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European business

Facts and figures

Part 3: Capital goods industries

Data 1991-2001

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

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Guide to the publication

CONTENTS OF THE PUBLICATION

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

Structure of the publication

European business is divided into three main sections:

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

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

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

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

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

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

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

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

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

Differences compared to the 2002 edition

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

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

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

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

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

GUIDE TO THE STATISTICS

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

Time frame

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

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

Exchange rates

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

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

Geographical coverage

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

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

Non-availability

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

OFFICIAL DATA SOURCES

SBS

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

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

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

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

Table 1

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

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

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

Table 2a

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

Table 2b

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

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

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

Table 3

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

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

Table 4

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

Estimates

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

Prodcom

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

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

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

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

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

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

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

External trade

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

European Business Trends

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

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

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

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

Labour Force Survey

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

Table 5

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

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

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

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

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

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

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

National Accounts

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

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

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

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

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

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

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

GLOSSARY OF TERMS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Number of persons employed (employment): is defined as the total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams); it includes persons absent for a short period (e.g. sick leave, paid leave or special leave), and also those on strike, but not those absent for an indefinite period; it also includes part-time workers who are regarded as such under the laws of the country concerned and who are on the pay-roll, as well as seasonal workers, apprentices and home workers on the pay-roll.

Personnel costs: the total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees as well as home workers) in return for work done by the latter during the reference period; personnel costs also include taxes and employees' social security contributions retained by the unit as well as the employer's compulsory and voluntary social contributions.

Production value: measures in value the amount actually produced by the unit, based on sales adjusted for changes in stocks and the resale of goods and services; the production value is defined as turnover, plus or minus the changes in stocks of finished products, work in progress and goods and services purchased for resale, minus the purchases of goods and services for resale, plus capitalised production, plus other operating income (excluding subsidies).

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

Trade balance: exports - imports.

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

Value added at factor cost: can be calculated from turnover, plus capitalised production, plus other operating income, plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products which are linked to turnover but not deductible, minus the duties and taxes linked to production; alternatively it can be calculated from gross operating surplus by adding personnel costs; income and expenditure classified as financial or extra-ordinary in company accounts is excluded from value added.

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

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

ABBREVIATIONS

Countries

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

Professional trade associations

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

Other organisations and publications

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

Statistical abbreviations

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

Other abbreviations

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

Weights and measures

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

Currencies

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

Symbols

: not available

- not applicable

Overview - the EU's business economy

INTRODUCTION

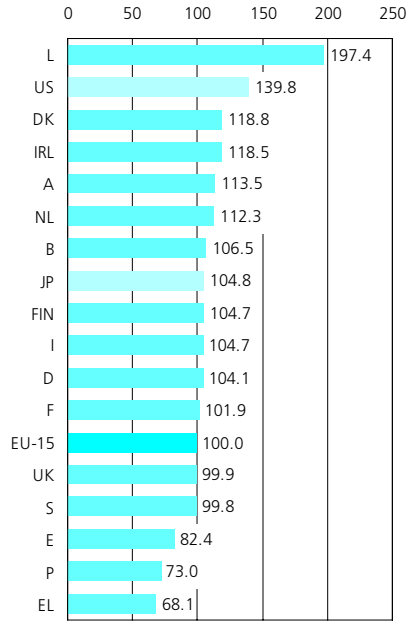
One of the most common measures of living standards is gross domestic product (GDP) per head. In order to make comparisons more meaningful it is usual to adjust this ratio to account for different price levels between countries and to therefore express the series in terms of purchasing power standards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

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

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

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

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



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

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

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

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

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

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

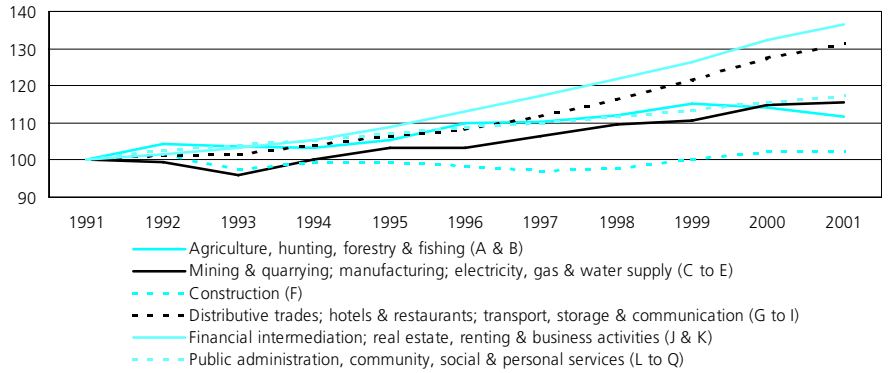
Although growth in the other branches of the EU economy was not as fast, it did, on average, remain positive during the 10–year period from 1991 to 2001. Industry and construction experienced the largest downturns in activity during 1993, with industry recovering at a much more rapid pace during the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

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

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

Figure 2

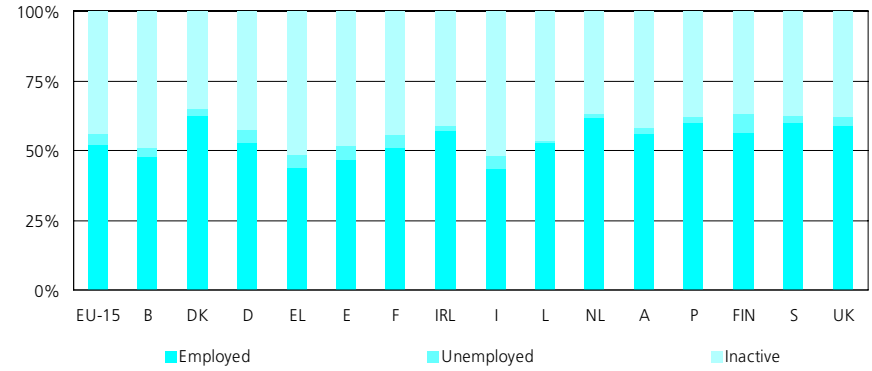
Breakdown of development of GDP in constant prices in the EU (1991=100)



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

Figure 3

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



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

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

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

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

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

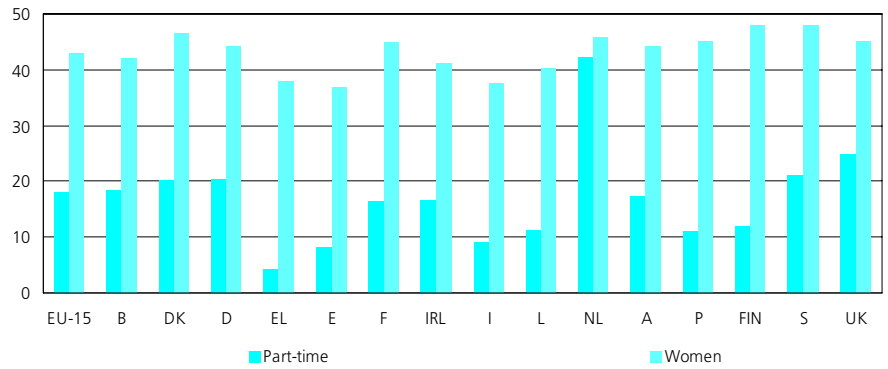
The service sector (NACE Sections G to Q) accounted for the majority of jobs in the EU in 2001, with just over two thirds (67.2 %) of those employed – see Figure 5. There were six countries where services accounted for more than 70 % of total employment, the highest share being recorded in Luxembourg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

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

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

Figure 4

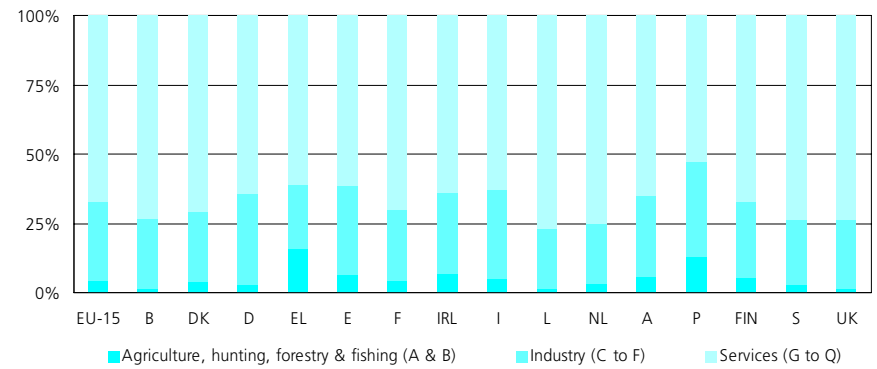
Labour force characteristics, 2001 (% share of those employed aged 15 or more) (1)



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

Figure 5

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



Source: Eurostat, Labour Force Survey.

Table 2

Evolution of total employment in the EU (millions)

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

Source: Eurostat, Labour Force Survey.

INTANGIBLES AND GLOBALISATION

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

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

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

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

Table 3

Selected structural indicators

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

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

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

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

Table 4

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

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

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

STRUCTURAL BUSINESS STATISTICS

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

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

A SNAPSHOT OF THE EU'S BUSINESS ECONOMY

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

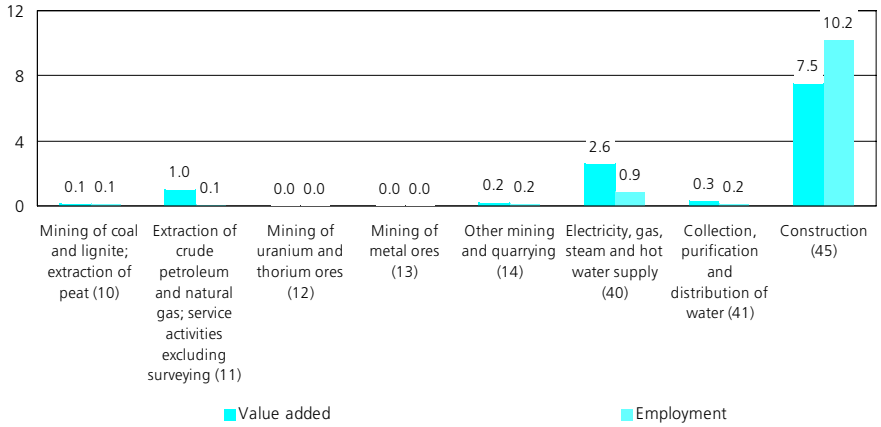
At the NACE section level, manufacturing was the largest activity, accounting for 31.2 % of value added and 27.7 % of employment. These two shares imply that the manufacturing sector is relatively productive when compared to the average performance of the whole economy. However, the remaining industrial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

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

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

Figure 6

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



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

Table 5

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

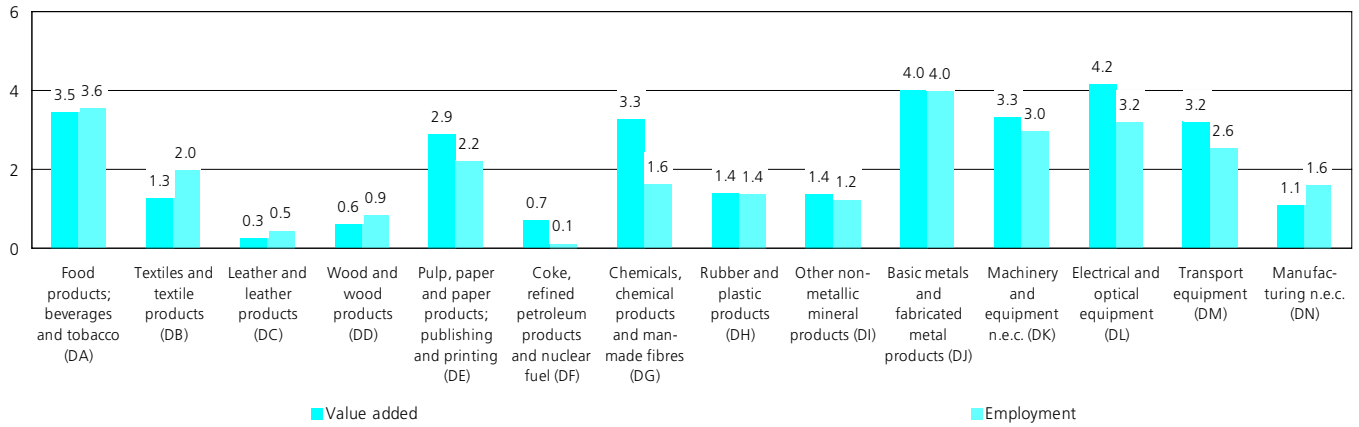
	Largest	Second largest	Third largest
EU-15	Construction	Electricity, gas, steam & hot water	Extraction of petroleum & gas
B	Construction	Electricity, gas, steam & hot water	Collection, purification & distribution of water
DK	Construction	Extraction of petroleum & gas	Electricity, gas, steam & hot water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

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

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

Figure 7

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



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

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

Table 6

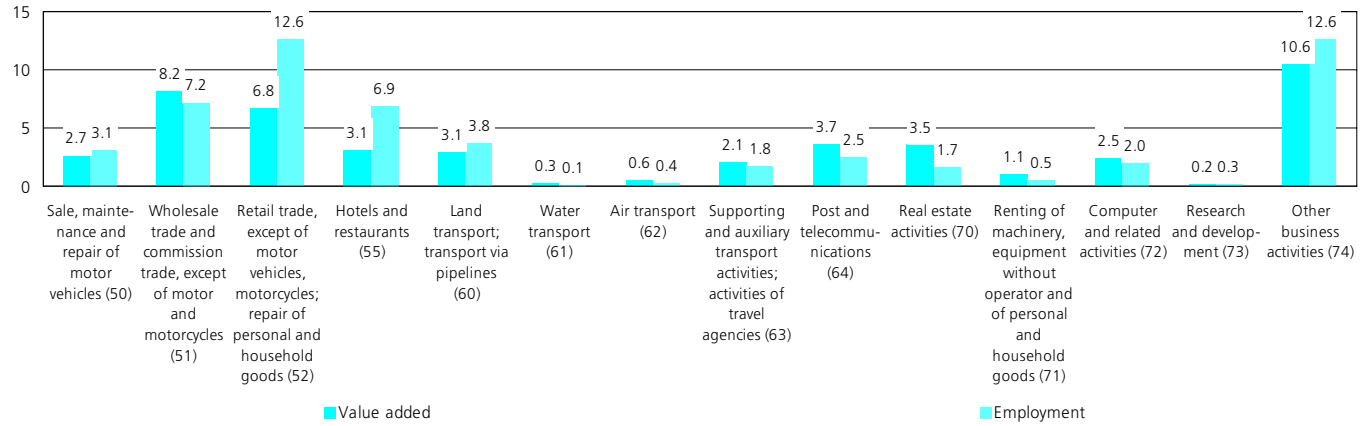
Three largest manufacturing sectors, 2000 (1)

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

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

Figure 8

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



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

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

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

Table 7

Three largest service sectors, 2000 (1)

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

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

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

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

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

Table 8

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

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

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

Table 9

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

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

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

THE EU'S MANUFACTURING SECTOR FROM 1990 TO 2001

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

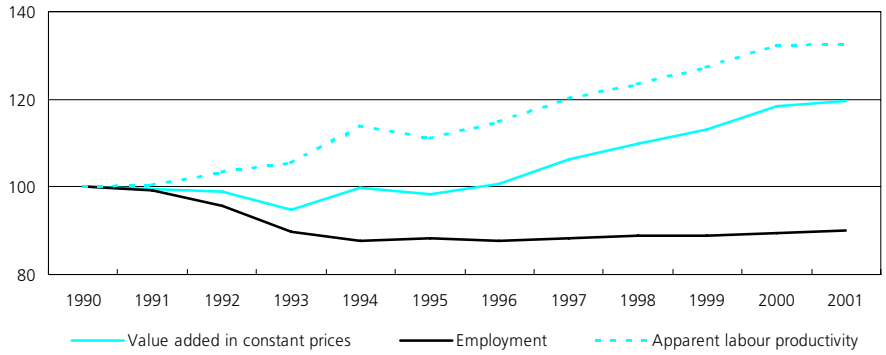
There were a total of 23.7 million persons employed in the EU's manufacturing sector in 2001, down from 26.3 million in 1990. The decline in manufacturing employment was almost exclusively confined to the first half of the 1990s, since when employment levelled off. There was an absolute gain of 3.0 %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

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

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

Figure 9

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



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

Table 10

Share of manufacturing value added in the EU (%)

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

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

Table 11

Relative specialisation in the manufacturing sector, 2000 (1)

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

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

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

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

EXTERNAL TRADE STATISTICS

THE EU'S EXTERNAL TRADE SITUATION FROM 1991 TO 2001

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

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

Table 12

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

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

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

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

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

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

Table 13

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

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

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

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

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

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

Table 14

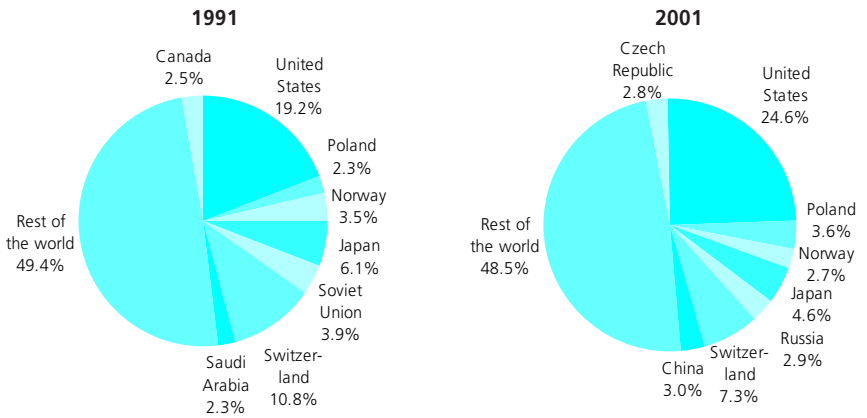
EU-15 external trade flows with non-Community countries (% share of manufacturing total)

CPA label (CPA code)	Exports		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

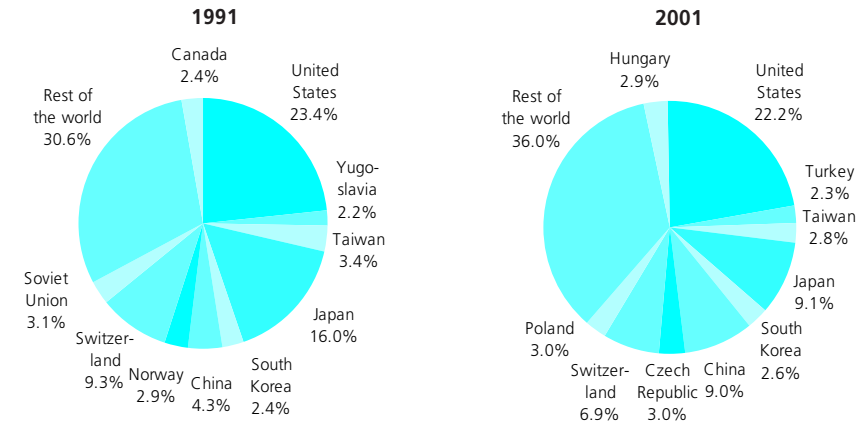
Destination of EU manufacturing (CPA Section D) exports



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.

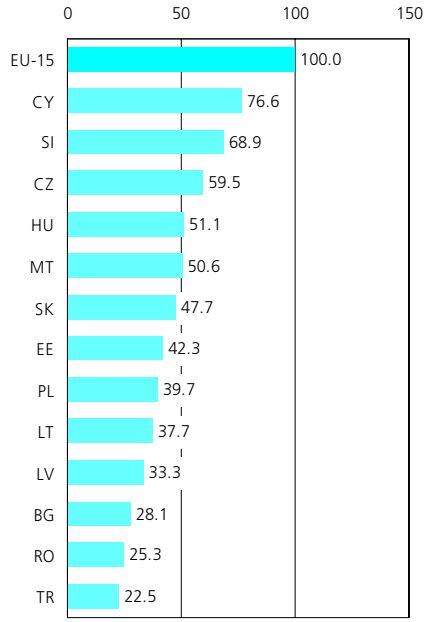
As regards the breakdown of employment, agriculture, hunting, forestry and fishing accounted for a higher share of those employed when compared to the EU average of 4.2 % in every candidate country – see Figure 15. In four of the candidates, the share of this sector in total employment rose into double 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).

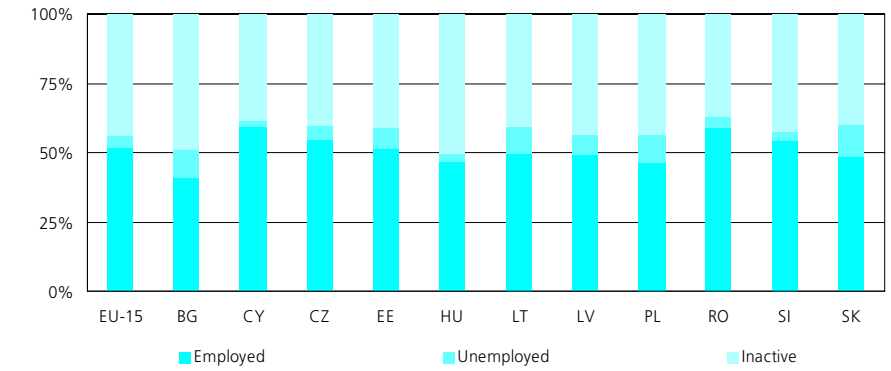
Table 17

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

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

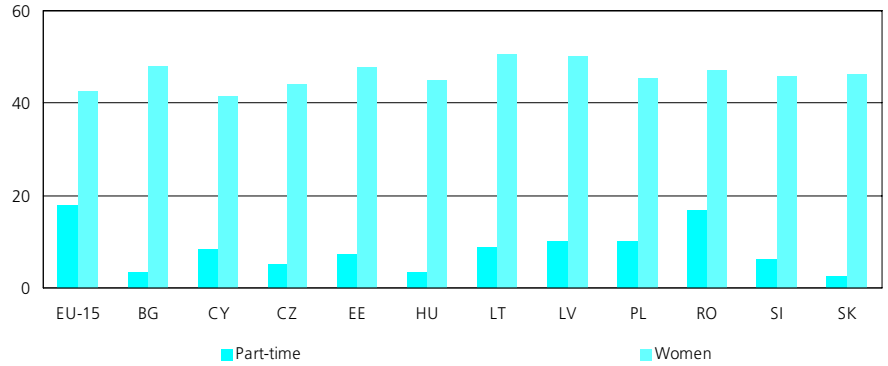
(1) 2000.
(2) Provisional.
(3) RO, 2000.
Source: Eurostat, National Accounts - Breakdowns by branch of activity (theme2/brkdowns).

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



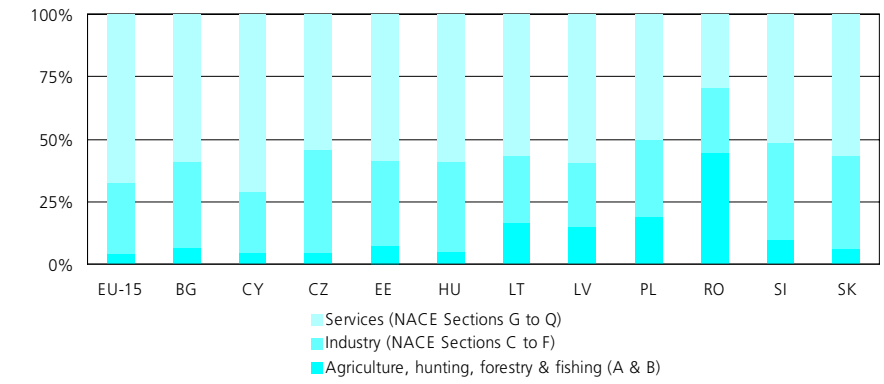
(1) NACE Sections A to Q.
Source: Eurostat, Labour Force Survey.

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



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

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



Source: Eurostat, Labour Force Survey.

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

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

Table 18

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

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

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

Table 19

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

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

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

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

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

Statistical annex

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

Table SA.1

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

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

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

Table SA.2

Population, as of 1 January (thousands)

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

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

Table SA.3

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

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

(1) Forecasts.

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

Table SA.4

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

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

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

Table SA.5

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

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

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

Table SA.6

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

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

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

Table SA.7

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

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

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

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

Table SA.8

Consumer confidence (balance)

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

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

Table SA.9

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

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

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

Table SA.10

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

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

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

Table SA.11

industrial confidence indicator (balance)

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

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

Table SA.12

Capacity utilisation rates for total industry (%)

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

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

Table SA.13

Trade balance of goods (million EUR) (1)

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

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

Table SA.14

Trade balance of services (million EUR) (1)

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

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

Table SA.15

Labour force characteristics, 2001 (1)

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

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

Table SA.16

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

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

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

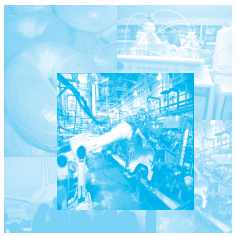
Table SA.17

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

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

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

Machinery and equipment



Compared to other NACE divisions, the manufacture of machinery and equipment (NACE Division 29) is one of the largest sectors in EU manufacturing. Its importance is not limited to its size alone, as this sector provides the machinery and equipment for the production processes of many other industrial sectors and as such impacts on the EU's manufacturing competitiveness. With the exception of domestic appliances, most of the enterprises in this sector produce capital goods and hence their orders and sales are sensitive to overall economic conditions and the business cycle. These trends are affected not only by economic conditions within the EU, but also elsewhere, as machinery and equipment products account for a very large proportion of the EU's exports. Exchange rate fluctuations are therefore important factors in the competitiveness of the EU's machinery and equipment sector and the rise in the value of the euro compared to the dollar since the beginning of 2002 is particularly important as the United States is the EU's largest export market.

The business cycles of many subsectors can fluctuate strongly as they are dependent on demand from a narrow range of downstream sectors. However, as the machinery and equipment sector as a whole manufactures for a wide range of specialised sectors, its evolution followed closely the development of manufacturing activity throughout the 1990s, albeit with a slightly lower rate of growth since 1996.

STRUCTURAL PROFILE

The machinery and equipment sector accounted for 10.5 % of the EU's manufacturing value added in 2001 and 11.3 % of manufacturing employment. As such this sector generated the third largest share of manufacturing value added, behind the manufacture of chemicals and chemical products (Division 24) and the manufacture of food products and beverages (Division 15) and had a larger workforce than any other manufacturing NACE division, except for the manufacture of food products and beverages. In absolute terms, employment reached 2.7 million in 2001 and value added was EUR 139.6 billion.

Value added in current prices rose by 2.5 % per annum between 1991 and 2001, slower than the manufacturing average (3.1 %). Since 1996 the difference in the growth rates between this sector and the manufacturing average became larger. Most notably this sector recorded a small fall in value added in 1999, while manufacturing as a whole continued to expand. In 2001 growth was 3.3 %, fractionally higher than the manufacturing average for the first time since 1996. As a result of the relatively slow growth in the second half of the 1990s, the machinery and equipment sector's share of manufacturing value added fell steadily from a peak of 11.5 % in 1996 but stabilised in 2001 at the same level as 2000 (10.5 %).

This chapter covers NACE Division 29, in other words all mechanical machinery and equipment, except for transport equipment. This sector provides equipment for use by many of the mining, manufacturing, energy and construction sectors, as well as producing domestic appliances.

Furthermore, the machinery and equipment sector covers weapons and ammunition, whether for military or sporting uses, including some military vehicles such as tanks, but not military aircraft or warships which are classified under the manufacture of transport equipment. The weapons and ammunitions subsector is relatively small and data availability generally weaker than the other subsectors and it is not treated in a separate subchapter.

NACE

29: manufacture of machinery and equipment n.e.c.;
29.1: manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines;
29.2: manufacture of other general purpose machinery;
29.3: manufacture of agricultural and forestry machinery;
29.4: manufacture of machine-tools;
29.5: manufacture of other special purpose machinery;
29.6: manufacture of weapons and ammunition;
29.7: manufacture of domestic appliances n.e.c.

Table 10.1

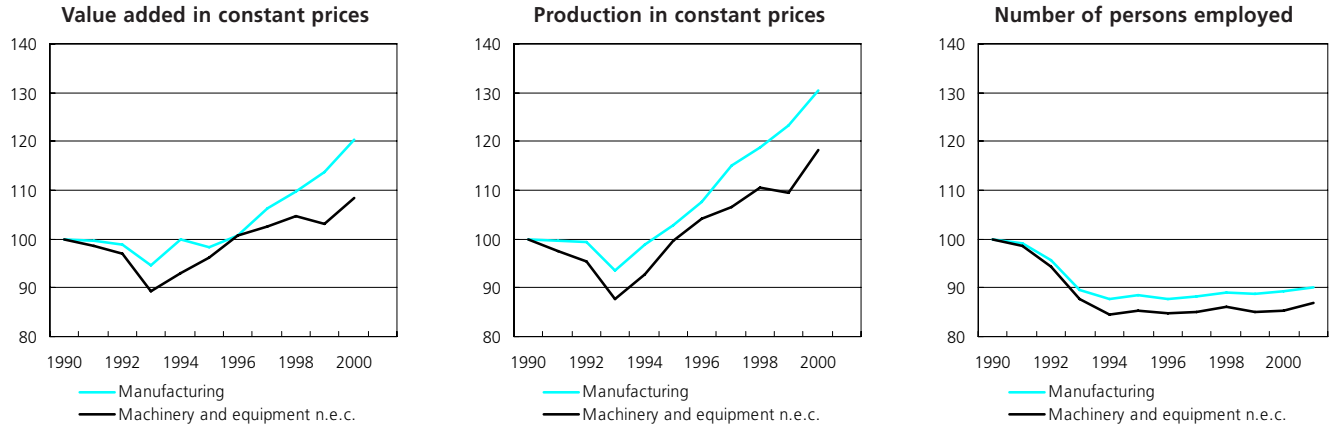
Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	282 398	279 060	261 850	280 729	314 752	333 695	347 217	364 579	360 369	377 639	390 326
Number of persons employed (thousands)	3 042	2 916	2 708	2 608	2 631	2 622	2 629	2 659	2 630	2 634	2 682
Value added (million EUR)	109 015	108 284	102 133	107 734	115 882	123 367	127 224	131 925	130 212	135 136	139 620
Personnel costs (million EUR)	88 403	89 551	86 139	86 064	91 234	94 312	94 995	97 984	99 420	101 027	101 163
App. labour productivity (thous. EUR/pers. emp.)	35.8	37.1	37.7	41.3	44.0	47.1	48.4	49.6	49.5	51.3	52.1
Simple wage adjusted labour productivity (%)	123.3	120.9	118.6	125.2	127.0	130.8	133.9	134.6	131.0	133.8	138.0

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

Figure 10.1

Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Main indicators in the EU (1990=100)



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

Table 10.2

Manufacture of machinery and equipment n.e.c. (NACE Division 29)
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 machinery and equipment n.e.c.	-1.7	-7.8	4.1	3.4	4.6	1.8	2.0	-1.5	5.1	:	2.4	0.8
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 machinery and equipment n.e.c.	-2.2	-8.3	5.8	7.7	4.3	2.5	3.6	-0.9	7.9	:	3.4	1.7
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 machinery and equipment n.e.c.	-4.2	-7.1	-3.7	0.9	-0.3	0.3	1.1	-1.0	0.7	1.8	0.5	-1.3

(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).

In terms of employment the sector grew in both 2000 (0.2 %) and 2001 (1.8 %) and the level of employment was higher in 2001 than in any year since 1993, although still well below the levels recorded prior to the recession of the early 1990s. The machinery and equipment sector maintained its share in manufacturing employment better than its value added share over the five years to 2001, consistently contributing between 11.2 and 11.4 % of the EU's manufacturing workforce.

There are seven NACE groups within Division 29, but three of them dominated the sector in 2000, each accounting for more than one fifth of total employment and value added: the manufacture of other general purpose machinery (27.9 % of value added, Group 29.2), the manufacture of other special purpose machinery (26.2 %, Group 29.5), and the manufacture of machinery for the production and use of mechanical power [(1)] (21.9 %, Group 29.1).

The contribution of the manufacture of other general purpose machinery to the sector's value added rose steadily from 23.9 % in 1990, gaining 4.9 percentage points by 2000. The share of the manufacture of agricultural and forestry machinery (NACE Group 29.3) and the manufacture of machine tools (NACE Group 29.4) declined over the same period to less than 5 % and 10 % the total.

Germany dominated the EU's machinery and equipment sector. It is estimated that in 2000 it generated more than 20 % of the EU's value added in each of the subsectors, exceeding 50 % in the manufacture of machine tools. In all subsectors except for Group 29.6 (manufacture of weapons and ammunition) it generated more value added than any other Member State. Overall it accounted for 41.2 % of the EU's value added from the manufacture of machinery and equipment. Since falling sharply between 1995 and 1996, Germany's share of this sector remained fairly stable in the second half of the 1990s.

[(1)] EL, IRL and S, 1999; L not available.

Table 10.3

Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Value added by size class, 2000 (million EUR)

	Micro	Small	Medium	Large	Total
B	137.0	418.9	625.6	1 558.7	2 740.1
DK	199.8	648.7	1 076.7	1 587.4	3 512.5
D	1 496.1	6 203.0	14 585.3	37 387.9	59 672.2
EL	:	:	:	:	:
E	848.1	2 057.0	2 019.9	1 953.0	6 877.9
F	1 174.9	2 885.9	4 109.7	7 566.7	15 737.3
IRL (1)	:	:	167.8	318.1	639.2
I	2 633.7	7 289.9	8 285.5	9 354.0	27 563.1
L	:	:	:	:	:
NL	510.5	1 260.7	1 717.6	1 913.1	5 401.9
A (1)	140.5	515.1	1 190.3	1 985.5	3 831.4
P	122.0	321.8	341.9	217.8	1 003.5
FIN	210.8	442.2	876.7	1 703.8	3 233.5
S	340.0	824.4	1 524.1	3 415.9	6 104.4
UK	1 879.2	3 961.8	5 756.6	8 266.0	19 863.5

(1) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/sizclass/indus_ms).

Large enterprises (with 250 or more persons employed) accounted for 46.8 % of value added in this sector in 2000 [(2)], the largest proportion of any of the size classes studied, but considerably less than the corresponding manufacturing average (55.7 %). Compared to manufacturing as a whole, the most important size class in the manufacture of machinery and equipment was medium-sized enterprises (with 50 to 249 persons employed). These enterprises generated more than one quarter of value added (27.1 %) in this sector in 2000 [(3)], compared to a 21.4 % share in manufacturing value added. Only in Spain and Portugal did large enterprises account for less value added than medium-sized enterprises in 2000 and these were the only countries where collectively medium and large-sized enterprises accounted for less than 60 % of value added in this sector.

[(2)] IRL and A, 1999; EL and L, not available.
[(3)] IRL and A, 1999; EL and L, not available.

LABOUR AND PRODUCTIVITY

The manufacture of machinery and equipment is one of the manufacturing divisions with a higher than average proportion of full-time and male employment. In 2001 82.1 % of the workforce was male, slightly below the 83.0 % average of the previous five years, mainly due to a relatively large fall in the share of male employment in Italy and the United Kingdom. Only Belgium and Greece had male employment rates in excess of 90 % and the rates in all other Member States were above 75 %. These rates were higher than the manufacturing average in every Member State, except Luxembourg, where the male employment rate for this sector was comparable with the manufacturing average. Portugal recorded the biggest difference compared to its manufacturing average, as Portuguese male employment was more than 20 percentage points higher in the machinery and equipment sector.

Full-time employment was 94.9 % of the total, unchanged compared to 2000, and only slightly lower than the previous five years' average. All Member States recorded full-time employment rates in excess of 90 %, even the Netherlands (92.0 %) whose manufacturing average is as low as 76.9 %. In all other Member States, except Denmark, the difference in the full-time employment rate between this sector and the manufacturing average was less than 5 percentage points.

According to SBS data, the apparent labour productivity in the EU's machinery and equipment sector in 2001 was EUR 52 100, below the manufacturing average of EUR 55 900. In 2000 only Italy and Portugal recorded higher apparent labour productivity in this sector than was typical for manufacturing. Despite relatively low apparent labour productivity, average personnel costs in 2000 were above the manufacturing average in this sector in all Member States, except for Greece (1998), Ireland (1999) and the Netherlands.

As a result, wage adjusted labour productivity in this sector was relatively low. In Ireland (1999) it was less than half of the national manufacturing average, in Finland it was less than three quarters and only in Italy did this measure of labour productivity get within 5 % of the national manufacturing average.

Table 10.4

Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Labour force characteristics (% of total employment)

	Female		Part-time		Self-employed	
	1996	2001 (1)	1996	2001 (2)	1996	2001 (3)
EU-15	17.0	17.9	4.5	5.1	5.3	5.5
B	15.5	9.0	:	:	6.4	5.1
DK	22.9	23.3	5.9	7.2	:	4.6
D	17.6	17.9	5.1	6.3	3.2	3.5
EL	11.8	11.2	:	:	27.0	17.8
E	9.9	14.2	2.7	2.9	10.5	10.2
F	17.3	17.2	4.6	5.3	4.2	3.4
IRL	23.6	18.8	:	:	:	:
I	16.4	19.8	3.3	3.2	10.8	10.8
L	:	:	:	:	:	:
NL	8.0	11.1	4.9	8.0	:	:
A	14.9	17.1	5.3	4.1	3.6	3.9
P	:	23.6	:	:	:	17.5
FIN	16.9	13.7	:	:	6.9	5.9
S	20.3	16.3	:	:	:	:
UK	18.6	20.2	5.0	6.9	3.8	2.8

(1) EL, 2000.
(2) DK, 2000.
(3) DK and A, 1999.
Source: Eurostat, Labour Force Survey.

EXTERNAL TRADE

In 2001 machinery and equipment products were the largest CPA manufacturing division in terms of exports, a position they held throughout the 1990s and in 2000. They accounted for 14.9 % of the EU's exports of manufactured goods in 2001, reaching a level of EUR 135.7 billion. Their share of the manufacturing total fell annually from 17.8 % in 1996 to 14.4 % in 2000 before this trend reversed in 2001. These products also figure among the EU's most imported manufactured goods, behind radio, television and communication equipment (CPA Division 32) and chemicals, chemical products and man-made fibres (CPA Division 24). At EUR 67.3 billion in 2001, imports of machinery and equipment accounted for 8.3 % of the EU's imports of manufactured goods, a share that remained relatively stable over the previous five years.

The resulting trade balance for these goods was positive throughout the 1990s and by 2001 the trade surplus was EUR 68.4 billion, some EUR 9.5 billion higher than in 2000 and greater than any year in the 1990s, except for 1997. This was the largest trade balance of any manufacturing CPA division in 2001, for comparison EUR 14.0 billion higher than that of chemicals, chemical products and man-made fibres.

As with valued added, other special purpose machinery (CPA Group 29.5), other general purpose machinery (Group 29.2), and machinery for the production and use of mechanical power (Group 29.1) dominated exports of machinery and equipment in 2001. Together they accounted for 80.7 % of exports, a share that remained relatively stable over the previous 10 years. In terms of imports the same CPA groups were again the most important, however, the share of machine tools (CPA Group 29.4) was significantly higher at 14.7 %.

All of the CPA groups in machinery and equipment recorded trade surpluses in 2001, ranging from just EUR 0.4 billion in weapons and ammunition, to EUR 32.1 billion for other special purpose machinery. The cover ratio, in other words the proportion of imports covered by exports, was lowest in domestic appliances and machine tools, where exports exceeded imports by 25 % and 34 % respectively.

Germany (EUR 50.1 billion) accounted for more than one third of the EU's extra-EU exports of machinery and equipment in 2001 and Italy one fifth (EUR 28.1 billion); France and the United Kingdom's extra-EU exports were approximately half of Italy's. Relative to each country's manufacturing exports, Italy's exports of these products were particularly high as they accounted for 13.3 % of all Italian manufactured exports. Germany and Italy's shares of extra-EU imports were notably smaller than their shares of exports, at 30.2 % and 10.0 % respectively. The United Kingdom, on the other hand, accounted for 17.9 % of extra-EU imports. Despite this the United Kingdom, like all Member States except for Greece, Belgium and Ireland, recorded an extra–EU trade surplus in these products in 2001. Unsurprisingly, the largest extra-EU trade surpluses were recorded in Germany and Italy, both in excess of EUR 20 billion.

Taking account of intra-EU trade as well as extra-EU trade, Germany recorded an overall trade surplus of EUR 52.0 billion and Italy one of EUR 32.8 billion. The largest overall trade deficits (intra-EU and extra-EU) were recorded in Spain (EUR 6.5 billion) and Portugal (EUR 2.3 billion). After four years of a declining trade surplus, the United Kingdom recorded a small trade deficit (EUR 159 million) in these products in 2001.

The concentration of the destination of exports was quite low: for example the top 17 destinations collectively shared two thirds of EU exports, a number that was only significantly exceeded by food, beverage and tobacco products (CPA Divisions 15 and 16). The United States, China and Switzerland were the only destinations for EU exports of machinery and equipment in 2001 with more than 5 % of the total, with the United States taking 20.6 %.

As with many other engineering products, the United States was also the largest supplier of EU imports in 2001, with a 29.3 % share, a slight fall compared to 2000. Market shares of EU imports of machinery and equipment were stable with the same top 10 ranking in 2001 as in 2000.

Table 10.5

Machinery and equipment n.e.c. (CPA Division 29)
Extra-EU exports from the EU

	1991 (million EUR)	1991 (%)	2001 (million EUR)	2001 (%)	Change in export value 2001/1991 (%)	Change in export share 2001/1991 (% points)
Machinery and equipment n.e.c.	64 969.3	100.0	135 726.8	100.0	108.9	-
Machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines	13 019.4	20.0	30 724.4	22.6	136.0	2.6
Other general purpose machinery	13 860.4	21.3	30 818.9	22.7	122.4	1.4
Agricultural and forestry machinery	2 807.5	4.3	4 878.7	3.6	73.8	-0.7
Machine-tools	7 553.6	11.6	13 204.2	9.7	74.8	-1.9
Other special purpose machinery	24 301.4	37.4	47 909.2	35.3	97.1	-2.1
Weapons and ammunition	623.0	1.0	734.2	0.5	17.9	-0.4
Domestic appliances n.e.c.	2 790.1	4.3	7 426.1	5.5	166.2	1.2

Source: Eurostat, Comext.

Table 10.6

Machinery and equipment n.e.c. (CPA Division 29)
Extra-EU imports into the EU

	1991 (million EUR)	1991 (%)	2001 (million EUR)	2001 (%)	Change in import value 2001/1991 (%)	Change in import share 2001/1991 (% points)
Machinery and equipment n.e.c.	28 698.7	100.0	67 280.6	100.0	134.4	-
Machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines	6 700.0	23.3	18 762.7	27.9	180.0	4.5
Other general purpose machinery	5 586.5	19.5	14 833.8	22.0	165.5	2.6
Agricultural and forestry machinery	1 052.5	3.7	1 781.7	2.6	69.3	-1.0
Machine-tools	4 875.4	17.0	9 867.1	14.7	102.4	-2.3
Other special purpose machinery	7 802.8	27.2	15 795.4	23.5	102.4	-3.7
Weapons and ammunition	419.6	1.5	294.8	0.4	-29.8	-1.0
Domestic appliances n.e.c.	2 261.8	7.9	5 945.2	8.8	162.9	1.0

Source: Eurostat, Comext.

10.1: POWER MACHINERY

The manufacture of power machinery (NACE Group 29.1) concerns the manufacture of machinery for the production and use of mechanical power. This includes internal combustion engines, as well as steam, gas, wind and hydraulic turbines, pumps, compressors, taps, valves, bearings and transmission equipment. This NACE group excludes the manufacture of propulsion engines for aircraft, vehicles or cycles.

STRUCTURAL PROFILE

Value added generated by the manufacture of power machinery in the EU [4] was EUR 30.5 billion in 2000, approximately 21.9 % of the machinery and equipment total, equivalent to 2.4 % of all manufacturing value added. The number of persons employed [5] was 548 400, 20.6 % of the sectoral total and 2.3 % of the manufacturing total. Based on data for ten Member States [6] value added in this sector grew, in current prices, by 17.0 % between 1995 and 2000, an average rate of 3.2 % per annum, the same as for the machinery and equipment sector as a whole. Between 1995 and 2000 [7], this subsector lost 11 900 jobs net. The biggest losses were in the United Kingdom (16 200) and Germany (7 200) which were to some extent cancelled out by net increases in France (3 300), Italy (7 600) and Finland (2 400). Despite the contraction, the largest workforce in 2000 was Germany (220 200 persons employed). The country most specialised in the manufacture of power machinery (in employment terms) was Denmark, as this sector occupied 5.0 % of national manufacturing employment, compared, for example, with 3.4 % in German manufacturing.

[4] EL, IRL and S, 1999; L not available.
[5] EL, IRL and S, 1999; L not available.
[6] EL, IRL, L, P and S, not available.
[7] EL, IRL and S, between 1995 and 1999; L, NL and P, not available.

To a greater extent than most machinery and equipment subsectors, the manufacture of power machinery is dominated by large enterprises. In 2000 enterprises with 250 or more persons employed generated 61.1 % of value added [8]. In Denmark and Germany large enterprises accounted for more than 70 % of value added in 2000.

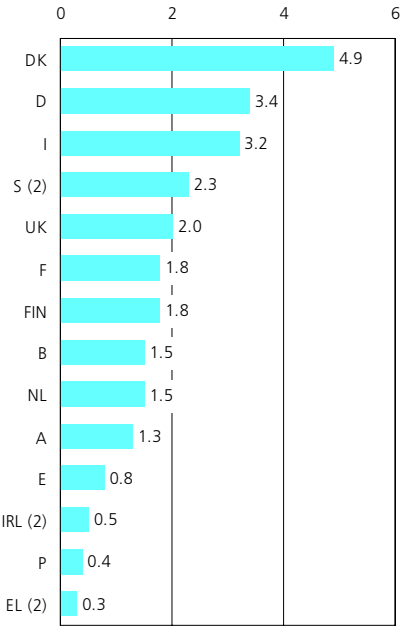
The EU's domestic output prices for the power machinery sector rose each year from 1995, increasing by a total of 9.1 % by 2001. Although this is slightly higher than the average for the machinery and equipment sector as a whole this is mainly because of faster price increases early in the period considered. Since 1998 the power machinery sector recorded lower year-on-year price increases than the machinery and equipment average. The manufacture of engines and turbines (NACE Class 29.11) recorded the largest overall price increase, equal to 11.7 %, due in part to faster increases in 1999 and 2000.

Greece and Finland recorded particularly high increases in their domestic output price indices for power machinery: the five-year annual average growth rate to 2001 was 5.4 % in Greece and 2.9 % in Finland compared to a range of 0.6 to 1.7 % recorded by all five of the larger Member States [9].

[8] A and S, 1999; B, EL, IRL, L and P, not available.
[9] B, IRL, L, A and P, not available.

Figure 10.2

Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines (NACE Group 29.1)
Share of value added in manufacturing, 2000 (%) (1)



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

Table 10.7

EU production value of selected power machinery products (from CPA Group 29.1) (million EUR)

Label	Prodcom code	Year	Value
Marine propulsion compression-ignition internal combustion piston engines (diesel or semi-diesel)	29.11.13.11 to 29.11.13.19	2000 (1)	1 649
Industrial use compression-ignition internal combustion piston engines (diesel or semi-diesel)	29.11.13.31 to 29.11.13.75	2000	3 419
Gas turbines (excluding turbojets and turboprops)	29.11.23.00	2000	1 965
Parts of pumps for liquids and for liquid elevators	29.12.42.00	2000	1 954
Mixing valves for sinks, wash basins etc. excluding valves for pressure-reducing/oleohydraulic/ pneumatic power transmissons, check valves, safety/relief valves	29.13.12.33	2000	1 942
Taps, cocks and valves for sinks, wash basins etc. excluding valves for pressure-reducing/ oleohydraulic transmissions, check, safety, relief & mixing valves	29.13.12.35	1998	2 435
Ball bearings	29.14.10.30	2000	2 586
Gears and gearing (excluding toothed wheels, chain sprockets and other transmission elements)	29.14.24.30	1998	2 731

(1) Mixed 1998 and 2000 data.
Source: Eurostat, European production and market statistics (theme4/europrom).

LABOUR AND PRODUCTIVITY

In general the power machinery subsector demonstrated a level of apparent labour productivity slightly above the average for machinery and equipment. In 2000, only Greece (1999), the Netherlands, Sweden (1999) and France recorded lower productivity in this subsector [10]. Belgium maintained its position with the highest labour productivity of any Member State (EUR 91 000) which was EUR 29 200 higher than its average for the machinery and equipment sector. Average personnel costs in this subsector were closely aligned with those for the sector as a whole in 2000: Belgium, Ireland (1999) and the United Kingdom recorded average costs that were 12.9 %, 12.6 % and 6.4 % higher respectively and Greece (1998) 15.2 % lower, but nowhere else was there a difference greater than 5 %.

EXTERNAL TRADE

The EU's exports of power machinery were valued at EUR 30.7 billion in 2001, exceeding imports of EUR 18.8 billion to leave a trade surplus of EUR 12.0 billion. After falls in 1998 and 1999, the trade surplus grew by 8.7 % in 2000 and 13.2 % in 2001 and as a result was higher in 2001 than at any time during the 1990s. Both exports and imports grew annually throughout the 1990s, but growth slowed in 1999. In 2000 and 2001 higher rates of growth were recorded again.

Germany was the largest exporter (intra- and extra-EU combined) of power machinery, with exports in 2001 valued at EUR 21.6 billion. Italy was the next largest exporter with EUR 11.1 billion of exports, which was equivalent to 4.3 % of Italian manufactured exports, the highest share of any Member State. Germany (EUR 10.3 billion) and Italy (EUR 5.4 billion) were the only Member States to record a trade surplus in excess of EUR 1 billion in 2001. Greece, Spain, Ireland, the Netherlands, Austria and Portugal all recorded trade deficits in these products, the Spanish deficit (EUR 1.7 billion) being the only one in excess of EUR 400 million.

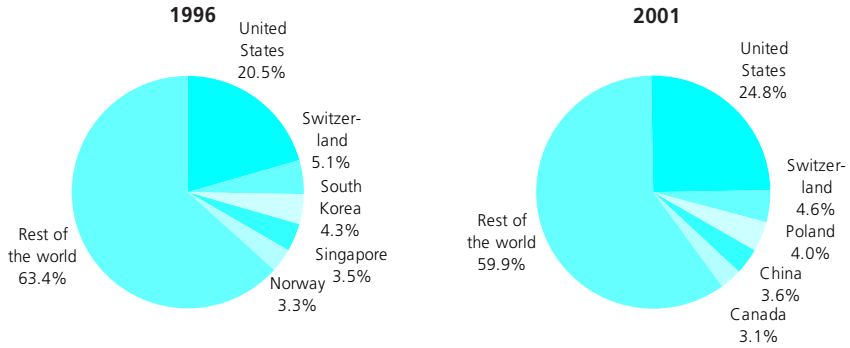
[10] L, not available.

With 24.8 % of the total, the United States was the only destination that accounted for more than 5 % of the EU's exports of power machinery in 2001. Although relatively small in their share of EU exports, third and fourth ranked destinations Poland and China both increased their shares of EU exports between 1996 and 2001: Poland's share expanded from 2.5 % (12th ranked) to 4.0 % and China's from 2.6 % (ninth ranked) to 3.6 %.

As the largest provider of power machinery to the EU, the United States maintained its 40 % share of imports in 2001, the same as in 2000. Over a longer period, from 1996 to 2001, China and the Czech Republic more or less doubled their shares of EU imports from 2.2 % each to 4.6 % and 4.2 % respectively.

Figure 10.3

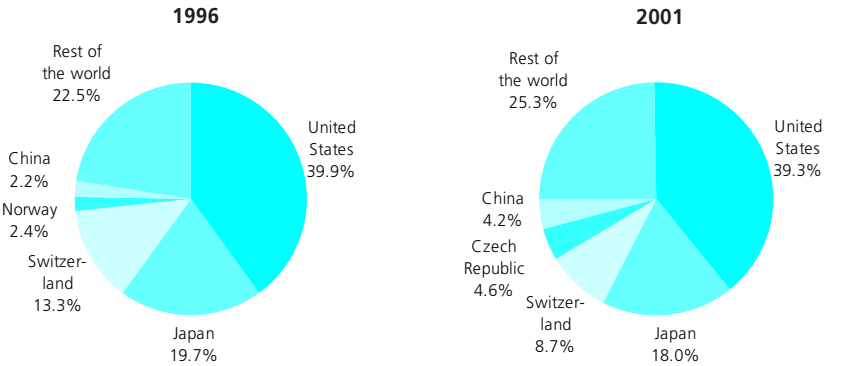
Machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines (CPA Group 29.1)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 10.4

Machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines (CPA Group 29.1)
Origin of extra-EU imports



Source: Eurostat, Comext.

10.2: INDUSTRIAL PROCESSING MACHINERY

The manufacture of industrial processing machinery is made up of general purpose machinery, machine tools and special purpose machinery, covering NACE Groups 29.2, 29.4 and 29.5.

STRUCTURAL PROFILE

The EU's value added from the manufacture of processing machinery in 2000 was EUR 89.1 billion [11]. Nine Member States [12] reported data for both 1999 and 2000 and collectively these showed a 7.2 % increase in value added in current prices. Employment in this subsector was 1.7 million in 2000, an increase of 34 700 compared to 1999 and 94 600 more than 1995.

The manufacture of other general purpose machinery (NACE Group 29.2) occupied 45.0 % of the workforce in 2000, other special purpose machinery (NACE Group 29.5) 40.9 % and machine tools (NACE Group 29.4) the remaining 14.1 %. Compared to six years earlier this represented a fall (from 16.3 %) in the share of machine tools and an increase in the share of the other two NACE groups, mainly other general purpose machinery.

Germany, Finland and Austria all recorded a high proportion of their manufacturing employment in this subsector, 10.2 %, 9.9 % and 9.6 % respectively (all 2000), compared to an EU average of 7.2 % in 2000. German employment in this subsector was 660 500 in 2000, 8 600 more than in 1999, however 28 200 less than five years earlier. Between 1995 and 2000 both Italy and France, the second and fourth largest producing Member States for this subsector in 2000, recorded large increases in employment, up by 37 500 and 16 800 respectively. Spain also recorded a large increase in employment (35 500) over the same period.

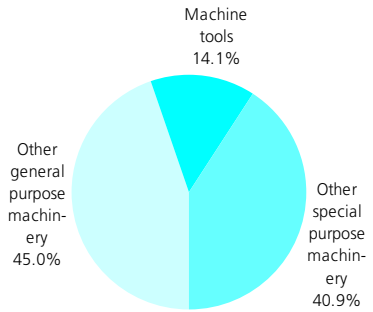
[11] NACE Group 29.4: EL, IRL and S, 1999; N, 1998; L, not available.
[12] EL, IRL, L, NL, S and UK, not available.

The EU's industrial processing machinery subsector had a similar size structure as the machinery and equipment sector as a whole, but with generally a smaller proportion of value added generated by larger enterprises and more by all of the other size classes, particularly small and medium-sized enterprises. For example, in the manufacture of other special purpose machinery, 30 % of value added was generated by medium-sized enterprises (50 to 249 persons employed) in 2000 [13] and 22 % by small enterprises (10 to 49 persons employed), a combined share that was nearly 9 percentage points higher than the equivalent figure for the machinery and equipment sector.

All three of the NACE groups that make up this subsector recorded a similar development in their domestic output prices to the machinery and equipment average over the period 1995 to 2001, particularly the manufacture of other general purpose machinery whose overall price increase of 8.6 % was the same as the sectoral average. Although following a similar trend, the other two NACE groups – the manufacture of machine tools and of other special purpose machinery – both recorded slightly faster increases in prices over the same period. At a more detailed level of analysis, namely the NACE class level, the manufacture of machinery for food, beverage and tobacco processing (Class 29.53), for paper and paperboard production (Class 29.55) and other special purpose machinery n.e.c. (Class 29.56) all recorded price increases in excess of 10 % between 1995 and 2001 [14]. As with the power machinery subsector, both Greece and Finland recorded particularly high increases in domestic output prices during the second half of the 1990s through to 2001, particularly in the manufacture of other special purpose machinery.

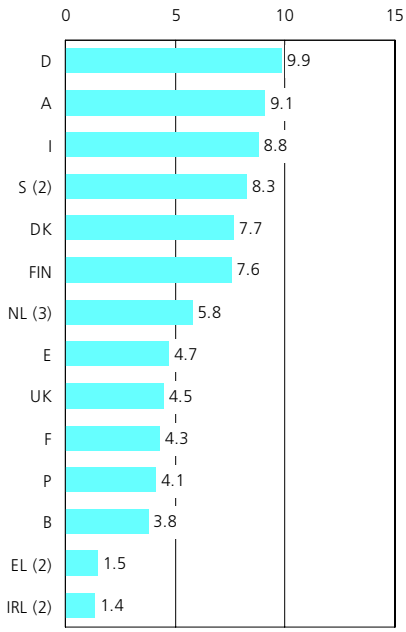
[13] B, IRL, P and S, 1999; EL, L and NL, not available.
[14] NACE Class 29.51 not available.

Figure 10.5
Share in industrial processing machinery employment, EU, 2000



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

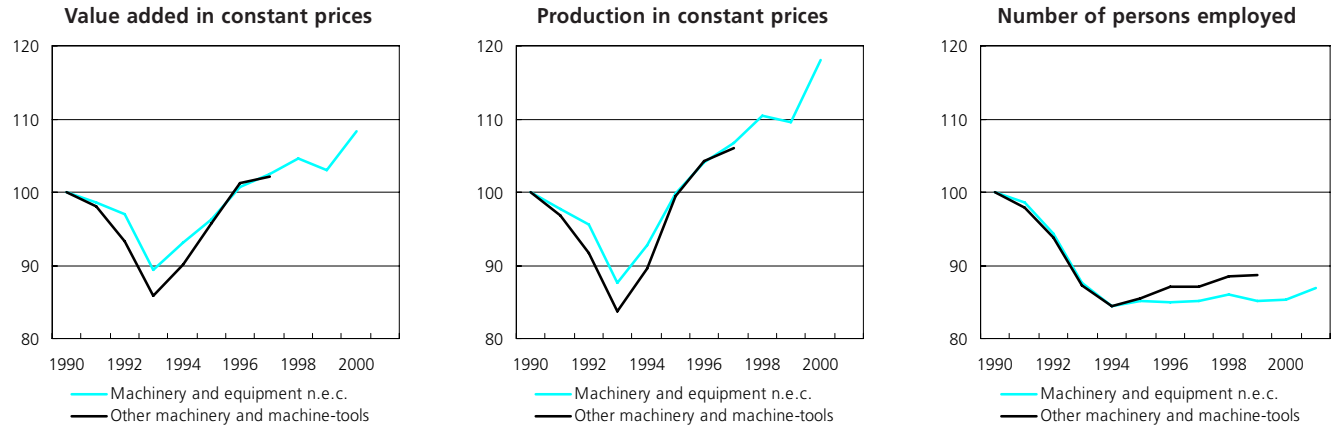
Figure 10.6
Manufacture of other general purpose machinery, machine-tools and other special purpose machinery (NACE Groups 29.2, 29.4 and 29.5) Share of value added in manufacturing, 2000 (%) (1)



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

Figure 10.7

Manufacture of other general purpose machinery, machine-tools and other special purpose machinery (NACE Groups 29.2, 29.4 and 29.5)
Main indicators in the EU (1990=100)



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

Table 10.8

EU production value of selected industrial processing machinery (from CPA Groups 29.2 and 29.5) (million EUR)

Label	Prodcom code	Year	Value
Self-propelled fork-lift trucks (and similar)	29.22.15.13 to 29.22.15.35	2000 (1)	4 568
Machinery for packing or wrapping (excl. for filling, closing, sealing, capsuling or labelling bottles, cans, boxes, bags or other containers)	29.24.21.70	1999	3 786
Heat exchange units	29.23.11.30	2000	2 899
Compression type units whose condensers are heat exchangers, heat pumps	29.23.13.73	2000	1 010
Other refrigerating or freezing equipment	29.23.13.90	2000	2 100
Wheeled loaders, crawler shovel loaders, front-end loaders including for underground use	29.52.25.30 and 29.52.25.50	2000	1 967
Self-propelled bulldozers, excavators, earth moving machinery etc.	29.52.27.30 and 29.52.27.50	2000 (2)	1 295
Machiones for stones, earth, ores etc.: sorting, screening, separating, washing, crushing, grinding etc.	29.52.40.30 to 29.52.40.80	2000 (1)	3 567
Industrial machinery for the preparation of meat or poultry	29.53.16.50	2000	1 067
Machinery for making pulp of fibrous cellulosic material; making and finishing paper or paperboard	29.55.11.13 to 29.55.11.17	2000	2 391
Reel fed offset printing machinery	29.56.13.30	2000	1 530
Machines for working or manufacturing rubber, plastics, and products thereof	29.56.23.10 to 29.56.23.50	2000 (1)	4 580

(1) Mixed 1998 to 2000 data.
(2) Mixed 1999 and 2000 data.
Source: Eurostat, European production and market statistics (theme4/europrom).

LABOUR AND PRODUCTIVITY

Apparent labour productivity in the industrial processing machinery subsector was generally very close to the average for machinery and equipment. Among the three groups that make up this subchapter, several Member States showed quite large differences in productivity. For example, apparent labour productivity in the United Kingdom in 2000 was EUR 69 200 in the manufacture of machine tools and only just over EUR 50 000 in the other two NACE groups. Smaller, but nevertheless large, differences were also recorded in Sweden (1999), Luxembourg and Ireland (1999). Average personnel costs generally showed much less diversity between the NACE groups.

EXTERNAL TRADE

The EU's exports of industrial processing machinery grew 8.3 % in 2001 to reach EUR 91.9 billion, more than double the level of imports (EUR 40.5 billion). The resulting trade balance of EUR 51.4 billion was the highest since 1997 (EUR 53.0 billion). Other special purpose machinery (CPA Group 29.5) contributed more than half (52.1 %) of the exports of industrial processing machinery, and other general purpose machinery contributed approximately one third (33.5 %); these shares have remained fairly stable for several years. All three of the industrial processing machinery CPA Groups contributed to the surplus, although other special purpose machinery was responsible for 62.4 % of the total. Machine tools had the smallest surplus of the three CPA groups, having declined from 9.3 % of the total surplus in 1996 to 4.3 % in 2000, but this trend was reversed in 2001 as it rose back to 6.5 %.

Germany and Italy were the largest exporters of industrial processing machinery, with EUR 59.1 billion and EUR 32.3 billion of exports in 2001. In Italy (12.4 %), Germany (10.4 %) and Austria (10.1 %) industrial processing equipment contributed at least one tenth of total exports of manufactured goods. Germany and Italy recorded large trade surpluses in 2001, EUR 37.7 billion and EUR 19.6 billion respectively, both higher than in 2000. Spain (EUR 4.3 billion), Portugal (EUR 1.7 billion) and Greece (EUR 1.3 billion) recorded trade deficits in excess of EUR 1 billion, while France and Ireland recorded smaller deficits.

The United States, China and Switzerland maintained their positions as the top three destinations for EU exports of industrial processing machinery in 2001, as they were in 2000. Russia accounted for 3.7 % of the EU's exports of these goods in 2001 and in the process moved from being the tenth to the fourth most important destination.

In 2001 the United States (26.7 %), Switzerland (18.2 %) and Japan (17.0 %) together supplied just over 60 % of the EU's imports of industrial processing machinery, a smaller share than in 2000. Both the United States and Japan lost market share compared to 2000 as the Czech Republic, South Africa, China and Switzerland all increased their respective shares of imports.

Table 10.9

Other general purpose machinery; machine-tools; other special purpose machinery (CPA Groups 29.2, 29.4 and 29.5)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	45 715	46 888	53 887	59 289	65 101	72 298	79 431	78 427	73 430	84 863	91 932
Extra-EU imports (million EUR)	18 265	17 492	16 600	18 652	21 681	23 371	26 473	30 255	32 912	40 794	40 496
Trade balance (million EUR)	27 451	29 396	37 287	40 637	43 421	48 927	52 958	48 173	40 518	44 069	51 436
Cover ratio (%)	250.3	268.0	324.6	317.9	300.3	309.3	300.0	259.2	223.1	208.0	227.0

Source: Eurostat, Comext.

10.3: AGRICULTURAL MACHINES AND TRACTORS

NACE Group 29.3 covers the manufacture of agricultural tractors and other agricultural and forestry machinery, the latter including, for example, combine harvesters. This NACE group does not cover the manufacture of agricultural hand tools.

STRUCTURAL PROFILE

The manufacture of agricultural machinery and tractors generated EUR 5.8 billion of value added in 2000 and employed 115 900 persons. This was equivalent to 4.3 % of value added in the machinery and equipment sector and 4.4 % of employment. In Belgium this subsector's share of employment in machinery and equipment reached 8.4 % and Austria (7.9 %), Finland (7.1 %) and Denmark (7.6 %) were also relatively highly specialised in this sector in employment terms.

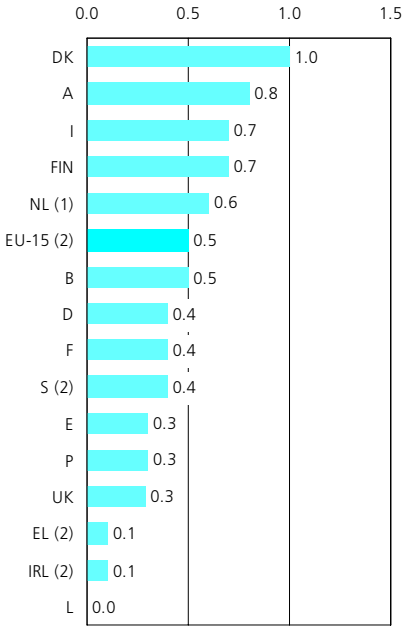
The size structure of this subsector is different from the rest of the machinery and equipment sector, as very small enterprises (with less than 10 persons employed) are relatively important. In 2000 [15] they generated approximately 17.9 % of the subsector's value added, compared to a sectoral average that was closer to 6 %.

[15] IRL, 1999; EL, L and NL, not available.

Domestic output prices for the manufacture of agricultural machines and tractors rose by 10.6 % between 1995 and 2001, more than any other NACE group in machinery and equipment manufacturing. The increase in 2001 was 1.7 % and reversed a trend of diminishing price increases that had been recorded throughout the second half of the 1990's up to 2000. The rapid increase in prices recorded in 2001 was due to the manufacture of other agricultural and forestry machinery (Class 29.32) where prices rose by 2.5 % in 2001, while the price index for the manufacture of tractors (Class 29.31) was unchanged.

Figure 10.8

Manufacture of agricultural and forestry machinery (NACE Group 29.3)
Share of value added in manufacturing, 2000 (%)



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

Table 10.10

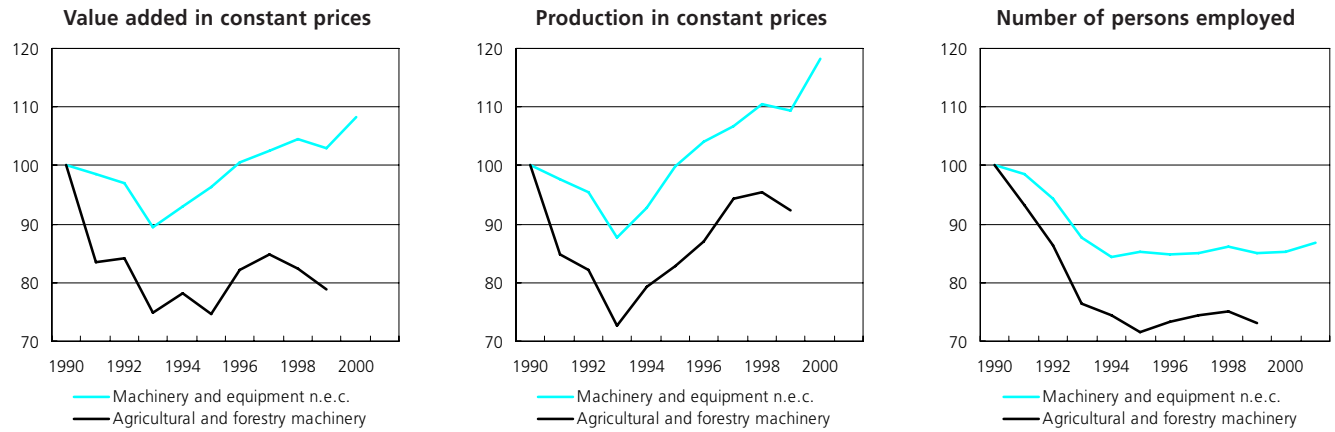
Manufacture of agricultural and forestry machinery (NACE Group 29.3)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	14 805	14 871	13 543	15 152	16 508	17 914	19 740	20 211	18 817	:	:
Number of persons employed (thousands)	150	139	123	120	115	118	120	121	118	116	:
Value added (million EUR)	4 732	4 947	4 530	4 858	4 828	5 500	5 773	5 665	5 308	5 773	:
Personnel costs (million EUR)	3 782	3 751	3 483	3 553	3 477	3 718	3 803	3 905	3 779	3 966	:
App. labour productivity (thous. EUR/pers. emp.)	31.5	35.5	36.8	40.6	41.9	46.6	48.2	46.9	45.1	49.8	:
Simple wage adjusted labour productivity (%)	125.1	131.9	130.1	136.7	138.9	147.9	151.8	145.1	140.4	145.6	:

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

Figure 10.9

Manufacture of agricultural and forestry machinery (NACE Group 29.3)
Main indicators in the EU (1990=100)



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

Table 10.11

EU production value of new, wheeled agricultural and forestry tractors (from CPA Group 29.3) (million EUR)

Label	Prodcom code	Year	Value
Engine power <= 18 kW	29.31.21.30	2000	69
Engine power > 18 kW but <= 37 kW	29.31.21.50	1999	267
Engine power > 37 kW but <= 59 kW	29.31.22.00	1999	1 116
Engine power > 59 kW but <= 75 kW	29.31.23.30	1998	1 810
Engine power > 75 kW but <= 90 kW	29.31.23.50	1998	1 069
Engine power > 90 kW	29.31.23.70	2000	1 452

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

LABOUR AND PRODUCTIVITY

Apparent labour productivity in the manufacture of agricultural machinery and tractors was EUR 49 800 in 2000, 2.9 % lower than the average for machinery and equipment. The productivity level in 2000 was the result of a large increase compared to 1999, following on from two successive annual falls in apparent labour productivity (in current prices). Nevertheless, simple wage adjusted labour productivity (the ratio of value added to personnel costs) in this subsector (145.6 %) remained higher than the sectoral average (133.8 %) in 2000.

EXTERNAL TRADE

The EU's trade surplus in agricultural machinery and tractors widened significantly in 2001 thanks to a 15.9 % increase in exports combined with a 12.0 % fall in imports. The surplus of EUR 3.1 billion was recorded from exports of EUR 4.9 billion, and was higher than any trade surplus recorded for these products throughout the 1990s. The cover ratio, which had fallen to 191 % in 1999 rose to 274 % in 2001, indicating that exports were just over 2.7 times higher than imports. The improved 2001 trade surplus of the EU (which only includes extra-EU trade) was mainly due to Germany, France and Italy, who each recorded increases in excess of EUR 150 million in their extra-EU trade surpluses.

The United States alone provided 51.6 % of the EU's imports of agricultural machinery and tractors in 2001, a high share that was nevertheless lower than in 2000 (56.9 %). Hungary, Poland and the Czech Republic all increased their shares of EU imports, from a collective 13.9 % in 2000 to 18.1 % in 2001.

Table 10.12

Agricultural and forestry machinery (CPA Group 29.3)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	2 807	2 556	2 776	3 061	3 147	3 633	4 136	4 160	3 518	4 210	4 879
Extra-EU imports (million EUR)	1 053	1 093	1 106	1 179	1 376	1 504	1 648	1 694	1 845	2 025	1 782
Trade balance (million EUR)	1 755	1 463	1 670	1 882	1 772	2 129	2 488	2 466	1 673	2 185	3 097
Cover ratio (%)	266.7	233.8	251.0	259.7	228.8	241.6	251.0	245.5	190.7	207.9	273.8

Source: Eurostat, Comext.

10.4: DOMESTIC APPLIANCES

The activities of NACE Group 29.7 cover the manufacture of domestic electrical appliances (such as white goods and vacuum cleaners), heating appliances and non-electric domestic cooking equipment.

STRUCTURAL PROFILE

Domestic appliances generated EUR 11.6 billion of value added in 2000 [16], approximately 8.3 % of the total for machinery and equipment. The workforce was 254 100 persons employed [17], 9.3 % of the sectoral total. Germany and Italy were the two largest Member States in this sector with 69 100 and 55 500 persons employed respectively. German employment in this subsector declined in 2000, as it did for each of the previous 10 years. After three years of falling employment, Italy reported a net increase of 1 100 persons employed in 2000 and Spain also recorded an increase, its fourth consecutive annual increase.

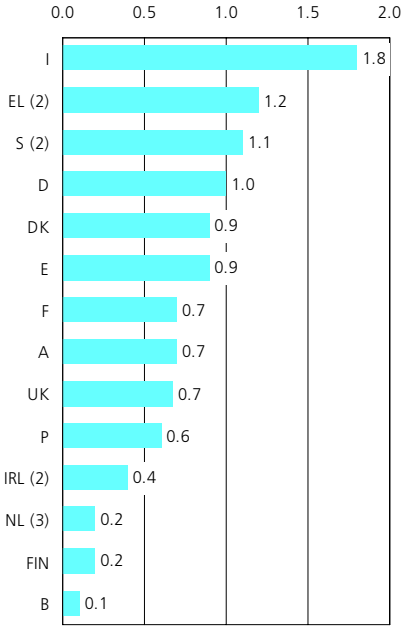
Size class data availability is quite poor for this subsector but some data are available for each of the five largest Member States who collectively accounted for nearly 90 % of the EU's value added in 2000. Large enterprises accounted for 70 % or more of value added in each of these five Member States in 2000, averaging 80.6 % across all five. As such this subsector was much more dependent on large enterprises than the machinery and equipment sector in general.

[16] EL, IRL and S, 1999; NL, 1998; L, not available.
[17] EL, IRL and S, 1999; L and NL, not available.

The domestic appliances' subsector stands out from the rest of the machinery and equipment sector in terms of the evolution of its domestic output prices. The price index rose by 4.1 % over the period from 1995 to 2001, less than half the rise recorded for machinery and equipment as a whole. Between 1998 and 2000 the price index fell or rose by less than 0.5 % each year, followed by a 1.1 % rise in 2001. This index hides two different price developments. The manufacture of non-electric domestic appliances (NACE Class 29.72) recorded output prices following a trend comparable with other machinery and equipment sectors, growing annually since 1995 and recording an overall increase of 12.8 % by 2001. The manufacture of electric domestic appliances (NACE Class 29.71) recorded five successive annual rates of change between – 1.0 % and 1.0 %, with the price index at its same level in 2001 as it had been in 1997, and only 2.2 % above its 1995 value.

Figure 10.10

Manufacture of domestic appliances n.e.c. (NACE Group 29.7)
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).

Table 10.13

EU production value of selected domestic appliances (from CPA Group 29.7) (million EUR)

Label	Prodcom code	Year	Value
Combined refrigerators-freezers, with separate external doors	29.71.11.10	1998	1 063
Household-type refrigerators (including compression-type, electrical absorption-type) (excluding built-in)	29.71.11.33	2000	1 640
Household dishwashing machines	29.71.12.00	2000	2 094
Fully-automatic washing machines of a dry linen capacity <= 10 kg (including machines which both wash and dry)	29.71.13.30	2000	4 146
Domestic vacuum cleaners with a self-contained electric motor for a voltage >= 110 V	29.71.21.13	2000	1 404
Domestic microwave ovens	29.71.27.00	2000	863
Domestic electric cookers (including combined gas-electric appliances), hobs cooking-plates, grills, roasters and ovens	29.71.28.10 to 29.71.28.90	2000 (1)	3 839
Non-electric instantaneous or storage water heaters	29.72.14.00	2000	1 115

(1) Mixed 1999 and 2000 data.
Source: Eurostat, European production and market statistics (theme4/europrom).

LABOUR AND PRODUCTIVITY

The manufacture of domestic appliances generally displayed a low level of apparent labour productivity in the EU compared to the rest of the machinery and equipment sector. Only one Member State [18] reported a marked difference from this trend, as in Greece EUR 38 800 of value added was generated for each person employed in 1999 compared to an average for the whole machinery and equipment sector of EUR 26 300. Average personnel costs were also generally lower in this subsector than for the machinery and equipment average, with only Denmark (1999) and Greece (1998) recording slightly higher average personnel costs [19].

[18] EL, IRL and S, 1999; L and NL, not available.
[19] DK, F, IRL and S, 1999; EL, 1998; L and NL, not available.

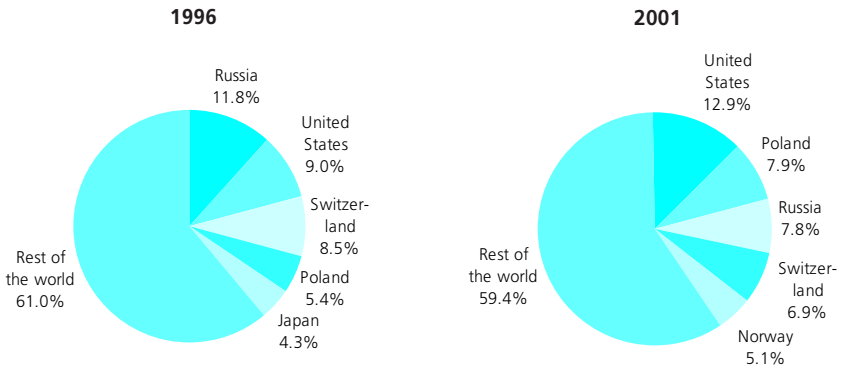
EXTERNAL TRADE

Like all of the machinery and equipment CPA groups, the EU recorded a trade surplus in domestic appliances in 2001. However, the surplus for domestic appliances was lower in 2001 (EUR 1.5 billion) than in 2000 (EUR 1.6 billion) and the cover ratio dropped to 125 %. This situation arose despite an increase in the value of exports in 2001 of 6.0 % to EUR 7.4 billion, as imports rose at a faster pace, up 9.6 % to EUR 5.9 billion. After several years of decline, the EU's trade surplus in these products in 2001 was less than half its level in 1997.

Italy was the most important exporter (intra- and extra-EU combined) of these products in the EU in relative and absolute terms; its exports of EUR 6.8 billion exceeded those of Germany (EUR 5.7 billion) and generated a trade balance of EUR 5.5 billion. Germany (EUR 1.8 billion), Sweden (EUR 251 million) and Spain (EUR 5 million) also recorded trade surpluses for these products in 2001, while all other Member States had trade deficits, the largest in the United Kingdom (EUR 2.4 billion). The Spanish surplus, although small, signified a return to a positive trade balance that had been recorded throughout the second half of the 1990s, only to be interrupted by a deficit of EUR 133 million in 2000.

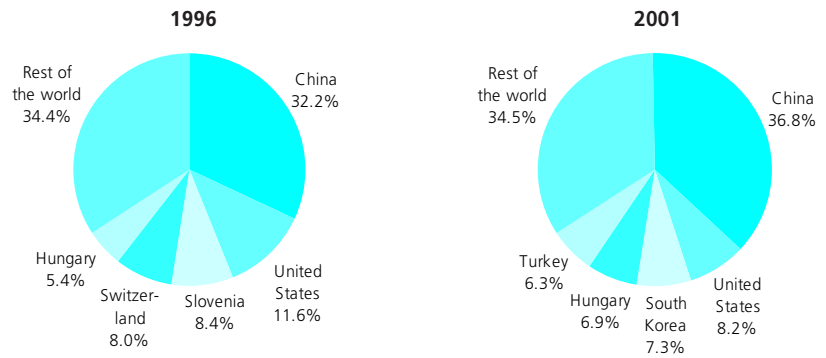
The United States strengthened its position in 2001 as the largest destination for EU exports of domestic appliances increasing slightly its share from 12.1 % in 2000 to 12.9 % in 2001. Russia's share also strengthened from 6.3 to 7.8 %, while Turkey fell from the sixth most important destination with 4.6 % of EU exports to 12th place with 2.1 %. The leading country in terms of supplying the EU's imports, in this case China, also strengthened its position, expanding marginally its share to 36.8 % in 2001. Poland and the Czech Republic also expanded their shares in 2001, providing 5.1 % and 3.1 % of EU imports respectively. The United States and Japan saw their shares fall the most, Japan from 2.9 to 1.9 % and the United States from 9.6 to 8.2 % and both of them also recorded an absolute fall in the value of domestic appliances supplied to the EU.

Figure 10.11
Domestic appliances n.e.c. (CPA Group 29.7)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 10.12
Domestic appliances n.e.c. (CPA Group 29.7)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 10.14

Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines (NACE Group 29.1)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	2 038	2 329	30 189	44	2 292	10 058	300	15 495	:	2 068	881	259	2 234	2 441	10 842
Number of persons employed (thousands)	8	21	220	1	19	66	3	85	:	14	7	3	10	17	74
Value added (million EUR)	689	1 055	12 756	21	790	3 258	146	4 862	:	736	417	80	562	931	4 242
Purchases of goods and services (million EUR)	1 476	1 423	20 641	29	1 763	7 836	161	10 818	:	1 472	582	196	1 788	1 988	7 293
Personnel costs (million EUR) (2)	360	762	10 200	22	532	2 529	78	2 770	:	526	292	47	380	724	3 160
Gross investment in tangible goods (million EUR) (3)	50.9	:	1 239.5	:	104.1	:	19.8	632.8	:	:	61.2	38.2	70.6	94.9	:
App. labour productivity (thous. EUR/pers. emp.)	91.0	50.6	57.9	23.6	40.7	49.1	53.2	57.5	:	53.7	60.0	22.9	56.6	53.7	57.1
Simple wage adjusted labour productivity (%) (2)	191.4	135.1	125.1	134.8	148.5	121.9	187.0	175.5	:	140.0	142.7	170.8	147.9	128.7	134.2
Gross operating rate (%) (2)	15.2	11.6	7.7	12.7	10.4	5.4	22.1	13.6	:	9.5	12.6	12.7	18.8	7.3	9.4

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

Table 10.15

Manufacture of other general purpose machinery (NACE Group 29.2)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	2 239	2 497	37 496	184	6 244	13 367	729	18 675	74	4 188	3 097	724	2 589	3 368	14 055
Number of persons employed (thousands)	14	19	258	3	58	87	5	113	0	30	20	12	16	24	104
Value added (million EUR)	767	948	14 162	81	2 243	4 217	266	5 805	21	1 372	1 130	236	848	1 194	5 215
Purchases of goods and services (million EUR)	1 727	1 695	24 948	124	4 419	10 177	481	13 580	52	2 942	2 107	525	1 870	2 463	9 603
Personnel costs (million EUR) (3)	559	661	12 012	42	1 536	3 217	139	3 725	20	1 060	834	159	580	920	3 977
Gross investment in tangible goods (million EUR) (4)	66.6	:	1 094.1	:	233.8	:	26.2	574.4	:	:	102.8	44.7	69.4	107.4	:
App. labour productivity (thous. EUR/pers. emp.)	53.4	48.7	55.0	30.1	38.8	48.4	48.8	51.4	47.7	46.2	57.5	20.3	52.2	50.8	50.1
Simple wage adjusted labour productivity (%) (3)	137.2	120.0	117.9	165.7	146.0	127.5	191.0	155.8	106.5	129.4	135.6	148.3	146.3	129.7	131.1
Gross operating rate (%) (3)	8.6	6.1	5.5	15.9	10.8	6.6	17.0	11.0	1.8	7.4	9.3	10.1	11.6	7.5	8.3

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

Table 10.16

Manufacture of agricultural and forestry machinery (NACE Group 29.3)
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)	680	553	5 158	34	912	2 777	79	4 729	1	698	795	132	865	502	2 459
Number of persons employed (thousands)	4	5	27	1	11	17	1	20	0	6	5	3	4	3	10
Value added (million EUR)	215	208	1 580	12	308	787	22	1 032	0	245	255	51	226	174	602
Purchases of goods and services (million EUR)	613	400	3 910	29	881	2 762	58	3 993	0	529	649	98	672	418	2 687
Personnel costs (million EUR) (3)	141	195	1 129	8	197	557	17	632	0	166	204	37	129	116	398
Gross investment in tangible goods (million EUR) (4)	20.7	:	100.1	:	36.9	:	2.9	134.6	:	:	35.9	11.5	21.0	14.3	:
App. labour productivity (thous. EUR/pers. emp.)	58.0	42.2	59.0	21.6	29.1	45.1	28.5	52.3	24.1	:	47.8	16.2	53.2	60.5	60.1
Simple wage adjusted labour productivity (%) (3)	152.6	121.8	139.9	164.9	156.4	141.8	133.7	163.4	200.0	147.1	124.6	138.8	174.3	149.9	151.3
Gross operating rate (%) (3)	9.1	6.5	8.1	12.9	9.6	6.5	7.1	8.1	16.7	10.2	5.6	9.8	10.8	10.0	6.1

(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 10.17

Manufacture of machine-tools (NACE Group 29.4)
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)	324	185	17 810	26	1 679	2 386	67	6 956	:	352	797	95	487	1 293	2 761
Number of persons employed (thousands)	2	2	124	0	15	15	1	43	:	3	6	2	3	8	17
Value added (million EUR)	105	79	7 021	15	559	746	29	2 335	:	123	334	40	173	561	1 197
Purchases of goods and services (million EUR)	253	115	11 576	15	1 194	1 825	38	4 851	:	302	526	62	319	948	1 752
Personnel costs (million EUR) (3)	75	59	5 652	9	400	506	18	1 478	:	88	249	29	114	335	726
Gross investment in tangible goods (million EUR) (4)	13.5	:	620.4	:	66.0	:	3.5	217.0	:	:	51.8	6.7	23.3	46.2	:
App. labour productivity (thous. EUR/pers. emp.)	50.9	47.8	56.8	32.3	38.1	51.3	36.9	54.4	:	:	53.8	18.1	50.9	66.2	69.2
Simple wage adjusted labour productivity (%) (3)	139.7	125.9	124.2	138.9	139.7	117.7	160.1	158.0	:	139.7	133.9	138.9	151.4	167.6	164.9
Gross operating rate (%) (3)	8.4	8.6	7.4	14.8	9.4	4.8	16.8	12.2	:	9.7	10.0	11.1	12.5	15.3	16.3

(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 10.18

Manufacture of other special purpose machinery (NACE Group 29.5)
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)	2 935	1 687	41 472	56	5 027	10 134	168	18 081	246	3 296	3 695	1 109	3 884	4 853	8 158
Number of persons employed (thousands)	14	13	279	1	55	59	2	101	1	23	24	20	23	26	58
Value added (million EUR)	815	633	15 640	23	1 933	3 058	77	5 212	84	1 092	1 406	474	1 302	1 582	2 951
Purchases of goods and services (million EUR)	2 368	1 144	27 558	39	3 360	7 749	101	13 599	232	2 439	2 497	682	2 712	3 526	5 753
Personnel costs (million EUR) (3)	583	489	12 950	13	1 296	2 292	51	3 546	71	790	1 035	306	915	1 060	2 351
Gross investment in tangible goods (million EUR) (4)	85.7	:	1 261.1	:	208.0	:	10.0	512.2	:	:	136.6	138.3	89.8	134.8	:
App. labour productivity (thous. EUR/pers. emp.)	58.9	47.0	56.0	22.8	35.3	52.3	38.3	51.8	59.2	:	59.1	23.3	55.7	59.7	50.7
Simple wage adjusted labour productivity (%) (3)	139.8	121.7	120.8	155.6	149.2	125.3	152.3	147.0	118.1	138.2	135.8	154.8	142.3	149.3	125.6
Gross operating rate (%) (3)	7.5	7.1	6.4	15.2	12.4	5.8	15.0	9.1	4.3	9.2	9.6	15.0	10.4	10.4	6.9

(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 10.19

Manufacture of weapons and ammunition (NACE Group 29.6)
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)	226	0	1 590	116	407	1 751	0	496	:	84	174	55	145	819	2 492
Number of persons employed (thousands)	1	0	11	3	4	8	0	3	:	:	1	1	1	4	15
Value added (million EUR)	90	0	636	44	149	468	0	204	:	28	60	10	62	263	927
Purchases of goods and services (million EUR)	194	0	1 000	76	239	1 261	0	291	:	61	137	47	89	556	1 654
Personnel costs (million EUR) (3)	64	0	598	71	118	457	0	113	:	26	56	12	42	210	770
Gross investment in tangible goods (million EUR) (4)	7.0	:	56.4	:	24.0	:	0	35.9	:	:	9.1	9.6	3.7	15.1	:
App. labour productivity (thous. EUR/pers. emp.)	60.8	:	57.6	14.8	39.4	60.2	:	63.7	:	:	50.5	12.5	52.8	59.9	60.5
Simple wage adjusted labour productivity (%) (5)	139.3	:	106.4	78.3	126.1	103.4	:	180.2	:	106.5	106.0	87.0	145.7	125.2	120.3
Gross operating rate (%) (5)	10.0	:	2.4	-18.3	8.0	1.0	:	19.3	:	1.8	1.9	-2.7	13.1	6.1	5.7

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

Table 10.20

Manufacture of domestic appliances n.e.c. (NACE Group 29.7)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL (2)	A	P	FIN	S (1)	UK
Production (million EUR)	159	642	10 615	215	3 171	4 403	235	10 074	:	307	576	412	193	1 305	3 880
Number of persons employed (thousands)	1	5	69	2	24	25	3	56	:	:	4	4	1	11	30
Value added (million EUR)	59	198	3 888	94	895	1 214	99	2 741	:	95	235	114	62	455	1 406
Purchases of goods and services (million EUR)	142	516	9 621	201	2 730	4 503	138	8 183	:	310	390	374	151	1 014	2 781
Personnel costs (million EUR) (3)	41	170	3 183	43	622	802	61	1 707	:	61	166	59	44	394	933
Gross investment in tangible goods (million EUR) (4)	3.8	:	431.7	:	143.3	:	17.2	333.7	:	:	25.5	20.7	19.4	61.7	:
App. labour productivity (thous. EUR/pers. emp.)	45.2	44.0	56.3	38.8	38.1	47.7	36.7	49.4	:	:	52.7	25.7	45.0	42.8	46.8
Simple wage adjusted labour productivity (%) (3)	143.1	126.0	122.1	209.0	143.8	133.0	161.3	160.6	:	155.5	141.8	193.7	139.9	115.3	150.7
Gross operating rate (%) (3)	8.9	6.4	5.2	17.0	7.7	5.7	16.2	9.7	:	8.5	11.2	11.7	9.5	4.1	11.3

(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 10.21

Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (2)	TR
Production (million EUR)	544	51	3 842	98	1 626	95	130	:	5 695	1 212	1 116	1 299	:
Number of persons employed (thousands) (3)	77	1	155	5	58	7	13	:	259	170	52	:	:
Value added (million EUR)	185	22	1 320	30	539	40	41	:	2 275	493	230	331	:
Purchases of goods and services (million EUR)	406	:	3 160	80	1 145	55	93	:	4 221	921	897	979	:
Personnel costs (million EUR)	166	:	925	25	341	23	51	:	1 531	389	245	273	:
Gross investment in tangible goods (million EUR) (4)	55.5	1.6	205.0	10.0	9.6	7.9	11.7	:	312.9	170.5	102.1	79.7	:
App. labour productivity (thous. EUR/pers. emp.) (3)	2.4	21.1	8.5	5.8	9.4	5.8	3.2	:	7.9	2.9	4.4	:	:
Simple wage adjusted labour productivity (%)	111.5	:	142.7	119.4	158.0	169.5	80.3	:	148.6	126.8	93.8	121.4	:
Gross operating rate (%)	4.5	:	9.0	4.5	10.5	17.9	-7.1	:	12.1	8.9	-1.3	4.2	:

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

Electrical machinery and optical equipment

During 2001 the European Commission launched a consultation process on a draft text for a directive to harmonise requirements concerning the design of electrical and electronic equipment (EEE). In 2002 a new draft proposal was presented concerning the design of end-use equipment which was effectively a result of merging the draft EEE proposal with another draft proposal concerning energy efficiency requirements (EERs). The new draft proposal concerns all end-use products intended to work with an energy input (essentially electricity, gas or oil) or equipment for the generation, transfer and measurement of such energy. The draft proposal aims to ensure the free movement of end-use equipment within the internal market through the creation of a framework for the integration of environmental aspects in design and development stages and for setting eco-design requirements for this equipment.

This chapter covers NACE Divisions 30 to 33, collectively referred to as the manufacture of electrical machinery and optical equipment. These activities include the manufacture of computers, office machinery, electrical machinery and equipment, electronic components, audiovisual and communication equipment and medical, precision and optical equipment.

NACE

30: manufacture of office machinery and computers;
31: manufacture of electrical machinery and apparatus n.e.c.;
31.1: manufacture of electric motors, generators and transformers;
31.2: manufacture of electricity distribution and control apparatus;
31.3: manufacture of insulated wire and cable;
31.4: manufacture of accumulators, primary cells and primary batteries;
31.5: manufacture of lighting equipment and electric lamps;
31.6: manufacture of electrical equipment n.e.c.;
32: manufacture of radio, television and communication equipment and apparatus;
32.1: manufacture of electronic valves and tubes and other electronic components;
32.2: manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy;
32.3: manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods;
33: manufacture of medical, precision and optical instruments, watches and clocks;
33.1: manufacture of medical and surgical equipment and orthopaedic appliances;
33.2: manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment;
33.3: manufacture of industrial process control equipment;
33.4: manufacture of optical instruments, photographic equipment;
33.5: manufacture of watches and clocks.

Table 11.1

Manufacture of electrical and optical equipment (NACE Subsection DL)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	:	:	307 984	330 746	360 775	380 490	417 973	441 580	474 090	532 109	537 961
Number of persons employed (thousands)	:	:	2 943	2 846	2 802	2 756	2 768	2 789	2 791	2 849	2 899
Value added (million EUR)	:	:	121 850	128 476	131 641	134 935	145 731	147 318	158 078	173 373	176 078
Personnel costs (million EUR)	:	:	99 054	99 199	98 895	100 616	103 006	105 655	110 615	115 326	115 712
App. labour productivity (thous. EUR/pers. emp.)	:	:	41.4	45.1	47.0	49.0	52.6	52.8	56.6	60.9	60.7
Simple wage adjusted labour productivity (%)	:	:	123.0	129.5	133.1	134.1	141.5	139.4	142.9	150.3	152.2

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

In January 2003 a directive on waste electrical and electronic equipment (WEEE) was adopted [1]. This directive addresses the increasing volume of waste equipment. It aims to increase recycling and so to limit the amount of waste that is incinerated or discarded in landfill. The directive makes producers responsible for taking back and recycling equipment.

STRUCTURAL PROFILE

The manufacture of electrical machinery and optical instrument (Subsection DL) generated value added of EUR 176.1 billion in the EU in 2001 from turnover of EUR 611.8 billion. The EU workforce in this sector was 2.9 million. As such the sector contributed 13.3 % of manufacturing value added and 12.2 % of employment. Although this share of manufacturing value added was less than in 2000 (13.5 %) it is higher than at any time in the second half of the 1990s.

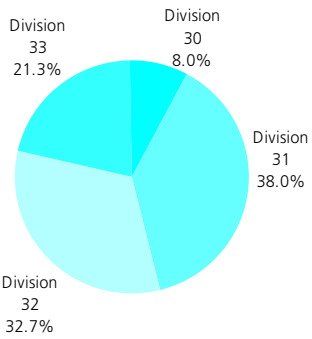
Figure 11.1 shows the importance in value added terms of each of the four NACE divisions that make up the electrical machinery and optical equipment sector. The manufacture of electrical machinery and apparatus (Division 31) and of radio, television and communication equipment and apparatus (Division 32) are the main activities within this sector in the EU, both contributing more than 30 % of sectoral value added [2]. In employment terms [3] the importance of the manufacture of electrical machinery and apparatus was even greater, accounting for 43.0 % of the sector's employment, while the contributions of the manufacture of radio, television and communication equipment and apparatus (27.3 %) and the manufacture of office machinery and computers (NACE Division 30, 6.6 %) were smaller than their corresponding shares of value added.

[1] Directive 2002/96/EC of the European Parliament and of the Council, OJ N° L 37, 13.2.2003, p. 24.
[2] IRL and S, 1999; EL, 1998; L and NL, not available.
[3] EL, IRL and S, 1999; L, not available.

Germany (33.8 %), the United Kingdom (17.8 %) and France (15.5 %) generated the largest shares of EU value added in 2000 and all of these three large Member States were relatively more specialised in this sector than the EU average. The most specialised Member States in this sector in 2000 were Finland (25.4 % of national manufacturing value added) and Ireland (23.0 %, 1999). The countries least specialised in this sector were Luxembourg (4.2 % of national manufacturing value added) and Greece (4.8 %, 1999).

The EU recorded uninterrupted growth in the manufacture of electrical machinery and optical equipment during the second half of the 1990s up to 2000. Value added growth (in constant prices) was close to or above 10 % per year in 1997, 1999 and 2000 such that the annual average growth rate during the five years to 2000 was 8.0 %. The number of persons employed in the sector fell between 1990 and 1996 (when it stood at 2.76 million persons) since when it climbed continuously until 2001, expanding by an annual average rate of 1.0 %. In both value added and employment terms this sector has grown nearly twice as fast as the manufacturing average during the period 1995 to 2000 (1996 to 2001 for employment).

Figure 11.1
Share in electrical machinery and optical equipment value added, EU, 2000 (1)

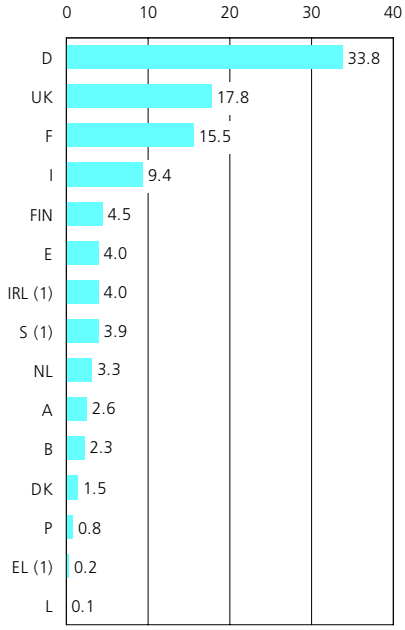


(1) IRL and S, 1999; EL, 1998; L and NL, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

A time-series of constant price value added data is available for some of the Member States. Particularly high annual average rates of growth in this sector were recorded in Finland (29.7 %), Sweden (14.5 %) and Greece (11.8 %), all between 1994 and 1999. Of the countries with data available [4] only Italy recorded a fall in constant price value added. For employment, data availability for the period 1995 to 2000 is better [5]. Ireland and the three Scandinavian countries all recorded annual average employment growth rates in excess of 5 % between 1995 and 2000 (Ireland and Sweden 1994 to 1999). Over the same five-year period Austria, Germany and Belgium all recorded a fall in employment in excess of 1 % per year, yet all three of these countries recorded an increase in employment in 2000 compared to 1999.

[4] IRL, NL, A, P and UK, not available.
[5] EL, IRL and S, 1994 to 1999; NL, not available.

Figure 11.2
Manufacture of electrical and optical equipment (NACE Subsection DL)
Share of value added in the EU, 2000 (%)



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

The electrical machinery and optical equipment sector is concentrated in large enterprises. In 2000 [6], enterprises with 250 persons employed or more accounted for 68.0 % of value added and 56.3 % of the number of persons employed in this sector, compared to 55.7 % and 42.1 % for manufacturing as a whole. With the exception of Italy, large enterprises accounted for half or more of this sector's value added in every Member State in 2000.

LABOUR AND PRODUCTIVITY

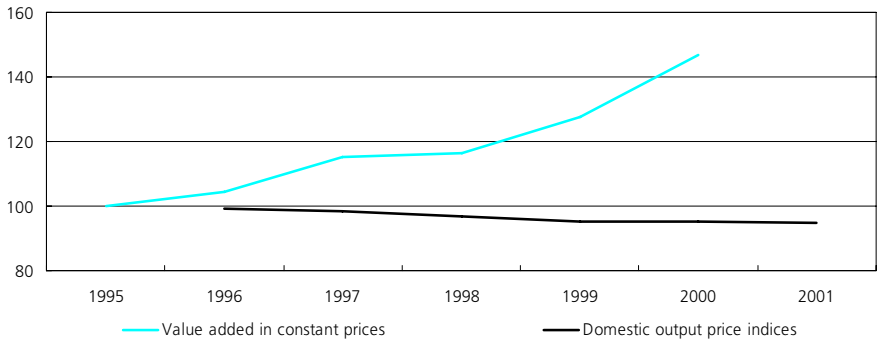
According to the LFS, the electrical machinery and optical equipment sector's labour force has a lower proportion of male persons employed than the manufacturing average. In 2001 the proportion was 68.0 % in the EU as a whole, ranging from 44.0 % in Portugal to 77.2 % in the Netherlands. In every Member State except for Greece the proportion of men in the electrical machinery and optical equipment workforce was lower than the manufacturing average. The largest differences were recorded in Portugal and Ireland where the proportion of men working in this sector was at least 11 percentage points less than the manufacturing average. Rates of male employment between the four NACE divisions that make up this sector are quite similar, although Divisions 30 (manufacture of office machinery and computers) and 31 (manufacture of electrical machinery and apparatus) generally reported higher levels.

The importance of part-time work in the electrical machinery and optical equipment sector is typical of a manufacturing sector: in 2001 full-time employment in the EU was 93.0 % in this sector, close to the manufacturing average of 92.5 %. This slightly higher full–time rate was present in every Member State except for Austria where full-time employment was marginally less prevalent in this sector than the manufacturing average. The manufacture of office machinery and computers generally recorded high rates of full-time employment, close to 100 % in several Member States. In contrast the manufacture of medical, precision and optical instruments (Division 33) generally recorded lower rates of full-time employment than the sectoral average, particularly in Denmark where there was a 10.3 percentage point difference.

[6] IRL, 1999; EL and L, not available; NL also not available for the number of persons employed.

Figure 11.3

Manufacture of electrical and optical equipment (NACE Subsection DL)
Value added in constant prices and output price indices for the EU (1995=100)



Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms) and European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt/ebt_ind/ind_pric).

Table 11.2

Manufacture of electrical and optical equipment (NACE Subsection DL)
Labour force characteristics (% of total employment)

	Female		Part-time		Self-employed	
	1996	2001	1996	2001 (1)	1996	2001 (2)
EU-15	32.1	32.0	6.4	7.0	5.0	4.9
B	33.6	24.1	5.3	6.6	5.5	6.1
DK	36.5	36.7	:	7.4	:	5.9
D	33.1	32.7	8.2	10.0	4.5	3.9
EL	22.6	25.6	:	:	22.7	25.8
E	23.9	31.9	3.0	1.8	8.0	6.2
F	35.1	33.2	5.5	5.3	3.8	3.2
IRL	43.6	42.6	:	4.7	:	:
I	33.5	32.6	5.2	5.0	10.5	15.8
L	:	:	:	:	:	:
NL	23.1	22.8	12.8	17.6	:	:
A	33.3	30.7	6.4	8.8	3.1	2.6
P	44.8	56.0	:	:	:	:
FIN	29.3	36.5	:	4.4	:	:
S	28.8	34.5	:	:	:	:
UK	28.9	27.4	6.2	6.3	2.9	2.2

(1) B, 2000; FIN, 1999.
(2) DK, 1999.
Source: Eurostat, Labour Force Survey.

The proportion of employees in the electrical machinery and optical equipment workforce was significantly higher than the manufacturing average. Employees accounted for 94.3 % of employment and the self-employed and unpaid family workers accounted for the remaining 5.7 %. In comparison, for the manufacturing sector as a whole the proportion of the workforce that was accounted for by the self-employed and unpaid family workers was 8.2 %. Portugal reported the largest difference in rates between this sector and the manufacturing average, with employees accounting for 99.1 % of the workforce in this sector compared to a manufacturing average of 87.4 %.

Apparent labour productivity in the EU's electrical machinery and optical equipment manufacturing sector was EUR 60 700 per person in 2001, several thousand euro above the level in manufacturing as a whole (EUR 55 900). Although apparent labour productivity in this sector fell slightly in 2001 compared to 2000, it grew on average by 4.4 % per annum (in current prices) between 1996 and 2001, faster than in manufacturing (3.8 %). In 2000, particularly high levels of apparent labour productivity were recorded in Finland (EUR 114 900 per person employed) and Ireland (EUR 96 700, 1999). Between 1995 and 2000 [7] annual average growth in the level of this ratio exceeded 10 % in Greece (1995 to 1999), Finland and the United Kingdom.

[7] EL, IRL and S, 1995 to 1999; P, 1996 to 2000; NL, not available.

In terms of simple wage adjusted labour productivity, in other words the extent to which value added covers personnel costs, this sector reported a lower level than the manufacturing average. In 2001 the simple wage adjusted labour productivity ratio was 152.2 % (indicating that value added exceeded personnel costs by 52.2 %), 9.3 percentage points lower than the manufacturing average. During the last few years of the 1990s this sector's simple wage adjusted labour productivity came closer to the manufacturing average but in 2001, despite an increase of 1.8 percentage points between 2000 and 2001, this sector's wage adjusted labour productivity fell further behind the manufacturing average. An analysis of this ratio for the Member States in 2000 [8] shows that the high apparent labour productivity in Ireland and Finland was not based on high personnel costs: value added in both of these countries was more than three time the level of personnel costs, resulting in a simple wage adjusted labour productivity ratio of 351.1 % in Ireland (1999) and 301.1 % in Finland.

In 2000 the manufacture of radio, television and communication equipment and apparatus generally recorded in all of the Member States [9] the highest or second highest wage adjusted labour productivity ratios among the four NACE divisions in this sector – Austria and Spain were the only exceptions.

Across the EU as a whole, similar levels of wage adjusted labour productivity were recorded in the three other NACE divisions covered in this chapter, although there were large differences in individual Member States. For example, wage adjusted labour productivity in Finland in the manufacture of office machinery and computers was negative, compared to values in excess of 150 % in other divisions. In Ireland there was also a significant difference in the levels in each of the divisions, although they all exhibited high apparent productivity.

[8] DK, F, IRL and S, 1999, EL, 1998.
[9] F, IRL and S, 1999; EL, 1998; L and NL, incomplete.

EXTERNAL TRADE

Electrical and optical equipment (CPA Subsection DL) accounted for one fifth (20.4 %) of the EU's exports of manufactured goods to non-Community countries in 2001. This share had grown each year throughout the 1990s but fell back in 2001, having exceeded 21 % in 2000. A similar pattern was seen for imports where these products' share of EU manufacturing imports was 28.6 % in 2001, down from 30.5 % in 2000.

Throughout the period 1990 to 2000 the value (in current price terms) of extra-EU exports and imports grew every year. However in 2001 extra-EU exports only grew by 0.9 % and the value of imports fell by 6.5 %. Having grown for the previous four years, twice by more than 50 % in a year, the trade deficit contracted by 27.6 % in 2001.

After at least two years of trade deficits (intra-EU and extra-EU external trade combined), Germany and Luxembourg recorded trade surpluses in 2001, along with Ireland, Finland and Sweden who all recorded a surplus for many years, and the Netherlands that recorded its second successive surplus.

The largest exporters of these goods in 2001 were Germany (EUR 106.1 billion), the United Kingdom (EUR 77.2 billion) and the Netherlands (EUR 64.7 billion) and these three countries were also the largest importers. The most specialised exporter of these products was Ireland as these products accounted for 44.2 % of all Irish manufactured exports in 2001. The Netherlands, Luxembourg, the United Kingdom and Finland were also relatively specialised in the export of these goods, all generating more than one quarter of their exports of manufactured goods from electrical and optical equipment.

Table 11.3

Electrical and optical equipment (CPA Subsection DL)
External trade for the EU, 2001 (million EUR)

	Exports	Imports	Trade balance	Cover ratio (%)
Electrical and optical equipment	186 123	233 203	-47 079	79.8
Electric motors, generators and transformers	12 754	9 201	3 553	138.6
Electricity distribution and control apparatus	14 554	8 886	5 669	163.8
Insulated wire and cable	4 411	3 987	424	110.6
Accumulators, primary cells and primary batteries	1 461	2 349	-888	62.2
Lighting equipment and electric lamps	3 138	3 594	-456	87.3
Electrical equipment n.e.c.	8 838	12 726	-3 888	69.5
Electronic valves and tubes and other electronic components	26 151	37 397	-11 246	69.9
Television and radio transmitters; apparatus for line telephony and telegraphy	29 605	24 042	5 562	123.1
Television and radio receivers; sound or video recording or reproducing apparatus and associated goods	11 026	23 785	-12 759	46.4
Medical and surgical equipment and orthopaedic appliances	15 174	13 114	2 059	115.7
Instruments and appliances for measuring, checking, testing, navigating and other purposes	18 714	16 533	2 180	113.2
Industrial process control equipment	:	:	:	:
Optical instruments and photographic equipment	7 082	7 646	-565	92.6
Watches and clocks	1 652	4 456	-2 804	37.1

Source: Eurostat, Comext.

Table 11.4

Electrical and optical equipment (CPA Subsection DL)
Extra-EU exports from the EU

	1991 (million EUR)	1991 (%)	2001 (million EUR)	2001 (%)	Change in export value 2001/1991 (%)	Change in export share 2001/1991 (% points)
Electrical and optical equipment	51 311.9	100.0	186 123.5	100.0	262.7	-
Electric motors, generators and transformers	3 931.4	7.7	12 754.1	6.9	224.4	-0.8
Electricity distribution and control apparatus	5 087.9	9.9	14 554.5	7.8	186.1	-2.1
Insulated wire and cable	1 476.1	2.9	4 410.9	2.4	198.8	-0.5
Accumulators, primary cells and primary batteries	504.5	1.0	1 461.2	0.8	189.6	-0.2
Lighting equipment and electric lamps	1 208.3	2.4	3 138.2	1.7	159.7	-0.7
Electrical equipment n.e.c.	2 717.0	5.3	8 838.4	4.7	225.3	-0.5
Electronic valves and tubes and other electronic components	4 808.4	9.4	26 151.5	14.1	443.9	4.7
Television and radio transmitters; apparatus for line telephony and telegraphy	4 779.1	9.3	29 604.5	15.9	519.5	6.6
Television and radio receivers; sound or video recording or reproducing apparatus and associated goods	2 937.8	5.7	11 025.5	5.9	275.3	0.2
Medical and surgical equipment and orthopaedic appliances	4 599.8	9.0	15 173.5	8.2	229.9	-0.8
Instruments and appliances for measuring, checking, testing, navigating and other purposes	7 221.4	14.1	18 713.5	10.1	159.1	-4.0
Industrial process control equipment	:	:	:	:	:	:
Optical instruments and photographic equipment	1 991.0	3.9	7 081.6	3.8	255.7	-0.1
Watches and clocks	990.6	1.9	1 652.2	0.9	66.8	-1.0

Source: Eurostat, Comext.

Studying the 14 CPA groups in electrical and optical equipment (no data for Group 33.3), nearly half of the extra-EU exports in 2001 were accounted for by just three of them: office machinery and computers (CPA Group 30.0, 16.9 %), telecommunications equipment (CPA Group 32.2, 15.9 %) and electronic components (CPA Group 32.1, 14.1 %). The six CPA groups that make up Division 31 (electrical machinery and apparatus) together accounted for a further 24.3 % of the EU's exports. Among the 14 CPA groups covered, eight of them recorded a trade deficit in 2001, the largest by far in office machinery and computers (EUR – 33.9 billion); electronic components and consumer electronics also recorded trade deficits in excess of EUR 10 billion. The largest surplus at the CPA group level was EUR 5.7 billion for electricity and distribution control apparatus (CPA Group 31.2), followed by EUR 5.6 billion for telecommunications equipment. The considerable reduction in the trade deficit for electrical and optical equipment between 2000 and 2001 came from a reduction in the deficits for office machinery as well as computers and electronic components.

Table 11.5

Electrical and optical equipment (CPA Subsection DL)
Extra-EU imports into the EU

	1991 (million EUR)	1991 (%)	2001 (million EUR)	2001 (%)	Change in import value 2001/1991 (%)	Change in import share 2001/1991 (% points)
Electrical and optical equipment	82 304.7	100.0	233 202.8	100.0	183.3	-
Electric motors, generators and transformers	2 766.3	3.4	9 201.3	3.9	232.6	0.6
Electricity distribution and control apparatus	2 839.9	3.5	8 885.5	3.8	212.9	0.4
Insulated wire and cable	1 060.8	1.3	3 987.0	1.7	275.8	0.4
Accumulators, primary cells and primary batteries	766.9	0.9	2 349.2	1.0	206.3	0.1
Lighting equipment and electric lamps	949.0	1.2	3 593.8	1.5	278.7	0.4
Electrical equipment n.e.c.	3 489.5	4.2	12 726.1	5.5	264.7	1.2
Electronic valves and tubes and other electronic components	8 878.2	10.8	37 397.1	16.0	321.2	5.2
Television and radio transmitters; apparatus for line telephony and telegraphy	5 424.7	6.6	24 042.3	10.3	343.2	3.7
Television and radio receivers; sound or video recording or reproducing apparatus and associated goods	11 684.7	14.2	23 784.7	10.2	103.6	-4.0
Medical and surgical equipment and orthopaedic appliances	4 034.6	4.9	13 114.4	5.6	225.0	0.7
Instruments and appliances for measuring, checking, testing, navigating and other purposes	7 446.4	9.0	16 533.2	7.1	122.0	-2.0
Industrial process control equipment	:	:	:	:	:	:
Optical instruments and photographic equipment	3 140.7	3.8	7 646.2	3.3	143.5	-0.5
Watches and clocks	2 825.1	3.4	4 456.3	1.9	57.7	-1.5

Source: Eurostat, Comext.

11.1: INSTRUMENT ENGINEERING

The manufacture of medical, precision and optical instruments (NACE Division 33) includes activities related to the manufacture of instruments, as well as the manufacture of industrial process control equipment, watches and clocks. Photographic equipment is covered, but not photochemical products, flashbulbs or television cameras. Together these activities are referred to as instrument engineering in this subchapter.

The manufacture of precision instruments (Group 33.2) dominated the instrument engineering subsector in the EU in 2000, accounting for nearly half of EU value added [10] (see Figure 11.4). In employment terms this group contributed less of the subsector's total (46.1 %) while the contribution of each of the other NACE groups was higher.

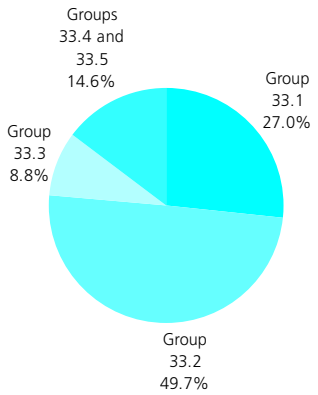
STRUCTURAL PROFILE

Value added generated by the instrument engineering subsector in the EU [11] was EUR 36.8 billion in 2000. Table 11.6 shows EU production data for a selection of instrument engineering products. Employment in this subsector was 656 500 persons in the EU [12]. As such this subsector contributed 21.3 % of the value added [13] by the electrical machinery and optical equipment sector in 2000 and a larger share (23.1 %) of employment [14] in this sector. Employment in instrument engineering started to rise in 1996, having fallen throughout the first half of the 1990s. Between 1995 and 2000 employment in the EU rose by an annual average of 0.9 % [15].

[10] IRL and S, 1999; EL, 1998; L and NL, not available or incomplete.
[11] IRL and S, 1999; EL, 1998; NL, not available.
[12] EL, IRL and S, 1999.
[13] IRL and S, 1999; EL, 1998; NL, not available.
[14] EL, IRL and S, 1999.
[15] EL, IRL, L, NL and S, not available.

Figure 11.4

Breakdowns of medical, precision and optical instruments manufacturing value added, EU, 2000 (1)



(1) IRL, S, 1999; EL, 1998; L and NL, not available or incomplete.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

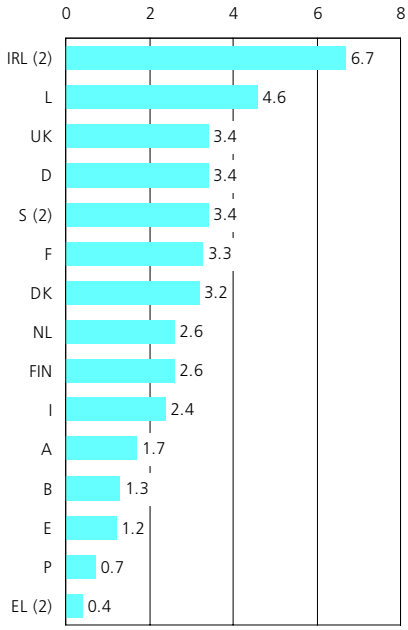
In value added terms, Germany accounted for more than one third of EU output, while the United Kingdom contributed just less than one fifth of the total. Luxembourg recorded a particularly high specialisation in instrument engineering compared to the sector as a whole, as did Denmark, while Greece, Finland, Austria and Portugal were relatively unspecialised in this subsector.

Whereas the domestic output prices of many of the subsector's within electrical machinery and optical equipment remained constant or fell between 1995 and 2001, instrument engineering recorded increases each and every year. In 2001 the index for this subsector stood 6.1 % higher than in 1995, close to the manufacturing average of 7.6 %. Behind this seemingly typical level of price increases lies two distinct periods: the annual increase in output prices in the instrument engineering subsector was higher than the manufacturing average each year during the second half of the 1990s and it was only the large increase in the manufacturing average in 2000 that brought the 2001 level of instrument engineering and manufacturing output prices closer together. All of the NACE Groups [16] within this subsector recorded an increase between 5 and 7 % in their level of output prices over this period.

[16] NACE Group 33.3, not available.

Figure 11.5

Manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33)
Share of number of persons employed in manufacturing, 2000 (%) (1)



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

LABOUR AND PRODUCTIVITY

The characteristics of the labour force in the instrument engineering subsector stand out from the rest of the electrical machinery and optical equipment sector, most notably because of the lower share of employees in the workforce. In 2001 some 89.3 % of the persons employed in this subsector in the EU were employees compared to a sectoral average of 94.3 %. Only in Denmark and Ireland [17] was the proportion higher in the instrument engineering subsector than the sectoral average. The proportion of employees was particularly low in Greece, Italy and Belgium (all below 70 %).

[17] L and P, not available.

Table 11.6

Selected products of medical, precision and optical instruments, watches and clocks (CPA Division 33) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Apparatus based on the use of X-rays (including radiography and radiotherapy apparatus)	33.10.11.15 and 33.10.11.19	2000	2 280.3
Instruments and appliances used in dental sciences (including drill engines)	33.10.13.30 and 33.10.13.50	2000 (1)	777.8
Syringes with or without needles, tubular metal needles, needles for sutures, used in medical, surgical, dental or veterinary sciences	33.10.15.11 to 33.10.15.15	2000	812.1
Ophthalmic instruments and appliances	33.10.15.20	2000	219.4
Endoscopes for medical purposes; renal dialysis equipment; Transfusion apparatus (excluding special blood storage glass bottles)	33.10.15.35 to 33.10.15.63	2000 (1)	1 586.7
Mechano-therapy appliances, massage apparatus, psychological aptitude-testing apparatus; ozone therapy, oxygen therapy, aerosol therapy, respiration apparatus	33.10.16.53 to 33.10.16.90	1999	1 158.8
Artificial joints	33.10.17.35	1998	741.3
Orthopaedic appliances, slints and other fracture appliances	33.10.17.39	1999	945.2
Individual artificial teeth (including metal posts for fixing) and dental fittings	33.10.17.53 to 33.10.17.59	2000	2 020.9
Artificial parts of the body	33.10.17.90	1998	559.3
Appliances for overcoming deafness	33.10.18.33	2000	583.0
Pacemakers for stimulating heart muscles	33.10.18.50	2000	750.9
Direction finding compasses; instruments and appliances for navigation (excluding for aeronautical or space navigation)	33.20.11.30 and 33.20.11.59	1999	292.3
Instruments and appliances for aeronautical or space navigation (excluding compasses)	33.20.11.55	2000	1 398.8
Instruments and apparatus, for telecommunications	33.20.44.00	1998	1 246.4
Electronic flow meters (excluding supply meters, hydrometric paddle-wheels); electronic pressure gauges, sensors, indicators and transmitters	33.20.52.35 and 33.20.52.71	2000 (1)	712.7
Instruments & apparatus for measuring variables of liquids/gases (including heat meters; excluding for measuring pressure/flow/level of liquids)	33.20.52.83 and 33.20.52.89	1999	720.9
Electronic gas or smoke analysers; chromatographs	33.20.53.13 and 33.20.53.23	1998 (1)	656.0
Gas or liquid supply or production meters (including calibrated)	33.20.63.30 and 33.20.63.50	2000	844.2
Electricity supply or production meters (including calibrated) (excluding voltmeters, ammeters, wattmeters and the like)	33.20.63.70	1999	536.1
Test benches;	33.20.65.20	2000	642.9
Electronic instruments, appliances and machines for measuring or checking geometrical quantities (including comparators, coordinate measuring machines (CMMs))	33.20.65.50	2000	898.5
Thermostats	33.20.70.15 and 33.20.70.19	2000	1 084.9
Unmounted spectacle lenses	33.40.11.53 to 33.40.11.70	2000 (1)	1 951.6
Contact lenses	33.40.11.30	2000	699.5
Spectacles, goggles and the like, corrective, protective or other (including frames and mountings)	33.40.12.50 to 33.40.13.90	2000 (2)	2 241.9
Optical fibres, optical fibre bundles and cables (excluding image conductor cables, optical fibre cables made up of individually sheathed fibres)	33.40.21.19	2000	368.6
Mounted objective lenses of any material (excl. for cameras, projectors or photographic enlargers or reducers)	33.40.21.70	2000	334.7
Lasers (excluding laser diodes, machines and appliances incorporating lasers)	33.40.23.30	1999	348.5
Electrically operated wrist-watches, with a case of precious metal or of metal clad with precious metal, with mechanical display only (including stop-watches)	33.50.11.13	1998	173.0
Mechanical display battery/accumulator powered wrist-watches,incorporating or not stop-watch facility excluding with case of precious metal/metal clad with precious metal	33.50.12.13	2000	183.5

(1) 1999 for one or more headings in the aggregate.
(2) 1997 for non-plastic frames and mountings.
Source: Eurostat, European production and market statistics (theme4/europrom).

In terms of the proportion of full-time employees and the gender balance in the workforce, instrument engineering was quite close to the average for the electrical machinery and optical equipment. Generally full-time employment was slightly less common and female employment higher. Female employment was particular important in this subsector in Ireland.

Apparent labour productivity in the EU's [18] instrument engineering subsector was EUR 57 700 per person employed in 2000. This was below the average for electrical machinery and optical equipment (EUR 62 500) but higher than in some other subsectors, notably the manufacture of electrical machinery and equipment (Division 31). Average personnel costs in the EU were EUR 40 500 per employee in 2000 [19], also lower than the sectoral average.

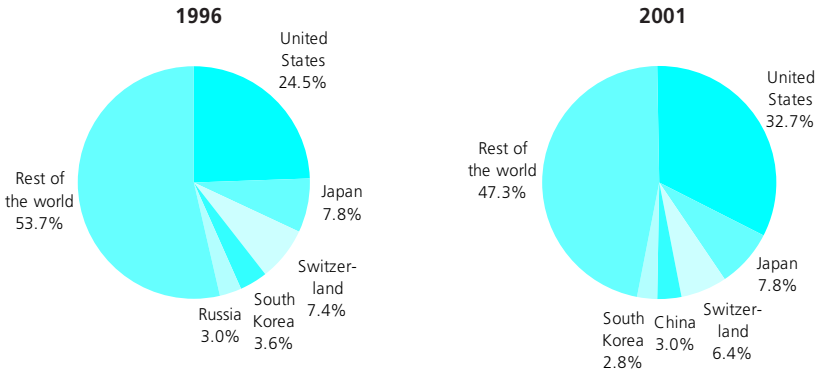
[18] IRL and S, 1999; EL, 1998; NL, not available.
[19] DK, F, IRL and S, 1999; EL, 1998; NL, not available.

EXTERNAL TRADE

In 2001, the EU's exports of instruments, watches and clocks (CPA Division 33) to non-Community countries were valued at EUR 42.6 billion, some EUR 0.8 billion higher than its imports. This represented a return to a trade surplus after two years of deficits. Denmark was the most highly specialised of the Member States in the exports of these products, with instruments, watches and clocks accounting for 35.6 % of exports (intra- and extra-EU combined) of electrical and optical equipment (CPA Subsection DL). The Netherlands, Germany and Italy were also relatively specialised in the exports of these goods, generating one quarter or more of their electrical and optical equipment exports from this CPA Division.

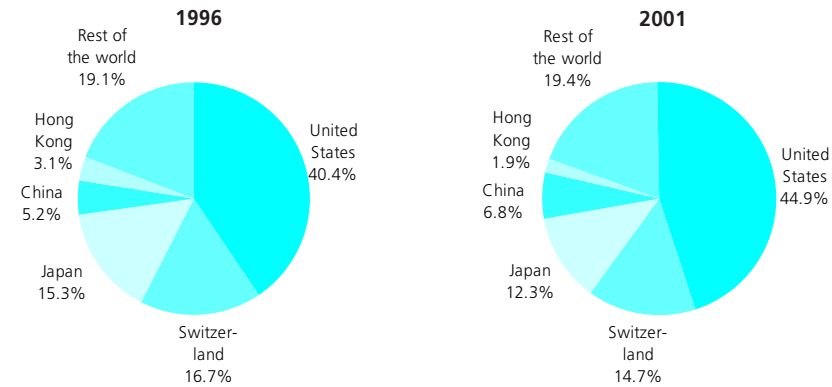
The destinations of the EU's exports of instruments, watches and clocks were quite typical for electrical and optical equipment in general, with the United States, Japan, Switzerland and China in the top four places in 2001. However, China's appearance near the top of the ranking was a new development, as in 2000 it was ranked as only the seventh most important destination and, in 1996, it was only 12th. The origin of imports was very concentrated within the top five partner countries – the same four as for exports, plus Hong Kong – which together provided over 80 % of the EU's imports of instruments, watches and clocks. The top five countries for the origin of imports were the same in 2001 as they had been in 1996.

Figure 11.6
Medical, precision and optical instruments; watches and clocks (CPA Division 33)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 11.7
Medical, precision and optical instruments; watches and clocks (CPA Division 33)
Origin of extra-EU imports



Source: Eurostat, Comext.

11.2: MANUFACTURE OF ELECTRICAL MACHINERY AND EQUIPMENT

This subchapter covers NACE Division 31 which includes the manufacture of electric motors, generators, transformers, electricity distribution equipment, insulated wires and cables, optical fibres for coded data transmission, batteries, lighting equipment and other electrical equipment. The manufacture of metal cables not being used as a conductor of electricity is not included in this division.

STRUCTURAL PROFILE

In 2000 value added generated by the manufacture of electrical machinery and equipment (Division 31) in the EU [20] was EUR 65.7 billion, 38.0 % of the value added generated by the electrical machinery and optical equipment sector (Subsection DL) in 2000. Employment in this subsector was 1.23 million persons in the EU [21], 43.0 % of the sectoral total. Employment fell consistently in the EU throughout the first half of the 1990s and through to 1996. In 1997 an expansion in employment was recorded since when employment has increased at an annual average rate of 0.5 % [22].

The manufacture of machinery for the production, conversion and distribution of electrical energy (Group 31.2) accounted for 46.0 % of the value added generated by the six groups in this division [23]. The miscellaneous NACE Group (31.6), which covers other electrical equipment manufacture not elsewhere classified, accounted for 20.3 % of the subsector's value added in the EU, while the manufacture of electric motors, generators and transformers (Group 31.1) contributed a further 16.3 % of the total. The three other NACE groups in this subsector collectively accounted for the remaining 17.4 % of EU value added (see Figure 11.8). Table 11.7 shows EU production data for a selection of electrical machinery and equipment.

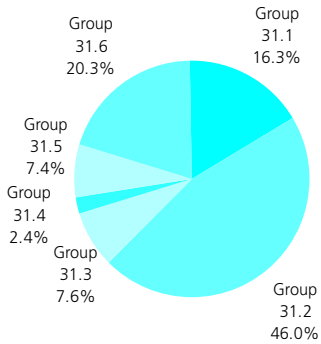
[20] EL, IRL, L and S, 1999; NL, not available.
[21] EL, IRL, L and S, 1999.
[22] EL, IRL, L, NL and S, not available.
[23] EL, IRL and S, 1999; L, NL and P, not available or incomplete.

In employment terms the manufacture of machinery for the production, conversion and distribution of electrical energy accounted for a smaller proportion of this subsector's employment (41.1 %) than it did of value added, and higher proportions of employment were reported for all of the other groups.

In value added terms, Germany dominated this subsector to an even greater extent than its dominance of electrical machinery and optical equipment as a whole. In 2000 it accounted for close to half (46.6 %) of the EU's value added, while France, the United Kingdom and Italy each contributed between 10.3 and 13.4 % of the total. Although Spain's contribution to EU value added was relatively small (5.7 %), this Member State was relatively specialised in the manufacture of electrical machinery and equipment compared to the sector as a whole, while Ireland, Finland and Sweden were relatively unspecialised.

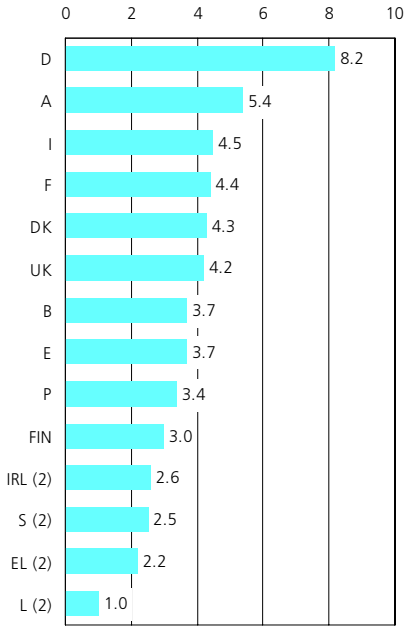
Output price indices in this subsector in 2001 continued the recovery started in 2000 after three years of falling prices. In 2001 the EU price index rose by 0.7 % following a 1.4 % increase the year before and the price index stood 1.9 % higher in 2001 than in 1995.

Figure 11.8
Share in electrical machinery and equipment manufacturing value added, EU, 2000 (1)



(1) EL, IRL and S, 1999; L, NL and P, not available or incomplete.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

Figure 11.9
Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31) Share of value added in manufacturing, 2000 (%) (1)



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

Table 11.7

Selected products of electrical machinery and apparatus (CPA Division 31) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
DC motors and generators of an output > 37.5 W but <= 750 W (excl. starter motors for internal combustion engines)	31.10.10.30	2000	1 545.7
AC motors of an output > 37.5 W	31.10.22.30 to 31.10.25.90	2000 (1)	4 857.0
Alternators	31.10.26.10 to 31.10.26.70	2000 (1)	1 285.1
Generating sets with compression-ignition internal combustion piston engines of an output <= 750 kVA	31.10.31.13 to 31.10.31.50	2000 (1)	1 245.8
Generating sets incl. turbo-generators, generating sets for welding equipt. without heads/appliances excl. with compression, internal & spark-ignition combustion piston engines	31.10.32.50	2000	2 635.1
Inverters	31.10.50.53 and 31.10.50.55	2000	2 052.7
Static converters (excl. polycrystalline semiconductors, converters specially designed for welding, without welding equipment, accumulator chargers, rectifiers, inverters)	31.10.50.70	1997	1 903.6
Automatic circuit breakers for a voltage <= 1 kV	31.20.22.30 and 31.20.22.50	2000	2 780.2
Relays for a voltage <= 60 V; relays and contactors for a voltage > 60 V but <= 1 kV	31.20.24.33 to 31.20.24.50	2000 (1)	1 921.1
Connections and contact elements for wires and cables for a voltage <= 1 kV	31.20.27.70	2000	2 422.1
Programmable memory controllers for a voltage <= 1 kV	31.20.31.50	1997	1 858.0
Insulated electric conductors whether or not fitted with connectors, for a voltage > 80 V but <= 1	31.30.13.70	1999	4 323.3
Insulated electric conductors for voltage >1,000V excl. winding wire, coaxial cable & other coaxial electric conductors, ignition & other wiring sets used in vehicles, aircraft, ships	31.30.14.00	1998	2 480.9
Optical fibre cables made up of individually sheathed fibres whether or not assembled with electric conductors or fitted with connectors	31.30.15.00	2000	2 112.1
Lead-acid accumulators for starting piston engines, of a weight > 5 kg, working with liquid electrolyte	31.40.21.50	2000	1 388.1
Lead-acid traction accumulators	31.40.22.10 and 31.40.22.30	2000 (1)	741.1
Electrical lighting or visual signalling equipment for motor vehicles (excl. electric filament or discharge lamps, sealed beam lamp units, ultraviolet, infrared and arc lamps)	31.61.23.30	2000	2 575.0

(1) 1998 for one or more headings in the aggregate.
Source: Eurostat, European production and market statistics (theme4/europrom).

LABOUR AND PRODUCTIVITY

The manufacture of electrical machinery and equipment subsector displayed a slightly lower proportion of men in total employment than the average for electrical machinery and optical equipment, but apart from this, was quite comparable to the sectoral average. In 2001 the proportion of men in the EU labour force was 69.4 %, while 93.5 % of this subsector's workforce was in full-time employment and 95.3 % were employees.

Apparent labour productivity in the EU's [24] electrical machinery and equipment manufacturing subsector was EUR 54 400 per person employed in 2000. This was the lowest of the four divisions within the electrical machinery and optical equipment sector. Average personnel costs were EUR 39 600 per employee in 2000 [25], also lower than the sectoral average.

[24] EL, IRL, L and S, 1999; NL, not available.
[25] DK, F, IRL, L and S, 1999; EL, 1998; NL, not available.

EXTERNAL TRADE

In 2001, the EU's exports of electrical machinery and apparatus (CPA Division 31) to non-Community countries was EUR 45.2 billion, higher than the value of imports (EUR 40.7 billion). As such the EU's trade balance for these goods returned to the positive territory it had occupied throughout the 1990s after recording a small deficit in 2000. The trade surplus resulted from an increase in exports of 6.7 % and a fall in imports of 3.9 % between 2000 and 2001. The EU's exports of electrical machinery and apparatus were concentrated in three CPA groups in 2001: electricity distribution and control apparatus (Group 31.2, 32.2 %), electrical motors, generators and transformers (Group 31.1, 28.2 %) and electrical equipment n.e.c. (Group 31.6, 19.6 %).

In 2001 China overtook the Czech Republic as the EU's third most important destination for exports of electrical machinery and apparatus, but the United States and Switzerland maintained their position as the two most important markets, although both had slightly reduced shares compared to 2000. In 2001 China also overtook Japan to become the second most important origin of EU imports of these goods, despite its share falling from 14.5 % to 13.9 %. Several European countries, notably the Czech Republic, Poland, Hungary and Switzerland, all increased their shares of EU imports between 2000 and 2001.

Table 11.8

Electrical machinery and apparatus n.e.c. (CPA Division 31)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	14 925	16 060	19 347	22 268	25 009	28 263	32 579	34 043	35 212	42 326	45 157
Extra-EU imports (million EUR)	11 872	12 230	13 815	17 395	20 763	21 481	25 812	28 676	32 059	42 398	40 743
Trade balance (million EUR)	3 053	3 829	5 532	4 873	4 246	6 782	6 767	5 367	3 153	-72	4 414
Cover ratio (%)	125.7	131.3	140.0	128.0	120.4	131.6	126.2	118.7	109.8	99.8	110.8

Source: Eurostat, Comext.

11.3: ELECTRONIC COMPONENTS

This subchapter covers the manufacture of active electronic components (including semiconductors, such as integrated circuits, discrete semiconductors and electronic tubes), passive electronic components (such as capacitors and resistors) and PCBs; these manufacturing activities are all classified in NACE Group 32.1.The manufacture of most other electro-mechanical components is covered within Subchapter 11.2.

STRUCTURAL PROFILE

The manufacture of electronic components in the EU [26] generated EUR 19.5 billion of value added and employment was 253 800 persons in 2000. Based on these figures this subsector accounted for 11.3 % of the value added generated by the electrical machinery and optical equipment sector in 2000 and 9.2 % of sectoral employment. Table 11.9 shows EU production data for a selection of electronic components.

[26] EL, IRL and S, 1999; NL, not available.

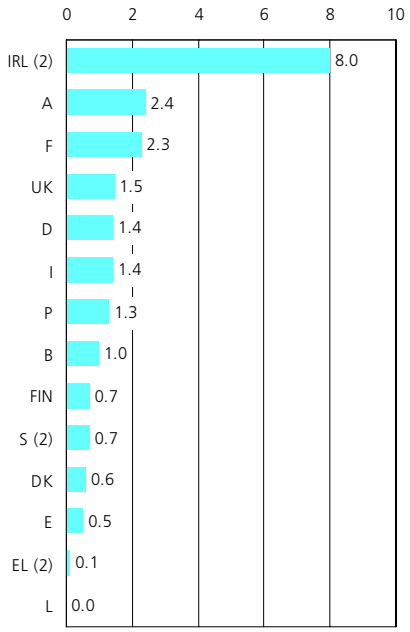
Although data availability over a long time period is limited, the electronic components' subsector appears to have recorded growth in employment in the EU throughout most of the 1990s. Between 1997 and 2000 employment grew, on average, by 4.5 % per annum in the EU [27]. Among the larger Member States, both France and Germany recorded particularly strong growth over this period, while the United Kingdom recorded a fall in employment.

This subsector was largest in Germany and France where more than 20 % of the EU's value added was generated and in the United Kingdom, Ireland and Italy, which all generated 10 % or more of the EU total. Unsurprisingly Ireland was the most specialised in this activity relative to its value added for the electrical machinery and optical equipment sector. Portugal and Austria were also relatively highly specialised in this subsector. Greece and Finland were the least specialised countries in this subsector, while no activity was reported for Luxembourg.

[27] EL, IRL, NL and S, not available.

Figure 11.10

Manufacture of electronic valves and tubes and other electronic components (NACE Group 32.1)
Share of value added in manufacturing, 2000 (%) (1)



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

Table 11.9

Selected products of electronic values, tubes and other electronic components (CPA Group 32.1) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Bare multilayer printed circuit boards	32.10.30.50	1999	2 289.8
Passive networks (incl. networks of resistors and/or capacitors) (excl. resistor chip arrays, capacitor chip arrays, boards containing active components, hybrids)	32.10.30.90	2000	1 139.5
Colour TV tubes	32.10.41.35	2000	2 131.4
Semiconductor diodes	32.10.51.20	1998	340.8
Semiconductor power rectifier diodes	32.10.51.30	1998	381.4
Semiconductor small signal transistors with a dissipation rate < 1 W	32.10.51.55	2000	171.6
Semiconductor power transistors with a dissipation rate >= 1 W	32.10.51.57	2000	527.2
Semiconductor thyristors, diacs and triacs	32.10.51.70	1998	198.8
Semiconductor light emitting diodes (LEDs)	32.10.52.35	2000	210.7
Photosensitive semiconductor devices; solar cells, photo-diodes, photo-transistors, etc.	32.10.52.37	1998	462.0
Mounted piezo-electric crystals (incl. quartz, oscillator and resonators)	32.10.52.70	2000	289.6
Digital MOS integrated circuits (ICs): wafers not yet cut into chips	32.10.60.15	1998	1 447.9
Digital MOS integrated circuits (ICs): chips	32.10.60.17	2000	1 478.5
Digital MOS integrated circuits (ICs), DRAM (incl. modules) with a capacity <= 4 Mbits	32.10.60.25	2000	383.6
Digital MOS integrated circuits (ICs), DRAM (incl. modules) with a capacity > 4 Mbits	32.10.60.27	2000	1 284.7
Digital MOS integrated circuits (ICs), SRAM (incl. modules) with a capacity <= 256 Kbits	32.10.60.33	1998	10.8
Digital MOS integrated circuits (ICs) EEPROMS and flash EEPROMS	32.10.60.65	2000	784.2
Digital MOS integrated circuits (ICs) memories (incl. ROM, FIFO, LILO (excl. circuits consisting solely of passive elements, DRAMS, SRAMS, Cache-RAMS, [E]EPROMS)	32.10.60.69	2000	56.9
Digital MOS integrated circuits (ICs), (CPUs and MPUs)	32.10.60.70	2000	117.2
Other digital MOS integrated circuits (ICs) (incl. MPR, MCU, ASIC, standard logic, PLD and other logic)	32.10.60.93	2000	4 945.6
Linear (analogue) integrated circuits (ICs)	32.10.60.95	2000	2 508.2
Hybrid integrated circuits (excl. circuits consisting solely of passive elements)	32.10.60.97	2000	729.4
Electronic microassemblies (excl. circuits consisting solely of passive elements, assemblies formed by mounting one or more discrete components on a support)	32.10.60.99	2000	2 272.0

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

EU output prices for electronic components fell in 1997, 1998 and 1999 by a total of 8.1 %, but in 2000 they rose by 0.8 % and in 2001 by 0.3 %. Having seen output prices rise in 2000 for the first time in several years, France returned to a negative rate of change in 2001 as the output price index fell by 8.7 %.

LABOUR AND PRODUCTIVITY

Apparent labour productivity in the EU's [28] electronic components' subsector was EUR 76 900 per person employed in 2000. This was close to the level for the manufacture of computers and office equipment, but some way below the level in the manufacture of telecommunications equipment. Average personnel costs were EUR 38 900 per employee in 2000 [29], lower than the sectoral average. As a result wage adjusted labour productivity in the EU [30] in 2000 was particularly high in this subsector, as value added was equivalent to 194.7 % of personnel costs. This was higher than in any of the other subsectors in the electrical machinery and optical equipment sector.

[28] EL, IRL and S, 1999; NL, not available.
[29] DK, F, IRL and S, 1999; EL, 1998; NL, not available.
[30] DK, F, IRL and S, 1999; EL, 1998; NL, not available.

EXTERNAL TRADE

The EU's imports of electronic components (CPA Group 32.1) from non-Community countries exceeded its exports in 2001 by EUR 11.2 billion, a large reduction in the trade deficit compared to 2000 when it was EUR 18.6 billion. This resulted from a very large fall in imports (– 21.4 %), compared to a relatively smaller fall (– 9.8 %) in exports. These falls contrast starkly with the increases in excess of 50 % recorded for both of these flows in 2000, and the unbroken sequence of growth throughout the 1990s.

The Member States most specialised in 2001 in the export (intra-EU and extra-EU combined) of electronic components, relative to their exports of electrical and optical equipment (CPA Subsection DL), were Portugal and Austria. In these two Member States, electronic components accounted for one fifth or more of the total exports of electrical and optical equipment, and in Ireland the share was 18.0 %.

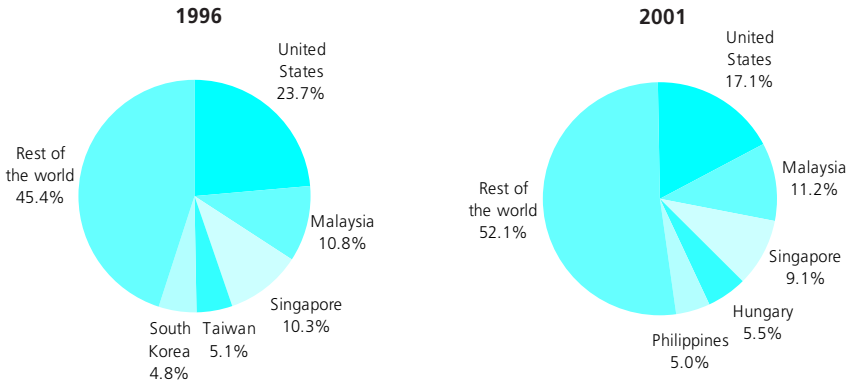
Ireland and the Netherlands were the only Member States to record a trade surplus (extra- and intra-EU combined) in electronic components in excess of EUR 1 billion in 2001, although France, Austria, the United Kingdom and Luxembourg also recorded trade surpluses. For the United Kingdom the surplus of EUR 116 million was the first recorded after a series of trade deficits of around EUR 1 billion or more throughout the 1990s.

EU exports of electronic components to non-Community countries in 2001 were focused on the United States and Asian countries – Malaysia, Singapore, the Philippines, Taiwan, Japan, South Korea, China and Hong Kong were all in the top 10 destinations. The only European destination in the top 10 was Hungary in fourth place with 5.5 % of the EU exports.

The origin of the EU's imports were also concentrated in the United States and the same Asian countries, as well as Thailand. Hungary was the most important European source of EU imports, but was only 11th in the world ranking, providing just 1.3 % of total imports.

Figure 11.11

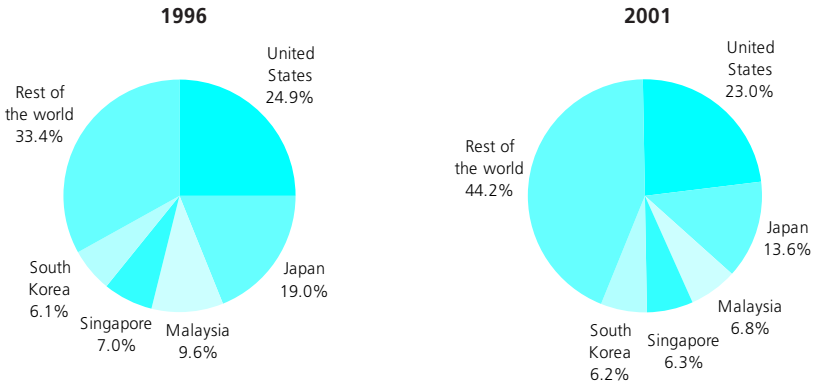
Electronic valves and tubes and other electronic components (CPA Group 32.1)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 11.12

Electronic valves and tubes and other electronic components (CPA Group 32.1)
Origin of extra-EU imports



Source: Eurostat, Comext.

11.4: COMPUTER AND OFFICE EQUIPMENT

This subchapter covers the manufacture of office machinery, computers and peripherals, such as printers and terminals (NACE Division 30). The manufacture of electronic games is classified under toys and is covered within Subchapter 13.2.

STRUCTURAL PROFILE

The manufacture of computers and office machinery is the smallest of the four NACE divisions in the electrical machinery and optical equipment sector (Subsection DL) in the EU. In 2000 this subsector generated EUR 14.8 billion of value added in the EU, 8.6 % of sectoral value added. Table 11.11 shows EU production data for a selection of office machinery and computers. Employment in this subsector was 194 900 persons in the EU, just 6.8 % of the sectoral total.

In constant price terms, the value added generated by this subsector in the EU has outperformed the manufacturing average for some time. Annual average growth rates in constant price value added terms for the ten years to 2000 show the output of the computer and office equipment sector rising, on average, by 7.0 % per annum, compared to 1.9 % for manufacturing.

In value added terms, Germany, France and the United Kingdom all contributed in excess of 20 % of the EU total in this subsector, however Ireland was by far the most specialised of the Member States. In 1999 Ireland generated EUR 1.9 billion of value added in this subsector, over 12 % of the EU total, and comparable to the value added in this subsector of Italy and Spain combined. Activity in this subsector was very low in several Member States, notably Finland, Greece, Portugal, Austria and Belgium where this subsector contributed less than 2 % of the value added in the electrical machinery and optical equipment sector.

Large enterprises (with 250 or more persons employed) accounted for 79.6 % of value added in this subsector in 1999, compared to a sectoral average of 66.1 % and manufacturing average of 53.7 %. Large enterprises accounted for 72.2 % of employment, again well above the sectoral and manufacturing averages.

The output price index for Division 30 in 2001 was the lowest (compared to its 1995 base year level) of any of the subsectors within the electrical machinery and optical equipment sector. The output price index in this subsector has followed a negative evolution for a number of years, and in 2001 it fell 4.3 % to a level of 65.6 (1995 = 100).

Table 11.10

Manufacture of office machinery and computers (NACE Division 30)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	55 433	53 412	47 111	47 681	54 337	54 268	:	67 885	70 139	78 695	85 195
Number of persons employed (thousands)	334	308	262	237	236	208	:	221	214	195	220
Value added (million EUR)	22 111	18 102	14 933	14 934	15 830	14 274	:	16 319	15 958	14 827	17 988
Personnel costs (million EUR)	14 352	14 131	11 651	10 572	10 103	9 229	:	10 417	9 973	9 965	10 018
App. labour productivity (thous. EUR/pers. emp.)	66.2	58.8	57.1	63.0	67.1	68.5	:	73.7	74.7	76.1	81.7
Simple wage adjusted labour productivity (%)	154.1	128.1	128.2	141.3	156.7	154.7	:	156.7	160.0	148.8	179.6

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

Table 11.11

Selected products of office machinery and computers (CPA Division 30) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Cash registers	30.01.13.50	1998	219.9
Postage-franking machines, ticket-issuing machines and similar machines incorporating a calculating device	30.01.13.70	2000	364.5
Electrostatic photocopiers	30.01.21.70	2000	1 523.9
Photocopiers incorporating an optical system, thermocopiers and contact type photocopiers (excl. electrostatic photocopiers, blueprinters and diazocopiers)	30.01.21.90	1998	267.1
Analogue or hybrid automatic data processing machines	30.02.11.00	1998	360.6
Desk top PCs	30.02.13.00	2000	7 985.6
Digital data processing machines: presented in the form of systems	30.02.14.00	1999	12 463.1
Other digital automatic data processing machines whether or not containing in the same housing 1 or 2 of the following units: storage units, input/output units	30.02.15.00	1998	4 071.2
Parts and accessories for computers and other data processing machines	30.02.19.00	2000	11 924.5

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

Table 11.12

Value of the IT hardware market in the EU, selected items, ranked by 2001/1999 rate of change (million EUR)

	1999	2000	2001
Portable PCs	9 758	13 306	13 453
LAN hardware	8 375	9 911	10 915
PC printers	9 253	10 216	10 444
Server systems	25 725	28 254	27 971
Copiers	5 358	5 459	5 453
Desktop PCs	33 427	33 984	29 701
Workstations	1 588	1 450	1 306

Source: EITO, 2002.

Table 11.13

Unit shipments of IT hardware in the EU, ranked by 2001/1999 rate of change (thousands)

	1999	2000	2001
Portable PCs	4 087	5 766	6 120
High-end servers	1	1	2
LAN cards	13 495	16 468	16 787
PC printers	19 232	21 928	23 082
Low-end servers	1 142	1 249	1 357
Copiers	1 374	1 404	1 433
Calculators	24 972	25 263	25 035
Desktop PCs	21 432	22 078	20 030
Mid-range servers	22	20	20
Workstations	145	136	128
Typewriters	1 133	1 052	920

Source: EITO, 2002.

LABOUR AND PRODUCTIVITY

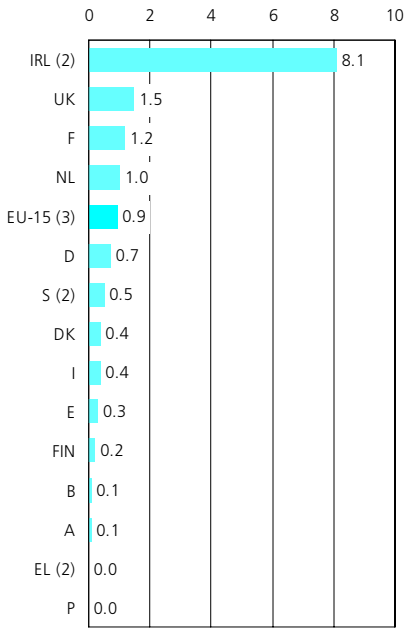
Compared to the sectoral average for electrical machinery and optical equipment, the manufacture of computers and office equipment in the EU in 2001 had a higher level of male employment, higher full-time work and a higher proportion of employees. This pattern was displayed by both of the two largest national workforces in this subsector, namely Germany and the United Kingdom. The proportion of employees in the workforce was 99.0 % or higher in Belgium, Spain, Ireland and the Netherlands in 2001 [31]. The proportion of full-time employees was equally high in Belgium and Spain and only slightly lower in Ireland, yet in the Netherlands full-time employment was only 84.8 %, the only country among those available where this ratio was below 90 %.

EU apparent labour productivity (value added per person employed) in this subsector was EUR 76 100 in 2000, some EUR 21 400 more than the manufacturing average. In current price terms, apparent labour productivity has been rising since 1993 when it stood at EUR 57 100 per person employed. Ireland and Germany recorded high apparent labour productivity in this subsector, EUR 95 300 per person employed in 1999 in Ireland and EUR 89 400 in 2000 in Germany.

[31] DK, EL, L, P, FIN and S, not available.

Figure 11.13

Manufacture of office machinery and computers (NACE Division 30)
Share of number of persons employed in manufacturing, 2000 (%) (1)



(1) L, not available.
(2) 1999.
(3) 2001.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms).

EXTERNAL TRADE

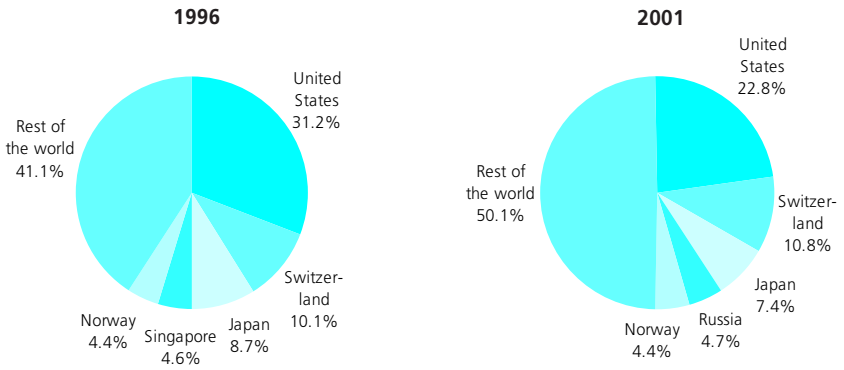
The EU exported EUR 31.5 billion of office machinery and computers (CPA Division 30) in 2001, and at the same time imported EUR 65.5 billion worth of these products. The resulting trade balance (EUR – 33.9 billion) was smaller than the 2000 value (EUR – 40.2 billion). The contraction in the trade deficit was the net result of a 0.9 % increase in exports in 2001 and an 8.5 % fall in imports. In 2001 these products accounted for 8.0 % of all manufactured imports into the EU from non-Community countries, down from a peak of 9.3 % in 1999. The equivalent share of exports was 3.5 %.

Only Ireland, the Netherlands and Luxembourg recorded a trade surplus (intra- and extra-EU trade combined) in these products in 2001. Ireland's trade surplus was EUR 9.8 billion, 22.3 % higher than in 2000 and more than double its size five years earlier. The Netherlands' trade surplus was only the second recorded during the last 10 years. Compared to 2000 several Member States recorded a significant reduction in their trade deficits, most notably the United Kingdom and Sweden.

As with electronic components, the EU's imports of office machinery and computers in 2001 came principally from the United States and several Asian countries with Taiwan, China and Japan at the forefront. In 2001 both Taiwan and China overtook Japan in terms of their share of the EU market. Again Hungary was the leading European source of EU imports, but was only ninth in the world ranking with 2.8 % of the total. Looking at a longer time frame, between 1996 and 2001, the United States' share of EU imports has fallen: in 1996 the United States supplied 31.4 % of the EU's imports of office machinery and computers, while in 2001 its share was 22.0 %. Most significantly China has increased its share of EU imports by 8.8 percentage points from 5.0 % in 1996 to 13.9 % in 2001, while the Philippines, Taiwan and Hungary also increased their shares by more than 2 percentage points each over the same period. As well as the United States, both Japan and Singapore saw their shares of EU imports contract significantly between 1996 and 2001, by more than 4 percentage points each.

Figure 11.14

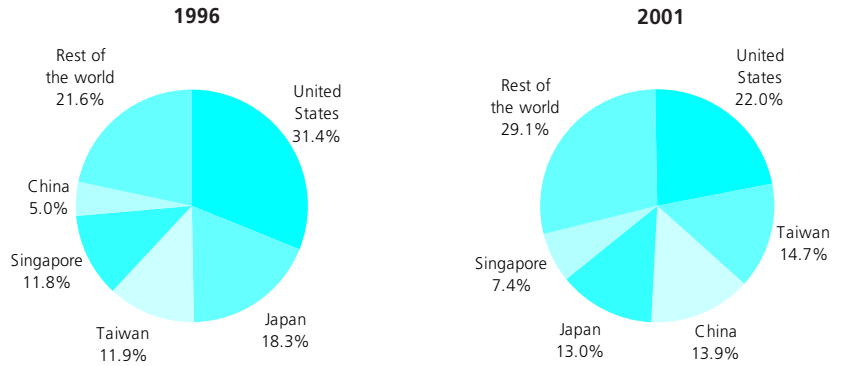
Office machinery and computers (CPA Division 30)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 11.15

Office machinery and computers (CPA Division 30)
Origin of extra-EU imports



Source: Eurostat, Comext.

The similarity with electronic components in the trading parties was, however, limited to import partners. In terms of exports the EU's partners were more typical of manufacturing in general, with the United States, Switzerland and Japan as the three main markets. Together these accounted for 40.9 % of the EU's exports of office machinery and computers in 2001, more than their 36.5 % share of the EU's manufacturing exports. Nevertheless, the share of these three large markets has been falling: in 1996 they accounted for half (49.9 %) of the EU's exports of machinery and computers in 1996. Most of this reduction was due to the fall in the United States' share of EU exports from 31.2 % in 1996 to 22.8 % in 2001. No single country increased significantly its share of EU exports over the same period. Hungary, Poland and the Czech Republic all figured amongst the countries that increased their shares of EU exports.

11.5: TELECOMMUNICATIONS EQUIPMENT

The activities covered by this subchapter (NACE Group 32.2) include the manufacture of television cameras, transmission apparatus for radio and TV, telephonic switching apparatus (including LANs and modems), telephones, fax machines and teleprinters. Chapters 23 and 24 provide information on services that make use of this equipment. This subchapter does not cover the manufacture of television or radio sets (see Subchapter 11.6).

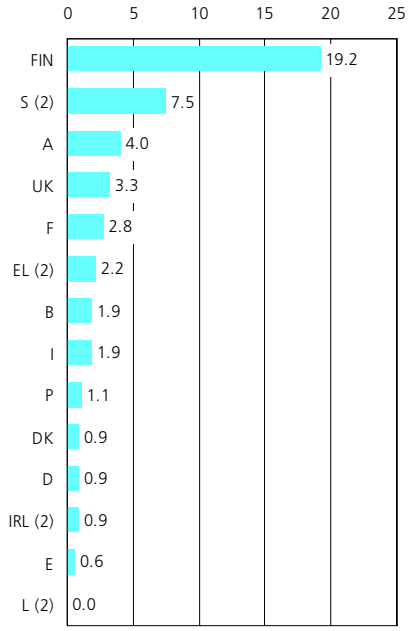
Telecommunications equipment has benefited from the expansion of communication (data and voice) networks and the rapid uptake of mobile telephones. Growth in the mobile telephone market within the EU has fallen significantly and producers within the EU, as well as elsewhere, have had to look to other markets: China in particular has attracted a lot of attention as it has become the largest mobile telephone market in the world and in 2001 became the second most important export market for EU telecommunications equipment.

STRUCTURAL PROFILE

No single country dominates the manufacture of telecommunications equipment in the EU, mainly because of a very high specialisation in this activity in Finland and Sweden combined with a low specialisation in Germany. As a result, these two Scandinavian countries and the four largest Member States each generated 9 % or more of the value added in this subsector in 2000, reaching 19.3 % in Finland and 22.5 % in the United Kingdom. Luxembourg reported no activity in this subsector, and a low specialisation relative to the electrical machinery and optical equipment sector was observed in Ireland, Germany and Denmark.

Figure 11.16

Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy (NACE Group 32.2)
Share of value added in manufacturing, 2000 (%) (1)



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

Table 11.15

Value of the communications hardware market in the EU, selected items, ranked by 2001/1999 rate of change (million EUR)

	1999	2000	2001
Packet switching and routing equipment	2 262	3 193	3 609
Mobile telephone sets	25 388	33 796	32 867
Transmission	4 424	5 047	5 275
Cellular mobile radio infrastructure	9 269	11 999	10 423
Other terminal equipment	3 194	3 367	3 485
Telephone sets	5 260	5 418	5 491
PBX & key systems	3 857	3 956	3 789
Circuit switching equipment	4 781	4 405	3 928

Source: EITO, 2002.

In total the EU [32] Member States generated EUR 30.6 billion of value added in this subsector, equivalent to 17.7 % of the total for electrical machinery and optical equipment sector (Subsection DL) in the EU. In 2000 this subsector employed 357 900 persons in the EU [33], just 13.0 % of the sectoral total. Table 11.14 shows EU production data for a selection of telecommunications equipment.

[32] EL, IRL, L and S, 1999; NL, not available.
[33] EL, IRL, L and S, 1999; NL, not available.

Table 11.14

Selected products of television and radio transmitters and apparatus for line telephony and telegraphy (CPA Group 32.2) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Radio/tv transmission apparatus without reception apparatus	32.20.11.50	2000	1 507.8
Radio transmission apparatus with reception apparatus	32.20.11.70	2000	47 806.8
Television cameras (incl. closed circuit TV cameras) (excl. camcorders)	32.20.12.90	2000	158.3
Telephone sets (incl. line telephone sets with cordless handsets, videophones) (excl. telephone answering machines not an integral part of the set)	32.20.20.20	1998	4 696.6
Teleprinters	32.20.20.30	1998	12.4
Telephonic or telegraphic switching apparatus (excl. relays and switching equipment such as selectors for automatic telephone exchangers)	32.20.20.40	2000	15 988.0
Telephonic/telegraphic apparatus for carrier-current line systems, n.e.c.	32.20.20.50	2000	7 781.0
Electrical telephonic and telegraphic apparatus, n.e.c.	32.20.20.60	2000	2 287.6
Facsimile machines	32.20.20.75	2000	500.5

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

Employment in the manufacture of telecommunications equipment fell during the early years of the 1990s but started to expand by 1995. Between 1996 and 1997 another round of contraction was experienced, particularly in three of the larger Member States, Germany, Italy and the United Kingdom. Between 1997 and 2000 however, EU [34] employment in this subsector increased at an annual average rate of 5.0 %.

Output prices for telecommunications equipment continued to fall in 2001 as in previous years, leaving prices 2.9 % lower in the EU in 2001 than they had been in 2000. Amongst the larger producers, Sweden recorded a year-on-year fall of 20.2 % in 2001 following on from a fall of 11.0 % in 2000, which contributed to Swedish output prices being 39.2 % lower in 2001 than in 1995. Output price indices for Italy (– 0.1 %), Germany (– 2.6 %) and the United Kingdom (– 3.6 %) all recorded more modest falls in 2001.

LABOUR AND PRODUCTIVITY

The telecommunications equipment subsector recorded the highest level of apparent labour productivity of any of the subsectors in electrical machinery and optical equipment in 2000. The EU [35] average was EUR 85 400 per person employed, but in Finland it was more than double this level (EUR 178 900). Personnel costs were relatively high, averaging EUR 51 300 per employee [36].

[34] EL, IRL, L, NL and S, not available.
[35] EL, IRL, L and S, 1999; NL, not available.
[36] DK, F, IRL, L and S, 1999; EL, 1998; NL, not available.

EXTERNAL TRADE

Having turned positive in 1992, the EU's trade balance in telecommunications equipment grew to a peak of EUR 8.2 billion in 1997. Since then it has fallen each year, most notably by more than 10 % in both 1999 and 2001, but it remained positive. This relatively even trend in the trade balance since 1997 masks an initial period of growth in both trade flows and more recently, in 2001, a contraction in the total value of trade. From 1997 to 2000 exports grew strongly, always in excess of 10 % per year, while imports grew at an increasingly strong rate, recording 1.9 % growth in 1997 and 68.5 % growth in 2000. In 2001 the pattern of positive annual rates of change in both flows that had been recorded throughout the 1990s was broken as exports fell by 5.3 % and imports by 3.4 %. The particularly strong fall in exports reduced the share of telecommunications equipment in the total exports of electrical and optical equipment (Subsection DL) from 17.0 % in 2000 to 15.9 % in 2001, the first fall in this share for more than 10 years. However, the equivalent share of imports rose from 10.0 to 10.3 %, as the fall in imports of telecommunications equipment was less severe than that experienced for all electrical and optical equipment.

Six Member States recorded trade surpluses (extra- and intra-EU combined) in 2001: those in Finland, the United Kingdom, Germany and Sweden all exceeded EUR 3 billion. The largest deficits were recorded in Spain, the Netherlands and Italy, all in excess of EUR 1 billion.

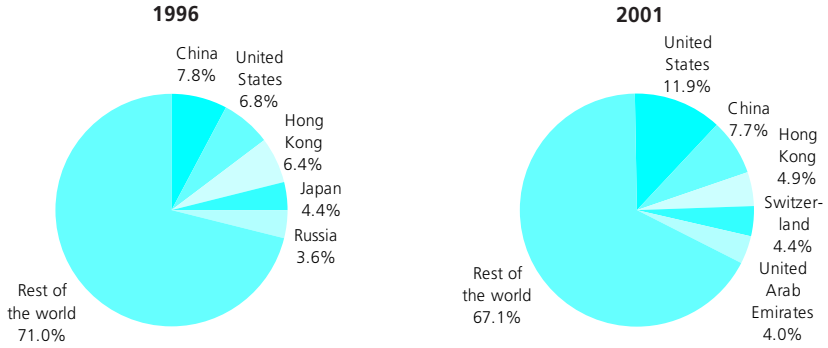
Finland and Sweden's high trade surplus underlined their export specialisation in these products which accounted for 57.2 % and 33.4 % of their exports of electrical and optical equipment respectively, although it should be noted that in Greece this share was also high, 33.3 % in 2001.

The EU's exports of telecommunications equipment were destined for a broader range of countries than was typical for electrical and optical equipment in general. Although the United States was the largest destination with an 11.9 % share, this was relatively low compared to other electrical and optical product groups. In 2001 China became the second largest destination for EU exports of telecommunications equipment, overtaking Turkey whose share plummeted from 6.8 % in 2000 to 1.9 % in 2001.

Contrary to the export situation, the EU's imports of telecommunications equipment were more concentrated, with the largest share coming from the United States (34.7 %) in 2001. Whereas the top 10 suppliers of electrical and optical equipment was dominated by the United States and Asian countries, Hungary figured as the third most important source of telecommunications equipment into the EU, with a 6.9 % share in 2001; this represented strong growth compared to 2000 when Hungary had been the source of just 3.0 % of EU imports and the 11th largest supplier. This increased share of imports from Hungary came mainly at the expense of the United States and Canada who lost 5.1 and 2.0 percentage points of their share of EU imports between 2000 and 2001. Japan's share, however, stabilised at 5.4 % in 2001 compared to 5.6 % in 2000, having collapsed from 59.1 % in 1991.

Figure 11.17

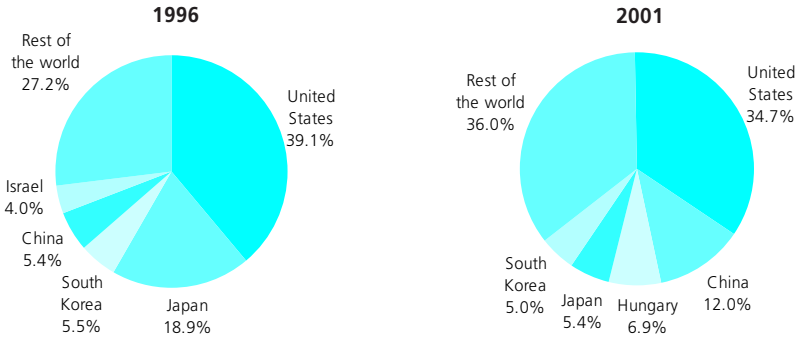
Television and radio transmitters; apparatus for line telephony and telegraphy (CPA Group 32.2)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 11.18

Television and radio transmitters; apparatus for line telephony and telegraphy (CPA Group 32.2)
Origin of extra-EU imports



Source: Eurostat, Comext.

11.6: CONSUMER ELECTRONICS

NACE Group 32.3 covers the manufacture of audiovisual equipment and related appliances such as loudspeakers, headphones and aerials, as well as other electronic consumer appliances such as telephone answering machines. The manufacture of pre-recorded and unrecorded media is not included.

The demand for products of the consumer electronics subsector stems almost entirely from households; for many of the other electrical machinery and optical equipment subsectors demand is entirely from other parts of manufacturing. Penetration rates for established products such as televisions are very high, with innovation driving consumers towards replacement products. Equally, new product markets are developed through innovation, such as the market for DVD players, which has seen penetration rates in households rising faster than for comparable products such as video-cassette recorders in the past.

STRUCTURAL PROFILE

SBS data for this subsector are limited by the lack of recent data for the Netherlands – in 1997 the Netherlands generated more value added from the manufacture of consumer electronics than any other Member State and its exclusion from much of the analysis in this chapter should be borne in mind.

In the absence of Netherlands' data, the highest level of value added for the manufacture of consumer electronics was in Germany. Despite this dominance in absolute terms, there were several Member States much more specialised in this subsector. In Germany this subsector generated 4.3 % of value added in the electrical machinery and optical equipment sector, compared to 3.7 % for the EU [37] as a whole; in Belgium this subsector's share of the electrical machinery and optical equipment sector's value added total was 12.9 %, in Portugal it was 11.2 % and in Denmark it was 9.4 %. On the other hand Ireland, Greece and Finland all reported a low specialisation in this activity. Among the larger Member States, both France and Italy had a low level of specialisation in this subsector. Table 11.16 shows EU production data for a selection of consumer electronics products.

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

EU [38] employment in the consumer electronics subsector was 124 200 persons in 2000, 4.5 % of the sectoral total, higher than its share of value added. However, the level of EU employment in this subsector appears to have fallen consistently for several years.

Having fallen by more than 2.0 % in the three previous years, the output price index in consumer electronics fell by just 0.9 % in 2001, leaving prices 11.4 % lower in 2001 than in 1995. Output prices in the two largest Member States in this subsector, the Netherlands and Germany followed quite different trends. The Netherlands recorded year-on-year increases in its price index from 1995 to 2000 before recording a fall of 0.7 % in 2001. Germany, on the other hand, recorded a fall in the index close to or above 2 % each year between 1997 and 2000, before recording a more modest fall of 0.3 % in 2001.

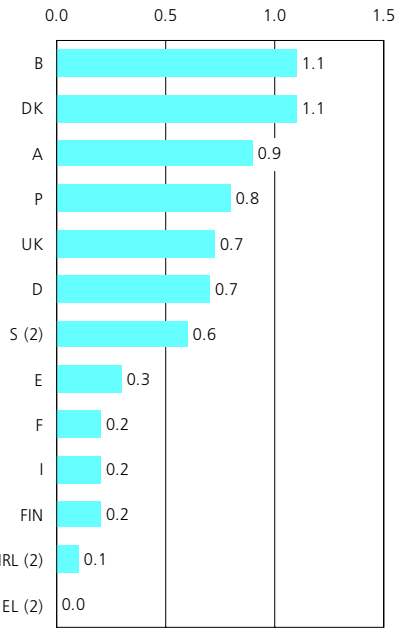
LABOUR AND PRODUCTIVITY

Apparent labour productivity in the manufacture of consumer electronics in the EU [39] in 2000 was EUR 51 900, below the sectoral average. Average personnel costs were EUR 37 500 per employee in 2000 [40], also lower than the sectoral average. Despite the low average personnel costs, wage adjusted labour productivity in this subsector was the lowest of any of the subsectors within the electrical machinery and optical equipment sector. Nevertheless, value added exceeded personnel costs in every Member State [41].

[38] EL, IRL and S, 1999; L and NL, not available.
[39] EL, IRL and S, 1999; L and NL, not available.
[40] DK, F, IRL and S, 1999; EL, 1998; L and NL, not available.
[41] DK, F, IRL and S, 1999; EL, 1998; L and NL, not available.

Figure 11.19

Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods (NACE Group 32.3)
Share of value added in manufacturing, 2000 (%) (1)



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

Table 11.16

Selected products of television and radio receivers, sound or video recording or reproducing apparatus and associated goods (CPA Group 32.3) in the EU

	Prodcom code	Latest year for production	Production value (million EUR)
Radio receivers motor vehicles with sound recording or reproducing apparatus	32.30.12.70	1997	1 142.3
Colour television projection equipment and videoprojectors	32.30.20.20	2000	458.3
Colour televisions with a video recorder or player	32.30.20.30	2000	314.5
Colour video monitors with cathode-ray tube	32.30.20.45	2000	137.4
Colour television receivers with integral tube (excl. television projection equipment, apparatus with a video recorder or player, video monitors)	32.30.20.50	2000	5 006.1
Tuner blocks for CTV/VCR and cable TV receiver units (colour video tuners) (excl. those which isolate high-frequency television signals)	32.30.20.75	2000	1 024.2
Satellite TV Receiver/Decoder (colour television receivers) (excl. with a screen, video tuners, video monitors, television projection equipment, with integral tube)	32.30.20.79	2000	1 389.0
CD players, mains/personal (excl. combined with radio/ television receivers, cassette players or player/recorders, coin/disc-operated record-players, turntables)	32.30.31.79	1998	162.5
Dictating machines, telephone answering machines, cassette player/recorders and other sound recording apparatus	32.30.32.30 to 32.30.32.90	2000	112.0
Electronic stills cameras and video camcorders (still image video cameras and other video camera recorders) (excl. closed circuit TV cameras)	32.30.33.35	2000	138.5
Video cassette recordersfor magnetic tape of width <=1.3cm and with a tape speed <=50mm per sec. excl. those combined with television,or a built-in television camera	32.30.33.39	2000	523.7
Video recorders or player/recorders (incl. laser or digital video disc players/recorders) (excl. those combined with a television, for magnetic tape)	32.30.33.70	2000	141.4
Microphones and their stands (excl. cordless microphones with a transmitter)	32.30.41.00	2000	141.8
Single loudspeakers mounted in their enclosures (incl. frames or cabinets mainly designed for mounting loudspeakers)	32.30.42.35	1998	167.9
Multiple loudspeakers mounted in the same enclosure (incl. frames or cabinets mainly designed for mounting loudspeakers)	32.30.42.37	2000	538.8
Loudspeakers (incl. speaker drive units, frames or cabinets mainly designed for mounting loudspeakers) (excl. those mounted in their enclosures)	32.30.42.39	2000	554.8
Headphones, earphones and combined microphone/speaker sets (excl. airmen's headgear with headphones, telephone sets, cordless microphones with a transmitter, hearing aids)	32.30.42.70	2000	112.2
Audio-frequency electric amplifiers (incl. hi-fi amplifiers) (excl. high or intermediate frequency amplifiers, telephonic and measurement amplifiers)	32.30.43.59	2000	319.9
Radio-telephony or radio-telegraphy reception apparatus (including portable receivers for calling or paging)	32.30.44.50 and 32.30.44.90	1999	241.6
Telescopic and whip-type aerials for portable apparatus or for apparatus for fitting in motor vehicles	32.30.52.20	2000	279.2
Outside aerials for radio or television reception via satellite (excluding aerial amplifiers and radio frequency oscillator units)	32.30.52.35	2000	86.4
Outside aerials for radio or television reception (excluding aerial amplifiers and radio frequency oscillator units)	32.30.52.39	2000	261.2
Inside aerials for radio or television reception (exclusing aerial amplifiers and radio frequency oscillator units)	32.30.52.50	1999	21.1
Other aerials and parts	32.30.52.70	2000	1 102.7

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

EXTERNAL TRADE

The growth in imports of consumer electronics (CPA Group 32.3) in 2001 was 1.2 %, much lower than in 2000 when it had been 38.8 %. Nevertheless, this was the sixth consecutive year of increased imports, whereas EU exports of consumer electronics fell by 6.9 %, the second contraction in four years. The trade deficit in consumer electronics consequently increased in 2001: it rose from a low of EUR 4.6 billion in 1996 to EUR 12.8 billion in 2001. The increase in the deficit from 2000 to 2001 was, however, relatively low, only EUR 1.1 billion.

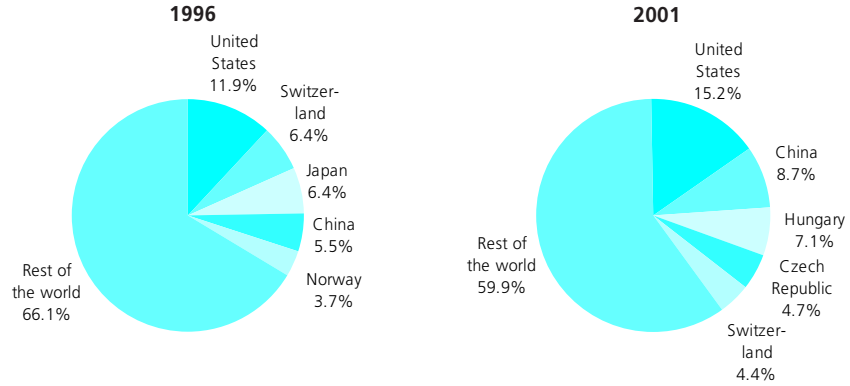
Sweden, Portugal, Denmark, Austria and Belgium all recorded a trade surplus (extra- and intra-EU combined) in 2001, but each was less than EUR 0.5 billion and the Swedish surplus was more than EUR 800 million less than it had been in 2000. As in 1999 and 2000, the largest deficits in 2001 were recorded by the largest Member States: Germany (EUR 4.0 billion), the United Kingdom (EUR 3.1 billion), Italy (EUR 1.8 billion) and France (EUR 1.3 billion).

Consumer electronics represented 5.9 % of the EU's exports of electrical and optical equipment in 2001 and 10.2 % of its imports. In several Member States these products represented more than 10 % of electrical and optical equipment exports, notably in Portugal (22.3 %) and Sweden (16.3 %). Apart from the United States (15.2 %) and China (8.7 %), the main destination for EU exports in 2001 was central and eastern Europe.

Consumer electronics is one of the few CPA groups of electrical and optical equipment products in which the United States was not the main source of EU imports, ranking only fourth with 7.5 %. Japan, China and Hungary together provided more than half of the EU's imports of these products. Japan remained in 2001 the largest single source of EU's imports, providing 24.9 % of the total, although this was 3.3 percentage points lower than in 2000. China, the Czech Republic and Poland all increased their shares of EU imports of consumer electronics by 1 percentage point or more between 2000 and 2001.

Figure 11.20

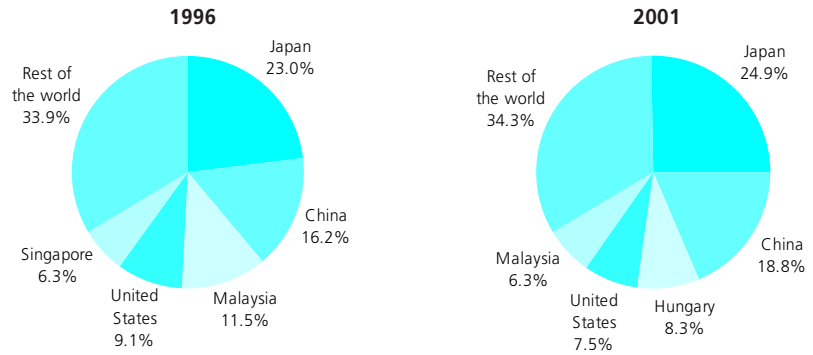
Television and radio receivers; sound or video recording or reproducing apparatus and associated goods (CPA Group 32.3)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 11.21

Television and radio receivers; sound or video recording or reproducing apparatus and associated goods (CPA Group 32.3)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 11.17

Manufacture of office machinery and computers (NACE Division 30)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (2)	I	L	NL (3)	A	P	FIN	S (2)	UK
Production (million EUR)	156	251	16 124	7	2 695	13 174	13 567	2 815	:	2 606	309	63	175	554	21 432
Number of persons employed (thousands)	1	2	45	0	8	38	20	12	:	8	1	0	1	3	51
Value added (million EUR)	53	98	3 990	3	557	3 000	1 922	528	:	547	49	12	-1	191	3 376
Purchases of goods and services (million EUR)	124	167	14 008	4	3 564	12 356	12 933	2 780	:	2 407	375	77	413	385	22 030
Personnel costs (million EUR) (4)	37	70	2 666	2	366	2 819	542	404	:	266	25	7	33	133	2 500
Gross investment in tangible goods (million EUR) (5)	4.0	:	649.0	:	240.8	:	382.7	38.5	:	:	5.8	3.3	2.0	18.4	:
App. labour productivity (thous. EUR/pers. emp.)	55.3	60.5	89.4	25.0	68.9	78.1	95.3	45.5	:	:	66.0	33.5	-1.2	57.2	66.8
Simple wage adjusted labour productivity (%) (4)	142.9	133.1	149.7	150.0	152.4	116.7	354.6	130.5	:	206.1	199.6	175.7	-3.1	143.5	135.0
Gross operating rate (%) (4)	9.4	9.2	7.5	15.0	4.8	3.2	9.4	3.9	:	9.6	6.1	6.2	-6.6	10.2	3.5

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

Table 11.18

Manufacture of office machinery and computers (NACE Division 30)
Main indicators, 2000

	BG	CY	CZ	EE (1)	HU	LV (1)	LT	MT	PL	RO	SK	SI (1)	TR
Production (million EUR)	53	:	216	18	2 650	7	8	:	266	60	32	101	:
Number of persons employed (thousands) (2)	3	:	4	:	11	0	0	:	5	3	2	:	:
Value added (million EUR)	10	:	31	2	234	2	1	:	102	10	9	20	:
Purchases of goods and services (million EUR)	49	:	217	27	2 121	13	9	:	438	92	26	145	:
Personnel costs (million EUR)	7	:	21	1	68	1	1	:	46	5	8	15	:
Gross investment in tangible goods (million EUR) (3)	2.1	:	7.0	0.2	1.4	0.2	0.3	:	15.2	2.3	2.2	4.0	:
App. labour productivity (thous. EUR/pers. emp.) (2)	2.8	:	8.3	:	20.8	9.5	2.5	:	13.4	3.3	6.1	:	:
Simple wage adjusted labour productivity (%)	135.2	:	148.3	154.5	343.0	300.0	90.9	:	219.2	188.2	122.4	134.5	:
Gross operating rate (%)	4.9	:	4.7	2.1	6.2	63.4	-0.9	:	10.5	4.4	4.6	3.0	:

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

Table 11.19

Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L (1)	NL	A	P	FIN	S (1)	UK
Production (million EUR)	4 439	3 286	78 348	535	12 302	25 482	1 771	23 242	48	:	4 245	2 147	2 902	2 813	21 497
Number of persons employed (thousands)	26	20	492	5	92	158	15	147	0	18	27	34	17	19	155
Value added (million EUR)	1 651	928	30 611	177	3 749	8 076	702	6 744	22	:	1 699	625	925	1 001	8 789
Purchases of goods and services (million EUR)	3 330	2 699	57 738	410	9 494	18 506	1 167	18 066	27	:	2 997	1 714	2 138	2 050	14 381
Personnel costs (million EUR) (2)	1 123	531	23 728	99	2 430	5 949	359	4 627	16	:	1 081	462	584	734	5 463
Gross investment in tangible goods (million EUR) (3)	159.7	:	2 570.3	:	505.1	:	109.2	1 002.2	:	:	188.3	130.7	109.2	102.6	:
App. labour productivity (thous. EUR/pers. emp.)	64.7	47.0	62.2	35.6	40.8	51.0	47.3	45.8	51.3	:	62.2	18.3	54.8	51.6	56.8
Simple wage adjusted labour productivity (%) (2)	147.1	122.3	129.0	190.4	154.3	131.1	195.8	145.8	138.4	:	157.1	135.5	158.4	136.5	160.9
Gross operating rate (%) (2)	10.8	4.6	7.8	15.7	10.3	7.7	18.5	8.7	12.4	:	13.6	7.3	11.6	8.9	14.5

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

Table 11.20

Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (2)	TR
Production (million EUR)	205	26	3 028	69	4 660	60	104	:	3 639	665	722	604	:
Number of persons employed (thousands) (3)	18	1	105	3	74	3	4	:	98	54	29	:	:
Value added (million EUR)	54	10	867	23	923	21	15	:	1 188	231	152	182	:
Purchases of goods and services (million EUR)	189	:	2 330	55	3 080	41	90	:	2 829	512	567	408	:
Personnel costs (million EUR)	36	:	516	15	466	12	16	:	646	135	126	153	:
Gross investment in tangible goods (million EUR) (4)	11.5	1.1	185.9	4.4	2.4	2.7	6.2	:	271.6	75.3	54.7	45.9	:
App. labour productivity (thous. EUR/pers. emp.) (3)	2.9	18.9	8.3	8.8	12.5	7.1	3.7	:	10.3	4.3	5.3	:	:
Simple wage adjusted labour productivity (%)	150.0	:	168.2	151.6	198.1	172.1	92.4	:	183.9	171.7	120.8	118.9	:
Gross operating rate (%)	6.8	:	11.3	10.1	9.1	15.1	-1.2	:	14.2	14.8	3.5	4.6	:

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

Table 11.21

Manufacture of electronic valves and tubes and other electronic components (NACE Group 32.1)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	1 418	275	14 250	14	1 210	15 876	3 707	5 378	0	:	1 766	936	533	845	7 288
Number of persons employed (thousands)	5	3	61	0	11	68	8	29	0	:	11	6	5	6	40
Value added (million EUR)	436	125	5 265	8	490	4 220	2 209	2 190	0	:	771	244	224	275	3 048
Purchases of goods and services (million EUR)	1 035	192	12 153	8	815	15 379	1 596	3 419	0	:	1 217	724	325	578	6 238
Personnel costs (million EUR) (2)	255	106	2 836	4	293	2 218	270	978	0	:	387	105	137	250	1 542
Gross investment in tangible goods (million EUR) (3)	98.0	:	1 091.6	:	85.3	:	484.4	1 895.1	:	:	425.4	119.9	63.8	27.9	:
App. labour productivity (thous. EUR/pers. emp.)	83.0	43.6	86.1	21.9	44.0	62.2	261.2	76.7	:	:	73.1	37.7	49.0	42.9	75.8
Simple wage adjusted labour productivity (%) (2)	170.9	144.4	185.7	164.3	167.2	137.6	817.7	224.0	:	:	199.2	231.9	163.6	110.0	197.7
Gross operating rate (%) (2)	14.1	12.8	14.2	17.2	15.7	6.5	50.6	22.7	:	:	19.9	14.5	16.6	2.7	16.5

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

Table 11.22

Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy (NACE Group 32.2)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L (1)	NL	A	P	FIN	S (1)	UK
Production (million EUR)	2 432	856	12 218	476	2 153	22 206	1 247	14 441	0	:	2 907	780	18 293	15 935	20 602
Number of persons employed (thousands)	8	5	56	3	11	74	4	44	0	:	15	5	33	36	65
Value added (million EUR)	834	197	3 257	180	635	5 112	257	2 813	0	:	1 258	203	5 906	3 029	6 883
Purchases of goods and services (million EUR)	1 931	685	15 130	428	2 273	17 750	1 019	12 869	0	:	2 808	697	16 993	13 504	18 695
Personnel costs (million EUR) (2)	496	197	3 339	57	508	3 620	133	1 866	0	:	985	146	1 384	1 840	3 407
Gross investment in tangible goods (million EUR) (3)	121.6	:	443.0	:	60.5	:	60.1	428.3	:	:	133.2	17.9	491.3	349.3	:
App. labour productivity (thous. EUR/pers. emp.)	104.2	42.7	58.0	69.9	57.9	69.1	65.6	63.4	:	:	84.3	44.5	178.9	84.6	105.7
Simple wage adjusted labour productivity (%) (2)	168.3	157.5	97.5	272.3	124.9	120.3	194.0	150.7	:	:	127.7	139.3	426.7	164.7	202.0
Gross operating rate (%) (2)	15.6	10.9	-0.5	23.6	4.8	4.3	10.1	6.7	:	:	6.6	6.4	20.5	7.4	14.4

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

Table 11.23

Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods (NACE Group 32.3)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	2 185	735	8 109	4	1 936	2 547	155	1 082	:	:	1 134	935	174	789	5 931
Number of persons employed (thousands)	6	6	42	0	8	10	1	6	:	:	4	6	1	4	29
Value added (million EUR)	505	240	2 502	2	263	425	20	258	:	:	279	154	61	227	1 516
Purchases of goods and services (million EUR)	1 715	568	9 717	2	2 405	3 096	138	1 260	:	:	916	804	136	566	5 964
Personnel costs (million EUR) (2)	261	183	1 964	2	217	368	20	167	:	:	204	93	37	150	980
Gross investment in tangible goods (million EUR) (3)	58.9	:	288.5	:	45.7	:	1.6	38.6	:	:	39.4	35.2	3.2	64.3	:
App. labour productivity (thous. EUR/pers. emp.)	87.0	37.7	59.2	18.8	33.1	41.3	20.2	42.9	:	:	65.3	27.8	58.2	54.6	51.6
Simple wage adjusted labour productivity (%) (2)	193.3	146.6	127.4	129.4	121.5	130.9	102.5	155.2	:	:	136.5	164.6	163.4	151.7	154.6
Gross operating rate (%) (2)	11.4	11.4	4.5	10.1	1.7	3.4	0.3	6.3	:	:	6.4	6.5	12.3	9.7	7.2

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

Table 11.24

Manufacture of radio, television and communication equipment and apparatus (NACE Division 32)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV (2)	LT	MT	PL	RO	SK	SI (2)	TR
Production (million EUR)	53	0	1 184	78	3 209	10	207	:	2 406	269	265	345	:
Number of persons employed (thousands) (3)	6	0	31	6	40	1	8	:	40	14	11	:	:
Value added (million EUR)	17	0	313	36	497	0	70	:	418	114	54	95	:
Purchases of goods and services (million EUR)	43	:	1 223	43	2 800	9	150	:	2 320	170	229	242	:
Personnel costs (million EUR)	14	:	169	26	252	4	44	:	284	47	51	83	:
Gross investment in tangible goods (million EUR) (4)	3.8	0.0	109.5	15.0	4.0	0.9	25.3	:	89.9	119.7	28.1	17.0	:
App. labour productivity (thous. EUR/pers. emp.) (3)	2.8	14.3	10.2	6.4	12.5	0.1	8.9	:	13.8	8.2	4.9	:	:
Simple wage adjusted labour productivity (%)	125.0	:	185.0	138.1	197.6	2.8	160.0	:	147.2	244.1	106.9	113.7	:
Gross operating rate (%)	7.6	:	10.1	12.9	7.1	-20.8	12.0	:	5.3	24.8	1.2	3.2	:

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

Table 11.25

Manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (2)	I	L	NL	A	P	FIN	S (2)	UK
Production (million EUR)	1 232	1 958	29 501	57	3 126	17 547	2 510	10 081	155	:	886	348	1 584	3 916	15 905
Number of persons employed (thousands)	9	13	223	1	31	108	17	69	2	19	9	6	12	23	115
Value added (million EUR)	445	968	13 060	22	1 234	6 101	1 204	3 811	67	:	440	137	688	1 440	7 220
Purchases of goods and services (million EUR)	900	1 097	18 881	39	2 144	12 634	1 506	7 201	87	:	548	230	1 020	2 758	9 988
Personnel costs (million EUR) (3)	269	467	9 713	16	799	4 772	475	2 383	46	:	328	88	417	1 043	4 612
Gross investment in tangible goods (million EUR) (4)	62.5	:	927.1	:	117.1	:	107.9	545.7	:	:	56.9	20.8	64.2	101.7	:
App. labour productivity (thous. EUR/pers. emp.)	50.5	71.8	58.5	19.0	39.8	56.3	71.3	55.4	42.3	:	48.8	21.4	59.8	63.4	62.8
Simple wage adjusted labour productivity (%) (3)	165.2	162.4	134.5	135.8	154.5	116.6	253.3	159.9	145.8	:	134.1	155.3	165.1	138.1	156.5
Gross operating rate (%) (3)	13.6	18.4	10.6	9.8	13.5	4.7	27.2	13.1	13.6	:	11.6	13.5	17.4	9.5	15.5

(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 11.26

Manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33)
Main indicators, 2000

	BG	CY (1)	CZ	EE (2)	HU	LV	LT	MT	PL	RO	SK	SI (2)	TR
Production (million EUR)	38	6	828	51	334	28	57	:	1 200	126	210	299	:
Number of persons employed (thousands) (3)	7	0	32	:	14	1	3	:	49	13	6	:	:
Value added (million EUR)	14	3	276	14	111	10	21	:	634	54	59	105	:
Purchases of goods and services (million EUR)	30	:	601	35	208	16	43	:	747	105	174	203	:
Personnel costs (million EUR)	12	:	164	11	81	5	15	:	285	29	36	91	:
Gross investment in tangible goods (million EUR) (4)	2.4	0.3	62.1	4.8	1.4	1.5	6.5	:	57.8	15.1	6.4	18.1	:
App. labour productivity (thous. EUR/pers. emp.) (3)	1.9	16.5	8.6	:	7.9	7.3	6.1	:	11.1	4.1	9.0	:	:
Simple wage adjusted labour productivity (%)	118.3	:	168.4	119.3	136.5	200.0	142.3	:	222.0	184.9	165.1	115.6	:
Gross operating rate (%)	5.9	:	13.1	4.2	7.8	19.2	10.2	:	26.4	17.6	9.4	4.3	:

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

Transport equipment

The provision of transport equipment is important as it allows the circulation of both individuals and freight. Demand for transport equipment is linked to the number of inhabitants, their needs for moving around (to/for work and for pleasure), as well as the amount and type of freight that has to be transported. Demand for private, individual forms of transport equipment, notably the passenger car, is often linked to consumer confidence and household expenditure patterns, whereas the business cycle dictates demand for freight transport. Demand for other types of transport equipment, such as ships, railway rolling stock or aerospace can fluctuate erratically, as each new order may be worth a significant share of the annual order book.

The transport equipment sector is often structured in the form of a pyramid, with parts and accessories' suppliers at the bottom feeding intermediate enterprises that develop complete systems, who in turn provide these to vehicle manufacturers. The transport equipment sector uses a wide range of materials from upstream manufacturing sectors, including mechanical engineering, metals, rubber, plastics and electronics.

STRUCTURAL PROFILE

The activity of transport equipment is one of the largest activities within the EU's manufacturing sector. In 2001, it accounted for 12.5 % of value added and 10.9 % of employment. Transport equipment's share in manufacturing value added fell to a low of 10.8 % during the economic slowdown in 1993, rising in subsequent years to 12.3 % by 1998. In the last three years for which data are available, the share of this sector in manufacturing value added remained at a fairly constant level (between 12.2 and 12.5 %).

The transport equipment sector is dominated by the manufacture of motor vehicles. NACE Group 34.1 accounted for 44.6 % of total value added in the transport equipment sector in 2000, while the second largest subsector was the manufacture of parts and accessories for motor vehicles (23.8 %), followed by aerospace (18.7 %) and shipbuilding (4.8 %). None of the remaining activities accounted for more than 4 % of the EU's value added that was generated within the transport equipment sector.

NACE Subsection DM, which is split between two divisions, covers the transport equipment sector. On the one hand, the manufacture of motor vehicles is covered by NACE Division 34, and, on the other, the manufacture of all other types of transport equipment (namely, shipbuilding, railway rolling stock, aerospace, motorcycles and bicycles, and other transport equipment) is covered by NACE Division 35. For details regarding transport services, please refer to Chapter 20.

NACE

34: manufacture of motor vehicles, trailers and semi-trailers;
34.1: manufacture of motor vehicles;
34.2: manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers;
34.3: manufacture of parts and accessories for motor vehicles and their engines;
35: manufacture of other transport equipment;
35.1: building and repairing of ships and boats;
35.2: manufacture of railway and tramway locomotives and rolling stock;
35.3: manufacture of aircraft and spacecraft;
35.4: manufacture of motorcycles and bicycles;
35.5: manufacture of other transport equipment n.e.c.

Table 12.1

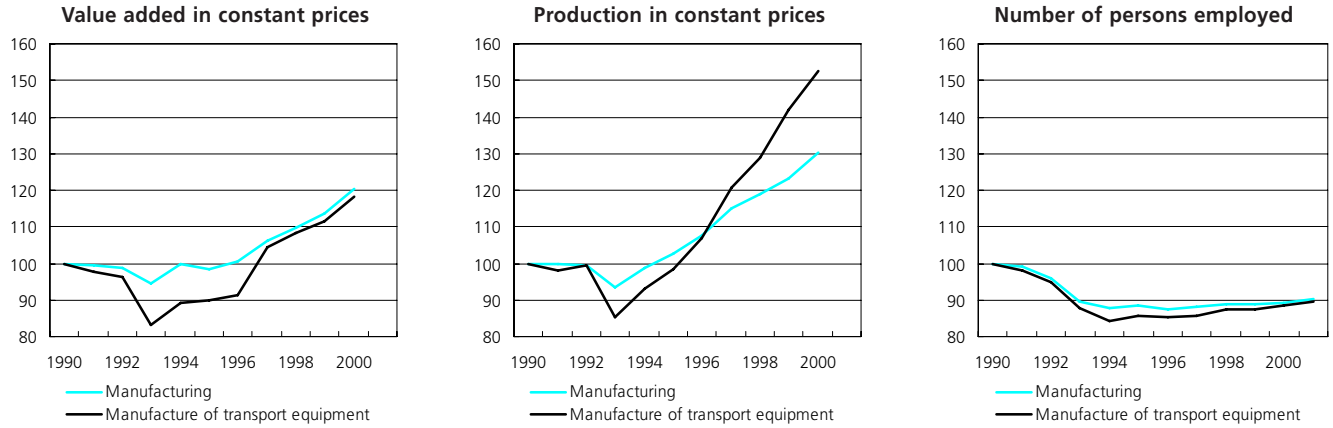
Manufacture of transport equipment (NACE Subsection DM)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	364 754	379 909	335 771	373 636	410 444	445 143	491 952	546 566	603 174	634 205	677 238
Number of persons employed (thousands)	2 828	2 737	2 530	2 430	2 467	2 455	2 471	2 516	2 520	2 554	2 577
Value added (million EUR)	113 958	115 468	102 570	112 124	117 427	119 194	133 235	143 755	147 524	156 360	165 820
Personnel costs (million EUR)	87 954	91 233	85 765	86 494	91 281	94 210	98 871	103 331	107 924	111 397	110 629
App. labour productivity (thous. EUR/pers. emp.)	40.3	42.2	40.5	46.1	47.6	48.5	53.9	57.1	58.5	61.2	64.3
Simple wage adjusted labour productivity (%)	129.6	126.6	119.6	129.6	128.6	126.5	134.8	139.1	136.7	140.4	149.9

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

Figure 12.1

Manufacture of transport equipment (NACE Subsection DM)
Main indicators in the EU (1990=100)



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

Between 1990 and 2000 there were some fairly significant shifts in the composition of the transport equipment sector. The relative importance of the aerospace industry increased rapidly in 1998 and 1999 (after showing little fluctuation during the first half of the 1990s), gaining almost 4 percentage points in terms of its share of value added. However, this was not the largest gain, as parts and accessories for motor vehicles saw their share of the EU's transport equipment sector's value added rise from 15.4 % in 1990 to 23.8 % by 2000. This dramatic shift can be explained when looking at those sectors that reported a decline, as the manufacture of motor vehicles reported an 8.5 percentage point reduction. It is likely that many motor vehicle manufacturers outsourced the manufacture of parts and accessories that they had previously manufactured in-house, sometimes by spinning off in-house suppliers as separate enterprises. The result has been a rapid switch in the composition of the transport equipment sector [(1)]. The only other activity to report a significant reduction in its share of transport equipment value added was shipbuilding, with a decline from 7.2 % in 1990 to 4.8 % by 2000.

Germany was the leading manufacturer of transport equipment in the EU in 2000, with more than one third (36.3 %) of the EU's value added. This was more than double the value added generated in either France or the United Kingdom (both around 16 %), while none of the remaining Member States (including Italy and Spain) accounted for more than 10 %. The high level of German output in this sector influenced the relative specialisation ratios of the remaining countries, which, with the exception of Sweden and France, were all below 100 %. German specialisation in the manufacture of transport equipment was some 25 % above the EU average in 2000.

The output of the EU's transport equipment sector rose at an average pace of 1.7 % per annum in real terms between 1990 and 2000, compared to 1.9 % per annum for the whole of the manufacturing sector. These similar rates hide the fact that the transport equipment sector experienced more pronounced cyclical fluctuations than those recorded by the manufacturing sector as a whole. It was already noted above that the relative share of transport equipment in manufacturing value added fell during the economic slowdown to its lowest level in 1993. On the other hand, between 1995 and 2000 (a period of economic expansion), the EU's transport equipment sector grew on average by 5.6 % per annum in real terms, which was 1.5 percentage points above the manufacturing average. Compared to 1999 real output in the EU's transport equipment sector rose by 6.2 % in 2000.

[(1)] It is likely that a similar outsourcing process took place in the aerospace, railway rolling stock and shipbuilding subsectors. However, the NACE classification does not distinguish between lead manufacturers and enterprises specialising in the production of parts and accessories for these activities and hence information on this phenomenon is not available from SBS data.

Given the high capital costs associated with producing transport equipment, it is not surprising to find that large enterprises (with 250 or more persons employed) accounted for a relatively high share of value added. Output was particularly concentrated in large enterprises in Germany and France, where more than 90 % of value added was generated in 2000. In Belgium, Spain, Austria (1999), Sweden and the United Kingdom, large enterprises accounted for more than 80 % of the value added generated in this sector.

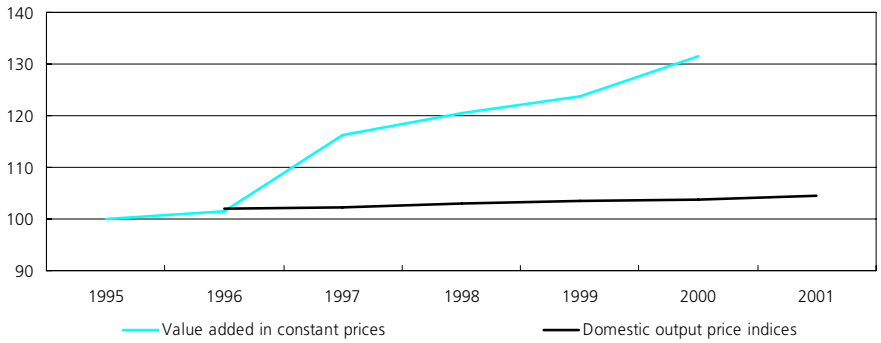
LABOUR AND PRODUCTIVITY

There were 2.6 million persons employed in the EU's transport equipment sector in 2001. Between 1990 and 1994 there was a net loss of 452 000 jobs in the transport equipment sector, after which there was a slow, but steady, upward progression in the number of persons employed, equivalent, on average, to 0.8 % per annum. Compared to 2000 employment growth in the EU's transport equipment sector in 2001 was consistent with the rates recorded during the second half of the 1990s, as the number of jobs expanded by 0.9 % net.

The majority of job losses in this sector were recorded for the manufacture of motor vehicles (NACE Group 34.1), where there was a net reduction of 252 000 jobs between 1990 and 2000 in the EU. There were also fairly substantial reductions over the same period in the building and repairing of ships and boats' subsector (NACE Group 35.1) where 96 000 jobs were lost and the aircraft and spacecraft subsector (NACE Group 35.3) where 82 000 jobs were lost. The only transport equipment subsector, at the level of NACE groups, to report a net increase in its number of persons employed was the manufacture of parts and accessories for motor vehicles (NACE Group 34.3). In this subsector employment expanded by 143 000 jobs.

Figure 12.2

Manufacture of transport equipment (NACE Subsection DM)
Value added in constant prices and output price indices for the EU (1995=100)



Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/ent_l_ms) and European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt/ebt_ind/ind_pric).

Table 12.2

Manufacture of transport equipment (NACE Subsection DM)
Labour productivity and personnel costs in the EU, 2001

	Apparent labour productivity (thousand EUR per person employed)	Simple wage adjusted labour productivity (%)
Manufacture of transport equipment	64.3	149.9
Manufacture of motor vehicles	61.8	125.1
Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	:	:
Manufacture of parts, accessories for motor vehicles	51.9	131.6
Building and repairing of ships and boats	42.6	128.5
Manufacture of railway, tramway locomotives, rolling stock	43.1	102.7
Manufacture of aircraft and spacecraft	81.6	158.9
Manufacture of motorcycles and bicycles	:	:
Manufacture of other transport equipment n.e.c.	:	130.9

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

The EU's transport equipment workforce is characterised by a fairly high proportion of men, some 84 % of the workforce, compared to a manufacturing average of 72 %. Among the Member States the majority of countries reported a similar trend, although more than 25 % of the workforce in Ireland and Portugal were women in 2001 [2].

The relatively low share of women in the workforce may be one reason why the EU's transport equipment sector reported a low propensity for part-time work: 3.3 % of those in employment in 2001 (while the manufacturing average was 7.5 %). Although a low share of the workforce worked part time, there was an increasing trend for part-time work, as the share of those working part time rose from 2.9 % in 1995.

Given the predominance of large enterprises, it is not surprising to find that the number of persons in self-employment was very low in comparison to other manufacturing activities. Some 98.1 % of the transport equipment workforce were employees in 2001, compared to a manufacturing average of 91.8 %.

The apparent labour productivity of the EU's transport equipment sector was EUR 64 000 of value added per person employed in 2001, compared to a manufacturing average of EUR 56 000 per person employed. In the Member States, apparent labour productivity was situated between EUR 28 000 (Greece, 1999) and EUR 76 000 (Sweden, 1999), a relatively narrow spread when compared to other sectors. In Spain, Austria (1999), Portugal and Sweden (1999), labour productivity was at least 20 % higher than the manufacturing average.

[2] L, not available.

Average personnel costs in the EU's transport equipment sector were higher than manufacturing averages in the majority of Member States in 2000 [3]. This was particularly the case in Germany (21 % higher), Spain (28 % higher) and Portugal (43 % higher).

Combining the relatively high levels of labour productivity and average personnel costs and taking account of the share of employees in persons employed, it is possible to look at the net result in terms of wage adjusted labour productivity. In most cases, the relatively high personnel costs outweighed productivity benefits, as only four Member States reported higher wage adjusted labour productivity ratios for transport equipment than for total manufacturing. The difference in France (1999) was less than 5 % higher, while in Austria (1999), Portugal and Sweden (1999) wage adjusted labour productivity was 12 %, 15 % and 19 % above the national manufacturing average in 2000. German wage adjusted labour productivity was lower than in any other country, as value added in the transport equipment sector exceeded personnel costs by 10 % in 2000.

[3] DK, F, IRL, A and S, 1999; EL, not available.

EXTERNAL TRADE

The EU's trade surplus in transport equipment goods (CPA Subsection DM) was EUR 50.2 billion in 2001. This figure was largely due to the trade performance for motor vehicles (CPA Division 34), where a surplus of EUR 43.8 billion was recorded. Between 2000 and 2001 there was rapid growth in EU exports (up 6.9 % in current prices), while imports increased at a more moderate pace, gaining 1.5 %.

Transport equipment is one of the most important subsections in terms of their contribution to the EU's trade balance. The goods covered in this chapter accounted for 18.4 % of the EU's exports of manufactured products in 2001. The most important destination for transport equipment products was the United States (36.7 % of the EU's exports), followed at a long distance by Switzerland (5.8 %) and Japan (4.0 %).

On the import side, transport equipment represented 14.4 % of the EU's manufactured imports from non-Community countries in 2001. The most important origin of these goods was the United States, which accounted for more than one third (36.5 %) of the EU's imports in 2001. Japan (15.1 %) was the only other country to register a double-digit share, although Japanese imports more than halved between 1991 and 2001. Hungary, Poland and the Czech Republic rapidly expanded their shares of the EU market, as their combined share of EU imports rose from just over 1.0 % in 1991 to 13.5 % by 2001.

Table 12.3

Transport equipment (CPA Subsection DM)
Extra-EU exports from the EU

	1991 (million EUR)	1991 (%)	2001 (million EUR)	2001 (%)	Change in export value 2001/1991 (%)	Change in export share 2001/1991 (% points)
Transport equipment	57 507.3	100.0	167 565.5	100.0	191.4	-
Motor vehicles	24 482.6	42.6	71 031.8	42.4	190.1	-0.2
Bodies (coachwork) for motor vehicles; trailers and semi-trailers	812.0	1.4	1 977.3	1.2	143.5	-0.2
Parts and accessories for motor vehicles and their engines	8 324.9	14.5	23 099.1	13.8	177.5	-0.7
Ships and boats	4 096.6	7.1	10 705.2	6.4	161.3	-0.7
Railway and tramway locomotives and rolling-stock	1 482.1	2.6	2 039.8	1.2	37.6	-1.4
Aircraft and spacecraft	17 721.8	30.8	57 112.3	34.1	222.3	3.3
Motorcycles and bicycles	530.6	0.9	1 502.9	0.9	183.3	0.0
Other transport equipment n.e.c.	56.7	0.1	97.2	0.1	71.3	0.0

Source: Eurostat, Comext.

Table 12.4

Transport equipment (CPA Subsection DM)
Extra-EU imports into the EU

	1991 (million EUR)	1991 (%)	2001 (million EUR)	2001 (%)	Change in import value 2001/1991 (%)	Change in import share 2001/1991 (% points)
Transport equipment	44 611.0	100.0	117 379.7	100.0	163.1	-
Motor vehicles	15 549.8	34.9	35 889.5	30.6	130.8	-4.3
Bodies (coachwork) for motor vehicles; trailers and semi-trailers	287.8	0.6	912.4	0.8	217.0	0.1
Parts and accessories for motor vehicles and their engines	3 971.3	8.9	15 495.9	13.2	290.2	4.3
Ships and boats	2 629.6	5.9	6 930.1	5.9	163.5	0.0
Railway and tramway locomotives and rolling-stock	336.8	0.8	1 143.8	1.0	239.7	0.2
Aircraft and spacecraft	18 795.3	42.1	51 788.9	44.1	175.5	2.0
Motorcycles and bicycles	3 009.1	6.7	4 995.3	4.3	66.0	-2.5
Other transport equipment n.e.c.	31.3	0.1	223.8	0.2	614.8	0.1

Source: Eurostat, Comext.

12.1: MOTOR VEHICLES

Division 34 of the NACE classification is concerned with the manufacture of motor vehicles, trailers and semi-trailers. It contains three NACE groups, the first two of which are included in this subchapter. The manufacture of motor vehicles is classified under NACE Group 34.1, while the manufacture of bodies for motor vehicles, trailers and semi-trailers is included within NACE Group 34.2. The data for these two NACE groups are presented in the form of an aggregate covering both activities, referred to as the motor vehicles' subsector.

The motor vehicles' subsector is a key industry in the EU economy, characterised by very few vehicle manufacturing enterprises and a substantial number of suppliers to which production of parts and accessories is outsourced (see the next subchapter for more details). Structural change has led to a strengthening of the positions of the six truly global passenger car manufacturers (General Motors, Ford, DaimlerChrysler, Toyota, Volkswagen and Renault-Nissan). The trucks, buses and coaches' subsector has also witnessed consolidation, with Volvo-Renault, Scania (partly acquired by Volkswagen), Iveco, DaimlerChrysler, MAN and DAF the main players.

The production of motor vehicles has been characterised by a reduction in the number of relationships that exist between vehicle manufacturers and suppliers of parts and accessories, as the industry has built up a pyramidal structure. These changes may have helped to reduce the time it takes to go from design to production, with cost reductions coming from exercises such as platform-sharing, computerised stock control and e-purchasing.

The European Commission has worked on improving the internal market through the introduction of the EC whole vehicle type-approval system, which allows manufacturers to have a vehicle approved in one Member State and then be able to market it in all other Member States without further tests.

STRUCTURAL PROFILE

The motor vehicles' sector in the EU generated some EUR 72.3 billion of value added in 2000 [4]. Germany accounted for 44.4 % of this total, while France (17.6 %) was the only other country to report more than a 10 % share. In relative terms, Sweden was highly specialised in the manufacture of motor vehicles, as this subsector represented 72 % of Swedish value added in the transport equipment sector in 1999. In comparison, the motor vehicles' subsector was responsible for 27 % of transport equipment value added in the United Kingdom (2000) and 14 % of the total in Greece (1999).

According to the Association des Constructeurs Européens d'Automobiles (ACEA, association of European motor vehicle constructors), some 15.0 million new passenger cars were produced in the EU in 2001 (see Table 12.5). In the same year, the output of light commercial vehicles (of 3.5 tonnes or less) was 1.9 million units, while that of trucks (of more than 3.5 tonnes) was 368 000 units.

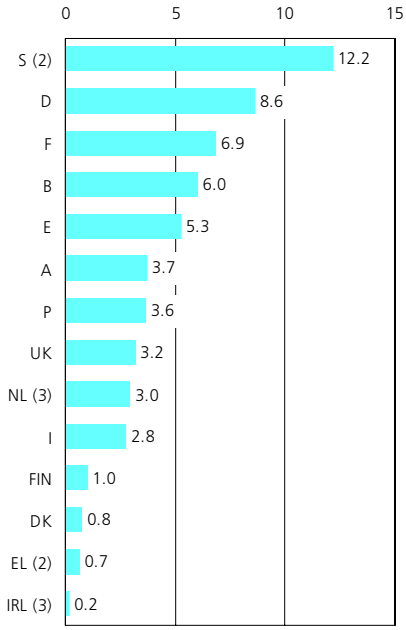
There is overcapacity in the motor vehicles' subsector in both the EU and worldwide, which has resulted in plant closures. However, additional capacity is still coming on-stream, both within the EU (for example, Toyota in France), as well as in the candidate countries and further east (Ukraine). The principal constructors of passenger cars in the EU are detailed in Table 12.6.

During the 1990s, the size of the motor vehicles' subsector decreased in the majority of Member States in both absolute and relative terms. For example, in Germany, value added in constant prices fell between 1990 and 2000 by 0.6 % per annum, while the share of the motor vehicles' subsector in transport equipment value added fell from 67 to 57 %.

[4] EL and S, 1999; IRL and NL, 1998; L, not available.

Figure 12.3

Manufacture of motor vehicles, bodies (coachwork) for motor vehicles, trailers and semi-trailers (NACE Groups 34.1 and 34.2) 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).

Table 12.5

Breakdown of motor vehicle production in the EU (thousands)

	1995	1996	1997	1998	1999	2000	2001
Passenger cars	12 636	13 061	13 451	14 510	14 933	14 779	14 951
Light commercial vehicles (<3.5 tonnes)	1 318	1 393	1 570	1 675	1 617	1 869	1 862
Trucks (>3.5 tonnes)	349	310	335	379	394	400	368
Buses	31	32	37	35	34	35	34

Source: ACEA.

Table 12.6

Breakdown of motor vehicle new registrations by manufacturer in Western Europe, 2001 (units) (1)

	Passenger cars	Light commercial vehicles (<3.5 tonnes)	Trucks, buses and coaches (>3.5 tonnes)
Total	14 822 857	1 859 242	392 501
Volkswagen	2 795 763	168 067	3 062
PSA	2 140 357	364 385	222
Ford	1 647 852	214 689	1 281
GM	1 599 738	88 594	1 010
Renault	1 575 264	287 301	44 231
Japanese manufacturers	1 546 031	230 511	6 549
Fiat	1 419 027	264 142	63 305
DaimlerChrysler	942 058	168 843	91 701
BMW	542 551	2 539	-
Korean manufacturers	410 982	39 412	50
Rover	160 429	677	-
Man	-	-	52 039
Volvo Trucks	-	-	41 147
Scania	-	-	33 722
DAF	-	15	35 243

(1) EU-15 (excluding L), with CZ, HU and SK.
Source: ACEA.

LABOUR AND PRODUCTIVITY

There were 1.22 million persons employed in the EU's motor vehicles' subsector in 2000. This was a fall of 22 000 persons employed compared to 1999. Germany was by far the largest employer, with 565 000 persons employed, equivalent to 46 % of the EU total.

The motor vehicles' subsector was characterised in the late 1990s by a number of Member States reporting a decline in their apparent labour productivity. This trend was observed in Germany, Spain, Italy and the United Kingdom between 1997 and 2000 (5).

(5) EL, IRL, L, NL, A and S, incomplete data for 1997-2000 or not available.

EXTERNAL TRADE

There are many American or Asian manufacturers who produce the majority of their motor vehicles for European consumption within the single market and likewise there is a growing trend for European manufacturers to establish manufacturing locations outside of the EU. External trade statistics record only the physical trade in goods between countries and do not include establishment trade (6).

(6) Trade within an enterprise that is ultimately majority controlled by a non-resident entity, for example, a Japanese car manufacturer with a production plant in the EU.

Motor vehicles accounted for 43.6 % of the EU's exports of transport equipment goods in 2001, while their corresponding share of imports was 31.4 %. The EU ran an EUR 36.2 billion trade surplus for motor vehicles in 2001. Between 1991 and 2001 the value of exports and imports of motor vehicles rose at a fairly rapid pace, growing 2.8-fold for exports and 2.3-fold for imports.

Japan was the most important origin of EU imports of motor vehicles, accounting for 29.1 % of the total in 2001. This share was greatly reduced when compared to 1991, when Japan was the origin of just over 70 % of imports. Hence, there was a rapid change in the composition of imports during the period 1991 to 2001, as imports from Hungary, Poland, the Czech Republic and South Korea grew rapidly. Imports originating from Hungary accounted for just 0.3 % of the EU's imports in 1991, a share that rose to 12.3 % by 2001 (supplanting the United States as the second most important origin of EU imports).

As regards EU exports, the United States was the most important market, accounting for just over one third (34.9 %) of all exports in 2001. Other than the United States, whose share in EU exports rose by 13.8 percentage points between 1991 and 2001, Australia, Russia, South Africa and Mexico were the only countries to report that their share of EU exports rose by more than 1 percentage point.

Table 12.7

Motor vehicles; bodies (coachwork) for motor vehicles; trailers and semi-trailers (CPA Groups 34.1 and 34.2)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	25 295	25 355	30 336	37 255	40 669	44 294	50 407	52 056	52 166	66 657	73 009
Extra-EU imports (million EUR)	15 838	16 706	14 401	14 343	15 228	16 768	22 187	28 187	33 170	36 108	36 802
Trade balance (million EUR)	9 457	8 649	15 936	22 913	25 441	27 526	28 219	23 868	18 996	30 549	36 207
Cover ratio (%)	159.7	151.8	210.7	259.8	267.1	264.2	227.2	184.7	157.3	184.6	198.4

Source: Eurostat, Comext.

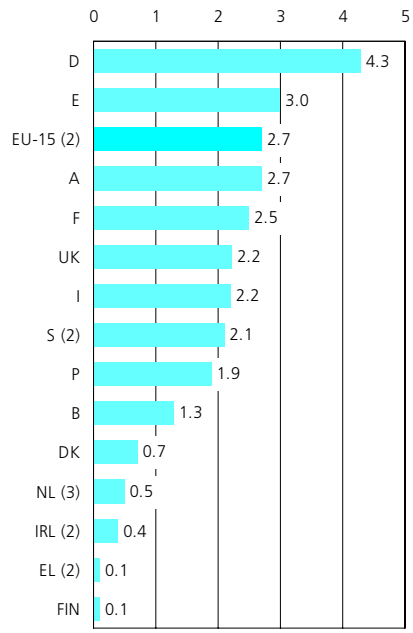
12.2: MOTOR VEHICLE PARTS AND ACCESSORIES

This subchapter covers the one remaining NACE group from Division 34, namely, the manufacture of parts and accessories for motor vehicles and their engines (NACE Group 34.3). The data presented in this subchapter do not cover the manufacture of tyres (Chapter 6), batteries or electrical equipment, as used in motor vehicles (Chapter 11).

Demand for motor vehicle parts and accessories is usually spilt into that for original equipment (OE) which is supplied to vehicle manufacturers, and that for replacement parts, often referred to as the 'after-market' (AM). Vehicle manufacturers tend to only deal with tier-one suppliers, who assemble complete systems (like brakes or steering), whereas in the AM market there are literally thousands of small enterprises competing with branded, replacement parts and accessories. AM demand is usually more stable, as it is largely driven by the necessity to change a faulty or worn part, whereas demand for OE is largely a function of the number of vehicles that are being built.

Figure 12.4

Manufacture of parts, accessories for motor vehicles (NACE Group 34.3)
Share of value added in manufacturing, 2000 (%) (1)



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

STRUCTURAL PROFILE

The value added generated in the motor vehicle parts and accessories' subsector was EUR 35.4 billion in 2000, equivalent to 23.8 % of the transport equipment total. Germany accounted for 45.6 % of the EU's value added in 2000 and was also the most specialised country. Indeed, such was the importance of German manufacturers of parts and accessories that Spain was the only other country to report that it was relatively specialised in this subsector [7].

The output of the parts and accessories' subsector grew at a rapid pace during the 1990s, partly as a result of the switch in emphasis of vehicle manufacturers who tended to focus on their core activities, while selling their parts and accessories' businesses. Between 1990 and 2000 the share of the parts and accessories' subsector in the total value added for transport equipment rose from 15 % to almost 24 %. More rapid structural change was reported in Denmark, Germany, Italy, Austria and the United Kingdom, where the parts and accessories' subsector gained an even larger share of transport equipment value added.

[7] EL, IRL and S, 1999; NL, 1998; L, not available.

LABOUR AND PRODUCTIVITY

There were 681 000 persons employed in the vehicle parts and accessories' subsector in 2000, equivalent to one quarter of the EU's transport equipment workforce. In 1990, this subsector employed 538 000 persons, as such there was an average increase in the number of persons employed of 2.4 % per annum.

Apparent labour productivity in the parts and accessories' subsector was generally within the range of EUR 40 000 to EUR 60 000 per person employed in 2000. The only exceptions to this rule were Austria on the high side and Portugal and Greece on the low side [8]. The manufacture of parts and accessories is a fairly labour-intensive activity, as shown by the fact that only Austria and Finland reported that their labour productivity was higher in this subsector than for the whole of transport equipment.

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

EXTERNAL TRADE

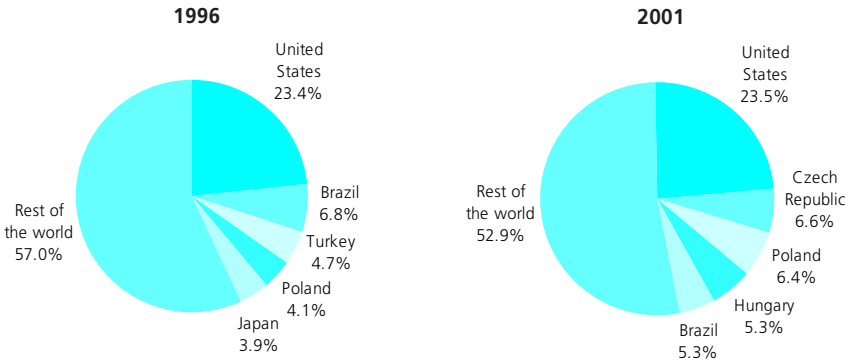
The EU ran a trade surplus for vehicle parts and accessories which equated to EUR 7.6 billion in 2001. Exports increased 2.7-fold between 1991 and 2001, while imports rose 3.9-fold. During this time the EU's trade surplus expanded between 1992 and 1997, followed by two years of contraction. In 2000, both imports and exports grew rapidly (by just over 25 %) and this resulted in a further widening of the trade surplus. The latest data available for 2001 show that exports of parts and accessories fell for the first time since 1992, while there was a 6.7 % increase in imports.

The evolution of the EU's trading partners for parts and accessories resembled closely that for motor vehicles, with the share of Japan in EU imports falling from 40.0 % in 1991 to 20.5 % by 2001. During the same period there was rapid growth in the shares of the Czech Republic (reaching 11.6 % in 2001), Poland (7.5 %) and Hungary (6.8 %).

The United States was the most important market for exports, accounting for almost one quarter (23.5 %) of the EU's exports in 2001. The Czech Republic, Poland, Hungary, Brazil and Mexico each accounted for between 5 and 7 % of the EU's exports in 2001.

Figure 12.5

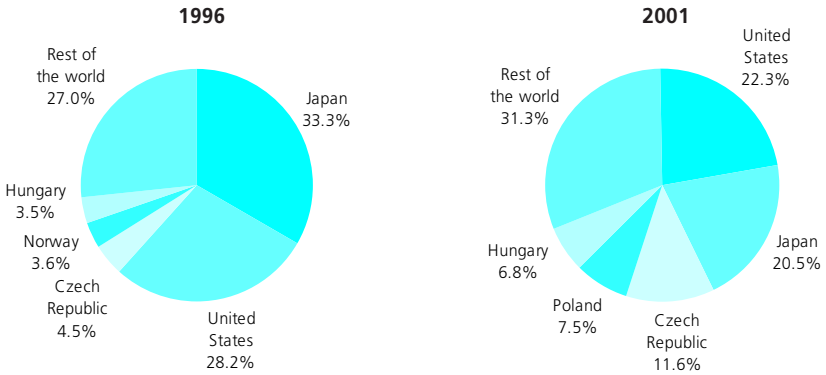
Parts and accessories for motor vehicles and their engines (CPA Group 34.3)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 12.6

Parts and accessories for motor vehicles and their engines (CPA Group 34.3)
Origin of extra-EU imports



Source: Eurostat, Comext.

12.3: AEROSPACE EQUIPMENT

This subchapter includes information on the production of aircraft that are used for the transport of passengers or freight, as well as military applications. These activities are classified together within NACE Group 35.3. The data presented also cover other means of air transport, for example, gliders, balloons and spacecraft, as well as the manufacture of parts and accessories that are used in the construction of aircraft and spacecraft.

The aerospace industry is also characterised by a pyramidal structure, with a very limited number of global players and high levels of concentration. Nowhere is this more evident than in the market for large, civilian aircraft, where there are just two major producers in the world, Airbus and Boeing.

The demand for aerospace equipment can fluctuate significantly in response to the economic climate (as both business and leisure travel are reduced in times of economic slowdown). Otherwise, shocks such as the terrorist attacks on 11 September 2001 can also significantly influence the demand for air travel and lead to cancellations or a lack of new orders.

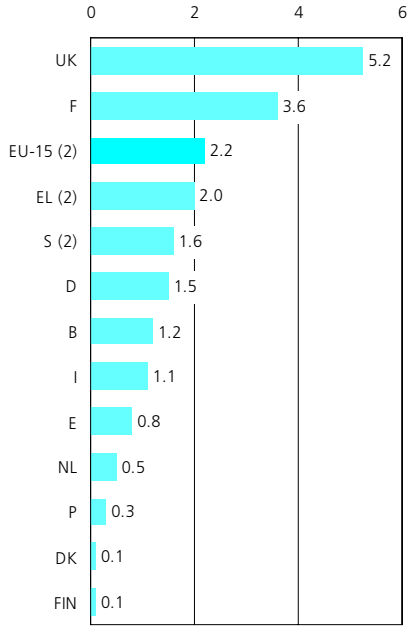
STRUCTURAL PROFILE

The EU's aerospace sector generated EUR 28 billion of value added in 2000. The United Kingdom was the largest producer of aerospace equipment (in terms of value added), generating EUR 11 billion or approximately 40 % of the EU total. France and Germany both created more than 20 % of the EU's value added in 2000. In relative terms, France and the United Kingdom were the only countries in the EU to report that they were relatively specialised in the manufacture of aerospace equipment.

The aerospace sector is highly research-intensive, accounting for at least 10 % of intramural business enterprise expenditure on R & D in France, Italy, Spain and the United Kingdom in the late 1990s and 9.1 % of German R & D in the business economy. Given the significant economies of scale and the high concentration of enterprises, it is perhaps not surprising to find that the level of intramural expenditure on aerospace R & D was very low outside of the five largest economies in the EU.

Figure 12.7

Manufacture of aircraft and spacecraft (NACE Group 35.3)
Share of value added in manufacturing, 2000 (%) (1)



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

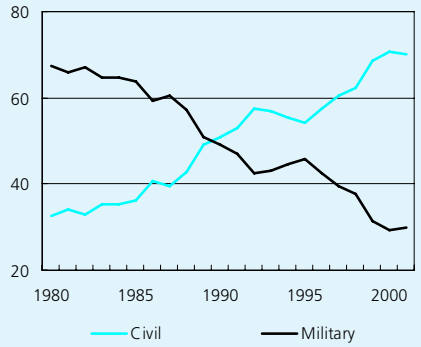
The European Association of Aerospace Industries (AECMA) provides information on the aerospace market in terms of consolidated turnover. This shows that during the last two decades there was a rapid shift in demand between the civil and military sectors (see Figure 12.8). The growing importance of the civilian sector continued throughout the period considered, such that by 2000 its share of the whole aerospace market had reached 70.8 %.

There were two subsectors that together generated almost half of the aerospace industry's turnover in 2000: the manufacture of large civilian aircraft (25 % of the total) and aircraft maintenance (22 %). The only other subsectors that accounted for more than 10 % of total turnover were the manufacture of military aircraft and the manufacture of aircraft engines (see Table 12.8).

Size class data confirm the importance of large enterprises in this subsector. In 2000, more than 90 % of the value added in each of the three major producing countries (Germany, France and the United Kingdom) was generated by large enterprises.

Figure 12.8

Breakdown of consolidated turnover in the aerospace industry of the EU (%)



Source: AECMA, available at http://www.aecma.org.

Table 12.8

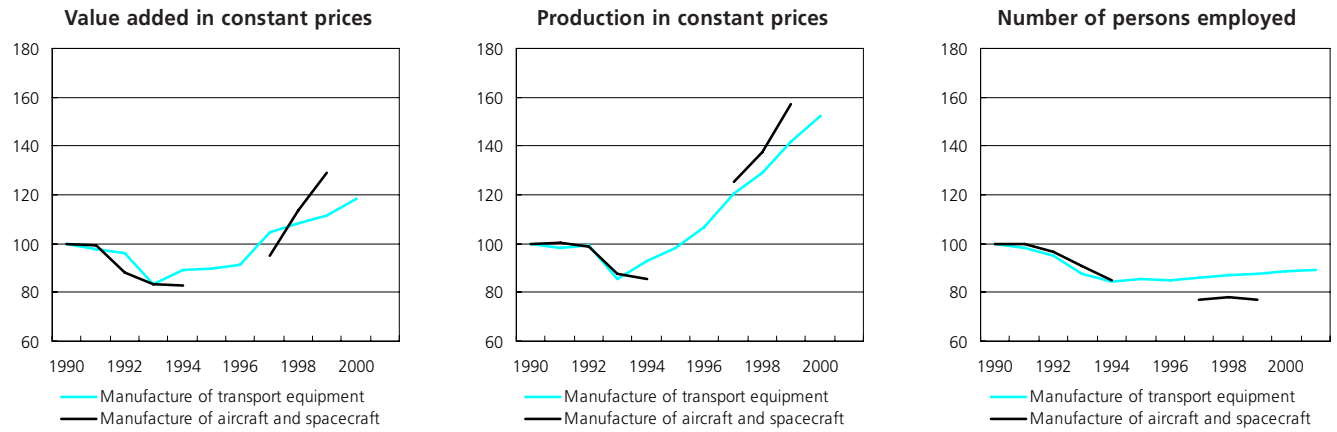
Breakdown of consolidated turnover in the aerospace industry in the EU, 2001

	(million EUR)	(% of higher aggregate)
Total	80 600	100.0
Aircraft	73 507	91.2
Aircraft final products (1)	36 754	45.6
Large civil aircraft	20 398	55.5
Regional aircraft	1 286	3.5
Business jets	1 507	4.1
Helicopters	3 933	10.7
Military aircraft	9 629	26.2
Aerostructures	3 143	3.9
Aircraft engines	9 430	11.7
Aircraft equipment	6 529	8.1
Aircraft maintenance	17 651	21.9
Missiles (1)	2 257	2.8
Space (1)	4 836	6.0

(1) Data comprise EU and non-EU supplied engines and equipment.
Source: AECMA, available at http://www.aecma.org.

Figure 12.9

Manufacture of aircraft and spacecraft (NACE Group 35.3)
Main indicators in the EU (1990=100)



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

Table 12.9

Aircraft and spacecraft (CPA Group 35.3)
External trade indicators for the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Extra-EU exports (million EUR)	17 722	19 886	22 654	23 189	25 392	27 097	36 030	40 548	43 374	52 930	57 112
Extra-EU imports (million EUR)	18 795	16 189	17 881	18 044	17 417	20 245	29 765	36 482	44 650	50 877	51 789
Trade balance (million EUR)	-1 073	3 697	4 773	5 145	7 975	6 852	6 265	4 067	-1 276	2 053	5 323
Cover ratio (%)	94.3	122.8	126.7	128.5	145.8	133.8	121.0	111.1	97.1	104.0	110.3

Source: Eurostat, Comext.

LABOUR AND PRODUCTIVITY

There were 341 000 persons employed in the EU's aerospace sector in 2000. This figure was considerably lower than in 1990, when there had been 423 000 persons employed. The workforce in the United Kingdom accounted for about 35 % of the total, while France (23 %) and Germany (21 %) both employed more than one fifth of those employed in the EU.

Apparent labour productivity in 2000 was highest in the United Kingdom (EUR 93 000 per person employed), followed by France and Germany (both over EUR 80 000) [9]. Generally, productivity levels were higher than in the manufacturing sector, with only the Nordic countries of Denmark, Finland and Sweden reporting that labour productivity in the aerospace sector was below the manufacturing average. Productivity levels were at least 50 % higher than the manufacturing average in Spain and the United Kingdom.

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

EXTERNAL TRADE

Aerospace products make an important contribution to the EU's external trade position. In 2001 these products accounted for 34.1 % of all transport equipment that was exported and 44.1 % of imports. The EU ran a trade surplus of EUR 5.3 billion on exports that were valued at EUR 57.1 billion.

France had by far the largest export value (intra- and extra-EU trade) among the Member States, some EUR 51.8 billion of aerospace exports in 2001, which was more than double the next highest value recorded in Germany (EUR 24.0 billion). France also imported the largest value of aerospace products (EUR 42.2 billion). The resultant trade surplus for France was by far the largest in the EU, at EUR 9.6 billion. Germany (EUR 3.9 billion) and the United Kingdom (EUR 3.2 billion) were the only other countries to report sizeable surpluses, although Belgium and Sweden also recorded a positive trade situation in 2001.

The share of EU aerospace exports that were destined for the United States rose from 28.7 % of the total in 1996 to 47.8 % by 2001. The EU's other main export partners in 2001 included Switzerland, Canada, Brazil (all major aircraft-producing nations), Hong Kong, the United Arab Emirates and China. A similar list of countries appeared in the ranking of EU imports. Two thirds (66.9 %) of the EU's imports originated from the United States, while Canada and Switzerland were the only other countries to account for more than 5 %.

12.4: MISCELLANEOUS TRANSPORT EQUIPMENT

This miscellaneous grouping brings together the remaining activities within the transport equipment sector. It includes information on the building of ships and boats (NACE Group 35.1), the manufacture of railway and tramway locomotives and rolling stock (NACE Group 35.2), the manufacture of motorcycles and bicycles (NACE Group 35.4) and the manufacture of other transport equipment (NACE Group 35.5).

BUILDING AND REPAIRING OF SHIPS AND BOATS (NACE GROUP 35.1)

The building and repairing of ships and boats is the largest activity of the four NACE groups covered in this subchapter. Shipbuilding is an activity that has seen its output decline in recent years across the EU. Value added in constant prices fell on average by 3.0 % per annum between 1990 and 1999, while the number of persons employed was reduced, on average, by 4.2 % per annum over the same period. By 2000 the EU's workforce was composed of 166 200 persons and its value added was EUR 7.1 billion.

The largest producer of ships and boats was the United Kingdom, where value added was EUR 1.7 billion in 2000, considerably higher than in Germany (EUR 1.1 billion), the only other country to report output above EUR 1 billion.

The United Kingdom also reported the highest level of apparent labour productivity (EUR 56 000 per person employed), with most other countries within the range of EUR 40 000 to EUR 50 000 per person employed [10]. Portugal was the only country to report that its productivity in this subsector was higher than its manufacturing average.

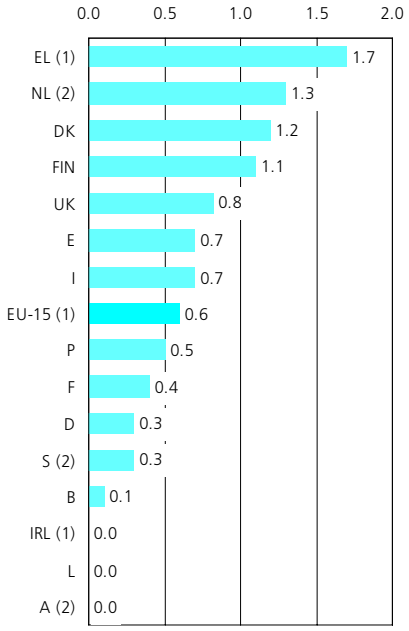
Table 12.11 shows the breakdown of the world shipbuilding market in terms of both new orders and completions. Data are presented for the two largest producers in the world, namely Japan and South Korea, as well as Europe [11]. It is evident that there has been a rapid expansion in the South Korean shipbuilding sector, with its share of world shipbuilding completions rising by 6.7 percentage points between 1997 and 2001 to 30.2 %.

The medium-term outlook would suggest that the South Korean share of world completions is likely to fall as its share of new orders was reduced from 35.8 % in 2000 to 29.9 % in 2001. The contraction of new orders for European shipbuilders was even more pronounced in 2001, down from 24.8 % in 2000 to 17.1 %.

The EU exported ships and boats to the value of EUR 10.7 billion in 2001, while importing EUR 6.9 billion. Despite running a trade surplus of some EUR 3.8 billion, there has been rapid growth in the level of EU imports. Between 1997 and 2001, imports of ships and boats rose by 131.8 %, while exports grew by 36.3 %.

[10] EL and IRL, 1999; S, 1998; L, NL and A, not available.
[11] EU-15, NO, PL and RO; data for RO are only included from 2000.

Figure 12.10
Building and repairing of ships and boats (NACE Group 35.1)
Share of value added in manufacturing, 2000 (%)



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

Table 12.10
Building and repairing of ships and boats (NACE Group 35.1)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	21 130	20 773	17 977	18 845	19 104	21 211	22 026	24 390	23 838	:	:
Number of persons employed (thousands)	251	235	212	200	191	185	179	179	177	166	:
Value added (million EUR)	8 101	8 125	6 783	6 673	6 623	6 590	6 503	7 082	7 296	7 087	:
Personnel costs (million EUR)	6 512	6 359	5 824	6 190	5 706	5 707	5 670	5 679	5 557	5 516	:
App. labour productivity (thous. EUR/pers. emp.)	32.3	34.5	31.9	33.4	34.7	35.6	36.4	39.6	41.1	42.6	:
Simple wage adjusted labour productivity (%)	124.4	127.8	116.5	107.8	116.1	115.5	114.7	124.7	131.3	128.5	:

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

External trade statistics for ships and boats are often distorted by the existence of so-called flags of convenience in countries such as Liberia, the Bahamas or Bermuda. These countries often appear near the top of the rankings for trading partners, while the owners of ships and boats are likely to reside elsewhere (be they enterprises or individuals).

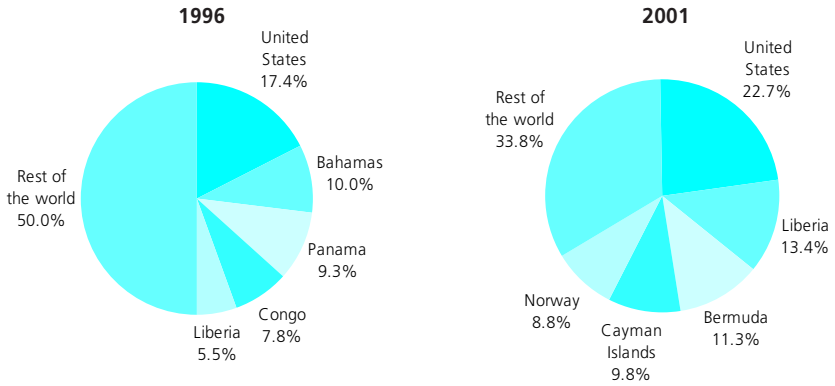
South Korea and Japan have traditionally been the two most important origins of EU imports of ships and boats. There was a substantial decline in the relative share of Japan in EU imports between 1991 and 1996 (down from 23.2 to 7.9 %), after which the Japanese share of the EU market picked up to reach 9.9 % by 2001. On the other hand, the share of South Korea grew throughout the 1990s, although there was a decline in its share between 2000 and 2001 (from 20.3 to 18.2 %).

Table 12.11
Breakdown of the world shipbuilding market (%) (1)

	1997	1998	1999	2000	2001
Completions					
Europe (2)	23.7	24.8	23.4	24.4	23.6
South Korea	23.5	20.3	24.9	32.4	30.2
Japan	37.2	38.0	34.6	30.9	32,1
Rest of the world	15.6	16.9	17.1	12.2	14.1
New orders					
Europe (2)	17.1	28.5	21.1	24.8	17.1
South Korea	27.5	24.4	32.5	35.8	29.9
Japan	39.1	31.3	26.3	25.5	33.3
Rest of the world	16.3	15.7	20.1	13.9	19.7

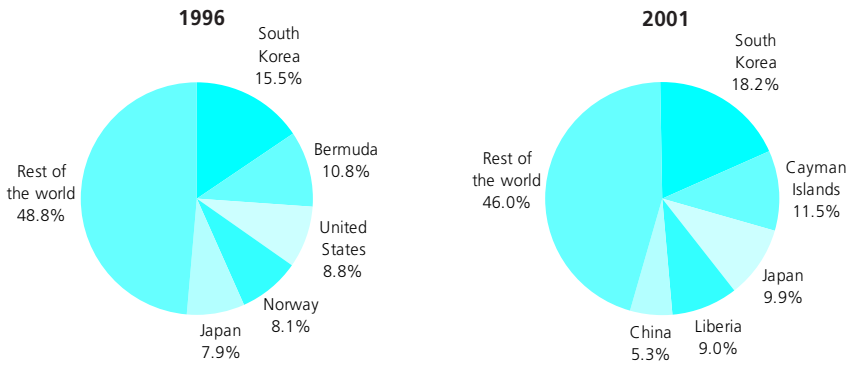
(1) All data are based on compensated gross tonnage.
(2) EU-15, NO, PL and RO; data for RO are only included from 2000.
Source: Lloyd's Register of Shipping in AWES Annual Report 2001-2002.

Figure 12.11
Ships and boats (CPA Group 35.1)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 12.12
Ships and boats (CPA Group 35.1)
Origin of extra-EU imports



Source: Eurostat, Comext.

MANUFACTURE OF RAILWAY AND TRAMWAY LOCOMOTIVES AND ROLLING STOCK (NACE GROUP 35.2)

EU value added in the railway and tramway subsector was EUR 3.7 billion in 2000. In constant price terms output rose on average by 2.3 % per annum between 1990 and 1999, while the number of persons employed fell by 1.6 % per annum. In 2000 the workforce of the railway and tramway subsector numbered 85 400 persons.

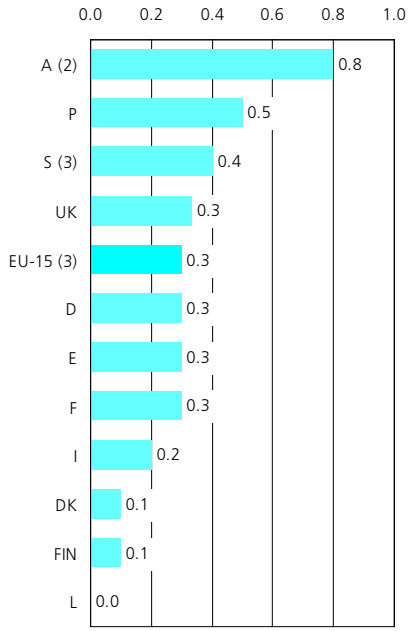
Germany was the largest producer in the railway and tramway subsector, accounting for 32 % of the EU's value added in 2000.

The highest level of apparent labour productivity was recorded in the United Kingdom (EUR 58 000 per person employed). Austria, Denmark, Portugal and Spain were the only countries to report that their labour productivity in this subsector was higher than their manufacturing average. Three of these countries [12] also reported relatively high average personnel costs that were also above their respective manufacturing averages. German wage adjusted labour productivity was below 100 % for six consecutive years between 1995 and 2000.

[12] DK, not available.

Figure 12.13

Manufacture of railway, tramway locomotives, rolling stock (NACE Group 35.2)
Share of value added in manufacturing, 2000 (%) (1)



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

The EU's trade surplus in railway and tramway products equalled EUR 896 million in 2001. This figure was at the low end of the range recorded during the period 1991 to 2001 (surpluses of between EUR 660 million and EUR 1 400 million).

Table 12.12

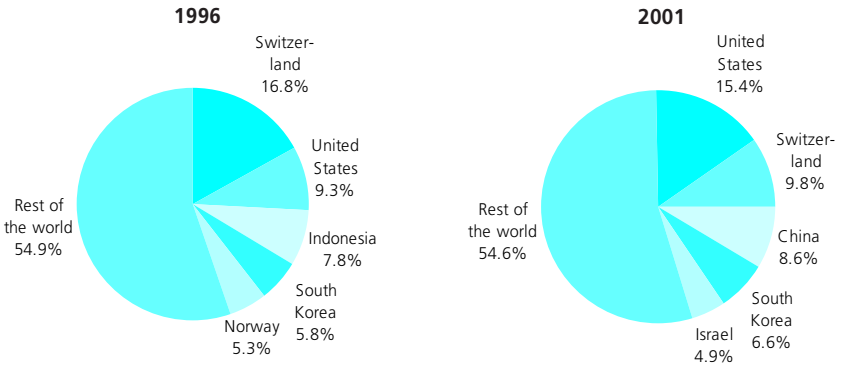
Manufacture of railway, tramway locomotives, rolling stock (NACE Group 35.2)
Main indicators in the EU

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (million EUR)	7 404	8 723	9 890	9 544	9 539	:	11 764	12 353	12 591	:	:
Number of persons employed (thousands)	96	100	103	94	88	:	86	84	84	85	:
Value added (million EUR)	2 950	3 293	3 714	3 468	3 362	:	3 728	2 964	3 906	3 678	:
Personnel costs (million EUR)	2 603	2 861	3 173	3 046	3 010	:	3 271	3 255	3 418	3 582	:
App. labour productivity (thous. EUR/pers. emp.)	30.7	33.0	36.0	36.8	38.2	:	43.2	35.5	46.4	43.1	:
Simple wage adjusted labour productivity (%)	113.3	115.1	117.1	113.9	111.7	:	114.0	91.1	114.3	102.7	:

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

Figure 12.14

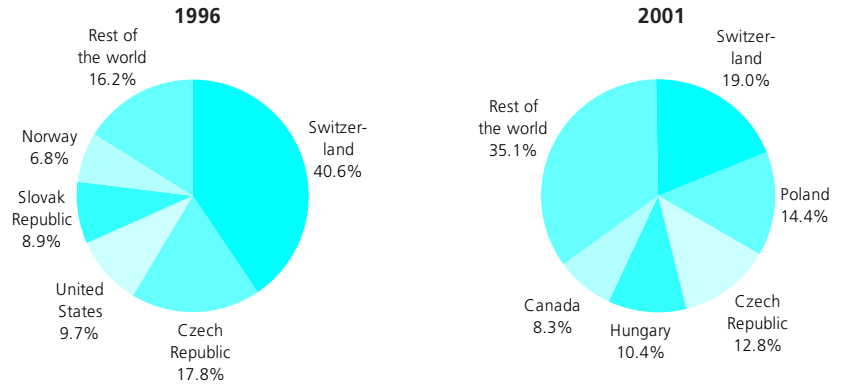
Railway and tramway locomotives and rolling-stock (CPA Group 35.2)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 12.15

Railway and tramway locomotives and rolling-stock (CPA Group 35.2)
Origin of extra-EU imports



Source: Eurostat, Comext.

Table 12.13

Production of bicycles and motorcycles in the EU, 2000 (units) (1)

	Sold production or production for sale
Non-motorized bicycles and other cycles, with ball bearings (2)	10 399 871
Non-motorized bicycles and other cycles, without ball bearings	2 045 391
Motorcycles with an engine capacity <= 50 cm³	1 252 080
Scooters with an engine capacity > 50 cm³ but <= 250 cm³	356 546
Motorcycles with an engine capacity > 50 cm³ but <= 250 cm³ (excl. scooters) (3)	73 065
Motorcycles with an engine capacity > 250 cm³ but <= 500 cm³	30 423
Motorcycles with an engine capacity > 800 cm³	128 627

(1) The table shows a selection of headings where an EU total is available within CPA Group 35.4; please note that for the following headings there is no EU data available - motorcycles with an engine capacity > 500 cm³ but <= 800 cm³; cross and BMX bicycles; mountain bikes; U - frame multisize cycles; touring cycles; sports cycles; racing cycles.
(2) 1998.
(3) 1999.
Source: Eurostat, European production and market statistics (theme4/europrom).

MANUFACTURE OF MOTORCYCLES AND BICYCLES (NACE GROUP 35.4)

Recent EU totals are unavailable for value added in this subsector. However, a partial total for 2000 can be calculated, with value added for 13 Member States equal to EUR 2.1 billion [13]. Italy dominated the output of motorcycles and bicycles, with almost half (44.5 %) of the EU total. There were 47 600 persons employed in this subsector in 2000 [14].

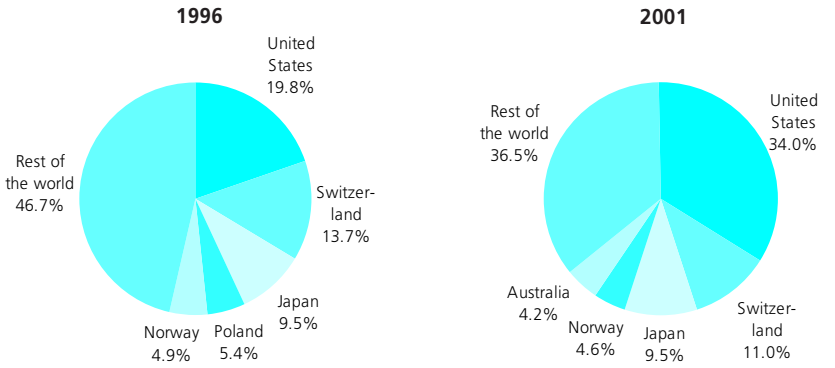
Prodcom data (see Table 12.13) is available for a number of headings in CPA Group 35.4 and this suggests that there were approximately 1.9 million mopeds and motorcycles produced in the EU in 2000 and some 12 million bicycles.

Motorcycles and bicycles are one of the rare transport equipment product Groups to report a trade deficit. In 2001, the EU's deficit equalled EUR 3.5 billion, with imports valued at EUR 5.0 billion. The main origin of imports was Japan, which accounted for more than half of the EU's imports of motorcycle and bicycles in 2001 in value terms (compared to 58.3 % of the total in 1991). Together with Taiwan and the United States, these three countries accounted for more than three quarters of the EU's imports. A large share of the remaining imports originated from Asian countries, such as China, Vietnam, Malaysia and India.

[13] S, 1999; EL and NL, 1998; B and IRL, not available.
[14] EL and S, 1999; B and IRL, not available.

Figure 12.16

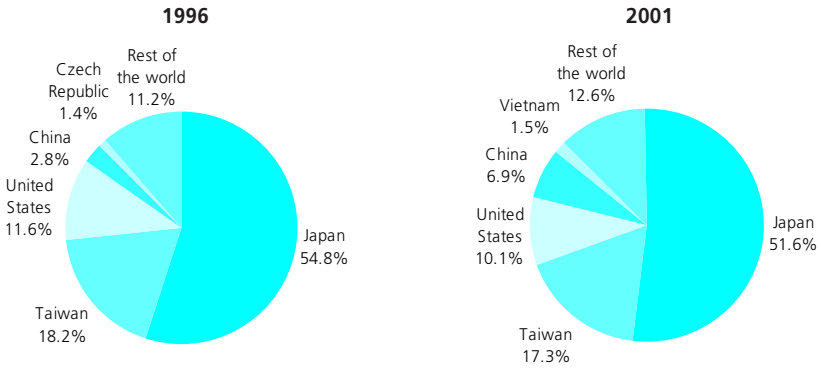
Motorcycles and bicycles (CPA Group 35.4)
Destination of extra-EU exports



Source: Eurostat, Comext.

Figure 12.17

Motorcycles and bicycles (CPA Group 35.4)
Origin of extra-EU imports



Source: Eurostat, Comext.

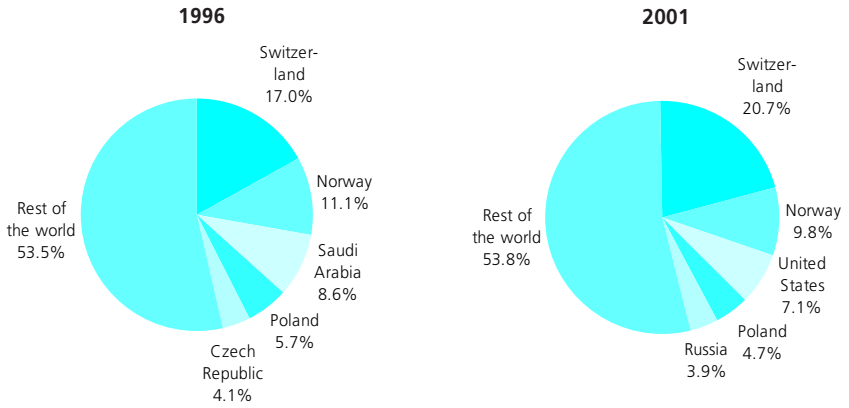
MANUFACTURE OF OTHER TRANSPORT EQUIPMENT N.E.C. (NACE GROUP 35.5)

This group which gathers together activities that include the manufacture of wheelbarrows, luggage trucks or vehicles that are typically drawn by animals is very small in terms of any of the traditional measures of size. Its output was EUR 300 million in 2000, equivalent to 0.2 % of the value added generated in the EU's transport equipment sector, while employment stood at approximately 6 300 persons in 2000 [15]. The EU's exports of other transport equipment were valued at EUR 97 million in 2001, while imports were EUR 224 million. Almost half (49.6 %) of the EU's imports originated from China.

[15] EL, 1999; IRL, NL and S, not available.

Figure 12.18

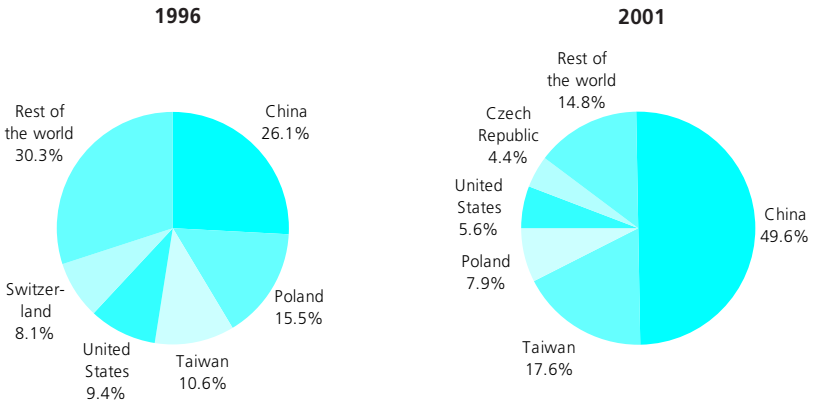
Other transport equipment n.e.c. (CPA Group 35.5)
Origin of extra-EU imports



Source: Eurostat, Comext.

Figure 12.19

Other transport equipment n.e.c. (CPA Group 35.5)
Destination of extra-EU exports



Source: Eurostat, Comext.

Table 12.14

Manufacture of motor vehicles; manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers (NACE Groups 34.1 and 34.2)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (2)	I	L	NL (3)	A	P	FIN	S (1)	UK
Production (million EUR)	13 785	622	162 613	294	34 254	93 643	135	28 651	:	5 910	4 793	3 141	829	16 576	41 156
Number of persons employed (thousands)	44	3	565	2	98	175	1	96	:	19	17	13	7	53	125
Value added (million EUR)	2 669	168	32 106	52	5 286	12 704	35	4 229	:	1 282	1 179	659	308	4 922	6 689
Purchases of goods and services (million EUR)	12 368	464	159 398	262	38 182	83 986	112	30 772	:	5 147	3 741	3 096	564	18 354	42 832
Personnel costs (million EUR) (4)	2 005	131	31 463	31	3 280	7 621	19	3 240	:	678	744	244	221	2 276	5 724
Gross investment in tangible goods (million EUR) (5)	702.3	:	6 728.0	:	1 350.2	:	6.2	1 142.9	:	:	221.7	212.6	19.4	701.3	:
App. labour productivity (thous. EUR/pers. emp.)	60.3	49.2	56.9	34.9	53.7	72.7	36.4	43.9	:	:	68.2	50.6	45.8	93.6	53.6
Simple wage adjusted labour productivity (%) (4)	133.1	139.1	102.0	122.6	161.2	154.0	187.2	130.5	:	189.0	158.6	270.4	139.1	216.3	116.9
Gross operating rate (%) (4)	4.5	9.1	0.3	5.2	4.7	4.5	11.7	2.9	:	9.5	8.9	11.1	10.1	11.8	1.9

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

Table 12.15

Manufacture of parts, accessories for motor vehicles (NACE Group 34.3)
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)	2 061	346	46 553	18	10 355	19 926	303	12 038	:	780	2 475	1 339	88	2 482	13 446
Number of persons employed (thousands)	10	3	281	0	67	95	2	73	:	6	11	15	1	18	93
Value added (million EUR)	560	154	16 113	10	3 013	4 715	99	3 331	:	218	849	345	34	861	4 658
Purchases of goods and services (million EUR)	1 610	212	38 372	11	7 633	16 152	206	9 012	:	629	2 012	1 010	56	1 658	9 195
Personnel costs (million EUR) (3)	369	118	13 143	5	1 936	3 051	52	2 298	:	157	422	212	24	642	3 605
Gross investment in tangible goods (million EUR) (4)	131.4	:	2 293.3	:	571.2	:	22.8	633.0	:	:	138.1	95.2	4.2	180.8	:
App. labour productivity (thous. EUR/pers. emp.)	57.9	46.1	57.4	25.3	44.9	49.6	43.0	45.7	:	:	78.4	22.7	44.5	47.9	49.8
Simple wage adjusted labour productivity (%) (3)	151.7	127.3	122.6	150.0	155.6	145.3	190.2	145.0	:	138.5	201.2	162.7	142.1	134.2	129.2
Gross operating rate (%) (3)	8.8	9.4	5.5	15.1	10.3	8.2	15.5	8.5	:	7.2	15.4	9.9	11.4	8.8	7.6

(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 12.16

Manufacture of motor vehicles, trailers and semi-trailers (NACE Division 34)
Main indicators, 2000

	BG (1)	CY (2)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (3)	TR
Production (million EUR)	21	14	7 010	54	5 811	20	5	:	8 083	968	2 218	1 207	:
Number of persons employed (thousands) (4)	4	0	79	1	33	1	0	:	103	76	15	:	:
Value added (million EUR)	8	6	1 291	22	1 199	3	1	:	1 408	275	282	114	:
Purchases of goods and services (million EUR)	19	:	6 023	35	5 188	9	4	:	7 770	847	1 926	1 127	:
Personnel costs (million EUR)	7	:	593	10	255	2	1	:	744	204	99	88	:
Gross investment in tangible goods (million EUR) (5)	0.9	0.9	561.6	2.9	2.3	0.7	0.5	:	647.8	637.7	162.3	38.1	:
App. labour productivity (thous. EUR/pers. emp.) (4)	1.9	19.1	16.4	16.1	36.1	4.8	1.9	:	11.9	3.6	19.3	:	:
Simple wage adjusted labour productivity (%)	111.0	:	217.8	210.8	470.4	139.1	80.0	:	189.1	134.9	286.7	129.2	:
Gross operating rate (%)	4.4	:	9.8	20.0	15.0	5.5	-5.0	:	7.4	7.9	8.3	2.0	:

(1) All except personnel costs, 1999. (2) 1998. (3) 1999. (4) PL, 1998. (5) CZ, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_cc).

Table 12.17

Building and repairing of ships and boats (NACE Group 35.1)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL (1)	I	L	NL (2)	A (3)	P	FIN	S (3)	UK
Production (million EUR)	153	925	4 648	221	2 528	3 778	31	3 477	0	2 466	18	260	1 620	383	3 650
Number of persons employed (thousands)	1	6	24	7	28	16	0	20	0	13	0	5	11	3	31
Value added (million EUR)	60	269	1 139	134	687	829	13	994	0	545	8	96	339	128	1 719
Purchases of goods and services (million EUR)	101	747	3 637	97	1 877	2 987	20	2 847	0	1 993	11	180	1 330	259	1 926
Personnel costs (million EUR) (4)	49	254	1 051	147	736	512	11	633	0	424	7	87	341	121	1 099
Gross investment in tangible goods (million EUR) (5)	6.5	:	82.1	:	118.8	:	0.9	91.7	:	:	0.7	10.6	25.3	14.0	:
App. labour productivity (thous. EUR/pers. emp.)	42.0	43.8	46.7	19.9	24.4	51.7	27.5	49.0	:	:	39.2	19.6	32.0	38.7	56.1
Simple wage adjusted labour productivity (%) (4)	122.0	117.1	108.4	126.3	93.4	146.3	117.3	156.9	:	128.7	122.1	109.6	99.4	105.1	156.5
Gross operating rate (%) (4)	6.8	4.3	2.1	13.5	-1.9	7.9	5.6	7.6	:	6.0	8.0	3.0	-0.3	1.5	17.4

(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 12.18

Manufacture of railway, tramway locomotives, rolling stock (NACE Group 35.2)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A (2)	P	FIN	S (1)	UK
Production (million EUR)	:	57	4 227	:	999	2 091	:	1 180	0	:	930	205	66	649	2 260
Number of persons employed (thousands)	:	0	25	0	8	14	:	8	0	:	4	3	1	4	12
Value added (million EUR)	:	21	1 188	:	319	553	:	279	0	:	238	82	24	171	699
Purchases of goods and services (million EUR)	:	39	3 152	:	694	1 504	:	853	0	:	729	121	42	487	1 584
Personnel costs (million EUR) (3)	:	:	1 242	:	268	606	:	298	0	:	199	69	22	146	552
Gross investment in tangible goods (million EUR) (4)	:	:	91.7	:	39.8	:	:	22.5	:	:	26.5	3.0	1.0	14.6	:
App. labour productivity (thous. EUR/pers. emp.)	:	53.0	47.5	:	42.2	39.7	:	33.1	:	:	62.2	27.2	37.4	47.9	57.9
Simple wage adjusted labour productivity (%) (3)	:	:	95.6	:	118.8	109.5	:	93.6	:	:	119.9	118.0	109.5	117.4	126.8
Gross operating rate (%) (3)	:	:	-1.2	:	5.3	2.4	:	-1.6	:	:	4.4	5.6	5.3	4.6	6.7

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

Table 12.19

Manufacture of aircraft and spacecraft (NACE Group 35.3)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL	A	P	FIN	S (1)	UK
Production (million EUR)	1 251	69	16 035	201	1 897	36 939	:	5 018	:	669	:	111	63	1 558	27 496
Number of persons employed (thousands)	7	1	70	4	12	79	:	28	:	:	:	2	1	11	118
Value added (million EUR)	517	22	5 775	162	767	6 641	:	1 699	:	235	:	48	42	666	10 982
Purchases of goods and services (million EUR)	731	49	10 347	42	1 224	30 509	:	2 768	:	453	:	70	21	918	17 690
Personnel costs (million EUR) (2)	351	34	4 210	132	449	4 279	:	1 198	:	178	:	40	33	479	5 944
Gross investment in tangible goods (million EUR) (3)	89.2	:	467.8	:	166.2	:	:	152.0	:	:	:	14.4	2.0	52.6	:
App. labour productivity (thous. EUR/pers. emp.)	69.6	32.0	82.4	39.0	65.2	84.4	:	59.7	:	:	:	23.1	49.9	58.9	93.2
Simple wage adjusted labour productivity (%) (2)	147.4	63.1	137.2	104.3	170.6	140.7	:	141.8	:	132.1	:	119.0	128.2	139.1	184.8
Gross operating rate (%) (2)	13.2	-15.8	10.1	3.2	17.3	5.1	:	9.3	:	9.0	:	6.4	14.9	12.5	18.1

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

Table 12.20

Manufacture of motorcycles and bicycles (NACE Group 35.4)
Main indicators, 2000

	B	DK	D	EL (1)	E	F	IRL	I	L	NL (2)	A	P	FIN	S (3)	UK
Production (million EUR)	:	69	1 065	8	778	1 028	:	4 037	0	416	179	76	16	172	641
Number of persons employed (thousands)	:	1	7	0	4	7	:	20	0	3	1	2	0	1	3
Value added (million EUR)	:	24	324	3	130	253	:	939	0	113	50	26	5	53	188
Purchases of goods and services (million EUR)	:	54	825	7	996	864	:	3 713	0	336	136	54	12	126	473
Personnel costs (million EUR) (4)	:	18	250	1	103	210	:	595	0	65	26	19	4	40	122
Gross investment in tangible goods (million EUR) (5)	:	:	18.2	:	35.8	:	:	162.0	:	:	5.0	5.8	0.3	9.8	:
App. labour productivity (thous. EUR/pers. emp.)	:	46.0	45.6	28.0	33.6	36.2	:	48.0	:	:	61.0	16.2	39.6	47.9	57.6
Simple wage adjusted labour productivity (%) (4)	:	132.8	129.6	214.3	126.1	122.3	:	157.9	:	173.4	194.6	139.4	142.1	133.0	154.7
Gross operating rate (%) (4)	:	7.9	6.7	15.6	2.5	4.6	:	8.0	:	11.0	13.6	9.8	9.9	7.3	10.1

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

Table 12.21

Manufacture of other transport equipment (NACE Division 35)
Main indicators, 2000

	BG	CY (1)	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI (2)	TR
Production (million EUR)	109	4	668	71	185	86	112	:	2 951	644	182	95	:
Number of persons employed (thousands) (3)	10	0	24	3	7	5	7	:	90	68	9	:	:
Value added (million EUR)	33	2	247	23	34	33	40	:	740	285	41	37	:
Purchases of goods and services (million EUR)	83	:	607	51	110	51	72	:	2 378	414	132	62	:
Personnel costs (million EUR)	24	:	152	12	53	21	36	:	666	208	44	34	:
Gross investment in tangible goods (million EUR) (4)	8.1	0.1	24.9	6.3	0.1	5.9	5.8	:	163.3	28.8	5.9	5.3	:
App. labour productivity (thous. EUR/pers. emp.) (3)	3.3	15.4	10.5	8.6	4.8	6.2	6.0	:	8.6	4.2	4.3	:	:
Simple wage adjusted labour productivity (%)	137.6	:	161.9	187.6	65.1	159.1	110.6	:	111.1	136.9	93.2	106.7	:
Gross operating rate (%)	8.2	:	11.9	14.2	-8.9	15.2	3.4	:	2.7	12.9	-1.4	2.5	:

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