8	17.7	11.5	7.2	:	10.1	9.0	14.6	8.5	6.5	14.8	11.4	14.7

(1) 1999.

(2) All except persons employed, 1998.

(3) 1998.

(4) DK and F, 1999; EL, 1998.

(5) D, 1999.

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

Table 6.32

Manufacture of man-made fibres (NACE Group 24.7)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A (1)	P	FIN (1)	S	UK
Production (million EUR)	649	230	4 149	42	977	637	:	1 953	:	577	495	161	91	:	1 383
Number of persons employed (thousands)	3	1	18	1	5	2	:	8	:	:	3	1	1	:	5
Value added (million EUR)	161	73	1 245	15	295	130	:	502	:	173	170	30	15	:	507
Purchases of goods and services (million EUR)	637	158	3 455	34	868	546	:	1 561	:	405	348	133	77	:	1 331
Personnel costs (million EUR) (2)	100	:	842	13	170	97	:	303	:	81	149	19	18	:	238
Gross investment in tangible goods (million EUR) (3)	28.3	:	166.1	:	128.3	:	:	131.7	:	:	40.0	12.0	1.9	:	:
App. labour productivity (thous. EUR/pers. emp.)	62.4	67.2	69.8	21.4	58.0	55.5	:	59.9	:	:	51.4	37.5	28.6	:	112.6
Simple wage adjusted labour productivity (%) (2)	160.8	:	147.9	166.4	173.6	133.1	:	165.7	:	213.6	114.7	157.0	80.7	:	212.8
Gross operating rate (%) (2)	7.8	:	8.7	18.5	12.0	5.4	:	10.0	:	15.8	4.2	7.0	-3.5	:	14.9

(1) 1999.

(2) F, 1999; EL, 1998.

(3) D, 1999.

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

Table 6.33

Manufacture of rubber products (NACE Group 25.1)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	1 033	205	9 979	62	3 892	9 022	115	6 240	305	461	577	432	378	838	4 491
Number of persons employed (thousands)	6	2	75	1	33	70	2	42	2	3	4	5	3	6	38
Value added (million EUR) (2)	346	85	4 064	25	1 603	3 275	39	2 091	138	179	246	142	174	336	1 954
Purchases of goods and services (million EUR)	1 061	122	8 340	38	3 063	6 544	78	5 235	274	314	508	299	236	538	3 179
Personnel costs (million EUR) (3)	220	62	3 216	12	1 120	2 428	35	1 374	113	126	178	81	103	227	1 529
Gross investment in tangible goods (million EUR) (4)	57.1	:	521.0	:	245.3	:	6.0	377.5	:	:	32.5	51.0	35.5	33.8	:
App. labour productivity (thous. EUR/pers. emp.) (2)	62.1	45.3	53.9	43.0	48.9	46.9	26.2	50.1	71.4	53.5	58.1	27.0	63.6	52.1	51.5
Simple wage adjusted labour productivity (%) (5)	157.3	118.5	126.4	184.7	143.1	132.6	114.2	152.2	122.1	142.7	138.1	210.2	169.7	148.3	127.8
Gross operating rate (%) (3)	9.0	7.6	6.9	16.5	10.6	8.5	4.2	10.0	6.0	11.0	9.1	18.5	18.7	12.7	8.2

(1) 1999.

(2) P, 1999.

(3) DK and F, 1999; EL, 1998.

(4) D, 1999.

(5) DK, F and P, 1999; EL, 1998.

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

Table 6.34

Manufacture of plastic products (NACE Group 25.2)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	5 699	2 192	37 971	656	10 018	21 267	1 049	18 993	479	4 629	3 242	1 497	2 022	1 907	21 604
Number of persons employed (thousands)	25	19	285	8	86	146	9	110	2	27	23	19	15	14	170
Value added (million EUR)	1 669	945	14 082	263	3 140	6 422	408	5 320	169	1 463	1 196	431	810	722	8 311
Purchases of goods and services (million EUR)	4 769	1 360	26 807	461	7 784	15 885	683	14 161	360	3 441	2 319	1 200	1 292	1 298	14 437
Personnel costs (million EUR) (2)	1 059	604	10 304	134	1 923	4 408	223	3 123	91	932	845	253	475	500	5 462
Gross investment in tangible goods (million EUR) (3)	325.0	:	2 023.1	:	592.4	:	79.4	1 130.6	:	:	240.4	155.3	143.0	173.7	:
App. labour productivity (thous. EUR/pers. emp.)	65.6	50.4	49.4	32.7	36.4	43.9	44.8	48.4	88.0	53.6	51.3	22.9	53.5	51.1	48.7
Simple wage adjusted labour productivity (%) (2)	157.6	147.7	136.7	186.2	163.3	142.4	182.9	170.3	185.0	156.9	141.5	170.3	170.5	144.3	152.2
Gross operating rate (%) (2)	9.6	13.8	9.3	16.3	11.4	9.4	17.2	11.5	14.7	10.9	10.1	11.2	16.6	11.1	12.5

(1) 1999.

(2) DK and F, 1999; EL, 1998.

(3) D, 1999.

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

Table 6.35

Manufacture of chemicals and chemical products; manufacture of rubber and plastic products (NACE Subsections DG and DH)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (2)	TR
Production (million EUR)	973	203	5 806	255	4 339	182	487	:	12 276	2 159	1 612	1 946	:
Number of persons employed (thousands) (3)	50	3	101	6	67	6	12	:	233	116	34	:	:
Value added (million EUR)	250	75	1 544	60	1 315	54	68	:	3 887	565	329	549	:
Purchases of goods and services (million EUR)	817	:	4 774	230	2 969	128	435	:	9 958	1 874	1 354	1 355	:
Personnel costs (million EUR)	128	:	665	32	521	23	60	:	1 776	337	192	405	:
Gross investment in tangible goods (million EUR) (4)	66.1	13.3	452.3	11.8	500.4	24.5	46.2	:	1 153.7	311.4	145.9	167.5	:
App. labour productivity (thous. EUR/pers. emp.) (3)	5.0	25.2	15.3	9.8	19.6	8.4	5.6	:	13.2	4.9	9.5	:	:
Simple wage adjusted labour productivity (%)	194.8	:	232.2	190.5	252.4	234.9	113.5	:	218.9	168.0	171.4	135.6	:
Gross operating rate (%)	11.8	:	14.3	9.9	17.2	17.6	1.6	:	16.0	10.2	7.9	6.9	:

(1) 1998.

(2) 1999.

(3) PL, 1998.

(4) CZ and HU, 1999.

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

Metals



Demand for metals comes from a wide range of industrial applications and products. However, with the introduction of plastics and ceramics, many uses have come under threat from substitute materials. The metals' sector has reacted to these pressures by developing its own products with more advanced physical and technical properties.

Aside from their principal use in the machinery and equipment and transport equipment sectors, metals are also used as building elements in the construction sector (as steel sub-structures, lightweight aluminium windows or doors or zinc-based roof materials). Copper dominates the market for domestic water and heating pipes and is also predominantly used as cabling for households. Metals are also used for packaging (for example, aerosols, cans and containers for pharmaceuticals and cosmetics or alternatively tins for food and beverages).

According to the World Bureau of Metal Statistics and the International Iron and Steel Institute (IISI) the output of most non-ferrous metals grew during the years 1991 to 2001 by at least 25 % in volume terms, and particularly high growth rates were recorded for nickel (41.2 %) and copper (46.0 %). On the other hand, world production of crude steel (847 million tonnes in 2001) rose by 15.5 %. Nevertheless, steel remained by far the most important metal, as its annual production in volume terms was almost 35 times that of aluminium (24.5 million tonnes), which in turn was twice that of copper (12.0 million tonnes).

According to the IISI, the production of metals from secondary materials has become one of the fastest growth areas within this sector. For example, electro-steel plants that produce steel from scrap accounted for around one third of the world's output of crude steel in 2000. One advantage of using secondary materials is that energy costs are substantially lower.

NACE Division 27 covers the manufacture of basic metals, including iron, steel and ferro-alloys, basic precious and non-ferrous metals. It also includes first processing stages that cover activities such as the manufacture of tubes, bars, strips, wires and sheets of metal and the casting of metals. This sector of the economy uses metals that are initially mined or quarried (see Chapter 2).

NACE

- 27: manufacture of basic metals;
- 27.1: manufacture of basic iron and steel and of ferro-alloys (ECSC*);
- 27.2: manufacture of tubes;
- 27.3: other first processing of iron and steel and production of non-ECSC* ferro-alloys;
- 27.4: manufacture of basic precious and non-ferrous metals;
- 27.5: casting of metals.

(*) ECSC: European Coal and Steel Community.

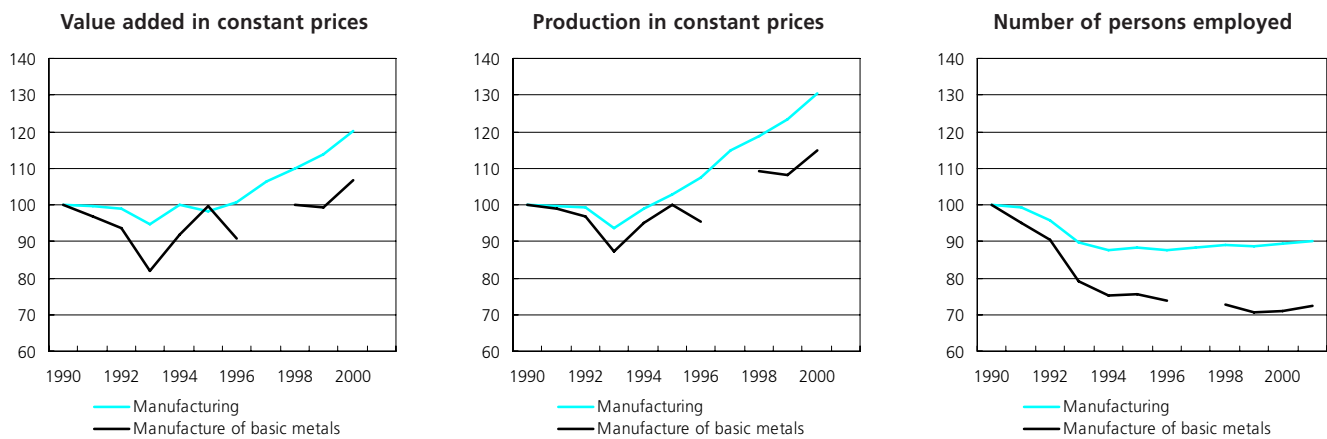
Table 8.1

Manufacture of basic metals (NACE Division 27) Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	158 512	150 802	135 521	152 379	186 040	170 897	:	190 163	175 651	199 757	197 649
Number of persons employed (thousands)	1 183	1 126	985	936	940	917	:	906	879	881	899
Value added (million EUR)	45 188	42 530	37 205	44 363	53 813	47 374	:	50 908	47 385	53 528	53 091
Personnel costs (million EUR)	36 186	36 101	32 456	32 102	33 940	33 892	:	34 454	33 708	34 550	34 943
App. labour productivity (thous. EUR/pers. emp.)	38.2	37.8	37.8	47.4	57.3	51.7	:	56.2	53.9	60.8	59.0
Simple wage adjusted labour productivity (%)	124.9	117.8	114.6	138.2	158.6	139.8	:	147.8	140.6	154.9	151.9

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

Figure 8.1
Manufacture of basic metals (NACE Division 27)
Main indicators in the EU (1990=100)



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

STRUCTURAL PROFILE

The metals' manufacturing sector generated EUR 53.1 billion of value added in 2001, which was equivalent to 4.0 % of total manufacturing output. This can be compared to the start of the 1990s when the metals' sector accounted for 5.3 % of total manufacturing in the EU. The metals' sector employed just under 900 000 persons in 2001, which was 3.8 % of the manufacturing total.

The largest activity within the metals' sector at the level of NACE groups was the manufacture of basic iron and steel and ferro-alloys (NACE Group 27.1) that accounted for 40.7 % of the EU's total value added in 2000. Its share of output fell almost continuously during the course of the 1990s from a high of 48.9 % in 1990.

The next largest group was the manufacture of basic precious and non-ferrous metals (NACE Group 27.4) with 25.5 % of value added ⁽¹⁾. This sub-sector gained 5 percentage points compared to 1990. As such, the structure of the metals' industry shifted during the 1990s away from iron and steel production towards substitute products made of non-ferrous metals (for example, aluminium).

⁽¹⁾ EL, IRL and S, 1999.

The third largest activity was casting (NACE Group 27.5) with 16.9 % of the value added derived in the metals' sector ⁽²⁾, while the two remaining groups (manufacture of tubes and other first processing of iron and steel) both accounted for close to one tenth of sectoral output.

Germany was the leading producer of basic metals in the EU in 2000, with 30.3 % of the EU's value added. France, Italy and the United Kingdom all reported shares of more than 10 % of the EU's output. In relative terms, the basic metals' industry was most important in Luxembourg, where it contributed one fifth (20.0 %) of manufacturing value added in 2000 ⁽³⁾. The next highest share was recorded in Belgium (7.4 %), followed by Austria (7.0 %) and Greece (6.4 %, 1999). At the other end of the scale the metals' sector accounted for less than 3 % of manufacturing value added in the United Kingdom, Portugal, Denmark and Ireland (1999).

⁽²⁾ EL, IRL, A, FIN and S, 1999; L, not available.

⁽³⁾ EL, IRL and S, 1999.

Between 1990 and 2000 the value added of the EU's metals' sector grew at an average rate of 0.7 % per annum in constant price terms, which was less than half the average recorded for the whole of the manufacturing sector (1.9 %).

The metals' sector is one that is dominated by large enterprises, with only four manufacturing NACE divisions reporting that a higher share of value added was derived from enterprises with more than 20 persons employed - see Table 9 of the introductory chapter. In 1999, large enterprises (with 250 or more persons employed) accounted for 69.3 % of the EU's value added in this sector. Large enterprises generated the majority of value added in every Member State in 2000 ⁽⁴⁾, with their share of national output rising to between 80 and 85 % in Belgium, France, the Netherlands, Austria, Finland and Sweden.

⁽⁴⁾ B, DK, I and P, 1999; UK, 1997; IRL and L, not available.

Table 8.2

Manufacture of basic metals (NACE Division 27)
Main indicators in the EU, growth rates (%) (1)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	5-year AAGR	10-year AAGR
Value added in constant prices												
Manufacturing	-0.7	-4.3	5.5	-1.6	2.4	5.6	3.3	3.7	5.8	:	4.1	1.9
Manufacture of basic metals	-3.3	-12.3	12.0	8.5	-9.0	:	:	-0.7	7.4	:	1.4	0.7
Production in constant prices												
Manufacturing	-0.4	-5.9	5.7	4.0	4.6	6.9	3.3	3.8	5.7	:	4.9	2.7
Manufacture of basic metals	-2.1	-9.8	9.1	5.2	-4.5	:	:	-0.8	6.1	:	2.8	1.4
Number of persons employed												
Manufacturing	-3.4	-6.4	-2.3	0.9	-0.9	0.8	0.7	0.0	1.2	0.9	0.6	-0.9
Manufacture of basic metals	-4.9	-12.5	-5.0	0.3	-2.4	:	:	-2.3	3.5	2.0	-0.4	-2.7

(1) AAGR (average annual growth rates) are given with respect to the latest published year for each activity.
 Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

LABOUR AND PRODUCTIVITY

In many ways the workforce of the metals' sector is a typical example of a traditional, industrial sector. A high proportion (97.1 %) of the EU's labour force were employees in 2001, with men accounting for almost 9 out of 10 (87.4 %) persons in employment, while just 4.1 % of the workforce worked on a part-time basis. In comparison to 1995, there was little evolution in the structure of the workforce. Indeed, the differences for all three characteristics noted above did not change by more than one percentage point over the six-year period considered.

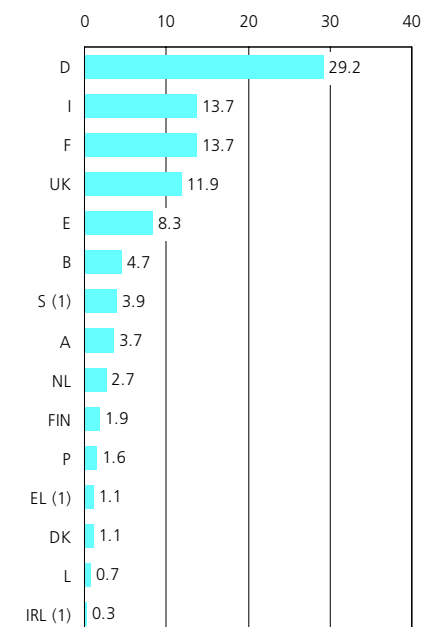
Among the Member States, labour force characteristics were generally close to the EU average. The share of women employed in the metals' sector in 2001 ⁽⁵⁾ only rose above 20 % in Sweden and Denmark. Employees contributed more than 90 % of the workforce in the vast majority of Member States, with Ireland and Italy the only exceptions to this rule. The Netherlands (28.8 %) was the only Member State where the proportion of those working on a part-time basis rose above 10 %.

⁽⁵⁾ P, not available.

The EU metals' sector had apparent labour productivity of EUR 59 000 per person employed in 2001, some EUR 3 000 above the manufacturing average. This higher productivity was observed in the majority of Member States, as in 2000 ⁽⁶⁾ productivity in the metals' sector rose 72 % above the manufacturing average in Spain, 52 % higher in Portugal and 40 % higher in Greece (1999). Only three Member States reported that their labour productivity in this sector was below their respective manufacturing average (the United Kingdom, Denmark and Ireland).

⁽⁶⁾ EL, IRL and S, 1999.

Figure 8.2
Manufacture of basic metals
(NACE Division 27)
Share of number of persons employed in the EU, 2000 (%)



(1) 1999.

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

EXTERNAL TRADE

The EU's trade position for basic metals (CPA Division 27) was negative throughout the whole of the 1990s and into the new millennium. The deficit widened during this period from EUR 1.1 billion in 1992 to EUR 17.5 billion by 2000, to recover somewhat to EUR 15.4 billion in 2001. There was no change in the value of EU exports to non-Community countries between 2000 and 2001 (EUR 37.5 billion), while imports fell by 3.7 % to EUR 53.0 billion.

The relative importance of exports of basic metals as a share of total manufacturing exports fell from 6.0 % in 1991 to 4.1 % by 2001. A similar, but less rapid, evolution was observed for imports, whose share of the total fell from 7.6 to 6.5 %.

The EU's principal trading partners for basic metals were the United States (20.8 %) and Switzerland (11.7 %), the only countries to account for more than 5 % of total EU exports in 2001. In relative and absolute terms, exports of basic metals to the United States, Poland, the Czech Republic, Hungary, China and India grew at the most rapid pace between 1991 and 2001.

Russia (11.8 %) was the principal origin of EU imports of metals in 2001, followed by the United States (10.4 %), Switzerland (10.3 %), South Africa (7.8 %) and Norway (7.4 %); no other country recorded more than a 5 % share. Asian and eastern European countries were the main beneficiaries when looking at the change in the structure of EU imports between 1991 and 2001. China, Russian Federation and the former Soviet republics of the Ukraine and Kazakhstan all increased their respective shares of EU imports during this period, as did Turkey, Romania and Bulgaria, usually to the detriment of African and American countries (especially South Africa, Canada, Brazil and Zambia).

Table 8.3

Basic metals (CPA Division 27)
External trade for the EU, 2001 (million EUR)

	Exports	Imports	Trade balance	Cover ratio (%)
Basic metals	37 537	52 976	-15 439	70.9
Basic iron and steel and ferro-alloys (ECSC)	11 222	9 304	1 918	120.6
Tubes	6 075	2 231	3 844	272.3
Other iron and steel and non-ECSC ferro-alloys	3 510	3 805	-295	92.2
Basic precious metals and metals clad with precious metals	16 617	37 590	-20 973	44.2
Foundry work services	:	:	:	:

Source: Eurostat, Comext.

Table 8.4

Basic metals (CPA Division 27)
Extra-EU exports from the EU

	1991		2001		Change in export value	Change in export share
	(million EUR)	(%)	(million EUR)	(%)	2001/1991 (%)	2001/1991 (% points)
Basic metals	21 477.7	100.0	37 537.1	100.0	74.8	-
Basic iron and steel and ferro-alloys (ECSC)	8 639.3	40.2	11 221.9	29.9	29.9	-10.3
Tubes	3 926.8	18.3	6 075.5	16.2	54.7	-2.1
Other iron and steel and non-ECSC ferro-alloys	1 753.5	8.2	3 509.7	9.4	100.2	1.2
Basic precious metals and metals clad with precious metals	6 771.2	31.5	16 617.0	44.3	145.4	12.7
Foundry work services	:	:	:	:	:	:

Source: Eurostat, Comext.

Table 8.5

Basic metals (CPA Division 27)
Extra-EU imports into the EU

	1991		2001		Change in import value	Change in import share
	(million EUR)	(%)	(million EUR)	(%)	2001/1991 (%)	2001/1991 (% points)
Basic metals	26 447.7	100.0	52 975.8	100.0	100.3	-
Basic iron and steel and ferro-alloys (ECSC)	3 075.3	11.6	9 304.1	17.6	202.5	5.9
Tubes	1 073.1	4.1	2 231.4	4.2	107.9	0.2
Other iron and steel and non-ECSC ferro-alloys	1 686.2	6.4	3 805.0	7.2	125.7	0.8
Basic precious metals and metals clad with precious metals	20 475.3	77.4	37 589.6	71.0	83.6	-6.5
Foundry work services	:	:	:	:	:	:

Source: Eurostat, Comext.

8.1: MANUFACTURE AND FIRST PROCESSING OF FERROUS METALS

This subchapter includes information covering three groups of the NACE classification, 27.1 to 27.3. The first of these is the manufacture of basic iron and steel and ferro-alloys (NACE Group 27.1), which covers the activities of the iron and steel industry as defined by the former European Coal and Steel Community (ESCS) Treaty. The manufacture of tubes (be they of iron or steel) is included in NACE Group 27.2, while other first processing activities within the iron and steel industry are contained within NACE Group 27.3.

The world output of crude steel peaked at 848 million tonnes in 2000, according to the IISI, to declined slightly in 2001. China was the world's main steel producing country, with output rising by 21.7 million tonnes from 2000 to reach 148.9 million tonnes in 2001 (or 17.6 % of the world total).

Demand for steel is dominated by the motor vehicles' sector, with steel accounting for approximately 50 % of the weight of an average motor vehicle. Transport equipment manufacturers are increasingly turning to lighter metals and recycled metals (both steel and non-ferrous metals) in part due to Community legislation such as Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles (7).

Conventional oxygen steelworks require a high degree of capital investment and this meant that the ferrous metals' subsector has traditionally been dominated by large enterprises. However, with the introduction of electro-steel plants (or mini steelworks), the costs of setting up a production facility were considerably reduced. Furthermore, mini steelworks use almost exclusively scrap material and substantially less energy than oxygen plants. According to the IISI, more than half of the crude steel produced in Spain, Italy and Luxembourg in 2001 was made using electric processes.

(7) OJ L 269, 21.10.2000, p. 34.

STRUCTURAL PROFILE

The manufacture and first processing of ferrous metals (NACE Groups 27.1 to 27.3) generated EUR 31.4 billion of value added in the EU in 2000 (8). Germany accounted for 27.4 % of the total, almost double the share of France (14.2 %), which was followed by Italy (13.4 %). In volume terms Germany was also the leading producer of crude steel in the EU (and the fifth largest manufacturer in the world) with output of 44.8 million tonnes in 2001. Five other Member States appeared in the top 20 steel producing nations using this measure: Italy (10th), France (11th), Spain (13th), the United Kingdom (16th) and Belgium (18th).

Among the individual NACE groups that make up this subchapter, the largest in terms of value added was the manufacture of basic iron and steel and ferro-alloys (NACE Group 27.1), which accounted for 68.0 % of the value added generated in the manufacture and first processing of ferrous metals' sector. Some main indicators relating to the manufacture of steel are provided in Table 8.6.

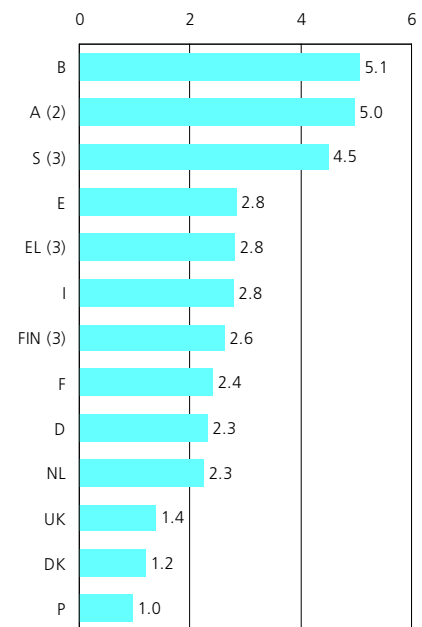
The output price index of basic iron and steel and ferro-alloys fell by 15.5 % overall between 1995 and 1999. It subsequently recovered by 11.3 % in 2000, but then lost a further 3.6 % in 2001, such that prices were still almost 10 % lower than they had been in 1995. There were also falling prices between 1995 and 2001 in the manufacture of tubes (- 2.1 %) and other first processing of iron and steel (- 5.2 %).

The metals' sector is dominated by large enterprises and nowhere is this more true than within the basic iron and steel and ferro-alloys subsector. Some 97.3 % of the value added generated in this subsector in Germany was derived from large enterprises, while corresponding shares in Italy and Spain were 91.0 % and 89.7 % (9). The largest steel producer in the world is Arcelor, which resulted from the merger of Aceralia (Spain), Arbed (Luxembourg) and Usinor (France) groups. Arcelor produced 43.1 million tonnes of crude steel in 2001. The EU had four more producers in the world's top 10 crude steel producers (see Table 8.7).

(8) EL, FIN and S, 1999; A, 1998; L, NACE Group 27.1 only; IRL, not available.

(9) No further data available for 2000.

Figure 8.3
Manufacture of basic iron and steel, tubes and other first processing of iron and steel (NACE Groups 27.1, 27.2 and 27.3)
Share of value added in manufacturing, 2000 (%) (1)



(1) EU-15, IRL and L, not available.

(2) 1998.

(3) 1999.

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

Table 8.6
Steel production, 2000 (thousand tonnes)

	Crude steel production	Production of long steel products	Production of flat steel products	Cold rolled plates and sheets of steel
EU-15	158 869	55 801	85 441	42 641
B	11 495	1 223	11 547	5 022
DK	392	232	403	0
D	44 999	12 527	24 483	12 149
EL	1 835	1 660	73	290
E	16 358	9 657	5 275	3 690
F	20 524	4 753	11 839	7 226
IRL	0	110	0	0
I	25 930	13 444	9 615	4 132
L	2 736	2 974	0	257
NL	6 144	249	5 086	2 410
A	6 208	1 171	4 080	1 717
P	800	865	0	236
FIN	4 001	592	3 249	1 558
S	5 730	769	3 925	1 178
UK	11 718	5 573	5 866	2 777

Source: Eurostat, Iron and Steel - monthly data 12/2002.

LABOUR AND PRODUCTIVITY

There were 461 000 persons employed in the manufacture and first processing of ferrous metals (NACE Groups 27.1 to 27.3) subsector in the EU in 2000 ⁽¹⁰⁾. As such, the number of persons employed fell by 38.8 % in comparison to 1990.

Apparent labour productivity was generally highest in the basic iron and steel and ferro-alloys subsector, with an average of EUR 74 000 of value added generated by each person employed in the EU in 2000. For other first processing activities the corresponding figure was EUR 60 000 ⁽¹¹⁾, while for the manufacture of tubes it was EUR 56 000.

⁽¹⁰⁾ EL, FIN and S, 1999; A, 1998; L, NACE Group 27.1 only; NL, NACE Group 27.2 only; IRL, not available.

⁽¹¹⁾ EL, FIN and S, 1999; IRL, L and NL, not available.

EXTERNAL TRADE

Contrary to the performance of the whole basic metals' sector, the EU ran a trade surplus for ferrous metal products (CPA Groups 27.1 to 27.3) in 2001 that was EUR 11.4 billion. This figure marked a reduction compared to a high of EUR 19.5 billion registered in 1994, but was a 35.0 % increase when compared to the surplus recorded in 2000.

Russia was the largest supplier of ferrous metals to EU markets in 2001, with a 10.8 % share of EU imports, 2 percentage points higher than the share of the whole Soviet Union in 1991. Ferrous metal consumption declined in Russia at a quicker pace than production and this probably led to a higher volume of metal available for export. Other countries that gained shares in the EU market for ferrous metal products over this 10-year period included Turkey, Ukraine, Bulgaria, South Korea, China and Kazakhstan.

Table 8.8
Basic iron and steel, tubes and other iron and steel (CPA Groups 27.1, 27.2 and 27.3)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	14 320	13 227	16 841	17 130	17 142	18 147	19 566	18 126	15 408	20 311	20 807
Extra-EU imports (million EUR)	5 835	6 088	5 313	7 361	11 060	9 210	10 486	13 546	11 178	16 018	15 340
Trade balance (million EUR)	8 485	7 138	11 528	9 769	6 082	8 938	9 080	4 580	4 231	4 294	5 467
Cover ratio (%)	245.4	217.3	317.0	232.7	155.0	197.1	186.6	133.8	137.8	126.8	135.6

Source: Eurostat, Comext.

Table 8.7
Top five largest steel producing companies in the EU, 2001 (million tonnes)

	Crude steel production	World ranking
Arcelor (E, F, L)	43.1	1
Ispat International (NL)	19.2	4
Corus (UK)	18.1	6
Thyssen Krupp (D)	16.2	7
Riva (I)	15.0	8

Source: IISI (International Iron and Steel Institute), available at <http://www.worldsteel.org>.

The EU exported almost one fifth (19.7 %) of its ferrous metals to the United States in 2001. This figure was 3.9 percentage points higher than the corresponding share in 1991, but 4.0 percentage points less than in 2000. There were three other export markets where the relative share of EU exports grew by at least 2 percentage points between 1991 and 2001, namely, Poland, the Czech Republic and China.

8.2: BASIC PRECIOUS AND NON-FERROUS METALS

NACE Group 27.4 covers the manufacture of a wide range of metals (other than iron and steel), including precious metals (such as gold, silver and platinum), aluminium, lead, zinc, tin, copper, chrome, nickel and manganese.

The non-ferrous metals manufacturing sector has also turned to the use of secondary production as a means of recycling materials and reducing energy costs. Table 8.9 provides information on the output of non-ferrous metals in the EU, as well as the EU's share of global secondary production. Aluminium in particular has established itself as a lightweight material that can be used as a substitute for steel (for example, in the manufacture of motor vehicles, where it is used for drive assemblies, chassis and wheels).

Table 8.9
Secondary production of metals in the EU, 2000 (thousand tonnes)

	Production	Share of EU in world secondary production (%)
Aluminium	2 341	28.2
Copper	864	44.1
Lead	944	32.2
Tin	9	35.1
Zinc	98	28.2

Source: USGS, Minerals Yearbook 2000.

STRUCTURAL PROFILE

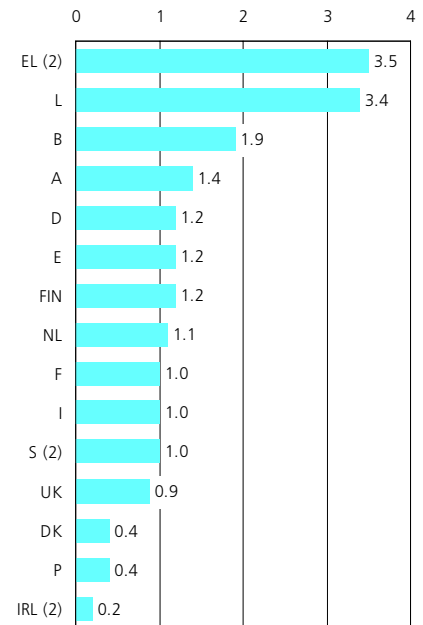
There were 189 000 persons employed in the EU's basic precious and non-ferrous metals' subsector in 2000 ⁽¹²⁾. The value added generated was EUR 14.0 billion in 2000 ⁽¹³⁾. Germany (32.0 %) accounted for almost one third of this total, while the United Kingdom, France and Italy each had shares of between 13.1 % and 11.0 % of EU value added.

Basic precious and non-ferrous metals were responsible for between 20 % and 30 % of the value added generated in the metals' sector in the majority of Member States in 2000. Austria, Sweden and Luxembourg reported rates below the level of 20 %, while the United Kingdom was just above 30 %. However, it was in Greece and Ireland that the basic precious and non-ferrous metals' subsector made its largest contribution, as it provided 54.6 % of sectoral value added in Greece and 61.0 % in Ireland (both 1999).

Consolidation within the aluminium sector gave rise to Hydro Aluminium (a merger between Norsk Hydro's aluminium activities and VAW Aluminium AG). In the process, Hydro Aluminium became the largest aluminium producer in Europe in 2002.

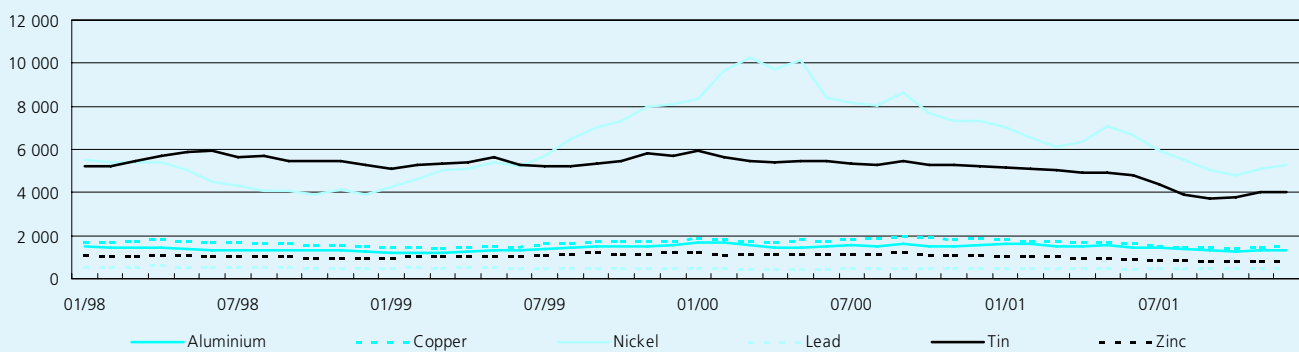
⁽¹²⁾ EL, IRL and S, 1999.
⁽¹³⁾ EL, IRL and S, 1999.

Figure 8.5
Manufacture of basic precious and non-ferrous metals (NACE Group 27.4)
Share of value added in manufacturing, 2000 (%) (1)



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

Figure 8.4
Metal prices (\$US per tonne, cash settlement price)



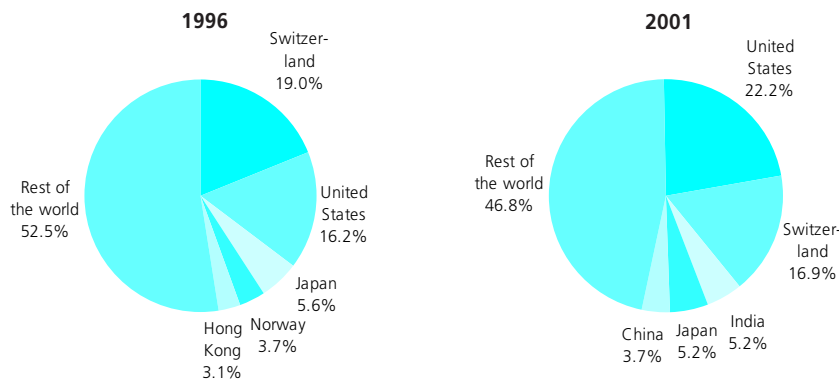
Source: LME.

EXTERNAL TRADE

Despite EU exports of basic precious metals and metals clad with precious metals (CPA Group 27.4) growing at a faster pace than EU imports (145.4 % compared to 83.6 %) between 1991 and 2001, the EU's trade deficit increased from EUR 13.7 billion in 1991 to EUR 21.0 billion in 2001. As a result, basic precious metals and metals clad with precious metals recorded the second highest trade deficit among all manufacturing CPA groups, behind other wearing apparel and accessories (CPA Group 18.2).

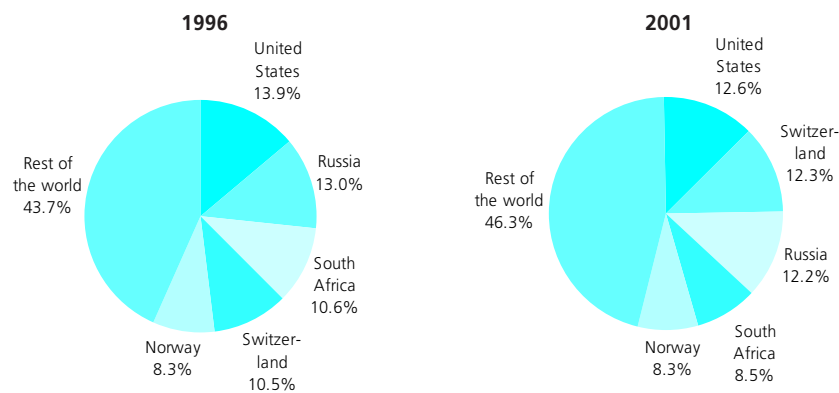
The main origin of EU imports of basic precious metals and metals clad with precious metals were the United States, Switzerland and Russia, all of which provided between 12 % and 13 % of the EU's imports in 2001. More than 10 % of the EU's imports in 2001 came from the three South American countries of Chile, Peru and Brazil.

Figure 8.6 Basic precious metals and metals clad with precious metals (CPA Group 27.4) Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 8.7 Basic precious metals and metals clad with precious metals (CPA Group 27.4) Origin of extra-EU imports



Source: Eurostat, Comext.

8.3: CASTING

The casting of metals is classified within NACE Group 27.5, covering the manufacture of semi-finished products, as well as castings for downstream customers according to tailor-made specifications. The information contained in this subchapter does not include the manufacture of standardised, finished cast products, such as pipes (treated as part of NACE Group 27.2) or boilers or radiators (treated as part of NACE Groups 28.2 and 28.3). Note also that external trade statistics do not exist for foundry work services (CPA Group 27.5) as for conceptual reasons there is no exchange of these services that are linked to manufacturing products.

STRUCTURAL PROFILE

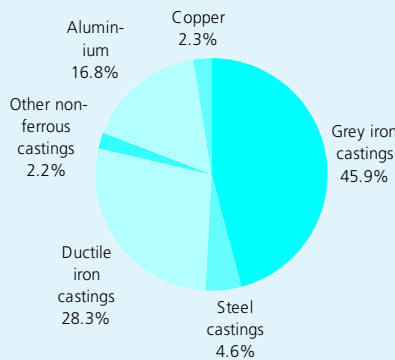
The casting subsector (NACE Group 27.5) was responsible for 16.9 % of the EU's value added and 24.0 % of the total number of persons employed in the metals' sector in 2000 (14). More detail on the breakdown of the production of the casting subsector is detailed in Figure 8.8.

Of the EUR 9.2 billion of value added generated in 2000, some 34.0 % was accounted for by Germany, followed by Italy (16.0 %) and the United Kingdom (15.2 %).

Relative to manufacturing value added, the most specialised countries in the casting subsector were Italy, Spain, Germany, Portugal and Austria; none of the remaining Member States were relatively more specialised than the EU. Casting contributed 36.4 % more value added to the Italian manufacturing total than the EU average, while Spain (22.1 %) was the only other country to report a difference of more than 20 %.

(14) EL, IRL, A, FIN and S, 1999; L, not available.

Figure 8.8
Production of metal casting in the EU, 2001 (production in tonnes) (1)



(1) Data covers only D, E, F, I and the UK, accounting for more than 90% of casting in the EU. Source: The European Foundry Industry 2001, CAEF - The European Foundry Association, Commission No. 7, c/o Deutscher Gießereiverband, Düsseldorf.

LABOUR AND PRODUCTIVITY

Apparent labour productivity in the casting subsector was below the average for metals in every Member State in 2000 (15). The largest difference was recorded in Greece, where the productivity level for casting was 44.0 % below the metals' average. There were just four countries where labour productivity in the casting subsector was less than 20 % below the metals' average (Italy, the United Kingdom, Sweden and Denmark).

Average personnel costs were also consistently below the metals' sector average in 2000 (16). The closest they came to parity was in Italy (92.6 % of the metals' average), Sweden (87.7 %), Germany (87.4 %) and Portugal (86.5 %).

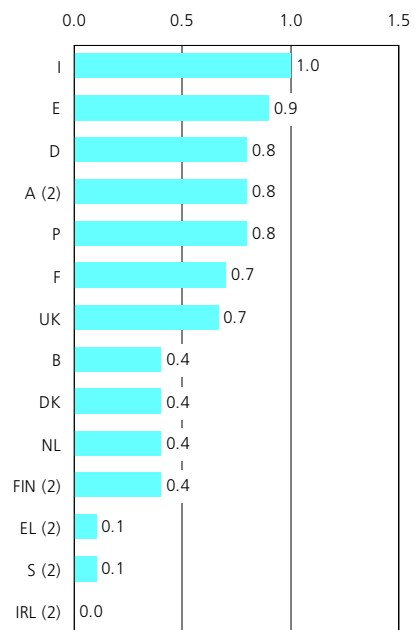
Combining these two indicators and adjusting to take account of the share of employees in persons employed, the wage adjusted labour productivity rate was in the range of 155 % in both Greece and Portugal, down to 122 % in Germany and 120 % in France (17).

(15) EL, IRL, A, FIN and S, 1999; L, not available.

(16) DK, F, IRL, A, FIN and S, 1999; EL, 1998; L, not available.

(17) DK, F, IRL, A, FIN and S, 1999; EL, 1998; L, not available.

Figure 8.9
Casting of metals (NACE Group 27.5) Share of value added in manufacturing, 2000 (%) (1)

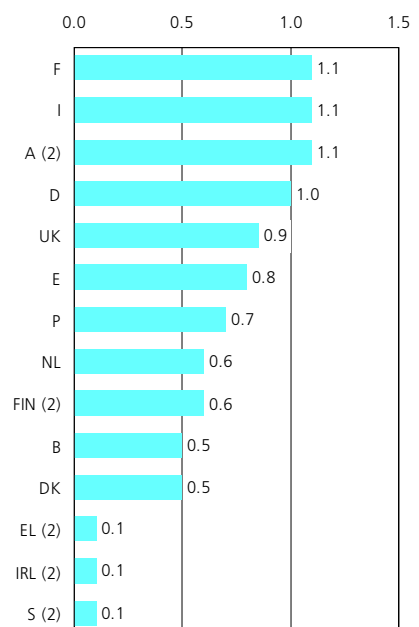


(1) EU-15 and L, not available.

(2) 1999.

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

Figure 8.10
Casting of metals (NACE Group 27.5) Share of number of persons employed in manufacturing, 2000 (%) (1)



(1) EU-15 and L, not available.

(2) 1999.

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

Table 8.10

Manufacture of basic iron and steel and of ferro-alloys (ECSC) (NACE Group 27.1)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A (2)	P	FIN	S (1)	UK
Production (million EUR)	6 948	238	21 197	535	8 064	12 553	:	12 035	1 595	2 431	2 859	548	2 878	3 052	8 881
Number of persons employed (thousands)	21	1	84	2	24	39	:	39	4	:	15	2	9	14	32
Value added (million EUR)	1 732	49	5 955	118	2 112	3 176	:	2 372	348	987	1 131	85	901	849	1 828
Purchases of goods and services (million EUR)	5 242	194	15 398	449	6 027	9 916	:	9 730	1 315	1 460	1 842	472	2 059	2 200	7 068
Personnel costs (million EUR) (3)	1 162	52	4 006	56	904	:	:	1 414	233	643	731	42	417	577	1 602
Gross investment in tangible goods (million EUR) (4)	535.4	:	1 535.4	:	605.1	:	:	884.5	:	:	266.1	29.5	232.6	164.6	:
App. labour productivity (thous. EUR/pers. emp.)	82.4	38.6	71.3	60.3	86.6	82.1	:	61.6	78.1	:	76.0	50.0	95.9	61.0	56.5
Simple wage adjusted labour productivity (%) (3)	149.1	84.8	148.7	167.7	233.5	:	:	167.7	149.1	153.5	154.7	204.6	215.9	147.2	114.1
Gross operating rate (%) (3)	8.6	-3.4	9.2	7.3	15.5	:	:	8.0	7.2	14.1	13.6	7.8	18.1	9.5	2.5

(1) 1999.

(2) 1998.

(3) DK, 1999; EL, 1998.

(4) D, 1999.

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

Table 8.11

Manufacture of tubes (NACE Group 27.2)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A	P	FIN (1)	S (1)	UK
Production (million EUR)	164	465	4 747	146	1 209	2 821	:	4 384	:	309	598	113	156	1 440	1 893
Number of persons employed (thousands)	1	3	29	1	7	14	:	15	:	1	4	1	1	10	13
Value added (million EUR)	42	173	1 531	40	342	754	:	1 003	:	64	205	23	41	627	666
Purchases of goods and services (million EUR)	126	320	3 420	123	964	2 292	:	3 576	:	244	419	100	115	840	1 400
Personnel costs (million EUR) (2)	33	124	1 280	23	208	533	:	540	:	46	152	8	31	426	458
Gross investment in tangible goods (million EUR) (3)	6.0	:	165.0	:	70.6	:	:	316.9	:	:	30.2	3.4	12.7	61.6	:
App. labour productivity (thous. EUR/pers. emp.)	50.6	50.2	51.9	34.2	51.5	54.0	:	67.1	:	48.2	54.8	39.6	43.8	63.5	51.4
Simple wage adjusted labour productivity (%) (2)	125.7	128.5	119.6	220.1	164.2	130.0	:	185.8	:	138.6	135.0	292.4	131.9	147.2	145.3
Gross operating rate (%) (2)	5.2	8.2	5.1	12.9	10.6	6.4	:	10.6	:	5.9	8.6	13.1	6.4	13.7	10.1

(1) 1999.

(2) DK and F, 1999; EL, 1998.

(3) D, 1999.

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

Table 8.12

Other first processing of iron and steel and production of non-ECSC ferro-alloys (NACE Group 27.3)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A	P	FIN (1)	S (1)	UK
Production (million EUR)	1 573	124	4 202	208	1 792	2 273	:	4 096	:	192	500	315	106	961	1 336
Number of persons employed (thousands)	6	1	18	2	7	9	:	15	:	:	3	2	0	5	7
Value added (million EUR)	479	38	1 133	69	396	533	:	851	:	48	192	65	27	342	393
Purchases of goods and services (million EUR)	1 147	102	3 208	153	1 432	1 835	:	3 329	:	144	357	296	80	683	1 001
Personnel costs (million EUR) (2)	326	30	836	42	212	:	:	479	:	25	105	26	16	188	254
Gross investment in tangible goods (million EUR) (3)	54.9	:	192.0	:	77.0	:	:	258.5	:	:	33.6	18.2	4.7	48.0	:
App. labour productivity (thous. EUR/pers. emp.)	75.0	48.6	61.8	41.4	59.5	57.2	:	55.9	:	:	69.8	37.5	66.8	71.4	58.5
Simple wage adjusted labour productivity (%) (2)	147.1	128.0	135.5	92.6	186.8	:	:	177.6	:	189.6	183.5	248.1	171.0	181.4	155.0
Gross operating rate (%) (2)	9.7	7.0	7.0	-1.6	10.5	:	:	9.1	:	11.9	16.2	11.1	10.3	15.2	10.1

(1) 1999.

(2) DK, 1999; EL, 1998.

(3) D, 1999.

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

Table 8.13

Manufacture of basic precious and non-ferrous metals (NACE Group 27.4)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	4 919	381	19 503	1 152	5 457	9 484	189	9 230	281	2 241	2 097	308	1 929	1 520	7 620
Number of persons employed (thousands)	9	2	62	5	14	23	1	22	1	7	6	3	4	6	24
Value added (million EUR)	864	94	4 486	281	1 164	1 770	61	1 547	80	543	431	82	373	397	1 838
Purchases of goods and services (million EUR)	4 203	300	16 795	925	4 637	9 013	139	8 202	199	1 734	1 768	266	1 560	1 206	6 707
Personnel costs (million EUR) (2)	486	77	3 013	128	479	967	41	800	42	308	281	41	147	234	1 005
Gross investment in tangible goods (million EUR) (3)	131.2	:	629.0	:	239.1	:	12.9	499.8	:	:	88.9	17.5	37.3	60.3	:
App. labour productivity (thous. EUR/pers. emp.)	91.4	49.7	72.6	57.1	83.3	77.8	53.0	70.9	90.7	73.0	66.9	30.8	102.1	71.3	77.2
Simple wage adjusted labour productivity (%) (2)	177.6	126.2	148.9	230.4	242.8	144.0	148.2	193.4	191.2	176.0	153.7	199.0	253.7	170.0	183.0
Gross operating rate (%) (2)	7.5	5.7	7.0	15.4	12.2	5.3	10.2	7.8	13.6	10.4	7.0	12.4	11.8	10.4	9.8

(1) 1999.

(2) DK and F, 1999; EL, 1998.

(3) D, 1999.

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

Table 8.14

Casting of metals (NACE Group 27.5)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A (1)	P	FIN (1)	S (1)	UK
Production (million EUR)	463	181	7 302	12	2 534	3 876	8	4 925	:	566	591	361	219	57	2 957
Number of persons employed (thousands)	3	2	64	0	22	36	0	31	:	4	6	7	2	0	29
Value added (million EUR)	166	90	3 113	6	873	1 326	3	1 468	:	195	251	147	103	26	1 390
Purchases of goods and services (million EUR)	450	99	4 521	6	1 717	2 577	5	3 573	:	372	359	218	116	31	1 602
Personnel costs (million EUR) (2)	129	45	2 548	5	588	1 057	2	980	:	146	201	93	73	17	945
Gross investment in tangible goods (million EUR) (3)	26.7	:	480.4	:	198.1	:	0.8	474.0	:	:	35.9	47.6	13.2	4.9	:
App. labour productivity (thous. EUR/pers. emp.)	49.8	41.1	48.4	28.8	39.8	37.0	22.7	47.9	:	48.0	45.2	20.9	43.3	55.2	48.1
Simple wage adjusted labour productivity (%) (2)	128.6	136.3	122.2	155.3	148.4	120.4	137.5	149.8	:	133.8	125.2	158.3	140.5	150.9	147.0
Gross operating rate (%) (2)	6.1	13.2	7.5	24.7	11.3	6.0	10.6	9.9	:	8.8	8.4	14.9	13.6	15.3	14.8

(1) 1999.

(2) DK and F, 1999; EL, 1998.

(3) D, 1999.

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

Table 8.15

Manufacture of basic metals (NACE Division 27)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (2)	TR
Production (million EUR)	1 035	36	3 778	8	1 742	182	25	:	5 989	2 517	1 825	588	:
Number of persons employed (thousands) (3)	32	0	74	0	21	3	1	:	130	103	30	:	:
Value added (million EUR)	193	10	823	2	306	54	7	:	1 417	629	389	123	:
Purchases of goods and services (million EUR)	874	:	3 289	8	1 030	135	19	:	4 908	2 102	1 435	433	:
Personnel costs (million EUR)	115	:	513	1	163	19	6	:	814	400	195	106	:
Gross investment in tangible goods (million EUR) (4)	73.9	4.8	493.5	0.6	1.0	4.6	1.3	:	215.7	191.3	126.9	36.2	:
App. labour productivity (thous. EUR/pers. emp.) (3)	6.1	42.1	11.2	6.2	14.6	17.3	5.1	:	10.5	6.1	13.2	:	:
Simple wage adjusted labour productivity (%)	167.6	:	160.4	200.0	188.0	288.3	106.3	:	174.1	157.4	200.2	115.8	:
Gross operating rate (%)	8.0	:	7.8	9.2	7.9	19.5	1.6	:	10.1	9.4	10.6	2.9	:

(1) 1998.

(2) 1999.

(3) PL, 1998.

(4) CZ, 1999.

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

Metal products



The metal products' manufacturing sector covers a wide range of products, including hand tools, boilers, radiators and metal containers, as well as the secondary transformation of metals through treatment, coating, forging, stamping, bending, forming, machining, welding and assembling. Enterprises that are active in this sector tend to use more than one of these processes within their operations and they are often integrated either forward or backward along the manufacturing chain (for example, steel producers may transform steel into wire and then make finished wire products). The processes described above result in individual pieces of metal being shaped and transformed into intermediate or final consumer goods. There are numerous downstream sectors that demand fabricated metal products, including machinery and equipment, electronics, metal furniture and construction sectors, as well as a number of sectors that use metal products for packaging purposes. As such, the output of this sector is, in many ways, dependent upon the cyclical demand of downstream sectors, while a relatively small proportion of products are supplied to households.

STRUCTURAL PROFILE

The metal products' sector generated EUR 101.2 billion of value added in 2001, while employing 2.2 million persons. As such, this sector accounted for 7.6 % of manufacturing value added and 9.3 % of the manufacturing workforce, suggesting that it was relatively labour-intensive compared to other manufacturing sectors. The fabricated metal products' sector grew in importance during the 1990s, as its share of manufacturing value added was 7.0 % of the total in 1990, when its share of employment was 8.1 %.

The largest activities within the fabricated metal products' sector were the treatment and coating of metals; general mechanical engineering (NACE Group 28.5); the manufacture of other fabricated metal products (NACE Group 28.7); and the manufacture of structural metal products (NACE Group 28.1). Each of these NACE groups accounted for approximately 22 % of value added in this sector. The manufacture of cutlery, tools and general hardware (NACE Group 28.6) and forging, pressing, stamping and roll forming of metal (NACE Group 28.4) were the only other groups to account for more than 10 % of value added. The remaining two activities, the manufacture of boilers and metal containers (NACE Groups 28.2) and the manufacture of steam generators (NACE Group 28.3) both accounted for just over 5 % of total value added in this sector in 2000.

The output of fabricated metal products in the EU is for the most part dominated by the larger Member States. Indeed, of the smaller countries, only Luxembourg and Austria were relatively specialised in this activity in 2000, as they were in the upstream sector of metal manufacturing (see Chapter 8). The combined share of value added derived from the five largest Member States was 81.5 %, compared to a manufacturing average of 79.2 %. Germany had the highest share of output in the EU in 2000, accounting for 30.2 % of the EU's value added, while the remaining four large Member States each reported double-digit shares.

The manufacture of fabricated metal products (other than machinery and equipment, which is covered in the next chapter) is classified within NACE Division 28. It is split into seven different groups. However, for the purpose of this publication there are three subchapters: the first of which covers structural metal products (NACE Group 28.1); the second boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3); and the third all remaining miscellaneous metal products (NACE Groups 28.4 to 28.7). Note that external trade statistics do not exist for CPA Groups 28.4 (forging, pressing, stamping and roll forming metal services) and 28.5 (treatment and coating of metal services; general mechanical engineering services) because these are services that are linked to manufacturing products.

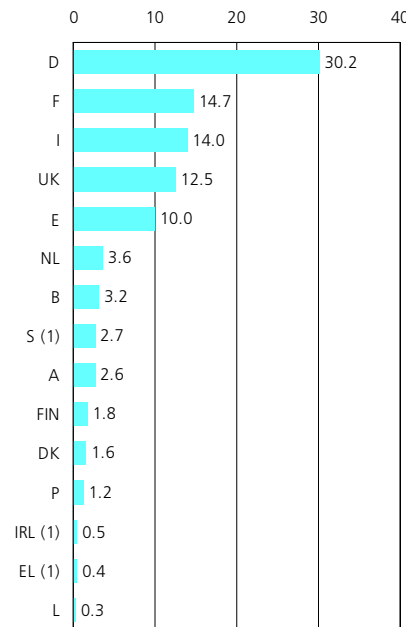
NACE

- 28: manufacture of fabricated metal products, except machinery and equipment;
- 28.1: manufacture of structural metal products;
- 28.2: manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers;
- 28.3: manufacture of steam generators, except central heating hot water boilers;
- 28.4: forging, pressing, stamping and roll forming of metal; powder metallurgy;
- 28.5: treatment and coating of metals; general mechanical engineering;
- 28.6: manufacture of cutlery, tools and general hardware;
- 28.7: manufacture of other fabricated metal products.

Value added at constant prices rose on average by 1.9 % in the EU's manufacturing sector between 1990 and 2000, while the corresponding rate for the fabricated metal products' sector was 2.8 %.

The importance of SMEs in this manufacturing sector was particularly pronounced. As with several other manufacturing sectors, it is important to note that the data presented in this chapter are largely derived from the SBS LONG database and that this only includes information on enterprises with 20 or more persons employed. Table 9 of the introductory chapter provides an intra-industry comparison of the importance of enterprises with less than 20 persons employed. Small enterprises with between 10 and 49 employees were particularly important in this sector as they contributed at least 10 percentage points more

Figure 9.1
Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Share of value added in the EU, 2000 (%)



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

to sectoral value added than the manufacturing average in 2000 ⁽¹⁾. Their contribution was even more pronounced in Belgium, France, Finland and the United Kingdom, where they generated at least 20 percentage points more value added than their respective manufacturing averages. Germany was the only Member State where large enterprises (with 250 or more employees) generated more than one third of the EU's value added in 2000.

LABOUR AND PRODUCTIVITY

The characteristics of the fabricated metal products' workforce are those of a traditional manufacturing sector. Some 83.4 % of those employed in the EU in 2001 were men, compared to a manufacturing average of 71.6 %. The lowest proportion of men in the labour force was recorded in Italy, some 79.7 % of the total, a share that rose to as high as 92.0 % in Greece and 94.0 % in Luxembourg.

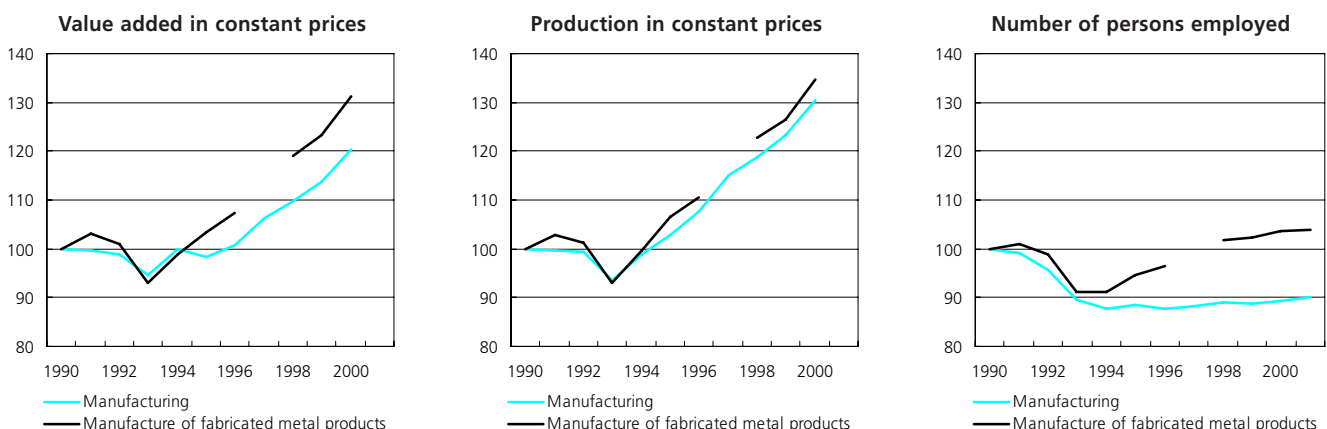
⁽¹⁾ IRL and L, not available.

Table 9.1
Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	173 680	173 936	161 188	173 854	194 619	202 384	:	229 401	237 773	252 044	260 137
Number of persons employed (thousands)	2 157	2 111	1 946	1 946	2 020	2 058	:	2 170	2 181	2 210	2 219
Value added (million EUR)	70 566	70 163	65 269	69 748	76 211	79 590	:	89 874	92 808	98 103	101 161
Personnel costs (million EUR)	53 540	54 790	52 233	53 535	56 986	59 877	:	64 714	66 674	67 993	68 353
App. labour productivity (thous. EUR/pers. emp.)	32.7	33.2	33.5	35.8	37.7	38.7	:	41.4	42.5	44.4	45.6
Simple wage adjusted labour productivity (%)	131.8	128.1	125.0	130.3	133.7	132.9	:	138.9	139.2	144.3	148.0

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

Figure 9.2
Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Main indicators in the EU (1990=100)



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

Table 9.2

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)**Main indicators in the EU, growth rates (%) (1)**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	5-year AAGR	10-year AAGR
Value added in constant prices												
Manufacturing	-0.7	-4.3	5.5	-1.6	2.4	5.6	3.3	3.7	5.8	:	4.1	1.9
Manufacture of fabricated metal products	-2.1	-7.9	6.3	4.4	4.0	:	:	3.8	6.4	:	4.9	2.8
Production in constant prices												
Manufacturing	-0.4	-5.9	5.7	4.0	4.6	6.9	3.3	3.8	5.7	:	4.9	2.7
Manufacture of fabricated metal products	-1.3	-8.3	7.3	6.9	3.6	:	:	3.1	6.5	:	4.8	3.0
Number of persons employed												
Manufacturing	-3.4	-6.4	-2.3	0.9	-0.9	0.8	0.7	0.0	1.2	0.9	0.6	-0.9
Manufacture of fabricated metal products	-2.2	-7.8	0.0	3.8	1.9	:	:	-0.1	1.5	0.4	1.5	0.3

(1) AAGR (average annual growth rates) are given with respect to the latest published year for each activity.

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

Nine out of 10 persons working in the EU's fabricated metal products' workforce were employees in 2001. This figure was slightly below the EU manufacturing average (91.8 %) and may be explained by a higher than average number of SMEs, which in turn suggests a higher proportion of self-employed persons. This was particularly the case in Spain, Greece, Portugal and Ireland in 2001, where the share of employees in the total number of persons employed was at least 5 percentage points below the national manufacturing average.

Given that the fabricated metals' sector is a traditional manufacturing activity, it is perhaps not surprising to find that the importance of part-time work was relatively limited. Some 94.9 % of the workforce worked on a full-time basis in 2001, which was 2.4 percentage points more than the EU manufacturing average. Denmark and Sweden were the only countries to report a higher proportion of persons working part-time in the fabricated metal products' sector than their respective manufacturing average in 2001. In all but one of the remaining Member States, the share of part-time employment in the total workforce was between 0 and 4 percentage points more than the manufacturing average. However, the difference rose to as high as 12 percentage points in the Netherlands, despite recording the lowest proportion of part-time employment of any country in the fabricated metal products' sector (88.9 % in 2001).

Table 9.3

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)**Labour force characteristics (% of total employment)**

	Female		Part-time		Self-employed	
	1996	2001	1996	2001 (1)	1996	2001
EU-15	16.9	16.6	5.0	5.1	9.8	9.2
B	12.1	12.1	:	4.8	7.1	5.7
DK	17.8	15.7	:	8.3	8.8	7.8
D	20.2	18.5	6.0	7.0	4.2	5.2
EL	7.6	8.0	:	:	45.4	30.4
E	9.3	10.9	3.2	1.7	21.9	18.0
F	15.9	17.4	3.7	2.5	5.0	4.6
IRL	:	13.5	:	:	:	12.2
I	17.9	20.3	3.3	5.0	15.2	16.3
L	:	:	:	:	:	:
NL	7.6	10.5	9.4	11.1	6.7	4.8
A	18.3	17.9	5.6	4.4	3.8	3.1
P	11.0	13.4	:	:	21.9	17.9
FIN	19.6	14.6	:	:	14.1	10.7
S	23.4	18.1	:	12.3	:	:
UK	16.6	13.8	6.8	5.5	8.1	6.6

(1) B and S, 2000.

Source: Eurostat, Labour Force Survey.

As noted, the fabricated metal products' sector is labour-intensive. It is therefore perhaps not surprising to find that the apparent labour productivity of this sector was below the manufacturing average in 2000 at EUR 45 600 per person employed compared to EUR 55 900 per person employed. The highest apparent labour productivity was usually recorded in the

cutlery, tools and general hardware subsector or the other fabricated metal products' subsector. Average personnel costs in 2000 were also consistently below national manufacturing averages⁽²⁾. They were usually within the range of 85 to 95 % of the manufacturing average, rising to 96.6 % of the average in Portugal.

⁽²⁾ F, IRL and S, 1999; EL, 1998.

EXTERNAL TRADE

The EU exported EUR 25.9 billion of fabricated metal products (CPA Division 28) in 2001. This was slightly in excess of EUR 7 billion more than the value of EU imports in the same year. As such, the EU's trade balance continued in positive territory, although at somewhat lower levels than the peaks of 1996 to 1998, when the surplus was between EUR 8.4 billion and EUR 8.9 billion.

The more rapid pace of import growth was evident when looking at the evolution of the cover ratio, which fell from 164.6 % in 1991 to 137.2 % in 2001. The share of fabricated metal products in total EU imports of manufactured products grew by 0.3 points between 1991 and 2001 to reach 2.3 % by 2001. On the other hand, the relative importance of fabricated metal products in total EU exports declined from 3.1 % of the manufactured products' total in 1991 to 2.8 % by 2001.

The largest CPA group in terms of EU exports to non-Community countries in 2001 was that of other fabricated metal products (CPA Group 28.7), which accounted for 42.3 % of total exports in this sector. Cutlery, tools and general hardware (CPA Group 28.6) was the next largest product group, with 29.4 % of exports, while structural metal products (CPA Group 28.1) accounted for 13.8 % of the total. The two remaining groups (28.2 and 28.3) together shared 13.7 % of exports.

The main market for the EU's exports of fabricated metal products was the United States, where 16.5 % of the total were destined in 2001; no other country received in excess of 10 % of the EU's exports. During the period 1991 to 2001 there was an increase in the relative share of EU exports that were destined for central and eastern Europe. Between these dates the share of exports to Romania grew by 1.2 percentage points, those to Hungary by 2.2 points, those to Poland by 4.2 points, while there was a 1.2 point increase in the share of exports to the Czech Republic between 1996 and 2001.

The United States was also one of the most important partners in terms of EU imports, as it was the origin of 14.7 % of total imports in 2001. However, during the course of the 1990s there was a decline in the importance of imports originating from the United States, falling from 18.1 % of the total in 1991. A similar pattern was observed for Switzerland, whose share of EU imports fell from 20.7 % in 1991 (the largest share that year) to 11.1 % by 2001 (the third largest share). Over the same period there was rapid growth in fabricated metal product imports originating from China. They rose from 7.5 % of the total in 1991 to 16.5 % by 2001. Poland, the Czech Republic, Turkey, Romania and the former Baltic States also saw their relative shares of imports increase.

Table 9.4

Fabricated metal products, except machinery and equipment (CPA Division 28)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	11 443	11 533	13 705	15 517	17 381	18 982	20 995	22 140	21 869	23 798	25 896
Extra-EU imports (million EUR)	6 951	7 258	7 647	8 749	10 136	10 573	12 094	13 561	14 708	17 900	18 874
Trade balance (million EUR)	4 493	4 275	6 057	6 768	7 245	8 409	8 901	8 580	7 160	5 898	7 023
Cover ratio (%)	164.6	158.9	179.2	177.4	171.5	179.5	173.6	163.3	148.7	132.9	137.2

Source: Eurostat, Comext.

9.1: STRUCTURAL METAL PRODUCTS

This subchapter includes information on NACE Group 28.1 which covers structural metal products. This activity manufactures metal products for use in the construction sector (see Chapter 14), in particular metal supports and structures, prefabricated buildings, metal doors, window frames and shutters.

STRUCTURAL PROFILE

The EU's structural metal products' subsector generated EUR 21.2 billion of value added in 2000, which was equivalent to 21.7 % of the fabricated metal products' total. In employment terms, it occupied 547 000 persons, a 24.7 % share of those employed.

Among the Member States, the structural metal products' subsector was relatively important in a number of the smaller countries, as it contributed more than 30 % of total value added generated in the fabricated metal products' sector in Belgium, Denmark, Spain, Ireland, the Netherlands, Austria, Portugal and Finland (3). On the other hand, the relative weight of this subsector in France (10.5 %), Italy (18.2 %) and Germany (19.3 %) was the lowest among the Member States in 2000.

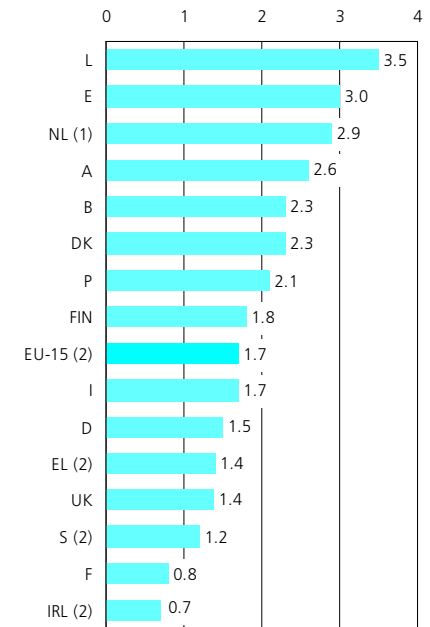
(3) EL, IRL and S, 1999; NL, 1998.

There was very little difference in the relative importance of the EU's structural metal products' subsector between 1990 and 2000, as its share of value added in the fabricated metal products' sector remained between 20 and 22 % throughout the whole of the 1990s. In constant price terms, EU value added grew, on average, by 2.2 % per annum between 1990 and 1999, above the manufacturing average of 1.4 %.

The manufacture of structural metal products reported the most rapid increase in output prices between 1995 and 2001 of the seven metal products NACE groups. Prices rose in the EU by 9.1 % compared to the fabricated metal products' average of 5.1 %. Price increases for structural metal products were less pronounced in Belgium (0.3 % overall between 1995 and 2001) and Germany (5.0 %), while all other Member States for which data are available reported that prices rose overall by more than 10 % (4).

(4) DK, F, IRL, A, P and FIN, not available.

Figure 9.3
Manufacture of structural metal products (NACE Group 28.1)
Share of value added in manufacturing, 2000 (%)



(1) 1998.

(2) 1999.

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

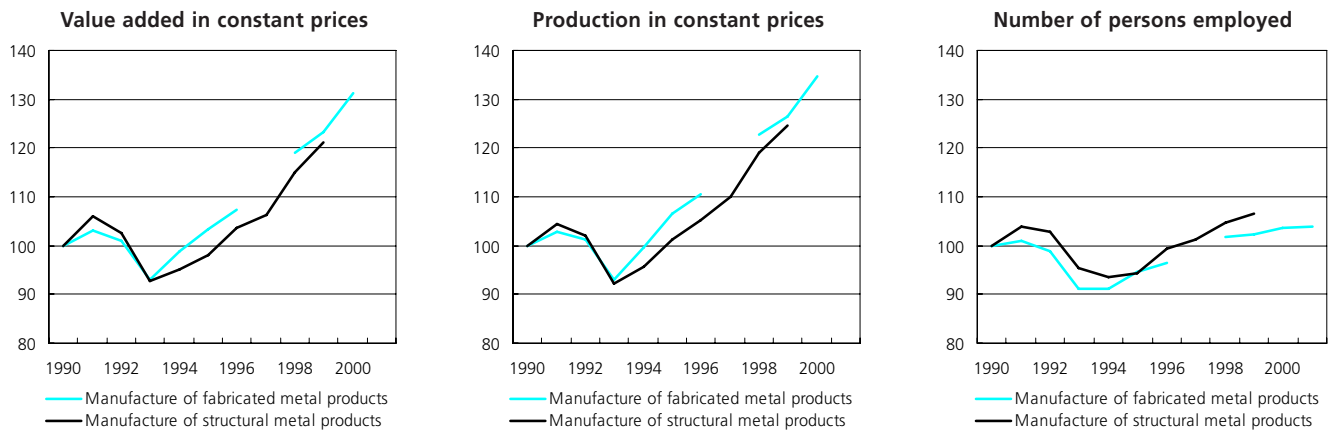
Table 9.5
Manufacture of structural metal products (NACE Group 28.1)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	43 321	43 461	39 441	41 093	45 033	47 446	49 853	55 371	56 193	:	:
Number of persons employed (thousands)	510	504	468	460	462	488	497	514	523	547	:
Value added (million EUR)	15 618	15 508	14 062	14 476	15 472	16 560	17 124	18 967	19 987	21 241	:
Personnel costs (million EUR)	11 838	12 130	11 650	11 756	12 162	12 954	13 317	14 057	14 902	16 014	:
App. labour productivity (thous. EUR/pers. emp.)	30.6	30.7	30.1	31.5	33.5	33.9	34.4	36.9	38.2	38.8	:
Simple wage adjusted labour productivity (%)	131.9	127.8	120.7	123.1	127.2	127.8	128.6	134.9	134.1	132.6	:

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

Figure 9.4

Manufacture of structural metal products (NACE Group 28.1) Main indicators in the EU (1990=100)



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

LABOUR AND PRODUCTIVITY

The structural metal products' subsector is one of a few manufacturing activities that reported a net expansion in employment between 1990 and 2000. The number of persons employed in the EU rose by 56 200, equivalent to a net overall gain of 11.5 % or an average increase of 1.1 % per annum. The major gains in employment were made in the Iberian peninsula, as a net increase of 24 800 persons was recorded in Spain and an additional 18 100 persons were added to the workforce in Portugal (where the level of employment grew by 210 %).

Apparent labour productivity in the EU's structural metal products' subsector was EUR 38 800 per person employed in 2000, some EUR 600 higher than a year before. However, productivity levels in this subsector were generally lower than for the whole of the fabricated metal products' sector. The only exceptions in 2000 were the United Kingdom, Greece and Sweden, where apparent labour productivity was 1.2 %, 6.3 % and 13.0 % higher than the metal products' average ⁽⁵⁾.

⁽⁵⁾ EL, IRL and S, 1999; NL, not available.

Average personnel costs were also generally lower than the metal products' average, with the United Kingdom, Greece and Sweden joined by Denmark as the only countries where this subsector had a higher than average level of personnel costs in 2000 ⁽⁶⁾. In all remaining Member States, personnel costs in the structural metal products' subsector were within the range of 0 to 10 % below the metal products' average.

Combining these two ratios allows the creation of a wage adjusted labour productivity index that is also adjusted for the share of employees in persons employed. Germany, Greece, Italy and France were the only countries in 2000 ⁽⁷⁾ to report that adjusted labour productivity ratios were between 0 and 10 % lower than national manufacturing averages, while the remaining Member States had productivity ratios that were even lower.

⁽⁶⁾ DK, F, IRL and S, 1999; EL, 1998; NL, not available.

⁽⁷⁾ DK, F, IRL and S, 1999; EL, 1998; NL, not available.

EXTERNAL TRADE

Structural metal products (CPA Group 28.1) generated a trade surplus of EUR 1.6 billion in 2001, which was almost identical to the 1991 surplus (although the surplus had peaked at EUR 2.2 billion in 1998). The cover ratio was reduced at a rapid pace over these 10 years, as imports grew much faster than exports. It fell from 391.4 % in 1991 to 181.1 % in 2000, before climbing marginally to 183.1 % in 2001. Exports grew on average by 5.0 % per annum between 1991 and 2001 in current price terms, while imports expanded by 13.3 % per annum during the same period. The relative importance of exports of structural metal products in total exports of fabricated metal products fell from 19.1 % of the total in 1991 to 13.8 % by 2001, while the share of structural metal products in total imports rose from 8.1 to 10.4 %.

The rapid growth of imports can be attributed to an expansion in the supply of products originating from Poland and the Czech Republic during the first half of the 1990s. In the second half of the decade the relative share of imports from these two countries remained almost unchanged, whereas imports from other central and east European countries, for example Estonia, Lithuania and Ukraine (as well as Turkey and China), rose.

The largest share of EU exports in 2001 were destined for Switzerland (13.1 % of the total), and no other country accounted for more than 10 % of the total. Nevertheless, the share of the United States rose from 3.3 % in 1991 to 9.6 % by 2001. The proportion of EU exports to Poland, the Philippines, Hungary and Poland also rose by more than 1 percentage point between 1991 and 2001.

Table 9.6

**Structural metal products (CPA Group 28.1)
External trade indicators for the EU**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	2 190	2 006	2 218	2 251	2 841	2 827	3 253	3 463	3 376	3 213	3 582
Extra-EU imports (million EUR)	560	715	724	779	961	1 052	1 146	1 259	1 429	1 774	1 956
Trade balance (million EUR)	1 631	1 290	1 493	1 472	1 880	1 775	2 107	2 204	1 947	1 439	1 626
Cover ratio (%)	391.4	280.3	306.2	289.1	295.7	268.7	283.9	275.1	236.2	181.1	183.1

Source: Eurostat, Comext.

**9.2: BOILERS, METAL CONTAINERS
AND STEAM GENERATORS**

NACE Groups 28.2 and 28.3 are combined in this subchapter. The former covers the manufacture of metal tanks, reservoirs and containers, as well as central heating radiators and boilers. The latter covers the manufacture of steam generators (other than central heating boilers), for example steam or vapour generators, condensers or nuclear reactors.

The two NACE Groups that make up this subchapter are fairly equal in size. The output of the tanks, reservoirs and containers of metal, central heating radiators and boilers subsector (Group 28.2) was EUR 5.0 billion of value added in 2000, while that of steam generators, except central heating hot water boilers (Group 28.3) was EUR 5.0 billion ⁽¹⁰⁾.

⁽¹⁰⁾ S, 1999; EL and IRL, not available.

Germany and France accounted for more than 60 % of the EU's output of boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3). In relative terms, these activities were most important in France, where they contributed 21.6 % to the value added of the fabricated metal products' sector in 2000. Belgium (14.2 %), Austria (10.8 %, 1999), the Netherlands (10.5 %, 1998) and Finland (10.2 %) were the only other countries to report double-digit shares for this subsector.

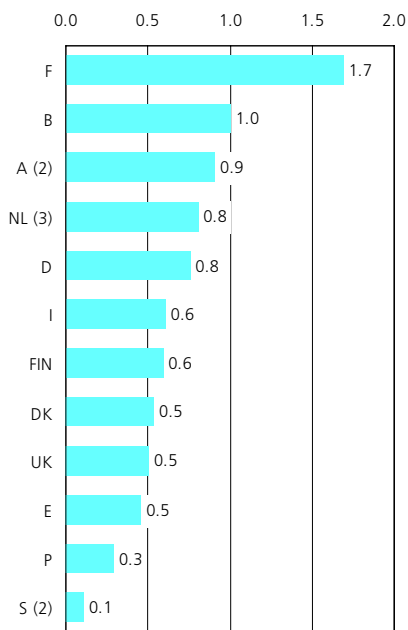
STRUCTURAL PROFILE

The output of the EU's boilers, metal containers and steam generators' subsector was EUR 9.9 billion of value added in 2000 ⁽⁸⁾, approximately 10.3 % of the fabricated metal products' total. There were approximately 212 900 persons employed in this subsector in 2000 ⁽⁹⁾.

⁽⁸⁾ A and S, 1999; NL, 1998; EL, IRL and L, not available.

⁽⁹⁾ EL, A and S, 1999; IRL and L, not available.

Figure 9.5
Manufacture of tanks, reservoirs, containers of metal, central heating radiators, boilers and steam generators (NACE Groups 28.2 and 28.3)
Share of value added in manufacturing, 2000 (%) (1)



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

LABOUR AND PRODUCTIVITY

Apparent labour productivity levels in the boilers, metal containers and steam generators' subsector were generally slightly higher than the average for the whole fabricated metal products' sector. This was particularly the case in Portugal, Sweden and the United Kingdom, where productivity levels were at least 14 % higher than the sectoral average in 2000 (11).

Average personnel costs were also above the fabricated metal products' level in every Member State in 2000 (12). Personnel costs ranged between EUR 14 500 per employee in Portugal (25.7 % above the fabricated metal products' average) and EUR 45 100 in Germany (17.2 % higher).

(11) S, 1999, EL, IRL, L and NL, not available.
 (12) F, A and S, 1999; DK, 1998; EL, IRL, L and NL, not available.

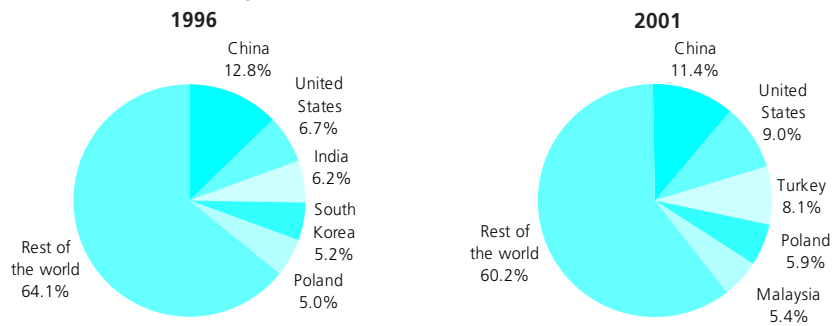
EXTERNAL TRADE

Exports of boilers, metal containers and steam generators (CPA Groups 28.2 and 28.3) followed an erratic evolution during the 1990s, as they grew rapidly between 1992 and 1994, expanded at a moderate pace from 1994 to 1998, declined the following two years and then increased rapidly once more in 2001. This pattern was reproduced for the trade surplus, as imports grew at a fairly constant pace. As such, the EU's cover ratio peaked at 720.6 % in 1994 and fell to 334.0 % in 2000, before rebounding to 400.8 % in 2001, when the trade surplus stood at EUR 2.7 billion.

The main export market for EU products was China, the destination for 11.4 % of exports in 2001. This figure was considerably up on that of 1991, when 5.6 % of the EU's exports were destined for China; however, it marked a 2.5 percentage point decline compared to 2000. The next most important export markets were the United States (9.0 %) and Turkey (8.1 %).

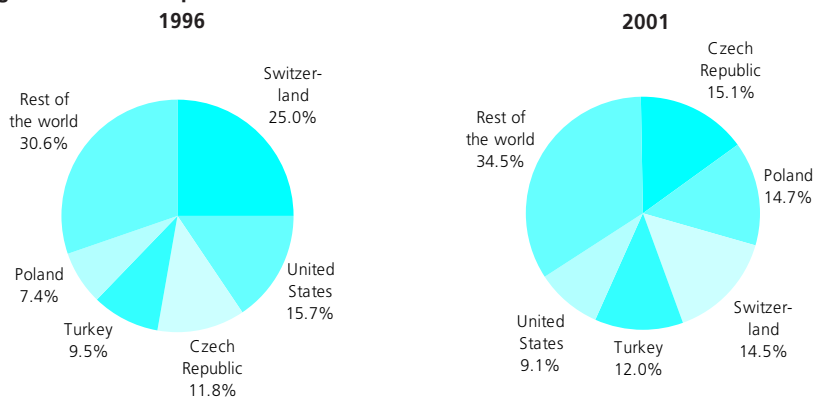
More than half of the EU's imports of boilers, metal containers and steam generators originated from just four countries in 2001: the Czech Republic (15.1 %), Poland (14.7 %), Switzerland (14.5 %) and Turkey (12.0 %). The relative importance of imports originating from central and east European countries increased during the 1990s.

Figure 9.6
Tanks, reservoirs, containers of metal, central heating radiators, boilers and steam generators (CPA Groups 28.2 and 28.3)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 9.7
Tanks, reservoirs, containers of metal, central heating radiators, boilers and steam generators (CPA Groups 28.2 and 28.3)
Origin of extra-EU imports



Source: Eurostat, Comext.

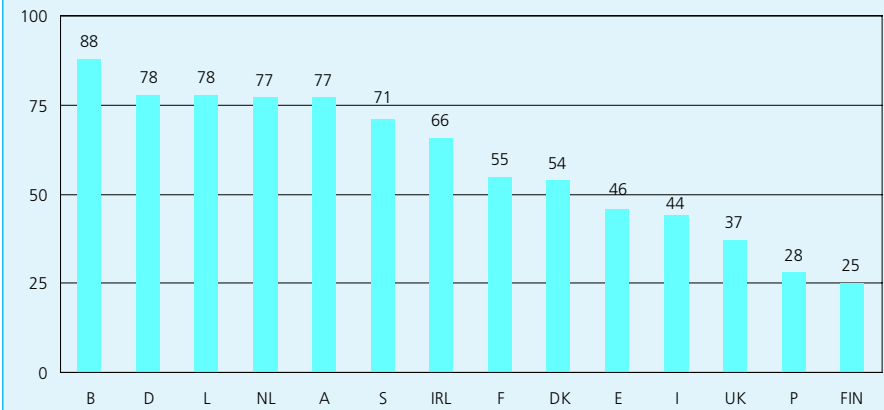
9.3: MISCELLANEOUS METAL PRODUCTS

The remaining four NACE groups that form Division 28 are placed together in this final subchapter. The first group (28.4) covers forging, pressing, stamping and roll forming metal. The second (28.5) covers the treatment and coating of metal, as well as general mechanical engineering (such as turning, milling, welding or planing metal pieces). The third (28.6) covers the manufacture of cutlery, tools and general hardware, such as locks and hinges. The final group (28.7) includes information on other fabricated metal products, such as the manufacture of metal drums, light metal packaging, wire products, fasteners, screws, baths and sinks made of metal and household articles made of metal (saucepans and non-electric kitchen appliances). As mentioned in the overview, external trade statistics do not exist for CPA Groups 28.4 (forging, pressing, stamping and roll forming metal services) and 28.5 (treatment and coating of metal services; general mechanical engineering services) because these are services that are linked to manufacturing products.

This subsector is often characterised by changes in the structure of markets that usually result from competition between substitute materials (glass, plastics, wood and metals) or new product developments (for example, a switch in the beverages market from bottles with metal caps to cans made of tin or aluminium).

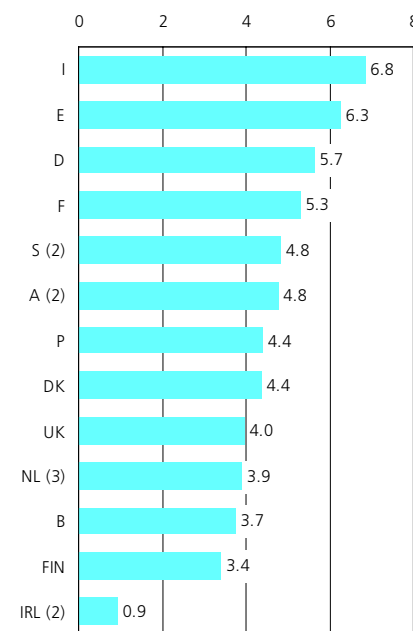
Recycling is an important source of material supply for the manufacture of some items, for example, metal packaging. Figure 9.8 shows that recycling rates of steel packaging varied considerably among Member States in 2001.

Figure 9.8 Recycling of steel packaging, 2001 (%) (1)



(1) EL, not available; B, L, NL and FIN, steel and aluminium packaging. Source: APEAL.

Figure 9.9 Miscellaneous metal products (NACE Groups 28.4 to 28.7) Share of value added in manufacturing, 2000 (%) (1)



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

STRUCTURAL PROFILE

The EU's miscellaneous metal products (NACE Groups 28.4 to 28.7) manufacturing subsector generated EUR 65.6 billion of value added in 2000 (13). Almost 1.5 million persons were employed in this subsector the same year (14). The four largest Member States generated more than three quarters of the EU's value added in 2000, with Germany the largest single contributor (32.1 %).

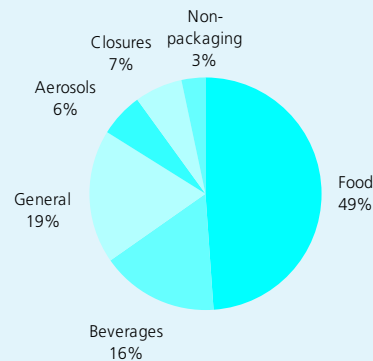
The largest NACE groups within this subchapter in 2000 were the treatment and coating of metals and general mechanical engineering (NACE Group 28.5), with EUR 19.6 billion of value added (15), and the manufacture of other fabricated metal products (NACE Group 28.7), where output reached EUR 21.3 billion (16).

(13) IRL, A and S, 1999; NL, 1998; EL and L, not available. (14) EL, IRL, A and S, 1999; L, not available. (15) EL, IRL and S, 1999; NL, 1998. (16) EL, IRL, A and S, 1999; NL, 1998.

A more detailed breakdown of output is available for steel packaging, as provided in Figure 9.10. By far the most important markets for steel packaging are those of food and beverages, general household items and aerosols, the majority of which are used for cosmetics or household cleaning products (see Figure 9.11).

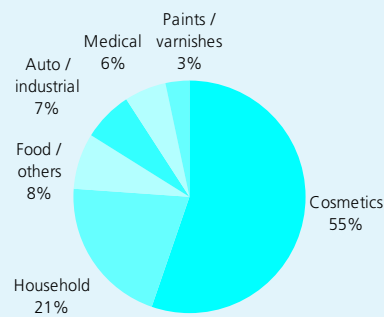
Most areas of the miscellaneous metal products' subsector are highly fragmented and characterised by small, niche producers. Indeed, SMEs accounted for more than half of the value added generated in each Member State in 2000, other than in the forging, pressing, stamping and roll forming subsector (Group 28.4) and the cutlery, tools and general hardware subsector (Group 28.6) in Germany. The importance of SMEs was particularly high for the treatment and coating of metals and general mechanical engineering subsector (Group 28.5), where SMEs accounted for at least 90 % of the value added in each Member State. On the other hand, the production of tins and cans is dominated by several, very large, international producers. The output of metal cans is estimated to be between 4.1 and 4.3 million tonnes according to the European Secretariat of Manufacturers of Light Metal Packaging (SEFEL). It is important to note that technology gains have meant that the weight of material used in the manufacture of each can has been reduced.

Figure 9.10
Breakdown of production in volume terms in the steel packaging industry of the EU, 2000



Source: APEAL.

Figure 9.11
Breakdown of production in the aerosol industry of Europe, 2001 (1)



(1) EU-15 (excluding IRL), CY, CZ, PL, TR and CH.
Source: 2002 FEA Sources.

LABOUR AND PRODUCTIVITY

Productivity levels for the cutlery, tools and general hardware subsector (Group 28.6) and the other fabricated metal products' subsector (NACE Group 28.7) were generally higher than the average for the whole of fabricated metal products. Nevertheless, apparent labour productivity levels for miscellaneous metal products remained below manufacturing averages in every Member State in 2000 ⁽¹⁷⁾. A similar picture was observed for average personnel costs within the miscellaneous metal products' subsector, which ranged between 82.0 % of the manufacturing average in Sweden and 97.4 % of the average in Spain ⁽¹⁸⁾.

⁽¹⁷⁾ IRL, A and S, 1999; EL, L and NL, not available.

⁽¹⁸⁾ F, IRL, A and S, 1999; DK, 1998.

EXTERNAL TRADE

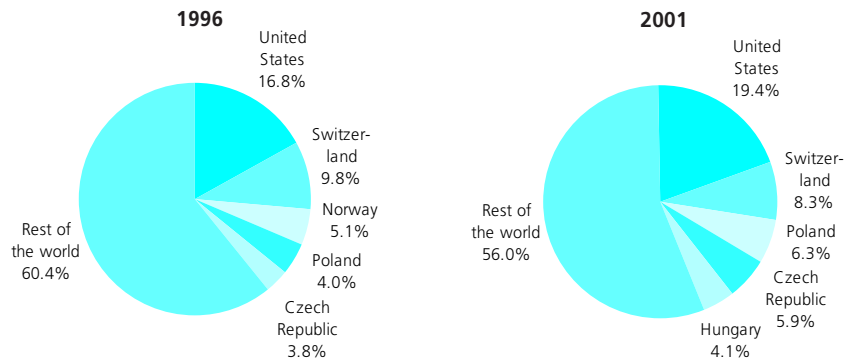
The EU's external trade performance for miscellaneous metal products (CPA Groups 28.6 to 28.7 only) showed a positive trade surplus throughout the period 1991 to 2001. Both imports and exports grew at a fairly rapid pace, with average growth of 10.3 % and 8.7 % respectively per annum. This resulted in the cover ratio falling from a high of 140.4 % in 1996 (the only year when imports showed almost no growth) to 116.1 % by 2001, when the EU's trade surplus stood at EUR 2.6 billion.

Miscellaneous metal products are very important in terms of their contribution to the external trade performance of the EU, as they accounted for a 71.7 % share of fabricated metal product exports and an 84.8 % share of metal product imports in 2001. Other fabricated metal products (CPA Group 28.7) alone represented 42.3 % of exports of all metal products, while cutlery, tools and general hardware (CPA Group 28.6) made up the remaining 29.4 %.

The main market for EU exports of miscellaneous metal products was the United States, which accounted for almost one fifth (19.4 %) of the total in 2001, while no other country accounted for more than 10 %. The relative share of the United States grew by 1.5 percentage points between 1991 and 2001. There were larger relative gains recorded for Poland, Hungary and the Czech Republic.

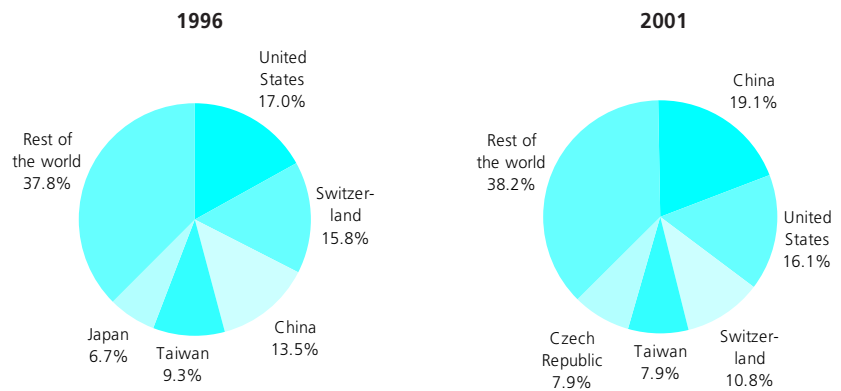
China was the most important origin of EU imports of cutlery, tools and general hardware, accounting for 20.0 % of the total in 2001, a 9.9 percentage point gain compared to 1991. China was also the leading supplier of other fabricated metal products, with 18.5 % of total imports in 2001, an 11.2 percentage point gain compared to 10 years earlier.

Figure 9.12
Miscellaneous metal products (CPA Groups 28.4 to 28.7)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 9.13
Miscellaneous metal products (CPA Groups 28.4 to 28.7)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 9.7

Manufacture of structural metal products (NACE Group 28.1)
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)	3 117	1 249	16 425	308	9 353	5 053	561	7 639	194	4 024	2 141	1 251	1 471	1 488	8 482
Number of persons employed (thousands)	23	11	131	3	120	36	5	59	2	31	17	27	12	11	60
Value added (million EUR)	1 024	493	5 702	111	3 039	1 522	186	2 509	82	1 265	808	377	542	499	2 910
Purchases of goods and services (million EUR)	2 184	798	11 300	218	6 574	3 677	396	5 980	112	2 911	1 519	932	1 016	1 015	5 896
Personnel costs (million EUR) (3)	747	365	4 594	47	2 196	1 037	121	1 606	60	925	606	265	361	387	2 400
Gross investment in tangible goods (million EUR) (4)	138.9	:	496.0	:	406.6	:	20.4	451.8	:	:	74.6	122.0	58.2	59.5	:
App. labour productivity (thous. EUR/pers. emp.)	44.0	43.9	43.7	35.6	25.4	42.8	36.3	42.4	48.8	:	47.3	14.2	45.8	46.0	48.9
Simple wage adjusted labour productivity (%) (3)	137.1	127.2	124.1	168.8	138.4	129.3	153.7	156.3	136.5	136.7	133.3	142.2	149.9	129.1	121.2
Gross operating rate (%) (3)	8.7	9.3	6.7	13.4	9.0	6.9	11.3	11.0	11.3	8.4	8.5	8.8	11.9	7.5	5.8

(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 9.8

Manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers (NACE Group 28.2)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL (2)	A (1)	P	FIN	S (1)	UK
Production (million EUR)	855	172	3 566	95	1 019	1 703	:	2 938	:	961	444	178	206	99	1 543
Number of persons employed (thousands)	6	2	28	1	13	12	:	18	:	6	4	2	2	1	13
Value added (million EUR)	317	78	1 423	45	370	563	:	862	:	307	199	49	83	39	615
Purchases of goods and services (million EUR)	568	104	2 755	62	705	1 207	:	2 107	:	697	288	135	131	63	1 017
Personnel costs (million EUR) (3)	221	66	1 166	22	291	407	:	539	:	231	158	34	62	29	422
Gross investment in tangible goods (million EUR) (4)	87.7	:	176.4	:	42.0	:	:	185.3	:	:	25.1	8.9	14.8	3.9	:
App. labour productivity (thous. EUR/pers. emp.)	54.2	44.5	50.6	29.9	28.3	46.6	:	46.9	:	:	49.3	20.4	43.8	49.6	48.4
Simple wage adjusted labour productivity (%) (3)	143.8	126.7	122.1	128.4	127.3	139.5	:	159.9	:	133.2	125.7	144.1	134.1	135.5	145.8
Gross operating rate (%) (3)	11.3	10.1	6.2	7.4	7.5	9.6	:	11.1	:	7.6	8.3	8.3	10.3	10.0	11.8

(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 9.9

Manufacture of steam generators, except central heating hot water boilers (NACE Group 28.3)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	329	141	4 060	:	197	6 587	:	304	18	113	148	9	567	11	995
Number of persons employed (thousands)	3	1	28	0	3	57	:	2	0	1	1	0	2	0	6
Value added (million EUR)	130	38	1 417	:	87	2 560	:	56	12	43	86	4	99	5	443
Purchases of goods and services (million EUR)	202	112	2 638	:	109	3 944	:	250	6	143	65	5	468	6	571
Personnel costs (million EUR) (2)	102	57	1 357	:	69	1 970	:	49	5	38	55	3	93	3	421
Gross investment in tangible goods (million EUR) (3)	15.1	:	136.5	:	9.2	:	:	3.6	:	:	2.9	0.7	7.6	0.2	:
App. labour productivity (thous. EUR/pers. emp.)	44.6	36.4	50.8	:	33.3	45.0	:	37.1	65.8	58.4	58.8	18.3	43.8	49.3	68.3
Simple wage adjusted labour productivity (%) (2)	126.8	96.9	104.5	:	126.0	117.2	:	115.4	216.7	114.9	155.5	125.0	106.4	132.4	105.2
Gross operating rate (%) (2)	8.6	-0.8	1.4	:	9.2	5.4	:	4.1	36.0	2.2	19.6	9.5	1.4	11.1	2.2

(1) 1999.

(2) F, 1999; DK, 1998.

(3) D, 1999.

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

Table 9.10

Forging, pressing, stamping and roll forming of metal; powder metallurgy (NACE Group 28.4)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	260	7 10	287	:	2 975	6 591	39 7 724	:	1 165	515	89	26	94	3 279	
Number of persons employed (thousands)	2	0	82	0	26	47	0 39	:	7	4	2	0	1	31	
Value added (million EUR)	82	3 4	261	:	1 035	1 894	15 1 928	:	360	179	33	12	39	1 413	
Purchases of goods and services (million EUR)	193	4 6	211	:	2 062	4 786	23 6 306	:	866	382	60	14	56	1 906	
Personnel costs (million EUR) (2)	57	0 3	309	:	643	1 316	11 1 164	:	238	135	18	7	31	1 027	
Gross investment in tangible goods (million EUR) (3)	38.7	:	573.3	:	250.1	:	1.2 396.6	:	:	37.7	9.6	2.7	6.7	:	
App. labour productivity (thous. EUR/pers. emp.)	39.2	42.7	51.8	:	39.1	40.7	34.9 49.9	:	49.7	47.8	14.5	45.3	43.2	45.8	
Simple wage adjusted labour productivity (%) (4)	144.8	:	128.8	:	160.9	134.2	132.5 165.7	:	151.5	132.8	180.6	166.7	125.3	137.6	
Gross operating rate (%) (4)	9.5	:	9.2	:	12.9	7.8	9.7 9.6	:	10.2	8.1	16.4	18.8	8.5	11.6	

(1) 1999.

(2) F, 1999; DK, 1998.

(3) D, 1999.

(4) F, 1999.

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

Table 9.11

Treatment and coating of metals; general mechanical engineering (NACE Group 28.5)
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)	2 417	491 8	047	33 5	117 9	154	64 8 710	485	1 061	687	792	1 132	1 215	5 144	
Number of persons employed (thousands)	21	6	80	1	72	95	1 80	1	12	6	19	12	13	63	
Value added (million EUR)	968	256 3	855	14 2	196 3	850	33 3 386	69	471	265	279	554	532	2 889	
Purchases of goods and services (million EUR)	1 501	247 4	398	19 3	044 5	300	31 5 391	416	604	464	536	591	711	2 280	
Personnel costs (million EUR) (3)	642	164 2	633	10 1	522 2	892	25 2 125	37	308	208	167	371	425	2 051	
Gross investment in tangible goods (million EUR) (4)	204.6	:	582.3	:	315.9	:	8.7 960.5	:	:	67.7	67.2	127.2	118.4	:	
App. labour productivity (thous. EUR/pers. emp.)	47.1	42.2	48.2	27.2	30.6	40.4	28.7 42.3	65.6	:	44.0	14.7	45.0	41.6	45.8	
Simple wage adjusted labour productivity (%) (3)	150.9	131.3	146.4	151.9	144.3	123.8	132.5 159.3	188.5	152.8	127.7	166.9	149.6	125.1	140.9	
Gross operating rate (%) (3)	13.4	13.3	14.9	16.0	13.1	8.2	12.9 14.8	6.8	15.3	7.9	14.0	16.9	8.7	16.1	

(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 9.12

Manufacture of cutlery, tools and general hardware (NACE Group 28.6)
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)	430	369 13	062	104 2	394 3	311	134 3 594	:	507	1 262	409	366	864	2 888	
Number of persons employed (thousands)	4	3	114	2	29	33	2 31	:	5	11	12	4	7	32	
Value added (million EUR)	183	160 6	170	58 1	063 1	432	58 1 505	:	252	686	171	207	466	1 441	
Purchases of goods and services (million EUR)	299	249 7	735	57 1	533 2	185	74 2 224	:	292	658	272	169	487	1 666	
Personnel costs (million EUR) (3)	125	108 4	679	27	663	1 055	41 969	:	169	440	111	107	280	1 025	
Gross investment in tangible goods (million EUR) (4)	39.0	:	796.1	:	131.5	:	9.2 211.4	:	:	122.4	52.2	17.7	55.0	:	
App. labour productivity (thous. EUR/pers. emp.)	48.3	47.7	54.3	34.9	36.4	43.6	36.6 48.1	:	:	61.2	14.1	58.0	64.1	45.1	
Simple wage adjusted labour productivity (%) (3)	146.3	146.3	131.9	162.3	160.2	131.8	140.2 155.4	:	149.7	156.0	153.5	193.1	166.8	140.6	
Gross operating rate (%) (3)	12.0	13.4	10.7	18.5	15.8	9.8	11.9 15.1	:	15.8	18.7	13.8	27.5	19.9	13.4	

(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 9.13

Manufacture of other fabricated metal products (NACE Group 28.7)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL (2)	A (1)	P	FIN	S (1)	UK
Production (million EUR)	1 447	1 203	17 224	378	5 982	7 990	364	11 695	113	1 860	877	944	649	2 417	6 400
Number of persons employed (thousands)	8	12	136	4	55	55	4	72	1	14	8	18	6	29	50
Value added (million EUR)	434	525	6 788	145	2 009	2 635	150	3 528	51	624	361	314	275	918	2 575
Purchases of goods and services (million EUR)	1 110	760	11 915	260	4 308	5 863	223	8 645	62	1 449	581	705	399	1 586	4 059
Personnel costs (million EUR) (3)	298	363	5 221	69	1 248	1 832	86	1 980	45	399	278	208	174	873	1 711
Gross investment in tangible goods (million EUR) (4)	65.9	:	785.0	:	300.9	:	16.5	725.6	:	:	50.3	90.0	39.3	128.6	:
App. labour productivity (thous. EUR/pers. emp.)	51.9	45.2	49.9	33.6	36.3	48.0	42.5	49.0	50.3	:	47.6	17.3	47.0	32.0	51.7
Simple wage adjusted labour productivity (%) (3)	145.4	133.5	130.0	208.7	161.0	142.8	175.4	178.2	112.8	156.4	129.7	151.4	157.9	105.1	150.5
Gross operating rate (%) (3)	8.9	10.6	8.4	19.2	12.4	9.9	17.2	13.1	5.1	11.1	8.8	10.9	15.7	1.8	13.0

(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 9.14

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (2)	TR
Production (million EUR)	217	147	4 170	209	1 383	116	108	:	5 844	669	690	1 322	:
Number of persons employed (thousands) (3)	27	3	159	8	55	7	9	:	198	85	30	:	:
Value added (million EUR)	54	59	1 243	57	487	44	36	:	2 115	234	179	381	:
Purchases of goods and services (million EUR)	198	:	3 206	164	911	71	83	:	4 355	546	518	917	:
Personnel costs (million EUR)	37	:	770	39	271	20	28	:	1 115	155	139	300	:
Gross investment in tangible goods (million EUR) (4)	14.4	8.6	239.8	16.0	10.8	8.1	9.6	:	351.2	91.4	40.3	69.6	:
App. labour productivity (thous. EUR/pers. emp.) (3)	2.0	18.1	7.8	6.9	8.8	6.4	3.9	:	7.5	2.7	6.0	:	:
Simple wage adjusted labour productivity (%)	146.3	:	161.3	147.2	179.6	216.4	126.4	:	189.7	150.6	128.4	127.0	:
Gross operating rate (%)	8.0	:	10.9	8.4	14.0	21.2	6.4	:	16.2	10.8	5.5	5.9	:

(1) 1998.

(2) 1999.

(3) PL, 1998.

(4) CZ, 1999.

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