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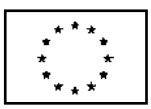

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Guide to the publication

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 present a snapshot of output (in terms of value added and turnover), employment and external trade. The commentaries concentrate largely on the two- and three-digit level of the NACE Rev. 1 classification of economic activities [(1)].

Publication format

The publication is available as a paper and electronic product (CD-ROM). The CD-ROM also contains a NewCronos database application with many additional series (longer time-series and breakdowns by Member State). The underlying statistics can be easily viewed using Eurostat's NewCronos software that is a dedicated database browser.

When the CD-ROM is started, two separate applications are launched. The first is an HTML application with the analysis and information, most of which is identical to the paper publication. The second application is the NewCronos database server, which launches a local server window from its start and close page. The start and close page should be left open at all times while using the product and should also be used to close a session when using the database application. If the start and close page or the server window are closed by accident then they can be located on the CD-ROM within the NC subdirectory (folder). This folder contains a file called setup.exe - by double-clicking on this icon the database application can be relaunched. Within NewCronos it is possible to extract and export data for manipulation within a database or spreadsheet application.

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

The CD-ROM also provides a large amount of additional background information on the underlying legislation, sources and classifications that have been used, as well as a glossary of terms. These can be found within the INFO component of the product.

Structure of the publication

The analysis component of the European business CD-ROM and the paper publication are 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 and is divided into 15 separate chapters, each of which contains a number of subchapters usually based on the three-digit level of the NACE classification. Each chapter concludes with a statistical annex presenting structural business statistics;

3. The third provides a sectoral breakdown of service activities and is divided into nine 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 coverage, 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 presented.

NACE is a hierarchical classification made up of sections (one-letter codes), subsections (two-letter codes), divisions (two-digit codes), groups (three-digit codes) and classes (four-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 two-digit level and the lower levels of ISIC Rev. 3 can be calculated by aggregating the more detailed levels of NACE. Note that NACE has recently been revised, but the new NACE Rev. 1.1 classification is not yet being used for the main data sources that are presented in this publication. The external trade data are based on the CPA (classification of products by activity) rather than NACE, and this uses the 2002 version of the CPA.

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. There has, however, been a rapid improvement in data availability for service sectors during the last few years and most EU Member States now compile annual statistics for these activities. As in previous years the proportion of the publication dedicated to services has been expanded.

For the energy and services sectors, data are often available from Eurostat's specialist databases and these have been used to complement the general sources used in most chapters.

Differences compared with the 2003 edition

This edition of European business continues the efforts made in recent years to focus this publication increasingly on official sources of information, as the European statistical system continues to make advances.

Although the activity definition of some subchapters has changed compared with previous editions, the main changes in 2004 are not in the structure, as in previous years, but in the coverage and the sources used. The most notable change is the transition from EU-15 to EU-25 as the main focus of analysis. The enlargement of the EU is presented in a special analysis on page 2 of the overview of the EU's business economy. The second change in relation to coverage is that the structural business statistics (SBS) data used in the manufacturing chapters covers enterprises of all sizes, rather than just those with 20 or more persons employed, as was the case in the past. This puts the size-class coverage of these chapters on the same basis as the services chapters which have always used this coverage, and the energy, mining and quarrying, water and construction chapters that moved to this coverage over the course of the last two editions. In terms of sources, the main change has been to stop using the SBS Ent_l database for the manufacturing chapters and to use only the SBS Enter database; this has resulted in the improvement in the size-class coverage mentioned above, but has had the drawback of reducing the time-series available. To make up for this loss of time-series, short-term business statistics (STS) have been used to show the development of industrial production in the industrial chapters and turnover in the services chapters, supplemented in some cases by an analysis of employment. As in previous years, STS is also used for an analysis of the development of domestic output prices.

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 those provided by professional trade associations (representative organisations of manufacturers and service providers) and other non-official bodies. Tables and graphs presenting data from non-official sources are easily recognised as they always appear in a shaded box.

Time frame

The majority of the data within this publication was extracted from various Eurostat databases during the first two weeks of February 2004. Fresher data is available on the CD-ROM. The accompanying text was written during the first and second quarters of 2004.

Data are generally available for 2001 from SBS and Prodcom, for 2002 from external trade and the labour force survey (LFS), and for either 2002 or 2003 from STS depending on the activity and the indicator.

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, 11 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, while 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.

While 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 22 in the statistical annex of the overview chapter.

Geographical coverage

EU-15 totals cover the Member States up to the end of April 2004, and EU-25 totals the Member States from 1 May 2004.

It should be noted that all EU aggregates, both EU-15 and EU-25 for SBS data for services (NACE Sections G to K), exclude Greece. A footnote is added to tables, figures or analyses 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 in tables 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 main part of the analysis contained within European business is derived from structural business statistics (SBS). These data have been collected within the legal framework provided by the SBS regulation [2]. Structural business statistics for the 10 new Member States and the candidate countries were collected on a comparable basis, although data were provided to Eurostat on the basis of specific agreements rather than with a legal basis. With their accession on 1 May 2004, this situation changed for the 10 new Member States and new data will be transmitted on the basis of the requirements of the SBS regulation.

There are two main SBS data sets that have been used in this publication. The first is SBS Enter [3] which covers enterprises of all sizes and the data generally start in 1995. Not all Member States have transmitted data relating to this population. In particular, some Member States have only provided data for units with employment above a certain size threshold. Table 1 presents the main deviations from the standard population as laid down in the SBS regulation (all enterprises, regardless of their level of employment).

[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 Eurostat's NewCronos database.

Table 1

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)**
The 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 2001: several activities at the 3-digit level include results for enterprises that have only been classified at the 2-digit level, thus potentially overestimating these activities and underestimating other activities within the same 2-digit activity, but ensuring coherency between the results for the 2- and 3-digit levels			
Denmark	No major deviations	1995 to 1998: Class 45.21 includes data for Classes 45.23 and 45.24; Class 45.31 includes data for Class 45.34	No major deviations	
Germany	2001 for Sections D to F: major change in source for enterprises with less than 20 persons employed		No major deviations	1998 onwards: Class 60.24 data are not comparable with previous years 1999 for Sections 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 Class 60.21 includes Class 60.23, Class 74.13 includes Class 74.14, Class 74.11 includes Classes 74.12 and 74.15 2000 for Sections I and K: data are not comparable with previous years
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	No major deviations		1995: Division 71 includes Division 72
Greece	No data available		Covers only enterprises with a turnover of 15 million GRD or more	
Spain	1995 to 1998: enterprises with 1 employee or more	No major deviations	1995 to 1998: enterprises with 1 employee or more	
France	1995: 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 Group 61.2 the coverage is only enterprises with 6 employees or more
Ireland	Enterprises with 3 persons employed or more 1995: Subsection DN includes Subsection DF	No data available	No major deviations	
Italy	Turnover from the principal activity at the 4-digit level: this data is supplied only for enterprises with 200 employees or more	No major deviations		
Cyprus	2001: Class 14.11 includes Class 14.12; Class 14.22 includes Group 14.3; Class 15.13 includes Group 15.2; Class 15.71 includes Class 15.72; Class 15.91 includes Classes 15.93 and 15.96; Class 17.21 includes Class 17.54 and Group 17.6; Class 17.71 includes Class 17.72; Group 19.1 includes Group 19.2; Class 20.51 includes Class 20.52; Class 22.22 includes Classes 22.11 and 22.15; Class 24.11 includes Class 24.13 and Group 24.2; Class 24.41 includes 24.42; Class 24.62 includes Class 24.66; Class 26.11 includes Classes 26.13 and 26.15; Class 27.22 includes Classes 27.42 and 27.44; Class 28.21 includes Group 28.3; Class 28.61 includes Class 28.62; Class 28.74 includes Class 28.75; Class 29.53 includes Class 28.54; Group 31.4 includes Class 31.62; Group 32.2 includes Group 32.3; Group 33.1 includes Groups 33.2 and 33.3; Class 36.21 includes Class 36.22; Group 36.3 includes Group 36.5 and Class 36.61; Class 55.21 includes Class 55.22			

Table 1 continued

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)**
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
Luxembourg	1996 onwards: kind-of-activity units with 1 person employed or more		No major deviations	1995 to 1998: Class 66.01 includes Class 66.02
Hungary	Covers only enterprises with 5 or more persons employed			
The Netherlands	Number of enterprises: data for this variable are rounded to multiples of 5; a 0 therefore means 2 or less enterprises			
	Covers only enterprises with 20 employees or more for Section E; total intramural R&D expenditure and total number of R&D personnel cover only enterprises with 10 employees or more	No major deviations		Class 74.15: enterprises with 5 employees or more
Portugal	1995: Subsection DN and Section D exclude Division 37	No major deviations		
Slovakia	1995 to 1998: covers enterprises with 20 or more persons employed as well as enterprises with less than 20 persons employed which were considered statistically important			
The United Kingdom	1996: Class 14.12 includes Class 14.13; Class 15.94 includes Class 15.95; Class 17.15 includes Class 17.14; Class 17.16 includes Class 17.17; Class 21.11 includes Class 21.12 1997: Group 10.3 includes Group 10.2; Group 13.2 includes Group 13.1; Class 14.12 includes Class 14.13; Class 17.15 includes Class 17.14: Class 17.16 includes 17.17; Class 21.12 includes Class 21.11 1998: Group 10.3 includes Group 10.2; Class 14.12 includes Class 14.13; Class 51.35 includes Classes 51.36 and 51.37			
Bulgaria	1996 to 1999: investment not representative below the 2-digit level			

The second collection covers information broken down by employment size-class. Again, not all Member States have transmitted data to Eurostat that relates to this statistical unit or population. In particular, some Member States have only provided data for units with employment above a certain size threshold. Table 2 summarises the main deviations from the standard statistical unit and coverage.

Table 2

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)**
The 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			
	2001: several activities at the 3-digit level include results for enterprises that have only been classified at the 2-digit level, thus potentially overestimating these activities and underestimating other activities within the same 2-digit activity, but ensuring coherency between the results for the 2- and 3-digit levels			
Germany	1995 onwards: 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+; 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: Division 71 also includes Division 72
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: Group 60.1 includes Classes 60.21, 60.22 and 60.23; Group 74.6 includes Group 74.7
Cyprus	2001: data for size class 500-999 includes data for size class 1000+; data for size class 100-249 includes data for size class 250-499; Group 14.2 includes Group 14.3; Group 15.1 includes Group 15.2; Group 17.2 includes Groups 17.5 and 17.6; Group 19.1 includes Group 19.2; Group 24.1 includes Group 24.2; Group 27.2 includes Group 27.4; Group 28.2 includes Group 28.3; Group 31.4 includes Group 31.6; Group 32.2 includes Group 32.3; Group 33.1 includes Groups 33.2 and 33.3; Group 36.3 includes Groups 36.5 and 36.6			
Hungary	1998 to 2001: 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 to 2001: enterprises with 5 persons employed or more; data for the total of the size classes refer to enterprises with 5 persons employed and more	
The 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	
Slovenia	1995 to 1998: employment size classes are defined in terms of employees, and exclude enterprises with 0 employees			
Slovakia	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			
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		
The United Kingdom	1995: enterprises with 20 persons employed or more; 1997: Group 10.3 includes Group 10.2; Group 13.2 includes Group 13.1	1995: enterprises with 20 persons employed or more	No major deviations	

Standard definitions of variables have been laid down. As such, the data presented are largely comparable across activities and countries. There are nevertheless some known divergences from the standard definitions. Until the reference year 1994 inclusive, EU-15 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 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. Table 3 presents the main discrepancies with respect to the standard variable definitions as regards data from Member States and the candidate countries.

Estimates

EU-15 and EU-25 data are estimated. Estimates are made using individual country information and short-term indicators such as indices of production and employment. The individual country estimates are not published. Data in this publication are generally available at the three-digit NACE level, while more detailed information is often available within the SBS Enter table at the four-digit NACE level. EU-15 aggregates are generally available at the four-digit level in SBS Enter and at the three-digit level in SBS Enter size-class, while EU-25 aggregates are generally available at the three-digit level in SBS Enter and at the two-digit level in SBS Enter size-class.

Table 3

SBS Enter			
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
The Czech Republic	1995-1998	Number of enterprises	Average number of enterprises calculated on the basis of the length of the activity of the unit during the year; this means that an enterprise active only a part of the year is not counted as 1 but as a percentage (3 months=0.25 enterprises)
	1995-1998	Personnel costs and social security costs	Non-standard definitions
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
	1998/1999	Number of enterprises	Break in series due to a change in estimation method.
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
Hungary	1998	Number of employees	Estimated as a fixed percentage (99.5%) of the number of persons employed
	2001	Total investment in tangible goods	Is inconsistent with its components as some investment is not included in the components, only in the total
Slovenia	1995-1998	Value added and wages and salaries	Non-standard definitions
Finland	1995	Value added at factor cost	Value added at market prices
		Gross operating surplus	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.
The United Kingdom	1996-1998	Gross investment in existing buildings and structures	Includes gross investment in land
	1997	Turnover from trading and intermediary activities	Turnover from trading activities of purchase and resale
Bulgaria	1996-1998	Changes in stocks	Concerns only changes in stocks of goods, and therefore excludes changes in stocks of services
	1996-1999	Investment in existing buildings and structures	Includes also investment in construction and alteration of buildings
	1999	Turnover and production value	Does not includes duties and taxes on services invoiced by the unit
	2000-2001	Investment in construction and alteration of buildings	Includes also investment in existing buildings and structures
Norway	1996-1997	For Sections C and D: investment	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
SBS Enter size class data			
Country	**Year**	**Variable**	**Discrepancy**
The Czech Republic	1995-1998	Number of enterprises	Average number of enterprises calculated on the basis of the length of the activity of the unit during the year; this means that an enterprise active only a part of the year is not counted as 1 but as a percentage (3 months=0.25 enterprises)
Denmark	1995-1996	Sections C to G: number of employees	Employees in full-time equivalents
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
Slovakia	1995-1998	Sections G to K: number of persons employed	Number of employees
Sweden	1996	Sections C to E: 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.
		Sections H to K: number of persons employed	Is in fact the number of employees
		Sections C to F: social security costs	Non-standard definition

Prodcom

In previous editions of this publication, Prodcom data was sourced from NewCronos. Recently Prodcom has been added to the Comext reference database, and the Prodcom tables on NewCronos are no longer updated. For this reason the Comext version of the database was preferred for this year's edition. As part of the move to Comext, a reprocessing of data was carried out, and for some Prodcom headings EU-15 totals are no longer available, although they were published on NewCronos. At the present time there are no EU-25 aggregates in Prodcom, as two of the new Member States do not yet compile Prodcom statistics. The legal basis of the Prodcom 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 (two-digit) divisions of NACE. Each Prodcom code is identified by an eight-digit code. The first six digits are the CPA code ('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:

- production sold during the survey period;
- 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;
- 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.

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 (four-digit) class of NACE Rev. 1 must also be recorded.

External trade

EU external trade statistics are available in the Comext database, and can be compiled according to various classifications. For the purpose of this publication the classification of products by activity (CPA) has been used. The analysis focuses on external trade data for 2002 (while fresher data for reference year 2003 are included in the DATABASE application). 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 - note that there have been extensive changes to the Combined Nomenclature (CN) between reference years 2001 and 2002.). The data for EU-25 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.

The calculation of EU-25 trade flows has been done by subtracting the value of trade of the EU-15 with the 10 new Member States from the total trade of the EU-15 with all 'extra-EU-15' partners.

Short-term business statistics

Tracking the business cycle is indispensable for many economic actors. Short-term business statistics provide 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 business statistics is Council Regulation (EC) No 1165/98, which was adopted on 19 May 1998.

Several variables from the EBT database are presented in this publication. To measure output the following are used: the industrial production index, the index of production in construction, the index of retail trade volume of sales, the services' turnover index. In manufacturing the domestic output price index is presented and in construction the construction costs index is also available. An employment index is available for many activities within industry, construction and services. In addition, indices are also available on new car registrations and on building permits.

Indices for the EU-15 and for the EU-25 have been estimated for several indicators for many activities.

Industrial production index

In line with traditional practice in business statistics, the production index should show the evolution of value added at factor cost, at constant prices. Value added at factor cost can be calculated from turnover (excluding VAT), 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 and taxes linked to production. This index of production should take account of:

- variations in type and quality of the commodities and of the input materials;
- changes in stocks of finished goods and work in progress;
- changes in technical input-output relations (processing techniques); and
- services such as the assembling of production units, mounting, installations, repairs, planning, engineering, creation of software.

Turnover

The objective of the turnover index is to show the evolution of the market for goods and services. Turnover comprises the totals invoiced by the observation unit during the reference period. This corresponds to market sales of goods or services supplied to third parties. It 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.

Employment

The number of persons employed is defined as the total number of persons working in an 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 (for example, sales representatives, delivery personnel, repair and maintenance teams). It includes persons absent for a short period (for example 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 payroll, as well as seasonal workers, apprentices and home workers on the payroll. The number of persons employed excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the observation unit on behalf of other enterprises, as well as those on compulsory military service.

Domestic output prices

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.

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 the reference period.

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 [(4)], is based upon a sample of the population. The results are therefore subject to the usual types of errors associated with sampling techniques. Eurostat implements basic guidelines intended to avoid the publication of figures which are statistically unreliable (see Table 4). Figures below these thresholds are not published. A second threshold is applied to data that may only be published with a warning concerning their reliability. For the purpose of this publication these data have also been omitted.

EU-25 aggregates are available for LFS data; however, the analysis of these data by NACE is only possible at the section level. EU-15 aggregates are available for most subsections and divisions.

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

Table 4

	A	B
EU-25 (1)	90 000	-
EU-15 (1)	61 500	-
Belgium	2 500	4 500
The Czech Republic	1 000	-
Denmark (2)	3 500	7 500
Germany	8 000	-
Estonia (3)	5 000	10 000
Greece	2 500	4 500
Spain	2 500	5 000
France (4)	7 000	21 000
Ireland	2 500	4 500
Italy	3 500	7 500
Cyprus	500	1 500
Latvia (5)	4 500	7 500
Lithuania	5 000	-
Luxembourg	500	1 500
Hungary	2 500	4 500
Malta	1 500	3 000
The Netherlands	4 500	10 000
Austria	2 000	-
Poland	5 000	20 000
Portugal	7 500	15 000
Slovenia	1 000	10 500
Slovakia	2 500	4 500
Finland	2 500	4 500
Sweden (6)	2 500	-
The United Kingdom	10 000	-
Bulgaria	5 500	10 000
Romania	2 000	-
Turkey	:	:

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

(1) The A limits applicable to data prior to 2003 are the sum of the country limit.
(2) The limits applicable to data between 1983 and 1993 are A 2 500, B 4 500.
(3) The limits applicable to data for 1997 are A 4 000, B 8 000; for 1998 and 1999 they are A 1 500, B 3 000.
(4) The limits applicable to data between 1983 and 2002 are A 3 500, B 8 500.
(5) The limits applicable to data prior to 1998 are A 2 500, B 4 500.
(6) The limits applicable to data between 1995 and 2000 are A 9 000, B -.

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.

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:

- the sector accounts;

- 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).

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).

NON-OFFICIAL SOURCES AND ABBREVIATIONS

Professional trade associations

ACEA	European Automobile Manufacturers Association
ACI	Airports Council International (European Region)
AEA	Association of European Airlines
AECMA	European Association of Aerospace Industries
AESGP	Association of the European Self-Medication Industry
AISE	International Association of the Soap & Detergent industry
APEAL	Association of European Producers of Steel for Packaging
APME	Association of Plastics Manufacturers in Europe
AWES/CESA	Committee of European Shipbuilders Association
CAEF	Committee of European Foundry Associations
CAOBISCO-IOCCC	Association of the Chocolate, Confectionery, Biscuit industries of the EU
CBMC	The Brewers of Europe
CECCM	Confederation of European Community Cigarette Manufacturers
CEPE	European Council of the Paint, Printing Inks and Artists' Colours Industry
CEPI	Confederation of European Paper Industries
CIAA	Confédération des Industries Agro-alimentaires de la CE (Confederation of the Food and Drink Industries of the EU)
CPDP	Association of oil refiners
EAO	European Audiovisual Observatory
EDA	European Dairy Association
EMF	European Mortgage Federation
EPF	European Panels Federation
ESBG	European Savings Bank Group
ESOMAR	European Society for Opinion and Marketing Research
ESTA	European Security Transport Association
EURATEX	European Apparel and Textile Organisation
EUROFINAS	European Federation of Finance House Associations
FBE	European Banking Federation
FEDIOL	EC Seed Crushers' and Oil Processors' Federation
FEDSA	Federation of European Direct Selling Associations
FEFSI	European Federation of Investment Funds
FEP	European Federation of Associations of the Parquet Industry
FESE	Federation of European Securities Exchanges
FIBV	International Federation of Stock Exchanges
FIEC	European Construction Industry Federation
GEBC	European Association of Cooperative Banks
IISI	International Iron and Steel Institute
IMACE	International Margarine Association of the Countries of Europe
STD	Swedish Federation of Consulting Engineers and Architects (Svensk Teknik och Design)
UIC	International Union of Railways
UNAFPA-UNIPI	Union of Organisations of Manufacturers of Pasta Products in the European Community
UNESDA-CISDA	Union of EU Soft Drinks Associations

Other organisations and publications

EITO	European Information Technology Observatory
EPO	European Patent Office
FAO	Food and Agriculture Organisation of the UN
IISI	International Iron and Steel Institute
LME	London Metal Exchange Limited
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
UN	United Nations
USGS	US Geological Survey
WTO	World Trade Organization
WTO	World Tourism Organization
Hotels Magazine	
Meat Processing Global	
Media Salles	
PricewaterhouseCoopers	
The London Metal Exchange Limited	

Statistical abbreviations

AUVIS	Audiovisual Services
CIS	Community Innovation Survey
CIS	Commonwealth of Independent States
CN	Combined Nomenclature
CPA	Classification of Products by Activity
CVTS	Continual Vocational Training Survey
ECHP	European Community Household Panel
FDI	Foreign Direct Investment
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
STS	Short-Term Statistics
SME	Small and medium-sized enterprises

Other abbreviations

ADSL	Asymmetric Digital Subscriber Line
AM	After-Market
ATMs	Automatic teller machines
BER	Block Exemption Regulations
BME	Bolsas y Mercados Españoles
BSE	Bovine Spongiform Encephalopathy (Mad-cow disease)
B2B	Business-to-Business
B2C	Business-to-Consumer
CAP	Common Agricultural Policy
CDs	Compact discs
CD-ROM	Compact disc read-only memory
CFP	Common Fisheries Policy
CPD	Construction Products Directive
CPO	Competing Postal Operators
DTP	Desk-top Publishing
DVD	Digital Versatile Disc
EAMs	European Approvals of Materials
ECSC	European Coal and Steel Community
EDI	Electronic Data Interchange
EIB	European Investment Bank
FSAP	Financial Services Action Plan
F/OSS	Free and Open Source Software
GDP	Gross Domestic Product
ICT	Information and Communications Technologies
IT	Information Technology
JIT	Just In Time
JRC	Joint Research Centre
LAN	Local Area Network
LIFFE	London International Financial Futures and Options Exchange
MDF	Medium Density Fibreboard
MP3	MPEG-1/2 Audio Layer 3 (audio compression algorithm)
NASDAQ	National Association of Securities Dealers' Quotation System
NYSE	New York Stock Exchange
OE	Original Equipment
OJ	Official Journal (of the European Communities)
OPA	Other Postal Agents
OSB	Oriented Strand Board
PC	Personal Computer
PWS	Public Water Supply
R & D	Research and Development
REACH	System of Registration, Evaluation, and Authorisation of Chemicals
SARS	Severe Acute Respiratory Syndrome
SMS	Short Message Service
TV	Television
UCITS	undertakings for collective investment in transferable securities
USPs	Universal Services Providers
VAT	Value Added Tax

VCR	Videocassette Recorder
VHS	Video Home System

Weights and measures

DWT	Dead-weight-tonnes
GRT	Gross Registered Tonnage
GW	Gigawatt (10^6 kW)
Kg	Kilogram(s)
kgoe	Kilogram of oil equivalent
Km	Kilometre
Km^2	Square kilometre
MW	Megawatt (10^3 kW)
PPS	Purchasing Power Standard
pkm	Passenger-kilometre
t	Tonnes
tkm	tonnes-kilometre
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)
TWh	Terawatt per hour (10^9 kW)

Countries

EU-25	25 Member States of the European Union
EU-15	BE, DK, DE, EL, ES, FR, IE, IT, LU, NL, AT, PT, FI, SE and UK
10 NMS	Ten new Member States
BE	Belgium
CZ	the Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
EL	Greece
ES	Spain
FR	France
IE	Ireland
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	the Netherlands
AT	Austria
PL	Poland
PT	Portugal
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	the United Kingdom
EEA	European Economic Area
BG	Bulgaria
RO	Romania
TR	Turkey
CN	China
HK	Hong Kong
JP	Japan
RU	Russia
US	United States (of America)

Currencies

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

Symbols

:	not available
-	not applicable

Overview - the EU's business economy

INTRODUCTION

The Lisbon European Council of 23–24 March 2000 set the EU the objective of becoming 'the most competitive and dynamic knowledge-based economy in the world, capable of sustained economic growth with more and better jobs and greater social cohesion'.

In response, the European Commission laid out a proposal for a multiannual programme for enterprise policy, which was adopted by the European Council at the end of 2000. In a communication [(1)] entitled *Industrial policy in an enlarged Europe*, the European Commission outlined a three-pronged strategy to improve the competitiveness of the EU:

- by increasing efforts in the areas of education, vocational training and research, to spread knowledge, increase the use of new technologies and endow the labour force with necessary skills;
- by encouraging innovation to improve efficiency and competitiveness, as enterprises initiate, refine and improve their products, services and processes;
- by developing an entrepreneurial spirit and encouraging people to take risks and start new businesses, so as to stimulate innovative ideas and create employment opportunities.

[(1)] COM(2002) 714 final.

The topics of business demography (the creation, survival and death of enterprises) is treated in the second part of this overview, while the final section deals with information and communication technologies (ICTs) and intangibles, identified above as key elements for improving the competitiveness of the EU.

However, besides the challenge of stimulating economic growth, the EU also faces another major challenge during 2004, namely the smooth transition of moving from 15 to 25 Member States. The enlargement process is the first subject treated within this overview. The data presented concentrate on a comparative analysis of EU-15 and EU-25 data, looking at changes within the business economy [(2)] that resulted out of the accession of the 10 new Member States in May 2004.

[(2)] Defined for the purposes of this publication as NACE Sections C to K, covering mining and quarrying, manufacturing, electricity, gas and water supply, construction, distributive trades, hotels and restaurants, transport, storage and communications, financial intermediation, real estate, renting and business activities.

THE EFFECTS OF ENLARGEMENT

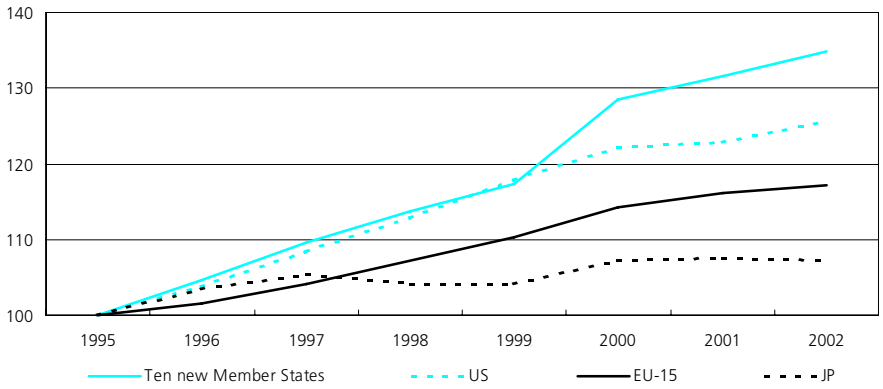
Rapid economic integration between the EU-15 and most of the 10 new Member States [3] started at the beginning of the 1990s, when market reforms were accompanied by the realignment of external trade relations. Up until this point the majority of the 10 new Member States (as well as Bulgaria and Romania) had planned economic systems and were characterised by geographic specialisation that focused on traditional, heavy industrial sectors, with ownership largely in the hands of the State.

During the 1990s the new Member States faced two challenges: privatisation of existing production structures (which had formerly been publicly owned) and providing economic stimuli to encourage the creation of new enterprises. Privatisation programmes were initiated alongside investment liberalisation, the elimination of administered prices and the creation of institutions to promote a business-orientated economy. The scale of these programmes was unparalleled, often covering thousands of enterprises. Frequently foreign direct investment (FDI) was seen to speed up this process of structural change, in particular in the Czech Republic, Hungary and Poland.

During the same period, there were increasing links between enterprises from EU-15 Member States and those in the new Member States. The predominant feature of cooperation agreements during the early 1990s was the outward processing of labour-intensive activities by EU-15 enterprises, allowing them to obtain substantial cost reductions and to remain competitive [4]. This strategy also benefited local producers from the 10 new Member States who obtained knowledge and technology transfers. Nevertheless, most commentators agree that as wages in the new Member States start to converge (at least to some degree) with those in the EU-15, standardised labour-intensive tasks will probably be driven to re-localise further east to countries such as the Ukraine and other members of the Commonwealth of Independent States (CIS). As a result, new economic models are starting to emerge regarding the industrial organisation of enterprise groups that have interests both in the EU-15 and the new Member States.

[3] Excluding Cyprus and Malta, and to a lesser degree Slovenia.
[4] For more information on foreign ownership, see *Characteristics of foreign-controlled enterprises*, Statistics in Focus 21/2004, Eurostat, KS-NP-04-021-EN-N..

Figure 1
Development of GDP in constant prices (1995=100)



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

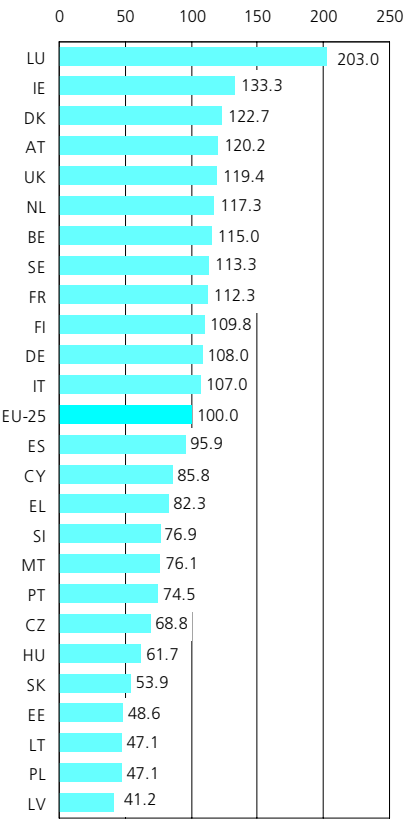
GDP AND POPULATION

EU-15 gross domestic product (GDP) in market prices was forecast at EUR 9 582 billion in 2004. The addition of the 10 new Member States added a further EUR 467 billion, such that EU-25 GDP was estimated to have totalled EUR 10 049 billion in 2004. This figure was just higher than the forecast for GDP in the United States, while it was more than 2.5 times greater than the forecast for GDP in Japan.

Constant price data for the period 1994–2004 show that GDP rose at an annual average rate of 2.1 % per annum in the EU-15, while the 10 new Member States reported average growth of 4.3 % per annum (see Figure 1). There were only five EU-15 Member States that reported GDP growth below the EU-15 average during the period considered; they were Belgium, Germany, France, Italy and Austria. The Baltic States and Poland were the only countries to report above average GDP growth among the 10 new Member States.

There were an estimated 380.7 million inhabitants in the EU-15 at the start of 2004 compared with 74.1 million within the 10 new Member States. As such, the 10 new Member States represented 16.3 % of the total EU-25 population, slightly less than the share recorded by Germany (18.1 %). The number of inhabitants in the EU-15 grew by 0.3 % between January 2003 and January 2004, while there was a contraction of 0.1 % in the number of inhabitants in the 10 new Member States. Poland had by far the largest population of the 10 new Member States, some 38.2 million persons (or 51.5 % of the total for the new Member States), while the Czech Republic and Hungary were the only other countries to report double-digit shares (just under 14 %).

Figure 2
GDP per inhabitant in relation to the EU average, 2004 (EU-25=100) (1)



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

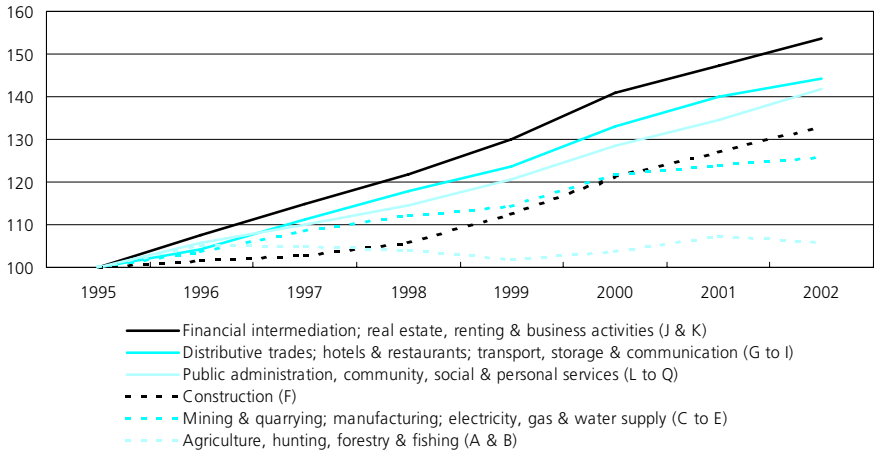
The level of GDP per inhabitant expressed in terms of purchasing power standards (PPS) is often used to compare the living standards of different countries. This indicator was forecast to be approximately twice as high in the EU-15 Member States (PPS 24 990) as in the 10 new Member States (PPS 12 330) in 2004. There were wide variations in living standards in the EU-15, from a high of PPS 46 560 in Luxembourg to PPS 17 100 in Portugal (see Figure 2). As such, GDP per inhabitant in Luxembourg was forecast to be 2.7 times more than in Portugal in 2004, while the same comparison made some ten years earlier in 1994 showed that living standards were 2.5 times higher in Luxembourg. Within the 10 new Member States the range in living standards was forecasted to be between PPS 19 690 in Cyprus and PPS 9 460 in Latvia. A similar analysis of the ratio of highest to lowest GDP per inhabitant reveals that between 1994 and 2004 the gap in living standards was reduced from 2.9 times higher to 2.1 times higher.

The economic structure of output has experienced marked changes in the last few decades within Europe. A complete time-series for EU-25 is only available back to the mid-1990s. However, even over this relatively short period, the share of the services sector (NACE Sections G to P) in EU-25 total value added increased from 67.6 % in 1995 to 70.7 % by 2002. Financial intermediation, real estate, renting and business activities (NACE Sections J and K) reported the most rapid growth of value added (see Figure 3). On the other hand, the relative importance of the industrial sector (NACE Sections C to E) declined from 24.1 % of total value added to 21.7 % during the same period.

The rate at which the structure of the economies of the 10 new Member States changed was even more rapid. The share of services in total value added rose by 7.8 percentage points to 64.9 % between 1995 and 2002, while the relative share of the industrial sector contracted by 5.1 percentage points to 25.3 %. The changes in the new Member States could also be associated with rapid growth within the business services sector. This was likely to have resulted from an increase in outsourcing, as well as changes in the business paradigm, whereby the creation of value added is increasingly linked to the use of intangible assets.

Figure 3

Breakdown of development of GDP in current prices, EU-25 (1995=100)



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

ECONOMIC STRUCTURE OF THE EU-25'S BUSINESS ECONOMY BREAKDOWN BY ACTIVITY

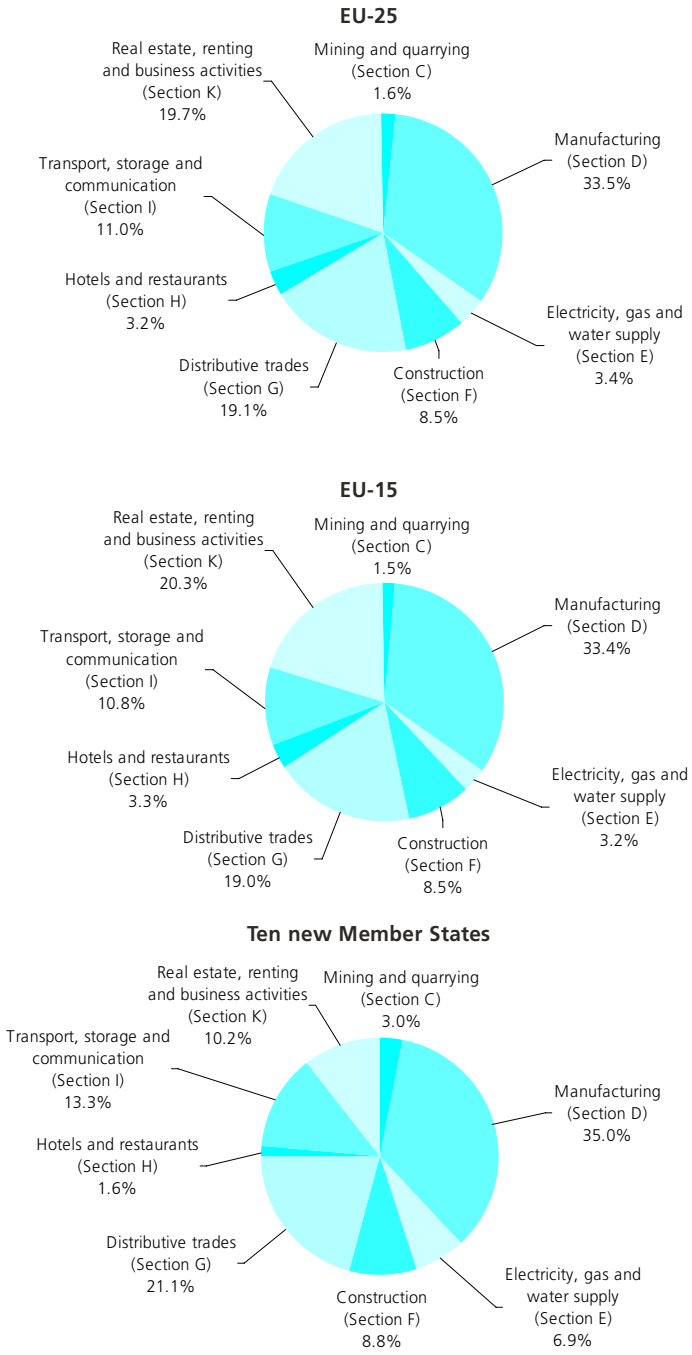
Value added in the EU-25's non-financial business economy (as defined by NACE Sections C to I and K) totalled EUR 4 585 billion in 2001. This figure could be broken down into EUR 4 341 billion among the EU-15 Member States (or 94.7 % of the EU-25 total) and EUR 244 billion among the 10 new Member States (or 5.3 % of the EU-25 total).

After more than a decade of reorganisation, the economic structure of the 10 new Member States resembled more closely those of the EU-15 Member States than they had done at the start of the 1990s. Nevertheless, there were still some notable differences that emerged when comparing the composition of value added in the non-financial business economies of the EU-15 and the 10 new Member States. Figure 4 provides a snapshot of the breakdown of value added in 2001. The 10 new Member States reported a higher proportion of their total value added being generated in six of the eight NACE sections for which data are available, when compared with the corresponding shares for the EU-15. The largest difference was recorded in the electricity, gas and water supply sector (Section E), where 6.9 % of total value added was generated in the non-financial business economy in the 10 new Member States (compared with 3.2 % in the EU-15). Transport, storage and communication (Section I), and real estate, renting and business activities (Section K) were the two NACE sections that were comparatively under-represented in the economies of the 10 new Member States. They accounted for 1.6 % and 10.2 % of total value added in the non-financial business economy in the 10 new Member States, compared with shares of 3.3 % and 20.3 % in the EU-15.

Looking at the importance of the largest mining and manufacturing sectors, it is possible to conclude that industrial activity was more diversified within the 10 new Member States than it was within the EU-15. The top five mining and manufacturing NACE subsections in the 10 new Member States accounted for 51.8 % of total mining and manufacturing value added in 2001, compared with a share of 56.1 % in the EU-15.

Figure 4

Breakdown of value added, 2001 (% share of non-financial business economy) (1)



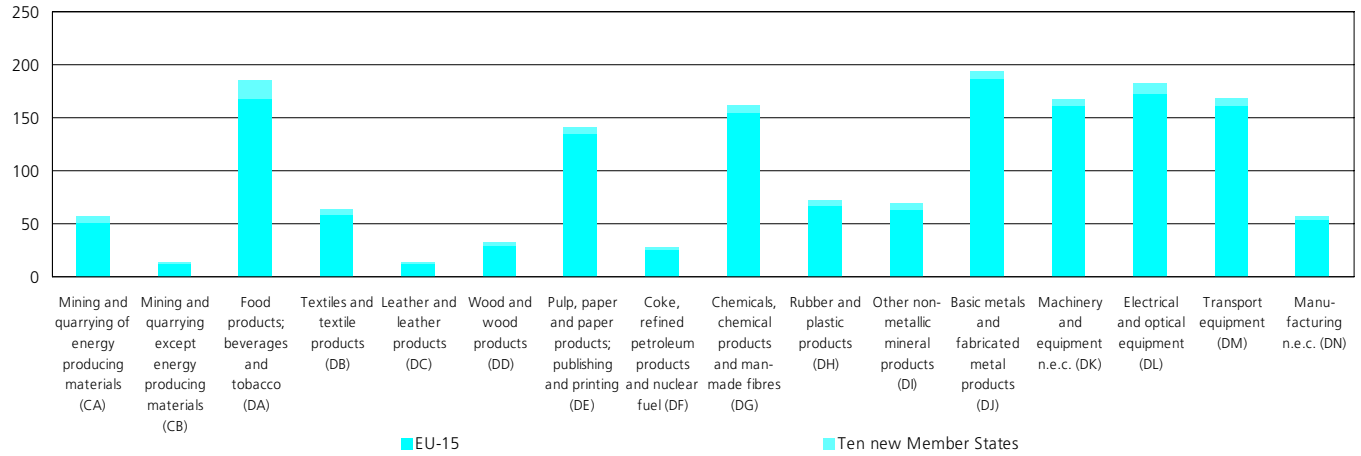
(1) Based on NACE Sections C to I and K; estimates.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

A more detailed comparison of the industrial structures of the EU-15 and new Member States economies reveals that industrial specialisation in several of the new Member States was centred on highly labour-intensive sectors. This was the case, for example, in the activities of mining and quarrying, the processing of food, beverages and tobacco, as well as the manufacture of textiles, wood products, and other non-metallic mineral products (see Figure 5). On the other hand, the EU-15 Member States reported a relatively high contribution to value added from the activities of chemicals, basic metals and fabricated metal products, machinery and equipment, and transport equipment.

Although it did not generate the highest amount of value added in the EU-25 in 2001, the food products, beverages and tobacco sector was the largest single mining and manufacturing NACE subsection in 11 of the 25 Member States in 2001. There were six Member States where the basic metals and fabricated metal products sector was largest in 2001 and these helped make this sector the largest mining and manufacturing NACE subsection in the EU-25 in 2001. Electrical and optical equipment was the largest sector in three countries, and chemicals, chemical products and man-made fibres in two countries. Three Member States reported a unique activity as their largest contributor to mining and manufacturing value added: they were Germany with the transport equipment sector, Portugal with textiles, and Sweden with pulp, paper, publishing and printing.

Figure 5

Breakdown of value added in mining and manufacturing sectors of the EU, 2001 (EUR billion)



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

Table 1

Three largest manufacturing sectors, 2001 (1)

	Largest	Second largest	Third largest
EU-25	Basic metals and fabricated metal products	Food products; beverages and tobacco	Electrical and optical equipment
BE	Chemicals, chemical products and man-made fibres	Basic metals and fabricated metal products	Food products; beverages and tobacco
CZ	Basic metals and fabricated metal products	Transport equipment	Electrical and optical equipment
DK (2)	Food products; beverages and tobacco	Machinery and equipment n.e.c.	Electrical and optical equipment
DE	Transport equipment	Machinery and equipment n.e.c.	Electrical and optical equipment
EE (2)	Food products; beverages and tobacco	Textiles and textile products	Wood and wood products
EL	Food products; beverages and tobacco	Basic metals and fabricated metal products	Coke, refined petroleum products and nuclear fuel
ES	Food products; beverages and tobacco	Basic metals and fabricated metal products	Chemicals, chemical products and man-made fibres
FR	Food products; beverages and tobacco	Electrical and optical equipment	Transport equipment
IE (3)	Chemicals, chemical products and man-made fibres	Electrical and optical equipment	Food products; beverages and tobacco
IT	Basic metals and fabricated metal products	Machinery and equipment n.e.c.	Electrical and optical equipment
CY	Food products; beverages and tobacco	Other non-metallic mineral products	Pulp, paper and paper products; publishing and printing
LV (4)	Food products; beverages and tobacco	Wood and wood products	Textiles and textile products
LT (2)	Food products; beverages and tobacco	Textiles and textile products	Electrical and optical equipment
LU	Basic metals and fabricated metal products	Rubber and plastic products	Other non-metallic mineral products
HU (2)	Food products; beverages and tobacco	Electrical and optical equipment	Transport equipment
MT (5)	Electrical and optical equipment	Food products; beverages and tobacco	Textiles and textile products
NL	Food products; beverages and tobacco	Pulp, paper and paper products; publishing and printing	Chemicals, chemical products and man-made fibres
AT (2)	Basic metals and fabricated metal products	Electrical and optical equipment	Machinery and equipment n.e.c.
PL (6)	Electrical and optical equipment	Transport equipment	Machinery and equipment n.e.c.
PT (7)	Textiles and textile products	Food products; beverages and tobacco	Other non-metallic mineral products
SI (2)	Basic metals and fabricated metal products	Electrical and optical equipment	Chemicals, chemical products and man-made fibres
SK (2)	Basic metals and fabricated metal products	Transport equipment	Electrical and optical equipment
FI	Electrical and optical equipment	Pulp, paper and paper products; publishing and printing	Machinery and equipment n.e.c.
SE	Pulp, paper and paper products; publishing and printing	Transport equipment	Basic metals and fabricated metal products
UK	Food products; beverages and tobacco	Pulp, paper and paper products; publishing and printing	Transport equipment

(1) Based on value added for NACE Subsections within Section D.
(2) NACE Subsections DC and DF, not available.
(3) NACE Subsections DF and DN, not available.
(4) NACE Subsections DA, DC and DF, not available.
(5) NACE Subsections DA and DF, not available.
(6) NACE Subsections DA and DI, not available.
(7) NACE Subsections DF and DH, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 1 confirms that several of the new Member States (in particular, the Baltic States, Cyprus and Malta) were reliant on traditional manufacturing sectors such as food processing, textiles, and wood processing. On the other hand, the Czech Republic, Hungary, Poland, Slovenia and Slovakia all had economic structures that more closely resembled that of the EU-15, with basic metals and fabricated metal products, electrical and optical equipment, and transport equipment often among the largest mining and manufacturing NACE subsections.

Relative specialisation ratios go a step further by looking within a particular country at the contribution of each activity to total manufacturing value added and comparing this to the same ratio for the whole of the EU-25 (in this case at the NACE group level). Table 2 shows that as well as being the largest sectors in a number of the new Member States, food processing, textiles, and wood processing activities also recorded some of the highest specialisation ratios; this was particularly true in the Baltic States. Hungary reported a relatively high degree of specialisation (compared with the EU-25 average) in the lighting equipment and electric lamps sector, and the manufacture of TV and radio receivers, sound or video recording equipment sector. Slovenia was relatively specialised in the manufacture of domestic appliances.

Among the EU-15 Member States, a similar pattern was seen, with the largest sector (in terms of value added) often one of the activities in which a country was most specialised. For example, Germany was relatively specialised in the manufacture of motor vehicles in 2001, while both Finland and Sweden were specialised in paper and wood activities. The three mining and manufacturing activities where Spain recorded its highest relative specialisation were all from the other non-metallic minerals sector. Italy and Portugal were both relatively specialised in the manufacture of leather products, while Portugal was also specialised in the textiles sector. As regards high-technology sectors, Finland was specialised in the manufacture of TV and radio transmitters and telephone apparatus and the United Kingdom was specialised in the manufacture of aircraft and spacecraft.

Table 2

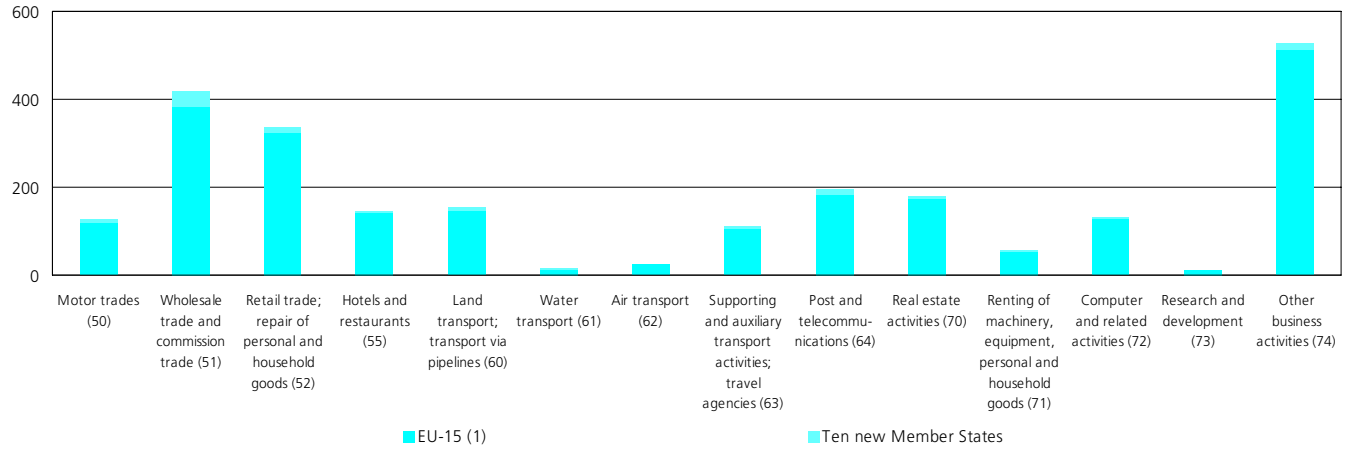
Relative specialisation ratios for value added in the manufacturing sector, 2001 (1)

BE	**CZ**	**DK**
Other textiles	Railway, tramway locomotives, rolling stock	Processing and preserving of fish and fish products
Other first processing of iron and steel non-ECSC ferro-alloys	Glass and glass products	Electric motors, generators and transformers
TV and radio receivers, sound or video recording	Textile weaving	Optical instruments and photographic equipment
DE	**EE**	**ES**
Electricity distribution and control apparatus	Sawmilling and planing of wood	Ceramic tiles and flags
Machine-tools	Processing and preserving of fish and fish products	Cutting, shaping and finishing of stone
Motor vehicles	Veneer sheets and boards	Cement, lime and plaster
FR	**IT**	**CY**
Steam generators, except central heating hot water boilers	Tanning and dressing of leather	Cement, lime and plaster
Industrial process control equipment	Footwear	Builders' carpentry and joinery
Soaps, detergents, cleaning products and toiletries	Ceramic tiles and flags	Jewellery and related articles
LV	**LT**	**LU**
Sawmilling and planing of wood	Knitted and crocheted articles	Other textiles
Veneer sheets and boards	Processing and preserving of fish and fish products	Basic iron and steel and of ferro-alloys (ECSC)
Processing and preserving of fish and fish products	Sawmilling and planing of wood	Rubber products
HU	**MT**	**NL**
Lighting equipment and electric lamps	Games and toys	Building and repairing of ships and boats
TV and radio receivers, sound or video recording	Electronic valves and tubes and other electronic components	Vegetable and animal oils and fats
Vegetable and animal oils and fats	Building and repairing of ships and boats	Prepared animal feeds
AT	**PL**	**PT**
Sports goods	Veneer sheets and boards	Footwear
Sawmilling and planing of wood	Processing and preserving of fruit and vegetables	Knitted and crocheted fabrics
Basic iron and steel and of ferro-alloys (ECSC)	Building and repairing of ships and boats	Other products of wood; cork, straw and plaiting materials
SI	**SK**	**FI**
Made-up textile articles	Other first processing of iron and steel non-ECSC ferro-alloys	TV and radio transmitters and telephone apparatus
Domestic appliances n.e.c.	Man-made fibres	Pulp, paper and paperboard
Tanning and dressing of leather	Railway, tramway locomotives, rolling stock	Sawmilling and planing of wood
SE	**UK**	
Pulp, paper and paperboard	Processing of nuclear fuel	
Sawmilling and planing of wood	Aircraft and spacecraft	
Tubes	Miscellaneous manufacturing n.e.c.	

(1) Three most specialised manufacturing activities per country; based on NACE Groups and their specialisation ratios in terms of value added at factor cost; only NACE Groups with a share > 0.5% of national manufacturing are included; table based on available NACE for each country; Greece and Ireland, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Figure 6

Breakdown of value added in the non-financial services sector, EU, 2001 (EUR billion)



(1) 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

The EU-25 generated EUR 2 430 billion of value added in the non-financial services sector in 2001; some 95.4 % of this total was accounted for by the EU-15. Within the services sector (see Figure 6) the five largest non-financial services' divisions contributed 74.1 % to total non-financial services' value added in the 10 new Member States in 2001, compared with 67.9 % in the EU-15. This result was in contrast to that of the mining and manufacturing sector where there was more diversification in the 10 new Member States. The biggest difference was the comparatively high contribution of the wholesale trade sector to the non-financial services' total value added within the 10 new Member States and the relatively low contribution of other business activities within the economies of the 10 new Member States.

Within the EU-25 the largest services sectors (at the NACE division level) in 2001 were other business activities, wholesale trade, and retail trade (see Table 3). These activities often appeared among the three largest services sectors when looking at the largest sectors in each country. Indeed, this was the case in all but three of the EU-15 Member States for which data are available [(5)]. The exceptions were Denmark and Sweden, where real estate activities generated more value added than the retail trade sector and Luxembourg, where post and telecommunications generated more value added than the retail trade sector. This same sector (post and telecommunications) also played a relatively important role in the generation of value added in the non-financial services sector of 5 of the 10 new Member States. It was the largest non-financial services sector in Hungary in 2001, the second largest services sector in Latvia and Slovakia, and the third largest in the Czech Republic and Lithuania. The other main divergence in the ranking of services sectors among the new Member States was the elevated position of the hotels and restaurants sector in the two Mediterranean islands of Cyprus and Malta. Indeed, the hotels and restaurants sector was the largest contributor to non-financial services' value added in 2001 in both of these countries.

Table 3

Three largest non-financial services sectors, 2001 (1)

	Largest	Second largest	Third largest
EU-25 (2)	Other business activities	Wholesale trade	Retail trade
BE	Other business activities	Wholesale trade	Retail trade
CZ	Wholesale trade	Other business activities	Post and telecommunications
DK	Wholesale trade	Other business activities	Real estate activities
DE (3)	Other business activities	Wholesale trade	Retail trade
EE (4)	Wholesale trade	Auxiliary transport activities	Retail trade
EL	:	:	:
ES	Wholesale trade	Other business activities	Retail trade
FR	Other business activities	Retail trade	Wholesale trade
IE (5)	Other business activities	Retail trade	Wholesale trade
IT	Other business activities	Wholesale trade	Retail trade
CY (6)	Hotels and restaurants	Wholesale trade	Retail trade
LV	Wholesale trade	Post and telecommunications	Retail trade
LT	Wholesale trade	Land transport	Post and telecommunications
LU	Other business activities	Wholesale trade	Post and telecommunications
HU	Post and telecommunications	Wholesale trade	Land transport
MT (2) (7)	Hotels and restaurants	Wholesale trade	Air transport
NL (8)	Other business activities	Wholesale trade	Retail trade
AT	Wholesale trade	Other business activities	Retail trade
PL (9)	Wholesale trade	Other business activities	Land transport
PT	Wholesale trade	Retail trade	Other business activities
SI (10)	Wholesale trade	Other business activities	Retail trade
SK (4)	Wholesale trade	Post and telecommunications	Other business activities
FI	Wholesale trade	Other business activities	Retail trade
SE	Other business activities	Wholesale trade	Real estate activities
UK	Other business activities	Wholesale trade	Retail trade

(1) Based on value added for NACE Divisions within Sections G, H, I and K. (2) NACE Division 73, not available.
(3) 2000. (4) NACE Divisions 61 and 62, not available. (5) NACE Divisions 61, 62 and 63, not available.
(6) NACE Divisions 70, 71, 72, 73 and 74, not available. (7) NACE Division 71, 2000.
(8) NACE Division 73, 2000. (9) NACE Divisions 61, 62, 63 and 64, not available.
(10) NACE Divisions 60 and 61, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

[(5)] Greece, not available.

Specialisation ratios can also be produced for the services sector, looking at the proportion of non-financial services' value added accounted for by a particular activity within each country and comparing this to the same ratio for the whole of the EU-25 in 2001. The most specialised activities (at the NACE group level) in the majority of countries were within the distributive trades sector, spread across the activities of motor trades, wholesale trade, and retail trade. However, the data presented in Table 4 confirm the importance of the hotels and restaurants sector in Cyprus and Malta (as well as in Spain and Austria). The highest degree of specialisation in the services sector in Hungary was recorded for the telecommunications sector, which registered the third highest specialisation ratio in Slovakia.

Table 4

Relative specialisation in the non-financial services sector, 2001 (1)

BE	**CZ**	**DK**
Wholesale of machinery, equipment and supplies	Other wholesale	Wholesale of machinery, equipment and supplies
Labour recruitment and provision of personnel	Retail sale of automotive fuel	Wholesale of agricultural raw materials, live animals
Wholesale of household goods	Wholesale of non-agricultural intermediate products	Real estate activities
EE	**ES**	**FR**
Supporting and auxiliary transport activities; travel agencies	Retail sale of food, beverages, tobacco in specialized stores	Labour recruitment and provision of personnel
Retail sale of automotive fuel	Hotels; camping sites, other short-stay accommodation	Retail sale of pharmaceuticals, cosmetics & toiletries
Wholesale of non-agricultural intermediate products	Restaurants; bars; canteens and catering	Wholesale of agricultural raw materials, live animals
IE	**IT**	**CY (2)**
Wholesale of food, beverages and tobacco	Wholesale on a fee or contract basis	Hotels; camping sites, other short-stay accommodation
Computer and related activities	Maintenance and repair of motor vehicles	Restaurants; bars; canteens and catering
Hotels; camping sites, other short-stay accommodation	Industrial cleaning	Air transport
LV	**LT**	**LU**
Wholesale of non-agricultural intermediate products	Retail sale of automotive fuel	Air transport
Retail sale of automotive fuel	Transport via railways	Inland water transport
Retail sale not in stores	Sale of motor vehicle parts and accessories	Transport via railways
HU	**MT**	**NL**
Other wholesale	Air transport	Inland water transport
Telecommunications	Hotels; camping sites, other short-stay accommodation	Wholesale of agricultural raw materials, live animals
Retail sale of automotive fuel	Supporting and auxiliary transport activities; travel agencies	Wholesale of machinery, equipment and supplies
AT	**PL**	**PT**
Hotels; camping sites, other short-stay accommodation	Other wholesale	Air transport
Wholesale of agricultural raw materials, live animals	Retail sale of automotive fuel	Wholesale of household goods
Wholesale of machinery, equipment and supplies	Wholesale of food, beverages and tobacco	Wholesale of food, beverages and tobacco
SI	**SK**	**FI**
Wholesale on a fee or contract basis	Wholesale on a fee or contract basis	Wholesale of machinery, equipment and supplies
Other wholesale	Other wholesale	Other land transport
Retail sale of automotive fuel	Telecommunications	Air transport
SE	**UK**	
Real estate activities	Miscellaneous business activities n.e.c.	
Retail sale of automotive fuel	Air transport	
Computer and related activities	Labour recruitment and provision of personnel	

(1) Three most specialised non-financial services sectors per country; based on specialisation ratios in terms of value added at factor cost; only NACE with a share >0.5% of national non-financial services (NACE Sections G, H, I and K) are included; NACE Groups 60.3, 61.1, 74.2, 74.3 and 74.6 and NACE Division 73, not available; NACE 55.1 and 55.2 and NACE 55.3 to 55.5 are aggregated; no breakdown available for NACE Divisions 62, 63, 70, 71 and 72; table based on available NACE for each country; Germany and Greece, not available.
(2) Excluding NACE Section K.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Table 5

Breakdown of activity by enterprise size-class, EU-25, 2001 (% share of value added and employment in each NACE Section) (1)

	Value added				Employment			
NACE label (NACE Section)	Micro (1 to 9 persons employed)	Small (10-49 persons employed)	Medium (50-249 persons employed)	Large (250 or more persons employed)	Micro (1 to 9 persons employed)	Small (10-49 persons employed)	Medium (50-249 persons employed)	Large (250 or more persons employed)
Mining and quarrying (C)	11.3	8.7	17.5	62.5	4.6	13.7	13.2	68.5
Manufacturing (D)	7.3	15.8	22.0	54.9	9.6	20.6	25.2	44.5
Electricity, gas and water supply (E)	5.3	4.1	11.5	79.1	1.9	5.0	13.6	79.5
Construction (F)	31.5	32.2	17.8	18.5	30.4	36.0	18.3	15.3
Distributive trades (G)	26.8	24.4	17.9	30.8	39.6	21.2	12.4	26.8
Hotels & restaurants (H)	38.4	24.3	12.7	24.6	45.7	24.4	10.2	19.7
Transport, storage & communication (I)	11.1	11.9	10.6	66.4	17.0	14.4	11.7	56.9
Real estate, renting & business activities (K)	32.9	19.9	18.7	28.5	31.9	18.0	16.7	33.4

(1) Data are provided for the non-financial business economy (NACE Sections C to I and K); NACE Sections C to F, employment data relates to the number of employees instead of the number of persons employed.
Source: Eurostat, Structural Business Statistics (theme4/sbs/sizclass).

ECONOMIC STRUCTURE OF THE EU-25'S BUSINESS ECONOMY BREAKDOWN BY SIZE CLASS

There is, a priori, no optimum structure for the size of an enterprise. During the mid-1900s most economists agreed that economic modernisation was linked to increasing economies of scale. However, the subsequent rapid growth of the services sector, often on the back of an enterprise structure that was dominated by small and medium-sized enterprises (SMEs), led to a revision of these theories. The link between scale economies and increased productivity and competitiveness was further questioned when a large number of industrial conglomerates re-focused on their core activities during the 1980s and 1990s, while at the same time the complexity of production structures evolved, as industrial subcontracting and outsourcing emerged as new economic models alongside 'Just-in-Time' (JIT) production methods. However, it is clear that in some activities, particularly those characterised by network provision (for example, electricity supply or transport and communications), a minimum efficient scale of production exists.

Table 5 provides information on the breakdown of value added and employment according to enterprise size-class. While the vast majority of enterprises in the EU-25 are small (with less than 50 persons employed), they do not account for the majority of value added or employment. In 2001, large enterprises (with 250 or more persons employed) generated a majority of the value added in the mining and quarrying, manufacturing, electricity, gas and water supply, and transport, storage and communications sectors, their share of total value added rising as high as 79.1 % for electricity, gas and water supply. Large enterprises usually accounted for a lower proportion of total employment and as such it is possible to say that they were generally more productive than smaller enterprises. However, this relationship was not valid in three of the NACE sections for which data are available in Table 5: mining and quarrying, electricity, gas and water supply, and real estate, renting and business activities.

A more detailed breakdown of value added is presented in Table 6, with data provided at the level of NACE divisions. On average, large enterprises generated 43.3 % of the total value added generated in 2001 in the EU-25 within the non-financial business economy. This was considerably above the proportion of value added that was associated with each of the three other size-classes, which were all situated within the narrow range of 18 to 20 % of total value added.

Table 6

Breakdown of value added by enterprise size-class, EU-25, 2001 (% share of value added in each NACE Division) (1)

NACE label (NACE Division)	Micro (1 to 9 persons employed)	Small (10-49 persons employed)	Medium (50-249 persons employed)	Large (250 or more persons employed)
NON-FINANCIAL BUSINESS ECONOMY (Sections C to I and K)	19.5	19.0	18.2	43.3
Mining of coal and lignite; extraction of peat (10)	1.4	1.7	4.8	92.1
Extraction of crude petroleum and natural gas (11)	13.7	3.2	17.9	65.2
Mining of metal ores (13)	0.2	0.6	6.5	92.6
Other mining and quarrying (14)	11.8	36.0	27.6	24.6
Manufacture of food products and beverages (15)	8.7	15.1	23.0	53.1
Manufacture of tobacco products (16)	0.2	11.5	5.8	82.6
Manufacture of textiles (17)	9.8	23.8	35.4	31.0
Manufacture of wearing apparel; dressing; dyeing of fur (18)	17.4	28.4	27.3	26.9
Tanning, dressing of leather; manufacture of luggage (19)	17.5	30.3	28.6	23.6
Wood and products of wood and cork, except furniture (20)	22.1	31.3	25.3	21.2
Pulp, paper and paper products (21)	2.5	9.5	24.3	63.7
Publishing, printing, reproduction of recorded media (22)	13.9	22.7	23.7	39.7
Coke, refined petroleum products and nuclear fuel (23)	0.5	3.0	3.9	92.6
Chemicals and chemical products (24)	1.4	5.6	16.7	76.3
Rubber and plastic products (25)	5.1	18.4	32.5	44.0
Other non-metallic mineral products (26)	7.1	18.1	26.4	48.3
Basic metals (27)	1.6	7.5	19.7	71.2
Fabricated metal products, except machinery and equipment (28)	14.1	34.3	29.0	22.6
Machinery and equipment n.e.c. (29)	6.2	17.1	27.4	49.3
Office machinery and computers (30)	5.1	7.0	12.1	75.9
Electrical machinery and apparatus n.e.c. (31)	4.4	11.8	19.7	64.1
Radio, television and communication equipment and apparatus (32)	3.6	7.0	12.1	77.2
Medical, precision and optical instruments, watches and clocks (33)	10.7	18.1	24.1	47.1
Motor vehicles, trailers and semi-trailers (34)	0.8	3.1	8.1	88.0
Other transport equipment (35)	2.7	5.3	10.6	81.4
Furniture; manufacturing n.e.c. (36)	17.9	25.8	28.2	28.2
Recycling (37)	21.5	41.1	25.9	11.5
Electricity, gas, steam and hot water supply (40)	5.2	3.4	10.6	80.8
Collection, purification and distribution of water (41)	6.4	9.4	18.6	65.5
Construction (45)	31.5	32.2	17.8	18.5
Sale, maintenance and repair of motor vehicles (50)	27.6	27.9	20.6	23.9
Wholesale trade and commission trade (51)	24.0	29.2	22.1	24.7
Retail trade (52)	30.1	17.3	11.7	41.0
Hotels and restaurants (55)	38.4	24.3	12.7	24.6
Land transport (60)	22.5	21.2	14.3	42.0
Air transport (62)	1.7	2.9	10.6	84.8
Supporting and auxiliary transport activities; travel agencies (63)	12.4	18.7	18.7	50.2
Post and telecommunications (64)	1.7	1.3	2.0	95.0
Real estate activities (70)	53.3	18.1	16.9	11.6
Renting of machinery and equipment (71)	27.9	22.2	24.8	25.1
Computer and related activities (72)	20.7	17.8	20.2	41.3
Research and development (73)	8.0	9.2	27.9	54.9
Other business activities (74)	30.1	21.0	18.0	31.0

(1) Data are provided for the non-financial business economy (NACE Sections C to I and K); NACE Divisions 12 and 61, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/sizclass).

OUTPUT AND PRICE TRENDS

To study the evolution of the industrial economy over time, the short-term statistics (STS) database can be used to obtain annual indices for industrial production, output prices and turnover. These two concepts are linked to the production of branches and not to the production of sectors.

EU-25 industrial output (NACE Sections C to E) rose by 0.6 % between 2002 and 2003 (based on annual averages for both of these years), having recorded a contraction of 0.6 % in 2002 and a modest increase of 0.2 % in 2001 (see Figure 7). These figures could be contrasted with those for the period 1995 to 2000, when in four of the six years considered industrial output rose by upwards of 3 %, the highest growth rate being reported in 2000 when EU-25 industrial production grew by 4.8 %.

Industrial output in the 10 new Member States generally rose at a faster pace in recent years compared with the EU-15 Member States. Taking the five-year period from 1998 to 2003, industrial output rose, on average, by at least 3.9 % in Ireland, Estonia, Lithuania, Poland and Finland. There followed a group of three countries where industrial output rose on average by between 2.0 and 3.0 % over the same period: Latvia, Luxembourg and Slovenia. The United Kingdom was the only Member State to report declining industrial output during the period 1998 to 2003 [(6)].

[(6)] The Czech Republic, Greece, Cyprus, Hungary, Malta, Austria and Slovakia, not available.

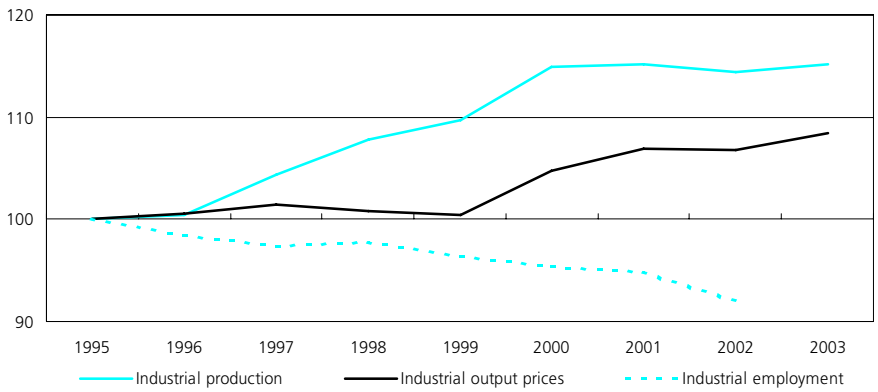
The evolution of EU-25 production across different manufacturing subsections showed wide variations (see Table 7). The fastest expanding sectors (with annual average growth of between 3.3 to 4.2 % during the period 1995 to 2003) included chemicals, chemical products and man-made fibres, electrical and optical equipment, and transport equipment. There was also fairly high growth (2.2 %) recorded in the rubber and plastic products sector. Moderate growth (of between 1.0 and 1.5 %) per annum was recorded for pulp, paper and paper products, publishing and printing, food products, beverages and tobacco, basic metals and fabricated metal products, wood and wood products, as well as machinery and equipment. At the other end of the range, textiles and textile products, and leather and leather products both reported annual average declines of close to 4 % during the period 1995 to 2003. The coke, refined petroleum products and nuclear fuels sector was the only other manufacturing NACE subsection to report that output fell.

Industrial output prices rose overall by 8.4 % between 1995 and 2003 within the EU-25. Having fallen by 0.1 % for both the EU-25 and the EU-15 in 2002, industrial output prices rose by 1.6 % in the EU-25 and by 1.5 % in the EU-15 in 2003. Between 2002 and 2003 prices fell in Lithuania (0.7 %) and the Czech Republic (0.3 %), while they increased by 4.0 % or more in Slovakia, Sweden, Hungary, the Netherlands and Luxembourg.

Manufacturing (NACE Section D) prices rose at an almost identical pace to industrial prices (8.2 %) during the period 1995 to 2003; this was equivalent to a 1.0 % increase per annum over the period considered. Over the same period the mining and quarrying sector (NACE Section C), and the electricity, gas and water supply sector (NACE Section E) had much higher price increases (22.0 % and 18.2 % respectively in the EU-25). The price of oil played an important role in determining prices in both of these sectors.

Figure 7

Evolution of main indicators for total industry (NACE Sections C to E), EU-25 (1995=100)



Source: Eurostat, European Business Trends.

Table 7

Development of industrial production, EU-25, growth rates (%)

NACE label (NACE code)	1995	1996	1997	1998	1999	2000	2001	2002	2003
TOTAL INDUSTRY (C-E)	3.2	0.5	3.9	3.3	1.7	4.8	0.2	-0.6	0.6
Mining and quarrying (C)	2.3	1.6	-2.2	-0.9	1.3	-2.8	-4.1	1.0	-3.1
Manufacturing (D)	3.2	0.1	4.5	3.6	1.6	5.2	0.2	-0.9	0.6
Food products; beverages and tobacco (DA)	1.5	1.5	3.1	0.9	1.3	0.9	1.1	1.9	0.8
Textiles and textile products (DB)	-1.9	-4.4	0.6	-2.3	-7.0	-1.4	-3.6	-7.5	-4.6
Leather and leather products (DC)	1.0	-3.4	1.1	-5.4	-3.9	-3.3	-4.0	-7.8	-8.7
Wood and wood products (DD)	-0.9	-3.4	4.4	3.3	2.6	5.4	-3.0	0.6	0.8
Pulp, paper and paper products; publishing and printing (DE)	-1.4	-0.7	4.2	3.5	3.2	2.4	-1.2	0.2	0.4
Coke, refined petroleum products and nuclear fuel (DF)	1.7	-0.2	-2.1	1.9	-5.6	2.4	-0.2	-2.5	2.1
Chemicals, chemical products and man-made fibres (DG)	3.6	2.7	6.4	3.2	4.6	5.2	2.8	4.8	2.1
Rubber and plastic products (DH)	3.0	-0.9	5.8	4.5	2.5	4.8	-0.7	0.1	1.7
Other non-metallic mineral products (DI)	2.0	-2.7	2.9	2.3	2.3	3.8	-0.9	-1.9	1.3
Basic metals and fabricated metal products (DJ)	5.1	-1.3	4.7	3.1	-0.7	5.8	0.1	-1.2	-0.1
Machinery and equipment n.e.c. (DK)	7.7	0.3	2.9	2.7	-2.5	5.7	1.6	-1.3	-1.1
Electrical and optical equipment (DL)	5.5	1.5	5.6	6.4	5.9	14.2	-1.4	-5.3	0.7
Transport equipment (DM)	3.1	2.4	8.0	9.0	3.9	5.7	1.9	-0.3	3.2
Manufacturing n.e.c. (DN)	-0.2	-0.9	1.9	5.1	2.7	2.9	0.1	-4.2	-2.1
Electricity, gas and water supply (E)	3.4	3.3	0.6	2.5	2.1	3.3	2.4	0.4	3.2

Source: Eurostat, European Business Trends.

Table 8

Development of domestic output prices, EU-25, growth rates (%)

NACE label (NACE code)	1995	1996	1997	1998	1999	2000	2001	2002	2003
TOTAL INDUSTRY (C-E)	4.3	0.5	0.9	-0.6	-0.4	4.3	2.0	-0.1	1.6
Mining and quarrying (C)	:	-2.1	4.1	0.2	0.2	8.8	5.5	1.1	2.7
Manufacturing (D)	4.8	1.1	0.6	-0.7	0.1	4.5	1.1	0.2	1.1
Food products; beverages and tobacco (DA)	:	2.3	1.4	-0.2	-0.7	1.7	4.0	1.1	1.6
Textiles and textile products (DB)	4.1	1.0	0.8	0.9	-0.1	1.2	1.5	0.4	0.5
Leather and leather products (DC)	4.7	2.0	1.5	1.3	0.3	2.0	4.4	2.2	0.7
Wood and wood products (DD)	5.0	-1.0	1.3	0.7	-0.6	0.9	0.9	-0.1	0.7
Pulp, paper and paper products; publishing and printing (DE)	:	-0.8	-1.1	0.9	-0.3	4.9	1.9	0.0	0.2
Coke, refined petroleum products and nuclear fuel (DF)	3.6	7.7	2.4	-10.4	10.9	36.0	-5.0	-2.2	3.5
Chemicals, chemical products and man-made fibres (DG)	7.4	-1.3	0.9	-1.7	-0.7	6.4	1.5	-0.7	1.9
Rubber and plastic products (DH)	6.7	0.0	-0.5	-0.7	-0.9	2.2	1.1	0.0	0.4
Other non-metallic mineral products (DI)	2.7	1.0	1.0	1.1	1.3	1.9	2.5	1.7	0.7
Basic metals and fabricated metal products (DJ)	:	-0.9	0.5	0.7	-2.2	4.3	0.4	-0.1	1.7
Machinery and equipment n.e.c. (DK)	3.3	2.7	1.5	1.1	0.8	1.0	1.5	1.3	0.9
Electrical and optical equipment (DL)	:	-0.9	-1.6	-2.3	-1.9	-0.8	-1.6	-1.4	-1.7
Transport equipment (DM)	:	1.9	0.2	0.9	0.6	0.3	0.6	1.2	0.8
Manufacturing n.e.c. (DN)	:	3.0	1.0	1.1	1.0	1.3	1.6	1.7	1.7
Electricity, gas and water supply (E)	:	-0.3	1.9	-2.1	-3.4	6.6	7.9	-0.3	7.4

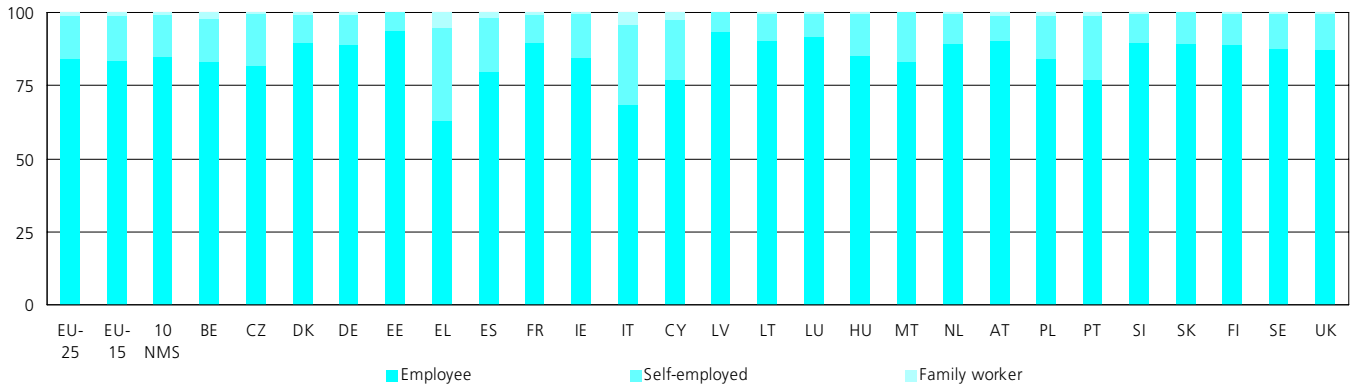
Source: Eurostat, European Business Trends.

With the exception of the coke, refined petroleum products and nuclear fuels sector (NACE Subsection DF), where price increases averaged 4.6 % per annum between 1995 and 2003 in the EU-25, none of the manufacturing subsections reported that output prices rose by more than 2 % per annum. Electrical and optical equipment was the only sector to report that output prices for the EU-25 fell, down by more than 11 % between 1995 and 2003 (see Table 8).

Lengthy time-series for annualised short-term statistics only exist for a limited number of service sectors, mainly within the area of distributive trades. These show that turnover in the EU-25 rose, on average, by 2.9 % per annum in the wholesale trade sector and by 3.4 % per annum in the hotels and restaurants sector between 1995 and 2002. Note that these growth rates are not deflated and hence include price changes. The index of the volume of sales (deflated turnover) in the retail trade sector (excluding repair of household goods) rose, on average, by 1.9 % per annum between 1995 and 2003.

Figure 8

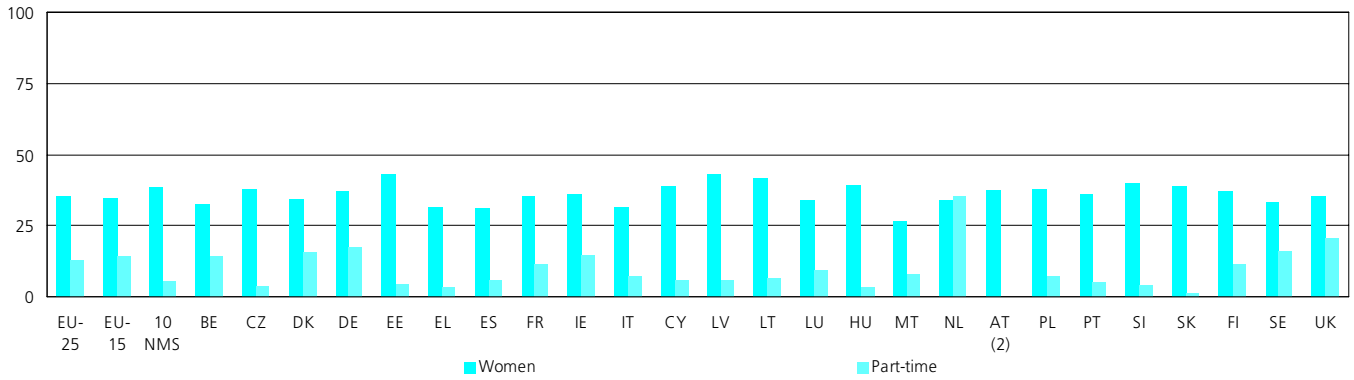
Labour force characteristics in the business economy (NACE Sections C to K) by employment status, 2002 (share of persons aged 15 or more) (%) (1)



(1) Non-response, not considered; 10 NMS, average for the ten new Member States.
Source: Eurostat, Labour Force Survey.

Figure 9

Labour force characteristics in the business economy (NACE Sections C to K), 2002 (% share of those employed aged 15 or more) (1)



(1) Non-response, not considered; 10 NMS, average for the ten new Member States.
(2) Part-time employment, not available.
Source: Eurostat, Labour Force Survey.

EMPLOYMENT TRENDS AND CHARACTERISTICS

According to the Labour Force Survey, in 2002 there were 192 million persons that made up the EU-25 workforce. The contribution of the 10 new Member States to this total was 15.1 %. Note that these figures cover the whole economy (NACE Sections A to Q). Restricting the analysis to the business economy activities (NACE Sections C to K), the EU-25 workforce was composed of 125 million persons. Of these, some 83.9 % were paid employees, 14.7 % were self-employed and the remaining 1.4 % were family workers (see Figure 8).

The main difference in the composition of the EU-15 and the 10 new Member States' workforces in terms of employment characteristics was the apparently low proportion (0.8 %) of family workers in the business economy workforce (NACE Sections C to K) of the 10 new Member States. However, closer inspection of the data reveals that the share of family workers in the 10 new Member States was not atypical. Rather, the difference was due to the relatively high proportion of family workers in the four southern EU-15 Member States of Greece, Spain, Italy and Portugal (where family workers accounted, on average, for 3.3 % of the total workforce). If these four countries are removed from the EU-15 aggregate, then the proportion of family workers in the total workforce of the 10 new Member States was identical to the other EU-15 Member States (0.8 %).

A breakdown by gender reveals that there were 81.1 million men and 43.9 million women working in the EU-25's business economy in 2002. As such, women accounted for 35.1 % of the business economy workforce, compared with 43.4 % within the whole economy (NACE Sections A to Q). This could be explained by a higher proportion of women working in areas such as education, health and social work, community and personal services. The 10 new Member States generally reported that women made up a higher proportion of the business economy workforce than in the EU-15 Member States, some 38.5 % compared with 35.1 % (see Figure 9). The Baltic States were the only Member States where the proportion of women in the business economy workforce rose to above 40 %. Malta was the only country where the proportion of women fell below 30 %, although Greece, Spain and Italy all registered shares that were between 30 and 32 %.

There were relatively large differences between the EU-15 and the 10 new Member States as regards the propensity to employ on a part-time basis (see again Figure 9). Some 14.3 % of the business economy workforce in the EU-15 had a part-time work contract in 2002, compared with just 5.3 % of the workforce in the 10 new Member States. All 10 of the new Member States had a part-time employment rate that was below 10 %, as did Greece, Spain, Italy, Luxembourg and Portugal. At the other end of the range, the Netherlands stood out as having by far the highest proportion of persons with a part-time work contract (35.1 %), followed by the United Kingdom (20.7 %).

According to structural business statistics (SBS), there were 113 million persons [7] working in the EU-25's non-financial business economy in 2001 (as covered by NACE Sections C to I and K). Of these, some 32.1 % were working in the industrial sector (NACE Sections C to E), while 10.5 % were working in the construction sector (NACE Section F) and the remaining 57.3 % in the non-financial services sector (NACE Sections G to I and K) - see Table 9. The 10 new Member States had a higher share of total EU-25 employment within the industrial sector (18.1 %) as compared with the construction (12.7 %) or non-financial services sectors (11.9 %).

[7] Slovenia, number of employees; Cyprus, excluding NACE Section K; Malta, excluding NACE Section E.

This pattern of relatively high proportions of the total number of persons employed within industrial activities was repeated in 9 of the 10 new Member States. Indeed, Cyprus was the only one of the new Member States to report a higher proportion of EU-25 persons employed in the non-financial services sector. Within the EU-15 Member States it was common to find a higher proportion of the EU-25 workforce within the non-financial services sector; this was particularly the case in the Benelux countries, Denmark, France, Austria and the United Kingdom. Spain and Portugal reported a relatively high proportion of the EU-25 workforce within the construction sector, while Germany accounted for 21.8 % of the industrial workforce compared with 15.7 % of the non-financial services workforce.

Table 9

Number of persons employed in the non-financial business economy, 2001 (1)

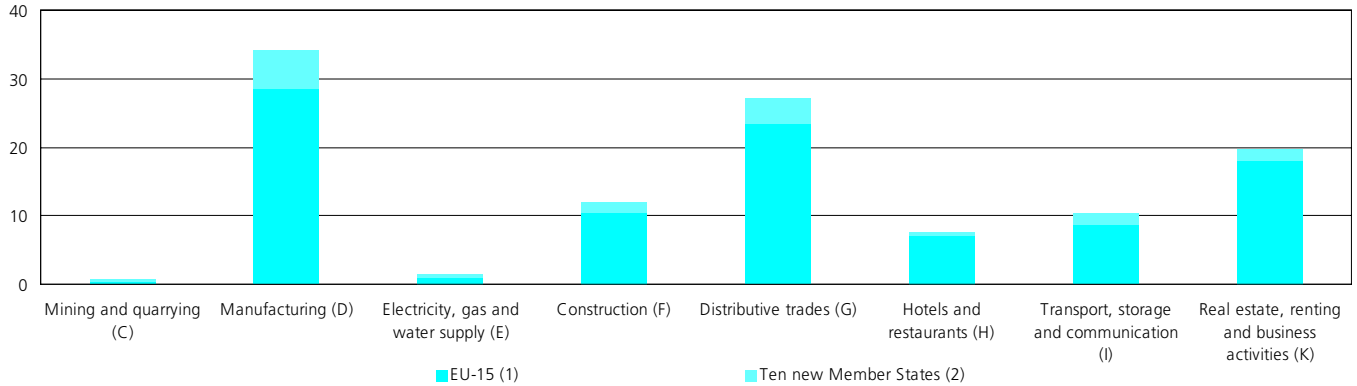
NACE label (NACE Section)	EU-25	EU-15	10 NMS	BE	CZ	DK	DE (2)	EE	EL (3)	ES	FR	IE (4)	IT	CY (5)
Non-financial business economy (C to I and K)														
Number of persons employed (thousands)	112 955	97 175	15 780	2 485	3 535	1 714	20 089	356	349	11 462	14 027	887	14 022	176
Share of EU-25 (%)	100.0	86.0	14.0	2.2	3.1	1.5	17.8	0.3	:	10.1	12.4	:	12.4	0.2
Mining and quarrying; manufacturing; electricity, gas and water supply (C to E)														
Number of persons employed (thousands)	36 294	29 736	6 559	709	1 518	498	7 917	140	257	2 762	4 312	271	5 003	39
Share of EU-25 (%)	100.0	81.9	18.1	2.0	4.2	1.4	21.8	0.4	0.7	7.6	11.9	0.7	13.8	0.1
Construction (F)														
Number of persons employed (thousands)	11 900	10 385	1 515	278	376	184	1 988	31	92	1 953	1 458	:	1 529	27
Share of EU-25 (%)	100.0	87.3	12.7	2.3	3.2	1.5	16.7	0.3	0.8	16.4	12.3	:	12.8	0.2
Non-financial services (G to I and K)														
Number of persons employed (thousands)	64 761	57 054	7 707	1 499	1 640	1 027	10 184	186	:	6 747	8 257	582	7 490	110
Share of EU-25 (%)	100.0	88.1	11.9	2.3	2.5	1.6	15.7	0.3	:	10.4	12.7	0.9	11.6	0.2

	LV	LT	LU	HU	MT	NL	AT	PL	PT	SI (6)	SK	FI	SE	UK
Non-financial business economy (C to I and K)														
Number of persons employed (thousands)	496	699	179	1 665	108	5 027	2 215	7 254	2 813	549	942	1 216	2 617	18 145
Share of EU-25 (%)	0.4	0.6	0.2	1.5	0.1	4.4	2.0	6.4	2.5	0.5	0.8	1.1	2.3	16.1
Mining and quarrying; manufacturing; electricity, gas and water supply (C to E)														
Number of persons employed (thousands)	174	281	36	828	32	972	668	2 811	952	255	480	457	831	4 092
Share of EU-25 (%)	0.5	0.8	0.1	2.3	0.1	2.7	1.8	7.7	2.6	0.7	1.3	1.3	2.3	11.3
Construction (F)														
Number of persons employed (thousands)	43	69	27	117	8	496	235	709	382	62	74	126	237	1 367
Share of EU-25 (%)	0.4	0.6	0.2	1.0	0.1	4.2	2.0	6.0	3.2	0.5	0.6	1.1	2.0	11.5
Non-financial services (G to I and K)														
Number of persons employed (thousands)	280	350	116	719	68	3 559	1 312	3 735	1 479	232	387	633	1 549	12 687
Share of EU-25 (%)	0.4	0.5	0.2	1.1	0.1	5.5	2.0	5.8	2.3	0.4	0.6	1.0	2.4	19.6

(1) 10 NMS, ten new Member States.
(2) NACE Section G, 2000.
(3) Excluding NACE Sections G to I and K.
(4) NACE Section F, not available.
(5) NACE Section K, not available.
(6) Number of employees.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

Figure 10

Breakdown of the number of persons employed in the non-financial business economy, 2001 (millions)



(1) Excluding Greece, NACE Sections G to I and K.
(2) Excluding Cyprus, NACE Section K; SI, number of employees.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

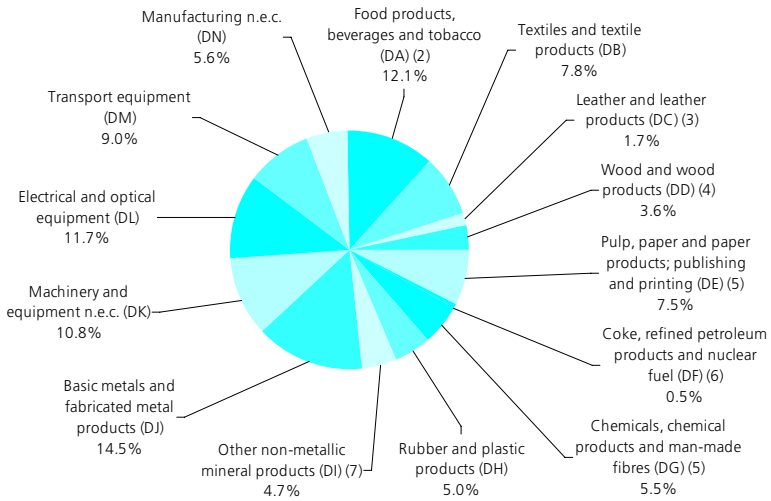
Figure 10 shows in more detail the breakdown of employment between the EU-15 and the 10 new Member States. The two NACE sections where the 10 new Member States had by far their highest share of total EU-25 employment were the activities of mining and quarrying (NACE Section C) and electricity, gas and water supply (NACE Section E). In these two sectors, the 10 new Member States accounted for 46.6 % and 32.2 % respectively of EU-25 employment in 2001, with the next highest proportion recorded in the manufacturing sector (NACE Section D), where the 10 new Member States occupied 16.9 % of the EU-25 workforce. Two services sectors stood out at the lower end of the ranking; they were real estate, renting and business activities (NACE Section K) and hotels and restaurants (NACE Section H), where the 10 new Member States occupied less than 1 in 10 of the EU-25's workforce (8.7% and 7.6 % respectively).

A breakdown of EU-25 employment in the manufacturing sector by NACE subsection is provided in Figure 11. This shows (as with the analysis of value added) that the largest manufacturing sector in the EU-25 in 2001 was the activity of basic metals and fabricated metal products (NACE Subsection DJ), which employed around 4.8 million persons, or 14.5 % of the non-financial business economy. The second and third largest activities in the EU-25's manufacturing sector, as measured by the number of persons employed, were also identical to the ranking by value added, namely, food products, beverages and tobacco (NACE Subsection DA) and electrical and optical equipment (NACE Subsection DL).

The main differences were recorded in the chemicals, chemical products and man-made fibres sector (NACE Subsection DG) which was the sixth largest in terms of value added (with a 10.6 % share of the manufacturing total), but the ninth largest in terms of employment (5.5 %). This resulted in the chemicals, chemical products and man-made fibres sector recording by far the highest apparent labour productivity in the EU-25's manufacturing sector, almost EUR 89 000 per person employed. On the other hand, the textiles and textile products sector (NACE Subsection DB) occupied 7.8 % of those employed in manufacturing, while generating 4.1 % of manufacturing value added. As such, each person employed generated an average of EUR 24 100, less than 3.5 times the level in the chemicals sector. It should be noted that employment data in SBS are a simple head count and that there may be large differences in the number of part-time employees between different sectors. As such, employment can be overestimated in sectors that display a high propensity to employ on a part-time basis, as employment levels in these sectors would be considerably lower if expressed as full-time equivalents.

Figure 11

Breakdown of the number of persons employed in the manufacturing sector, EU-25, 2001 (1)



(1) All NACE Subsections for Slovenia, number of employees.
(2) Excluding Poland; Slovakia, 2000.
(3) Excluding Estonia and Slovenia; Lithuania and Hungary, 1999; Latvia, number of employees.
(4) Malta, 2000.
(5) Excluding Poland.
(6) Excluding Estonia, Lithuania, Malta, Poland, Slovenia and Slovakia; Hungary, 1999; Latvia, number of employees.
(7) Poland, number of employees.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter_ms).

EXTERNAL TRADE

The enlargement of the EU to 25 Member States resulted in approximately 75 million potential new customers within the single market, with the total number of customers rising to approximately 455 million with the accession of the new Member States. External trade statistics are based on products, as defined by the CPA (Classification of Products by Activity).

EU-25 exports of goods with non-Community countries (often called extra-EU trade, in other words, all trade with countries outside of the 25 Member States) totalled EUR 903 billion in 2002, which could be compared to EUR 942 billion of imports (see Table 10). It should be noted that, for many goods, the amount of trade that takes place within the EU is considerably higher than the flows that leave to or arrive from non-Community countries (for example, perishable goods, or goods with a low price/weight ratio). Furthermore, the data presented refer to the aggregate of all traded goods, (generally within CPA Sections A to E); as such, the data do not include trade in services, which have become an increasingly important part of the current account in most countries. The EU-25 ran a trade deficit of almost EUR 39 billion with non-Community countries in 2002, as exports covered imports by 95.9 %. The trade deficit in goods of the new Member States alone (with non-Community countries) was EUR -29 billion in 2002.

Some 80.7 % of the EUR 161 billion of exports made by the 10 new Member States in 2002 were destined for one of the other 25 Member States, while 68.9 % of the EUR 195 billion of the imports made by the new Member States originated from one of the other 25 EU countries. The growing importance of external trade between the new Member States and the EU-15 Member States means that, in particular, enterprises from the 10 new Member States are increasingly affected by economic developments within the EU-15, and vice versa, as the two economies become increasingly entwined.

Germany had the largest share of trade by EU Member States in 2002, accounting for 23.5 % of the goods that were exported (intra- and extra-EU trade combined). France, the United Kingdom, Italy, the Netherlands and Belgium all reported shares of between 13 and 8 %, while no other country had a share of more than 5 % of exports. Germany also reported the highest share of imports of goods (again from intra- and extra-EU partners), some 19.3 % of the total; the United Kingdom (13.6 %) and France (12.9 %) followed.

Table 10

External trade flows of all goods (CPA Sections A to E), 2002 (EUR million)

	Exports	Share in EU total (%)	Imports	Share in EU total (%)	Trade balance	Cover ratio (%)
EU-25 (1)	903 314	~	942 138	~	-38 824	95.9
BE	228 609	8.3	210 321	7.8	18 287	108.7
CZ	40 682	1.5	43 005	1.6	-2 323	94.6
DK	60 802	2.2	53 215	2.0	7 587	114.3
DE	651 259	23.5	518 488	19.3	132 771	125.6
EE	3 638	0.1	5 079	0.2	-1 441	71.6
EL	10 946	0.4	33 065	1.2	-22 118	33.1
ES	132 918	4.8	174 603	6.5	-41 685	76.1
FR	350 803	12.7	348 205	12.9	2 598	100.7
IE	93 337	3.4	55 429	2.1	37 909	168.4
IT	269 064	9.7	261 226	9.7	7 838	103.0
CY	449	0.0	3 903	0.1	-3 454	11.5
LV	2 417	0.1	4 279	0.2	-1 862	56.5
LT	5 537	0.2	7 958	0.3	-2 422	69.6
LU	10 814	0.4	13 907	0.5	-3 093	77.8
HU	36 503	1.3	39 927	1.5	-3 424	91.4
MT	2 144	0.1	2 799	0.1	-654	76.6
NL	258 099	9.3	231 879	8.6	26 220	111.3
AT	83 199	3.0	82 804	3.1	395	100.5
PL	43 499	1.6	58 480	2.2	-14 981	74.4
PT	28 098	1.0	42 414	1.6	-14 316	66.2
SI	10 962	0.4	11 574	0.4	-612	94.7
SK	15 234	0.6	17 517	0.7	-2 283	87.0
FI	47 742	1.7	36 187	1.3	11 556	131.9
SE	86 090	3.1	70 731	2.6	15 358	121.7
UK	296 315	10.7	366 240	13.6	-69 925	80.9

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

Among the new Member States the highest share of EU-25 trade was accounted for by Poland, which registered a 1.6 % share of all exports by EU Member States and a 2.2 % share of all imports. The only other new Member States that recorded more than 1 % of total EU exports or imports were the Czech Republic and Hungary. Every one of the 10 new Member States registered a trade deficit in goods in 2002, with only the Czech Republic, Hungary and Slovenia recording cover ratios (the ratio of exports to imports) above 90 %.

Table 11 presents information that relates uniquely to manufactured products (as covered by CPA Section D). The information presented concerns data for external trade flows with non-Community countries only. It shows that the largest sectors of the EU-25 economy as measured by value added (classified by NACE) were not always those for which the equivalent product groups (according to the CPA) had the largest trade flows. For example, the shares of food products, beverages and tobacco, and basic metals and fabricated metal products in EU-25 exports and imports of manufactured goods were considerably lower than the corresponding shares of the equivalent activities in manufacturing value added. On the other hand, there was a relatively high degree of importance for exports and imports of chemicals, and electrical and optical equipment when compared with the size of their equivalent activities in terms of value added.

A comparison of the breakdown of total manufactured imports and exports (CPA Section D) between the EU-25 and the new Member States shows that there was a higher propensity for the new Member States to export food products, beverages and tobacco, rubber and plastic products, other non-metallic mineral products, and basic metals and fabricated metal products. The EU-15 Member States were relatively specialised (in comparison with the new Member States) in exporting chemicals, chemical products and man-made fibres, machinery and equipment, and transport equipment.

In terms of imports, the new Member States imported a much higher share of electrical and optical equipment, while the EU-15 Member States imported relatively more textiles and textile products, transport equipment, and manufacturing goods not elsewhere classified (a division that includes jewellery, musical instruments, games and toys and sports goods).

Figure 12 provides information concerning the most important destinations and origin of EU-25 exports and imports of manufactured goods (CPA Section D) in 2002. These figures cover extra-EU trade with non-Community countries and do not take account of trade flows between the Member States. EU-25 exports were somewhat more diversified as the top five export partners represented 47.6 % of total exports, compared with 55.1 % for imports.

Table 11

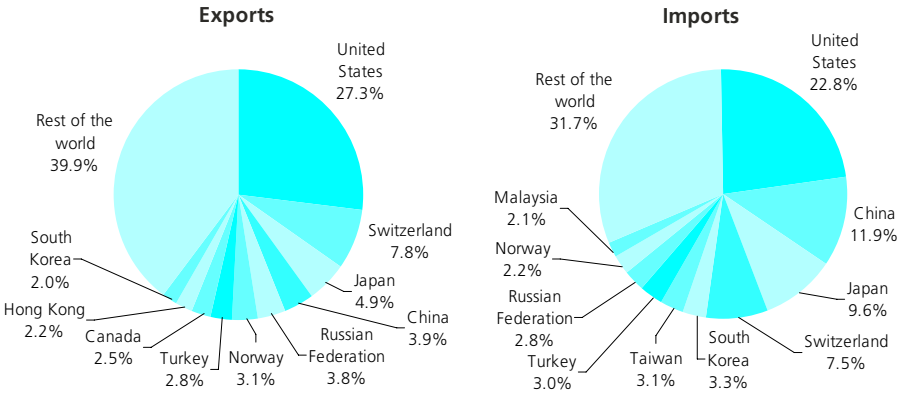
EU-25 external trade flows with non-Community countries (% share of all manufactured products)

	EU-25		Ten new Member States	
CPA label (CPA Subsection)	Exports	Imports	Exports	Imports
Food products, beverages and tobacco (DA)	5.7	5.3	9.7	4.9
Textiles and textile products (DB)	4.3	9.0	4.4	6.7
Leather and leather products (DC)	1.5	2.4	1.1	2.0
Wood and wood products (DD)	0.9	1.2	2.6	1.0
Pulp, paper and paper products; publishing and printing (DE)	2.7	1.9	4.3	1.4
Coke, refined petroleum products and nuclear fuel (DF)	2.1	3.0	1.4	3.7
Chemicals, chemical products and man-made fibres (DG)	16.3	11.3	11.0	10.0
Rubber and plastic products (DH)	2.3	2.2	4.4	2.6
Other non-metallic mineral products (DI)	1.9	1.0	4.3	1.1
Basic metals and fabricated metal products (DJ)	6.6	8.4	10.1	7.7
Machinery and equipment n.e.c. (DK)	14.9	7.8	9.5	7.5
Electrical and optical equipment (DL)	18.6	28.4	18.8	39.8
Transport equipment (DM)	18.8	13.6	14.2	9.3
Other manufactured goods n.e.c. (DN)	3.5	4.6	4.4	2.2

Source: Eurostat, Comext.

Figure 12

Destination and origin of EU-25 manufactured (CPA Section D) exports and imports, 2002



Source: Eurostat, Comext.

The United States stood out as being by far the most important trading partner of the EU-25 for manufactured goods (CPA Section D). The United States was the destination for over a quarter (27.3 %) of the EU-25's exports of manufactured goods in 2002 and was the origin of 22.8 % of the EU-25's imports. The EU-25 ran a trade surplus for manufactured goods of EUR 61.3 billion with the United States in 2002, which was more than five times the size of the next most important surpluses that were recorded with the United Arab Emirates, the Russian Federation, Australia, Saudi Arabia, Mexico, Norway, Switzerland and Hong Kong.

China was the second most important origin of imports of manufactured goods into the EU-25, with an 11.9 % share of total manufactured imports. This figure was 8 percentage points higher than China's share of EU-25 manufactured exports (3.9 %), evidence of a large trade surplus for China with the EU-25 in terms of manufactured goods (EUR 54.3 billion). Japan reported a similar pattern, accounting for 9.6 % of the EU-25's imports, compared with 4.9 % of the EU-25's exports and hence recorded a trade surplus with the EU-25 of EUR 29.7 billion. The EU-25 also ran trade deficits (for manufactured goods) of at least EUR 5 billion in 2002 with Taiwan, Malaysia, Korea (Republic of), the Philippines, Indonesia and Thailand.

BUSINESS DEMOGRAPHY

Data are available for a limited number of Member States for enterprise demography indicators (covering the birth, death and survival of enterprises). This limited data set currently reports data for 10 of the EU-15 Member States and Norway, although it has recently been expanded to include several of the new Member States (this information will become available shortly).

Business demography is of interest to policy makers as it provides measures that can be used to study entrepreneurship. Most commentators believe that new enterprises stimulate economic growth by creating jobs and making economies more dynamic. Many new enterprises are created to fill market niches. These can take the form of product markets, or alternatively, geographical markets.

For this data set the business economy is defined as NACE Sections C to K (excluding NACE Class 74.15). The birth rate in the EU [8] was 8.4 % in 1999, rising to 8.5 % in 2000, before declining to 8.3 % in 2001. This figure is derived as the ratio of the number of enterprise births to the total number of active enterprises in each reference period. There are some quite large discrepancies between countries, as birth rates in 2001 ranged between 6.6 % in Sweden and 12.2 % in Luxembourg (see Table 12).

Given that the stock of active enterprises does not vary greatly over time, it is not surprising to find that death rates are also roughly the same magnitude as birth rates. Hence, the number of enterprises that went out of business in the EU was similar in magnitude to the number of enterprises that were created. In 1998, some 7.2 % of enterprises in the EU's business economy died, a figure that fell to 7.0 % in 1999, before climbing once more to 7.3 % in 2000. There were again quite large differences between countries, as Sweden recorded the lowest death rates (5.5 % of enterprises died in that country in 2000), while the highest rates were registered in the United Kingdom, where 10.6 % of the total number of enterprises died in 2000 (see Table 13).

[8] For the whole of this section on business demography, the EU data refer to an average for Denmark, Spain, Italy, Luxembourg, the Netherlands, Finland and Sweden.

Table 12

Birth rates within the business economy (NACE Sections C to K) (enterprise births as a proportion of the total number of enterprises, %) (1)

	1998	1999	2000	2001
EU (2)	:	8.4	8.5	8.3
BE	:	:	7.0	:
DK	10.1	10.9	10.0	9.3
ES	9.7	9.6	9.7	9.1
IT	11.4	7.6	7.8	7.7
LU	13.2	13.4	12.4	12.2
NL	:	9.6	9.4	9.6
PT (3)	9.5	8.0	7.6	7.5
FI	8.5	7.6	7.3	7.2
SE	:	6.3	7.0	6.6
UK	9.1	9.6	8.9	:
NO	12.3	11.4	10.3	10.1

(1) Excluding NACE Class 74.15.
(2) Average for Denmark, Spain, Italy, Luxembourg, the Netherlands, Finland and Sweden only.
(3) Break in series, 2001, from when the data exclude sole proprietors.
Source: Eurostat, Structural Business Statistics (theme4/sbs/bus_demo).

Table 13

Death rates within the business economy (NACE Sections C to K) (enterprise deaths as a proportion of the total number of enterprises, %) (1)

	1997	1998	1999	2000
EU (2)	:	7.2	7.0	7.3
BE	:	6.7	8.7	:
DK	8.1	8.3	8.1	9.7
ES	7.7	8.0	6.9	7.2
IT	9.3	6.5	7.1	7.0
LU	8.7	9.0	9.4	9.2
NL	:	7.7	8.1	10.2
PT	7.0	6.5	6.3	:
FI	6.7	8.0	6.8	7.3
SE	7.1	5.9	5.1	5.5
UK	9.7	10.5	10.4	10.6
NO	:	:	7.6	8.3

(1) Excluding NACE Class 74.15.
(2) Average for Denmark, Spain, Italy, Luxembourg, the Netherlands, Finland and Sweden only.
Source: Eurostat, Structural Business Statistics (theme4/sbs/bus_demo).

Table 14

Survival rates within the business economy (NACE Sections C to K) (enterprises surviving as a proportion of the total number of enterprise births, %) (1)

	Enterprises born in 1998 that survived to:			Enterprises born in 1999 that survived to:	
	1999	2000	2001	2000	2001
EU (2)	:	:	:	85.2	73.6
BE	:	:	:	:	:
DK	80.6	63.8	53.5	79.7	61.9
ES	82.8	69.3	61.6	80.6	70.1
IT	83.3	71.3	62.3	88.4	76.6
LU	89.4	77.2	66.2	89.3	77.2
NL	:	:	:	84.6	71.0
PT	94.1	71.6	:	95.9	:
FI	83.0	68.4	59.2	84.2	70.6
SE	:	:	:	98.7	89.3
UK	91.8	77.8	:	93.4	:
NO	85.1	74.8	66.9	82.6	70.2

(1) Excluding NACE Class 74.15.
(2) Average for Denmark, Spain, Italy, Luxembourg, the Netherlands, Finland and Sweden only.
Source: Eurostat, Structural Business Statistics (theme4/sbs/bus_demo).

The business demography data set also allows a cohort of enterprises to be tracked over time, plotting the survival rates of a particular subset of enterprises. Table 14 shows the survival rates within the business economy of enterprises born in either 1998 or 1999. These rates are given as a proportion of the initial number of enterprise births in each of the years. As such, from the cohort of enterprises that were born in 1999 in the EU, some 85.2 % survived to the following year and by 2001 there 73.6 % of those initially born in 1999 were still surviving. For the cohort of enterprises that were born in 1998, only slightly more than half had survived to 2001 in Denmark (53.5 %), while the ratio was somewhat higher in Finland (59.2 %) Spain (61.6 %) and Italy (62.3 %), with the highest survival rates being registered in Luxembourg (66.2 %).

INFORMATION SOCIETY AND INTANGIBLES

The final section looks at the development of the knowledge-based society. Vocational training, research, innovation and the use of modern technologies are some of the ways that efficiency gains can be made in a modern economy, thus improving competitiveness. These topics have been addressed by the European Commission under various initiatives that are directed at moving the EU towards the Lisbon goal of becoming 'the most competitive and dynamic knowledge-based economy in the world' by 2010.

ICT AND E-COMMERCE USAGE AMONG ENTERPRISES

There was rapid change in the business economy during the 1990s, as telecommunications liberalisation, coupled with the growth of the Internet, led to the birth of the information society. While the buoyant growth of the ICT sector was halted abruptly in 2001, partnerships between enterprises, suppliers and consumers have continued to develop and e-business continues to provide opportunities for enterprises to access new markets.

The eEurope 2005 action plan was launched at the Seville European Council in June 2002. Its aim was to develop modern public services and 'a dynamic environment for e-business through the widespread availability of broadband access at competitive prices with a secure information infrastructure across the EU'.

The ICT usage and e-commerce survey of enterprises [9] shows that 95 % of enterprises in the EU-15 used a computer at the start of 2002, while four out of five (81 %) of these used the Internet as a working tool during 2001.

[9] The Community survey on ICT usage in enterprises was conducted in 2002. The target population for this survey was enterprises with 10 or more persons employed within the following activities: NACE Sections D and G, Groups 55.1 and 55.2, Section I, Division 67 and Section K. EU averages cover all EU-15 Member States except Belgium, France and the United Kingdom. Any additional divergences from the standard activity, size coverage or variable definitions for any of the individual Member States that are used to compile EU averages are also present in the EU averages. The results presented exclude NACE Division 67 for Denmark, Germany, Ireland and Italy, while they include NACE Divisions 65 and 66 and Groups 55.3 to 55.5 for the Netherlands. Size class data for the Netherlands are based on the distinction between medium-sized enterprises and large enterprises being made at 200 persons employed (and not the standard threshold of 250 persons that is used in the other Member States).

The most popular online application used by enterprises was e-banking (68 % of all enterprises using the Internet), while enterprises that had a web presence at the start of 2002 favoured using the Internet as a marketing tool (80 %) [10]. The supply of and the demand for web-based services generally increased with the average size of an enterprise (see Table 15).

[10] Note that this means the enterprise used the Internet to provide information concerning the goods or services they offered, while there was no direct attempt to make sales over the Internet.

Table 15

Proportion of enterprises using ICT (%)

	EU (1)	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Proportion of enterprises using computers at the start of 2002																
All sizes	95	:	98	95	88	95	:	95	95	97	94	93	84	99	99	89
SME	94	:	98	94	88	95	:	95	95	97	94	93	84	99	99	88
Large	100	:	100	100	99	100	:	98	100	97	97	100	99	100	100	100
Proportion of PC-equipped enterprises that used the Internet during 2001																
All sizes	81	:	95	84	64	83	:	83	74	79	85	85	69	96	95	54
SME	81	:	95	83	64	82	:	82	74	78	85	84	68	96	95	53
Large	98	:	100	98	96	98	:	96	95	96	95	100	98	100	100	86
Enterprises using the Internet during 2001: proportion using the following Internet services																
For market monitoring (2)	46	:	44	41	77	54	:	40	38	55	63	66	43	61	53	:
To receive digital products	35	:	45	42	15	21	:	30	33	62	27	26	18	60	65	:
To obtain after-sales services	:	:	:	50	15	23	:	22	15	31	30	16	14	36	70	:
For banking and financial services (2)	68	:	72	65	60	78	:	69	52	54	78	68	71	85	75	:
Enterprises using the Internet during 2001: proportion with a web-site or homepage																
	67	:	80	78	52	46	:	64	62	65	68	75	55	72	84	100
Enterprises with a web-site or homepage in 2001: proportion offering the following Internet services																
Market products	80	:	96	82	97	54	:	90	88	69	88	88	58	86	97	:
Facilitate access to product catalogues & price lists (2)	45	:	39	40	43	60	:	45	43	51	40	47	58	42	43	:
Deliver digital products (3)	9	:	11	11	7	6	:	12	5	20	20	7	5	11	4	:
Provide after-sales support	26	:	27	45	11	18	:	18	7	23	30	12	16	31	35	:
Provide mobile Internet services	4	:	2	6	6	2	:	7	3	5	:	4	2	5	5	:

(1) Excluding Belgium, France and the United Kingdom.
(2) Sweden, wording of these services was different in the survey questionnaire.
(3) Denmark, wording of these services was different in the survey questionnaire.
Source: Eurostat e-commerce survey, 2002.

Table 16

Enterprise use of e-commerce

	EU (1)	BE	DK (2)	DE	EL (3)	ES	FR	IE	IT	LU	NL (4)	AT	PT (5)	FI	SE	UK
Enterprises having used the Internet during 2001: proportion that purchased products via the Internet in 2001																
All sizes	29	:	49	45	17	8	:	46	10	29	37	37	24	54	62	47
SME	29	:	48	45	16	8	:	45	10	29	37	36	24	53	62	47
Large	40	:	80	41	27	15	:	62	15	23	54	56	30	70	83	45
Enterprises having used the Internet during 2001: proportion that received orders via the Internet in 2001																
All sizes	14	:	25	19	14	3	:	26	5	15	40	25	11	17	14	19
SME	14	:	25	19	14	3	:	26	5	15	40	25	10	17	14	19
Large	20	:	36	18	17	7	:	33	7	13	47	29	27	27	27	22

(1) Excluding Belgium, France and the United Kingdom.
(2) Limited to purchases from web-sites; limited to own web-site for receiving orders.
(3) Only covers enterprises that made at least 1% of purchases via the Internet or generated at least 1% of turnover via the Internet.
(4) Includes transactions by all types of electronic networks.
(5) For orders received, only covers enterprises that generated at least 1% of turnover via the Internet; estimates.
Source: Eurostat e-commerce survey, 2002.

Three out of every 10 (29 %) enterprises using the Internet in the EU-15 made use of e-commerce in 2001 to purchase at least some of the products they needed for their activity (see Table 16). Enterprises within the services sector (particularly those within the business services sector) generally reported a higher recourse to Internet purchasing than enterprises within the manufacturing sector.

Data that relate to e-sales refer to both business-to-business (B2B) and business-to-consumer (B2C) markets. The survey shows that EU-15 enterprises were generally less active in the domain of e-selling as compared with e-purchasing, as just 14 % of the enterprises in the EU-15 that used the Internet during 2001 declared having received orders for their products or services via the Internet. A somewhat higher proportion of large enterprises recorded using e-sales (20 %), although this share was half the proportion of large enterprises that made some form of e-purchase (40 %).

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INNOVATION

Innovation activity is thought to be one of the main driving forces that increases knowledge and the use of technology within an economy. Innovation changes the pace of economic growth by opening up potentially new markets, be they for goods, services or industrial processes. Innovations may result in cost advantages for the enterprises that introduce them. Alternatively, when introducing products that are new to the market, it is likely that enterprises with innovation activity will, at least for a limited period of time, benefit from a monopolistic position. In both cases the enterprise that innovates benefits in relation to its competitors.

One important aspect of the innovation process is that it spreads information and knowledge. Often the costs of making this knowledge available to many users are considerably lower than the costs incurred by the enterprise introducing the innovation. As a result, many governments put in place policies that protect intellectual property rights, for example patents, copyrights and trademarks (see the following section for more information on patents). Without these forms of protection, some enterprises would likely cease to carry out their innovation activities for fear that they would never re-coup their costs, in terms of time and expenditure. This is particularly true when innovations are related to basic research where the potential use of an innovation is unclear (for example, a scientific discovery that could be used in a number of different fields). However, it is in these very areas that the public benefits of innovation can potentially be at their greatest (for example, medical discoveries). As such, many governments provide public funding for basic research activities.

Every four years a major innovation survey is conducted across Europe, called the Community innovation survey. The last time this took place was in 2000 and aggregated results of this exercise are available for 13 of the EU-15 Member States [(11)]. Results from the third Community innovation survey (CIS3) show that there were 233 200 enterprises with 10 or more employees within the business economy [(12)] that had some form of innovation activity during the period 1998–2000, some 43 % of the all enterprises. It is possible to provide a breakdown of this figure according to different types of innovator. This shows that enterprises were most likely to be both product and process innovators (23 % of all enterprises), while 10 % were product only innovators and 7 % were process only innovators. The survey also distinguished enterprises with only on-going and/or abandoned innovation activity; these accounted for 3 % of all enterprises (see Table 17).

[(11)] Data for Ireland and Luxembourg were not taken into account when creating EU aggregates. Hence, all EU data in this section refers to a sum or an average for the 13 remaining EU-15 Member States.
[(12)] For the purpose of this section on innovation the business economy is defined as NACE Sections C to E (industry) and NACE Division 51, Sections I and J, Divisions 72 and 73 and Groups 74.2 and 74.3 (services).

Table 17

Typology of innovators in the EU's business economy, 1998-2000 (1)

	Total number of enterprises (thousands)	Proportion of total number of enterprises (%)	Proportion of total number of industrial enterprises (%)	Proportion of total number of enterprises in the services sector (%)
Total	546.8	100	100	100
Enterprises with innovation activity	233.2	43	45	39
Successful innovators	212.3	41	42	34
Product only innovators	58.3	10	10	12
Process only innovators	39.2	7	9	5
Product and process innovators	114.7	23	23	17
Enterprises with only on-going and/or abandoned innovations	31.7	3	5	6
Enterprises without innovation activity	313.6	56	55	61

(1) Excluding Ireland and Luxembourg; business economy defined as NACE Sections C to E (industry) and NACE Division 51, Sections I and J, Divisions 72 and 73 and Groups 74.2 and 74.3 (services).
Source: Eurostat, Third Community Innovation Survey (theme9/innovat/inn_cis3).

A higher proportion of enterprises in the EU-15's industrial sector (45 %) engaged in innovation activities during the period 1998–2000, compared with those in the services sector (39 %). The difference was most noticeable among large enterprises, where 78 % of all enterprises in the industrial sector had some form of innovation activity, while the corresponding figure for services was 63 %. While the economic sector appears to explain some of the differences in the propensity to innovate, the average size of an enterprise also appeared to be an important factor. An increasing proportion of enterprises reported innovation activity as the average size of the enterprise grew in both the industrial and the services sector (see Table 18).

In order to measure the relative performance of enterprises with innovation activity, it is perhaps more revealing to look at the proportion of turnover or employment that is accounted for by enterprises with innovation activity. Enterprises with innovation activity in the EU-15 [13] accounted for 44 % of the total population of enterprises between 1998 and 2000; however, in contrast, their share of total employment and turnover reached 72 % and 75 % in 2000. The CIS3 survey provides one way of studying innovation output over time, by measuring the turnover growth of enterprises. This measure reveals that turnover grew on average by 9 % per annum during the period 1998–2000 among enterprises with innovation activity, compared with average annual growth of 3 % among enterprises without innovation activity. This pattern was reproduced in both the industrial and services sectors.

[13] All data in this paragraph also excludes the United Kingdom (in other words EU-15 excluding Ireland, Luxembourg and the United Kingdom).

Table 18

Proportion of enterprises with innovation activity in the EU, 1998-2000 (1)

	Industry	Services
All sizes	45	39
Small	39	35
Medium-sized	61	51
Large	78	63

(1) Excluding Ireland and Luxembourg; industry defined as NACE Sections C to E; services defined as NACE Division 51, Sections I and J, Divisions 72 and 73 and Groups 74.2 and 74.3.
Source: Eurostat, Third Community Innovation Survey (theme9/innovat/inn_cis3).

RESEARCH AND DEVELOPMENT

The Barcelona Council set the ambitious target of raising R & D expenditure within the EU to 3 % of GDP by 2010. The European Commission has initiated a number of policies to promote R & D expenditure, including cooperation with the European Investment Bank (EIB). This has resulted in an increase in the means with which the EIB can support research and innovation. The Commission is also working on extending the block exemption of State aid for R & D to SMEs, which should make access to finance for R & D more simple and efficient.

In 2002, R & D expenditure in the EU-15, relative to GDP, was 1.99 %; this was the same ratio that had been recorded in 1990. Within the EU-25, the ratio was slightly lower at 1.93 % in 2001. At the time of writing (spring 2004), there were only two Member States that had attained the Barcelona objectives, namely, Sweden (where R & D accounted for a 4.27 % share of GDP in 2001) and Finland (3.49 % in 2002). The next best-placed country to reach the 3 % threshold was Germany (2.51 % in 2002). Among the new Member States there were just two countries where the share of R & D expenditure rose above 1 % of GDP; they were Slovenia (1.57 % in 2001) and the Czech Republic (1.30 %). At the bottom end of the range, Greece, Spain and Portugal reported that their R & D expenditure accounted for less than 1 % of GDP, while among the 10 new Member States, Latvia and Cyprus recorded rates below 0.5 % [14].

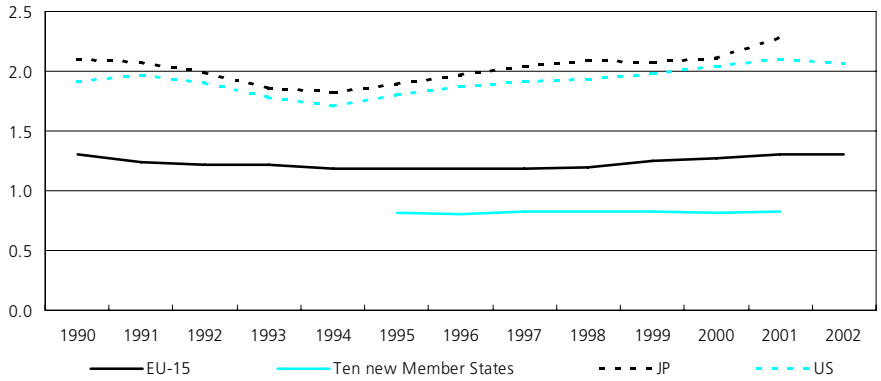
[14] Malta, not available.

In absolute terms, the EU-15 reported that EUR 119 billion of R & D expenditure was made in the business enterprise sector (which is defined by the OECD as including all firms, organisations and institutions whose primary activity is the market production of goods or services (other than higher education) for sale to the general public at an economically significant price, and private non-profit institutes serving them) in 2002, compared with EUR 105 billion in Japan in 2001 and EUR 225 billion in the US in 2002. Practically the whole of the R & D investment gap (relative to GDP) between the EU-15 and the two other members of the Triad could be attributed to the relative under-performance of the business enterprise (or private) sector (see Figure 13). Indeed, a comparison of the levels of expenditure that are recorded in the governmental and the higher educational sectors shows that EU-15 expenditure in these sectors was almost identical to the levels recorded in Japan or the US (see Table 19).

Tracing the development of business enterprise R & D expenditure (again as a proportion of GDP) over time shows that this ratio rose in the EU-15 from 1.19 % to 1.30 % between 1995 and 2001. Within the 10 new Member States there was almost no change in the relative importance of R & D expenditure made by the business enterprise sector, which accounted for 0.82 % of GDP in 1995 and 0.83 % in 2001. On the other hand, expenditure by the business enterprise sector rose from 1.89 % of GDP in Japan in 1995 to 2.28 % by 2001, while there was also growth in the US (1.80 % in 1995 to 2.06 % by 2002).

Figure 13

Business enterprise research and development expenditure (% of GDP) (1)



(1) Estimates.
Source: Eurostat, Research and Development expenditure and personnel (theme9/rd_ex_p/rd_nat/nat_exp and theme9/rd_cec/r_d/).

As such, it is perhaps not surprising to find that one of the main conclusions that came out of the Barcelona summit was that the Heads of State or Government asked for increased involvement from the private sector towards R & D funding. The gap in business enterprise sector funding may result from a lack of R & D investment by SMEs within Europe. Indeed, very large EU-15 enterprises performed comparably to the R & D expenditure performance of large enterprises from the US or Japan. Large enterprises in the EU-15 accounted for a growing share of R & D expenditure among the top 300 international enterprises in terms of R & D investment. It is important to note, however, that an increasingly important share of R & D expenditure that was made by large European enterprises was made outside of the EU-15 (for example, in Asia or in the US).

Table 19

Research and development expenditure in the EU, 2002 (EUR million) (1)

	EU-15	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV
Total R&D expenditure	182 387	5 515	744	4 265	51 539	37	:	6 227	33 414	1 339	:	25	38
Of which:													
Business enterprise sector	119 000	4 062	381	2 934	36 350	9	:	3 261	20 779	917	6 870	4	11
Government sector	23 949	331	331	503	6 923	22	:	989	5 664	128	2 657	16	16
Higher education sector	38 197	1 059	4	796	8 266	1	:	1 925	6 506	294	:	0	:
Private non-profit sector	1 240	62	5	32	:	1	:	52	465	:	:	1	:

	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK
Total R&D expenditure	73	:	405	:	8 090	4 217	1 197	1 038	297	143	4 873	10 459	30 501
Of which:													
Business enterprise sector	:	:	153	:	4 712	:	390	330	159	78	3 447	8 118	19 683
Government sector	:	33	201	:	1 194	:	759	216	119	61	521	297	3 683
Higher education sector	:	2	:	:	2 184	:	20	381	1	1	905	2 033	6 724
Private non-profit sector	:	:	1	:	44	:	5	112	0	0	:	10	412

(1) Estimates; Belgium, Denmark, Germany, Spain, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Sweden, 2001; the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Poland, Slovenia and Slovakia, 2000.
Source: Eurostat, Research and Development expenditure and personnel (theme9/rd_ex_p/rd_nat/nat_exp and rd_cec/r_d/gerdfund).

PATENTS

The previous sections on innovation and R & D have dealt with the measurement of two phenomenon that are often cited as being highly important within the context of the knowledge-based economy. A related issue is the protection of any innovations and research discoveries that are made.

Intellectual property rights are a key element in the transformation of knowledge into economic value and as such are an important dimension of European research policy. The protection of intellectual property rights has become an increasingly strategic issue for enterprises, universities and public research organisations that invest in research and innovation. Property rights provide an incentive for invention and the subsequent market development of new ideas.

A patent is a legal entitlement of property that grants the owner the exclusive rights to exploit an innovation commercially. This right usually refers to a specific geographical area and is granted for a limited period of time. In return for this exclusive right, its technical details are published hence, allowing the knowledge associated with the innovation to circulate freely even if the idea itself cannot be commercially developed.

In 2001, the EU-25 applied for 61 458 patents to the European Patent Office (EPO) - see Table 20. There were a significant number of patent applications made to the EPO in the same year from Japan (22 226) and the US (47 202). Patent applications at the EPO from Japan and the United States were particularly high within the field of high-technology applications, which accounted for more than 20 % of total patent applications from these two countries, whereas the corresponding proportion in the EU-25 was just over 10 %.

When expressed as a ratio per million inhabitants, Japan recorded the highest relative number of patent applications to the EPO (174.7), followed by the United States (169.8) and the EU-25 (161.1). Note that the number of patent applications is likely to be higher within the national territory than abroad and hence, the figures for both Japan and the United States are relatively high considering they relate to applications for patents within Europe.

As with the indicators presented for innovation and research, there were wide disparities between the levels of patent applications among the Member States. Germany had the highest number of patent applications in 2001 (25 489 or 41.9 % of the EU-15 total). However, in relative terms the highest ratios for patent applications per million inhabitants were reported in Finland and Sweden (the two countries that also recorded the highest R & D expenditure). Sweden (366.6), Finland (337.8) and Germany (309.9) were the only three Member States to make more than 300 patent applications to the EPO per million inhabitants in 2001.

Among the 10 new Member States the highest absolute number of patent applications made at the EPO was recorded by Hungary (190), followed by the Czech Republic (110). However, in relative terms the highest number of applications per million inhabitants was registered in Slovenia (40.7), followed by Hungary (19.0).

Table 20

Patent applications to the European Patent Office

	1995	1996	1997	1998	1999	2000	2001
Total number of patent applications (units)							
EU-25	34 487	36 465	43 230	49 084	53 301	60 328	61 458
EU-15	34 205	36 180	42 894	48 671	52 896	59 754	60 890
10 NMS (1)	282	284	337	414	405	574	568
JP	11 084	12 641	14 342	15 500	16 649	20 250	22 226
US	25 246	28 130	31 225	35 035	38 552	45 778	47 202
Patent applications per million inhabitants (units)							
EU-25	77.2	81.4	96.3	109.2	118.3	133.6	135.7
EU-15	92.1	97.1	114.8	130.0	141.0	158.7	161.1
10 NMS (1)	3.7	3.8	4.5	5.5	5.4	7.7	7.6
JP	88.3	100.7	115.1	122.9	131.7	159.5	174.7
US	96.5	106.5	117.2	130.2	141.9	166.2	169.8
High-technology patent applications (units)							
EU-25	3 902	4 385	5 695	7 321	8 759	11 126	12 017
EU-15	3 880	4 367	5 674	7 281	8 718	11 048	11 928
10 NMS (1)	23	18	21	39	42	78	89
JP	2 464	2 787	3 361	3 678	4 096	5 085	5 707
US	5 275	6 252	7 329	8 623	10 118	14 140	15 839

(1) 10 NMS: ten new Member States.

Source: Eurostat, European patenting systems (theme9/patents/pat_eu/pat_nat/nat_tot and nat_ht).

Table 21

Main indicators for training, 1999 (% of all enterprises)

	EU-15	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV
Proportion of enterprises providing training	62	70	69	96	75	63	18	36	76	79	24	:	53
Continuing vocational training	54	48	61	88	67	47	9	28	71	56	23	:	26
Other forms of training	53	67	59	87	72	57	15	27	41	75	22	:	50
Proportion of enterprises providing training (breakdown by enterprise size-class)													
Small	56	66	62	95	71	58	11	31	70	75	20	:	49
Medium-sized	81	93	84	98	87	85	43	58	93	98	48	:	70
Large	96	100	96	100	98	96	78	86	98	100	81	:	91

	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK
Proportion of enterprises providing training	43	71	37	:	88	72	39	22	48	:	82	91	87
Continuing vocational training	21	50	24	:	82	71	26	11	33	:	75	83	76
Other forms of training	39	65	30	:	70	27	36	20	46	:	72	78	83
Proportion of enterprises providing training (breakdown by enterprise size-class)													
Small	37	67	32	:	85	68	36	17	35	:	78	88	85
Medium-sized	60	83	51	:	96	91	52	46	72	:	97	99	91
Large	80	99	79	:	98	96	63	78	96	:	99	99	98

Source: Eurostat, Continuing Vocational Training (theme3/training/cvts/cvts2/tentn/tent03n and tents/tent03s).

TRAINING

As well as raising competitiveness, the Lisbon European Council also called for sustained economic growth with more and better jobs and greater social cohesion. To ensure their contribution to the Lisbon strategy, the ministers for education adopted, in 2001, a report on the future objectives of education and training systems within the EU. They agreed on three major goals to be achieved by 2010:

- to improve the quality and effectiveness of EU education and training systems;
- to ensure that these systems were accessible to all;
- to open up education and training to the wider world.

It was also agreed that the policies needed in each country would vary according to the circumstances encountered and as such would be developed according to national contexts and traditions, being driven forward through cooperation and shared experiences.

The European Commission adopted on 11 November 2003 a communication [15] that presented an interim evaluation of the implementation of the *Education and training 2010* programme. The communication stated that, 'if the Union as a whole is currently under-performing in the knowledge-driven economy in relation to some of its main competitors, this is due partly to an overall level of investment which is comparatively too low in human resources'.

The last reference year for the Continuing vocational training survey (CVTS) is 1999. This survey concerned enterprises with 10 or more employees. Table 21 presents some of the main results, namely, that training seemed to be more common in the northern Member States and that it was also more customary in large enterprises (as compared with SMEs).

[15] *Education and training 2010 - The success of the Lisbon strategy hinges on urgent reforms*, COM(2003) 685 final.

On average, 65 % of all enterprises in the EU-15 provided some form of training to their employees in 1999. This ranged from highs of more than 90 % of all enterprises in Denmark and Sweden, to less than one quarter of all enterprises in Greece, Italy and Portugal.

While just over half (56 %) of the small enterprises (10–49 employees) in the EU-15 provided some form of training in 1999 to their employees, this proportion rose as high as 96 % among large enterprises (with 250 or more employees). This pattern of an increasing propensity to provide training, as the average size of an enterprise grew, was reproduced in every country for which data are available.

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 generally of a macro-economic nature and may prove relevant for a number of chapters.

Table 22

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
BEF/LUF	40.4713	39.6565	38.5519	39.2986	40.5332	40.6207	40.3399	40.3399	40.3399	-	-
CZK	34.1690	34.1509	34.6960	34.4572	35.9304	36.3196	36.8843	35.5995	34.0680	30.8040	31.8460
DKK	7.59359	7.54328	7.32804	7.35934	7.48361	7.49930	7.43556	7.45382	7.45210	7.43050	7.43070
DEM	1.93639	1.92453	1.87375	1.90954	1.96438	1.96913	1.95583	1.95583	1.95583	-	-
EEK	15.4911	15.3962	14.9900	15.2763	15.7150	15.7530	15.6466	15.6466	15.6466	15.6466	15.6466
GRD	268.568	288.026	302.989	305.546	309.355	330.731	325.820	336.678	340.750	-	-
ESP	149.124	158.918	163.000	160.748	165.887	167.184	166.386	166.386	166.386	-	-
FRF	6.63368	6.58262	6.52506	6.49300	6.61260	6.60141	6.55957	6.55957	6.55957	-	-
IEP	0.799952	0.793618	0.815525	0.793448	0.747516	0.786245	0.787564	0.787564	0.787564	-	-
ITL	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	-	-
CYP	0.582941	0.583931	0.591619	0.591904	0.582628	0.577418	0.578850	0.573924	0.575890	0.575300	0.584090
LVL	0.793600	0.664101	0.689537	0.699605	0.659401	0.660240	0.625601	0.559227	3.582300	3.459400	3.452700
LTL	5.08682	4.73191	5.23203	5.07899	4.53616	4.48437	4.26405	3.69516	0.56010	0.58100	0.64070
HUF	107.611	125.030	164.545	193.741	211.654	240.573	252.767	260.045	256.590	242.960	253.620
MTL	0.447021	0.448852	0.461431	0.458156	0.437495	0.434983	0.425773	0.404138	0.403000	0.408900	0.426100
NLG	2.17521	2.15827	2.09891	2.13973	2.21081	2.21967	2.20371	2.20371	2.20371	-	-
ATS	13.6238	13.5396	13.1824	13.4345	13.8240	13.8545	13.7603	13.7603	13.7603	-	-
PLN	2.12217	2.70153	3.17049	3.42232	3.71545	3.91784	4.22741	4.00817	3.67210	3.85740	4.39960
PTE	188.370	196.896	196.105	195.761	198.589	201.695	200.482	200.482	200.482	-	-
SIT	132.486	152.766	154.880	171.778	180.996	185.958	194.473	206.613	43.300	42.694	41.489
SKK	36.0317	38.1182	38.8649	38.9229	38.1061	39.5407	44.1229	42.6017	217.9797	225.9772	233.8493
FIM	6.69628	6.19077	5.70855	5.82817	5.88064	5.98251	5.94573	5.94573	5.94573	-	-
SEK	9.12151	9.16308	9.33192	8.51472	8.65117	8.91593	8.80752	8.44519	9.25510	9.16110	9.12420
GBP	0.779988	0.775903	0.828789	0.813798	0.692304	0.676434	0.658735	0.609478	0.621870	0.628830	0.691990
BGN	0.03231	0.06439	0.08787	0.22515	1.90157	1.96913	1.95584	1.94792	1.94820	1.94920	1.94900
ROL	885.8	1 971.6	2 661.8	3 922.2	8 111.5	9 984.9	16 345.2	19 921.8	26 004.0	31 270.0	37 551.0
TRL	12 879	35 535	59 912	103 214	171 848	293 736	447 237	574 816	1 102 425	1 439 680	1 694 851
JPY	130.148	121.322	123.012	138.084	137.077	146.415	121.317	99.475	108.680	118.060	130.970
USD	1.17100	1.18952	1.30801	1.26975	1.13404	1.12109	1.06578	0.92194	0.89560	0.94560	1.13120

(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 23

Population, as of 1 January (thousands)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU-15	368 935	370 323	371 442	372 476	373 487	374 345	375 277	376 482	:	:	:
BE	10 068	10 101	10 131	10 143	10 170	10 192	10 214	10 239	10 263	10 310	10 356
CZ	10 326	10 334	10 333	10 321	10 309	10 299	10 290	10 278	10 267	10 206	10 203
DK	5 181	5 197	5 216	5 251	5 275	5 295	5 314	5 330	5 349	5 368	5 384
DE	80 975	81 338	81 539	81 817	82 012	82 057	82 037	82 163	82 260	82 440	82 537
EE	1 527	1 507	1 492	1 476	1 462	1 454	1 446	1 372	1 367	1 361	1 356
EL	10 349	10 410	10 443	10 465	10 487	10 511	10 522	10 554	:	:	:
ES	39 057	39 136	39 197	39 249	39 308	39 388	39 519	39 733	40 122	40 409	:
FR	57 369	57 565	57 753	57 936	58 116	58 299	58 497	58 749	59 043	59 342	59 630
IE	3 569	3 583	3 598	3 620	3 652	3 694	3 735	3 777	3 826	3 900	3 964
IT	56 960	57 138	57 269	57 333	57 461	57 563	57 613	57 680	57 844	:	:
CY	714	723	730	736	741	746	752	755	698	706	715
LV	2 606	2 566	2 530	2 502	2 480	2 458	2 439	2 380	2 364	2 346	2 331
LT	3 736	3 724	3 718	3 712	3 707	3 704	3 701	3 699	3 487	3 476	3 463
LU	395	401	407	413	418	424	429	436	440	444	448
HU	10 310	10 277	10 246	10 212	10 174	10 135	10 092	10 043	10 200	10 175	10 142
MT	363	366	369	371	374	377	379	380	391	395	:
NL	15 239	15 342	15 424	15 494	15 567	15 654	15 760	15 864	15 987	16 105	16 193
AT	7 962	8 015	8 040	8 055	8 068	8 075	8 083	8 103	8 021	8 039	8 067
PL	38 418	38 505	38 581	38 609	38 639	38 660	38 667	38 654	38 644	38 632	38 219
PT	9 965	9 983	10 013	10 041	10 070	10 108	10 150	10 198	10 263	10 329	10 407
SI	1 994	1 989	1 989	1 990	1 987	1 985	1 978	1 988	1 990	1 994	1 995
SK	5 314	5 336	5 356	5 368	5 379	5 388	5 393	5 399	5 379	5 379	5 379
FI	5 055	5 078	5 099	5 117	5 132	5 147	5 160	5 171	5 181	5 195	5 206
SE	8 692	8 745	8 816	8 837	8 844	8 848	8 854	8 861	8 883	8 909	8 941
UK	58 099	58 293	58 500	58 704	58 905	59 090	59 391	59 623	59 863	:	:
BG	8 485	8 460	8 427	8 385	8 341	8 283	8 230	8 191	7 929	7 892	7 846
RO	22 779	22 748	22 712	22 656	22 582	22 526	22 489	22 455	22 430	21 833	21 773
TR	:	:	:	:	:	:	:	:	:	:	:

Source: Eurostat, Demography - population (theme3/demo/dpop/pjan).

Table 24

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 (1)
EU-15	-0.4	2.8	2.4	1.6	2.5	2.9	2.8	3.4	1.5	1.0	0.7
BE	-1.0	3.2	2.4	1.2	3.6	2.0	3.2	3.7	0.8	0.7	0.8
CZ	0.1	2.2	5.9	4.3	-0.8	-1.0	0.5	3.3	3.3	2.0	2.9
DK	0.0	5.5	2.8	2.5	3.0	2.5	2.3	3.0	1.0	1.0	0.0
DE	-1.1	2.3	1.7	0.8	1.4	2.0	2.0	2.9	0.6	0.2	-0.1
EE	:	-2.0	4.3	3.9	9.8	4.6	-0.6	7.1	5.0	6.0	4.8
EL	-1.6	2.0	2.1	2.4	3.6	3.4	3.6	4.2	4.1	3.9	4.7
ES	-1.0	2.4	2.8	2.4	4.0	4.3	4.2	4.2	2.7	2.0	2.4
FR	-0.9	2.1	1.7	1.1	1.9	3.4	3.2	3.8	1.8	1.2	0.2
IE	2.7	5.8	9.9	8.1	10.9	8.8	11.1	10.0	5.7	6.9	1.2
IT	-0.9	2.2	2.9	1.1	2.0	1.8	1.6	2.9	1.8	0.4	0.3
CY	0.7	5.9	6.2	1.9	2.5	5.0	4.8	5.2	4.1	2.0	2.0
LV	-14.9	0.6	-1.6	3.7	8.4	4.8	2.8	6.8	7.7	6.1	7.4
LT	-16.2	-9.8	3.3	4.7	7.3	5.1	-3.9	3.8	5.9	6.8	8.9
LU	4.2	3.8	1.3	3.7	7.7	7.5	6.0	8.9	1.0	1.3	1.8
HU	:	:	1.5	1.3	4.6	4.9	4.2	5.2	3.7	3.5	2.9
MT	4.5	5.7	6.2	4.0	4.9	3.4	4.1	4.8	-0.4	1.7	0.4
NL	0.9	2.6	3.0	3.0	3.8	4.3	4.0	3.3	1.3	0.2	-0.8
AT	0.4	2.6	1.6	2.0	1.6	3.9	2.7	3.5	0.7	1.4	0.7
PL	:	:	:	6.0	6.8	4.8	4.1	4.0	1.1	1.4	3.7
PT	-2.0	1.0	4.3	3.5	3.9	4.5	3.5	3.5	1.7	0.4	-1.3
SI	2.8	5.3	4.1	3.5	4.6	3.8	5.2	4.6	3.0	2.9	2.3
SK	:	5.2	6.5	5.8	5.6	4.0	1.3	2.2	3.3	4.4	4.2
FI	-1.1	4.0	3.8	4.0	6.3	5.3	4.1	6.1	0.7	2.3	1.9
SE	-1.8	4.1	3.7	1.1	2.1	3.6	4.5	3.6	1.2	2.1	1.6
UK	2.5	4.7	2.9	2.6	3.4	2.9	2.4	3.1	2.0	1.6	2.2
BG	-1.5	1.8	2.9	-9.4	-5.6	4.0	2.3	5.4	4.0	4.8	4.3
RO	1.5	3.9	7.1	3.9	-6.1	-4.8	-1.2	1.8	5.3	4.9	4.9
TR	8.0	-5.5	7.2	7.0	7.5	3.1	-4.7	7.4	-7.4	7.8	5.8

(1) Forecasts for Belgium, Estonia, Ireland, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovenia, Slovakia, Bulgaria and Turkey.
Source: Eurostat, National Accounts - Aggregates (theme2/aggs/aggs_gdp/a_gdp_k).

Table 25

Gross domestic product in constant prices in the EU-15, annual rate of change (%)

NACE label (NACE code)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total (A to Q)	-0.3	2.5	2.4	1.7	2.5	3.0	2.7	3.7	1.8	1.1
Agriculture, hunting, forestry and fishing (A & B)	-0.6	-0.5	2.2	4.1	0.5	1.7	2.6	-0.9	-2.0	-0.1
Mining & quarrying; manufacturing; electricity, gas & water supply (C to E)	-3.5	4.3	3.1	0.0	3.0	3.0	1.1	3.8	0.6	0.4
Construction (F)	-4.1	2.2	0.0	-1.1	-1.3	0.8	2.4	2.3	-0.1	0.1
Distributive trades; hotels & restaurants; transport, storage & comm. (G to I)	0.1	2.7	2.2	1.6	3.4	4.0	4.6	4.9	2.8	1.5
Financial intermediation; real estate, renting & business activities (J & K)	1.9	1.9	3.5	3.7	3.7	4.1	3.7	4.6	3.0	2.0
Public administration, community, social & personal services (L to Q)	1.4	1.6	1.4	1.7	1.0	1.6	1.5	1.9	1.4	0.8

Source: Eurostat, National Accounts - Breakdowns by branch of activity (theme2/brkdowns/b_a06_k).

Table 26

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU-15	8.3	8.5	8.9	7.5	6.3	4.9	4.7	5.4	5.0	4.9	4.2
BE	7.2	7.8	7.5	6.5	5.8	4.8	4.8	5.6	5.1	5.0	4.2
DK	7.3	7.8	8.3	7.2	6.3	4.9	4.9	5.6	5.1	5.1	4.3
DE	6.5	6.9	6.9	6.2	5.6	4.6	4.5	5.3	4.8	4.8	4.1
EL	23.3	20.7	17.0	14.5	9.9	8.5	6.3	6.1	5.3	5.1	4.3
ES	10.2	10.0	11.3	8.7	6.4	4.8	4.7	5.5	5.1	5.0	4.1
FR	6.8	7.2	7.5	6.3	5.6	4.6	4.6	5.4	4.9	4.9	4.1
IE	7.7	7.9	8.3	7.3	6.3	4.8	4.7	5.5	5.0	5.0	4.1
IT	11.2	10.5	12.2	9.4	6.9	4.9	4.7	5.6	5.2	5.0	4.3
LU	6.9	7.2	7.2	6.3	5.6	4.7	4.7	5.5	4.9	4.7	3.3
NL	6.4	6.9	6.9	6.2	5.6	4.6	4.6	5.4	5.0	4.9	4.1
AT	6.7	7.0	7.1	6.3	5.7	4.7	4.7	5.6	5.1	5.0	4.2
PT	11.2	10.5	11.5	8.6	6.4	4.9	4.8	5.6	5.2	5.0	4.2
FI	8.8	9.1	8.8	7.1	6.0	4.8	4.7	5.5	5.0	5.0	4.1
SE	8.5	9.7	10.2	8.0	6.6	5.0	5.0	5.4	5.1	5.3	4.6
UK	7.6	8.2	8.3	7.9	7.1	5.6	5.0	5.3	5.0	4.9	4.6

Source: Eurostat, Interest rates (theme2/exint/intrt/govyield/mcby/mcby_a).

Table 27

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

	1993 (1)	1994 (1)	1995 (1)	1996 (2)	1997 (2)	1998	1999	2000	2001	2002	2003
EU-15	3.4	2.8	2.8	2.4	1.7	1.3	1.2	2.1	2.2	2.1	2.0
BE	2.5	2.4	1.3	1.8	1.5	0.9	1.1	2.7	2.4	1.6	1.5
CZ	:	:	:	9.1	8.0	9.7	1.8	3.9	4.5	1.4	-0.1
DK	0.9	1.8	2.0	2.1	1.9	1.3	2.1	2.7	2.3	2.4	2.0
DE	:	:	:	1.2	1.5	0.6	0.6	2.1	1.9	1.3	1.0
EE	:	:	:	19.8	9.3	8.8	3.1	3.9	5.6	3.6	1.4
EL	:	:	:	7.9	5.4	4.5	2.1	2.9	3.7	3.9	3.4
ES	4.9	4.6	4.6	3.6	1.9	1.8	2.2	3.5	2.8	3.6	3.1
FR	2.2	1.7	1.8	2.1	1.3	0.7	0.6	1.8	1.8	1.9	2.2
IE	:	:	:	2.2	1.2	2.1	2.5	5.3	4.0	4.7	4.0
IT	4.5	4.2	5.4	4.0	1.9	2.0	1.7	2.6	2.3	2.6	2.8
CY	:	:	:	:	3.3	2.3	1.1	4.9	2.0	2.8	4.0
LV	:	:	:	:	8.1	4.3	2.1	2.6	2.5	2.0	2.9
LT	:	:	:	24.7	8.8	5.0	0.7	0.9	1.3	0.4	-1.1
LU	:	:	:	1.2	1.4	1.0	1.0	3.8	2.4	2.1	2.5
HU	:	:	:	23.5	18.5	14.2	10.0	10.0	9.1	5.2	4.7
MT	:	:	:	:	:	:	:	:	:	:	:
NL	1.6	2.1	1.4	1.4	1.9	1.8	2.0	2.3	5.1	3.9	2.2
AT	3.2	2.7	1.6	1.8	1.2	0.8	0.5	2.0	2.3	1.7	1.3
PL	:	:	:	:	15.0	11.8	7.2	10.1	5.3	1.9	0.7
PT	5.9	5.0	4.0	2.9	1.9	2.2	2.2	2.8	4.4	3.7	3.3
SI	:	:	:	9.9	8.3	7.9	6.1	8.9	8.6	7.5	5.7
SK	:	:	:	5.8	6.0	6.7	10.4	12.2	7.2	3.5	8.5
FI	3.3	1.6	0.4	1.1	1.2	1.4	1.3	3.0	2.7	2.0	1.3
SE	4.8	2.9	2.7	0.8	1.8	1.0	0.6	1.3	2.7	2.0	2.3
UK	2.5	2.0	2.7	2.5	1.8	1.6	1.3	0.8	1.2	1.3	1.4
BG	:	:	:	:	:	18.7	2.6	10.3	7.4	5.8	2.3
RO	:	:	:	38.8	154.9	59.1	45.8	45.7	34.5	22.5	15.3
TR	:	:	:	:	:	:	:	:	:	:	:

(1) EU-15, Belgium, Denmark, Spain, France, Italy, Portugal, Finland, Sweden and the United Kingdom, estimates.
(2) EU-15 and Ireland, estimates.
Source: Eurostat, Harmonized indices of consumer prices (theme2/price/hicp/haind and theme1/cc/cc_b/b_pri_cc/bpri02cc).

Table 28

Consumer confidence (balance) (1)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU-15	-25.7	-13.5	-8.0	-14.8	-10.2	-3.8	-2.5	1.2	-4.3	-8.8	-15.2
BE	-24.7	-10.3	-8.6	-13.1	-12.8	1.7	2.6	13.5	0.6	-2.7	-10.8
CZ	:		-7.8	-7.2	-26.3	-28.8	-31.0	-19.6	-3.5	-6.6	-15.7
DK	-2.6	11.3	14.3	8.0	14.0	10.3	4.3	11.3	9.2	8.8	3.5
DE	-25.3	-10.9	-6.0	-19.9	-18.0	-5.1	-1.6	2.9	-3.3	-11.4	-18.6
EE	:	-32.9	-22.0	-23.7	-27.2	-24.2	-35.8	-33.8	-21.8	-7.2	-8.7
EL	-31.1	-29.6	-37.3	-27.3	-29.9	-34.8	-27.0	-15.3	-26.6	-27.8	-39.7
ES	-30.9	-16.3	-12.8	-9.4	-2.9	0.1	1.7	2.2	-4.0	-11.6	-13.7
FR	-29.9	-18.6	-13.8	-29.8	-21.5	-11.6	-8.7	-2.8	-11.1	-15.8	-24.7
IE	-20.8	-10.3	-4.6	-0.2	11.7	12.4	14.0	12.5	-1.6	-7.5	-15.7
IT	-31.9	-13.1	-5.3	-12.0	-14.1	-7.7	-9.9	-7.6	-2.8	-8.6	-14.3
CY	:	:	:	:	:	:	:	:	:	-23.3	-25.4
LV	-13.3	-28.0	-33.0	-37.0	-32.8	-2.2	:	:	:	-12.6	-13.5
LT	:	:	:	:	:	:	:	:	:	-20.4	-10.3
LU	:	:	:	:	:	:	:	:	:	7.4	0.0
HU	:	-28.8	-51.4	-43.3	-31.8	-15.4	-27.6	-29.8	-20.0	-5.3	-23.8
MT	:	:	:	:	:	:	:	:	:	:	:
NL	-15.6	-2.3	7.2	7.9	19.5	23.2	19.3	24.4	3.8	-1.6	-14.9
AT	:	:	-6.7	-12.7	-9.2	-1.7	4.7	5.9	3.0	4.4	-3.3
PL	:	:	:	:	:	:	:	:	:	-35.0	-33.0
PT	-33.2	-30.9	-22.8	-25.1	-13.7	-14.8	-14.1	-18.0	-24.2	-33.7	-42.5
SI	:	:	:	:	:	:	:	:	-32.8	-30.3	-34.8
SK	:	:	:	:	:	:	:	:	:	:	:
FI	-8.3	8.8	11.8	12.0	18.3	18.2	17.4	19.7	11.9	13.2	11.4
SE	:	:	2.0	-4.8	4.4	10.0	12.4	21.8	5.0	9.6	4.9
UK	-17.8	-15.8	-10.4	-5.5	3.2	-1.8	-3.6	-3.8	-4.6	-3.8	-6.3
BG	:	:	:	:	:	:	:	:	:	:	:
RO	:	:	:	:	-20.2	-22.0	-20.3	-15.1	-13.9	-20.4	-19.8
TR	:	:	:	:	:	:	:	:	:	:	:

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

Table 29

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 (1)
EU-15	19.9	19.8	19.8	19.6	19.4	19.9	20.2	20.6	20.2	19.4	19.0
BE	20.0	19.5	19.9	19.9	20.4	20.6	20.9	21.2	20.9	19.8	19.4
CZ	28.4	28.7	32.0	32.0	30.6	29.1	27.8	28.3	27.5	25.9	26.0
DK	17.1	17.3	18.6	18.6	19.6	20.6	20.3	21.7	20.3	20.6	19.4
DE	23.0	23.1	22.4	21.8	21.4	21.4	21.5	21.6	20.3	18.6	17.7
EE	24.2	26.8	25.9	26.7	28.1	29.6	24.9	25.4	26.5	28.5	30.2
EL	20.3	18.6	18.6	19.5	19.8	21.1	21.7	22.6	23.9	23.9	26.0
ES	21.3	21.1	22.0	21.6	21.9	22.8	24.1	25.3	25.4	25.2	25.6
FR	19.4	19.1	18.8	18.5	18.0	18.4	19.2	20.1	20.1	19.5	19.3
IE	15.5	16.5	17.5	19.1	20.7	22.2	23.7	24.1	23.5	22.1	22.3
IT	18.4	18.0	18.3	18.3	18.3	18.5	19.1	19.8	19.7	19.8	19.1
CY	:	:	19.2	20.4	19.0	19.2	18.1	17.6	17.3	18.8	17.0
LV	13.8	14.9	15.2	18.3	18.8	27.3	25.2	26.5	27.0	26.4	25.3
LT	23.1	23.1	23.0	23.0	24.4	24.3	22.1	18.5	20.2	20.4	20.8
LU	23.7	22.4	21.6	21.3	22.3	22.6	24.0	20.5	22.9	22.5	21.7
HU	18.9	20.1	20.1	21.4	22.2	23.6	23.9	24.2	23.5	23.4	22.0
MT	29.5	29.7	31.9	28.7	25.3	24.5	23.4	26.3	4.4	5.0	5.4
NL	20.7	20.3	20.3	21.1	21.5	21.5	22.5	22.5	21.7	20.7	20.1
AT	23.2	23.5	23.3	23.3	23.6	23.6	23.5	23.9	23.2	22.1	22.7
PL	15.9	17.9	18.6	20.7	23.5	25.2	25.5	24.9	20.7	19.0	18.4
PT	22.2	22.3	22.8	23.3	25.6	26.9	27.4	28.6	27.1	24.6	22.1
SI	18.8	20.1	21.4	22.5	23.4	24.6	27.4	26.7	24.0	22.6	23.0
SK	30.4	26.6	25.2	32.4	34.3	36.2	30.3	29.3	28.8	27.6	25.8
FI	16.4	15.5	16.3	17.0	18.0	18.7	19.0	19.2	20.5	19.0	18.0
SE	15.3	15.1	15.5	15.7	15.2	16.0	17.0	17.3	17.5	16.7	15.7
UK	15.7	15.9	16.3	16.5	16.5	17.6	17.0	16.7	16.8	16.3	16.2
BG	13.0	13.8	15.3	13.5	11.0	13.0	15.1	15.7	18.2	18.1	19.4
RO	17.9	20.3	21.4	23.0	21.2	18.2	17.7	18.9	20.5	21.1	22.3
TR	26.5	24.6	23.8	25.1	26.4	24.6	21.9	22.4	18.2	16.7	17.7

(1) Belgium, France, Ireland, Cyprus, Latvia, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovenia, Bulgaria, Romania and Turkey, forecasts.
Source: Eurostat, National Accounts - ESA95 - aggregates (theme2/aggs).

Table 30

Business enterprise expenditure on R&D relative to GDP (%) (1)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
EU-15	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3
BE	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.6
DK	1.0	:	1.1	1.1	1.2	1.3	1.3	1.5	1.7	:
DE	1.6	1.5	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.7
EL	0.1	:	0.1	0.1	0.1	:	0.2	:	:	:
ES	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	:
FR	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
IE	0.8	0.9	1.0	0.9	0.9	0.9	0.9	0.8	0.8	:
IT	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	:
LU	:	:	:	:	:	:	:	1.6	:	:
NL	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	:
AT	0.8	:	:	:	:	1.1	:	:	:	:
PT	:	:	0.1	:	0.1	:	0.2	:	0.3	:
FI	1.4	1.5	1.4	1.7	1.8	2.0	2.2	2.4	2.4	2.5
SE	2.2	:	2.5	:	2.7	2.8	2.8	:	3.3	:
UK	1.4	1.4	1.3	1.2	1.2	1.2	1.3	1.2	1.3	1.2

(1) Estimates.
Source: Eurostat, R&D expenditure at the national level (theme9/rd_ex_p/rd_nat/nat_exp/nat_exp).

Table 31

Industrial confidence indicator (balance) (1)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU-15	-24.8	-3.6	-1.8	-14.5	-2.9	-2.7	-8.0	3.3	-10.1	-11.6	-11.1
BE	-28.8	-6.3	-9.1	-17.8	-2.9	-7.8	-8.6	1.9	-14.0	-11.9	-15.0
CZ	:	-7.2	2.9	-0.8	3.8	-8.7	-10.5	15.3	3.0	-0.5	2.8
DK	-9.5	12.5	5.4	-8.7	5.5	-0.8	-12.9	5.7	-1.7	-4.0	-6.4
DE	-31.6	-10.3	-6.5	-19.8	-7.4	-4.3	-13.4	-2.6	-16.2	-18.3	-16.8
EE	-4.1	8.1	7.2	-2.8	6.7	7.9	-7.5	3.5	9.7	13.5	11.2
EL	-6.0	-0.1	3.8	-2.4	3.6	4.3	1.3	8.8	4.3	3.1	-0.4
ES	-34.8	-8.7	-3.3	-14.4	-1.4	1.4	-3.1	3.2	-4.2	-5.7	-0.9
FR	-34.4	-3.3	-2.3	-17.5	-5.3	5.3	-2.2	11.8	-4.0	-9.2	-8.6
IE	-12.8	2.5	7.1	-1.1	3.3	3.2	5.0	9.8	-7.7	-7.2	-8.8
IT	-16.4	2.8	5.7	-12.5	1.0	-0.8	-2.8	11.8	-4.3	-3.5	-3.9
CY	:	:	:	:	:	:	:	:	0.3	1.9	1.3
LV	:	-23.1	-18.3	-18.8	-12.3	-15.7	-17.3	-9.0	-1.8	1.1	3.8
LT	:	-25.8	-6.9	-16.3	-17.8	-22.7	-26.0	-14.9	-7.6	-8.8	-10.2
LU	-25.0	-7.7	9.7	-22.0	4.2	6.7	-11.0	5.3	-15.5	-22.5	-16.9
HU	:	:	:	-2.1	4.3	0.8	-6.9	2.3	-4.3	-6.8	-6.4
MT	:	:	:	:	:	:	:	:	:	:	:
NL	-10.3	-0.9	1.5	-2.4	2.5	1.7	-0.4	4.1	-3.5	-4.8	-8.3
AT	-27.2	-7.5	-12.2	-23.9	-9.5	-8.6	-13.8	-2.8	-13.3	-15.8	-11.0
PL	:	:	:	:	:	-14.6	-20.0	-13.2	-21.8	-20.0	-13.2
PT	-24.8	-3.9	-3.9	-9.6	0.4	2.2	-4.3	2.1	-5.8	-12.0	-15.9
SI	:	:	:	-11.7	-0.1	-3.8	-8.5	7.0	-2.3	-4.6	-4.4
SK	2.8	4.5	1.6	2.7	1.6	6.4	-3.0	9.5	6.7	5.3	6.4
FI	-4.5	18.2	7.8	-11.3	11.2	2.0	-3.8	17.4	-6.8	-5.7	-5.8
SE	:	:	:	:	-0.9	3.1	-7.1	10.8	-18.7	-13.1	-6.8
UK	-10.9	1.8	2.6	-5.1	-1.4	-15.5	-14.3	-6.6	-15.6	-14.6	-17.2
BG	:	:	:	:	:	:	:	:	:	:	:
RO	:	:	:	:	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:	:	:	:	:

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

Table 32

Capacity utilisation rates for total industry (%) (1)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU-15	78.0	79.9	83.0	80.9	81.8	83.3	82.2	84.1	82.9	81.1	80.7
BE	74.8	77.6	80.9	79.5	81.4	82.7	80.9	84.0	82.3	79.6	78.7
CZ	76.2	78.5	80.4	81.6	82.8	82.6	81.5	84.6	85.7	83.3	85.1
DK	77.7	81.8	83.4	81.7	83.3	85.5	82.2	82.5	82.8	81.2	80.6
DE	78.8	82.6	84.8	82.0	84.5	85.7	84.7	86.4	84.4	82.3	82.0
EE	:	56.8	56.8	57.4	62.4	68.3	63.5	66.7	72.6	74.5	73.7
EL	76.0	74.5	76.6	75.6	74.4	75.8	75.7	78.1	77.6	77.0	76.5
ES	72.8	74.5	78.4	77.1	78.3	80.3	79.7	80.6	79.6	77.2	78.9
FR	81.4	80.4	85.4	83.5	82.3	83.8	85.3	87.5	87.4	85.3	84.8
IE	73.6	74.9	79.9	77.6	75.9	76.6	75.9	78.6	78.4	75.9	75.1
IT	74.4	75.2	78.1	76.5	76.4	78.5	76.0	78.8	78.9	77.3	76.3
CY	:	:	:	:	:	:	:	:	:	68.9	68.7
LV	:	48.1	50.3	53.7	56.2	61.8	57.1	59.4	63.3	71.0	69.9
LT	51.8	49.5	44.3	46.4	50.6	53.0	51.5	53.6	60.6	63.6	66.9
LU	80.1	81.3	82.9	79.0	82.4	88.0	84.9	87.8	88.7	85.1	84.7
HU	:	:	:	77.4	79.9	79.9	78.6	82.0	81.7	78.8	79.4
MT	:	:	:	:	:	:	:	:	:	:	:
NL	81.0	82.4	84.4	83.9	84.4	85.3	84.0	84.7	84.6	82.9	81.7
AT	:	:	:	80.2	82.0	83.7	81.9	84.5	83.1	80.2	80.0
PL	:	:	:	:	76.5	76.7	73.6	72.4	69.3	69.9	72.9
PT	73.9	77.3	79.7	78.9	80.9	81.4	80.8	81.2	81.7	79.4	79.0
SI	:	:	:	77.5	78.8	80.4	77.9	79.7	80.9	81.0	80.9
SK	:	74.3	74.0	78.0	80.0	82.3	79.5	84.5	84.9	78.4	74.2
FI	82.3	86.9	87.7	83.2	87.2	88.9	86.1	86.8	85.7	82.7	81.9
SE	:	:	:	85.0	85.7	85.1	85.8	87.5	83.6	83.1	83.6
UK	80.0	82.8	84.4	82.5	83.8	83.7	79.4	81.3	79.7	79.0	78.2
BG	:	:	:	:	:	:	:	:	:	:	:
RO	:	:	:	:	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:	:	:	:	:

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

Table 33

Labour force characteristics, Q2-2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Number of persons employed (thousands)															
Total	124 987	2 576	3 415	1 635	24 531	398	2 402	11 336	14 716	1 174	14 723	213	553	777	118
Male	43 914	839	1 289	558	9 087	171	753	3 537	5 182	423	4 640	83	237	322	40
Female	81 073	1 737	2 127	1 077	15 444	227	1 649	7 799	9 534	751	10 082	130	316	455	78
Full-time and part-time work (% share of persons employed)															
Full-time	87.0	86.0	96.2	84.6	82.4	95.5	97.0	93.9	88.8	85.6	92.5	94.0	94.1	93.4	90.8
Part-time	13.0	14.0	3.8	15.4	17.6	4.5	3.0	6.1	11.2	14.4	7.5	6.0	5.9	6.6	9.2
Unemployment rate (% share of labour force aged 15-64) (2)															
Total	7.7	6.9	7.1	4.3	8.6	9.6	9.8	11.1	8.7	4.3	9.3	3.4	13.4	13.2	2.6
Male	6.9	6.3	5.8	4.3	8.8	10.4	6.4	7.7	7.8	4.7	7.1	2.7	15.1	13.4	1.9
Female	8.7	7.8	8.6	4.4	8.3	8.9	14.9	16.3	9.8	3.8	12.7	4.2	11.7	13.0	3.6

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Number of persons employed (thousands)														
Total	2 633	105	4 687	2 612	8 001	3 298	633	1 435	1 502	2 606	18 910	1 833	4 565	:
Male	1 032	28	1 581	978	3 026	1 192	252	556	557	871	6 681	804	1 873	:
Female	1 600	77	3 106	1 634	4 975	2 107	381	879	945	1 735	12 229	1 028	2 693	:
Full-time and part-time work (% share of persons employed)														
Full-time	96.9	92.4	64.9	:	92.9	94.9	95.9	98.4	88.5	84.1	79.3	98.1	98.2	:
Part-time	3.1	7.6	35.1	:	7.1	5.1	4.1	1.6	11.5	15.9	20.7	1.9	1.8	:
Unemployment rate (% share of labour force aged 15-64) (2)														
Total	5.6	:	3.7	4.2	20.2	4.8	18.7	8.6	10.5	5.0	5.1	18.3	8.8	:
Male	6.1	:	3.8	3.7	19.6	4.1	18.7	7.0	10.7	5.4	5.6	19.0	9.1	:
Female	5.1	:	3.5	4.8	21.0	5.7	18.8	10.5	10.2	4.7	4.4	17.5	8.3	:

(1) NACE Sections C to K; France, Q1-2002.
(2) For the total population, not just those employed in NACE Sections C to K.
Source: Eurostat, Labour Force Survey.

Table 34

Average number of hours usually worked per week by persons aged 15-64, Q2-2002 (hours) (1)

NACE label (NACE Section(s))	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Industry and services (C to K)	38.5	38.2	41.8	36.0	38.1	41.0	44.0	39.4	38.6	38.0	37.3	38.7	43.6	40.1	39.7
Mining and quarrying (C)	40.9	:	39.2	:	40.4	:	41.3	39.1	39.5	:	36.3	:	:	:	:
Manufacturing (D)	38.5	37.1	40.0	35.9	38.2	40.0	42.5	38.8	38.1	38.6	36.4	37.6	42.9	39.6	39.4
Electricity, gas & water supply (E)	38.5	35.1	39.9	:	39.5	:	38.8	38.2	36.5	:	35.7	:	42.2	39.6	:
Construction (F)	40.4	39.1	45.3	37.3	40.8	41.2	41.7	39.6	39.9	41.3	37.8	37.0	45.4	40.8	40.5
Distributive trades (G)	37.6	39.1	42.8	34.1	35.8	42.2	45.1	39.8	38.5	35.3	39.1	39.8	44.3	40.3	39.2
Hotels and restaurants (H)	39.2	43.2	44.7	31.5	39.1	:	49.1	42.8	42.2	34.9	41.4	42.7	44.8	40.7	42.0
Transport, storage & communication (I)	40.0	38.3	42.6	37.8	40.4	42.4	45.6	40.1	38.1	40.9	37.1	39.3	44.0	41.7	40.5
Financial intermediation (J)	37.1	36.4	41.1	36.2	38.5	:	39.5	38.0	38.1	37.0	34.5	35.2	:	:	39.1
Real estate, renting & business activities (K)	37.1	37.7	41.8	37.6	37.2	40.9	42.1	36.9	38.2	37.3	35.4	37.5	42.1	38.4	39.0

NACE label (NACE Section(s))	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Industry and services (C to K)	41.7	40.7	32.0	38.0	41.9	40.4	40.2	41.0	36.9	35.5	37.1	41.7	42.9	:
Mining and quarrying (C)	41.6	45.5	:	38.5	40.7	:	:	39.0	:	:	47.5	40.3	40.6	:
Manufacturing (D)	40.7	41.4	33.2	38.0	41.3	39.2	39.5	39.9	37.5	35.7	39.6	40.9	41.6	:
Electricity, gas & water supply (E)	41.2	40.2	33.5	38.9	40.0	:	39.1	39.8	35.8	34.7	39.0	39.9	41.3	:
Construction (F)	43.2	41.5	36.7	39.3	44.4	40.0	42.1	43.1	39.5	36.9	41.8	41.9	45.8	:
Distributive trades (G)	41.7	40.4	29.2	36.1	42.7	40.9	40.3	41.4	35.8	34.9	32.7	43.0	45.2	:
Hotels and restaurants (H)	42.8	38.9	28.1	40.4	41.2	48.2	41.3	42.4	34.9	34.6	29.8	43.2	45.0	:
Transport, storage & communication (I)	42.9	40.9	34.3	39.9	43.0	41.1	42.1	41.6	38.6	36.6	40.9	41.6	43.2	:
Financial intermediation (J)	40.5	39.5	31.8	37.4	39.7	36.1	38.5	40.3	34.9	34.1	35.9	40.6	41.2	:
Real estate, renting & business activities (K)	42.2	40.7	32.1	37.1	40.0	37.5	40.1	42.1	35.1	34.8	36.9	41.1	42.4	:

(1) France, Q1-2002.
Source: Eurostat, Labour Force Survey (theme3/lfs/worktime/ewhana).

Non-energy mining and quarrying

Industrial and construction minerals are often further processed in downstream industrial sectors, for example, in the manufacture of glass, concrete, and basic or agricultural chemicals, as well as being used directly in the construction sector. Minerals are also used in industrial processes as absorbents, filters, lubricating agents and for polishing. Precious and semi-precious stones are used in jewellery and for some industrial processes.

This chapter also covers the mining of metal ores, although as shown later, this is a small subsector in the EU, and metal processing sectors within the EU rely heavily on imports. EU metal ore mining faces strong competition from large-scale operations in non-Community countries with lower cost bases.

In 2000 the European Commission published a communication [1] on promoting sustainability in the non-energy extractive industry. One of the initiatives taken since then was the adoption by the Commission in June 2003 of a proposal for a directive [2] of the European Parliament and of the Council on the management of waste from extractive industries. The aim is to help prevent serious accidents or pollution resulting from the mismanagement of mining waste.

[1] COM (2000) 265.
[2] COM (2003) 319.

STRUCTURAL PROFILE

Non-energy mining and quarrying generated EUR 13.8 billion of value added in the EU-25 in 2001, 19.3 % of all mining and quarrying. The 10 new Member States collectively contributed 10.5 % of the total, similar to their 10.2 % share in the mining and quarrying of energy producing materials, but nearly double their 5.6 % share of manufacturing value added. The enlargement of the EU not only increased the size of the non-energy mining and quarrying sector by just over 10 %, but also changed its structure. In 2001, the mining of metal ores (NACE Division 13) accounted for 4.9 % of the value added generated in the non-energy mining and quarrying sector in the EU-15, but 9.7 % of sectoral value added in the EU-25. The significance of this can be seen from another perspective: value added in the mining of metal ores in the 10 new Member States in 2001 was EUR 739.9 million, 55.2 % of the EU-25 total, whereas in the other mining and quarrying sector (NACE Division 14), it was EUR 713.9 million, 5.7 % of the EU-25 total.

Looking in more detail it can be seen that the main contribution of the ten new Member States to the mining of metal ores was in the mining of non-ferrous metal ores (NACE Group 13.2), where the combined contribution of these 10 countries was EUR 732.5 million of value added, 67.1 % of the EU-25 total. As a result, iron ore mining (NACE Group 13.1) accounted for 18.5 % of metal ore mining in the EU-25 in value added terms, whereas the corresponding proportion for the EU-15 was 40.0 %.

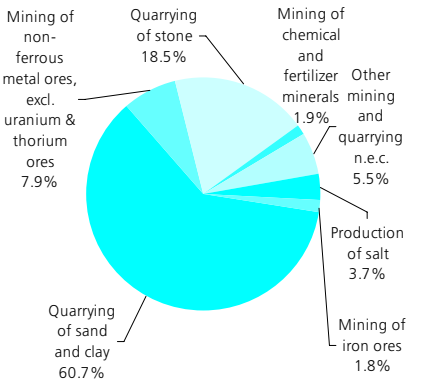
This chapter covers both underground and open-cast mining of ferrous and non-ferrous metal ores (NACE Division 13), as well as other mining and quarrying of non-energy producing materials (NACE Division 14), which includes the extraction of a variety of basic materials such as stone, sand, salt and other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

NACE

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

Figure 2.1

Mining and quarrying except energy producing materials (NACE Subsection CB) Share of value added at factor cost, EU-25, 2001



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

Table 2.1

Mining and quarrying except energy producing materials (NACE Subsection CB) Structural profile, 2001

Rank	Largest value added (EUR billion) (1)	Highest value added specialisation relative to manufacturing (EU-25=100) (1)	Largest number of persons employed (thousands) (1)	Main EU-25 trading partners: origin of imports, 2002 (EUR billion)	Main EU-25 trading partners: destination of exports, 2002 (EUR billion)
1	United Kingdom (2.8)	Cyprus (518)	Germany (37.0)	Brazil (2.0)	India (3.9)
2	Germany (2.4)	Malta (518)	United Kingdom (32.8)	South Africa (2.0)	Israel (2.2)
3	France (1.7)	Luxembourg (518)	France (31.1)	Australia (1.3)	China (0.5)
4	Italy (1.5)	Belgium (502)	Italy (30.3)	Canada (1.2)	United States (0.5)
5	Spain (1.3)	Sweden (486)	Spain (25.4)	Zaire (1.1)	Hong Kong (0.3)

(1) Poland, Portugal and Slovenia, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Within other mining and quarrying, enlargement had a much smaller effect on the structure of the subsector, with the share of each of the five groups the same for EU-15 as for EU-25, plus or minus one percentage point. The largest part of this subsector was the quarrying of sand and clay (NACE Group 14.2) which generated more than two thirds (67.2 %) of the EU-25's value added in this subsector, followed by the quarrying of stone (NACE Group 14.1), with one fifth (20.5 %) of the total. The mining of chemical and fertiliser minerals and the production of salt (NACE Groups 14.3 and 14.4) together accounted for a combined share of 6.1 % of value added, the same amount as the miscellaneous category of other mining and quarrying not elsewhere classified (NACE Group 14.5).

Of the 18 Member States with data available [3] for metal ore mining (NACE Division 13), ten reported no activity in this subsector, namely Denmark, Germany, Estonia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, the Netherlands and the United Kingdom. Within the remaining EU-15 Member States, Sweden had the largest metal ore mining activity, with EUR 398.1 million of value added in 2001, 29.7 % of the EU-25 total. Although detailed data are not available for Poland, the estimated Polish share of EU-25 value added in this subsector was in excess of 45 %. Given the more widespread availability of construction and industrial mineral deposits, the share of each Member State in the EU-25's other mining and quarrying subsector was more closely related to the size of each country: the United Kingdom (22.4 %), Germany (19.4 %), France (13.6 %), Italy (12.2 %) and Spain (9.9 %) headed the list in value added terms.

[3] Belgium, Czech Republic, Austria, Poland, Portugal, Slovenia and Finland, not available.

The whole non-energy mining and quarrying sector employed 203 100 persons in the EU-15 in 2001, of which 94.7 % (192 400) were paid employees. The total number of persons employed in this sector in the EU-25 is not yet available, but the number of paid employees was 255 200. This sector accounted for 55.8 % of the paid employees in all mining and quarrying activities in the EU-15, while in the EU-25 the share was just 38.8 %.

The size of enterprises within the non-energy mining and quarrying sector varies enormously between activities. Metal ore mining is concentrated in only a few locations and was characterised by a high proportion of large enterprises (250 or more persons employed) that collectively generated 92.6 % of this subsector's value added in the EU-25 in 2001; micro and small enterprises (less than 50 persons employed) contributed less than 1 % of the total. The local sourcing of many construction materials, resulting from widespread availability, relatively high transport costs and low barriers to entry, is reflected in the importance of smaller enterprises in related quarrying activities. Micro and small enterprises accounted for 58.7 % of value added in the quarrying of stone (NACE Group 14.1) and 47.3 % in the quarrying of sand and clay (NACE Group 14.2). In the case of stone quarrying, large enterprises generated just under 10 % of value added, the lowest proportion across any of the mining and quarrying NACE groups. On the other hand, the mining of chemical and fertiliser materials and salt production (NACE Groups 14.3 and 14.4) were more reliant on large enterprises, although not to the same extent as metal ore mining. In both of these activities large enterprises generated more than half of the value added.

Table 2.2

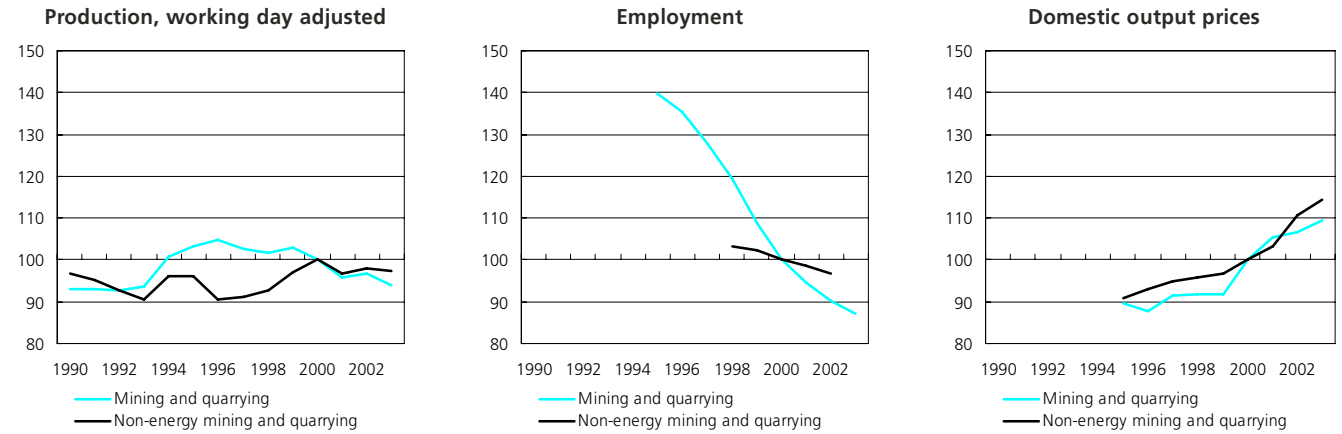
Share of size-class in value added, EU-25, 2001 (%)

	Micro	Small	Medium-sized	Large	Total
Mining and quarrying, except of energy producing materials (NACE Subsection CB)	10.7	32.6	25.5	31.2	100
Mining of metal ores (Division 13)	0.2	0.6	6.5	92.6	100
Mining of iron ores (Group 13.1)	0.6	1.1	4.4	94.0	100
Mining of non-ferrous metal ores, except uranium and thorium ores (Group 13.2)	0.2	0.5	7.0	92.3	100
Other mining and quarrying (Division 14)	11.8	36.0	27.6	24.6	100
Quarrying of stone (Group 14.1)	17.1	41.5	31.4	9.9	100
Quarrying of sand and clay (Group 14.2)	10.8	36.5	25.4	27.3	100
Mining of chemical and fertilizer minerals (Group 14.3)	5.9	15.3	22.6	56.2	100
Production of salt (Group 14.4)	1.2	9.9	31.3	57.6	100
Other mining and quarrying n.e.c. (Group 14.5)	13.9	36.6	37.7	11.7	100

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

Figure 2.2

Mining and quarrying except energy producing materials (NACE Subsection CB)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

The EU-25 index of production for non-energy mining and quarrying indicates that output recovered during the second half of the 1990s from a low point in 1996. For four consecutive years output grew, averaging 2.5 % per annum. This was in contrast to the mining and quarrying of energy producing materials, where an average decline of 1.5 % per annum was registered over the same period. Since 2000 the production index for non-energy mining and quarrying displayed no clear direction, recording a sharp contraction in 2001 (-3.4 %), followed by modest growth in 2002 (1.3 %) and an even more modest contraction in 2003 (-0.7 %). Overall, the evolution of production for non-energy mining and quarrying followed a similar progression to that recorded for the mining and quarrying of energy producing materials.

Unsurprisingly, as it dominates non-energy mining and quarrying, other mining and quarrying recorded a very similar development to the evolution of the production index for the whole of non-energy mining and quarrying. However, the mining of metal ores did not experience the same period of output growth during the second half of the 1990s. Instead, this activity recorded a decline of 3.3 % per annum in output between 1995 (the beginning of the series) and 2001. Much of the output growth recorded in the mining of metal ores in 2002 (1.9 %) was short-lived, as 2003 saw a return to negative rates of change (-1.4 %).

Output prices are available for the EU-15 for both parts of non-energy mining and quarrying. The activity of other mining and quarrying experienced regular year-on-year price growth since 1981 (the beginning of the series), with average growth of 2.7 % per annum during the 10 years to 2003. For the mining of metal ores, price developments were much less regular, as prices grew on average by 7.5 % per annum between 1992 and 1995, before recording alternating positive and negative price changes in excess of +/-10 % for four of the next five years. Since 2000 the development of domestic output prices for metal ore mining were more subdued, with growth of 2.4 % in 2001 followed by more moderate price reductions in 2002 (-1.3 %) and 2003 (-0.2 %).

LABOUR AND PRODUCTIVITY

Like nearly all mining and quarrying activities, the non-energy mining and quarrying workforce in the EU-15 was characterised by a relatively high reliance on full-time, male, paid employment. In metal ore mining, 96.2 % of the workforce was male and in other mining and quarrying the proportion was 90.0 %, respectively the highest and fourth highest of all NACE divisions in the business economy (NACE Sections C to K). Some 92.7 % of the non-energy mining and quarrying workforce were paid employees, below the 95.0 % average for all mining and quarrying, but far above the 83.7 % average for the business economy. In metal ore mining the whole workforce (100.0 %) worked on a full-time basis, and in other mining and quarrying the proportion was 96.4 %, respectively the highest and fifth highest of all NACE divisions in the business economy.

The EU-15's non-energy mining and quarrying sector reported apparent labour productivity of EUR 60 800 per person employed in 2001. This was considerably below the mining and quarrying average (EUR 180 100) which is influenced by the very high values recorded for crude oil and natural gas extraction, but was higher, for example, than the mining of coal and lignite, and was also higher than the manufacturing average. Metal ore mining (EUR 51 200) recorded lower apparent labour productivity than other mining and quarrying (EUR 61 300), with salt production (EUR 69 000) and the quarrying of sand and clay (EUR 68 700) recording the highest values for this ratio.

Despite the relatively high apparent labour productivity, average personnel costs in 2001 were relatively low, EUR 33 700 per employee in the EU-15. This was lower than the mining and quarrying average and also below the manufacturing average. In contrast to apparent labour productivity, the mining of metal ores recorded higher average personnel costs than other mining and quarrying, EUR 38 700 per employee compared to EUR 33 300.

Table 2.3

Mining and quarrying except energy producing materials (NACE Subsection CB)
Labour force characteristics, 2002

	Share of men (%)	Share of full-time (%)	Share of employees (%)
EU-25	:	:	:
EU-15	90.4	96.6	92.7
BE	100.0	100.0	94.8
CZ	90.4	100.0	91.1
DK	:	:	:
DE	89.4	93.2	97.8
EE	:	:	:
EL	94.6	100.0	92.1
ES	93.7	100.0	93.0
FR	88.7	96.1	90.9
IE	97.1	98.6	92.2
IT	85.1	95.9	83.5
CY	:	:	:
LV	:	:	:
LT	:	:	:
LU	:	:	:
HU	95.1	100.0	100.0
MT	100.0	91.1	91.1
NL	:	:	:
AT	90.8	:	96.0
PL	:	:	:
PT	96.2	99.7	91.6
SI	:	:	:
SK	93.2	100.0	96.4
FI	93.6	100.0	77.1
SE	:	:	:
UK	89.4	95.1	97.3

Source: Eurostat, Labour Force Survey.

Table 2.4

Mining and quarrying except energy producing materials (NACE Subsection CB)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Mining and quarrying except energy producing materials	60.8	180.4	33.7
Mining of iron ores	70.1	145.6	48.1
Mining of non-ferrous metal ores, except uranium and thorium ores	43.4	124.5	34.8
Quarrying of stone	46.4	168.9	27.4
Quarrying of sand and clay	68.7	197.9	34.7
Mining of chemical and fertilizer minerals	44.6	99.0	45.0
Production of salt	69.0	165.3	41.7
Other mining and quarrying n.e.c.	55.5	165.0	33.6

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

Table 2.5

Metal ores and other mining and quarrying products (CPA Subsection CB)
External trade, EU-25, 2002 (EUR million)

	Exports	Imports	Trade balance	Cover ratio (%)
Metal ores and other mining and quarrying products	12 310	16 806	-4 496	73.2
Iron ores	165	641	-476	25.8
Non-ferrous metal ores, except uranium and thorium ores	187	3 595	-3 408	5.2
Stone	477	769	-292	62.1
Sand and clay	364	873	-509	41.7
Chemical and fertilizer minerals	195	707	-512	27.6
Salt	55	47	8	117.4
Other mining and quarrying products n.e.c.	10 866	10 173	693	106.8

Source: Eurostat, Comext.

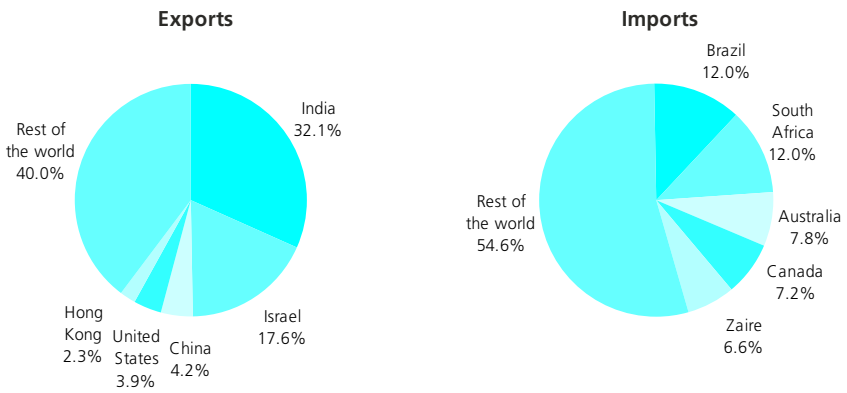
EXTERNAL TRADE

The EU-25's exports of metal ores and other mining and quarrying products (CPA Subsection CB) were valued at EUR 12.3 billion in 2002, and were exceeded by imports valued at EUR 16.8 billion. The resulting trade deficit of EUR 4.5 billion was split EUR 3.9 billion for metal ores (CPA Division 13) and EUR 612.1 million for other mining and quarrying products (CPA Division 14). The only CPA groups among metal ores and other mining and quarrying products for which the EU-25 did not record a deficit in 2002 were salt (CPA Group 14.4) and other mining and quarrying products not elsewhere classified (CPA Group 14.5), with trade surpluses of EUR 8.2 million and EUR 693.1 million respectively.

The United Kingdom recorded the largest trade surplus (intra- and extra-EU combined) of metal ores and other mining and quarrying products in 2002, valued at EUR 711.1 million, while Sweden, Greece, Portugal and Cyprus were the only other Member States to record a surplus. Germany (EUR 2.5 billion) and Italy (EUR 1.6 billion) recorded the largest deficits, with Spain, France, Belgium, Finland and the Netherlands all recording deficits between EUR 0.75 billion and EUR 1.2 billion.

Figure 2.3

Metal ores and other mining and quarrying products (CPA Subsection CB)
Share in extra-EU trade, 2002



Source: Eurostat, Comext

Table 2.6

Mining of metal ores (NACE Division 13)
Main indicators, 2001

	BE	CZ (1)	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	:	0	0	0	0	91	95	49	161	12	0	0	0	0
Value added at factor cost (EUR million)	:	-2	0	0	0	52	30	16	41	-2	0	0	0	0
Purchases of goods and services (EUR million)	:	:	0	0	0	:	69	33	:	11	0	0	0	0
Gross investment in tangible goods (EUR million)	:	:	0.0	0.0	0.0	:	13.8	2.2	:	0.1	0.0	0.0	0.0	:
Number of persons employed (thousands)	:	0.1	0.0	0.0	0.0	0.9	0.9	0.6	1.1	0.3	0.0	0.0	0.0	0.0
App. labour productivity (EUR thous./pers. emp.)	:	-12.9	:	:	:	55.7	32.7	28.6	38.1	-7.2	:	:	:	:
Average personnel costs (EUR thous./employee)	:	21.7	:	:	:	:	36.9	30.2	:	34.1	:	:	:	:
Wage adjusted labour productivity (%)	:	-59.1	:	:	:	:	88.5	94.8	:	-21.1	:	:	:	:
Gross operating rate (%)	:	-1 200	:	:	:	:	-3.8	-1.4	:	-163.3	:	:	:	:

	HU	MT	NL	AT	PL	PT (2)	SI	SK	FI (2)	SE	UK	BG	RO	TR
Production (EUR million)	28	0	0	:	:	115	:	24	82	1 319	0	209	:	:
Value added at factor cost (EUR million)	11	0	0	:	:	59	:	8	23	398	0	47	:	:
Purchases of goods and services (EUR million)	16	0	0	:	:	56	:	16	59	928	0	173	:	:
Gross investment in tangible goods (EUR million)	1.9	0.0	0.0	:	:	10.1	:	0.9	3.0	169.1	0.2	15.1	:	:
Number of persons employed (thousands)	1.0	0.0	0.0	:	:	1.3	:	1.6	0.5	5.9	0.0	8.9	:	:
App. labour productivity (EUR thous./pers. emp.)	11.7	:	:	:	:	45.7	:	5.2	45.0	67.6	-1.1	5.3	:	:
Average personnel costs (EUR thous./employee)	10.1	:	:	:	:	25.0	:	4.6	44.8	41.7	7.6	3.9	:	:
Wage adjusted labour productivity (%)	116.5	:	:	:	:	182.9	:	112.1	100.5	162.2	-14.0	133.3	:	:
Gross operating rate (%)	5.8	:	:	:	:	23.9	:	3.6	0.1	11.8	-119.0	5.6	:	:

(1) 2000.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 2.7

Other mining and quarrying (NACE Division 14)
Main indicators, 2001

	BE	CZ (1)	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	:	268	261	5 321	13	315	2 924	5 324	646	4 031	47	8	28	60
Value added at factor cost (EUR million)	:	109	111	2 422	5	164	1 227	1 693	234	1 517	24	5	11	28
Purchases of goods and services (EUR million) (3)	:	:	0	3 256	8	:	1 745	3 744	400	2 575	21	4	17	32
Gross investment in tangible goods (EUR million) (3)	:	:	19.3	448.7	1.8	:	322.8	434.5	59.6	346.9	15.3	0.6	3.2	:
Number of persons employed (thousands)	:	7.7	1.5	37.0	0.5	3.3	24.5	30.5	2.9	30.0	0.6	0.5	1.3	0.3
App. labour productivity (EUR thous./pers. emp.)	:	14.1	75.8	65.4	10.9	49.8	50.1	55.5	80.8	50.6	38.0	10.9	8.1	96.0
Average personnel costs (EUR thous./employee) (4)	:	6.9	39.7	41.5	6.0	:	24.5	36.3	35.3	27.8	20.8	4.7	5.0	40.6
Wage adjusted labour productivity (%) (4)	:	206.3	191.2	157.8	180.6	:	204.0	152.6	181.7	181.9	192.9	229.6	162.4	236.4
Gross operating rate (%) (3)	:	20.7	19.8	16.4	17.4	:	22.5	10.7	13.7	21.2	23.3	35.1	14.9	26.7

	HU	MT	NL	AT	PL	PT	SI	SK	FI (2)	SE	UK	BG	RO (1)	TR
Production (EUR million)	129	12	749	:	:	884	:	68	268	382	7 478	90	128	:
Value added at factor cost (EUR million)	59	7	242	:	:	370	:	26	104	140	2 787	30	58	:
Purchases of goods and services (EUR million)	88	5	674	:	:	540	:	45	188	258	4 915	64	84	:
Gross investment in tangible goods (EUR million)	13.5	0.6	61.7	:	:	199.2	:	5.7	42.1	54.9	524.8	14.7	25.1	:
Number of persons employed (thousands)	2.9	0.4	2.8	:	:	13.6	:	2.8	1.8	2.2	32.8	6.6	13.6	:
App. labour productivity (EUR thous./pers. emp.)	20.3	19.0	86.7	:	:	27.3	:	9.3	59.0	63.1	85.1	4.6	4.2	:
Average personnel costs (EUR thous./employee)	8.3	11.6	41.9	:	:	13.7	:	5.6	29.4	36.2	37.5	2.6	3.2	:
Wage adjusted labour productivity (%)	246.0	164.4	207.0	:	:	199.3	:	168.2	200.6	174.3	227.1	173.1	132.7	:
Gross operating rate (%)	24.2	29.7	14.4	:	:	21.3	:	14.8	19.5	17.3	20.4	14.8	12.6	:

(1) 2000.
(2) 1999.
(3) Ireland, 1999.
(4) Cyprus, 2000; Ireland, 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Chemicals, rubber and plastics

Many chemical, rubber and plastics products are strong regulated, from the supply of raw materials, through processing to their use and finally the treatment of waste.

On 29 October 2003 the European Commission adopted a proposal for a new EU regulatory framework within the domain of the chemicals sector [1]. This proposal followed on from a White Paper [2] released by the European Commission in February 2001. The proposal is based on the objective to improve the protection of human health and the environment. The new system called REACH ('Registration, evaluation, and authorisation of chemicals') will require the registration of all manufactured or imported chemical substances each year within a central database (when these amount to more than one tonne). Another element of REACH is evaluation, which may involve an evaluation of the substances by a competent authority. The third aspect of REACH is the need for authorisation for the use of substances which are of very high concern, for example substances identified as having serious and irreversible effects on humans and/or the environment.

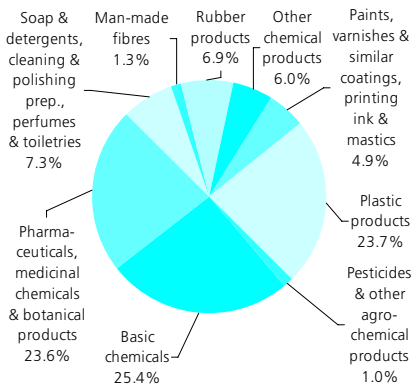
STRUCTURAL PROFILE

In 2001 the chemicals, rubber and plastics sector generated added value of EUR 233.7 billion in the EU-25, equivalent to 15.2 % of manufacturing value added. Of this, EUR 222.4 billion was generated in the EU-15 Member States, a 95.1 % share of the EU-25 total, which was slightly higher than the corresponding share of the EU-15 in manufacturing value added (94.4 %). There were 3.6 million persons employed [3] in the EU-25's chemicals, rubber and plastics sector and 3.1 million in the EU-15, which equated to 11.0 % of the manufacturing workforce in the EU-15.

The manufacture of chemicals (NACE Division 24) was the dominant activity, generating 69.4 % of the chemicals, rubber and plastics sector's value added in 2001 (EUR 162.2 billion). Plastics manufacturing (NACE Group 25.2) generated 23.7 % of sectoral value added and rubber products manufacturing (NACE Group 25.1) the remaining 6.9 %. Within the chemical manufacturing subsector, the largest activities were the manufacture of basic chemicals (NACE Group 24.1) and the manufacture of pharmaceuticals, medicinal chemicals and botanical products (NACE Group 24.4), each accounting for around one quarter of the value added of the whole of the chemicals, rubber and plastics sector.

Figure 6.1

Manufacture of chemicals and chemical products; rubber and plastic products (NACE Subsections DG and DH)
Share of value added at factor cost, EU-25, 2001



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

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

NACE

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

[1] COM(2003) 644.
[2] COM(2001) 88.
[3] Poland and Slovenia, number of employees; Poland, 2000.

Table 6.1

Manufacture of chemicals and chemical products; rubber and plastic products (NACE Subsections DG and DH)
Structural profile, 2001

Rank	Largest value added (EUR billion) (1)	Highest value added specialisation relative to manufacturing (EU-25=100) (1)	Largest number of persons employed (thousands) (2)	Main EU-25 trading partners: origin of imports, 2002 (EUR billion)	Main EU-25 trading partners: destination of exports, 2002 (EUR billion)
1	Germany (59.7)	Ireland (249)	Germany (881.6)	United States (34.7)	United States (48.7)
2	United Kingdom (35.5)	Belgium (163)	France (534.5)	Switzerland (19.7)	Switzerland (15.2)
3	France (35.4)	Luxembourg (132)	United Kingdom (483.8)	Japan (8.9)	Japan (8.6)
4	Italy (24.8)	France (112)	Italy (417.9)	China (6.4)	Russian Federation (5.4)
5	Spain (14.7)	Slovenia (110)	Spain (262.3)	Norway (2.5)	Turkey (5.3)

(1) Poland, not available.
(2) Poland and Slovenia, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Germany generated EUR 59.7 billion of value added in the chemicals, rubber and plastics sector, which was equivalent to one quarter (25.5 %) of the EU-25's total in 2001. The United Kingdom, France and Italy were the next largest Member States, contributing together 40.9 % of the EU-25's value added; none of the remaining Member States registered a share that was higher than 7 %. Ireland and Belgium were the most specialised countries manufacturing chemicals, rubber and plastics, resulting mainly from a predominance of chemicals manufacturing in both of these countries, as chemicals manufacturing accounted for 36.5 % of Irish manufacturing value added and 20.4 % of Belgian manufacturing value added. The Baltic Member States registered the lowest specialisation in the chemicals, rubber and plastics sector, while the 10 new Member States generally recorded lower value added specialisation ratios than the EU-15 Member States.

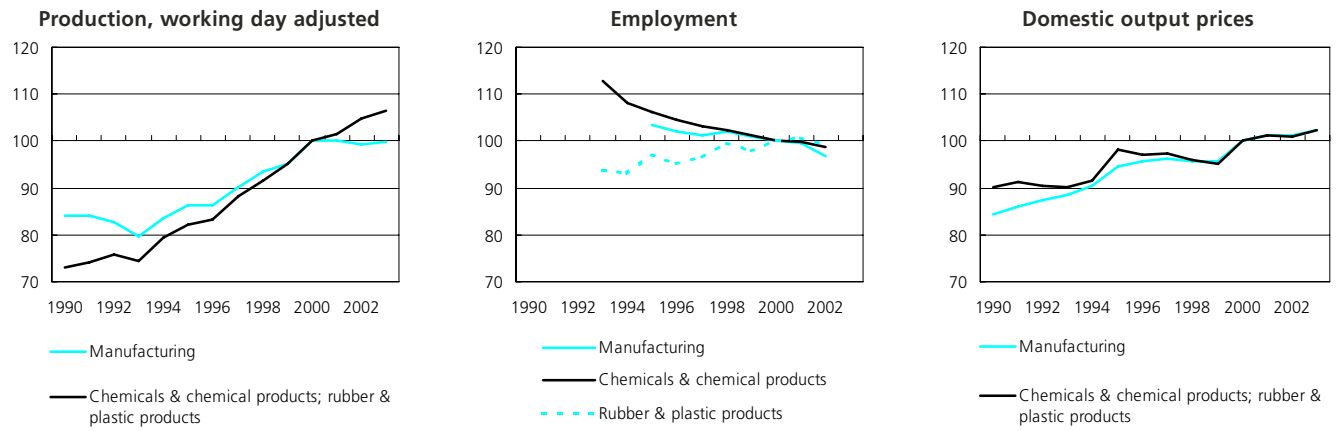
The working day adjusted production index for rubber and plastic products manufacturing followed a similar development to the index for manufacturing in recent years. Since its low in 1993 there were annual increases until 2000, with the exception of 1996, as output grew on average by 4.0 % per annum between 1993 and 2000. After 2000 the production index for rubber and plastic products manufacturing was relatively stable, as was the case for manufacturing as a whole. For chemicals manufacturing, there was uninterrupted growth between 1993 and 2000, with output expanding on average by 4.5 % per annum. However, after 2000 the index of production for chemicals manufacturing continued to grow, averaging gains of 3.2 % per annum between 2000 and 2003.

Employment indices for rubber and plastic products developed in a similar manner to the production index through to 2000, namely, with increases being observed in most years. However, in 2001 there was almost no growth in the number of persons employed (0.7 %) and in 2002 employment fell by 1.4 %. Between 1993 (first year available) and 2002 employment in chemicals manufacturing fell on average by 1.4 % per annum, with not one year of growth.

Domestic output price indices in 1995 grew by around 7 % for chemical manufacturing as well as for rubber and plastic products manufacturing. In the following years through to 1999 the output price index fell on average by –0.8 % per annum. In 2000 there were again quite high price increases observed (6.4 %) for chemical manufacturing, once more followed by a period of relative stability between 2001 and 2002 and an increase of 1.9 % in 2003.

Figure 6.2

Manufacture of chemicals and chemical products; rubber and plastic products (NACE Subsections DG and DH)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Table 6.2

Manufacture of chemicals and chemical products; rubber and plastic products (NACE Subsections DG and DH)
Value added at factor cost and persons employed, by enterprise size-class, 2001 (% of total)

	Micro enterprises		Small enterprises		Medium-sized enterprises		Large enterprises	
	Share of value added	Share of persons employed	Share of value added	Share of persons employed	Share of value added	Share of persons employed	Share of value added	Share of persons employed
EU-25	2.5	:	9.5	:	21.5	:	66.5	:
EU-15	2.4	4.5	9.5	14.7	21.3	25.8	66.8	55.0

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

LABOUR AND PRODUCTIVITY

According to the results of the labour force survey, 69.3 % of the persons employed in the EU-15's chemicals, rubber and plastics manufacturing sector were men in 2002, which was 2.4 percentage points below the manufacturing average. The proportion of the workforce in the EU-15's chemicals, rubber and plastics manufacturing sector that worked full-time (93.6 %) was also close to the manufacturing average (92.4 %) in 2002. However, the EU-15's workforce in the chemicals, rubber and plastics manufacturing sector diverged from the manufacturing average with respect to working status. Some 97.0 % of the workforce were paid employees, compared with a manufacturing average of 91.9 %. Within chemicals manufacturing this proportion reached 98.0 %, the second highest figure across all manufacturing subsections, only marginally lower than in the manufacture of transport equipment (NACE Subsection DM, 98.1 %).

On average each person employed in the chemicals, rubber and plastics manufacturing sector generated EUR 71 400 of value added in the EU-15 in 2001, which was significantly higher (by EUR 20 200) than the manufacturing average. Chemicals manufacturing recorded apparent labour productivity of EUR 91 400 per person employed, compared with EUR 47 500 for rubber and plastic products manufacturing. As such, according to this measure, chemical manufacturing was one of the most productive manufacturing subsections in the EU.

Personnel costs averaged EUR 38 400 per employee in the EU-25's chemicals, rubber and plastics manufacturing sector in 2001, compared with a manufacturing average of EUR 30 900. In the chemicals manufacturing subsector, personnel costs averaged EUR 45 600 per employee, while the level was much lower in the rubber and plastic products manufacturing subsector at EUR 29 800 per employee.

The wage adjusted labour productivity ratio in the chemicals, rubber and plastics manufacturing was 167.2 % in the EU-15 in 2001. Once again, the chemicals manufacturing subsector recorded a higher ratio (182.2 %) than the rubber and plastic products manufacturing subsector (141.6 %), the latter recording wage adjusted labour productivity that was just below the manufacturing average (143.5 %).

Table 6.3

Manufacture of chemicals and chemical products; rubber and plastic products (NACE Subsections DG and DH)
Labour force characteristics, 2002

	Share of men		Share of full-time		Share of employees	
	Value (%)	Index (manufacturing=100)	Value (%)	Index (manufacturing=100)	Value (%)	Index (manufacturing=100)
EU-25	:	:	:	:	:	:
EU-15	69.3	96.7	93.6	101.3	97.0	105.6
BE	70.2	94.4	89.8	98.6	98.0	103.4
CZ	58.6	95.1	97.8	100.3	95.6	103.2
DK	62.7	91.6	95.2	102.7	99.1	102.7
DE	69.6	97.0	91.5	102.0	98.6	103.4
EE	:	:	:	:	:	:
EL	66.1	93.2	99.2	101.2	88.5	120.7
ES	71.2	95.9	99.3	102.5	96.7	109.4
FR	63.9	90.3	95.3	100.9	98.8	104.1
IE	63.2	91.3	94.5	100.7	96.0	104.4
IT	71.5	102.8	96.2	101.6	90.5	109.4
CY	52.0	82.6	95.1	101.9	90.5	113.1
LV	:	:	:	:	:	:
LT	66.4	129.9	93.7	98.8	86.3	89.6
LU	91.0	112.2	99.1	103.7	100.0	101.7
HU	60.9	102.0	98.1	100.5	96.3	103.2
MT	73.1	104.4	95.4	98.7	97.6	104.8
NL	78.6	101.9	77.7	103.5	98.3	102.3
AT	65.4	87.9	:	:	99.1	104.1
PL	:	:	:	:	:	:
PT	59.7	106.4	97.9	101.0	97.9	112.3
SI	63.0	104.3	96.3	99.6	94.9	101.2
SK	72.7	122.8	98.5	99.8	99.2	103.3
FI	63.8	90.7	96.8	101.5	96.1	102.8
SE	62.6	84.7	93.7	102.2	97.4	103.6
UK	72.6	97.1	93.6	101.5	97.5	102.5

Source: Eurostat, Labour Force Survey.

Table 6.4

Manufacture of chemicals and chemical products; rubber and plastic products (NACE Subsections DG and DH)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Chemicals & chemical products; rubber & plastic products	71.4	167.2	42.7
Manufacture of basic chemicals	104.6	191.8	54.5
Manufacture of pesticides and other agro-chemical products	91.6	161.0	56.9
Paints, varnishes & similar coatings, printing ink and mastics	67.0	162.9	41.2
Manufacture of pharmaceuticals, medicinal chemicals and botanical products	106.4	200.1	53.2
Soap & detergents, cleaning & polishing preparations, perfumes & toiletries	67.8	158.3	42.8
Manufacture of other chemical products	71.4	153.3	46.6
Manufacture of man-made fibres	59.9	138.5	43.2
Manufacture of rubber products	50.3	132.6	37.9
Manufacture of plastic products	46.7	144.4	32.3

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

EXTERNAL TRADE

Some EUR 155.3 billion worth of chemical, rubber and plastic products (CPA Divisions 24 and 25) were exported from the EU-25 in 2002, which was equal to 18.6 % of all exported manufactured goods. In the opposite direction, the EU-25 imported EUR 98.3 billion worth of chemicals, rubber and plastic products, resulting in a trade surplus of EUR 57.0 billion for these goods.

With the exception of man-made fibres (CPA Group 24.7) the EU-25 registered a trade surplus in all product groups within chemicals, plastics and rubber products in 2002. The largest surpluses were recorded for pharmaceuticals, medicinal chemicals and botanical products (CPA Group 24.4) and for basic chemicals (CPA Group 24.1), valued at EUR 22.8 billion and EUR 13.1 billion respectively.

The United States and Switzerland were by far the most common destinations for EU-25 exports of chemical, rubber and plastic products and also the main origin of the EU-25's imports, followed at some distance by Japan. Ireland had by far the largest trade surplus (intra- and extra-EU combined) in these products, valued at EUR 31.9 billion in 2002, followed by Germany (EUR 19.7 billion) and Belgium (EUR 12.0 billion). In contrast the highest trade deficits were recorded in Spain, Poland and Italy, ranging between EUR 5.0 billion and EUR 8.0 billion.

Table 6.5

Chemicals, chemical products and man-made fibres; rubber and plastic products (CPA Subsections DG and DH)
External trade, EU-25, 2002 (EUR million)

	Exports	Imports	Trade balance	Cover ratio (%)
Chemicals, chemical products & man-made fibres; rubber & plastics	155 324	98 319	57 005	158.0
Basic chemicals	46 490	33 385	13 105	139.3
Pesticides and other agro-chemical products	2 286	893	1 393	256.0
Paints, varnishes and similar coatings, printing ink and mastics	4 246	1 181	3 065	359.6
Pharmaceuticals, medicinal chemicals and botanical products	53 535	30 733	22 802	174.2
Glycerol; soap, detergents, cleaning prep.; perfumes & toiletries	10 637	2 929	7 709	363.2
Other chemical products	16 660	11 078	5 582	150.4
Man-made fibres	946	2 025	-1 079	46.7
Rubber products	5 540	5 410	131	102.4
Plastic products	13 335	10 328	3 007	129.1

Source: Eurostat, Comext.

6.1: BASIC INDUSTRIAL CHEMICALS (INCLUDING PETROCHEMICALS), PESTICIDES AND AGROCHEMICALS

The manufacture of basic chemicals (NACE Group 24.1) covers the manufacture of industrial gases, dyes and pigments, basic chemicals and fertilisers, as well as the manufacture of the primary forms of plastics and synthetic rubber. NACE Group 24.2 is also taken into account in this subchapter, and it comprises the manufacture of plant growth regulators, disinfectants and products to fight pests and diseases, such as insecticides, fungicides, herbicides and rodenticides. In this subchapter these two NACE groups are collectively referred to as basic and agro-chemical products.

There are a number of issues in relation to the use of fertilisers and pesticides, including the effects that they may have on humans, animals or the environment in the long term. In October 2003, a regulation [4] relating to fertilisers was passed that brought together, in a harmonised manner, 18 different Council and Commission directives that were published between 1976 and 1998 in relation to the production and use of fertilisers. The purpose of this was to create a single text to improve the ease with which legislation could be consulted. In 2003, the European Commission also undertook work on proposals to eliminate cadmium from phosphate fertilisers. Cadmium is a toxic metal that usually exists in low levels of concentration within the environment. Producers of phosphates will be given time to adapt to the new rules and may continue to supply EU farmers with these products, although the goal of the proposal is to ultimately reduce cadmium levels within the soil and to eventually stop using cadmium in fertilisers altogether.

STRUCTURAL PROFILE

The manufacture of basic industrial chemicals, pesticides and agro-chemicals (NACE Groups 24.1 and 24.2) generated added value of EUR 61.7 billion in the EU-25, equivalent to 38.0 % of chemicals manufacturing in 2001. The basic and agro-chemical products sector in the EU-25 employed 658 200 employees in 2001, collectively accounting for 34.5 % of the total number of employees in chemical manufacturing.

The manufacture of basic chemicals (NACE Group 24.1) dominated this sector, contributing 96.1 % of sectoral value added and 95.6 % of the total number of persons employed in the EU-15 in 2001. The manufacture of organic basic chemicals (NACE Class 24.14) generated 44.0 % of the value added generated within the whole of the EU-15's basic and agro-chemical products sector and accounted for 32.5 % of those employed. The second largest class was the manufacture of plastics in primary forms (NACE Class 24.16), registering 25.8 % of sectoral value added and 31.5 % of those employed. Among the remaining classes making up the basic and agro-chemical products sector, the manufacture of rubber in primary forms (NACE Class 24.17) was the smallest activity, accounting for just over 1 % of value added and those employed.

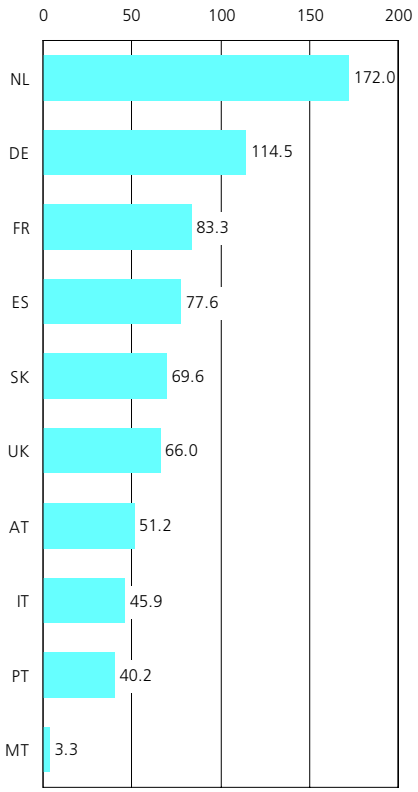
Germany was the largest producer of basic and agro-chemical products in the EU-25, accounting for 30.7 % of value added. France and the United Kingdom were the next largest producers with around 10 % of the EU-25 total. Looking just at the manufacture of basic chemicals, by far the most specialised country [5] in value added terms was Ireland (2000 data), where this subsector contributed 26.8 % of Irish manufacturing value added. Belgium and the Netherlands were the next most specialised, generating 7.8 % and 6.8 % of their manufacturing value added in this subsector respectively, in 2001. In contrast, four new Member States, namely Malta, Cyprus, Estonia and Latvia, were the least specialised, generating less than 1 % of their manufacturing value added in basic chemicals activities. Turning to the smaller subsector of agro-chemical products, France and the United Kingdom were the two largest producers in the EU-25 in value added terms, with 32.6 % and 21.2 % of the EU-25 total respectively. Germany's 14.8 % share of value added was the smallest share recorded by this country in any of the chemical manufacturing groups.

[4] Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 concerning fertilisers.

[5] Greece and Luxembourg, not available.

Figure 6.3

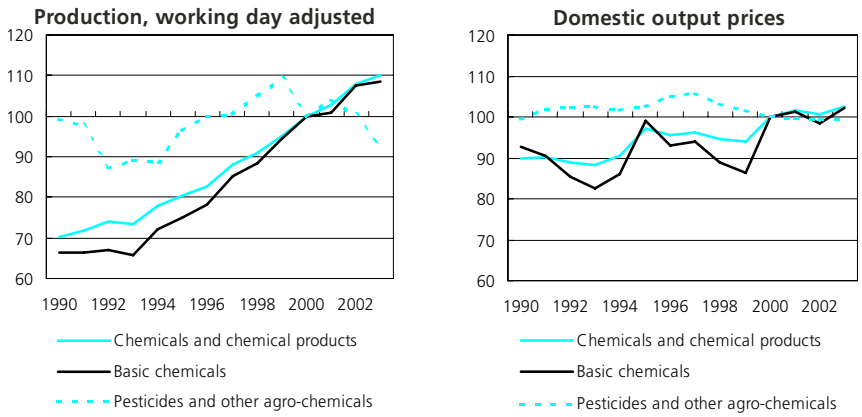
Manufacture of basic chemicals; pesticides and other agro-chemical products (NACE Groups 24.1 and 24.2)
Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)



(1) Belgium, the Czech Republic, Denmark, Estonia, Greece, Ireland, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Poland, Slovenia, Finland and Sweden, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Figure 6.4

Manufacture of basic chemicals; pesticides and other agro-chemical products (NACE Groups 24.1 and 24.2)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

The development of the working day adjusted production indices for the manufacture of basic chemicals and for the manufacture of pesticides and other agro-chemical products was upwards between 1993 and 1999. However, average growth was almost twice as fast for the manufacture of basic chemicals, at 6.2 % per annum, compared with a growth rate of 3.4 % per annum for the manufacture of pesticides and other agro-chemical products. After 1999, the index for the manufacture of pesticides and other agro-chemical products fell in 2000 (–8.4 %), recovered strongly, but briefly, in 2001 (+4.0 %), and then fell again in both 2002 (–3.7 %) and 2003 (–7.8 %) to reach a level below that registered in 1995. In contrast, the upward trend in the manufacture of basic chemicals was uninterrupted, despite more modest growth in 2001 and 2003, and averaged 3.5 % per annum between 1999 and 2003.

Between 1995 and 1999 domestic output prices for basic chemicals fell by an average of 3.4 % per annum. In 2000 a strong increase of 16.0 % was recorded, which was followed by three years of alternating increases and decreases, which resulted in average price increase of 0.7 % per annum. Output prices for pesticides and other agro-chemical products followed a much smoother progression, increasing for three consecutive years, from a low in 1994, at a rate of 1.3 % per annum. Between 1997 and 2000 prices fell, averaging –1.8 % per annum, a trend which continued (albeit it at a slower pace) between 2000 and 2003, when price reductions were, on average, equal to –0.2 % per annum.

LABOUR AND PRODUCTIVITY

In 2001 apparent labour productivity was EUR 103 700 per person employed in the basic and agro-chemical products sector of the EU-15, higher than the average for chemicals manufacturing (EUR 91 400). In the EU-25, personnel costs averaged EUR 48 700 per employee in the basic and agro-chemical product sector, approximately 10 % lower than the EU-15 average of EUR 54 800.

The wage adjusted labour productivity ratio for the EU-15's basic and agro-chemical products sector was 189.2 %, which could be broken down into its constituent parts, with the adjusted productivity ratio for the manufacture of basic chemicals at 191.8 % and that for the manufacture of pesticides and other agro-chemical products at 161.0 %.

EXTERNAL TRADE

The EU-25 exported EUR 48.8 billion worth of basic and agro-chemical products (CPA Groups 24.1 and 24.2) in 2002, while imports were valued at EUR 34.3 billion, resulting in an external trade surplus, with non-Community countries, that was valued at EUR 14.5 billion. Other basic organic chemicals (CPA Class 24.14) generated the largest surplus among the basic and agro-chemical products classes, valued at EUR 10.6 billion. The EU-25 also recorded a trade surplus with respect to plastics in primary forms (CPA Class 24.16), pesticides and other agro-chemical products (CPA Group 24.2), and dyes and pigments (CPA Class 24.12). The largest deficit amounted to EUR 1.2 billion, which was recorded for fertilisers and nitrogen compounds (CPA Class 24.15), while smaller deficits were also registered for other basic inorganic chemicals (CPA Class 24.13), synthetic rubber in primary forms (CPA Class 24.17), and industrial gases (CPA Class 24.11).

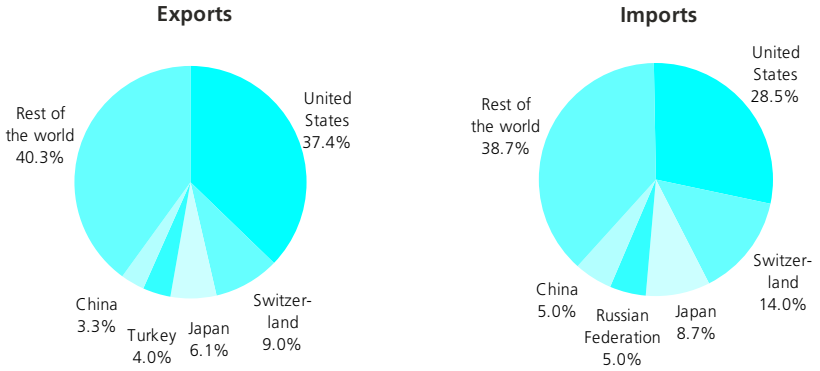
The main destinations for the EU-25's exports of basic and agro-chemical products were the United States (37.4 % of EU-25 exports) in 2002, Switzerland (9.0 %) and Japan (6.1 %). These three countries were also important sources of EU-25 imports of basic and agro-chemicals products.

Ireland (EUR 12.1 billion), Belgium (EUR 7.5 billion), the Netherlands (EUR 5.4 billion) and Germany (EUR 3.0 billion) recorded the largest trade surpluses (intra- and extra-EU combined) for basic and agro-chemical products, while Italy (EUR –8.7 billion) and Spain (EUR –3.7 billion) reported the highest deficits. Ireland and Belgium recorded the highest export specialisation ratios for basic and agro-chemical products [6], as exports of these goods accounted for 16.7 % and 12.5 % respectively of their total manufactured exports in 2002; in both cases this was due to a relatively important share of basic chemical exports. France was the most specialised country in terms of exporting agro-chemical products.

[6] Austria, not available.

Figure 6.5

Basic chemicals; pesticides and other agro-chemical products (CPA Groups 24.1 and 24.2)
Share in extra-EU trade, 2002



Source: Eurostat, Comext.

6.2: PHARMACEUTICALS

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

The pharmaceuticals sector faces more changes than most in relation to its regulatory framework. The year 2003 was no exception, with a large amount of new legislation being introduced, in particular focusing on consumer issues. June 2003 saw two new Commission regulations [7] adopted concerning changes to the authorisation of medicinal products for human and veterinary use; both came into force on 1 October 2003. Also in June 2003 two Commissions directives [8] were introduced, which also touch the field of authorisation of medicinal products.

[7] Regulation (EC) No 1084/2003 of the Commission of 3 June 2003 concerning the examination of variations to the terms of a marketing authorisation for medicinal products for human use and veterinary medicinal products granted by a competent authority of a Member State and Regulation (EC) No 1085/2003 of the Commission of 3 June 2003 concerning the examination of variations to the terms of a marketing authorisation for medicinal products for human use and veterinary medicinal products falling within the scope of Council Regulation (EEC) No 2309/93 of 22 July 1993 concerning laying down Community procedures for the authorization and supervision of medicinal products for human and veterinary use and establishing a European Agency for the Evaluation of Medicinal Products.

[8] Directive (EC) No 2003/63 of 25 June 2003 amending Directive 2001/83/EC of the European Parliament and of the Council on the Community code relating to medicinal products for human use and Directive (EC) No 2003/94 of 8 October 2003 concerning laying down the principles and guidelines of good manufacturing practice in respect of medicinal products for human use and investigational medicinal products for human use.

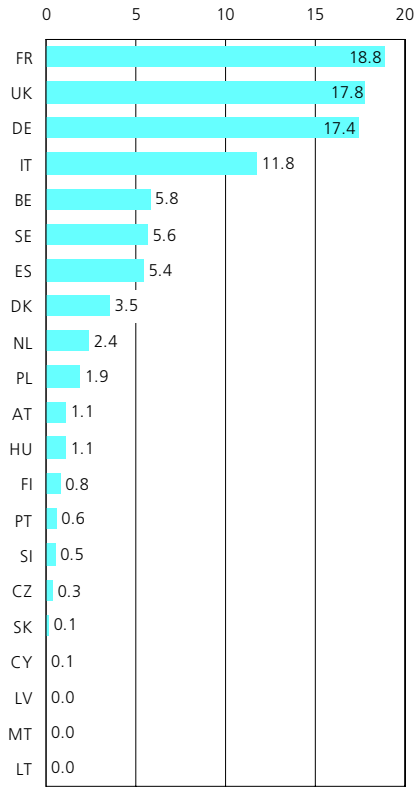
The Commission adopted 14 recommendations from the 2002 report of the High-Level Group on Innovation and Provision of Medicines – G10 Medicines [9]. The recommendations included access to innovative medicines; speeding up negotiations on reimbursement and pricing; encouraging greater competition for medicines that are neither purchased nor reimbursed by the State; and developing competitive generic and non-prescription markets. The Commission also sought to strengthen and encourage the EU's science base, including the creation of a European Centre for Disease Prevention and Control. As regards market access, the recommendations also covered enlargement, and intellectual property protection. A final recommendation was to establish a benchmarking exercise to monitor the competitiveness of the pharmaceuticals industry.

Another milestone in the legislative area is the planned reform of the EU's pharmaceuticals legislation, which reached its second reading within the European Parliament in December 2003. Such reforms have been designed to invigorate the pharmaceuticals market in the EU, improve its competitiveness and help it to meet the challenges of globalisation. The core objective is stronger health protection for European citizens, which is encouraged through the introduction of clearer rules for the authorisation of new pharmaceuticals, hopefully speeding up the time it takes for new and innovative pharmaceutical products to reach the market.

[9] G10 Medicines is an initiative of the European Commission to create a high-level group of European decision-makers on medicines, composed of national government, industry, patient and mutuals representatives.

Figure 6.6

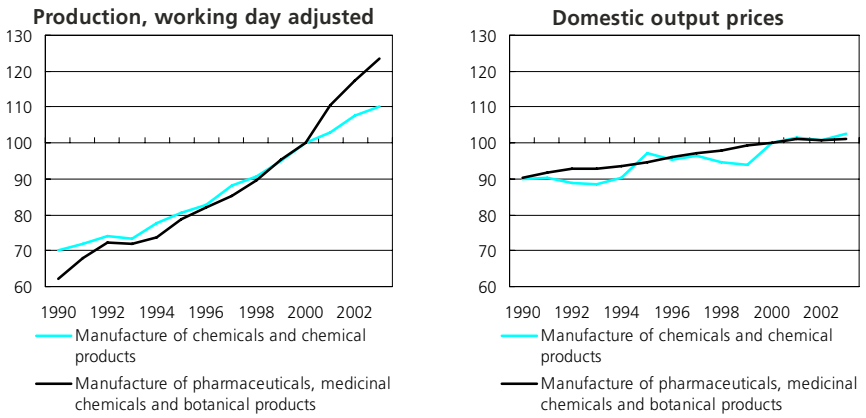
Manufacture of pharmaceuticals, medicinal chemicals and botanical products (NACE Group 24.4)
Share of EU-25 value added, 2001 (%) (1)



(1) Estonia, Greece, Ireland and Luxembourg, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Figure 6.7

Manufacture of pharmaceuticals, medicinal chemicals and botanical products (NACE Group 24.4)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

STRUCTURAL PROFILE

Pharmaceutical manufacturing generated added value of EUR 55.1 billion in 2001 in the EU-25, which was equal to 34.0 % of the chemicals total. As such, this was the second largest group within chemical manufacturing, slightly smaller than the manufacture of basic chemicals. Some 552 500 persons were employed in the pharmaceuticals sector in the EU-25 [10] in 2001, of which 493 800 were working in the EU-15; this latter figure represented 29.1 % of the EU-15's chemical manufacturing workforce.

About 90 % of the value added and employment of the pharmaceuticals sector in the EU-15 was accounted for by the manufacture of pharmaceutical preparations (NACE Class 24.42), while the manufacture of basic pharmaceuticals (NACE Class 24.41) accounted for the remaining 10 %.

France, Germany and the United Kingdom contributed the highest shares of value added in the EU-25's pharmaceutical manufacturing sector in 2001, with between 19 and 17 %. In terms of value added specialisation in relation to manufacturing, Denmark, Sweden and Belgium were the most highly specialised countries [11] manufacturing pharmaceuticals, while Lithuania, Latvia and Finland recorded the lowest specialisation rates.

The working day adjusted production index for pharmaceutical manufacturing showed uninterrupted growth in the EU-25 between 1993 and 2003, averaging gains of 5.6 % per annum. This was somewhat stronger than the average for chemicals manufacturing (4.1 %). This more rapid pace of growth in pharmaceutical manufacturing was mainly caused by a 10.5 % increase in the output of pharmaceutical manufacturing in 2001, followed by higher than average growth in 2002 and 2003.

The EU-25's domestic output price index for pharmaceuticals manufacturing had relatively stable growth between 1993 and 2003, with prices rising on average by 0.9 % per annum. It should be noted that the index did, however, fall in 2002 (–0.3 %), and growth in 2003 (0.3 %) was also lower than the long-term average.

According to information provided by the Association of European Self-Medication (AESGP) in 2002 there were EUR 13.5 billion worth of self-medication pharmaceuticals sold in the EU-15, 2.5 % higher than in 2000 [12].

[10] Estonia, not available; Slovenia, number of employees.
[11] Estonia, Greece, Ireland and Luxembourg, not available.
[12] Self-medication market: sales of all self-medication products bought without a medical prescription at public price level, including value added tax (VAT).

LABOUR AND PRODUCTIVITY

Apparent labour productivity was EUR 106 400 per person employed for pharmaceuticals manufacturing in the EU-25, more than double the corresponding figure for manufacturing as a whole (EUR 51 200), and the highest value of any chemical manufacturing NACE group in 2001.

Average personnel costs in 2001 were EUR 49 100 per employee in the EU-25's pharmaceuticals sector, EUR 3 500 below the EU-15 average within the same sector.

The wage adjusted labour productivity ratio for pharmaceuticals manufacturing was 200.1 % in the EU-15 in 2001, some 17.9 percentage points above the chemical manufacturing average. All Member States [13] with the exception of Lithuania (95.9 %) registered values for this ratio that were above 100 %, with Ireland (2000 data) and Poland recording the highest values.

[13] Ireland and Cyprus, 2000; Estonia, Greece, Luxembourg and Slovenia, not available.

EXTERNAL TRADE

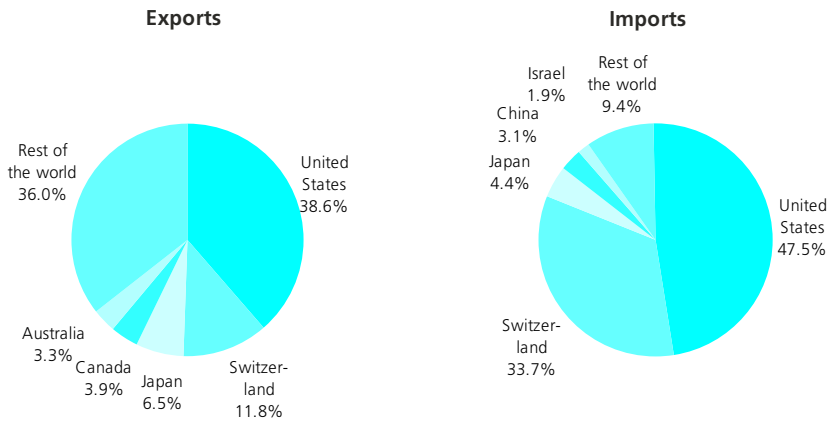
The EU-25 exported EUR 53.5 billion worth of pharmaceuticals (CPA Group 24.4) in 2002 and imported EUR 30.7 billion of these products. The EU-25 had a trade deficit for basic pharmaceutical products (CPA Class 24.41) of EUR 2.0 billion in 2002, while, in contrast, for pharmaceutical preparations (CPA Class 24.42) the EU-25 registered a trade surplus of EUR 24.7 billion.

The three most important destinations for EU-25 exports of pharmaceuticals were also the three most important sources of imports, namely the United States, Switzerland and Japan. Together these three countries accounted for 56.9 % of the EU-25's exports and 85.6 % of the EU-25's imports in 2002. The United States accounted for almost half (47.5 %) of the pharmaceuticals that were imported into the EU-25 in 2002, which was higher than for any of the other chemical and chemical products' CPA groups.

In 2002 Ireland recorded by far the highest trade surplus (intra- and extra-EU combined) for pharmaceutical products, valued at EUR 16.3 billion. In contrast, Spain and Poland recorded the highest trade deficits, valued at EUR 3.1 billion and EUR 2.1 billion respectively. Ireland and Cyprus were the most specialised in the export of pharmaceuticals, with exports of these products accounting for 21.8 % and 20.1 % respectively of all exports of manufactured goods.

Figure 6.8

Pharmaceuticals, medicinal chemicals and botanical products (CPA Group 24.4)
Share in extra-EU trade, 2002



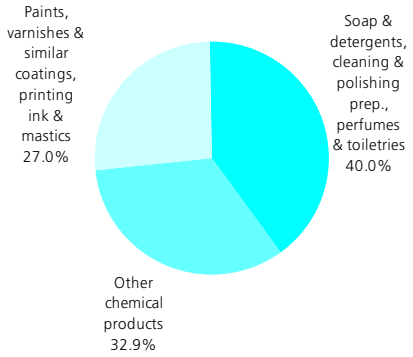
Source: Eurostat, Comext.

6.3: MISCELLANEOUS CHEMICAL PRODUCTS

This subchapter covers three NACE groups that are presented separately. The manufacture of paints, varnishes, enamels, lacquers, solvents, thinners, varnish removers, as well as printing inks (NACE Group 24.3) is the first group, hereafter referred to as the manufacture of paints and printing inks. The manufacture of washing and cleaning products, as well as perfumes, toiletries, cosmetics and related products (NACE Group 24.5) form the next group, referred to hereafter as the manufacture of soaps, detergents and toiletries. NACE Group 24.6 covers the manufacture of other chemical products. It is a residual group covering a miscellaneous selection of products, ranging from photographic materials to explosives, glues, gelatines and essential oils, as well as a number of products that are mainly used as intermediate inputs in other manufacturing processes.

Figure 6.9

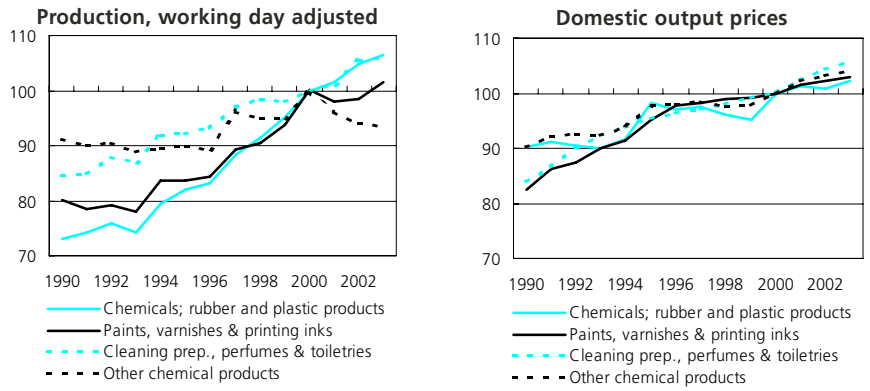
Manufacture of miscellaneous chemical products (NACE Group 24.3, 24.5 and 24.6) Share of value added at factor cost, EU-25, 2001



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

Figure 6.10

Manufacture of miscellaneous chemical products (NACE Group 24.3, 24.5 and 24.6) Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Table 6.6

Manufacture of miscellaneous chemical products (NACE Groups 24.3, 24.5 and 24.6) Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Manufacture of miscellaneous chemical products	68.7	157.3	43.7
Paints, varnishes & printing inks	67.0	162.9	41.2
Soap & detergents, cleaning & polishing prep., perfumes & toiletries	67.8	158.3	42.8
Manufacture of other chemical products	71.4	153.3	46.6

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

Table 6.7

Miscellaneous chemical products (CPA Groups 24.3, 24.5 and 24.6) External trade, EU-25, 2002

	Exports		Imports		
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	Trade balance (EUR million)
Paints, varnishes and similar coatings, printing ink and mastics	4 246	13.5	1 181	7.8	3 065
Glycerol; soap, detergents, cleaning prep.; perfumes & toiletries	10 637	33.7	2 929	19.3	7 709
Other chemical products	16 660	52.8	11 078	72.9	5 582

Source: Eurostat, Comext.

MANUFACTURE OF PAINTS AND PRINTING INKS

In 2001 added value of EUR 11.5 billion was generated in the EU-25's paints and printing inks sector (NACE Group 24.3), equivalent to 7.1 % of the value added for the whole of chemical manufacturing. There were 180 300 persons employed in this sector in the EU-25 [14], of which 164 800 persons were employed in the EU-15. Those employed in the paints and printing inks sector in the EU-15 represented 9.7 % of the total chemical manufacturing workforce.

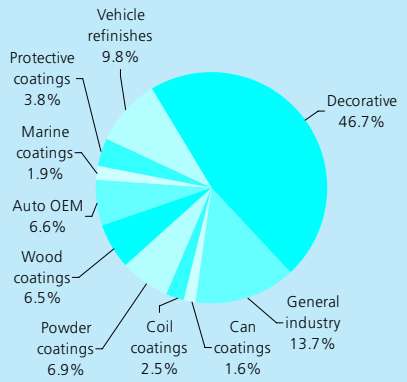
As shown in Figure 6.11, some 46.7 % of sales made by European [15] paint manufacturers in 2001 were for decorative purposes [16].

The German paints and printing inks manufacturing sector generated EUR 4.1 billion of value added in 2001, the largest contribution among the Member States, with a 35.9 % share of EU-25 value added. Indeed, this was the highest share of EU-25 value added recorded by Germany for any of the chemical manufacturing groups in 2001. The United Kingdom had the second largest share of the EU-25's value added, with a 16.2 % share. In relation to manufacturing, Germany, the Netherlands, Slovenia and Portugal were the most specialised countries in the paints and printing inks manufacturing sector [17], while Slovakia, the Czech Republic and Hungary had the lowest specialisation ratios.

The working day adjusted production index for paints and printing ink manufacturing in the EU-25 registered average growth of 3.6 % per annum between 1993 and 2000, which was below the manufacturing average (4.5 %), although slightly above the average for chemical manufacturing as a whole (3.3 %). From 2001 to 2003 there was a period of stability that was fairly typical for a manufacturing activity. An analysis of the domestic output price index for paints and printing ink manufacturing shows that prices in the EU-25 grew relatively quickly between 1990 and 1996 (on average by 2.9 % per annum), and more moderately (on average by 0.7 % per annum) between 1996 and 2003.

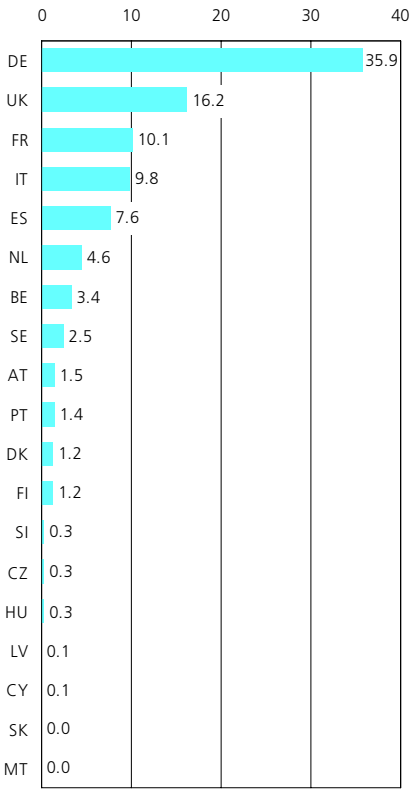
[14] Estonia and Lithuania, 2002; Poland and Slovenia, number of employees; Poland, 1999.
[15] EU-15 plus Norway and Switzerland.
[16] European Council of the Paint, Printing Ink and Artists' Colours Industry (CEPE: Conseil Européen de l'Industrie des Peintures, des Encres d'Imprimerie et des Couleurs d'Art).
[17] Poland, 1999; Ireland and Luxembourg, 2000; Estonia, Greece and Lithuania, not available.

Figure 6.11
Sales value of paint, by sector, Europe, 2001 (1)



(1) EU-15, Norway and Swizerland.
Source: CEPE.

Figure 6.12
Manufacture of paints, varnishes and similar coatings, printing ink and mastics (NACE Group 24.3)
Share of EU-25 value added, 2001 (%) (1)



(1) Estonia, Greece, Ireland, Lithuania, Luxembourg and Poland, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Apparent labour productivity for paints and printing ink manufacturing was EUR 67 000 per person employed in the EU-15 in 2001, which was EUR 24 400 lower than the corresponding figure for the whole of chemical manufacturing, but nevertheless above the manufacturing average. In the EU-15, personnel costs averaged EUR 41 200 per employee within the paints and printing ink sector, compared with an average of EUR 50 100 per employee for the whole of chemicals. In 2001 the wage adjusted labour productivity ratio for the paints and printing ink sector was 162.9 % in the EU-15, lower than the chemical manufacturing average (182.2 %).

EU-25 exports of paints and printing inks (CPA Group 24.3) were valued at EUR 4.2 billion in 2002 and imports at EUR 1.2 billion, resulting in a EUR 3.1 billion trade surplus. The main destinations for EU-25 exports were Russia, the United States and Switzerland. Indeed, this was the only chemical and chemical products' CPA group in which Russia was the main export destination and the only one in which the United States was not the most important export partner. The main sources of imports were Switzerland, the United States and Japan, which together provided more than three quarters of the EU-25's imports. A majority of EU-15 Member States reported external trade surpluses for these products in 2002 (intra- and extra-EU trade), while most of the 10 new Member States recorded trade deficits, the exceptions being Slovenia and Estonia.

MANUFACTURE OF SOAPS, DETERGENTS AND TOILETRIES

Figure 6.13 provides a breakdown of the soaps, detergents and toiletries market. In 2002, the value of sales in this market was estimated to be worth EUR 29.7 billion in Europe [18], with household laundry products accounting for around 41 % of the total, while industrial and institutional products and household hard surface cleaners had shares of approximately 18 % and 11 % respectively.

The EU-25's soap, detergents and toiletries sector (NACE Group 24.5) generated EUR 17.0 billion of value added in 2001, equivalent to 10.5 % of the chemical manufacturing total. The 10 new Member States generated 9.5 % of the EU-25's value added in this sector, their highest proportion among any of the chemical manufacturing groups, and more than double their average contribution to value added within chemical manufacturing. There were 261 300 persons employed in the EU-25 [19] in 2001 in the soap, detergents and toiletries sector, of which 225 900 were working in the EU-15, equivalent to 13.3 % of the EU-15's chemical manufacturing workforce.

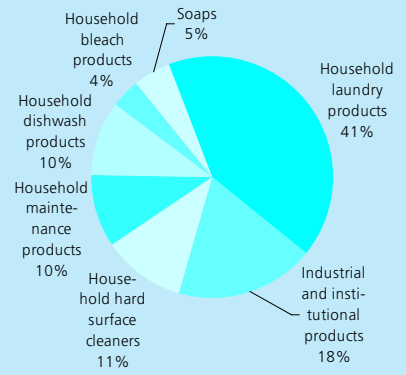
The manufacture of perfumes and toilet preparations (NACE Class 24.52) generated 57.6 % of sectoral value added in the EU-15 in 2001 and employed 56.6 % of the EU-15's workforce, while the remainder of this activity was accounted for by the manufacture of soap and detergents, cleaning and polishing preparations (NACE Class 24.51).

Poland, France and Cyprus were the most highly specialised in the manufacture of soap, detergents and toiletries [20] relative to manufacturing as a whole.

The working day adjusted production index of soap, detergents and toiletries manufacturing showed an overall increase of 21.4 % between 1993 and 2003, although in many of the intervening years the index was relatively stable. Domestic output prices increased steadily through to 2003, in contrast to the more erratic movement of chemical manufacturing as a whole.

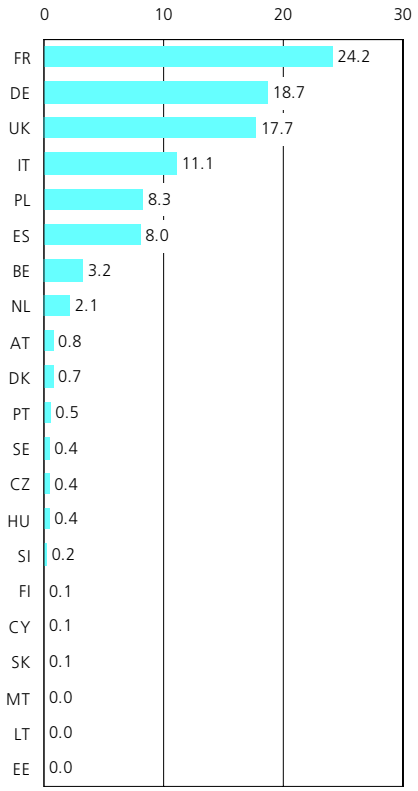
[18] EU-15 plus Switzerland, Norway.
[19] Latvia, 2000; Slovenia, number of employees.
[20] Greece, and Luxembourg, not available; Ireland and Latvia, 2000.

Figure 6.13
Sales value of soaps, detergents and cleaning products, Europe, 2002 (1)



(1) EU-15, Norway and Swizerland.
Source: AISE.

Figure 6.14
Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations (NACE Group 24.5)
Share of EU-25 value added, 2001 (%) (1)



(1) Greece, Ireland, Latvia and Luxembourg, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Apparent labour productivity for the manufacture of soap, detergents and toiletries was EUR 67 800 in the EU-15 in 2001, which was below the chemical manufacturing average. Average personnel costs were EUR 42 800 per employee, again lower than the chemical manufacturing average. The resulting wage adjusted labour productivity ratio was 158.3 %.

The EU-25 ran a EUR 7.7 billion external trade surplus for soaps, detergents and toiletries (CPA Group 24.5) in 2002. The most important destinations for exports of these products were the United States, Russia and Switzerland, while the United States and Switzerland were the main sources of imports. France and Germany had the largest external trade surpluses for these products, while Greece, Portugal and Austria had the highest deficits.

MANUFACTURE OF OTHER CHEMICAL PRODUCTS

The other chemical products sector (NACE Group 24.6) generated EUR 13.9 billion of value added in 2001 in the EU-25, equivalent to 8.6 % of chemical manufacturing value added. Just 2.3 % of the total was generated in the 10 new Member States, which was their lowest contribution to value added in any chemical manufacturing group. The other chemical products sector had a workforce of 202 100 persons in the EU-25 [21], while there were 191 600 persons working in the EU-15 (which was equivalent to 11.3 % of the EU-15's chemical manufacturing workforce). The highest value added specialisation ratios relative to manufacturing were recorded in the Netherlands and Luxembourg [22], while the lowest specialisation rates were registered in Malta, Latvia and Lithuania.

[21] Estonia and Poland, not available; Latvia, 2002; Slovenia, number of employees.
[22] Latvia, 1999; Belgium, Estonia, Greece, Ireland and Poland, not available.

Throughout the first half of the 1990s the working day adjusted production index for the manufacture of other chemical products was stable, rarely growing or falling by more than 1 %. In 1997 growth of 7.6 % was recorded, followed by two more years of relative stability, before a further spurt of 5.2 % was registered in 2000. This trend contrasted with almost continuous growth for chemical manufacturing as a whole over the same period. The atypical development for the manufacture of other chemical products continued after 2000, as three consecutive years of falling output were registered, while there was continuous growth for chemical manufacturing as a whole.

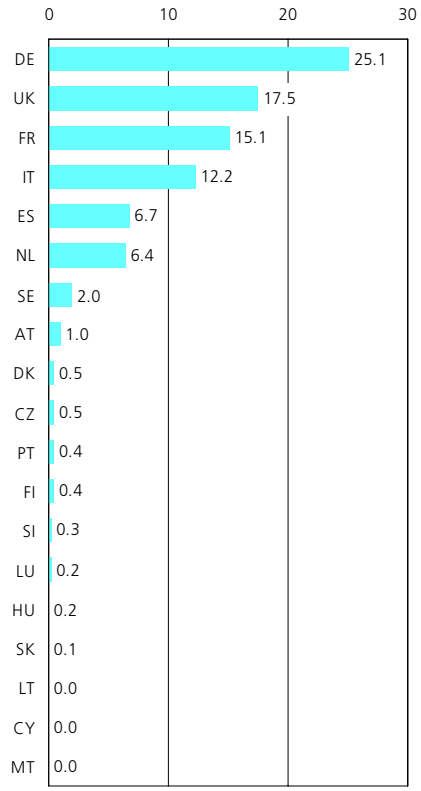
The development of the domestic output price index for the manufacture of other chemical products in the EU-25 between 1995 and 2003 followed closely that of chemical manufacturing as a whole.

Apparent labour productivity in the other chemical products manufacturing sector was EUR 71 400 per person employed in the EU-15 in 2001. Average personnel costs per employee amounted to EUR 46 600 in the EU-15, which was EUR 2 900 higher than the corresponding EU-25 figure. The wage adjusted labour productivity ratio in 2001 was 153.3 % in the EU-15.

The EU-25 exported EUR 16.7 billion worth of other chemical products (CPA Group 24.6) and imported EUR 11.1 billion of these products in 2002. Germany and Ireland reported the highest trade surpluses (intra- and extra-EU combined), while Italy and Spain had the largest deficits.

Figure 6.15

Manufacture of other chemical products (NACE Group 24.6)
Share of EU-25 value added, 2001 (%) (1)



(1) Belgium, Estonia, Greece, Ireland, Latvia and Poland, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

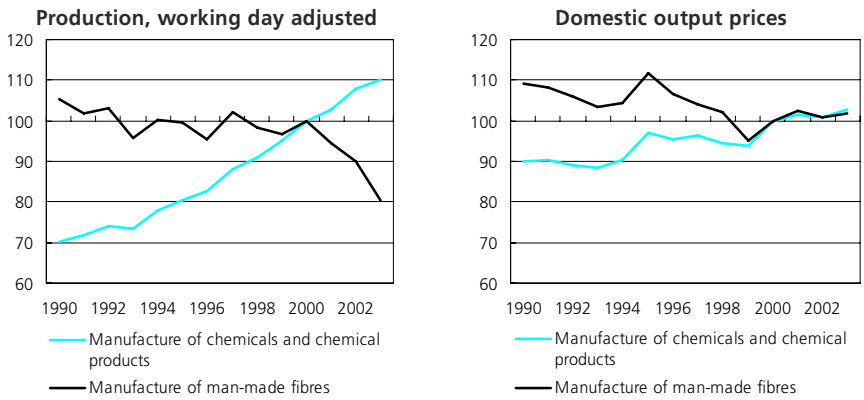
6.4: MAN-MADE FIBRES

This subchapter relates to the manufacture of artificial and synthetic fibres (NACE Group 24.7) in the form of tow, fibres, yarn, or strips; it excludes the manufacture of sewing thread (NACE Class 17.16). Man-made fibres derived from minerals (carbon, ceramic, glass or metal) are also not covered by this activity.

Organic fibres referred to in the NACE classification as man-made fibres can be classified into two groups. The first consists of fibres which are manufactured by transformation of natural polymers, a common example being viscose. Fibres from synthetic polymers that are based on petrochemicals form the second group, of which polyester and polyamide (also known as nylon) are examples. Like most chemical products, man-made fibres are intermediate products, which are processed further before reaching consumers, for example as clothing.

Figure 6.16

Manufacture of man-made fibres (NACE Group 24.7)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

STRUCTURAL PROFILE

In 2001 the value added generated by the EU-25's man-made fibres manufacturing sector amounted to EUR 3.1 billion, equivalent to 1.9 % of chemical manufacturing value added. As such, this was the second smallest group within chemical manufacturing. There were 62 500 employees in this sector in the EU-25, which was equivalent to 3.3 % of all chemical manufacturing employees. More than one third of the EU-25's value added in this sector was accounted for by Germany (34.7 %), where added value reached EUR 1.1 billion. In terms of value added specialisation, Slovakia stood out as it generated 17.4 % of its chemical manufacturing value added in this subsector, more than nine times as much as the EU-25 average; this was one of the manufacturing groups in which Slovakia was most specialised.

During the 1990s the development of the working day adjusted production index for man-made fibres manufacturing in the EU-25 was characterised by alternating years of expansion and contraction between 1991 and 2000, leaving production in 2000 at a similar level to that in 1991. Since 2000 production fell, on average, by 7.0 % per annum in the three years to 2003.

Output prices for man-made fibres peaked in 1995 after which they fell by an average of 3.9 % per annum until 1999. Prices increased in 2000 (5.1 %) and 2001 (2.3 %), and then recorded more modest changes in 2002 (–1.3 %) and 2003 (0.7 %).

LABOUR AND PRODUCTIVITY

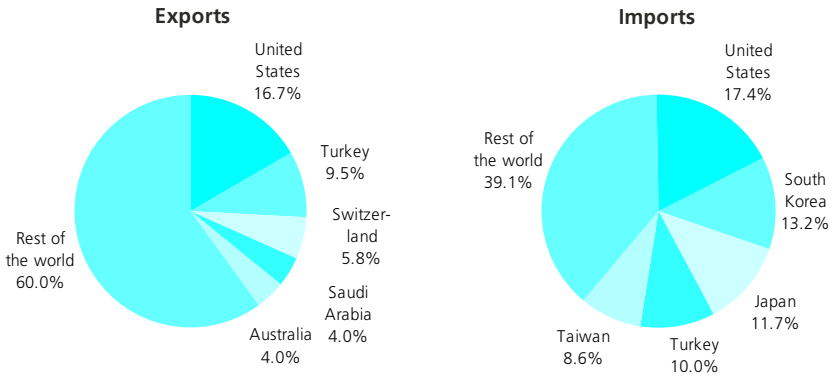
In the EU-15's man-made fibres manufacturing sector apparent labour productivity amounted to EUR 59 900 per person employed in 2001, while average personnel costs were EUR 43 200 per employee (EUR 35 500in the EU-25). Both of these figures were below the averages recorded for the whole of the chemical manufacturing sector, as was the resulting wage adjusted labour productivity ratio of 138.5 %.

EXTERNAL TRADE

In 2002, man-made fibres (CPA Group 24.7) were the only group among chemicals, chemical products and man-made fibres that registered a trade deficit in the EU-25, valued at EUR –1.1 billion. Exports were EUR 945.8 million, while the EU-25 imported man-made fibres to the value of EUR 2.0 billion. The main origins of EU-25 imports of man-made fibres were the United States, South Korea and Japan. Although the United States was the largest single source of EU-25 imports of man-made fibres, its 17.4 % share was its smallest among the chemical and chemical products' CPA Groups.

Figure 6.17

Man-made fibres (CPA Group 24.7)
Share in extra-EU trade, 2002



Source: Eurostat, Comext.

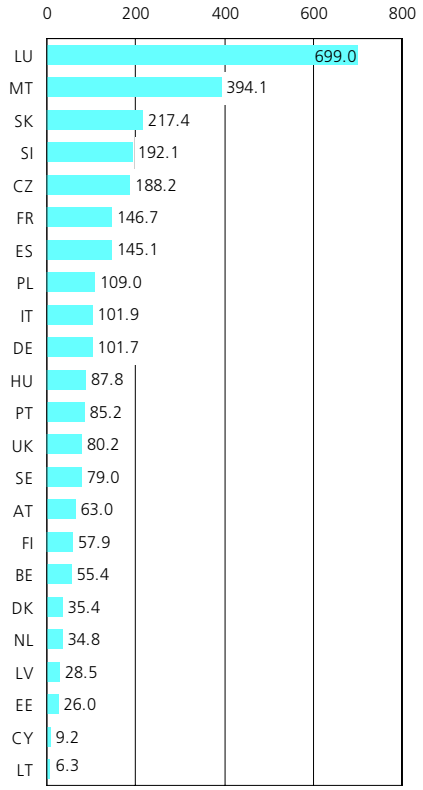
6.5: RUBBER

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

The most important downstream sector for the rubber industry is transport equipment manufacturing. This sector is the main source of demand for rubber tyres, but also other accessories such as wiper blades, rubber belts, weather stripping and window or door seals. The tyre market is dominated by three global manufacturers Bridgestone (Japan), Michelin (France) and Goodyear (United States)

Figure 6.18

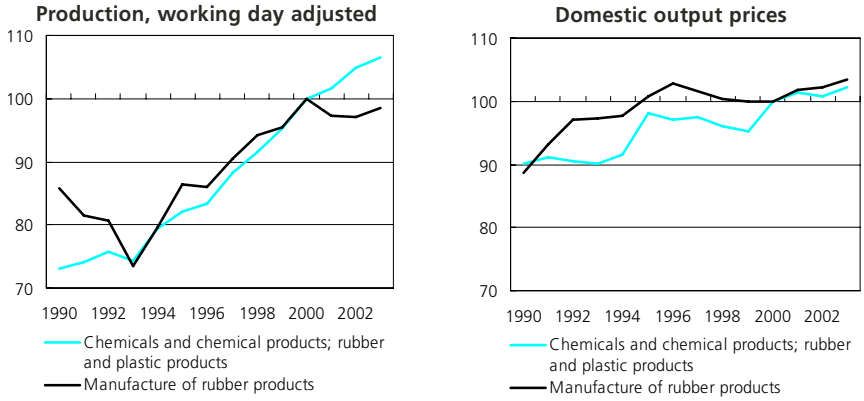
Manufacture of rubber products (NACE Group 25.1)
Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)



(1) Greece and Ireland, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Figure 6.19

Manufacture of rubber products (NACE Group 25.1)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

STRUCTURAL PROFILE

In 2001 the rubber manufacturing sector of the EU-25 generated EUR 16.2 billion of value added, equivalent to 1.1 % of manufacturing value added. The 10 new Member States contributed 7.0 % of this total, more than their contribution to manufacturing value added, which was 5.6 %. The rubber sector employed 359 500 persons in the EU-25 [23]; of which 299 700 were working in the EU-15. As such, those working in the rubber manufacturing sector contributed 1.1 % to the EU-15's manufacturing workforce.

The manufacture of other rubber products (NACE Class 25.13) accounted for over half (52.4 %) of the value added generated in the EU-15's rubber manufacturing sector in 2001. The manufacture of rubber tyres and tubes (NACE Class 25.11) made up 45.4 % of the total, while the retreading and rebuilding of rubber tyres (NACE Class 25.12) played a minor role, with a 2.2 % share of sectoral value added.

Germany contributed close to one quarter (27.3 %) of the EU-25's value added in the rubber manufacturing sector, while France, Italy and the United Kingdom collectively contributed a further 45.2 %. Luxembourg had the highest specialisation in this activity, as rubber manufacturing accounted for 7.4 % of manufacturing value added in this country, and as such this was one of the manufacturing groups in which Luxembourg was most specialised. In Malta, this sector accounted for 4.1 % of manufacturing value added, while the Czech Republic, Slovenia and Slovakia were also relatively specialised in rubber manufacturing, generating around 2 % of their manufacturing value added in this sector.

A breakdown by size-class shows that in 2001 nearly three quarters (73.1 %) of the value added generated in the EU-25's rubber manufacturing sector was accounted for by large enterprises (with 250 or more persons employed); this figure was well above the manufacturing average of 54.9 %. As a result, the three other size-classes all contributed a smaller proportion of value added within the EU-25's rubber manufacturing sector, with the contribution of medium-sized enterprises (between 50 and 249 persons employed) approximately half the manufacturing average.

The working day adjusted production index for rubber manufacturing followed a similar development to that displayed for the manufacturing production index between 1993 and 2000, as output grew on average by 4.5 % per annum, compared with 3.3 % for manufacturing. While the manufacturing production index remained relatively stable after 2000, rubber manufacturing faced a period of contraction, as output fell by 2.7 % in 2001 and a further 0.2 % in 2002. In 2003 production expanded again by 1.3 %. Output prices for rubber manufacturing grew in the first half of the 1990s, peaking in 1996. Between 1996 and 2000 they fell by 0.7 % per annum on average, but increased thereafter by an average of 1.1 % per annum in the three years to 2003.

[23] Slovenia, number of employees.

Table 6.8

Selected rubber products (CPA Group 25.1), EU-15

	Prodcom code	Latest year for production	Production value (EUR million)
New pneumatic rubber tyres for motor cars (including for racing cars)	25.11.11.00	2000	7 311.9
New pneumatic rubber tyres for motorcycles and scooters with rims > 33cm in diameter	25.11.12.35	2000	250.5
New pneumatic rubber tyres for buses or lorries	25.11.13.55 and 25.11.13.57	2000	4 013.1
New pneumatic rubber tyres for agricultural or forestry vehicles	25.11.14.04	2000	521.0
New pneumatic rubber tyres for civil engineering vehicles	25.11.14.05	2000	312.0
Rubber inner tubes (excluding for motor cars; buses and lorries)	25.11.15.75 to 25.11.15.79	2000	38.7
Camel-back strips for retreading rubber tyres	25.11.16.00	2001	77.1
Retreaded tyres of rubber of a kind used on motor cars	25.12.10.30	2001	167.0
Retreaded tyres of rubber of a kind used on buses and lorries	25.12.10.50	2001	649.3
Retreaded tyres of rubber (including of a kind used on aircraft; excluding of a kind used on motor cars; buses or lorries)	25.12.10.90	2001	87.4
Rubber compounded with carbon black or silica; unvulcanized	25.13.20.13	2001	748.6
Compounded rubber unvulcanised (excluding with carbon black or silica and rubber solutions, dispersions)	25.13.20.19	2001	1 046.3
Forms and articles of unvulcanised rubber (including rods; tubes; profile shapes; discs and rings) (excluding camel-back; strips for retreading tyres)	25.13.20.30	2001	463.0
Plates, sheets and strip of vulcanized rubber or solid vulcanised rubber for floor covering	25.13.20.70 and 25.13.20.85	2001 (1)	850.4
Extruded solid rubber rods and profiles	25.13.20.87	1999	1 017.2
Rubber hose reinforced or combined with other materials and rubber hose assemblies	25.13.30.55 to 25.13.30.70	2001 (1)	1 754.0
Rubber conveyor belts	25.13.40.50	2000	505.9
Vulcanised rubber gloves	25.13.60.30 to 25.13.60.59	2000 (2)	89.7
Moulded rubber articles for tractors and motor vehicles	25.13.73.47	1999	1 563.3
Rubber-to-metal bonded articles for other uses than for tractors and motor vehicles	25.13.73.49	2000	902.8
Articles of vulcanized solid rubber (including rubber bands, tobacco-pouches, characters for date stamps and the like, stoppers and rings for bottles; excluding hard rubber)	25.13.73.60	2001	1 776.3

(1) 2000 for one heading in the aggregate.
(2) 1999 for one heading in the aggregate.
Source: Eurostat, European production and market statistics (Comext).

LABOUR AND PRODUCTIVITY

Apparent labour productivity in the EU-15's rubber manufacturing sector was EUR 50 300 per person employed in 2001, which was slightly lower than the corresponding figure for the whole of manufacturing (EUR 51 200). Average personnel costs were EUR 37 900 per employee, some EUR 2 200 higher than the manufacturing average. Consequently, the wage adjusted labour productivity ratio for rubber manufacturing in the EU-15 (132.6 %) was 10.9 percentage points lower than the manufacturing average.

Table 6.9

Manufacture of rubber products (NACE Group 25.1)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Manufacture of rubber products	50.3	132.6	37.9
Manufacture of rubber tyres and tubes	61.3	136.8	44.8
Retreading and rebuilding of rubber tyres	33.7	124.2	27.2
Manufacture of other rubber products	44.3	130.1	34.0

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

Table 6.10

Rubber products (CPA Group 25.1)
External trade, EU-25, 2002

	Exports		Imports		
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	Trade balance (EUR million)
Rubber products	5 540	100.0	5 410	100.0	131
New and used rubber tyres and tubes	2 566	46.3	2 769	51.2	-203
Retreaded pneumatic tyres, of rubber	37	0.7	2	0.0	35
Other rubber products	2 938	53.0	2 639	48.8	300

Source: Eurostat, Comext.

EXTERNAL TRADE

The EU-25's exports of rubber (CPA Group 25.1) were valued at EUR 5.5 billion in 2002, which was EUR 130.9 million higher than the corresponding level of imports of these products. Among the three classes making up rubber products, new and used rubber tyres and tubes (CPA Class 25.11) was the only class to register a trade deficit (EUR -203.1 million).

Almost one quarter of the EU-25's exports in 2002 were destined for the United States (24.4 %), while the second largest export market was Switzerland (7.7 %). Japan provided 20.0 % of the rubber imports made by the EU-25 in 2002, making this the only chemicals, plastics and rubber products CPA group for which Japan was the most important source of imports.

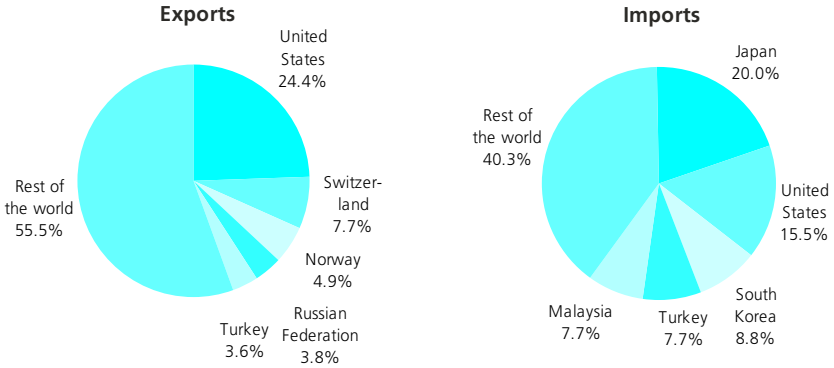
France (EUR 1.1 billion) and Germany (EUR 884.3 million) generated the highest external trade surplus (intra- and extra-EU trade combined) for rubber in 2002, while the United Kingdom (EUR 843.3 million), Austria (EUR 524.2 million) and Belgium (EUR 427.4 million) recorded the largest deficits.

Slovenia had the largest proportion of rubber exports in its total exports of manufactured goods in 2002, amounting to 2.8 %. Luxembourg (2.7 %), the Czech Republic and Slovakia (both 2.6 %) also reported high proportions. The new Member States tended to have a higher proportion of rubber exports, in relation to total exports of manufactured goods, than the EU-15 Member States.

In terms of import specialisation, 6 of the 10 Member States with the highest share of rubber products in their total imports of manufactured goods were new Member States, with the Czech Republic and Slovakia recording the highest shares, 1.6 %.

Figure 6.20

Rubber products (CPA Group 25.1)
Share in extra-EU trade, 2002



Source: Eurostat, Comext.

6.6: PLASTICS

This subchapter covers the manufacture of plastic products (NACE Group 25.2) which is subdivided in the NACE classification into four manufacturing classes: plastic sheets, pipes and tubes; plastic packaging goods (such as bags, containers and bottles); plastic products for the construction sector (such as doors, frames and baths); and other plastic products (such as insulating and lighting fittings). The manufacture of plastic games, toys, footwear, furniture and linoleum are not considered as part of the plastics manufacturing sector.

As seen in Figure 6.21, packaging accounted for 38.1 % of the total consumption of plastics in 2002, equivalent to 18.1 million tonnes. As packaging is an important use of plastics, the amendment to the packaging directive [24] adopted at the beginning of 2004 is an important development within this sector (see Subchapter 13.3 on recycling and waste treatment for more details).

STRUCTURAL PROFILE

The EU-25's plastics manufacturing sector generated EUR 55.3 billion of value added in 2001, equivalent to 3.6 % of manufacturing value added. There were 1.3 million persons employed in this activity in the EU-25 [25], of which 1.1 million were working in the EU-15. Employment in the plastics manufacturing sector constituted 3.9 % of the EU-15's manufacturing workforce.

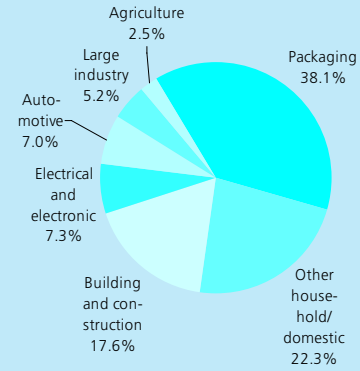
The manufacture of other plastic products (NACE Class 25.24) was the largest plastics manufacturing subsector, with a 42.3 % share of sectoral value added in the EU-15. The manufacture of plastic plates, sheets, tubes and profiles (NACE Class 25.21) accounted for 24.4 % of value added, while the manufacture of plastic packing goods (NACE Class 25.22) had a 18.4 % share. The smallest activity was the manufacture of builders' ware of plastic (NACE Class 25.23), which accounted for 14.8 % of sectoral value added in the EU-15. A similar distribution among the activities could be also observed in terms of employment.

Germany generated the highest value added in plastics manufacturing among the Member States, accounting for 26.9 % of the EU-25 total in 2001. The United Kingdom (18.2 %), France (13.4 %) and Italy (13.3 %) followed in the ranking. The highest specialisation rate relative to manufacturing was registered in Luxembourg [26], where plastics manufacturing accounted for 8.2 % of manufacturing value added, while Poland was also relatively highly specialised, generating 4.5 % of its manufacturing value added in this sector. In contrast, Ireland (2000) and Latvia were relatively unspecialised in plastics manufacturing.

The development of the working day production index for plastics manufacturing in the EU-25 was similar to that observed for the whole of manufacturing during the 10-year period to 2003. The production index for plastics manufacturing grew, on average, by 3.8 % per annum between 1993 and 2000, while there was little change in output in both 2001 and 2002 (+/–1 %). In 2003 the output of plastics manufacturing grew by 1.6 %.

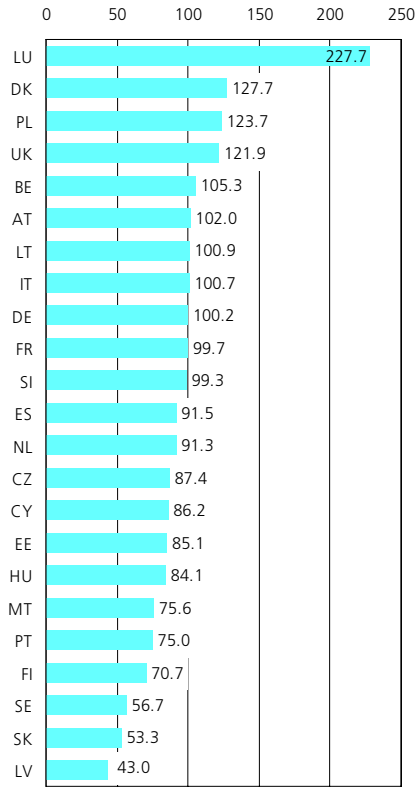
After peaking in 1995, domestic output prices for plastics in the EU-25 decreased until 1999 by an average rate of 0.7 % per annum. In the following period until 2003, price increases averaged 0.9 % per annum, with the main increase occurring in 2000 (2.6 %).

Figure 6.21
Plastic consumption by sector, Europe, 2002 (1)



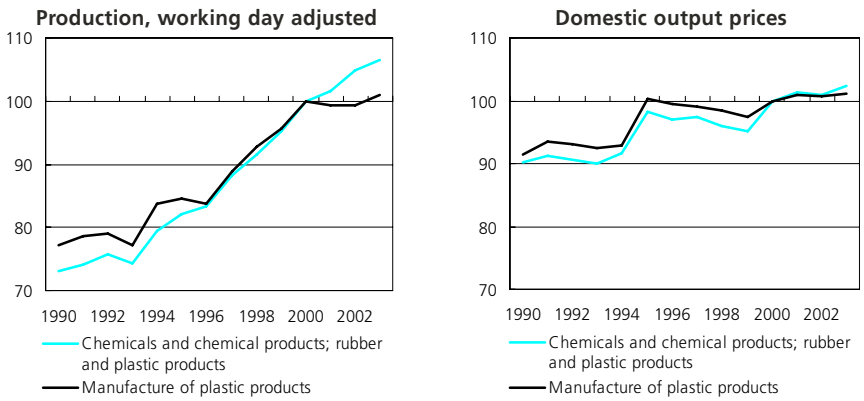
(1) EU-15, Norway and Swizerland.
Source: APME.

Figure 6.22
Manufacture of plastic products (NACE Group 25.2)
Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)



(1) Greece and Ireland, not avaiable.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Figure 6.23
Manufacture of plastic products (NACE Group 25.2)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

[24] Directive (EC) No 94/62 of the European Parliament and of the Council concerning packaging and packaging waste.
[25] Slovenia, number of employees.
[26] Greece, not available.

Table 6.11

Selected plastic products (CPA Group 25.2), EU-15

	Prodcom code	Latest year for production	Production value (EUR million)
Monofilament with any cross-sectional dimension > 1 mm; rods, sticks and profile shapes of plastics	25.21.10.50 to 25.21.10.90	2001 (1)	3 619.7
Rigid tubes, pipes and hoses of plastics excluding of polymers of ethylen	25.21.21.55 to 25.21.21.70	2001	3 278.8
Other plastic tubes, pipes & hoses	25.21.22.20 to 25.21.22.50	2001 (2)	2 100.0
Other plates etc., of polymers of ethylene, not reinforced, thickness <= 0.125 mm	25.21.30.10	2000	4 458.7
Other plates etc., of biaxially orientated polymers of propylene, thickness <= 0.10 mm	25.21.30.21	2001	1 245.0
Other plates etc., of polymers of styrene, not reinforced, etc.	25.21.30.30	2001	1 002.0
Other plates etc., of polymers of vinyl chloride, rigid	25.21.30.41 to 25.21.30.44	2001 (1)	1 220.3
Other plates etc., of polymers of vinyl chloride, flexible (excluding flexible, non-plastified, thickness > 1mm)	25.21.30.47 to 25.21.30.49	2001 (1)	1 300.1
Cellular plates; sheets; film; foil and strip of plastics and polymers (excluding of polyurethanes and regenerated cellulose)	25.21.41.20, 25.21.41.30 and 25.21.41.80	2001 (1)	2 952.2
Non-cellular plates, sheets, film, foil, strip of condensation/ rearrangement polymerization products, polyesters, reinforced, laminated, supported/similarly combined with other materials), of phenolic resins; amino-resins (high pressure laminates, decorative surface one/both sides)	25.21.42.30 to 25.21.42.75	2001 (1)	1 633.1
Other plates etc., non cellular of plastics other than made by polymerization	25.21.42.80	2001	2 630.4
Sacks and bags of polymers of ethylene (including cones)	25.22.11.00	1999	5 023.7
Plastic sacks and bags (including cones) (excluding of polymers of ethylene)	25.22.12.00	2000	1 489.3
Plastic boxes; cases; crates and similar articles for the conveyance or packing of goods	25.22.13.00	1999	3 842.6
Plastic carboys; bottles; flasks and similar articles for the conveyance or packing of goods; of a capacity <= 2 litres	25.22.14.50	2001	4 545.1
Plastic spools, cops, bobbins and similar supports	25.22.15.21 and 25.22.15.23	2001 (1)	1 181.7
Plastic stoppers; lids; caps and other closures (excluding for bottles)	25.22.15.27	2001	2 431.2
Floor coverings in rolls or in tiles; and wall or ceiling coverings consisting of a support impregnated; coated or covered with polyvinyl chloride	25.23.11.55	2000	1 109.8
Plastic baths; shower-baths and wash-basins; plastic lavatory seats and covers; plastic bidets; lavatory pans; flushing cisterns and similar sanitary ware	25.23.12.50 to 25.23.12.90	2001 (2)	2 084.2
Other articles of plastic for construction including rawl plugs and other wall plugs; trunking,ducting and cable trays for electrical circuits	25.23.15.90	1999	1 348.7
Insulating fittings of plastic; for electrical machines; appliances or equipment (excluding electrical insulators)	25.24.26.00	2001	552.3
Plastic fittings for furniture; coachwork or the like	25.24.28.20	2001	675.8
Other articles made from sheet	25.24.28.50	2000	1 140.9
Other articles of plastics or other materials	25.24.28.70	2001	9 504.8

(1) 2000 for one or more headings in the aggregate.
(2) 1999 for one heading in the aggregate.
Source: Eurostat, European production and market statistics (Comext).

Table 6.12

Manufacture of plastic products (NACE Group 25.2)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Manufacture of plastic products	46.7	144.4	32.3
Manufacture of plastic plates, sheets, tubes and profiles	54.0	146.4	36.9
Manufacture of plastic packing goods	48.9	154.3	31.7
Manufacture of builders' ware of plastic	44.4	145.9	30.5
Manufacture of other plastic products	43.3	139.2	31.1

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

LABOUR AND PRODUCTIVITY

The EU-15's plastics manufacturing sector recorded apparent labour productivity of EUR 46 700 per person employed in 2001, compared to EUR 51 200 for manufacturing in general. Average personnel costs in this sector were EUR 32 300 per employee, some EUR 3 400 less than the corresponding average for manufacturing. In Estonia, Portugal, Luxembourg and Cyprus (2000), average personnel costs were higher in plastics manufacturing than national manufacturing averages [27]. The wage adjusted labour productivity ratio for plastics manufacturing in the EU-15 was 144.4 % in 2001, which was close to the corresponding figure for manufacturing (143.5 %).

EXTERNAL TRADE

EU-25 exports of plastic products (CPA Group 25.2) were valued at EUR 13.3 billion in 2002, while imports of the same products were valued at EUR 10.3 billion, resulting in an external trade surplus of EUR 3.0 billion.

[27] Greece, not available.

The EU-25's external trade in plastic products was concentrated in two CPA classes. Plastic plates, sheets, tubes and profiles (CPA Class 25.21) accounted for 41.5 % of the EU-25's exports of plastic products and 28.0 % of its imports in 2002. Other plastic products (CPA Class 25.24) accounted for 35.2 % of the EU-25's exports and 47.3 % of its imports. The EU-25 recorded a trade surplus for plastic plates, sheets, tubes and profiles (EUR 2.6 billion) and for builders' ware of plastics (EUR 651.0 million), and relatively small deficits (of less than EUR 200 million) for the other two CPA classes.

The United States was the largest destination for EU-25 exports of plastic products, with a 17.9 % share in 2002. Exports of plastic products were also concentrated in Switzerland (13.0 %) and Russia (7.0 %). China was the most important country of origin for plastics imports, accounting for just over one quarter of the EU-25's total imports (25.9 %); the United States (22.9 %) and Switzerland (16.7 %) followed. This was the only chemicals, rubber and plastics CPA group in which China was the principal source of imports.

Germany was the largest exporter (intra- and extra-EU trade combined) of plastic products with exports valued at EUR 15.8 billion in 2002. With around half the German figure, Italy (EUR 7.3 billion) was the second largest exporter of these products, followed by France and Belgium. In terms of imports, Germany (EUR 8.5 billion), France (EUR 7.1 billion) and the United Kingdom (EUR 6.2 billion) were the top three importers among the Member States. Germany, Italy and Belgium reported the highest external trade surpluses, while the United Kingdom, France and Poland registered the highest external trade deficits.

In 2002, Luxembourg had the highest proportion of plastic products in its exports of manufactured goods (intra- and extra-EU trade combined), some 6.2 %, the fifth highest proportion recorded by any CPA group in Luxembourg. Denmark, Greece and Cyprus were also relatively specialised in the export of plastic products, as plastic products accounted for a 3.1 % share of all manufactured exports in each of these countries.

The 10 new Member States were relatively specialised in importing plastic products. Eight of the 10 new Member States occupied the first eight places in the ranking of Member States according to the importance of plastic product imports in total manufactured imports. The highest proportions were recorded in the Czech Republic, Slovakia and Poland, where plastic products accounted for 4.4 %, 4.2 % and 4.0 % of total manufactured imports.

Table 6.13

Plastic products (CPA Group 25.2)
External trade, EU-25, 2002

	Exports		Imports		
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	Trade balance (EUR million)
Plastic products	13 335	100.0	10 328	100.0	3 007
Plastic plates, sheets, tubes and profiles	5 532	41.5	2 896	28.0	2 636
Packaging products of plastics	1 856	13.9	2 046	19.8	-190
Builders' ware of plastics	1 148	8.6	497	4.8	651
Other plastic products	4 693	35.2	4 889	47.3	-196

Source: Eurostat, Comext.

Table 6.14

Manufacture of chemicals and chemical products (NACE Division 24)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	28 431	3 524	7 412	123 026	185	1 909	34 559	100 499	24 774	62 824	164	127	299	538
Value added at factor cost (EUR million)	9 051	903	2 861	40 389	45	636	9 704	24 754	12 325	15 296	60	61	54	104
Purchases of goods and services (EUR million)	23 376	2 795	0	100 347	167	:	29 314	86 756	13 660	53 046	121	93	248	541
Gross investment in tangible goods (EUR million)	1 873	324	457	6 763	11	:	2 230	3 830	891	2 960	9	16	21	:
Number of persons employed (thousands)	70	43	27	489	3	14	140	292	23	208	2	4	6	2
App. labour productivity (EUR thous./pers. emp.)	128.6	20.9	105.9	82.6	14.6	44.3	69.4	84.9	532.9	73.6	36.3	13.8	8.8	66.8
Average personnel costs (EUR thous./employee) (2)	62.5	8.5	50.2	56.1	6.4	:	39.0	51.6	39.2	43.6	17.0	4.8	6.3	44.6
Wage adjusted labour productivity (%) (2)	205.8	246.6	210.9	147.2	227.6	:	178.1	164.6	1 360.6	168.9	221.4	290.3	139.1	149.8
Gross operating rate (%) (3)	15.1	15.0	21.3	9.2	12.0	:	11.5	8.7	46.1	9.7	17.6	30.1	4.9	5.4

	HU	MT	NL	AT	PL (1)	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	3 169	73	34 275	6 278	7 619	3 505	1 506	1 201	5 063	12 485	66 963	843	1 676	:
Value added at factor cost (EUR million)	1 080	25	7 079	1 955	2 492	954	448	249	1 649	5 000	23 497	210	453	:
Purchases of goods and services (EUR million)	2 406	48	31 571	5 297	6 123	2 898	1 034	1 017	3 867	8 506	52 734	693	1 432	:
Gross investment in tangible goods (EUR million)	356	3	1 185	395	678	246	128	74	369	796	4 285	60	278	:
Number of persons employed (thousands)	34	1	72	26	:	22	:	20	18	44	251	33	71	:
App. labour productivity (EUR thous./pers. emp.)	31.5	28.8	98.4	76.1	:	42.4	:	12.6	89.2	114.2	93.6	6.4	6.4	:
Average personnel costs (EUR thous./employee)	12.6	14.5	49.8	49.1	10.0	24.5	23.1	6.2	43.1	50.6	50.9	3.1	3.5	:
Wage adjusted labour productivity (%)	250.1	198.6	197.6	155.2	:	173.2	:	203.0	206.8	225.8	184.0	210.4	181.0	:
Gross operating rate (%)	19.1	19.1	9.3	9.5	17.4	10.8	8.8	10.1	15.7	22.6	14.2	13.1	12.3	:

(1) 2000.
(2) Ireland and Cyprus, 2000.
(3) Ireland, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 6.15

Manufacture of rubber products (NACE Group 25.1)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	888	1 222	217	10 575	8	:	3 943	9 702	100	6 831	2	4	3	338
Value added at factor cost (EUR million) (1)	258	295	96	4 415	3	:	1 590	3 198	43	2 174	1	5	1	168
Purchases of goods and services (EUR million)	1 019	1 061	0	8 500	7	:	3 044	7 048	64	5 438	1	3	2	289
Gross investment in tangible goods (EUR million)	41	143	13	544	1	:	266	487	2	382	0	3	0	:
Number of persons employed (thousands)	5	19	2	78	0	:	33	71	1	47	0	0	0	2
App. labour productivity (EUR thous./pers. emp.) (1)	57.1	15.7	51.0	56.7	8.0	:	48.8	45.1	31.4	46.0	20.4	19.8	3.6	88.5
Average personnel costs (EUR thous./employee) (2)	49.2	7.9	38.6	43.5	5.1	:	34.3	36.5	26.0	31.4	12.0	3.6	2.8	56.0
Wage adjusted labour productivity (%) (2)	116.1	199.5	132.2	130.3	156.3	:	142.3	123.5	120.9	146.4	154.4	553.9	129.1	158.0
Gross operating rate (%) (1)	3.1	11.4	12.1	8.0	10.6	:	10.6	5.8	6.1	10.3	14.1	91.2	7.2	13.6

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	385	49	538	603	1 167	443	302	344	408	904	4 608	41	230	:
Value added at factor cost (EUR million)	107	31	199	238	519	161	81	90	189	347	1 934	9	48	:
Purchases of goods and services (EUR million)	314	18	382	560	652	298	292	314	240	645	3 450	35	208	:
Gross investment in tangible goods (EUR million)	27	5	31	34	115	57	47	79	60	44	218	4	86	:
Number of persons employed (thousands)	8	1	4	4	22	5	:	6	3	7	38	4	14	:
App. labour productivity (EUR thous./pers. emp.)	13.9	33.0	50.7	57.1	23.4	32.2	:	14.9	68.6	48.0	51.1	2.2	3.4	:
Average personnel costs (EUR thous./employee)	9.0	18.0	38.6	44.7	9.4	15.6	18.7	7.2	38.0	35.9	41.7	1.9	3.2	:
Wage adjusted labour productivity (%)	154.0	183.4	131.3	127.6	248.6	207.0	:	205.1	180.4	133.7	122.7	120.1	106.8	:
Gross operating rate (%)	8.9	30.0	8.9	6.5	27.8	18.5	5.6	11.6	19.8	9.1	6.9	6.5	1.8	:

(1) Ireland, 2000.
(2) Ireland and Cyprus, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 6.16

Manufacture of plastic products (NACE Group 25.2)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	5 756	1 844	2 812	40 512	122	:	11 249	24 903	1 103	25 299	68	62	269	591
Value added at factor cost (EUR million) (1)	1 678	469	1 179	14 870	30	:	3 431	7 434	440	7 349	29	25	50	188
Purchases of goods and services (EUR million)	4 796	1 542	0	28 609	104	:	8 654	18 656	687	18 923	44	47	232	477
Gross investment in tangible goods (EUR million)	293	162	226	2 193	18	:	623	1 435	93	1 385	6	8	23	:
Number of persons employed (thousands)	26	44	22	315	3	:	90	172	9	163	1	2	6	2
App. labour productivity (EUR thous./pers. emp.) (1)	65.8	10.7	53.0	47.2	10.2	:	38.2	43.2	46.5	45.1	24.5	11.5	7.9	88.5
Average personnel costs (EUR thous./employee) (2)	43.4	6.4	36.5	36.5	5.7	:	25.1	32.3	25.5	27.2	15.5	2.8	3.5	44.4
Wage adjusted labour productivity (%) (2)	151.7	167.1	145.0	129.6	176.7	:	152.3	133.9	182.7	166.1	153.6	419.7	225.3	199.4
Gross operating rate (%) (1)	9.2	10.1	13.0	8.1	10.2	:	10.3	7.2	16.8	13.1	14.3	31.6	10.1	14.7

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	1 273	40	5 172	3 561	4 123	1 605	564	353	1 979	2 398	25 279	160	477	:
Value added at factor cost (EUR million)	350	20	1 781	1 314	2 013	483	144	75	791	851	10 047	36	125	:
Purchases of goods and services (EUR million)	1 056	18	3 765	2 533	2 716	1 253	409	306	1 227	1 712	16 389	137	428	:
Gross investment in tangible goods (EUR million)	137	3	292	261	305	172	34	19	101	164	1 272	19	92	:
Number of persons employed (thousands)	25	1	33	26	91	20	:	9	15	19	195	13	25	:
App. labour productivity (EUR thous./pers. emp.)	13.8	22.3	53.3	51.4	22.2	24.2	:	8.6	53.5	44.8	51.6	2.7	5.0	:
Average personnel costs (EUR thous./employee)	7.0	12.3	34.7	35.6	7.1	14.2	12.2	5.0	34.1	35.1	32.7	1.7	2.1	:
Wage adjusted labour productivity (%)	198.3	181.5	153.5	144.5	312.5	170.5	:	172.1	156.8	127.9	157.8	162.4	243.4	:
Gross operating rate (%)	12.6	24.4	12.1	10.8	33.0	12.0	6.6	8.4	14.7	8.0	14.3	9.3	15.0	:

(1) Ireland, 2000.
(2) Ireland and Cyprus, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

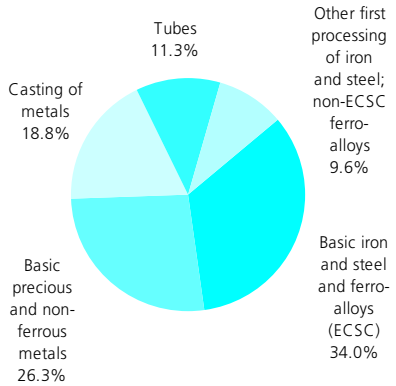
Metals

The metals sector has historically been a cornerstone of the EU: the Treaty establishing the European Steel and Coal Community (ECSC) was indeed the first European Community Treaty ratified. Signed in Paris on 18 April 1951, it entered into force the next year for a period of 50 years, and expired on 23 July 2002. The Council did not extend its life beyond this date, so that ECSC industries are now treated as any other industry within the EU (and statistical work in this area has now been merged into mainstream business statistics). This reflects the decline in the strategic importance of this sector over time, accompanied by a progressive privatisation of publicly held coal and steel enterprises and the complete deregulation of markets, ending with full reliance on free market mechanisms.

Metals production nevertheless maintains its importance in economic terms. Major metals consuming sectors include mechanical and transport engineering, packaging and construction. However, on all markets, metals face increasing competition from substitute materials, such as plastics and ceramics.

Figure 8.1

Manufacture of basic metals (NACE Division 27) Share of value added at factor cost, EU-25, 2001



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

EU enlargement has had a notable impact on this industry. Indeed, several of the new Member States or candidate countries have important metals industries: for example, raw steel production in the new Member States and candidate countries accounted for 5 % of the world's production in 2002, compared to the EU-15's share of world production which was 15 % [(1)], according to the European Commission Directorate-General for Enterprise. Although restructuring already took place in many of the new Member States, the Commission has negotiated specific agreements on steel restructuring with all accession countries that foresee a transition period during which governments are allowed to grant restructuring aid under certain conditions. One of the conditions is the adoption of a national restructuring programme, such as those set up in the Czech Republic and Poland in 2002 and 2003.

STRUCTURAL PROFILE

The sector of metals manufacturing generated EUR 56.0 billion of value added in 2001, which represented a 3.6 % share of manufacturing. The 10 new Member States contributed 6.8 % to the EU-25's total value added, compared with 5.6 % for manufacturing as a whole, an indication of the relatively greater importance of this sector in several new Member States.

The largest activity within the EU-25 metal manufacturing sector at the level of NACE Groups was basic iron and steel and ferro-alloys manufacturing (NACE Group 27.1) with EUR 19.0 billion in 2001, or 34.0 % of the total metal manufacturing value added. The manufacture of basic precious and non-ferrous metals (NACE Group 27.4) accounted for a further EUR 14.7 billion, 26.3 % of the sectoral total, and casting (NACE Group 27.5) accounted for EUR 10.5 billion of value added (18.8 % of the sectoral total).

[(1)] Source: http://europa.eu.int/comm/enterprise/steel/restructuring-steel/accession_and_memberstates.htm.

NACE Division 27 covers the manufacture of basic metals, including iron, steel and ferro-alloys, basic precious and non-ferrous metals. It also includes first processing stages that cover activities such as the manufacture of tubes, bars, strips, wires and sheets of metal and the casting of metals.

NACE

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

(*) ECSC: European Coal and Steel Community.

Table 8.1

Manufacture of basic metals (NACE Division 27)
Structural profile, 2001

Rank	Largest value added (EUR billion)	Highest value added specialisation relative to manufacturing (EU-25=100)	Largest number of persons employed (thousands) (1)	Main EU-25 trading partners: origin of imports, 2002 (EUR billion)	Main EU-25 trading partners: destination of exports, 2002 (EUR billion)
1	Germany (16.3)	Luxembourg (544)	Germany (270.4)	Russian Federation (6.8)	United States (6.5)
2	Italy (7.2)	Slovakia (351)	Italy (140.3)	Switzerland (5.2)	Switzerland (3.7)
3	France (6.5)	Greece (212)	France (125.0)	South Africa (4.5)	China (1.8)
4	United Kingdom (5.3)	Austria (197)	United Kingdom (103.0)	United States (3.9)	Turkey (1.5)
5	Spain (4.7)	Czech Republic (169)	Spain (76.4)	Norway (3.7)	Norway (1.4)

(1) Slovenia, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Almost one third of metals manufacturing output in the EU-25 in 2001 originated from Germany (EUR 16.3 billion). Among the other Member States, only Italy, France and the United Kingdom reported value added above EUR 5.0 billion. In relative terms, however, metals manufacturing was most important in Luxembourg, where its contribution to national manufacturing value added was more than five times higher than the corresponding EU-25 average. Other relatively specialised countries according to this ratio were Slovakia, Greece and Austria. In contrast, Malta, Estonia, Ireland and Lithuania were clearly the least specialised in metals manufacturing.

The working day adjusted production index for metals manufacturing displayed a similar progression to that for manufacturing, with a period of growth from a low point in output in 1993 through to a peak in 2000, followed by a short period of contraction with an upturn in 2003. Despite this apparent similarity with the overall manufacturing production index, metals manufacturing displays one particular characteristic which can be described as mini-cycles of strong growth and more modest contraction (possibly linked to changes in demand for intermediate goods in relation to levels of inventories): growth was recorded in 1994 and 1995, as well as 1997 and 1998, with both pairs of years being followed by a year of contraction in output. As such, this activity appears to react more strongly than the manufacturing average to the positive or negative variations in general economic activity. The overall annual average growth of production between 1993 and 2000 was 2.7 % in metals manufacturing, slightly below the manufacturing average of 3.3 % during the same period.

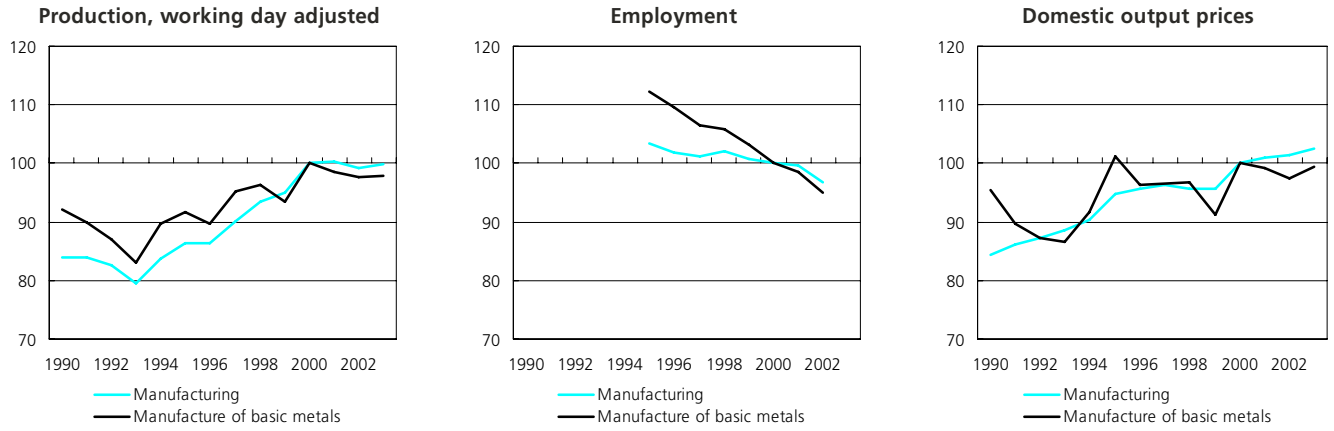
Large enterprises (with 250 or more persons employed) clearly dominate basic metals manufacturing. In 2001, 71.2 % of the sector's value added in the EU-25 originated from enterprises with more than 250 persons employed compared with a manufacturing average of 54.9 %. Medium-sized enterprises (with 50 to 249 persons employed) accounted for a further 19.7 % of the total, although they played a significantly greater role in Italy (27.0 %), Denmark (28.4 %), Portugal (42.7 %) and the United Kingdom (41.4 %) [(2)].

The importance of large enterprises was even more marked in the manufacture of basic iron and steel and ferro-alloys (NACE Group 27.1), where this enterprise size-class generated 95.4 % of the EU-25's value added. In contrast, in the activities of other first processing activities within the iron and steel industry, and the casting of metals (NACE Groups 27.3 and 27.5), the contribution of large enterprises to total value added was at least 20 percentage points lower than the average contribution of large enterprises to total value added in the metals manufacturing sector as a whole.

(2) Estonia, Greece, Ireland, Cyprus, Latvia, Lithuania, Luxembourg and Malta, not available; Slovakia, 1999.

Figure 8.2

Manufacture of basic metals (NACE Division 27)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Table 8.2

Manufacture of basic metals (NACE Division 27)
Value added at factor cost and persons employed, by enterprise size-class, 2001 (% of total)

	Micro enterprises		Small enterprises		Medium-sized enterprises		Large enterprises	
	Share of value added	Share of persons employed	Share of value added	Share of persons employed	Share of value added	Share of persons employed	Share of value added	Share of persons employed
EU-25	1.6	:	7.5	:	19.7	:	71.2	:
EU-15	1.8	2.8	7.8	10.1	20.3	22.0	70.2	65.1

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

LABOUR AND PRODUCTIVITY

The characteristics of the workforce in the metals manufacturing sector are typical of a traditional industrial sector. Practically all of those employed in the sector were paid employees (97.6 %) in the EU-15 in 2002, while men accounted for as much as 87.5 % of the workforce. Shares were in both cases clearly above the manufacturing average (91.9 % and 71.7 % respectively). In addition, only 3.9 % of the persons employed in the EU-15 in 2002 worked part-time, almost half the manufacturing average (7.6 %). High rates of full-time work, paid employees and male employment were observed in all Member States [3].

Apparent labour productivity in metals manufacturing was EUR 58 400 per person employed in the EU-15 in 2001, some EUR 7 200 above the manufacturing average. However, this apparent productivity advantage was cancelled out by higher than average personnel costs that reached EUR 34 700 per employee in the EU-25 in 2001, against EUR 30 900 in manufacturing. As a consequence, the wage adjusted labour productivity ratio was slightly below the manufacturing average at 142.7 % against 143.5 % for manufacturing as a whole in 2001 in the EU-15. Several Member States nevertheless reported that their wage adjusted labour productivity in this sector was significantly above their respective manufacturing average.

[3] Estonia, Cyprus, Latvia, Lithuania and Poland, not available; Austria, full-time work, not available.

Table 8.3

Manufacture of basic metals (NACE Division 27)
Labour force characteristics, 2002

	Share of men		Share of full-time		Share of employees	
	Value (%)	Index (manufacturing=100)	Value (%)	Index (manufacturing=100)	Value (%)	Index (manufacturing=100)
EU-25	:	:	:	:	:	:
EU-15	87.5	122.1	96.1	104.0	97.6	106.2
BE	93.3	125.5	97.4	106.9	100.0	105.5
CZ	78.0	126.6	98.8	101.4	98.5	106.4
DK	89.1	130.2	100.0	107.8	100.0	103.6
DE	85.8	119.5	97.0	108.2	98.6	103.4
EE	:	:	:	:	:	:
EL	89.3	125.8	100.0	102.0	94.8	129.3
ES	93.0	125.2	98.5	101.7	96.4	109.0
FR	85.6	121.0	95.5	101.1	99.4	104.8
IE	90.8	131.3	96.9	103.3	89.3	97.1
IT	86.7	124.6	97.3	102.8	93.0	112.4
CY	:	:	:	:	:	:
LV	:	:	:	:	:	:
LT	:	:	:	:	:	:
LU	96.5	119.0	98.8	103.4	100.0	101.7
HU	84.4	141.5	97.5	99.8	94.2	101.0
MT	100.0	142.8	73.9	76.5	79.1	85.0
NL	93.3	120.9	69.5	92.6	100.0	104.0
AT	88.4	118.9	:	:	99.3	104.3
PL	:	:	:	:	:	:
PT	85.9	153.3	97.8	100.8	98.7	113.2
SI	76.6	126.8	100.0	103.4	96.9	103.3
SK	76.7	129.5	99.4	100.7	100.0	104.1
FI	82.6	117.4	98.7	103.4	100.0	106.9
SE	80.9	109.3	94.9	103.5	99.1	105.4
UK	87.7	117.2	94.9	102.9	97.2	102.1

Source: Eurostat, Labour Force Survey.

Table 8.4

Manufacture of basic metals (NACE Division 27)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Manufacture of basic metals	58.4	142.7	40.9
Manufacture of basic iron and steel and of ferro-alloys (ECSC)	61.9	135.4	45.7
Manufacture of tubes	58.8	148.6	39.6
Other first processing of iron & steel & production of non-ECSC ferro-alloys	54.5	142.8	38.1
Manufacture of basic precious and non-ferrous metals	71.6	164.4	43.5
Casting of metals	43.7	128.4	34.0

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

EXTERNAL TRADE

EU-25 exports of basic metals (CPA Division 27) were valued at EUR 32.1 billion and imports at EUR 46.3 billion in 2002. This represented 3.8 % of total EU-25 exports of manufactured goods, and 6.3 % of manufactured imports. The trade balance of the EU-25 with non-Community countries for basic metals was negative to the extent of EUR 14.2 billion in 2002, which was the fourth largest deficit of all CPA divisions of manufactured goods. This was due to the trade of basic precious and metals clad with precious metals (CPA Group 27.4), which was the only CPA group among basic metals to register a trade deficit in 2002, valued at EUR 21.0 billion. In comparison, the highest trade surplus among the CPA groups of basic metals was EUR 3.9 billion for tubes (CPA Group 27.2).

The principal export markets of the EU-25 for basic metals in 2002 were the United States (20.1 % of total exports), Switzerland (11.6 %) and China (5.6 %). Imports in 2002 originated mainly from Russia (14.7 %), followed by Switzerland (11.1 %), South Africa (9.7 %), the United States (8.4 %) and Norway (8.1 %). No other countries recorded more than a 5 % share for exports or imports.

Table 8.5

Basic metals (CPA Division 27)
External trade, EU-25, 2002 (EUR million)

	Exports	Imports	Trade balance	Cover ratio (%)
Basic metals	32 083	46 294	-14 211	69.3
Basic iron and steel and ferro-alloys (ECSC)	11 078	9 703	1 375	114.2
Tubes	5 663	1 726	3 936	328.1
Other iron and steel and non-ECSC ferro-alloys	2 296	975	1 321	235.5
Basic precious metals and metals clad with precious metals	12 883	33 853	-20 970	38.1

Source: Eurostat, Comext.

8.1: MANUFACTURE AND FIRST PROCESSING OF FERROUS METALS

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

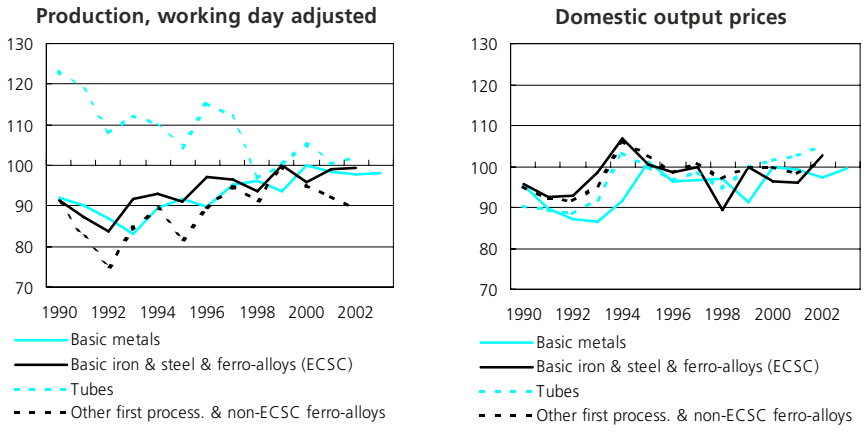
STRUCTURAL PROFILE

The manufacture and first processing of ferrous metals generated EUR 30.7 billion of value added in the EU-25 in 2001, of which EUR 2.4 billion originated from the 10 new Member States. As such, the contribution of the new Member States to value added reached 7.9 % of the EU-25 total, more than their 6.8 % share of metals manufacturing value added and their 5.6 % share of total manufacturing value added. This activity employed some 481 500 persons in the EU-15 in 2001, of which 476 900 were paid employees. The new Member States had 133 300 employees out of an EU-25 total of 610 200 employees.

Germany's share of the EU-25's value added was 27.1 %, which was more than double the next largest contributions: Italy (12.9 %) and France (11.5 %). Within the manufacture and first processing of ferrous metals sector, the largest individual NACE group in terms of value added was the manufacture of basic iron and steel and ferro-alloys (NACE Group 27.1), which accounted for 61.9 % of the sector's value added in the EU-25 in 2001. A difference between EU-15 Member States and the 10 new Member States could be observed, in that the manufacture of tubes (NACE Group 27.2) was relatively much more developed in the EU-15, with a 21.6 % share of sectoral value added against 9.7 % in the new Member States.

Figure 8.3

Manufacture and first processing of ferrous metals (NACE Groups 27.1, 27.2 and 27.3)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Slovakia clearly emerged as the most specialised country [4] in the manufacture and first processing of ferrous metals, as the contribution of this activity to national manufacturing value added was more than five times higher when compared with the EU-25 average. Austria, Sweden and the Czech Republic all reported that this sector's share of manufacturing value added was more than double the EU-25 average.

[4] Denmark, Estonia, Greece, Ireland, Latvia, Lithuania, Luxembourg, Malta and the Netherlands, not available; Slovenia, 1999.

Table 8.6

Steel production, 2002 (thousand tonnes)

	Crude steel production	Production of long steel products (1)	Production of flat steel products (1)	Cold rolled plates and sheets of steel (1)
EU-15	158 869	55 584	85 560	42 167
BE	11 495	1 188	12 064	5 165
DK	392	379	664	0
DE	44 999	12 472	24 418	12 315
EL	1 835	1 746	61	68
ES	16 358	10 030	5 276	3 509
FR	20 524	4 619	11 512	7 163
IE	-	0	0	0
IT	25 930	13 336	9 664	3 854
LU	2 736	2 966	0	213
NL	6 144	180	5 168	2 475
AT	6 208	1 167	4 080	1 797
PT	800	991	0	236
FI	4 001	569	3 231	1 516
SE	5 730	668	4 068	1 211
UK	11 718	5 405	5 586	2 647

(1) June 2001 to June 2002.
Source: Eurostat, Iron and Steel (theme4/steel/monthly).

Table 8.7

Steel production in selected new Member States, 2001 (thousand tonnes)

	Crude steel production	Production of long steel products (1)	Production of flat steel products (2)
CZ	6 316	3 299	1 546
LV	:	500	:
HU	1 954	352	1 405
PL	8 814	4 600	4 000
SI	462	139	327
SK	3 989	:	3 187

(1) Latvia, Poland and Slovenia, 2000.
(2) Poland, Slovenia and Slovakia, 2000.
Source: IISI (International Iron and Steel Institute), available at http://www.worldsteel.org.

Table 8.8

Top five steel producing enterprises/ groups in the EU, 2002 (million tonnes)

	Crude steel production	World ranking
Arcelor (ES, FR, LU)	44.0	1
LNM Group (NL)	34.8	2
Corus (UK)	16.8	6
Thyssen Krupp (DE)	16.4	7
Riva (IT)	15.0	9

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

LABOUR AND PRODUCTIVITY

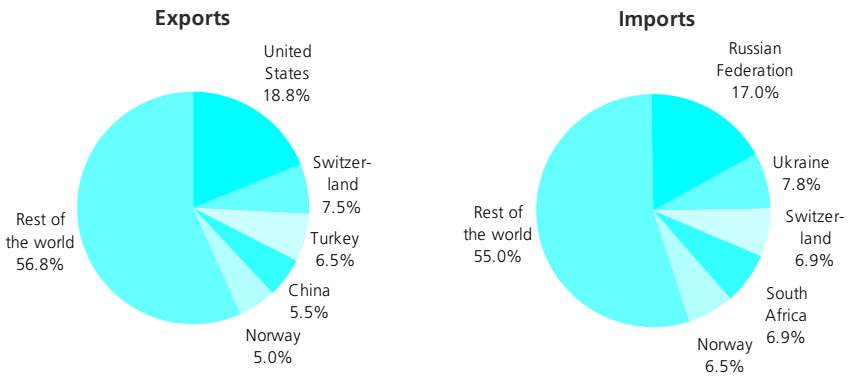
Apparent labour productivity in the manufacture and first processing of ferrous metals was EUR 58 800 per person employed in the EU-15 in 2001, and as such higher than the manufacturing average of EUR 51 200. However, this was more than matched by high average personnel costs that reached EUR 35 700 per employee in this sector in the EU-25 in 2001 (EUR 43 200 in the EU-15). For the EU-25, average personnel costs were 15.5 % above the manufacturing average of EUR 30 900 (EUR 35 700 in the EU-15). This resulted in a wage adjusted labour productivity ratio of 136.0 % in the EU-15 in 2001, a level below both the metals manufacturing average (142.7 %) and the overall manufacturing average (143.5 %). Note that this was a reversal of the situation observed in 2000, when wage adjusted labour productivity in this sector exceeded both averages. This was due to a sharp fall in apparent labour productivity between 2000 and 2001, while average personnel costs remained unchanged.

EXTERNAL TRADE

In 2002 the EU-25 ran a trade surplus in each of the three CPA groups that make up ferrous metal products (CPA Groups 27.1 to 27.3), totalling EUR 6.6 billion, of which more than half was accounted for by tubes (EUR 3.9 billion). The United States was the main destination of EU-25 exports for these products, accounting for between 14.6 % (tubes, CPA Group 27.2) and 22.7 % (other first processed iron and steel, CPA Group 27.3) of the total. Turkey, Switzerland and China were also major destinations for basic and first processed iron and steel and ferro-alloys (CPA Groups 27.1 and 27.3), as were Norway, Switzerland and Saudi Arabia for tubes. As regards imports, Russia was the largest supplier to the EU-25 of basic and first processed iron and steel and ferro-alloys in 2002, with an 18.4 % share for ECSC products (CPA Group 27.1) and a 23.7 % share for non-ECSC products (CPA Group 27.3). Switzerland accounted for 20.6 % of the EU-25's imports of tubes (CPA Group 27.2).

Figure 8.4

Basic iron and steel and ferro-alloys (ECSC); tubes; other iron and steel and non-ECSC ferro-alloys (CPA Groups 27.1, 27.2 and 27.3)
Share in extra-EU trade, 2002



Source: Eurostat, Comext.

8.2: BASIC PRECIOUS AND NON-FERROUS METALS

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

STRUCTURAL PROFILE

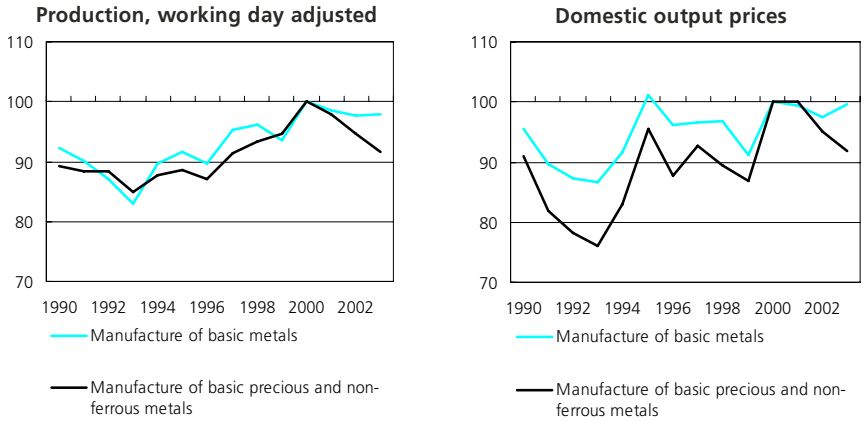
The value added generated in the EU-25's basic precious and non-ferrous metals sector was EUR 14.7 billion in 2001. The 10 new Member States contributed 4.8 % to this total (EUR 0.7 billion). There were 197 100 persons employed in this sector in the EU-15 in 2001, practically all of whom were employees, while in the EU-25 there were 225 900 persons employed [5].

Germany accounted for almost one third of total EU-25 value added in 2001 (31.3 %), while the United Kingdom, France and Italy each had shares of between 13.4 and 10.0 %, bringing the total contribution of these countries to almost two thirds of the EU-25 total. However, Luxembourg emerged in relative terms as by far the most specialised country for the manufacture of basic precious and non-ferrous metals, as the contribution of this sector to national manufacturing value added was four times greater than the corresponding EU-25 average. Slovakia, and to a lesser extent Belgium, also reported relatively high specialisation ratios [6], as opposed to Cyprus (2000), Ireland (1999), Lithuania, Malta and Portugal who were the least specialised in this sector.

[5] Estonia, not available; Cyprus and Latvia, 2000; Slovenia, number of employees.
[6] Denmark and Cyprus, 2000; Ireland, 1999; Estonia, Greece and the Netherlands, not available.

Figure 8.5

Manufacture of basic precious and non-ferrous metals (NACE Group 27.4) Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Table 8.9

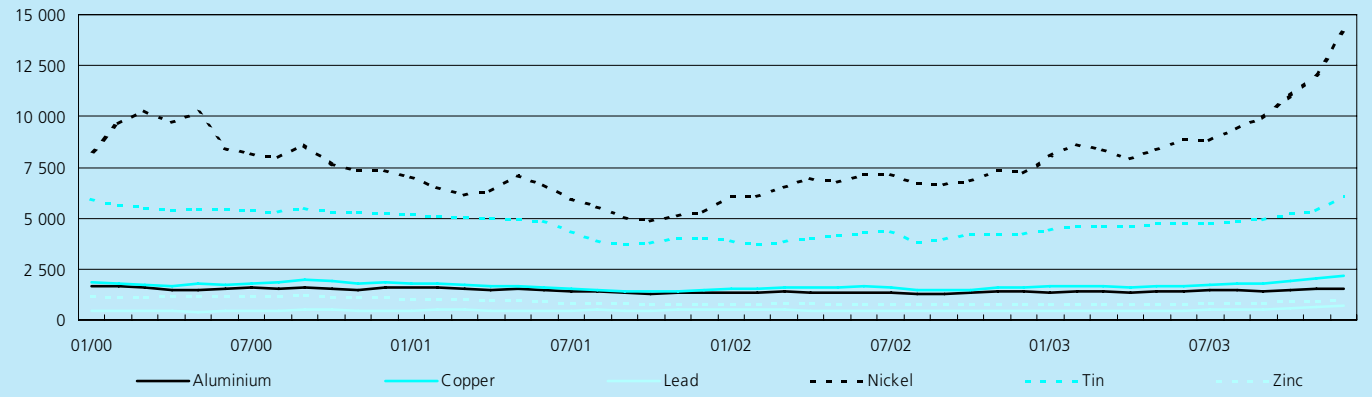
Secondary production of metals, EU-25, 2000 (thousand tonnes) (1)

	Production	Share of EU-25 in world secondary production (%)
Aluminium	2 452	27.5
Copper	904	46.1
Lead	873	29.8
Tin	8 878	35.5
Zinc	100	28.7

(1) Secondary metal production: metal recovered from scrap by remelting and refining.
Source: USGS, Minerals Yearbook 2002.

Figure 8.6

Metal prices (USD per tonne, cash settlement price)



Source: LME.

Table 8.10

Manufacture of basic precious and non-ferrous metals (NACE Group 27.4)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Manufacture of basic precious and non-ferrous metals	71.6	164.4	43.5
Precious metals production	97.7	266.5	36.6
Aluminium production	68.8	159.0	43.2
Lead, zinc and tin production	77.9	160.7	48.5
Copper production	67.2	154.4	43.5
Other non-ferrous metal production	79.2	182.8	43.3

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

LABOUR AND PRODUCTIVITY

The basic precious and non-ferrous metals sector reported the highest apparent labour productivity among metals manufacturing NACE groups in the EU-15 in 2001, at EUR 71 600 per person employed, against a metals manufacturing average of EUR 58 400. Due to average personnel costs more in line with the other metals manufacturing NACE groups, the wage adjusted labour productivity ratio in the EU-15 for this sector (164.4 %) was clearly above the metals manufacturing average (142.7 %).

EXTERNAL TRADE

The EU trade deficit for basic precious and metals clad with precious metals (CPA Group 27.4) reached EUR 21.0 billion in the EU-25, which was the third largest among CPA groups of manufactured goods. The main origin of EU imports of these metals were Russia, Switzerland and South Africa, which provided between 13.8 and 10.7 % of the EU-25's imports in 2002. The United States constituted the main export market, accounting for 21.9 % of the EU-25 total, followed by Switzerland with a 17.8 % share.

Table 8.11

Basic precious metals and metals clad with precious metals (CPA Group 27.4)
External trade, EU-25, 2002

	Exports		Imports		
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	Trade balance (EUR million)
Basic precious metals and metals clad with precious metals	12 883	100.0	33 853	100.0	-20 970
Precious metals	3 717	28.9	14 335	42.3	-10 618
Aluminium and aluminium products	4 568	35.5	9 409	27.8	-4 841
Lead, zinc and tin and products thereof	349	2.7	990	2.9	-642
Copper products	2 621	20.3	4 339	12.8	-1 718
Other non-ferrous metal products	1 629	12.6	4 780	14.1	-3 150

Source: Eurostat, Comext.

8.3: CASTING

NACE Group 27.5 concerns the casting of metals, covering the manufacture of semi-finished products, as well as castings for downstream customers according to tailor-made specifications. The information contained in this subchapter does not include the manufacture of standardised, finished cast products, such as pipes (treated as part of NACE Group 27.2) or boilers or radiators (treated as part of NACE Groups 28.2 and 28.3). Note also that external trade statistics are not available for foundry work services (CPA Group 27.5).

STRUCTURAL PROFILE

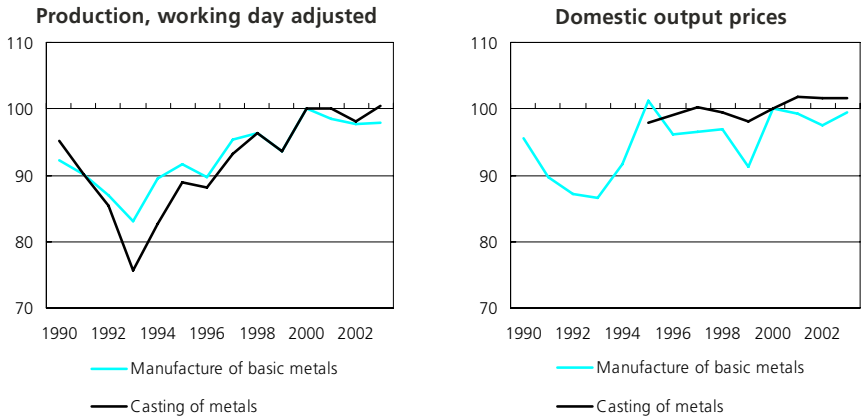
Casting activities in the EU-25 generated value added of EUR 10.5 billion in 2001, or 18.8 % of the metals manufacturing total. The 10 new Member States contributed EUR 0.6 billion to this amount, equivalent to 6.0 % of the EU-25 total, which was slightly less than for metals manufacturing as a whole (6.8 %). There were 226 300 persons employed in EU-15 casting activities in 2001, or one quarter of the metals manufacturing total, while the addition of the 10 new Member States brought the total number of persons employed in the EU-25 [7] up to 281 800.

Three quarters of the EU-25's casting value added originated from just four countries in 2001. Germany was the largest contributor with 32.0 % of the total, followed by Italy (16.6 %), France (13.0 %) and the United Kingdom (12.9 %). However the most specialised countries were Slovenia and the Czech Republic, where casting's contribution to manufacturing value added was more than double the EU-25 average [8]. Sweden and Slovakia were among the least specialised countries, while no casting activity was recorded in Cyprus and Malta (2000).

[7] Estonia, not available; Malta, 2000; Latvia and Lithuania, 2002; Slovenia, number of employees.
[8] Denmark, Ireland and Malta, 2000; Estonia, Greece, Cyprus, Latvia, Lithuania and Luxembourg, not available.

Figure 8.7

Casting of metals (NACE Group 27.5)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Table 8.12

Total production of metal castings, 2002 (thousand tonnes)

	Iron, steel and malleable iron castings	Non-ferrous metal castings
BE	143.7	26.7
CZ	381.6	59.6
DK	87.3	4.6
DE	3 749.7	845.8
EE	:	:
EL	:	:
ES	992.9	149.9
FR	2 128.6	390.3
IE	:	:
IT	1 460.9	979.7
CY	:	:
LV	:	:
LT	:	:
LU	:	:
HU	67.9	68.3
MT	:	:
NL	123.7	:
AT	181.2	116.2
PL	598.0	76.3
PT	96.7	25.6
SI	:	:
SK	:	:
FI	112.5	9.7
SE	234.6	52.9
UK	886.3	:

Source: CAEF, The European Foundry Association.

Table 8.13

Casting of metals (NACE Group 27.5)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Casting of metals	43.7	128.4	34.0
Casting of iron	43.4	121.2	35.8
Casting of steel	44.2	128.2	34.5
Casting of light metals	44.6	131.1	34.0
Casting of other non-ferrous metals	42.6	143.5	29.7

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

LABOUR AND PRODUCTIVITY

The casting sector recorded the lowest apparent labour productivity of all NACE groups in metals manufacturing, at EUR 43 700 per person employed in the EU-15 in 2001. Only Spain, Italy, Austria and Portugal reported higher apparent labour productivity in casting than in manufacturing activities [(9)], although by this measure productivity was still below the metals manufacturing average in all four of these countries. Average personnel costs were EUR 28 700 per employee in the EU-25 in 2001, against a metals manufacturing average of EUR 34 700 and the overall manufacturing average of EUR 30 900. Nevertheless, combining these two indicators and adjusting to take account of the share of employees in persons employed, the wage adjusted labour productivity ratio was the lowest of the NACE groups in metals manufacturing at 128.4 % in the EU-15 in 2001.

[(9)] Denmark, Estonia, Greece, Ireland, Cyprus, Latvia, Lithuania, Luxembourg, Malta and Slovenia, not available.

Table 8.14

Manufacture of basic metals (NACE Division 27)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	12 937	4 262	1 409	59 378	11	2 940	19 162	30 077	482	35 617	47	203	34	1 668
Value added at factor cost (EUR million)	2 596	917	434	16 317	2	689	4 660	6 517	141	7 163	15	64	8	453
Purchases of goods and services (EUR million)	10 589	3 639	0	45 855	10	:	15 143	24 964	258	29 783	33	158	27	1 584
Gross investment in tangible goods (EUR million)	708	477	73	2 887	0	:	1 238	1 155	20	2 288	4	15	1	:
Number of persons employed (thousands)	40	73	9	270	0	11	76	125	3	140	0	3	1	6
App. labour productivity (EUR thous./pers. emp.)	64.1	12.6	47.7	60.3	6.3	60.5	61.0	52.1	48.1	51.1	44.9	19.9	6.0	74.0
Average personnel costs (EUR thous./employee) (1)	55.3	8.0	37.5	44.9	3.9	:	34.4	38.9	33.3	34.1	20.0	6.2	5.0	52.5
Wage adjusted labour productivity (%) (1)	115.9	158.3	127.2	134.3	161.4	:	177.5	133.9	144.5	149.9	233.0	322.3	119.6	140.8
Gross operating rate (%) (2)	2.8	7.8	6.8	6.8	6.0	:	10.5	5.2	9.0	7.1	17.3	22.1	3.9	6.5

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	1 766	2	5 651	7 767	5 349	1 432	830	1 934	4 876	7 646	22 086	940	2 604	:
Value added at factor cost (EUR million)	271	1	1 547	2 570	1 837	325	163	503	1 201	2 298	5 284	101	437	:
Purchases of goods and services (EUR million)	1 593	1	4 155	5 498	3 849	1 178	621	1 462	3 770	5 586	17 906	933	2 361	:
Gross investment in tangible goods (EUR million)	83	0	232	522	169	94	80	114	222	410	637	139	275	:
Number of persons employed (thousands)	20	0	24	32	76	12	:	31	17	35	103	28	103	:
App. labour productivity (EUR thous./pers. emp.)	13.3	14.8	63.7	80.2	24.1	27.5	:	16.2	72.5	65.4	51.3	3.6	4.2	:
Average personnel costs (EUR thous./employee)	9.5	13.9	44.5	48.5	9.4	16.3	15.0	7.1	43.0	42.6	42.2	3.8	3.9	:
Wage adjusted labour productivity (%)	141.0	107.1	143.0	165.4	256.5	169.3	:	228.9	168.5	153.7	121.5	95.9	107.3	:
Gross operating rate (%)	4.3	13.3	8.1	12.8	19.2	8.9	3.6	14.6	9.9	10.4	4.2	-0.3	1.4	:

(1) Ireland and Cyprus, 2000.
(2) Ireland, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Metal products

The metal products sector processes materials that are provided by the previous production stage, namely the manufacture of basic metals (see Chapter 8), and, as such, can be viewed as a secondary stage in the processing of metals. The metal products sector is heterogeneous both in terms of its products and its customers. There are a relatively high number of SMEs operating in the metal products sector, and this may explain why enterprises often focus on the production of a specific product or on the production of goods for a specific downstream market (automotive constructors or the construction sector, for example). In general, enterprises that produce metal products specialise in the manufacture of capital goods (Groups 28.1 to 28.3) and intermediate goods and services (Groups 28.4 to 28.7) made from ferrous and non-ferrous materials, as well as from alloys.

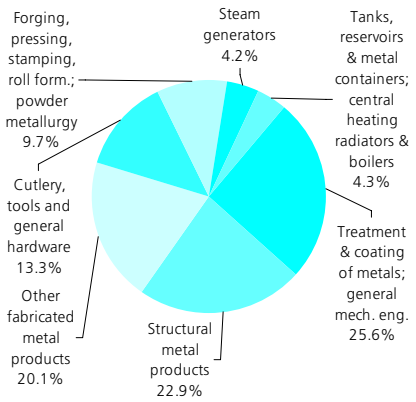
The construction sector demands central heating equipment, hot water boilers or hinges, while other manufacturers are customers for metal packaging, for example, in the form of aluminium tins for the food processing sector. Only a small part of output from this sector finds its way directly to the private, consumer market, for example, products such as cutlery or tools.

Manufacturers using specified materials need to demonstrate the compliance of their products with the requirements of the pressure equipment Directive [1], and thus permit their products to be marketed within the Single Market, and in order to facilitate this, in November 2003, a first set of European Approvals of Materials (EAMs), which relate to the safety of materials used in pressure equipment, was published. It is expected that this initiative will encourage the use of safer, more modern materials.

[1] Directive 97/23/EC of the European Parliament and the Council concerning pressure equipment.

Figure 9.1

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Share of value added at factor cost, EU-25, 2001



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

STRUCTURAL PROFILE

Metal products manufacturers generated EUR 137.9 billion of value added in the EU-25 in 2001, equivalent to 9.0 % of manufacturing value added. There were 3.7 million persons employed in this sector in the EU-25 [2], which equated to 10.9 % of manufacturing employment.

[2] Slovenia, number of employees.

The manufacture of fabricated metal products (other than machinery and equipment, which is covered in Chapter 10) is classified within NACE Division 28. It is split into seven different Groups, however, for the purpose of this publication there are three subchapters: the first of which covers structural metal products (NACE Group 28.1); the second covers boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3); and the third all remaining metal products (NACE Groups 28.4 to 28.7). Note that there are no external trade statistics for the services covered by CPA Groups 28.4 (forging, pressing, stamping and roll forming metal services) and 28.5 (treatment and coating of metal services; general mechanical engineering services), as these are not goods that are traded.

NACE

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

Table 9.1

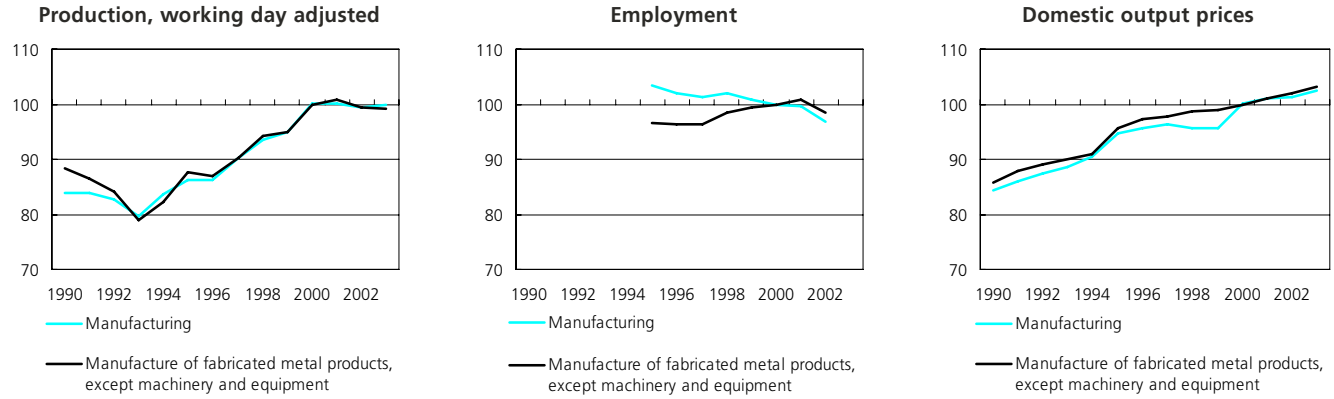
Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Structural profile, 2001

Rank	Largest value added (EUR billion)	Highest value added specialisation relative to manufacturing (EU-25=100)	Largest number of persons employed (thousands) (1)	Main EU-25 trading partners: origin of imports, 2002 (EUR billion)	Main EU-25 trading partners: destination of exports, 2002 (EUR billion)
1	Germany (38.0)	Italy (140)	Germany (816.0)	China (3.6)	United States (4.7)
2	Italy (25.5)	Slovenia (131)	Italy (686.0)	United States (2.5)	Switzerland (2.3)
3	France (19.3)	Luxembourg (129)	France (457.8)	Switzerland (2.1)	Norway (1.2)
4	United Kingdom (18.7)	Spain (115)	United Kingdom (383.6)	Taiwan (1.3)	Russian Federation (1.1)
5	Spain (10.8)	Czech Republic (108)	Spain (344.3)	Japan (0.9)	China (1.1)

(1) Slovenia, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Figure 9.2

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Treatment and coating of metals and general mechanical engineering (NACE Group 28.5) accounted for 25.6 % of the value added generated in the metal products sector in the EU-25 in 2001, and as such was the largest subsector. The structural metal products subsector (NACE Group 28.1, 22.9 %) and the other fabricated metal products subsector (NACE Group 28.7, 20.1 %) followed. The cutlery, tools and general hardware subsector (NACE Group 28.6) was about half the size of the treatment and coating subsector, and generated 13.3 % of value added, while the remaining NACE groups (the manufacture of tanks, reservoirs and containers of metal; the manufacture of central heating radiators and boilers; and the manufacture of steam generators) accounted for just over 4 % each of value added in this sector.

A breakdown by Member State shows that more than one quarter of the value added generated by metal products manufacturers in the EU-25 was contributed from Germany (27.5 %) in 2001. Italy (18.5 %), France (14.0 %), the United Kingdom (13.5 %) and Spain (7.8 %) followed in the ranking. The remaining Member States reported values below 4 %.

In terms of manufacturing specialisation, Italy, Slovenia, Luxembourg and Spain were the most specialised Member States in this sector, all generating more than 10 % of their manufacturing value added within the metal products sector. In contrast, Poland and Ireland were the least specialised.

The working day adjusted production index of metal products manufacturing recorded a low in 1993, after which a period of expansion was experienced through to 2001, averaging 3.1 % growth per annum, with only 1996 recording a year-on-year reduction (-0.9 %). In 2002, following five consecutive years of growth, the production index fell by 1.3 % and in 2003 the index fell again, but by a modest 0.2 %. As such, the development in the metal products manufacturing branch since 1993 was very similar to that of manufacturing as a whole. Several of the new Member States recorded very strong growth in output in recent years. For example, in the five years to 2003, Estonia averaged 16.6 % growth per annum, Poland 12.6 % and Latvia and Lithuania around 7 %.

The EU-25's employment index for the metal products sector followed a similar evolution to that of the production index, although with slower growth through to 2001 (averaging 0.9 % per annum over five years), and a larger contraction in 2002 (-2.4 %).

Table 9.2

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Value added at factor cost and persons employed, by enterprise size-class, 2001 (% of total)

	Micro enterprises		Small enterprises		Medium-sized enterprises		Large enterprises	
	Share of value added	Share of persons employed	Share of value added	Share of persons employed	Share of value added	Share of persons employed	Share of value added	Share of persons employed
EU-25	14.1	:	34.3	:	29.0	:	22.6	:
EU-15	15.7	20.7	34.2	35.7	28.1	26.3	21.9	17.3

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

The development of output prices in the EU-25 for the metal products sector followed a similar evolution to that recorded for the whole of manufacturing, with the exception of the period from 1998 to 2000, when manufacturing price growth stopped and then rose sharply, in contrast to a more regular pattern of price increases within metal products manufacturing. In the 10 years to 2003 the annual average output prices' growth rates in manufacturing (1.5 %) and for metal products manufacturing (1.4 %) were very close.

Even if micro enterprises (with less than 10 persons employed) generated the smallest proportion (14.1 %) of EU-25 value added in the metal products sector; this was 6.8 percentage points more than the contribution of micro enterprises to total manufacturing value added. Large enterprises (with 250 or more persons employed) generated over one fifth (22.6 %) of the value added generated by the metal products sector, compared with more than half (54.9 %) in manufacturing as a whole. The remaining enterprises from the metal products manufacturing sector, small and medium-sized (with 10 to 249 persons employed), generated together more than 60 % of value added (while the manufacturing average was 37.8 %). In employment terms, micro enterprises in the EU-15 accounted for a larger share of the metal products activity, providing employment for 20.7 % of those employed, while the employment share of large enterprises was 17.3 %, 4.6 percentage points less than their share of value added.

Table 9.3

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Labour force characteristics, 2002

	Share of men		Share of full-time		Share of employees	
	Value (%)	Index (manufacturing=100)	Value (%)	Index (manufacturing=100)	Value (%)	Index (manufacturing=100)
EU-25	:	:	:	:	:	:
EU-15	83.6	116.7	94.2	102.0	90.1	98.1
BE	81.2	109.3	89.7	98.5	93.2	98.4
CZ	79.6	129.3	97.5	99.9	88.3	95.4
DK	86.7	126.7	93.7	101.0	91.4	94.6
DE	80.9	112.7	92.4	103.0	94.9	99.5
EE	79.1	151.7	97.8	101.1	98.8	102.3
EL	92.6	130.5	98.8	100.8	64.7	88.2
ES	90.4	121.8	97.9	101.0	84.3	95.3
FR	84.8	119.9	97.2	103.0	95.2	100.4
IE	89.6	129.6	96.6	102.9	86.5	94.0
IT	80.9	116.2	95.2	100.5	81.8	98.9
CY	84.5	134.4	97.8	104.8	71.6	89.5
LV	94.6	153.3	87.4	92.3	100.0	104.6
LT	94.1	184.2	95.5	100.7	94.0	97.5
LU	84.9	104.7	90.8	95.0	96.5	98.2
HU	78.0	130.7	98.1	100.5	89.1	95.5
MT	100.0	142.8	92.9	96.1	64.8	69.6
NL	89.0	115.4	86.0	114.6	95.5	99.3
AT	81.3	109.3	:	:	95.9	100.7
PL	:	:	:	:	:	:
PT	88.3	157.5	96.6	99.6	74.3	85.2
SI	82.1	136.0	96.4	99.7	91.7	97.8
SK	80.9	136.6	99.0	100.3	93.5	97.3
FI	84.3	119.9	98.0	102.7	91.3	97.6
SE	83.9	113.5	90.8	99.1	89.7	95.4
UK	84.8	113.4	92.7	100.6	92.3	97.0

Source: Eurostat, Labour Force Survey.

LABOUR AND PRODUCTIVITY

Men made up 83.6 % of the metal products workforce in the EU-15's metal products sector in 2002. The corresponding figure for manufacturing as a whole was 71.7 %, clearly lower, which was a situation repeated in all of the Member States [3]. By far the highest deviation, in relative terms, was in Lithuania, where 94.1 % of the workforce was male in the metal products manufacturing sector, compared with 51.1 % in manufacturing.

Analysing the full-time and part-time employment rates of the metal products manufacturing sector, 94.2 % of persons were in full-time employment in 2002, which was 1.8 percentage points higher than the corresponding figure for manufacturing. Among the Member States [4], the Netherlands reported the largest difference between full-time employment rates for metal products manufacturing (86.0 %) and for the manufacturing sector as a whole (75.1 %).

[3] Poland, not available.

[4] Austria and Poland not available.

Table 9.4

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Manufacture of fabricated metal products, except machinery and equipment	41.7	131.9	31.6
Structural metal products	36.7	125.5	29.2
Tanks, reservoirs & metal containers; central heating radiators & boilers	46.3	135.5	34.2
Steam generators, except central heating hot water boilers	42.9	108.2	39.6
Forging, pressing, stamping and roll forming of metal; powder metallurgy	45.9	134.8	34.0
Treatment and coating of metals; general mechanical engineering	39.5	132.0	29.9
Cutlery, tools and general hardware	49.2	139.9	35.2
Other fabricated metal products	44.4	140.7	31.5

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

In 2002 some 90.1 % of those employed in the EU-15's metal products sector were paid employees, the rest being self-employed or family workers; as such, this proportion was slightly lower than the corresponding figure for manufacturing as a whole (91.9 %). Malta recorded one of the lowest proportions of paid employees in the metal products manufacturing sector (64.8 %) among the Member States [5] and consequently the highest deviation between the metal products sector and the national manufacturing average (93.1 %).

Apparent labour productivity in the EU-15's metal products sector was EUR 41 700 per person employed, which was EUR 9 500 lower than the corresponding figure in the manufacturing sector in 2001. This pattern of apparent labour productivity being lower in the metal products sector than for the manufacturing average was observed in every Member State [6], with the exception of Estonia. Poland reported the lowest level of apparent labour productivity (EUR 3 300 per person employed) among the Member States [7] within the metal products manufacturing sector and also the highest relative difference for this indicator between value added in the metal products sector and the national manufacturing average (EUR 19 100).

[5] Poland, not available.
[6] Slovenia, not available.
[7] Slovenia, not available.

Average personnel costs in the metal products manufacturing sector in the EU-25 were EUR 28 400 per employee in 2001, lower than the manufacturing average of EUR 30 900. This pattern of somewhat lower average personnel costs was observed in the majority of Member States [8], with the exception of the Czech Republic and Estonia.

The particularly low apparent labour productivity ratio and the somewhat more typical average personnel costs figures resulted in the metal products sector having a lower than average wage adjusted labour productivity ratio in the EU-15. Value added in 2001 was the equivalent of 131.9 % of personnel costs (after an adjustment for the ratio of persons employed to employees). This value could be compared with the EU-15 manufacturing average of 143.5 %. In all Member States [9], wage adjusted labour productivity ratios for the metal products manufacturing sector were lower than the corresponding values of recorded for the manufacturing average. Poland was also the only Member State that registered a value of less than 100 % for this ratio, indicating that adjusted personnel costs were higher than value added; this resulted mainly from negative value added within NACE Group 28.5 (the treatment and coating of metals).

[8] Greece, Ireland and Cyprus, not available.
[9] Greece, Ireland, Cyprus and Slovenia, not available.

EXTERNAL TRADE

In 2002 there were EUR 23.0 billion of fabricated metal products (CPA Division 28) exported from the EU-25, while imports were valued at EUR 14.8 billion. These figures equated to 2.7 % of total manufacturing exports and 2.0 % of manufacturing imports.

An analysis of the CPA groups that make up fabricated metal products, indicates that other fabricated metal products (CPA Group 28.7) accounted for the highest proportion (40.3 %) of EU-25 exports in 2002, followed by cutlery, tools and general hardware (CPA Group 28.6, 28.0 %) and structural metal products (CPA Group 28.1, 15.3 %). The remaining two groups, tanks, reservoirs and containers of metal/central heating radiators and boilers (CPA Group 28.2) and steam generators (CPA Group 28.3) together accounted for 15.8 % of the exports of fabricated metal products. A trade surplus was recorded for each of the CPA groups, reaching over EUR 2 billion for structural metal products and for steam generators.

Fabricated metal products exported from the EU-25 were mainly destined for the United States, which accounted for 20.3 % of total exports in 2002. Switzerland was the next largest destination, with a share that was half the American level (9.8 %). The main origins of EU-25 imports were China (24.6 %), the United States (16.6 %) and Switzerland (14.1 %), together providing more than half of the EU-25's imports in 2002.

Germany exported (intra- and extra-EU trade combined) the highest value of fabricated metal products, EUR 22.7 billion worth, corresponding to a 29.3 % share of all fabricated metal product exports made by the Member States in 2002. This was more than twice as high as the share of the next largest exporter, Italy (13.9 %).

Table 9.5

Fabricated metal products, except machinery and equipment (CPA Division 28)
External trade, EU-25, 2002 (EUR million)

	Exports	Imports	Trade balance	Cover ratio (%)
Fabricated metal products, except machinery and equipment	22 968	14 810	8 158	155.1
Structural metal products	3 519	906	2 613	388.4
Tanks, reservoirs & metal containers; central heating radiators & boilers	1 204	464	740	259.5
Steam generators, except central heating hot water boilers	2 427	113	2 314	2 143.2
Cutlery, tools and general hardware	6 442	5 618	824	114.7
Other fabricated metal products	9 267	7 700	1 567	120.3

Source: Eurostat, Comext.

9.1: STRUCTURAL METAL PRODUCTS

This subchapter includes information on NACE Group 28.1 that covers structural metal products. This activity manufactures metal products for use in the construction sector (see Chapter 15), in particular metal supports and structures, prefabricated buildings, metal doors, window frames and shutters.

Structural metal products are mainly used in the construction sector and therefore the economy of the structural metal products manufacturing sector is closely linked to developments in the construction sector (both for new housing starts and for renovation).

STRUCTURAL PROFILE

In 2001 the EU-25's structural metal products sector generated EUR 31.6 billion of value added, which was equivalent to 22.9 % of the value added for the whole of the metal products sector. The structural metal products sector employed 952 000 persons in the EU-25 [(10)] in 2001, which was just over one quarter (25.6 %) of the metal products manufacturing total.

The manufacture of structural metal products is composed of the manufacture of metal structures and parts of structures (NACE Class 28.11) and the manufacture of builders' carpentry and joinery of metal (NACE Class 28.12). Almost three quarters (73.0 %) of the value added in this sector in the EU-15 was accounted for by the manufacture of metal structures and parts of structures in 2001. In terms of employment, the relative importance of these two sectors together was lower, at 66.4 % of the EU-15 total for structural metal products manufacturing.

[(10)] Slovenia, number of employees.

Germany generated EUR 8.1 billion of value added in 2001 within the structural metal products manufacturing sector, equivalent to 25.5 % of the EU-25 total. Italy (18.1 %), the United Kingdom (12.8 %) and Spain (10.8 %) had the next largest shares. Several of the smaller new Member States, in particular Cyprus, Malta and Estonia, generated more than 40 % of their metal products manufacturing value added within this sector [(11)].

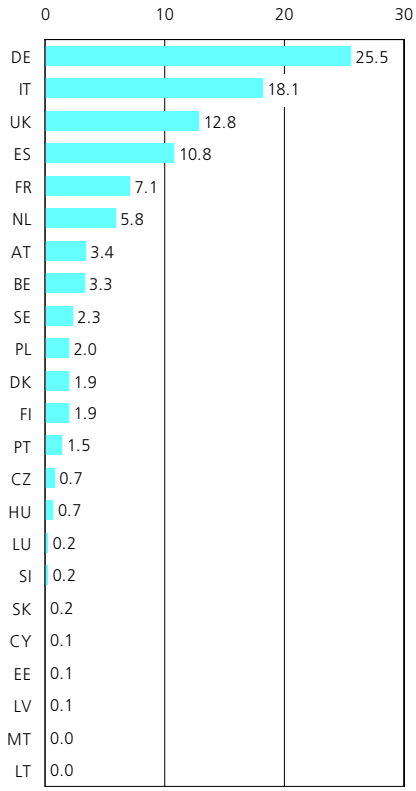
The production index for structural metal products manufacturing in the EU-25 shows that, while this activity has grown since its low of 1994, a year in which the index fell by 6.2 %, growth was neither strong nor continuous. In both 1996 and 1997 the production index fell by 0.5 %, and despite strong growth in 1998 (4.9 %), 1999 (7.1 %) and 2000 (3.3 %), the index of production in 2001 was still below its level of 1992. In 2002 the positive development of the previous four years came to an end and activity in the structural metal products branch contracted by 2.5 %. In 2003, the EU-25 recorded modest output growth (0.4 %), while the situation in the EU-15 was stable (-0.1 %).

The development of domestic output prices in EU-25 structural metal products manufacturing showed annual increases averaging 1.7 % in the 10 years to 2003, slightly higher than the average for metal products manufacturing (1.4 %).

[(11)] Poland generated the equivalent of 97.6 % of its metal products manufacturing value added in the structural products sector (NACE Group 28.1). However, this ratio is distorted by the large, negative value added recorded within the treatment and coating of metals; general mechanical engineering (NACE Group 28.5). Nevertheless, it can be concluded that Poland was more specialised in the manufacture of structural metal products than the EU-25 average.

Figure 9.3

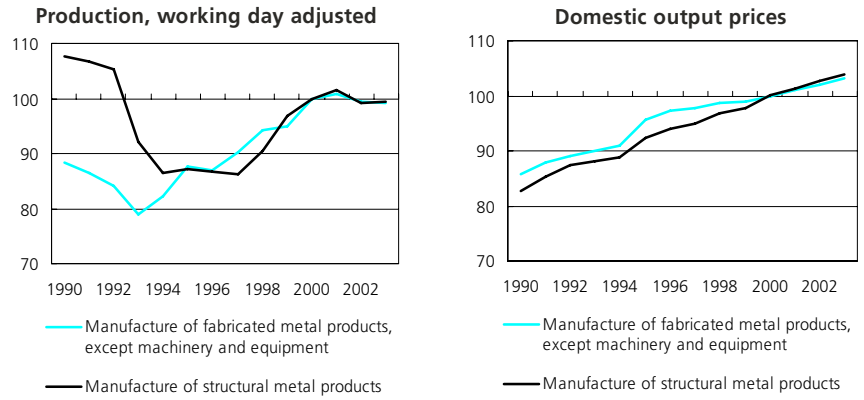
Manufacture of structural metal products (NACE Group 28.1)
Share of EU-25 value added, 2001 (%) (1)



(1) Greece and Ireland, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Figure 9.4

Manufacture of structural metal products (NACE Group 28.1)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Table 9.6

Selected structural metal products (CPA Group 28.1), EU-15

	Prodcom code	Latest year for production	Production value (EUR million)
Other structures principally of sheet	28.11.23.50	2001	6 791.4
Other structures of iron or steel	28.11.23.60	2001	19 253.8
Aluminium structures and parts of structures n.e.c.	28.11.23.70	2001	5 529.2
Installation in situ of self produced metal structures	28.11.90.00	2000	2 847.5
Iron or steel doors, thresholds for doors, windows and their frames	28.12.10.30	2001	4 497.5
Aluminium doors, thresholds for doors, windows and their frames	28.12.10.50	2001	8 343.6

Source: Eurostat, European production and market statistics (Comext).

LABOUR AND PRODUCTIVITY

In 2001, apparent labour productivity for the structural metal products manufacturing sector was EUR 36 700 per person employed in the EU-15. This was EUR 5 000 less than the average for metal products manufacturing (EUR 41 700), and was the lowest level of apparent labour productivity among any of the groups in the metal products manufacturing sector.

Average personnel costs in 2001 were EUR 26 200 in the EU-25's structural metal products manufacturing sector, nearly 10 % less than the average for metal products manufacturing; again, this was the lowest level for any metal products manufacturing group.

Despite low average personnel costs, the wage adjusted labour productivity ratio of the structural metal products manufacturing sector in the EU-15 in 2001 was the lowest among the NACE groups that form the metal products manufacturing sector. This ratio showed that value added was equivalent to 125.5 % of personnel costs (adjusted for the ratio of persons employed to employees), some 6.4 percentage points lower than the average for the whole of the metal products manufacturing sector. This situation was observed in the majority of the Member States [12], with the exception of Poland, Lithuania, Latvia, France, Sweden and Portugal.

[12] Greece, Ireland, Cyprus and Slovenia, not available.

EXTERNAL TRADE

Exports of structural metal products (CPA Group 28.1) amounted to EUR 3.5 billion in the EU-25 in 2002, equivalent to 15.3 % of total exports of fabricated metal products. Imports were much lower, at EUR 905.9 million, resulting in a trade surplus of EUR 2.6 billion.

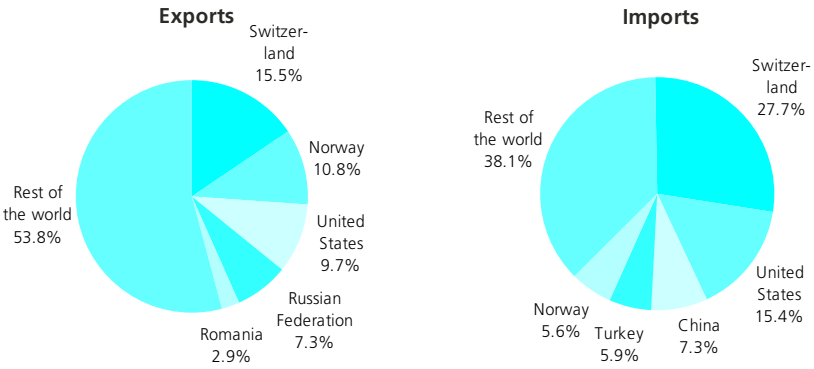
The vast majority (90.3 %) of exports were composed of metal structures and parts of structures (CPA Class 28.11) and this was also true of imports, although to a lesser extent (85.8 % of the total).

Switzerland was the most important destination for the EU-25's exports of structural metal products in 2002, accounting for 15.5 % of the total. Norway (10.8 %), the United States (9.7 %) and Russia (7.3 %) were the next most significant export markets, with no other country accounting for more than 3 % of exports. Switzerland was by far the most important origin of EU-25 imports of structural metal products in 2002, providing more than one quarter (27.7 %) of the total. The United States and China followed, supplying 15.4 % and 7.3 % respectively.

Germany was the largest exporter (intra- and extra-EU exports combined) of structural metal products in 2002, registering nearly one quarter (24.1 %) of the total exports made by the EU-25 Member States. The next largest exporters were Italy, Belgium and the Netherlands, each with between 7 and 10 % of the total. Germany also had the highest share of imports (23.1 %), with France (12.4 %) and the United Kingdom (9.8 %) the next largest markets for imports of structural metal products.

Figure 9.5

Structural metal products (CPA Group 28.1)
Share in extra-EU trade, 2002



Source: Eurostat, Comext.

9.2: BOILERS, METAL CONTAINERS AND STEAM GENERATORS

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

The manufacture of boilers, containers and steam generators supplies various downstream sectors, most notably the construction and energy sectors.

STRUCTURAL PROFILE

The EU-25's boilers, containers and steam generators sector generated EUR 11.7 billion of value added in 2001, equivalent to 8.5 % of the metal products manufacturing sector total. The EU-15 Member States accounted for 94.6 % of this figure, close to their share of manufacturing value added, but less than their share of metal products manufacturing.

In terms of employment, there were 300 300 persons employed [13] in the EU-25's boilers, containers and steam generators sector in 2001, while in the EU-15 the figure was 248 000, which equated to 7.7 % of the EU-15's employment within the whole of the metal products manufacturing sector.

[13] Estonia, 2002, excluding NACE Group 28.3; Slovenia, 1999, number of employees; Cyprus and Lithuania, excluding NACE Group 28.3; Malta, excluding NACE Group 28.2.

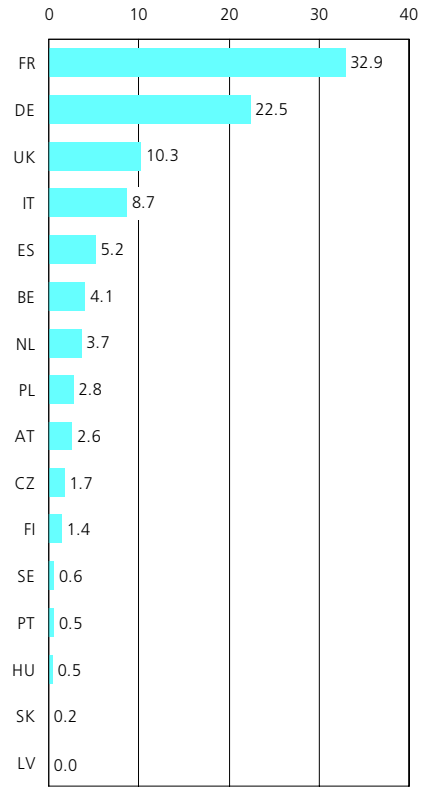
The manufacture of steam generators (NACE Group 28.3) generated 49.6 % of this sector's value added in the EU-25 in 2001. This was almost the same as its share within the EU-15 (49.7 %), where the manufacture of central heating radiators and boilers (NACE Class 28.22) accounted for 27.1 % of the value added generated in the boilers, containers and steam generators sector, while the remaining 23.1 % was created in the tanks, reservoirs and containers of metal sector (NACE Class 28.21).

France and Germany contributed the highest shares of value added within the boilers, containers and steam generators sector in the EU-25 in 2001, with EUR 3.8 billion and EUR 2.6 billion respectively, which was equivalent to 32.9 % and 22.5 % of the EU-25 total. In comparison to metal products manufacturing in general, France, Belgium and the Czech Republic were relatively specialised in this activity [14]. Indeed, the manufacture of steam generators recorded the highest value added specialisation ratio in France, on the basis of a comparison across all manufacturing NACE groups in 2001.

[14] Poland recorded the highest specialisation ratio - see the footnote in the previous subchapter.

Figure 9.6

Manufacture of boilers, metal containers and steam generators
(NACE Groups 28.2 and 28.3)
Share of EU-25 value added, 2001 (%) (1)



(1) Denmark, Estonia, Greece, Ireland, Cyprus, Lithuania, Luxembourg, Malta and Slovenia, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

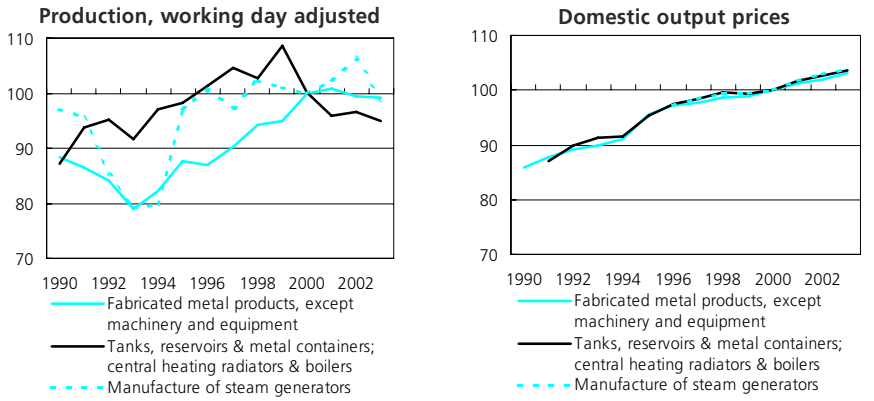
The production index for the manufacture of tanks, reservoirs, containers, central heating radiators and boilers (NACE Group 28.2) in the EU-25 grew from a low in 1993 by an average of 2.8 % through until 1999, with 1998 the only year in which the index actually fell (-1.9 %). Strong growth in 1999 (5.7 %) contrasted an even more sizeable contraction in 2000 (-7.8 %) and a further decline in activity in 2001 (-4.1 %). In 2002 more modest growth was recorded (0.7 %), but this was more than erased in 2003 by a further fall of 1.8 %.

The production index for steam generator manufacturing (NACE Group 28.3) in the EU-25 also grew from a low in 1993, by 5.3 % per annum, on average, through to 1998. This relatively high average growth rate was strongly influenced by growth in 1995 (21.5 %). There followed two years of contraction in production (1999 and 2000) and then two years of growth, most notably a gain of 4.2 % in 2002. However, 2003 saw a fall in production, as output declined by 6.9 %. As such the index in 2003 was at its lowest level since 1997.

In terms of EU-25 output prices, the manufacture of tanks, reservoirs, containers, central heating radiators and boilers (NACE Group 28.2) and steam generator manufacturing (NACE Group 28.3) developed in an almost identical manner between 1996 (beginning of the time-series) and 2003. Output prices rose by less than 1 % per annum, on average, during the five years to 2003.

Figure 9.7

Manufacture of boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3)
Main indicators, EU-25 (2000=100)



Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

LABOUR AND PRODUCTIVITY

Apparent labour productivity in the EU-15's manufacture of boilers, containers and steam generators sector was EUR 44 500 per person employed in 2001, which was EUR 2 800 higher than the corresponding figure for the whole of metal products manufacturing. Average personnel costs amounted to EUR 37 000 in the EU-15, again above the average for metal products manufacturing (EUR 31 600). Wage adjusted labour productivity in the EU-15 was 120.3 % in the boilers, containers and steam generators sector, compared to an average of 131.9 % for the whole of metal products manufacturing. However, the manufacture of tanks, reservoirs, containers, central heating radiators and boilers (NACE Group 28.2) recorded an above average value (135.5 %), while the other subsector, steam generator manufacturing (NACE Group 28.3) recorded the lowest ratio for adjusted labour productivity (108.2 %) among all of the NACE groups that make up the metal products manufacturing sector, mainly due to a particularly low level in Germany.

Table 9.7

Selected boilers, metal containers and steam generators (CPA Groups 28.2 and 28.3), EU-15

	Prodcom code	Latest year for production	Production value (EUR million)
Iron or steel reservoirs, tanks, vats and similar containers for gases; lined or heat-insulated, for liquids of a capacity > 300 litres (excluding compressed or liquefied gas, fitted with mechanical or thermal equipment)	28.21.11.10 and 28.21.11.20	2000	873.4
Iron, steel or aluminium containers for compressed or liquefied gas (excluding steam accumulators)	28.21.12.30 and 28.21.12.50	2000	922.6
Radiators, not electrically heated, and parts thereof of cast iron, iron and steel	28.22.11.30 to 28.22.11.50	2000 (1)	2 110.0
Boilers for central heating	28.22.12.00	2001	4 048.1
Parts of boilers for central heating	28.22.13.00	2000	723.6
Watertube boilers (excluding central heating water boilers capable of producing low pressure steam)	28.30.11.10 to 28.30.11.30	2000	1 023.5
Vapour generating boilers (including hybrid boilers) (excluding central heating hot water boilers capable of producing low pressure steam, watertube boilers)	28.30.11.50	1999	470.6
Super-heated water boilers (excluding central heating hot water boilers capable of producing low pressure steam)	28.30.11.70	2000	151.4

(1) 1999 for one heading in the aggregate.
Source: Eurostat, European production and market statistics (Comext).

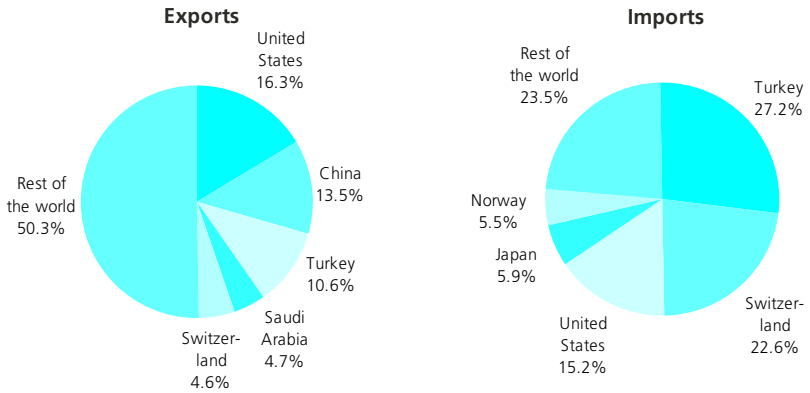
EXTERNAL TRADE

In 2002 the EU-25 exported boilers, containers and steam generators (CPA Groups 28.2 and 28.3) to the value of EUR 3.6 billion, while EUR 577.3 million worth of goods were imported, resulting in a trade surplus of EUR 3.1 billion and a cover ratio of 629.0 %. EU-25 exports of boilers, containers and steam generators were mainly destined for the United States (16.3 % of EU-25 exports), China (13.5 %) and Turkey (10.6 %) in 2002. The main origins of imports were Turkey (27.2 % of EU-25 imports), Switzerland (22.6 %) and the United States (15.2 %).

By far the largest exporter of these products was Germany, with a 40.8 % share of exports (intra- and extra-EU combined) made by EU-25 Member States, nearly three times as much as Italy, the second largest exporter (14.3 %). The largest importers were the United Kingdom and Germany, each accounting for just under 17 % of the total.

Figure 9.8

Boilers, metal containers and steam generators (CPA Groups 28.2 and 28.3)
Share in extra-EU trade, 2002



Source: Eurostat, Comext.

9.3: MISCELLANEOUS METAL PRODUCTS

The remaining four NACE groups that form Division 28 are placed together in this final subchapter. The first (NACE Group 28.4) covers forging, pressing, stamping and roll forming of metal. The second (NACE Group 28.5) covers the treatment and coating of metal, as well as general mechanical engineering (such as turning, milling, welding or planing metal pieces). The third (NACE Group 28.6) covers the manufacture of cutlery, tools and general hardware, such as locks and hinges. The final activity (NACE Group 28.7) includes information on other fabricated metal products, such as the manufacture of metal drums, light metal packaging (including metal tins and cans for food producers), wire products, fasteners, screws, baths and sinks made of metal and household articles made of metal (saucepans and non-electric kitchen appliances). The aggregate consisting of these four NACE groups is hereafter referred to as miscellaneous metal products manufacturing.

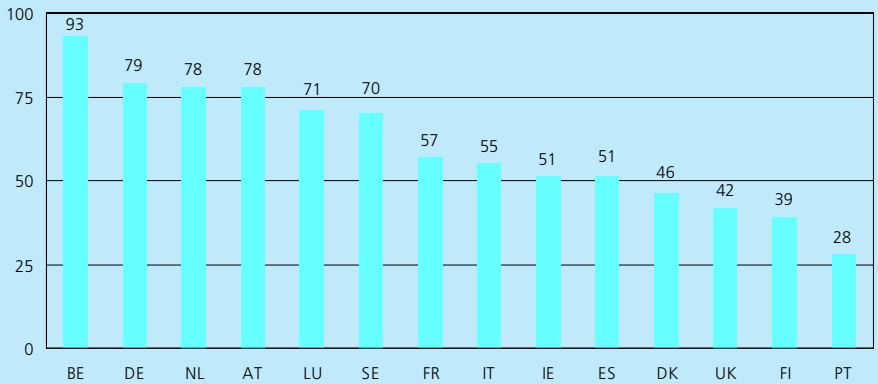
Steel packaging may bring advantages in the transport and storage of products, as it can combine low weight and robustness; in particular steel cans may be favourable for non-durable products that quickly deteriorate when in contact with air, light or water.

At the beginning of 2004, an amendment to the packaging directive [15] (see Subchapter 13.3) was adopted. This modified the recovery rates for packaging, setting the target for metal packaging at a minimum of 50 % to be achieved by the end of 2008 for EU-15 Member States, except for Greece, Ireland and Portugal who would have an extra three years. The Association of European Producers of Steel for Packaging (APEAL) provides data for 2002 in terms of steel recycling and shows that 10 of the 14 EU-15 Member States with data available already met these recycling targets in 2002 (see Figure 9.9).

[15] Directive 94/62/EC of the European Parliament and the Council concerning packaging and packaging waste.

Figure 9.9

Recycling rate of steel packaging, EU-15 Member States, 2002 (%) (1)



(1) Greece, not available; Belgium, the Netherlands, Luxembourg and Finland, steel and aluminium packaging.
Source: APEAL.

STRUCTURAL PROFILE

In 2001 miscellaneous metal products manufacturing generated EUR 94.7 billion of value added in the EU-25 (98.2 % of which was accounted for by the EU-15). The EU-25 figure was equivalent to 68.6 % of the total value added generated by the metal products manufacturing sector as a whole. In terms of employment, there were 2.5 million persons employed [16] in the EU-25's miscellaneous metal products manufacturing sector in 2001. The miscellaneous metal products manufacturing sector employed 66.7 % of those employed in the EU-15's metal products manufacturing sector, less than its corresponding share of value added (69.2 %).

Among the four NACE groups that make up the miscellaneous metal products manufacturing sector, the largest activity was the treatment and coating of metals and general mechanical engineering (NACE Group 28.5), which contributed EUR 35.3 billion, or 25.6 % of the value added created within the metal products manufacturing sector in 2001. It was followed by the manufacture of other fabricated metal products (NACE Group 28.7) and by the manufacture of cutlery, tools and general hardware (NACE Group 28.6) making up respectively 20.1 % and 13.3 % of the total. The smallest activity was forging, pressing, stamping and roll forming of metal, and powder metallurgy (NACE Group 28.4), which accounted for 9.7 % of value added in the metal products manufacturing sector. A similar analysis based on employment shows approximately the same distribution between subsectors.

In 2001, Germany contributed the highest share of value added within the miscellaneous metal products manufacturing sector, contributing EUR 27.3 billion of value added, which was 28.9 % of the EU-25 total. Italy had the next highest share (19.8 %), followed by the United Kingdom and France, with around 14 % of EU-25 value added each.

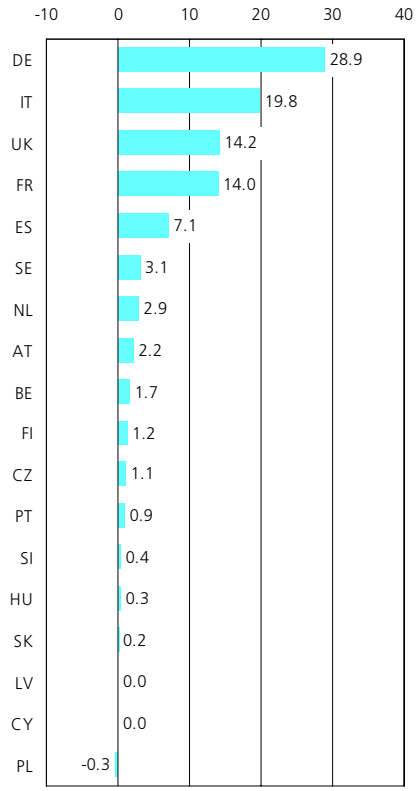
[16] Estonia, excluding NACE Group 28.4; Lithuania, excluding NACE Group 28.5; Malta, NACE Group 28.6, 2000; Slovenia, number of employees.

An analysis of the importance of the particular subsectors relative to the metal products manufacturing in each country indicates the following specialisation in 2001 in terms of value added. Germany, France and Slovenia were most specialised [17] in forging, pressing, stamping and roll forming of metal/powder metallurgy. Sweden, Finland and France were relatively specialised [18] in the treatment and coating of metals, and general mechanical engineering, while in the manufacture of cutlery, tools and general hardware, Slovenia, Austria, the Czech Republic and Germany were the most specialised countries [19]. In the manufacture of cutlery, tools and general hardware the highest specialisation rates [20] were in Malta, Lithuania and Latvia.

[17] Spain, Greece, Ireland and Luxembourg, not available.
[18] Greece, Ireland and Lithuania, not available.
[19] Greece, Ireland and Luxembourg, not available.
[20] Greece and Ireland, not available.

Figure 9.10

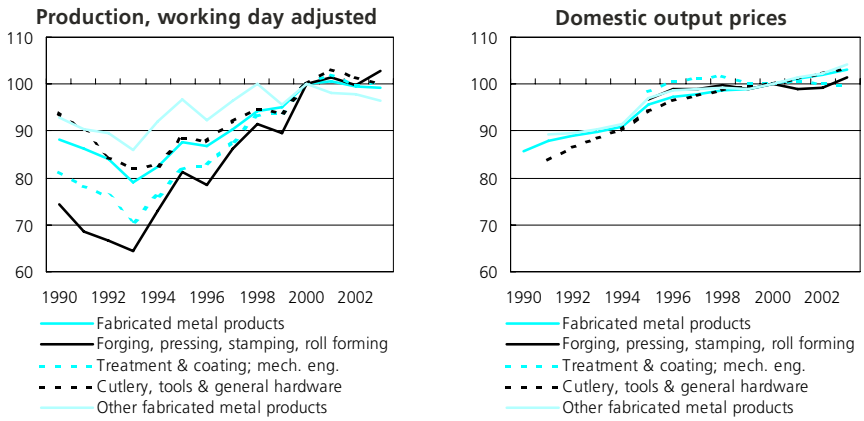
Miscellaneous metal products (NACE Groups 28.4 to 28.7) Share of EU-25 value added, 2001 (%) (1)



(1) Denmark, Estonia, Greece, Ireland, Lithuania, Luxembourg and Malta, not available.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Figure 9.11

Miscellaneous metal products (NACE Groups 28.4 to 28.7) Main indicators, EU-25 (2000=100)



Source: Eurostat, *Source:* Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Table 9.8

Selected cutlery, tools and general hardware products (CPA Group 28.6), EU-15

	Prodcom code	Latest year for production	Production value (EUR million)
Band saw blades; circular saw blades with steel working parts (including slotting or slitting saw blades)	28.62.20.20 and 28.62.20.30	2001 (1)	368.2
Saw blades with working part of steel, for working metal; saw blades with working part of other materials excluding band-, circular-, chain- or straight saw blades	28.62.20.95	2000	290.6
Screwdrivers; household hand tools	28.62.30.63 and 28.62.30.65	2001 (2)	294.1
Drilling tools with working part of sintered metal carbide, for working metal excluding unmounted sintered metal carbide plates, sticks, tips and the like for tools	28.62.40.27	1999	327.8
Drilling tools with working part of high speed steel, for working metal excluding work and tool holders for machines or hand tools - for rock drilling	28.62.40.31	2001	436.8
Milling tools with working part of sintered metal carbide, for working metal excluding unmounted sintered metal carbide plates, sticks, tips and the like for tools	28.62.40.50	2001	368.0
Turning tools with working part of sintered metal carbide, for working metal excluding unmounted sintered metal carbide plates, sticks, tips and the like for tools	28.62.40.71	2000	337.9
Interchangeable hand tools with working part of sintered metal carbide excluding unmounted sintered metal carbide plates, sticks, tips and the like for tools	28.62.40.87	2001	289.7
Pressing, stamping or punching tools for working metal (excluding work and tool holders for machines or hand tools)	28.62.50.33	2001	3 319.6
Knives and cutting blades for machines or for mechanical appliances for working metal; for working wood	28.62.50.43 and 28.62.50.45	2000 (2)	279.9
Unmounted sintered metal carbides or cermet plates, sticks, tips and the like for tools (excluding indexable inserts)	28.62.50.90	2001	319.5
Base metal locks and cylinder locks used for doors of buildings	28.63.12.30 to 28.63.12.70	2001 (2)	1 610.0
Castors with mountings of base metal	28.63.14.20	2001	374.1
Base metal mountings, fittings and similar articles suitable for motor vehicles (excluding hinges, castors, locks and keys)	28.63.14.30	2001	1 594.6

(1) 2000 for one heading in the aggregate.
(2) 1999 for one heading in the aggregate.
Source: Eurostat, European production and market statistics (Comext).

The four activities that make up miscellaneous metal products manufacturing developed in a similar fashion to metal products manufacturing as a whole in recent years, as regards the evolution of their respective production indices. There was generally a period of growth starting in 1994 and continuing through to 2001, interspersed in nearly all of these subsectors with one or more years of contraction. The manufacture of other fabricated metal products (NACE Group 28.7) reported the weakest growth, its production index having fallen by more than 4 % twice during the second half of the 1990s, such that between its low in 1993 and its most recent high in 2000, average growth was 2.2 % per annum. Since 2000 output of other fabricated metal products fell on three consecutive occasions, although each time by less than 2 %. The manufacture of cutlery, tools and general hardware (NACE Group 28.6) displayed an almost identical development to that for metal products manufacturing in general, averaging growth of 2.9 % per annum between 1993 and 2001, despite a small contraction in activity in 1996 and 1999. Since 2001 the production index for this activity fell each year by around 1.5 %. The two remaining activities (NACE Groups 28.4 and 28.5) reported a more rapid increase in their respective production indices. Between 1993 and 2001 there was average annual growth of 5.8 % for the forging, pressing, stamping and roll forming of metal/powder metallurgy sector (NACE Group 28.4), while the corresponding rate for the treatment and coating of metals/general mechanical engineering sector (NACE Group 28.5) was 4.7 % per annum. Nevertheless, both of these branches experienced a reduction in activity in 2002 (-1.4 % for Group 28.4 and -2.1 % for Group 28.5), followed by a return to growth in 2003 (3.1 % for Group 28.4 and 0.6 % for Group 28.5).

Table 9.9

Miscellaneous metal products (NACE Groups 28.4 to 28.7)
Labour productivity and personnel costs, EU-15, 2001

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Miscellaneous metal products	43.3	135.9	31.9
Forging, pressing, stamping and roll forming of metal; powder metallurgy	45.9	134.8	34.0
Treatment and coating of metals; general mechanical engineering	39.5	132.0	29.9
Manufacture of cutlery, tools and general hardware	49.2	139.9	35.2
Manufacture of other fabricated metal products	44.4	140.7	31.5

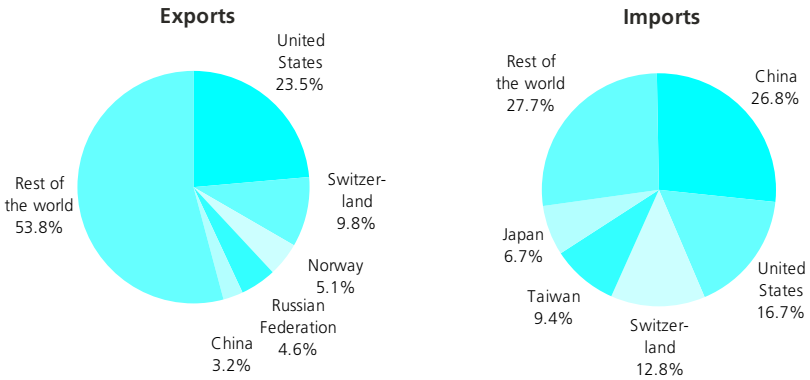
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

LABOUR AND PRODUCTIVITY

In 2001 apparent labour productivity was EUR 43 300 per person employed in the miscellaneous metal products manufacturing sector in the EU-15, this was EUR 1 600 higher than the corresponding figure for the metal products manufacturing sector. In the same year, average personnel costs per employee were EUR 31 900 in the EU-15's miscellaneous metal products manufacturing sector, and therefore close to the metal products manufacturing average of EUR 31 600. In terms of wage adjusted labour productivity, the ratio for miscellaneous metal products manufacturing was 135.9 %, which was 4.0 percentage points higher than for metal products manufacturing; this situation of higher than average wage adjusted labour productivity was observed in the majority of the Member States.

Figure 9.12

Miscellaneous metal products (CPA Groups 28.4 to 28.7)
Share in extra-EU trade, 2002



Source: Eurostat, Comext.

EXTERNAL TRADE

There are no external trade statistics for CPA Group 28.4 (forging, pressing, stamping and roll forming metal services) and CPA Group 28.5 (treatment and coating of metal services/general mechanical engineering services) as these are not goods that are traded. As a consequence, the following analysis covers only cutlery, tools and general hardware (CPA Group 28.6) and other fabricated metal products (CPA Group 28.7).

In 2002 some EUR 6.4 billion of cutlery, tools and general hardware were exported from the EU-25, while EUR 5.6 billion of these goods were imported. EU-25 exports of other fabricated metal products were valued at EUR 9.3 billion and imports EUR 7.7 billion. The two groups together provided a trade surplus of EUR 2.4 billion.

Cutlery, tools and general hardware were mainly destined for the United States, which had a 24.8 % share of EU-25 exports in 2002. Switzerland was the second largest destination for EU-25 exports, with an 8.3 % share, while no other country had a share in excess of 5 %. Exports of other fabricated metal products were also mainly destined for the United States (22.6 %), while China (10.7 %) was the second largest destination.

On the imports side, China, the United States and Switzerland were the main origins of EU-25 imports of cutlery, tools and general hardware in 2002, accounting for 26.5 %, 18.0 % and 11.8 % of total EU-25 imports. The same countries were the largest origins of EU-25 imports for other fabricated metal products too, with similar shares.

Among the Member States the main exporters of cutlery, tools and general hardware were Germany, Italy and the United Kingdom. Germany and Italy were also present among the main exporters of other fabricated metal products, together with France, which had the third highest value of exports for these products. Imports of cutlery, tools and general hardware, and also other fabricated metal products, were mainly destined for Germany, France and the United Kingdom.

Table 9.10

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	9 308	4 845	5 029	89 072	272	1 018	28 701	51 883	1 468	71 149	163	146	130	966
Value added at factor cost (EUR million)	3 140	1 440	2 214	37 998	73	395	10 751	19 344	604	25 470	66	59	39	265
Purchases of goods and services (EUR million)	6 381	3 611	0	54 554	208	:	19 170	33 783	864	46 840	117	109	96	717
Gross investment in tangible goods (EUR million)	539	313	288	4 232	13	:	1 609	2 178	109	4 382	11	16	13	:
Number of persons employed (thousands)	67	163	48	816	9	13	344	458	14	686	3	7	9	5
App. labour productivity (EUR thous./pers. emp.)	46.5	8.8	46.1	46.6	8.1	31.5	31.2	42.3	43.0	37.1	20.8	8.2	4.1	54.7
Average personnel costs (EUR thous./employee) (1)	37.0	6.8	35.7	37.0	5.5	:	24.0	33.7	25.9	26.0	16.0	3.2	2.9	39.2
Wage adjusted labour productivity (%) (1)	125.7	129.6	129.0	125.9	148.2	:	129.9	125.3	165.9	142.9	119.7	256.4	142.1	139.4
Gross operating rate (%) (2)	9.3	11.4	11.5	10.0	8.8	:	10.8	7.7	16.4	16.2	12.1	25.2	9.0	7.9

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	1 728	59	14 407	7 779	8 764	3 998	1 660	810	4 774	9 051	40 245	267	821	:
Value added at factor cost (EUR million)	581	28	5 013	3 416	644	1 351	472	250	1 900	3 734	18 668	64	260	:
Purchases of goods and services (EUR million)	1 356	32	10 029	4 995	3 637	2 770	1 160	604	3 011	5 770	23 036	239	715	:
Gross investment in tangible goods (EUR million)	143	3	506	523	282	362	79	70	282	574	1 610	21	92	:
Number of persons employed (thousands)	59	2	109	67	195	80	:	33	40	88	384	26	81	:
App. labour productivity (EUR thous./pers. emp.)	9.9	17.7	46.1	50.8	3.3	16.8	:	7.6	47.1	42.6	48.7	2.4	3.2	:
Average personnel costs (EUR thous./employee)	6.3	11.8	34.5	36.8	7.4	12.4	12.3	4.9	33.1	33.8	33.1	1.8	2.2	:
Wage adjusted labour productivity (%)	157.3	149.7	133.8	138.1	44.8	136.0	:	154.0	142.2	126.0	146.9	136.4	147.3	:
Gross operating rate (%)	11.2	25.6	10.0	12.6	-8.2	11.7	5.9	10.3	12.6	9.9	15.8	8.2	10.1	:

(1) Ireland and Cyprus, 2000.
(2) Ireland, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 9.11

Manufacture of structural metal products (NACE Group 28.1)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	3 229	906	1 508	21 565	127	:	9 868	7 021	643	17 220	105	56	47	198
Value added at factor cost (EUR million) (1)	1 045	235	615	8 055	30	:	3 398	2 240	231	5 717	37	22	11	75
Purchases of goods and services (EUR million)	2 252	692	0	14 042	101	:	6 789	4 957	419	11 761	74	43	39	123
Gross investment in tangible goods (EUR million)	120	47	73	578	6	:	448	219	25	885	7	7	4	:
Number of persons employed (thousands)	24	26	13	205	4	:	135	53	5	182	2	2	3	2
App. labour productivity (EUR thous./pers. emp.) (1)	44.2	9.0	48.5	39.3	7.7	:	25.2	42.3	42.3	31.5	19.4	9.1	4.1	45.0
Average personnel costs (EUR thous./employee) (2)	36.2	6.6	37.9	33.0	5.4	:	21.4	31.9	25.0	24.4	15.7	3.1	2.3	39.1
Wage adjusted labour productivity (%) (2)	122.1	135.5	128.1	119.2	143.9	:	117.5	132.5	169.3	128.7	113.4	291.5	175.4	115.0
Gross operating rate (%) (1)	8.0	7.8	9.2	7.8	7.0	:	8.4	7.9	14.8	14.7	10.7	27.3	9.9	5.4

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	616	30	5 670	2 718	2 290	1 407	250	172	1 633	2 123	10 659	67	347	:
Value added at factor cost (EUR million)	212	12	1 838	1 073	629	461	60	48	603	730	4 045	13	97	:
Purchases of goods and services (EUR million)	496	18	3 942	1 890	1 091	986	186	128	1 120	1 420	6 994	66	293	:
Gross investment in tangible goods (EUR million)	39	0	162	109	65	133	10	8	70	94	267	4	35	:
Number of persons employed (thousands)	23	1	42	24	54	28	:	7	13	16	80	8	32	:
App. labour productivity (EUR thous./pers. emp.)	9.2	12.5	43.6	45.2	11.6	16.3	:	6.5	47.3	46.0	50.4	1.7	3.0	:
Average personnel costs (EUR thous./employee)	5.9	10.0	33.3	35.1	7.6	12.0	12.6	4.9	33.4	35.5	35.6	1.5	2.1	:
Wage adjusted labour productivity (%)	154.3	125.9	131.0	128.8	151.4	136.1	:	133.0	141.6	129.4	141.5	110.9	146.2	:
Gross operating rate (%)	10.8	20.5	8.5	9.2	12.4	10.8	3.5	6.5	11.0	8.3	11.3	5.2	9.2	:

(1) Ireland, 2000.
(2) Ireland and Cyprus, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 9.12

Manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers (NACE Group 28.2)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	867	427	206	3 685	:	:	1 328	1 745	:	3 293	10	6	15	:
Value added at factor cost (EUR million)	306	116	92	1 469	:	:	522	568	:	938	5	3	3	:
Purchases of goods and services (EUR million)	568	341	0	2 829	:	:	854	1 246	:	2 390	7	4	12	:
Gross investment in tangible goods (EUR million)	66	17	7	128	:	:	48	79	:	243	1	1	1	:
Number of persons employed (thousands)	6	12	2	29	:	:	17	12	:	21	0	0	1	:
App. labour productivity (EUR thous./pers. emp.)	52.4	9.6	48.3	50.7	:	:	30.6	45.5	:	44.3	23.7	6.7	4.4	:
Average personnel costs (EUR thous./employee) (2)	39.6	6.7	39.2	40.9	:	:	25.1	35.5	:	28.5	18.7	2.7	3.4	:
Wage adjusted labour productivity (%) (2)	132.3	143.2	123.1	123.9	:	:	122.1	128.0	:	155.3	112.3	247.5	129.1	:
Gross operating rate (%)	9.9	8.5	8.4	6.8	:	:	8.2	6.8	:	11.5	11.9	31.4	4.6	:

	HU	MT	NL	AT	PL	PT	SI (1)	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	212	:	1 151	451	470	227	23	64	208	155	1 946	15	62	:
Value added at factor cost (EUR million)	49	:	369	209	135	58	7	13	80	61	794	4	22	:
Purchases of goods and services (EUR million)	180	:	825	274	212	174	17	55	129	96	1 247	13	50	:
Gross investment in tangible goods (EUR million)	11	:	26	15	27	16	1	3	7	13	57	1	6	:
Number of persons employed (thousands)	4	:	7	4	11	3	:	2	2	1	13	1	7	:
App. labour productivity (EUR thous./pers. emp.)	11.2	:	54.5	52.7	12.4	22.1	:	8.0	45.9	44.3	59.1	2.7	2.9	:
Average personnel costs (EUR thous./employee)	8.4	:	41.5	42.2	7.6	18.2	11.4	4.6	34.3	34.0	35.1	1.9	2.3	:
Wage adjusted labour productivity (%)	134.1	:	131.3	125.0	164.0	121.2	:	175.5	133.8	130.2	168.6	143.7	128.2	:
Gross operating rate (%)	5.6	:	8.3	8.6	14.8	4.8	2.8	8.2	10.2	10.0	15.9	7.8	8.0	:

(1) 1999.
(2) Cyprus, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 9.13

Manufacture of steam generators, except central heating hot water boilers (NACE Group 28.3)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU (1)
Production (EUR million)	484	331	:	3 552	:	:	222	8 496	:	274	:	3	:	18
Value added at factor cost (EUR million)	170	88	:	1 153	:	:	86	3 275	:	73	:	1	:	12
Purchases of goods and services (EUR million)	320	242	:	2 389	:	:	137	5 162	:	200	:	3	:	6
Gross investment in tangible goods (EUR million)	21	8	:	45	:	:	10	207	:	7	:	0	:	:
Number of persons employed (thousands)	4	7	:	26	:	:	3	81	:	2	:	0	:	0
App. labour productivity (EUR thous./pers. emp.)	44.6	12.3	:	43.9	:	:	33.9	40.4	:	43.9	:	11.4	:	65.8
Average personnel costs (EUR thous./employee)	37.4	8.8	:	48.6	:	:	29.3	35.5	:	38.4	:	7.9	:	30.7
Wage adjusted labour productivity (%)	119.3	140.5	:	90.3	:	:	115.5	113.9	:	114.4	:	143.6	:	214.2
Gross operating rate (%)	6.3	10.8	:	-3.2	:	:	5.8	5.2	:	4.4	:	8.8	:	35.8

	HU	MT	NL	AT	PL	PT	SI (2)	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	26	0	410	167	381	9	1	29	538	25	934	13	33	:
Value added at factor cost (EUR million)	8	0	58	90	187	3	0	12	86	10	409	5	13	:
Purchases of goods and services (EUR million)	24	0	351	84	121	6	1	17	454	15	525	8	25	:
Gross investment in tangible goods (EUR million)	2	0	1	4	10	0	0	0	4	1	17	1	1	:
Number of persons employed (thousands)	1	0	1	1	11	0	:	2	2	0	6	1	4	:
App. labour productivity (EUR thous./pers. emp.)	6.9	:	76.4	64.7	17.1	19.7	:	6.2	36.9	70.9	64.5	3.4	3.5	:
Average personnel costs (EUR thous./employee)	7.0	:	47.9	45.3	9.5	17.3	15.3	5.7	42.8	45.5	56.8	2.8	2.8	:
Wage adjusted labour productivity (%)	98.7	:	159.5	142.8	179.3	113.7	:	109.2	86.1	155.8	113.6	122.3	123.7	:
Gross operating rate (%)	-0.1	:	5.4	15.7	24.2	4.6	2.0	3.5	-2.8	15.0	5.7	7.2	8.0	:

(1) 2000.
(2) 1999.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 9.14

Forging, pressing, stamping and roll forming of metal; powder metallurgy (NACE Group 28.4)
Main indicators, 2001

	BE	CZ	DK (1)	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	295	301	15	11 281	:	:	3 444	7 666	39	8 543	0	7	6	:
Value added at factor cost (EUR million) (2)	99	91	6	4 520	:	:	1 148	2 260	22	2 492	0	3	2	:
Purchases of goods and services (EUR million)	210	214	9	6 897	:	:	2 444	5 492	18	6 180	0	4	4	:
Gross investment in tangible goods (EUR million)	22	20	1	704	:	:	285	396	2	500	0	0	2	:
Number of persons employed (thousands)	2	9	0	91	:	:	28	55	1	54	0	0	1	:
App. labour productivity (EUR thous./pers. emp.) (2)	44.3	9.9	35.6	49.9	:	:	40.4	40.8	43.6	46.4	:	8.3	4.3	:
Average personnel costs (EUR thous./employee) (2)	35.5	7.5	27.5	40.4	:	:	27.1	32.1	23.0	29.7	:	3.3	3.3	:
Wage adjusted labour productivity (%) (2)	124.8	133.2	129.4	123.7	:	:	149.3	126.9	189.4	156.1	:	249.9	127.7	:
Gross operating rate (%) (2)	12.2	11.3	16.4	7.7	:	:	11.5	6.3	22.9	12.2	:	33.1	9.4	:

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	56	0	1 468	772	189	93	320	19	24	258	3 920	7	29	:
Value added at factor cost (EUR million)	17	0	458	300	57	32	55	9	11	104	1 701	2	10	:
Purchases of goods and services (EUR million)	42	0	1 078	529	125	64	257	12	13	154	2 198	5	28	:
Gross investment in tangible goods (EUR million)	4	0	44	56	4	11	6	8	2	13	150	1	4	:
Number of persons employed (thousands)	1	0	9	6	6	2	:	1	0	3	35	1	3	:
App. labour productivity (EUR thous./pers. emp.)	12.1	:	49.3	48.8	10.3	14.6	:	11.4	46.8	34.6	49.2	2.0	3.4	:
Average personnel costs (EUR thous./employee)	8.1	:	34.8	35.0	7.5	10.5	14.5	5.4	33.1	31.6	33.3	1.7	2.2	:
Wage adjusted labour productivity (%)	149.0	:	141.6	139.6	137.6	138.7	:	213.2	141.1	109.6	147.6	118.5	154.3	:
Gross operating rate (%)	9.6	:	8.7	13.1	8.7	14.7	4.7	24.8	18.6	10.9	14.8	6.9	11.0	:

(1) 2000.
(2) Ireland, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 9.15

Treatment and coating of metals; general mechanical engineering (NACE Group 28.5)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	2 577	861	1 139	13 455	28	:	5 652	14 454	85	18 492	11	6	:	416
Value added at factor cost (EUR million) (1)	948	354	573	6 911	9	:	2 509	6 469	48	8 106	6	3	:	59
Purchases of goods and services (EUR million)	1 631	656	0	6 566	20	:	3 277	8 066	38	10 419	8	4	:	356
Gross investment in tangible goods (EUR million)	213	83	88	1 147	2	:	403	831	6	1 525	1	0	:	:
Number of persons employed (thousands)	20	35	14	156	1	:	79	155	1	233	0	0	:	1
App. labour productivity (EUR thous./pers. emp.) (1)	47.1	10.0	41.9	44.4	7.3	:	31.7	41.9	33.8	34.7	22.1	7.7	:	56.9
Average personnel costs (EUR thous./employee) (2)	35.8	6.6	33.2	32.5	5.0	:	24.5	34.0	23.7	24.6	21.4	4.6	:	37.8
Wage adjusted labour productivity (%) (2)	131.6	151.0	126.1	136.6	144.7	:	129.1	123.2	142.4	141.1	96.5	165.1	:	150.5
Gross operating rate (%) (1)	12.3	19.1	15.5	17.0	10.2	:	12.8	8.9	15.9	20.3	16.9	18.0	:	5.1

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	260	3	2 515	925	1 858	786	264	159	1 353	2 986	10 287	28	26	:
Value added at factor cost (EUR million)	100	2	1 180	436	-648	278	94	60	645	1 329	5 798	10	11	:
Purchases of goods and services (EUR million)	191	1	1 396	545	411	521	154	111	721	1 857	4 667	20	19	:
Gross investment in tangible goods (EUR million)	22	0	131	80	45	59	8	15	129	261	589	3	16	:
Number of persons employed (thousands)	11	0	26	8	37	19	:	8	14	37	131	3	2	:
App. labour productivity (EUR thous./pers. emp.)	8.9	10.8	45.7	51.8	-17.8	14.5	:	7.6	45.9	35.8	44.4	3.1	5.1	:
Average personnel costs (EUR thous./employee)	5.4	9.3	33.1	33.3	6.4	12.1	10.4	4.6	31.5	31.9	32.2	1.8	2.6	:
Wage adjusted labour productivity (%)	165.0	115.5	138.1	155.7	-276.5	119.8	:	165.2	145.9	112.2	137.8	173.6	194.1	:
Gross operating rate (%)	13.9	27.2	16.8	17.4	-93.2	12.5	8.0	14.2	16.1	7.4	18.2	21.4	20.6	:

(1) Ireland, 2000.
(2) Ireland and Cyprus, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 9.16

Manufacture of cutlery, tools and general hardware (NACE Group 28.6)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	488	1 034	408	16 228	12	:	2 690	3 948	151	4 838	4	10	14	:
Value added at factor cost (EUR million) (2)	172	317	186	7 949	6	:	1 171	1 722	77	1 923	2	4	5	:
Purchases of goods and services (EUR million)	331	676	0	9 199	6	:	1 816	2 617	82	3 170	2	6	9	:
Gross investment in tangible goods (EUR million)	42	71	22	828	1	:	156	183	42	248	1	1	1	:
Number of persons employed (thousands)	4	48	4	148	1	:	32	40	2	43	0	1	1	:
App. labour productivity (EUR thous./pers. emp.) (2)	45.9	6.6	49.9	53.6	9.2	:	37.2	42.9	50.1	44.2	23.3	4.5	4.6	:
Average personnel costs (EUR thous./employee) (3)	37.9	7.0	36.3	41.0	6.6	:	26.8	33.4	29.4	28.9	15.9	2.9	4.0	:
Wage adjusted labour productivity (%) (3)	121.3	94.1	137.5	130.9	139.4	:	138.9	128.5	170.5	153.1	115.3	154.9	112.9	:
Gross operating rate (%) (2)	8.6	12.3	13.4	12.2	13.9	:	14.0	9.1	21.0	16.5	16.8	17.1	5.7	:

	HU	MT (1)	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	153	4	726	1 517	640	523	321	68	342	1 188	3 903	30	79	:
Value added at factor cost (EUR million)	62	1	343	794	95	197	120	24	193	601	2 194	12	35	:
Purchases of goods and services (EUR million)	118	2	442	819	295	348	187	49	159	712	2 202	24	65	:
Gross investment in tangible goods (EUR million)	16	0	37	141	21	50	34	5	24	73	211	3	6	:
Number of persons employed (thousands)	6	0	7	13	16	12	:	4	3	11	38	4	10	:
App. labour productivity (EUR thous./pers. emp.)	11.0	17.9	50.7	59.6	5.9	16.2	:	6.8	57.9	57.1	58.1	2.8	3.3	:
Average personnel costs (EUR thous./employee)	7.1	11.8	38.2	40.4	7.5	11.3	13.6	4.6	32.6	37.2	32.8	2.0	2.5	:
Wage adjusted labour productivity (%)	154.0	151.9	132.9	147.6	78.7	144.4	:	146.7	177.7	153.4	177.2	143.4	135.8	:
Gross operating rate (%)	12.2	14.2	12.0	17.2	-2.4	13.6	6.8	10.8	25.6	17.2	22.6	12.4	11.6	:

(1) 2000.
(2) Ireland, 2000.
(3) Ireland and Cyprus, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Table 9.17

Manufacture of other fabricated metal products (NACE Group 28.7)
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	1 367	985	1 587	19 306	58	:	5 497	8 552	383	18 490	33	59	44	109
Value added at factor cost (EUR million) (1)	399	239	681	7 941	20	:	1 917	2 812	176	6 221	15	23	15	50
Purchases of goods and services (EUR million)	1 069	790	0	12 633	42	:	3 853	6 244	247	12 722	27	45	30	60
Gross investment in tangible goods (EUR million)	56	68	93	801	3	:	260	263	29	974	3	6	4	:
Number of persons employed (thousands)	8	25	15	162	2	:	51	61	3	151	1	2	4	1
App. labour productivity (EUR thous./pers. emp.) (1)	49.3	9.6	45.7	49.2	7.9	:	37.9	45.9	44.1	41.3	23.0	9.1	3.9	49.8
Average personnel costs (EUR thous./employee) (2)	39.9	6.4	34.2	37.6	5.2	:	25.8	33.6	25.9	26.7	14.2	3.1	2.9	40.8
Wage adjusted labour productivity (%) (2)	123.4	150.5	133.5	130.6	152.8	:	146.8	136.5	170.6	154.6	156.4	293.4	135.9	122.1
Gross operating rate (%) (1)	6.9	8.6	11.4	10.1	12.1	:	11.9	8.4	17.3	16.5	13.8	25.2	9.7	8.4

	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	405	21	2 468	1 229	2 935	953	472	300	678	2 317	8 595	108	244	:
Value added at factor cost (EUR million)	133	12	766	513	189	321	135	84	284	899	3 728	17	73	:
Purchases of goods and services (EUR million)	307	10	1 996	854	1 383	671	355	232	414	1 516	5 203	103	236	:
Gross investment in tangible goods (EUR million)	48	2	105	119	111	94	21	31	45	119	320	10	25	:
Number of persons employed (thousands)	12	0	17	10	60	16	:	10	6	20	81	7	22	:
App. labour productivity (EUR thous./pers. emp.)	11.3	39.2	45.0	50.3	3.1	20.3	:	8.5	47.8	45.9	46.2	2.6	3.3	:
Average personnel costs (EUR thous./employee)	6.4	14.7	34.4	36.7	7.0	13.2	11.8	5.1	32.5	34.3	29.7	1.7	2.0	:
Wage adjusted labour productivity (%)	177.1	265.8	130.6	137.0	44.7	153.7	:	164.8	147.2	134.0	155.3	150.0	161.0	:
Gross operating rate (%)	13.5	38.9	8.2	11.8	-7.0	12.6	6.2	10.5	14.6	10.4	16.5	5.7	10.4	:

(1) Ireland, 2000.
(2) Ireland and Cyprus, 2000.
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).