

# European business

Facts and figures

Part 4:

Consumer goods and  
media

**Data 1998-2002**



EUROPEAN  
COMMISSION



THEME 4  
Industry, trade  
and services

4

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**European business,  
Facts & figures**

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## Guide to the publication

### CONTENTS OF THE PUBLICATION

European business aims to provide a standard set of information for industrial and service activities within the EU. The data provided in European business 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 <sup>(1)</sup>.

#### 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.

<sup>(1)</sup> 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\_I 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 Prodcorn, 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 statistics (SBS). These data have been collected within the legal framework provided by the SBS regulation<sup>(2)</sup>. 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<sup>(3)</sup> 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).

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

<sup>(3)</sup> 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)
<b>The Czech Republic</b>	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			
<b>Denmark</b>	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	
<b>Germany</b>	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
<b>Estonia</b>	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
<b>Greece</b>	No data available		Covers only enterprises with a turnover of 15 million GRD or more	
<b>Spain</b>	1995 to 1998: enterprises with 1 employee or more	No major deviations	1995 to 1998: enterprises with 1 employee or more	
<b>France</b>	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
<b>Ireland</b>	Enterprises with 3 persons employed or more 1995: Subsection DN includes Subsection DF	No data available	No major deviations	
<b>Italy</b>	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		
<b>Cyprus</b>	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 - O)
<b>The Czech Republic</b>	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			
<b>Germany</b>	1995 onwards: enterprises with 20 persons employed or more		No major deviations	
<b>Estonia</b>	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
<b>Spain</b>	1995 onwards: enterprises with 1 employee or more	No major deviations		
<b>France</b>	1995: enterprises with 20 employees or more		No major deviations	
<b>Ireland</b>	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
<b>Cyprus</b>	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			
<b>Hungary</b>	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	
<b>The Netherlands</b>	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+	
<b>Portugal</b>	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	
<b>Slovenia</b>	1995 to 1998: employment size classes are defined in terms of employees, and exclude enterprises with 0 employees			
<b>Slovakia</b>	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			
<b>Sweden</b>	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	
<b>The United Kingdom</b>	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 include 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 Sections C to F: social security costs	Is in fact the number of employees 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 <sup>(4)</sup>, 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.

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

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

## Guide to the publication

VCR	Videocassette Recorder
VHS	Video Home System

### Weights and measures

DWT	Dead-weight-tonnes
GRT	Gross Registered Tonnage
GW	Gigawatt (10 <sup>6</sup> kW)
Kg	Kilogram(s)
kgoe	Kilogram of oil equivalent
Km	Kilometre
Km <sup>2</sup>	Square kilometre
MW	Megawatt (10 <sup>3</sup> 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 <sup>9</sup> kW)
TWh	Terawatt per hour (10 <sup>9</sup> 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	Belgian 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 <sup>(1)</sup> 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.

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<sup>(1)</sup> 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 <sup>(2)</sup> that resulted out of the accession of the 10 new Member States in May 2004.

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<sup>(2)</sup> 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 <sup>(3)</sup> 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.

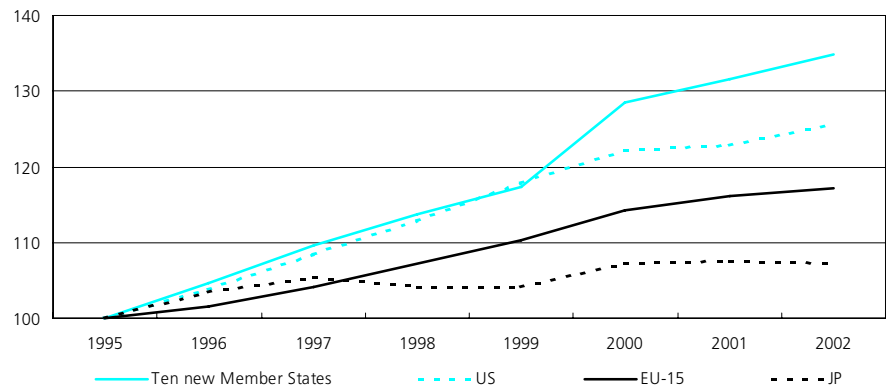
During the 1990s the new Member States faced two challenges: privatisation of existing production structures (which had formerly been publicly owned) and providing economic stimuli to encourage the creation of new enterprises. Privatisation programmes were initiated alongside investment liberalisation, 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 <sup>(4)</sup>. 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.

<sup>(3)</sup> Excluding Cyprus and Malta, and to a lesser degree Slovenia.

<sup>(4)</sup> 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).

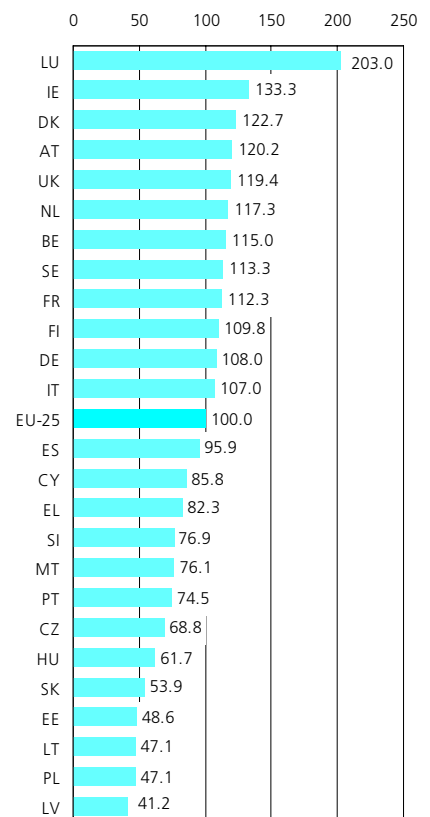
**GDP AND POPULATION**

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)**



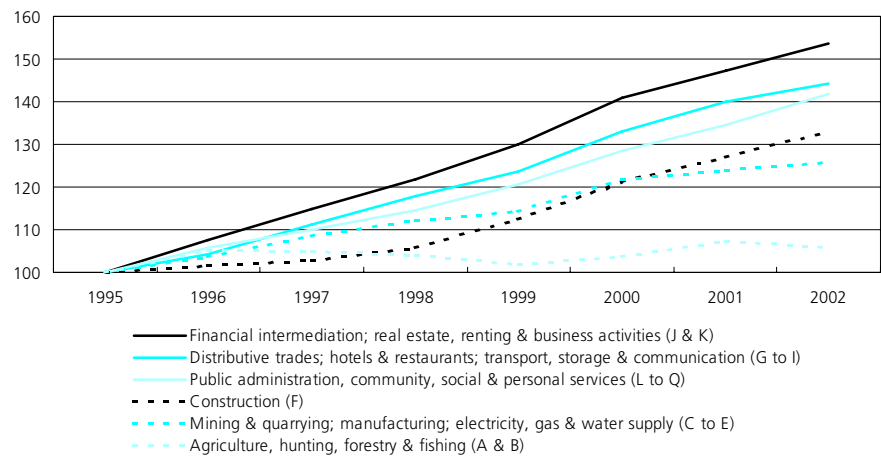
(1) At current market prices using PPS; estimates. Source: Eurostat, National Accounts - ESA95 - aggregates (theme2/aggs).

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 forecast 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**

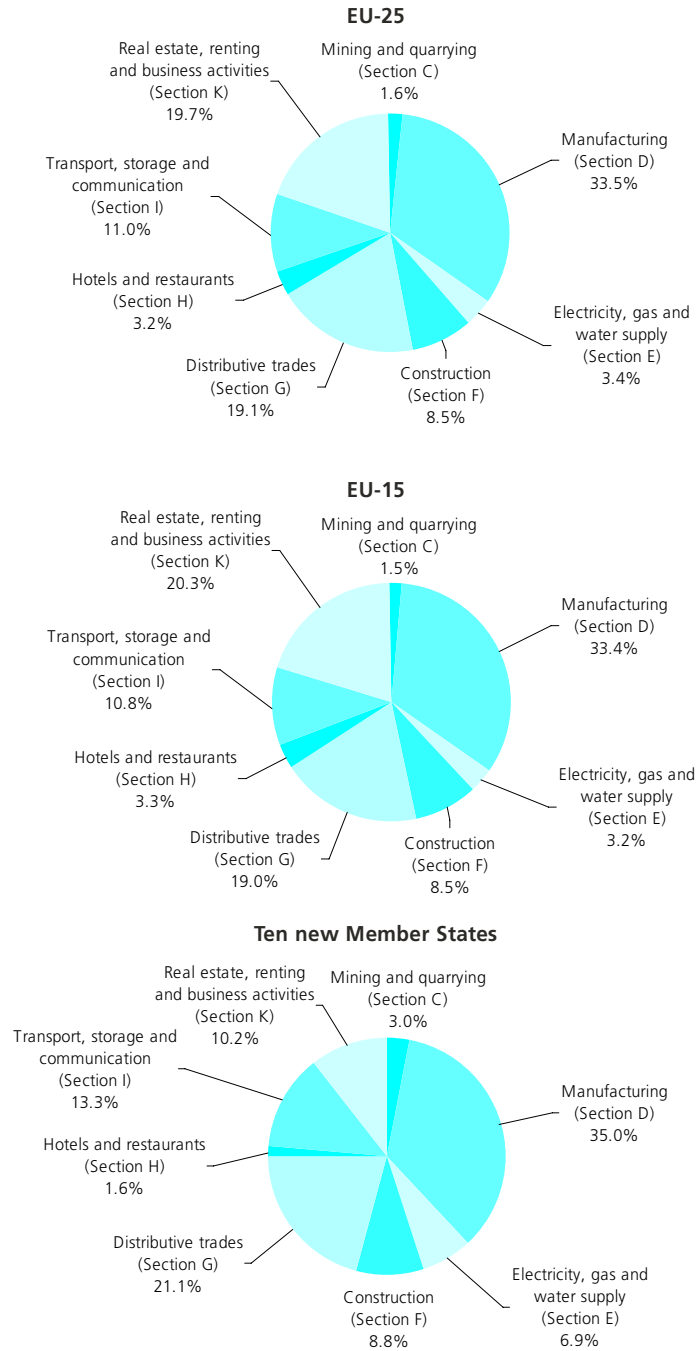
Value added in the EU-25's non-financial business economy (as defined by NACE Sections C to I and K) totalled EUR 4 585 billion in 2001. This figure could be broken down into EUR 4 341 billion among the EU-15 Member States (or 94.7 % of the EU-25 total) and EUR 244 billion among the 10 new Member States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

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

**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).

chemicals, basic metals and fabricated metal products, machinery and equipment, and transport equipment.

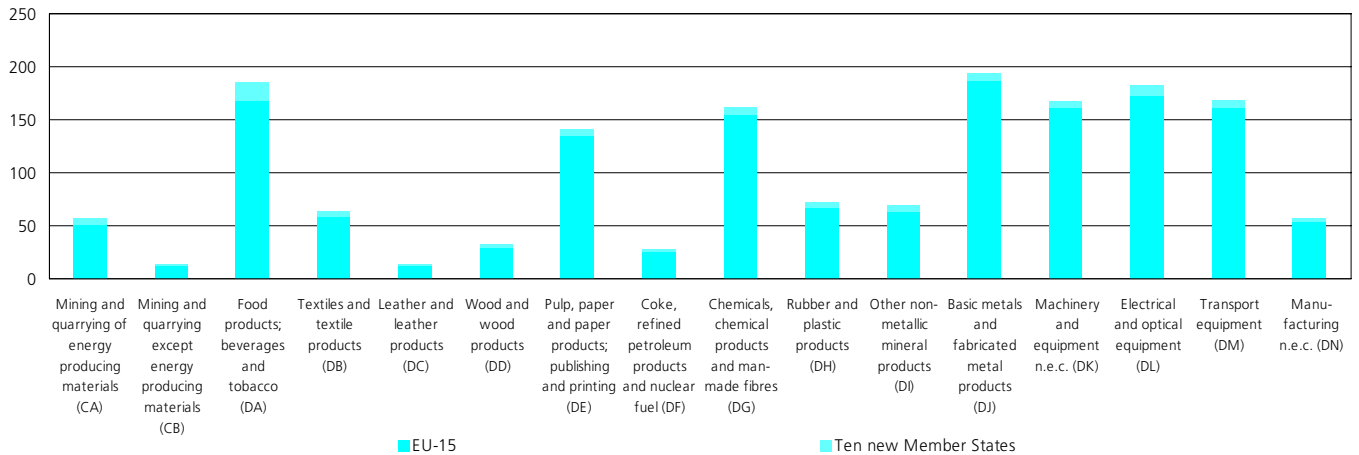
Although it did not generate the highest amount of value added in the EU-25 in 2001, the food products, beverages and tobacco sector was the largest single mining and manufacturing NACE subsection in 11 of the 25 Member States in 2001. There were six Member States where the basic metals and fabricated 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
<b>EU-25</b>	Basic metals and fabricated metal products	Food products; beverages and tobacco	Electrical and optical equipment
<b>BE</b>	Chemicals, chemical products and man-made fibres	Basic metals and fabricated metal products	Food products; beverages and tobacco
<b>CZ</b>	Basic metals and fabricated metal products	Transport equipment	Electrical and optical equipment
<b>DK (2)</b>	Food products; beverages and tobacco	Machinery and equipment n.e.c.	Electrical and optical equipment
<b>DE</b>	Transport equipment	Machinery and equipment n.e.c.	Electrical and optical equipment
<b>EE (2)</b>	Food products; beverages and tobacco	Textiles and textile products	Wood and wood products
<b>EL</b>	Food products; beverages and tobacco	Basic metals and fabricated metal products	Coke, refined petroleum products and nuclear fuel
<b>ES</b>	Food products; beverages and tobacco	Basic metals and fabricated metal products	Chemicals, chemical products and man-made fibres
<b>FR</b>	Food products; beverages and tobacco	Electrical and optical equipment	Transport equipment
<b>IE (3)</b>	Chemicals, chemical products and man-made fibres	Electrical and optical equipment	Food products; beverages and tobacco
<b>IT</b>	Basic metals and fabricated metal products	Machinery and equipment n.e.c.	Electrical and optical equipment
<b>CY</b>	Food products; beverages and tobacco	Other non-metallic mineral products	Pulp, paper and paper products; publishing and printing
<b>LV (4)</b>	Food products; beverages and tobacco	Wood and wood products	Textiles and textile products
<b>LT (2)</b>	Food products; beverages and tobacco	Textiles and textile products	Electrical and optical equipment
<b>LU</b>	Basic metals and fabricated metal products	Rubber and plastic products	Other non-metallic mineral products
<b>HU (2)</b>	Food products; beverages and tobacco	Electrical and optical equipment	Transport equipment
<b>MT (5)</b>	Electrical and optical equipment	Food products; beverages and tobacco	Textiles and textile products
<b>NL</b>	Food products; beverages and tobacco	Pulp, paper and paper products; publishing and printing	Chemicals, chemical products and man-made fibres
<b>AT (2)</b>	Basic metals and fabricated metal products	Electrical and optical equipment	Machinery and equipment n.e.c.
<b>PL (6)</b>	Electrical and optical equipment	Transport equipment	Machinery and equipment n.e.c.
<b>PT (7)</b>	Textiles and textile products	Food products; beverages and tobacco	Other non-metallic mineral products
<b>SI (2)</b>	Basic metals and fabricated metal products	Electrical and optical equipment	Chemicals, chemical products and man-made fibres
<b>SK (2)</b>	Basic metals and fabricated metal products	Transport equipment	Electrical and optical equipment
<b>FI</b>	Electrical and optical equipment	Pulp, paper and paper products; publishing and printing	Machinery and equipment n.e.c.
<b>SE</b>	Pulp, paper and paper products; publishing and printing	Transport equipment	Basic metals and fabricated metal products
<b>UK</b>	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.

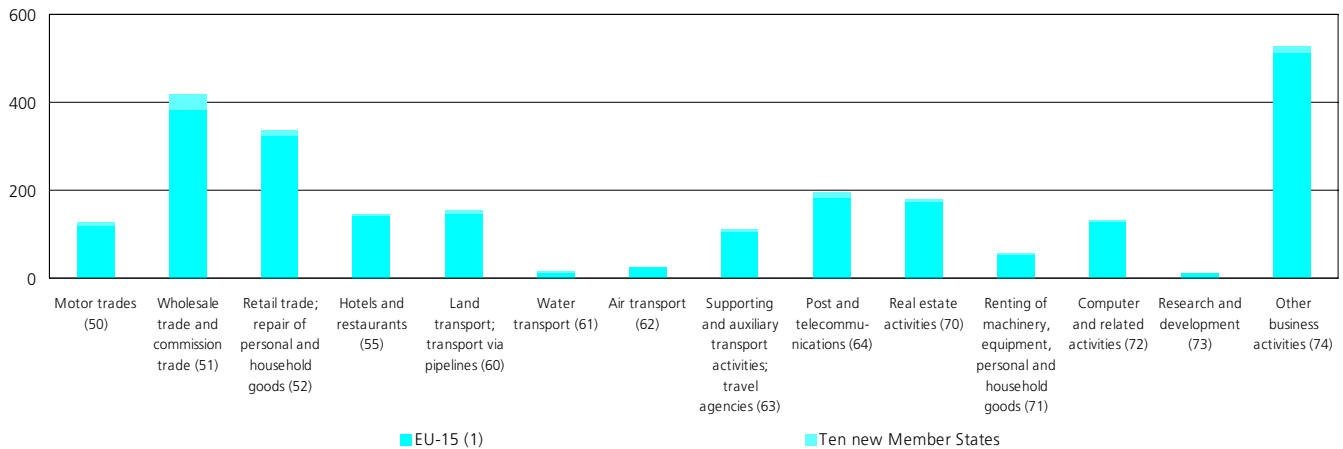
**Table 2**  
**Relative specialisation ratios for value added in the manufacturing sector, 2001 (1)**

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

Table 3

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

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

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.

(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)**

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

NACE label (NACE Section)	Value added				Employment			
	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)
<b>NON-FINANCIAL BUSINESS ECONOMY (Sections C to I and K)</b>	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 <sup>(6)</sup>.

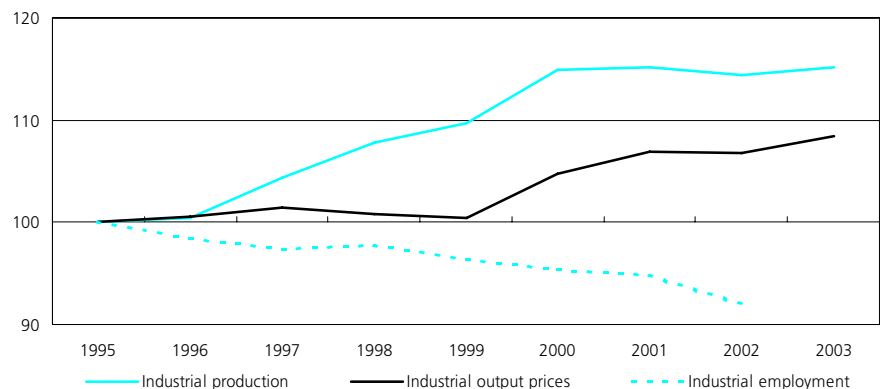
<sup>(6)</sup> The Czech Republic, Greece, Cyprus, Hungary, Malta, Austria and Slovakia, not available.

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
<b>TOTAL INDUSTRY (C-E)</b>	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
<b>Manufacturing (D)</b>	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
<b>Electricity, gas and water supply (E)</b>	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
<b>TOTAL INDUSTRY (C-E)</b>	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
<b>Manufacturing (D)</b>	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
<b>Electricity, gas and water supply (E)</b>	:	-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).

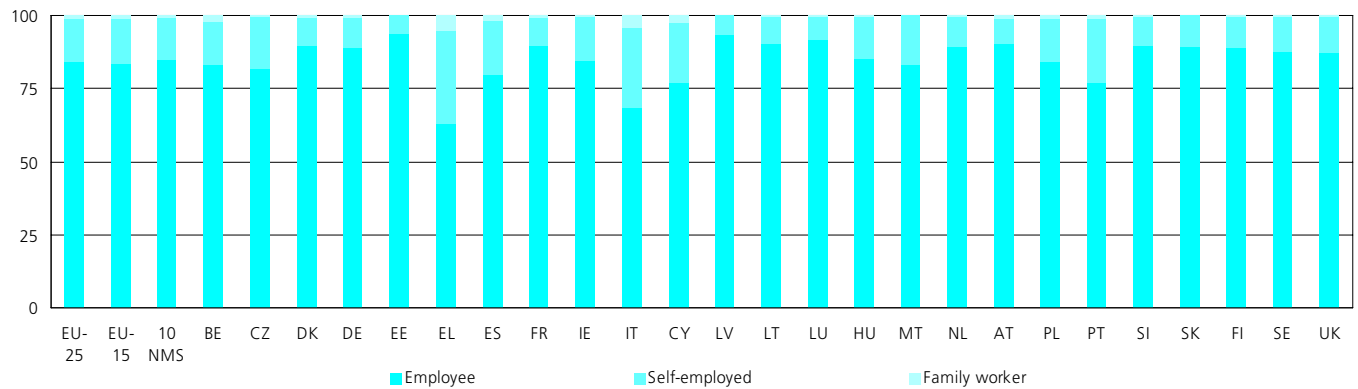
Lengthy time-series for annualised short-term statistics only exist for a limited number of service sectors, mainly within the area of distributive trades. These show that turnover in the EU-25 rose, on average, by 2.9 % per annum in the wholesale trade sector and by 3.4 % per annum in the hotels and 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

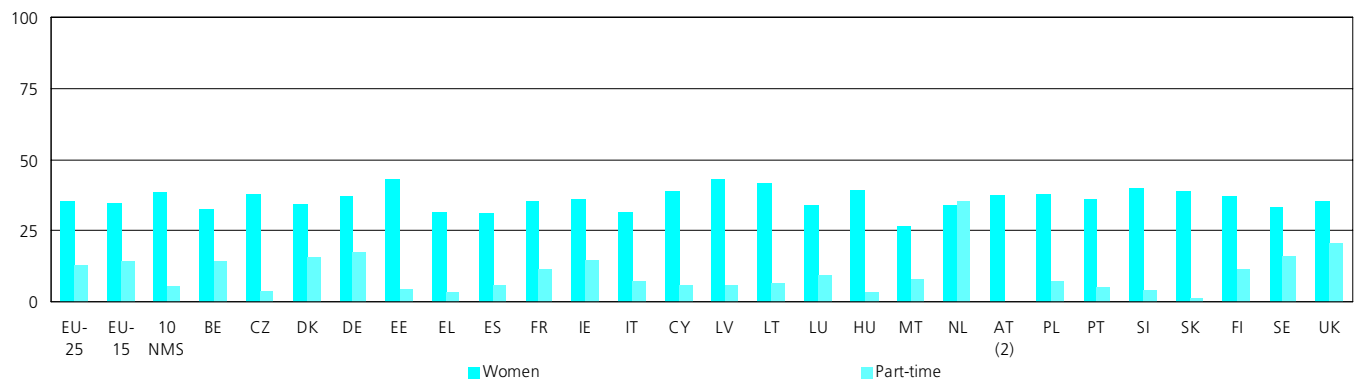
Labour force characteristics in the business economy (NACE Sections C to K) by employment status, 2002 (share of persons aged 15 or more) (%) (1)



(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 <sup>(7)</sup> 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 %).

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.

<sup>(7)</sup> Slovenia, number of employees; Cyprus, excluding NACE Section K; Malta, excluding NACE Section E.

**Table 9**  
**Number of persons employed in the non-financial business economy, 2001 (1)**

NACE label (NACE Section)	10																
	EU-25	EU-15	NMS	BE	CZ	DK	DE (2)	EE	EL (3)	ES	FR	IE (4)	IT	CY (5)			
<b>Non-financial business economy (C to I and K)</b>																	
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			
<b>Mining and quarrying; manufacturing; electricity, gas and water supply (C to E)</b>																	
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			
<b>Construction (F)</b>																	
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			
<b>Non-financial services (G to I and K)</b>																	
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			
<b>Non-financial business economy (C to I and K)</b>																	
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			
<b>Mining and quarrying; manufacturing; electricity, gas and water supply (C to E)</b>																	
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			
<b>Construction (F)</b>																	
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			
<b>Non-financial services (G to I and K)</b>																	
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.

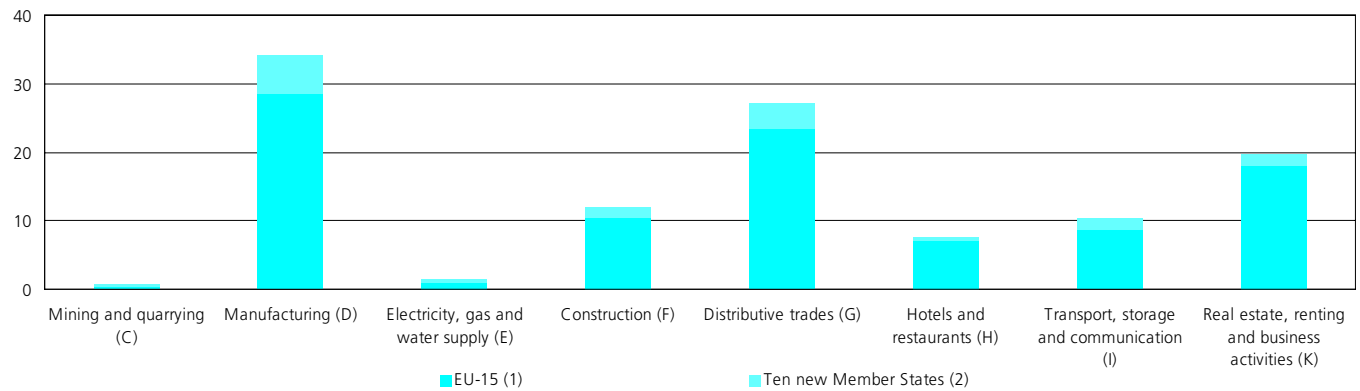
(5) NACE Section K, not available.

(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).

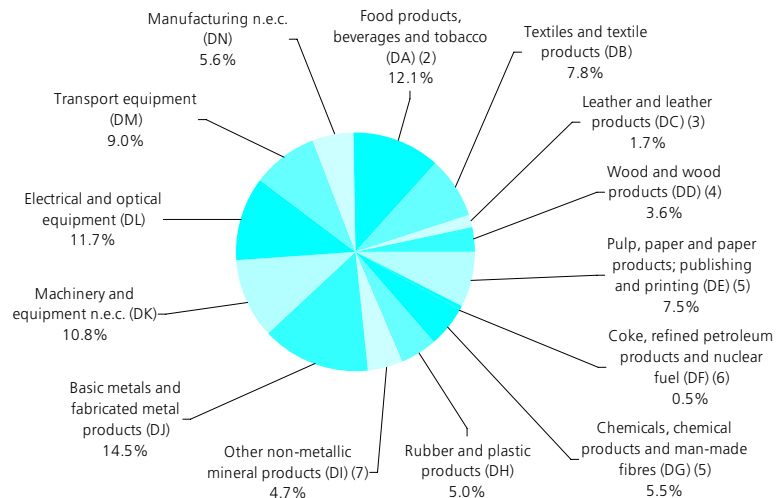
Figure 10 shows in more detail the breakdown of employment between the EU-15 and the 10 new Member States. The two NACE sections where the 10 new Member States had by far their highest share of total EU-25 employment were the activities of mining and quarrying (NACE Section C) and electricity, gas and 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

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).

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.

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

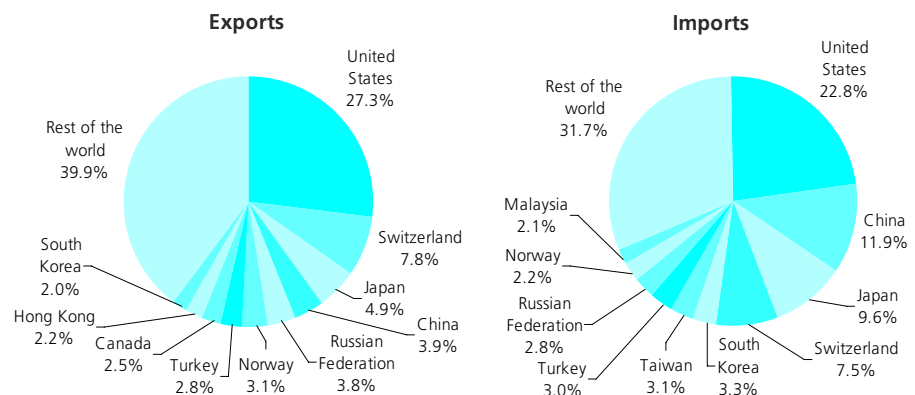
Figure 12 provides information concerning the most important destinations and origin of EU-25 exports and imports of manufactured goods (CPA Section D) in 2002. These figures cover extra-EU trade with non-Community countries and do not take account of trade flows between the Member States. EU-25 exports 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)**

CPA label (CPA Subsection)	EU-25		Ten new Member States	
	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 <sup>(8)</sup> 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).

<sup>(8)</sup> 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
<b>EU (2)</b>	:	8.4	8.5	8.3
<b>BE</b>	:	:	7.0	:
<b>DK</b>	10.1	10.9	10.0	9.3
<b>ES</b>	9.7	9.6	9.7	9.1
<b>IT</b>	11.4	7.6	7.8	7.7
<b>LU</b>	13.2	13.4	12.4	12.2
<b>NL</b>	:	9.6	9.4	9.6
<b>PT (3)</b>	9.5	8.0	7.6	7.5
<b>FI</b>	8.5	7.6	7.3	7.2
<b>SE</b>	:	6.3	7.0	6.6
<b>UK</b>	9.1	9.6	8.9	:
<b>NO</b>	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
<b>EU (2)</b>	:	7.2	7.0	7.3
<b>BE</b>	:	6.7	8.7	:
<b>DK</b>	8.1	8.3	8.1	9.7
<b>ES</b>	7.7	8.0	6.9	7.2
<b>IT</b>	9.3	6.5	7.1	7.0
<b>LU</b>	8.7	9.0	9.4	9.2
<b>NL</b>	:	7.7	8.1	10.2
<b>PT</b>	7.0	6.5	6.3	:
<b>FI</b>	6.7	8.0	6.8	7.3
<b>SE</b>	7.1	5.9	5.1	5.5
<b>UK</b>	9.7	10.5	10.4	10.6
<b>NO</b>	:	:	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
<b>EU (2)</b>	:	:	:	85.2	73.6
<b>BE</b>	:	:	:	:	:
<b>DK</b>	80.6	63.8	53.5	79.7	61.9
<b>ES</b>	82.8	69.3	61.6	80.6	70.1
<b>IT</b>	83.3	71.3	62.3	88.4	76.6
<b>LU</b>	89.4	77.2	66.2	89.3	77.2
<b>NL</b>	:	:	:	84.6	71.0
<b>PT</b>	94.1	71.6	:	95.9	:
<b>FI</b>	83.0	68.4	59.2	84.2	70.6
<b>SE</b>	:	:	:	98.7	89.3
<b>UK</b>	91.8	77.8	:	93.4	:
<b>NO</b>	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 <sup>(9)</sup> 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.

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 %) <sup>(10)</sup>. The supply of and the demand for web-based services generally increased with the average size of an enterprise (see Table 15).

<sup>(10)</sup> 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.

<sup>(9)</sup> 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).

**Table 15**  
**Proportion of enterprises using ICT (%)**

	EU (1)	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
<b>Proportion of enterprises using computers at the start of 2002</b>																
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
<b>Proportion of PC-equipped enterprises that used the Internet during 2001</b>																
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
<b>Enterprises using the Internet during 2001: proportion using the following Internet services</b>																
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	:
<b>Enterprises using the Internet during 2001: proportion with a web-site or homepage</b>																
	67	:	80	78	52	46	:	64	62	65	68	75	55	72	84	100
<b>Enterprises with a web-site or homepage in 2001: proportion offering the following Internet services</b>																
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
<b>Enterprises having used the Internet during 2001: proportion that purchased products via the Internet in 2001</b>																
<b>All sizes</b>	29	:	49	45	17	8	:	46	10	29	37	37	24	54	62	47
<b>SME</b>	29	:	48	45	16	8	:	45	10	29	37	36	24	53	62	47
<b>Large</b>	40	:	80	41	27	15	:	62	15	23	54	56	30	70	83	45
<b>Enterprises having used the Internet during 2001: proportion that received orders via the Internet in 2001</b>																
<b>All sizes</b>	14	:	25	19	14	3	:	26	5	15	40	25	11	17	14	19
<b>SME</b>	14	:	25	19	14	3	:	26	5	15	40	25	10	17	14	19
<b>Large</b>	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 %).

### 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 <sup>(11)</sup>. Results from the third Community innovation survey (CIS3) show that there were 233 200 enterprises with 10 or more employees within the business economy <sup>(12)</sup> 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).

<sup>(11)</sup> 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.

<sup>(12)</sup> 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 (%)
<b>Total</b>	546.8	100	100	100
<b>Enterprises with innovation activity</b>	233.2	43	45	39
<b>Successful innovators</b>	212.3	41	42	34
<b>Product only innovators</b>	58.3	10	10	12
<b>Process only innovators</b>	39.2	7	9	5
<b>Product and process innovators</b>	114.7	23	23	17
<b>Enterprises with only on-going and/or abandoned innovations</b>	31.7	3	5	6
<b>Enterprises without innovation activity</b>	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 <sup>(13)</sup> 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.

<sup>(13)</sup> 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
<b>All sizes</b>	45	39
<b>Small</b>	39	35
<b>Medium-sized</b>	61	51
<b>Large</b>	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.

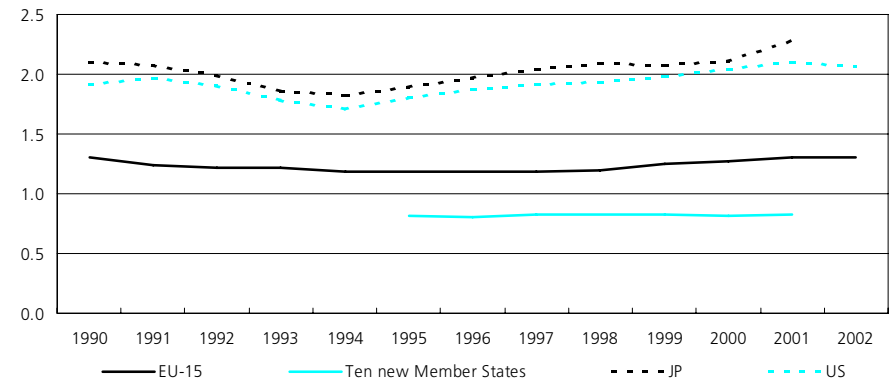
In 2002, R & D expenditure in the EU-15, relative to GDP, was 1.99 %; this was the same ratio that had been recorded in 1990. Within the EU-25, the ratio was slightly lower at 1.93 % in 2001. At the time of writing (spring 2004), there were only two Member States that had attained the Barcelona objectives, 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 % <sup>(14)</sup>.

<sup>(14)</sup> 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\_ccc/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
<b>Total R&amp;D expenditure</b>	182 387	5 515	744	4 265	51 539	37	:	6 227	33 414	1 339	:	25	38
<b>Of which:</b>													
<b>Business enterprise sector</b>	119 000	4 062	381	2 934	36 350	9	:	3 261	20 779	917	6 870	4	11
<b>Government sector</b>	23 949	331	331	503	6 923	22	:	989	5 664	128	2 657	16	16
<b>Higher education sector</b>	38 197	1 059	4	796	8 266	1	:	1 925	6 506	294	:	0	:
<b>Private non-profit sector</b>	1 240	62	5	32	:	1	:	52	465	:	:	1	:
	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK
<b>Total R&amp;D expenditure</b>	73	:	405	:	8 090	4 217	1 197	1 038	297	143	4 873	10 459	30 501
<b>Of which:</b>													
<b>Business enterprise sector</b>	:	:	153	:	4 712	:	390	330	159	78	3 447	8 118	19 683
<b>Government sector</b>	:	33	201	:	1 194	:	759	216	119	61	521	297	3 683
<b>Higher education sector</b>	:	2	:	:	2 184	:	20	381	1	1	905	2 033	6 724
<b>Private non-profit sector</b>	:	:	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\_ccc/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
<b>Total number of patent applications (units)</b>							
<b>EU-25</b>	34 487	36 465	43 230	49 084	53 301	60 328	61 458
<b>EU-15</b>	34 205	36 180	42 894	48 671	52 896	59 754	60 890
<b>10 NMS (1)</b>	282	284	337	414	405	574	568
<b>JP</b>	11 084	12 641	14 342	15 500	16 649	20 250	22 226
<b>US</b>	25 246	28 130	31 225	35 035	38 552	45 778	47 202
<b>Patent applications per million inhabitants (units)</b>							
<b>EU-25</b>	77.2	81.4	96.3	109.2	118.3	133.6	135.7
<b>EU-15</b>	92.1	97.1	114.8	130.0	141.0	158.7	161.1
<b>10 NMS (1)</b>	3.7	3.8	4.5	5.5	5.4	7.7	7.6
<b>JP</b>	88.3	100.7	115.1	122.9	131.7	159.5	174.7
<b>US</b>	96.5	106.5	117.2	130.2	141.9	166.2	169.8
<b>High-technology patent applications (units)</b>							
<b>EU-25</b>	3 902	4 385	5 695	7 321	8 759	11 126	12 017
<b>EU-15</b>	3 880	4 367	5 674	7 281	8 718	11 048	11 928
<b>10 NMS (1)</b>	23	18	21	39	42	78	89
<b>JP</b>	2 464	2 787	3 361	3 678	4 096	5 085	5 707
<b>US</b>	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
<b>Proportion of enterprises providing training</b>	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
<b>Proportion of enterprises providing training (breakdown by enterprise size-class)</b>													
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
<b>Proportion of enterprises providing training</b>	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
<b>Proportion of enterprises providing training (breakdown by enterprise size-class)</b>													
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 <sup>(15)</sup> 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 underperforming 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).

<sup>(15)</sup> *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
<b>BEF/LUF</b>	40.4713	39.6565	38.5519	39.2986	40.5332	40.6207	40.3399	40.3399	40.3399	-	-
<b>CZK</b>	34.1690	34.1509	34.6960	34.4572	35.9304	36.3196	36.8843	35.5995	34.0680	30.8040	31.8460
<b>DKK</b>	7.59359	7.54328	7.32804	7.35934	7.48361	7.49930	7.43556	7.45382	7.45210	7.43050	7.43070
<b>DEM</b>	1.93639	1.92453	1.87375	1.90954	1.96438	1.96913	1.95583	1.95583	1.95583	-	-
<b>EEK</b>	15.4911	15.3962	14.9900	15.2763	15.7150	15.7530	15.6466	15.6466	15.6466	15.6466	15.6466
<b>GRD</b>	268.568	288.026	302.989	305.546	309.355	330.731	325.820	336.678	340.750	-	-
<b>ESP</b>	149.124	158.918	163.000	160.748	165.887	167.184	166.386	166.386	166.386	-	-
<b>FRF</b>	6.63368	6.58262	6.52506	6.49300	6.61260	6.60141	6.55957	6.55957	6.55957	-	-
<b>IEP</b>	0.799952	0.793618	0.815525	0.793448	0.747516	0.786245	0.787564	0.787564	0.787564	-	-
<b>ITL</b>	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	-	-
<b>CYP</b>	0.582941	0.583931	0.591619	0.591904	0.582628	0.577418	0.578850	0.573924	0.575890	0.575300	0.584090
<b>LVL</b>	0.793600	0.664101	0.689537	0.699605	0.659401	0.660240	0.625601	0.559227	3.582300	3.459400	3.452700
<b>LTL</b>	5.08682	4.73191	5.23203	5.07899	4.53616	4.48437	4.26405	3.69516	0.56010	0.58100	0.64070
<b>HUF</b>	107.611	125.030	164.545	193.741	211.654	240.573	252.767	260.045	256.590	242.960	253.620
<b>MTL</b>	0.447021	0.448852	0.461431	0.458156	0.437495	0.434983	0.425773	0.404138	0.403000	0.408900	0.426100
<b>NLG</b>	2.17521	2.15827	2.09891	2.13973	2.21081	2.21967	2.20371	2.20371	2.20371	-	-
<b>ATS</b>	13.6238	13.5396	13.1824	13.4345	13.8240	13.8545	13.7603	13.7603	13.7603	-	-
<b>PLN</b>	2.12217	2.70153	3.17049	3.42232	3.71545	3.91784	4.22741	4.00817	3.67210	3.85740	4.39960
<b>PTE</b>	188.370	196.896	196.105	195.761	198.589	201.695	200.482	200.482	200.482	-	-
<b>SIT</b>	132.486	152.766	154.880	171.778	180.996	185.958	194.473	206.613	43.300	42.694	41.489
<b>SKK</b>	36.0317	38.1182	38.8649	38.9229	38.1061	39.5407	44.1229	42.6017	217.9797	225.9772	233.8493
<b>FIM</b>	6.69628	6.19077	5.70855	5.82817	5.88064	5.98251	5.94573	5.94573	5.94573	-	-
<b>SEK</b>	9.12151	9.16308	9.33192	8.51472	8.65117	8.91593	8.80752	8.44519	9.25510	9.16110	9.12420
<b>GBP</b>	0.779988	0.775903	0.828789	0.813798	0.692304	0.676434	0.658735	0.609478	0.621870	0.628830	0.691990
<b>BGN</b>	0.03231	0.06439	0.08787	0.22515	1.90157	1.96913	1.95584	1.94792	1.94820	1.94920	1.94900
<b>ROL</b>	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
<b>TRL</b>	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
<b>JPY</b>	130.148	121.322	123.012	138.084	137.077	146.415	121.317	99.475	108.680	118.060	130.970
<b>USD</b>	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
<b>EU-15</b>	368 935	370 323	371 442	372 476	373 487	374 345	375 277	376 482	:	:	:
<b>BE</b>	10 068	10 101	10 131	10 143	10 170	10 192	10 214	10 239	10 263	10 310	10 356
<b>CZ</b>	10 326	10 334	10 333	10 321	10 309	10 299	10 290	10 278	10 267	10 206	10 203
<b>DK</b>	5 181	5 197	5 216	5 251	5 275	5 295	5 314	5 330	5 349	5 368	5 384
<b>DE</b>	80 975	81 338	81 539	81 817	82 012	82 057	82 037	82 163	82 260	82 440	82 537
<b>EE</b>	1 527	1 507	1 492	1 476	1 462	1 454	1 446	1 372	1 367	1 361	1 356
<b>EL</b>	10 349	10 410	10 443	10 465	10 487	10 511	10 522	10 554	:	:	:
<b>ES</b>	39 057	39 136	39 197	39 249	39 308	39 388	39 519	39 733	40 122	40 409	:
<b>FR</b>	57 369	57 565	57 753	57 936	58 116	58 299	58 497	58 749	59 043	59 342	59 630
<b>IE</b>	3 569	3 583	3 598	3 620	3 652	3 694	3 735	3 777	3 826	3 900	3 964
<b>IT</b>	56 960	57 138	57 269	57 333	57 461	57 563	57 613	57 680	57 844	:	:
<b>CY</b>	714	723	730	736	741	746	752	755	698	706	715
<b>LV</b>	2 606	2 566	2 530	2 502	2 480	2 458	2 439	2 380	2 364	2 346	2 331
<b>LT</b>	3 736	3 724	3 718	3 712	3 707	3 704	3 701	3 699	3 487	3 476	3 463
<b>LU</b>	395	401	407	413	418	424	429	436	440	444	448
<b>HU</b>	10 310	10 277	10 246	10 212	10 174	10 135	10 092	10 043	10 200	10 175	10 142
<b>MT</b>	363	366	369	371	374	377	379	380	391	395	:
<b>NL</b>	15 239	15 342	15 424	15 494	15 567	15 654	15 760	15 864	15 987	16 105	16 193
<b>AT</b>	7 962	8 015	8 040	8 055	8 068	8 075	8 083	8 103	8 021	8 039	8 067
<b>PL</b>	38 418	38 505	38 581	38 609	38 639	38 660	38 667	38 654	38 644	38 632	38 219
<b>PT</b>	9 965	9 983	10 013	10 041	10 070	10 108	10 150	10 198	10 263	10 329	10 407
<b>SI</b>	1 994	1 989	1 989	1 990	1 987	1 985	1 978	1 988	1 990	1 994	1 995
<b>SK</b>	5 314	5 336	5 356	5 368	5 379	5 388	5 393	5 399	5 379	5 379	5 379
<b>FI</b>	5 055	5 078	5 099	5 117	5 132	5 147	5 160	5 171	5 181	5 195	5 206
<b>SE</b>	8 692	8 745	8 816	8 837	8 844	8 848	8 854	8 861	8 883	8 909	8 941
<b>UK</b>	58 099	58 293	58 500	58 704	58 905	59 090	59 391	59 623	59 863	:	:
<b>BG</b>	8 485	8 460	8 427	8 385	8 341	8 283	8 230	8 191	7 929	7 892	7 846
<b>RO</b>	22 779	22 748	22 712	22 656	22 582	22 526	22 489	22 455	22 430	21 833	21 773
<b>TR</b>	:	:	:	:	:	:	:	:	:	:	:

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)
<b>EU-15</b>	-0.4	2.8	2.4	1.6	2.5	2.9	2.8	3.4	1.5	1.0	0.7
<b>BE</b>	-1.0	3.2	2.4	1.2	3.6	2.0	3.2	3.7	0.8	0.7	0.8
<b>CZ</b>	0.1	2.2	5.9	4.3	-0.8	-1.0	0.5	3.3	3.3	2.0	2.9
<b>DK</b>	0.0	5.5	2.8	2.5	3.0	2.5	2.3	3.0	1.0	1.0	0.0
<b>DE</b>	-1.1	2.3	1.7	0.8	1.4	2.0	2.0	2.9	0.6	0.2	-0.1
<b>EE</b>	:	-2.0	4.3	3.9	9.8	4.6	-0.6	7.1	5.0	6.0	4.8
<b>EL</b>	-1.6	2.0	2.1	2.4	3.6	3.4	3.6	4.2	4.1	3.9	4.7
<b>ES</b>	-1.0	2.4	2.8	2.4	4.0	4.3	4.2	4.2	2.7	2.0	2.4
<b>FR</b>	-0.9	2.1	1.7	1.1	1.9	3.4	3.2	3.8	1.8	1.2	0.2
<b>IE</b>	2.7	5.8	9.9	8.1	10.9	8.8	11.1	10.0	5.7	6.9	1.2
<b>IT</b>	-0.9	2.2	2.9	1.1	2.0	1.8	1.6	2.9	1.8	0.4	0.3
<b>CY</b>	0.7	5.9	6.2	1.9	2.5	5.0	4.8	5.2	4.1	2.0	2.0
<b>LV</b>	-14.9	0.6	-1.6	3.7	8.4	4.8	2.8	6.8	7.7	6.1	7.4
<b>LT</b>	-16.2	-9.8	3.3	4.7	7.3	5.1	-3.9	3.8	5.9	6.8	8.9
<b>LU</b>	4.2	3.8	1.3	3.7	7.7	7.5	6.0	8.9	1.0	1.3	1.8
<b>HU</b>	:	:	1.5	1.3	4.6	4.9	4.2	5.2	3.7	3.5	2.9
<b>MT</b>	4.5	5.7	6.2	4.0	4.9	3.4	4.1	4.8	-0.4	1.7	0.4
<b>NL</b>	0.9	2.6	3.0	3.0	3.8	4.3	4.0	3.3	1.3	0.2	-0.8
<b>AT</b>	0.4	2.6	1.6	2.0	1.6	3.9	2.7	3.5	0.7	1.4	0.7
<b>PL</b>	:	:	:	6.0	6.8	4.8	4.1	4.0	1.1	1.4	3.7
<b>PT</b>	-2.0	1.0	4.3	3.5	3.9	4.5	3.5	3.5	1.7	0.4	-1.3
<b>SI</b>	2.8	5.3	4.1	3.5	4.6	3.8	5.2	4.6	3.0	2.9	2.3
<b>SK</b>	:	5.2	6.5	5.8	5.6	4.0	1.3	2.2	3.3	4.4	4.2
<b>FI</b>	-1.1	4.0	3.8	4.0	6.3	5.3	4.1	6.1	0.7	2.3	1.9
<b>SE</b>	-1.8	4.1	3.7	1.1	2.1	3.6	4.5	3.6	1.2	2.1	1.6
<b>UK</b>	2.5	4.7	2.9	2.6	3.4	2.9	2.4	3.1	2.0	1.6	2.2
<b>BG</b>	-1.5	1.8	2.9	-9.4	-5.6	4.0	2.3	5.4	4.0	4.8	4.3
<b>RO</b>	1.5	3.9	7.1	3.9	-6.1	-4.8	-1.2	1.8	5.3	4.9	4.9
<b>TR</b>	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
<b>Total (A to Q)</b>	-0.3	2.5	2.4	1.7	2.5	3.0	2.7	3.7	1.8	1.1
<b>Agriculture, hunting, forestry and fishing (A &amp; B)</b>	-0.6	-0.5	2.2	4.1	0.5	1.7	2.6	-0.9	-2.0	-0.1
<b>Mining &amp; quarrying; manufacturing; electricity, gas &amp; water supply (C to E)</b>	-3.5	4.3	3.1	0.0	3.0	3.0	1.1	3.8	0.6	0.4
<b>Construction (F)</b>	-4.1	2.2	0.0	-1.1	-1.3	0.8	2.4	2.3	-0.1	0.1
<b>Distributive trades; hotels &amp; restaurants; transport, storage &amp; comm. (G to I)</b>	0.1	2.7	2.2	1.6	3.4	4.0	4.6	4.9	2.8	1.5
<b>Financial intermediation; real estate, renting &amp; business activities (J &amp; K)</b>	1.9	1.9	3.5	3.7	3.7	4.1	3.7	4.6	3.0	2.0
<b>Public administration, community, social &amp; personal services (L to Q)</b>	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
<b>EU-15</b>	8.3	8.5	8.9	7.5	6.3	4.9	4.7	5.4	5.0	4.9	4.2
<b>BE</b>	7.2	7.8	7.5	6.5	5.8	4.8	4.8	5.6	5.1	5.0	4.2
<b>DK</b>	7.3	7.8	8.3	7.2	6.3	4.9	4.9	5.6	5.1	5.1	4.3
<b>DE</b>	6.5	6.9	6.9	6.2	5.6	4.6	4.5	5.3	4.8	4.8	4.1
<b>EL</b>	23.3	20.7	17.0	14.5	9.9	8.5	6.3	6.1	5.3	5.1	4.3
<b>ES</b>	10.2	10.0	11.3	8.7	6.4	4.8	4.7	5.5	5.1	5.0	4.1
<b>FR</b>	6.8	7.2	7.5	6.3	5.6	4.6	4.6	5.4	4.9	4.9	4.1
<b>IE</b>	7.7	7.9	8.3	7.3	6.3	4.8	4.7	5.5	5.0	5.0	4.1
<b>IT</b>	11.2	10.5	12.2	9.4	6.9	4.9	4.7	5.6	5.2	5.0	4.3
<b>LU</b>	6.9	7.2	7.2	6.3	5.6	4.7	4.7	5.5	4.9	4.7	3.3
<b>NL</b>	6.4	6.9	6.9	6.2	5.6	4.6	4.6	5.4	5.0	4.9	4.1
<b>AT</b>	6.7	7.0	7.1	6.3	5.7	4.7	4.7	5.6	5.1	5.0	4.2
<b>PT</b>	11.2	10.5	11.5	8.6	6.4	4.9	4.8	5.6	5.2	5.0	4.2
<b>FI</b>	8.8	9.1	8.8	7.1	6.0	4.8	4.7	5.5	5.0	5.0	4.1
<b>SE</b>	8.5	9.7	10.2	8.0	6.6	5.0	5.0	5.4	5.1	5.3	4.6
<b>UK</b>	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
<b>EU-15</b>	3.4	2.8	2.8	2.4	1.7	1.3	1.2	2.1	2.2	2.1	2.0
<b>BE</b>	2.5	2.4	1.3	1.8	1.5	0.9	1.1	2.7	2.4	1.6	1.5
<b>CZ</b>	:	:	:	9.1	8.0	9.7	1.8	3.9	4.5	1.4	-0.1
<b>DK</b>	0.9	1.8	2.0	2.1	1.9	1.3	2.1	2.7	2.3	2.4	2.0
<b>DE</b>	:	:	:	1.2	1.5	0.6	0.6	2.1	1.9	1.3	1.0
<b>EE</b>	:	:	:	19.8	9.3	8.8	3.1	3.9	5.6	3.6	1.4
<b>EL</b>	:	:	:	7.9	5.4	4.5	2.1	2.9	3.7	3.9	3.4
<b>ES</b>	4.9	4.6	4.6	3.6	1.9	1.8	2.2	3.5	2.8	3.6	3.1
<b>FR</b>	2.2	1.7	1.8	2.1	1.3	0.7	0.6	1.8	1.8	1.9	2.2
<b>IE</b>	:	:	:	2.2	1.2	2.1	2.5	5.3	4.0	4.7	4.0
<b>IT</b>	4.5	4.2	5.4	4.0	1.9	2.0	1.7	2.6	2.3	2.6	2.8
<b>CY</b>	:	:	:	:	3.3	2.3	1.1	4.9	2.0	2.8	4.0
<b>LV</b>	:	:	:	:	8.1	4.3	2.1	2.6	2.5	2.0	2.9
<b>LT</b>	:	:	:	24.7	8.8	5.0	0.7	0.9	1.3	0.4	-1.1
<b>LU</b>	:	:	:	1.2	1.4	1.0	1.0	3.8	2.4	2.1	2.5
<b>HU</b>	:	:	:	23.5	18.5	14.2	10.0	10.0	9.1	5.2	4.7
<b>MT</b>	:	:	:	:	:	:	:	:	:	:	:
<b>NL</b>	1.6	2.1	1.4	1.4	1.9	1.8	2.0	2.3	5.1	3.9	2.2
<b>AT</b>	3.2	2.7	1.6	1.8	1.2	0.8	0.5	2.0	2.3	1.7	1.3
<b>PL</b>	:	:	:	:	15.0	11.8	7.2	10.1	5.3	1.9	0.7
<b>PT</b>	5.9	5.0	4.0	2.9	1.9	2.2	2.2	2.8	4.4	3.7	3.3
<b>SI</b>	:	:	:	9.9	8.3	7.9	6.1	8.9	8.6	7.5	5.7
<b>SK</b>	:	:	:	5.8	6.0	6.7	10.4	12.2	7.2	3.5	8.5
<b>FI</b>	3.3	1.6	0.4	1.1	1.2	1.4	1.3	3.0	2.7	2.0	1.3
<b>SE</b>	4.8	2.9	2.7	0.8	1.8	1.0	0.6	1.3	2.7	2.0	2.3
<b>UK</b>	2.5	2.0	2.7	2.5	1.8	1.6	1.3	0.8	1.2	1.3	1.4
<b>BG</b>	:	:	:	:	:	18.7	2.6	10.3	7.4	5.8	2.3
<b>RO</b>	:	:	:	38.8	154.9	59.1	45.8	45.7	34.5	22.5	15.3
<b>TR</b>	:	:	:	:	:	:	:	:	:	:	:

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

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>EU-15</b>	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3
<b>BE</b>	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.6
<b>DK</b>	1.0	:	1.1	1.1	1.2	1.3	1.3	1.5	1.7	:
<b>DE</b>	1.6	1.5	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.7
<b>EL</b>	0.1	:	0.1	0.1	0.1	:	0.2	:	:	:
<b>ES</b>	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	:
<b>FR</b>	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
<b>IE</b>	0.8	0.9	1.0	0.9	0.9	0.9	0.9	0.8	0.8	:
<b>IT</b>	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	:
<b>LU</b>	:	:	:	:	:	:	:	1.6	:	:
<b>NL</b>	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	:
<b>AT</b>	0.8	:	:	:	:	1.1	:	:	:	:
<b>PT</b>	:	:	0.1	:	0.1	:	0.2	:	0.3	:
<b>FI</b>	1.4	1.5	1.4	1.7	1.8	2.0	2.2	2.4	2.4	2.5
<b>SE</b>	2.2	:	2.5	:	2.7	2.8	2.8	:	3.3	:
<b>UK</b>	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&amp;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
<b>EU-15</b>	-24.8	-3.6	-1.8	-14.5	-2.9	-2.7	-8.0	3.3	-10.1	-11.6	-11.1
<b>BE</b>	-28.8	-6.3	-9.1	-17.8	-2.9	-7.8	-8.6	1.9	-14.0	-11.9	-15.0
<b>CZ</b>	:	-7.2	2.9	-0.8	3.8	-8.7	-10.5	15.3	3.0	-0.5	2.8
<b>DK</b>	-9.5	12.5	5.4	-8.7	5.5	-0.8	-12.9	5.7	-1.7	-4.0	-6.4
<b>DE</b>	-31.6	-10.3	-6.5	-19.8	-7.4	-4.3	-13.4	-2.6	-16.2	-18.3	-16.8
<b>EE</b>	-4.1	8.1	7.2	-2.8	6.7	7.9	-7.5	3.5	9.7	13.5	11.2
<b>EL</b>	-6.0	-0.1	3.8	-2.4	3.6	4.3	1.3	8.8	4.3	3.1	-0.4
<b>ES</b>	-34.8	-8.7	-3.3	-14.4	-1.4	1.4	-3.1	3.2	-4.2	-5.7	-0.9
<b>FR</b>	-34.4	-3.3	-2.3	-17.5	-5.3	5.3	-2.2	11.8	-4.0	-9.2	-8.6
<b>IE</b>	-12.8	2.5	7.1	-1.1	3.3	3.2	5.0	9.8	-7.7	-7.2	-8.8
<b>IT</b>	-16.4	2.8	5.7	-12.5	1.0	-0.8	-2.8	11.8	-4.3	-3.5	-3.9
<b>CY</b>	:	:	:	:	:	:	:	:	0.3	1.9	1.3
<b>LV</b>	:	-23.1	-18.3	-18.8	-12.3	-15.7	-17.3	-9.0	-1.8	1.1	3.8
<b>LT</b>	:	-25.8	-6.9	-16.3	-17.8	-22.7	-26.0	-14.9	-7.6	-8.8	-10.2
<b>LU</b>	-25.0	-7.7	9.7	-22.0	4.2	6.7	-11.0	5.3	-15.5	-22.5	-16.9
<b>HU</b>	:	:	:	-2.1	4.3	0.8	-6.9	2.3	-4.3	-6.8	-6.4
<b>MT</b>	:	:	:	:	:	:	:	:	:	:	:
<b>NL</b>	-10.3	-0.9	1.5	-2.4	2.5	1.7	-0.4	4.1	-3.5	-4.8	-8.3
<b>AT</b>	-27.2	-7.5	-12.2	-23.9	-9.5	-8.6	-13.8	-2.8	-13.3	-15.8	-11.0
<b>PL</b>	:	:	:	:	:	-14.6	-20.0	-13.2	-21.8	-20.0	-13.2
<b>PT</b>	-24.8	-3.9	-3.9	-9.6	0.4	2.2	-4.3	2.1	-5.8	-12.0	-15.9
<b>SI</b>	:	:	:	-11.7	-0.1	-3.8	-8.5	7.0	-2.3	-4.6	-4.4
<b>SK</b>	2.8	4.5	1.6	2.7	1.6	6.4	-3.0	9.5	6.7	5.3	6.4
<b>FI</b>	-4.5	18.2	7.8	-11.3	11.2	2.0	-3.8	17.4	-6.8	-5.7	-5.8
<b>SE</b>	:	:	:	:	-0.9	3.1	-7.1	10.8	-18.7	-13.1	-6.8
<b>UK</b>	-10.9	1.8	2.6	-5.1	-1.4	-15.5	-14.3	-6.6	-15.6	-14.6	-17.2
<b>BG</b>	:	:	:	:	:	:	:	:	:	:	:
<b>RO</b>	:	:	:	:	:	:	:	:	:	:	:
<b>TR</b>	:	:	:	:	:	:	:	:	:	:	:

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

(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
<b>Number of persons employed (thousands)</b>															
<b>Total</b>	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
<b>Male</b>	43 914	839	1 289	558	9 087	171	753	3 537	5 182	423	4 640	83	237	322	40
<b>Female</b>	81 073	1 737	2 127	1 077	15 444	227	1 649	7 799	9 534	751	10 082	130	316	455	78
<b>Full-time and part-time work (% share of persons employed)</b>															
<b>Full-time</b>	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
<b>Part-time</b>	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
<b>Unemployment rate (% share of labour force aged 15-64) (2)</b>															
<b>Total</b>	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
<b>Male</b>	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
<b>Female</b>	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	
<b>Number of persons employed (thousands)</b>															
<b>Total</b>	2 633	105	4 687	2 612	8 001	3 298	633	1 435	1 502	2 606	18 910	1 833	4 565	:	
<b>Male</b>	1 032	28	1 581	978	3 026	1 192	252	556	557	871	6 681	804	1 873	:	
<b>Female</b>	1 600	77	3 106	1 634	4 975	2 107	381	879	945	1 735	12 229	1 028	2 693	:	
<b>Full-time and part-time work (% share of persons employed)</b>															
<b>Full-time</b>	96.9	92.4	64.9	:	92.9	94.9	95.9	98.4	88.5	84.1	79.3	98.1	98.2	:	
<b>Part-time</b>	3.1	7.6	35.1	:	7.1	5.1	4.1	1.6	11.5	15.9	20.7	1.9	1.8	:	
<b>Unemployment rate (% share of labour force aged 15-64) (2)</b>															
<b>Total</b>	5.6	:	3.7	4.2	20.2	4.8	18.7	8.6	10.5	5.0	5.1	18.3	8.8	:	
<b>Male</b>	6.1	:	3.8	3.7	19.6	4.1	18.7	7.0	10.7	5.4	5.6	19.0	9.1	:	
<b>Female</b>	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).

## Food, beverages and tobacco



Food and beverages traditionally accounted for the largest share of household consumption. However, these products have gradually been overtaken by housing, transport and communications, which now account for a larger share of household consumption in most of the EU-15 Member States, while this transition is only in its infancy in some of the 10 new Member States, where these products generally account for a much higher share of household consumption.

The agro-food subsector is a relatively fragmented one, with, on the one hand, a few very large, multinational corporations competing on the global market with global brands and a large product range (see Table 3.1), and, on the other hand, smaller enterprises often serving local markets concentrating on regional preferences for local specialities. As such, the agro-food subsector has a key role to play in the field of rural development and maintaining industrial activities in rural areas.

Besides its importance in economic terms, the agro-food subsector is at the forefront of issues such as environmental and consumer protection, for example in areas that cover the quality of products, food safety and animal welfare. The subsector is notably characterised by European standards on local products (protection of the origin by geographic indication) and ecological/biological production, as well as rules concerning labelling and genetically modified foods. In this domain, 2002 marked the creation of the European Food Safety Authority, to be based in Parma (Italy), providing independent scientific advice on all matters linked to food and feed safety <sup>(1)</sup>.

<sup>(1)</sup> For more information see <http://www.efsa.eu.int>.

Given its tight link with the agricultural sector, the agro-food subsector is greatly affected by the developments to the common agricultural policy (CAP). Agricultural prices on EU markets tend to generally be higher than on the world markets, translating into higher input prices for agro-food enterprises. However, the competitiveness of European enterprises is assisted by export subsidies for transformed agricultural products. Note that the statistics presented in this chapter concern only the activity of manufacturing enterprises, and hence exclude the production of final goods by agricultural establishments, which may be very important for some product categories, for example olive oil or wine.

This chapter refers to the processing of food, beverage and tobacco products and excludes the agricultural activities of growing, farming, rearing and hunting (which are covered in NACE Division 01). NACE Division 15 covers food products and beverages, while Division 16 covers tobacco products.

### NACE

- 15: manufacture of food products and beverages;
- 15.1: production, processing and preserving of meat and meat products;
- 15.2: processing and preserving of fish and fish products;
- 15.3: processing and preserving of fruit and vegetables;
- 15.4: manufacture of vegetable and animal oils and fats;
- 15.5: manufacture of dairy products;
- 15.6: manufacture of grain mill products, starches and starch products;
- 15.7: manufacture of prepared animal feeds;
- 15.8: manufacture of other food products;
- 15.9: manufacture of beverages;
- 16: manufacture of tobacco products.

**Table 3.1**  
Largest agro-food enterprises in Europe ranked by sales in food and drink products, 2002-2003

	Country	Sales (EUR billion)	Products
<b>Nestlé</b>	CH	60.4	Cereal, dairy, beverages, confectionery
<b>Unilever</b>	NL/UK	27.4	Dairy, beverages, dressings, frozen foods, cooking products
<b>Diageo</b>	UK	15.0	Alcoholic beverages, dough products
<b>Danone</b>	FR	13.5	Dairy, beverages, biscuits and cereals
<b>Heineken</b>	NL	10.3	Alcoholic beverages
<b>Cadbury Schweppes</b>	UK	8.4	Beverages, confectionery
<b>Parmalat</b>	IT	7.6	Dairy, gourmet, biscuits, beverages
<b>Interbrew</b>	BE	6.9	Alcoholic beverages
<b>Scottish &amp; Newcastle</b>	UK	6.7	Alcoholic beverages
<b>Associated British Foods</b>	UK	6.7	Sugar, starches, baking products, meat, dairy

Source: CIAA.

Table 3.2

**Manufacture of food products, beverages and tobacco (NACE Subsection DA)**  
**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 (34.6)	Cyprus (274)	Germany (836.5)	Brazil (4.4)	United States (10.5)
2	United Kingdom (32.2)	Latvia (232)	France (648.9)	United States (3.7)	Japan (3.8)
3	France (28.6)	Lithuania (223)	United Kingdom (514.6)	Argentina (3.5)	Russian Federation (3.4)
4	Italy (18.0)	Greece (174)	Italy (440.0)	Norway (1.5)	Switzerland (2.9)
5	Spain (15.6)	Hungary (171)	Spain (377.0)	New Zealand (1.5)	Canada (1.5)

(1) Austria, Poland and Slovakia, not available.

(2) Austria, Poland, Slovenia and Slovakia, not available.

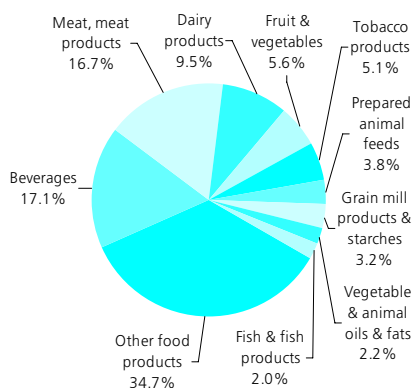
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

**STRUCTURAL PROFILE**

The manufacture of food, beverages and tobacco constitutes one of the largest industrial sectors in the EU economy in 2001. It generated some EUR 185.3 billion of value added in the EU-25 (of which EUR 17.2 billion originated from the 10 new Member States). As such, with 12.1 % of total manufacturing value added, the food, beverages and tobacco manufacturing sector was the second largest contributor to wealth creation among manufacturing NACE subsections, after the manufacture of basic metals and fabricated metal products (12.6 %, NACE Subsection DJ). Furthermore, the food, beverages and tobacco sector was also the second largest employer among manufacturing NACE subsections, with some 3.6 million persons employed in the EU-15 in 2001, which represented 12.6 % of the manufacturing workforce. The number of persons employed in the EU-25 was around 4.5 million <sup>(2)</sup>.

<sup>(2)</sup> Poland and Slovenia, number of employees; Slovakia, 2000.

Figure 3.1

**Manufacture of food products, beverages and tobacco (NACE Subsection DA)**  
**Share of value added at factor cost, EU-25, 2001**


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

The manufacture of food and beverages (NACE Division 15) was by far the largest subsector, accounting for EUR 175.8 billion of value added in the EU-25 in 2001, against only EUR 9.5 billion for the tobacco manufacturing subsector (NACE Division 16). At a more detailed level the largest NACE group within the manufacture of food, beverages and tobacco was the manufacture of other food products (NACE Group 15.8) with EUR 64.3 billion of value added in the EU-25 in 2001, representing over one third (34.7 %) of the sectoral total. This group includes notably the manufacturing of bread and pastry, chocolate and sugar confectionery, noodles and pasta, tea and coffee and all other non-defined or relatively new food processing activities. Beverages, both alcoholic and non-alcoholic (NACE Group 15.9) was the second largest group in terms of value added with EUR 31.7 billion in 2001 (17.1 % of the sectoral total), followed by meat processing (NACE Group 15.1) with EUR 31.0 billion (16.7 %) and dairy products (NACE Group 15.5) with EUR 17.5 billion (9.5 %). None of the remaining groups accounted for more than 6 % of the value added generated in the manufacture of food, beverages and tobacco.

Looking at the weight of these NACE groups in employment terms reveals that the relative share of other food products manufacturing (at 43.5 %) in the total number of persons employed in the EU-15 food, beverages and tobacco manufacturing sector was higher than in value added terms, as was the share of meat processing (21.8 %), whereas the contribution of beverages manufacturing (9.6 %) to the total number of persons employed in the sector was considerably lower than its share of value added.

The highest share of value added in the EU-25's food, beverages and tobacco manufacturing sector was generated in Germany, which reported EUR 34.6 billion of value added in 2001, equivalent to 18.7 % of the EU-25 total, just ahead of the United Kingdom (EUR 32.2 billion); France (EUR 28.6 billion), Italy (EUR 18.0 billion) and Spain (EUR 15.6 billion) followed.

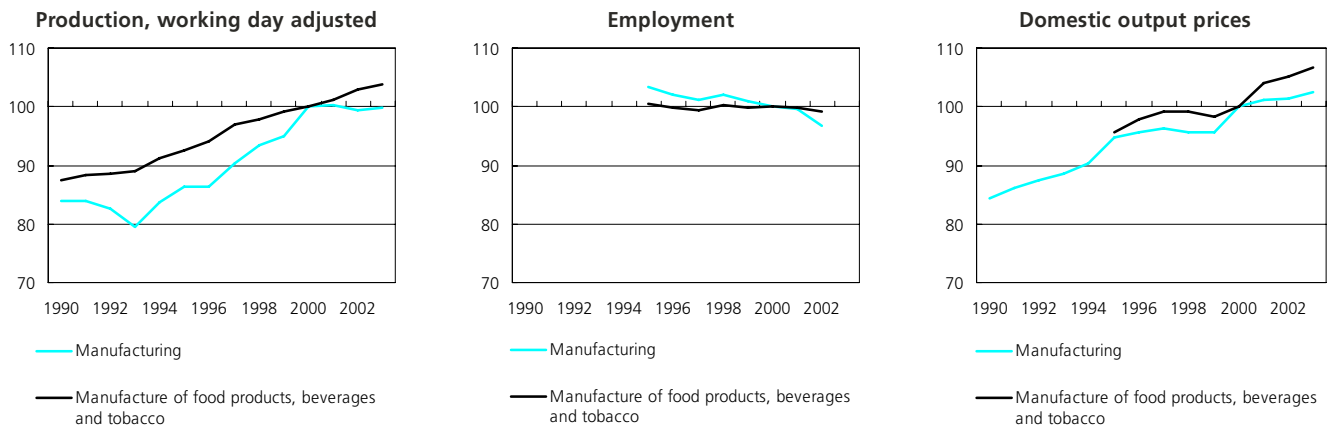
Food, beverages and tobacco manufacturing activities were relatively important in the ten new Member States. Collectively they contributed 9.3 % of the EU-25's value added in this sector, which was their second highest share across all manufacturing NACE subsections; the manufacturing average was 5.6 %. Although data availability does not allow for a thorough analysis of specialisation, Cyprus was clearly specialised in the food, beverages and tobacco manufacturing sector when compared with manufacturing as a whole. Indeed, in that country, the share of food, beverages and tobacco manufacturing in total manufacturing value added was 2.3 times higher than the EU-25 average. High specialisation ratios were also reported by Latvia, Lithuania, Greece and Hungary, whereas Finland recorded the lowest specialisation ratio among the Member States <sup>(3)</sup>.

<sup>(3)</sup> Austria, Poland and Slovakia, not available.



Figure 3.2

### Manufacture of food products, beverages and tobacco (NACE Subsection DA) Main indicators, EU-25 (2000=100)



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

The EU-25's working day adjusted production index for food, beverages and tobacco manufacturing displayed an unusual trend over the last dozen years. Unlike nearly all manufacturing NACE subsections, it did not experience a contraction in output in the early 1990s, nor again after 2000. In fact food, beverages and tobacco manufacturing has experienced growth each and every year throughout the 1990s and through to 2003, although its increases were relatively modest, the highest being 3.1 % in 1997. Comparing the growth between 1993 (a low point for manufacturing) and 2003 (the latest available data), food, beverages and tobacco manufacturing averaged growth of 1.5 % per annum, compared with a manufacturing average of 2.3 % per annum. The relatively stable pattern of growth observed for food, beverages and tobacco may in part be explained by the relatively inelastic nature of demand, notably for necessity purchases of foodstuffs. At a more detailed level, there was noticeably slower than average growth over the 10 years to 2003 for two food manufacturing groups in the EU-25, namely fish processing, and oils and fats. The former recorded a contraction in production during the mid-1990s, with a sustained recovery since 1997. Oils and fats manufacturing recorded a more prolonged contraction in production during the first half of the 1990s, but rebounded with very strong growth in 1997 (14.6 %) and more modest growth in 1998 (2.7 %). It then experienced five consecutive years of reduced output, although the rate of change became steadily less and less strong, down to -0.2 % in 2003. Tobacco manufacturing also experienced a long-term contraction in output, recording a decline in production in 6 of the last 10 years, averaging -2.3 % per annum between 1993 and 2003.

The domestic output price index for food, beverages and tobacco manufacturing followed a similar path to that of manufacturing in general since 1995 (beginning of the series), with the most notable difference being the small falls in food, beverages and tobacco manufacturing output prices in 1998 (-0.2 %) and 1999 (-0.7 %). Despite these small price falls, between 1995 and 2003 average price increases were 1.4 % per annum, higher than the manufacturing average of 1.0 %, in part due to stronger price increases recorded in the last three years. The output price index for tobacco manufacturing was characterised by uninterrupted increases since 1995, averaging 5.4 % per annum through to 2003.

The food, beverages and tobacco manufacturing sector is composed of a diverse range of enterprises, from SMEs that serve local markets to major multinationals. This diversity was reflected in the distribution of value added creation among enterprise size-classes that, to a large extent, was in line with the manufacturing average. Among some of the NACE groups within the food, beverages and tobacco manufacturing sector, the contribution of these size-classes to value added was quite different from the average observed for the sector as a whole. Indeed, in the manufacture of other food products (NACE Group 15.8), micro enterprises (with less than 10 persons employed) generated 14.7 % of the value added, almost twice the sectoral average. In contrast, in tobacco manufacturing (NACE Group 16.0) this enterprise size-class was the least significant in terms of value added contribution (0.2 %). The contribution of large enterprises (with 250 or more persons employed) to total value added was notably lower for the manufacture of fish products (NACE Group 15.2) and the manufacture of prepared animal feeds (NACE Group 15.7), where they

contributed 38.6 % and 39.6 % respectively of total value added, compared with an average of 54.7 % for food, beverages and tobacco manufacturing. On the other hand, large enterprises generated 82.6 % of the value added in the tobacco manufacturing subsector.

In relation to national manufacturing averages <sup>(4)</sup> there was a relatively high presence of large enterprises in the manufacture of food, beverages and tobacco in the United Kingdom (74.6 % of value added compared with an average of 54.1 %), Denmark (72.3 % compared with 53.5 %) and the Netherlands (68.8 % compared with 52.7 %). However, in Belgium large enterprises accounted for 46.2 % of value added, while their share of national manufacturing value added was some 12 percentage points higher.

<sup>(4)</sup> Greece, Ireland, Luxembourg, Malta, Austria, Poland and Slovakia, not available.

## LABOUR AND PRODUCTIVITY

The food, beverages and tobacco manufacturing sector has somewhat atypical employment characteristics that diverge from the manufacturing average, insofar as there was a higher presence of women and a greater recourse to part-time work. In 2002, according to labour force survey data, as many as 38.5 % of those persons working in the food, beverages and tobacco manufacturing sector in the EU-15 were women, which was more than 10.0 percentage points above the corresponding share for manufacturing as a whole (28.3 %). At a national level<sup>(5)</sup>, the largest differences to national manufacturing averages were recorded in Luxembourg, Finland and Germany.

Part-time work in the food, beverages and tobacco manufacturing sector concerned 11.7 % of the persons employed in this sector in the EU-15 in 2002, which was 4.1 percentage points more than the manufacturing average (7.6 %). In Finland and Germany, the proportion of part-time workers was twice as high in this sector as it was for the whole of manufacturing.

The average value added generated by each person employed was equal to EUR 47 000 in the EU-15 in 2001, below the manufacturing average of EUR 51 200. However, average personnel costs were also lower than the manufacturing average, at EUR 28 700 per employee in the EU-15 (EUR 24 200 in the EU-25) against EUR 35 700 for the whole of manufacturing, which resulted in a wage adjusted labour productivity ratio (163.7 %) that was above the manufacturing average (143.3 %). Among the NACE groups within the food, beverages and tobacco manufacturing sector, the lowest wage adjusted labour productivity in the EU-15 was registered by the manufacture of meat products

<sup>(5)</sup> Poland, not available.

Table 3.3

**Manufacture of food products, beverages and tobacco (NACE Subsection DA)**  
**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)
<b>EU-25</b>	:	:	:	:	:	:
<b>EU-15</b>	61.5	85.8	88.3	95.6	89.4	97.3
<b>BE</b>	68.4	92.0	88.5	97.1	90.1	95.1
<b>CZ</b>	47.2	76.7	97.7	100.2	96.5	104.3
<b>DK</b>	59.2	86.5	88.6	95.5	99.6	103.1
<b>DE</b>	51.4	71.6	79.8	88.9	93.2	97.7
<b>EE</b>	45.5	87.3	97.2	100.5	97.4	100.9
<b>EL</b>	64.5	91.0	99.1	101.1	75.5	103.0
<b>ES</b>	67.3	90.6	95.0	98.1	85.5	96.8
<b>FR</b>	62.9	88.9	91.5	96.8	88.0	92.8
<b>IE</b>	71.8	103.8	92.5	98.6	95.7	104.1
<b>IT</b>	65.4	93.9	93.3	98.6	74.0	89.5
<b>CY</b>	61.2	97.4	94.9	101.7	90.8	113.5
<b>LV</b>	54.1	87.6	94.9	100.2	97.1	101.6
<b>LT</b>	42.5	83.1	94.3	99.4	98.3	102.0
<b>LU</b>	56.1	69.2	88.7	92.8	94.5	96.1
<b>HU</b>	63.6	106.5	98.0	100.4	95.7	102.6
<b>MT</b>	78.6	112.3	96.2	99.6	97.3	104.5
<b>NL</b>	67.5	87.5	71.2	94.8	97.6	101.5
<b>AT</b>	67.3	90.5	:	:	92.5	97.1
<b>PL</b>	:	:	:	:	:	:
<b>PT</b>	60.7	108.3	96.8	99.8	88.2	101.2
<b>SI</b>	56.4	93.5	97.0	100.3	96.5	102.8
<b>SK</b>	56.5	95.3	98.5	99.8	97.1	101.1
<b>FI</b>	48.6	69.2	90.6	94.9	94.2	100.7
<b>SE</b>	64.1	86.7	87.9	95.9	96.2	102.3
<b>UK</b>	65.3	87.2	89.4	96.9	98.3	103.3

Source: Eurostat, Labour Force Survey.

(NACE Group 15.1), while the highest ratios were recorded by tobacco manufacturing (NACE Group 16.0) and the manufacture of beverages (NACE Group 15.9).

Table 3.4

**Manufacture of food products, beverages and tobacco (NACE Subsection DA)**  
**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)
<b>Manufacture of food products; beverages and tobacco</b>	47.0	163.7	28.7
<b>Production, processing, preserving of meat, meat products</b>	35.5	140.9	25.2
<b>Processing and preserving of fish and fish products</b>	33.7	152.1	22.1
<b>Processing and preserving of fruit and vegetables</b>	46.4	170.1	27.3
<b>Manufacture of vegetable and animal oils and fats</b>	65.6	165.1	39.7
<b>Manufacture of dairy products</b>	54.6	162.5	33.6
<b>Manufacture of grain mill products, starches and starch products</b>	60.1	153.9	39.0
<b>Manufacture of prepared animal feeds</b>	60.2	166.5	36.1
<b>Manufacture of other food products</b>	38.4	152.4	25.2
<b>Manufacture of beverages</b>	83.1	207.6	40.0
<b>Manufacture of tobacco products</b>	153.2	297.4	51.5

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

Table 3.5

**Food products, beverages and tobacco (CPA Subsection DA)**  
**External trade, EU-25, 2002 (EUR million)**

	Exports	Imports	Trade balance	Cover ratio (%)
<b>Food products, beverages and tobacco</b>	47 674	38 556	9 119	123.7
<b>Meat and meat products</b>	5 061	4 950	112	102.3
<b>Processed and preserved fish and fish products</b>	1 920	11 021	-9 101	17.4
<b>Processed and preserved fruit and vegetables</b>	2 857	4 812	-1 955	59.4
<b>Animal and vegetable oils and fats</b>	2 475	6 108	-3 633	40.5
<b>Dairy products and ice cream</b>	5 161	939	4 222	549.8
<b>Grain mill products, starches and starch products</b>	1 817	760	1 056	238.9
<b>Prepared animal feeds</b>	1 248	815	433	153.1
<b>Other food products</b>	11 351	5 304	6 047	214.0
<b>Beverages</b>	13 849	3 573	10 276	387.6
<b>Tobacco products</b>	1 810	234	1 577	775.1

Source: Eurostat, Comext.

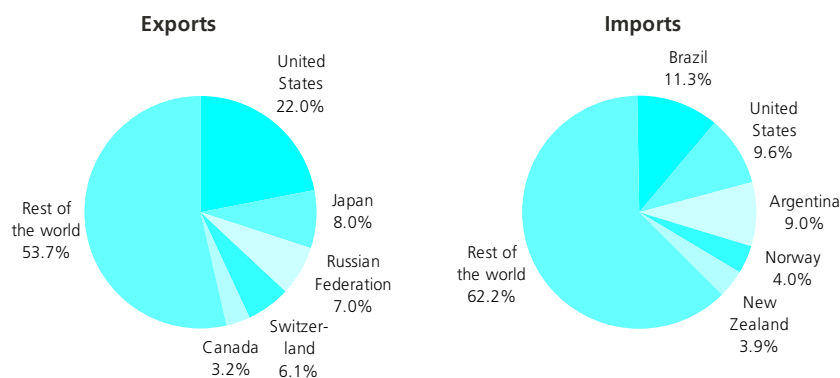
**EXTERNAL TRADE**

The EU-25 exported to the non-Community countries EUR 47.7 billion of food products, beverages and tobacco (CPA Subsection DA) in 2002 while importing EUR 38.5 billion, which represented 5.7 % of total manufactured exports and 5.3 % of total manufactured imports. Within the CPA groups that make up food products, beverages and tobacco, it was beverages (CPA Group 15.9) and other food products (CPA Group 15.8) that accounted for the highest levels of EU-25 exports in 2002, accounting jointly for more than half of all the EU-25's exports. Fish products (CPA Group 15.2) were the most imported group, accounting for 28.6 % of the EU-25's imports of food products, beverages and tobacco in 2002, while a further 15.8 % of imports were accounted for by oils and fats (CPA Group 15.4). Moreover, fish, and oils and fats, alongside fruits and vegetable products (CPA Group 15.3), were the only CPA groups covered by this chapter for which the EU-25 registered a trade deficit. Imports of fish products, oils and fats, and fruits and vegetables were respectively 5.7, 2.5 and 1.7 times higher than the value of exports.

At a national level, Denmark, Cyprus, Greece and the Netherlands reported a significantly higher share (between two and three times the average for the EU-25 Member States) of food products, beverages and tobacco in their total exports (intra- and extra-EU combined) of manufactured goods. Two of these countries, Greece and Denmark, were joined by Latvia as the countries with the highest import specialisation (intra- and extra-EU combined) in these products relative to imports of all manufactured goods.

The main destination of EU-25 exports of food products, beverages and tobacco was the United States, whose share in EU-25 exports reached 22.0 % in 2002. Other important export markets included Japan (8.0 %), Russia (7.0 %) and Switzerland (6.1 %). On the import side, the most important supplier of EU-25 food products, beverages and tobacco in 2002 was Brazil (11.3 % of EU-25 imports), which surpassed the United States (9.6 %) and Argentina (9.0 %).

Figure 3.3

**Food products, beverages and tobacco (CPA Subsection DA)**  
**Share in extra-EU trade, 2002**


Source: Eurostat, Comext.

## 3.1: MEAT

This subchapter covers all meat processing stages that follow on from animal rearing; in other words, the activities of slaughtering through to the preparation of meat for final consumption (NACE Group 15.1), including fresh, chilled, frozen, processed, dried, salted and smoked meats. The data presented also includes the treatment of hides and skins, the rendering of fats and the processing of animal offal.

The meat supply chain starts with farming and then animals are sold or transferred for slaughter and processing. Finally, there is a distribution process that takes meat products to the final consumer. Pronounced differences exist in the preferences for meat and among different types of meat from country to country. In addition, the meat processing sector across Europe has been marked by several animal and human health safety incidents over recent years, namely dioxin contaminated poultry, foot and mouth disease, BSE, and avian flu, which have raised concerns about food safety issues and reduced demand for meat and meat products.

Pig meat was the most important meat production in the EU-15, estimated at 17.8 million tonnes in the EU-15 in 2003<sup>(6)</sup>. Poultry meat production was approximately half that amount, with 8.9 million tonnes in the EU-15 in 2003, ahead of bovine meat (7.4 million tonnes). Meat from sheep and goats (1.0 million tonnes) followed at some distance. The same structure could be observed among the 10 new Member States, with slaughtering of pigs in 2000 reaching 2.9 million tonnes<sup>(7)</sup>, against 1.3 million tonnes for poultry and 0.6 million tonnes for bovines. Note that Poland accounted for at least half of the total number of pigs and bovines that were slaughtered in the 10 new Member States. According to the latest forecasts, pig meat production in the EU-25 was expected to increase to 23.0 million tonnes by 2010, corresponding to an overall growth of 8.0% on 2004. Indeed, pig meat was thought to continue to be favoured by consumers, although less than poultry, whose production was expected to experience an overall rise by 9.2% to 11.9 million tonnes in the EU-25 by 2010. As regards bovine meat production, it was estimated to slightly increase to 8.0 million tonnes by 2006 in the EU-25 and then stabilise at that level in the following years.

<sup>(6)</sup> Source: Directorate General for Agriculture, Prospects for agricultural markets 2003-2010, available at: [http://europa.eu.int/comm/agriculture/publi/caprep/prospects2003/index\\_en.htm](http://europa.eu.int/comm/agriculture/publi/caprep/prospects2003/index_en.htm).

<sup>(7)</sup> Source: Eurostat, Agriculture and Fisheries (theme5/zpa1\_cc/meat\_cc); Cyprus, Estonia, Malta and Slovakia, not available.

**Table 3.6**  
**Top meat slaughterers, EU-25, 2002**

	Market share (%)	Country
<b>Pork</b>		
<b>Danish Crown/Steff Houlberg</b>	10.0	DK
<b>Dumeco</b>	5.0	NL
<b>NFZ</b>	3.0	DE
<b>Westfleisch</b>	1.7	DE
<b>Socopa</b>	1.5	FR
<b>Beef</b>		
<b>Irish Foods</b>	3.5	IE/UK
<b>Socopa</b>	3.0	FR
<b>Südfleisch</b>	3.0	DE
<b>Cremonini</b>	3.0	IT
<b>Quealy Dawn</b>	2.5	IE
<b>Poultry</b>		
<b>Doux</b>	5.0	FR
<b>LDC</b>	4.0	FR
<b>Grampian</b>	4.0	UK
<b>AIA</b>	3.5	IT
<b>Lohmann Wesjohann</b>	2.0	DE

Source: <http://www.meatnews.com>, Meat Processing Global Top Companies.

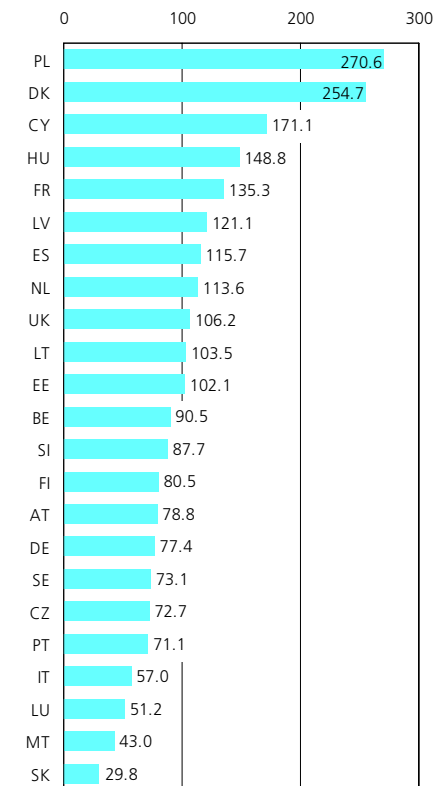
**STRUCTURAL PROFILE**

The meat processing sector generated a value added of EUR 31.0 billion in the EU-25 in 2001, corresponding to 16.7% of the total for food, beverages and tobacco manufacturing (NACE Subsection DA). The important recourse to labour in the production process is evidenced by the significantly higher weight of the meat processing sector in terms of employment. Indeed, over one fifth (21.8%) of the food, beverages and tobacco workforce were employed processing meat in the EU-15 in 2001.

Germany and France generated the highest level of value added in the meat processing sector in 2001, with EUR 6.4 billion and EUR 5.7 billion respectively, equivalent to approximately one fifth each of the EU-25 total. But in relative terms, two countries<sup>(8)</sup> emerged as by far the most specialised in terms of meat processing, namely Poland and Denmark. In these countries, the meat processing sector contributed more than 2.5 times the EU-25 average to national manufacturing value added in 2001. Other countries that displayed relative specialisation in this sector included Cyprus and Hungary, in contrast with Italy, Luxembourg, Malta and Slovakia that were relatively unspecialised.

<sup>(8)</sup> Greece and Ireland, not available.

**Figure 3.4**  
**Production, processing, preserving of meat, meat products (NACE Group 15.1)**  
**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).

Table 3.7

**Production, processing, preserving of meat, meat products (NACE Group 15.1)**  
**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)
<b>Production, processing, preserving of meat, meat products</b>	35.5	140.9	25.2
<b>Production and preserving of meat</b>	38.3	138.5	27.7
<b>Production and preserving of poultrymeat</b>	32.8	139.7	23.5
<b>Production of meat and poultrymeat products</b>	35.1	142.4	24.6

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

### LABOUR AND PRODUCTIVITY

The apparent labour productivity of the meat processing sector was relatively low at EUR 35 500 per person employed in the EU-15 in 2001, which was significantly below the average productivity for food, beverages and tobacco manufacturing (EUR 47 000). Although average personnel costs were somewhat lower than the average for food, beverages and tobacco manufacturing, at EUR 25 200 per employee against EUR 28 700, this was not enough to compensate for the apparent labour productivity gap, and the wage adjusted labour productivity ratio of the EU-15's meat processing sector (140.9 %) remained below the food, beverages and tobacco average (163.7 %) in 2001.

Relative to its own national manufacturing average, Poland had the most productive meat processing sector in 2001, as the wage adjusted labour productivity in this sector was more than four times higher than the corresponding ratio for total manufacturing. In fact, Germany, Estonia, Spain, Italy, Latvia and Malta were the only other Member States<sup>(9)</sup> where this ratio was higher for meat processing than the national manufacturing average.

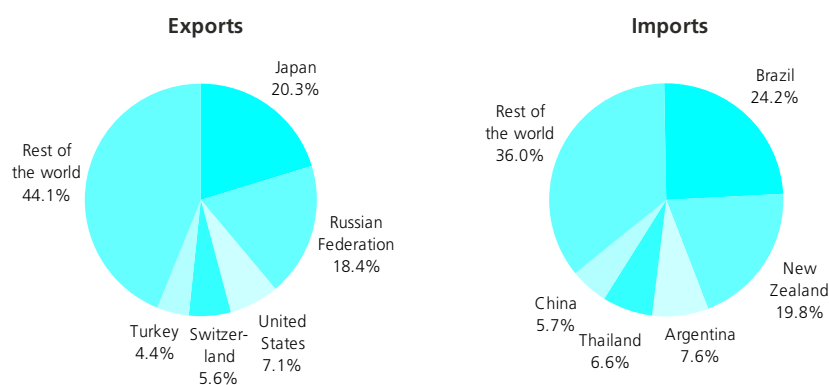
<sup>(9)</sup> Greece, Ireland, Cyprus and Slovenia, not available.

### EXTERNAL TRADE

The EU-25 ran a small trade surplus of EUR 0.1 billion in meat products in 2002, resulting from exports valued at EUR 5.1 billion and imports of EUR 5.0 billion. Meat exports accounted for 10.6 % of the total EU-25 food, beverage and tobacco exports in 2002, while the relative importance of imports was somewhat higher at 12.8 % of the total. Denmark was by far the most active exporter of meat products, as the share of these products in the country's exports (intra- and extra-EU combined) of manufactured goods was 6.6 times higher than the average for the EU-25 Member States in 2002. Other export specialised countries included Cyprus, the Netherlands, Hungary and Ireland. In contrast, the countries importing the most meat products in 2002 relative to their total imports of manufactured goods were Greece, Italy and Portugal (142.6 %).

Japan (20.3 % of extra-EU exports) and Russia (18.4 %) were by far the main export markets for meat products from the EU-25, with shares in total exports two to three times higher than those of the United States (7.1 %) and Switzerland (5.6 %). On the import side, some of the main suppliers of meat to the EU-25 included Brazil (24.2 % of imports), New Zealand (19.8 %) and, to a lesser extent, Argentina (7.6 %), Thailand (6.6 %) and China (5.7 %).

**Figure 3.5**  
**Meat and meat products (CPA Group 15.1)**  
**Share in extra-EU trade, 2002**



Source: Eurostat, Comext

Table 3.8

**Meat and meat products (CPA Group 15.1)**  
**External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
<b>Meat and meat products</b>	5 061	100.0	4 950	100.0	112
<b>Fresh and preserved meat, except poultry</b>	3 293	65.1	3 530	71.3	-236
<b>Fresh and preserved poultry meat</b>	1 050	20.7	441	8.9	608
<b>Meat and poultry meat products</b>	719	14.2	979	19.8	-260

Source: Eurostat, Comext.

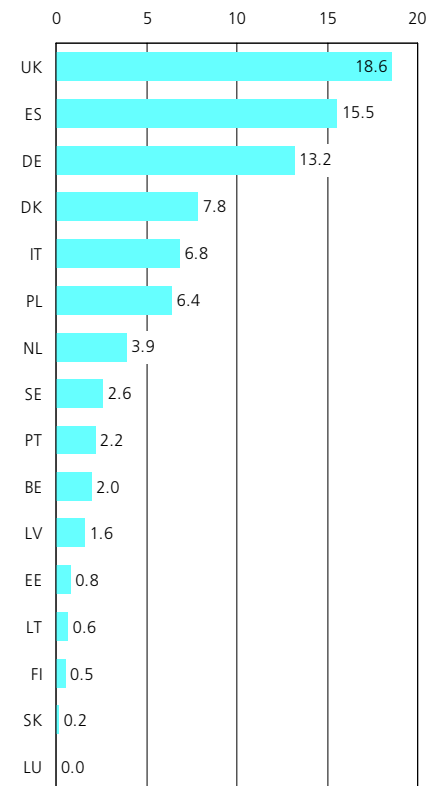
3.2: FISH

This subchapter includes information on the preparation and preservation of fish, crustaceans and molluscs (be they fresh, frozen, smoked, salted or canned) and the manufacture of prepared fish and seafood dishes, all included within NACE Group 15.2. The manufacture of fish soups and oils and fats derived from aquatic species are not included. Note that vessels engaged both in the fishing and the processing of fish are not covered.

Seafood consumption in the EU has shown a dramatic expansion in recent decades, as consumers become increasingly aware of the important contribution that it can provide towards a balanced diet, combined with health crises that affected the meat processing sector (see Subchapter 3.1). However, because of the depletion of resources for certain popular species, large amounts of processed seafood are purchased in non-Community countries to satisfy demand, widening the negative balance of external trade. A parallel evolution has seen the development of aquaculture, with rearing in 'fish farms' comparable to livestock farming.

The common fisheries policy (CFP) comprises four main areas: firstly, a conservation policy, regulating the amount of fish taken from the sea; secondly, a structural policy, to help enterprises adapt to the constraints imposed by scarce resources; thirdly, a common organisation of the market in fish products; finally, an external policy towards regional and international fisheries organisations for common conservation measures in deep-sea fisheries. On 1 January 2003, a reformed CFP entered into force, aiming to ensure the sustainability of fishing activities in the face of the dangerous depletion of a growing number of fish stocks, with measures such as reducing the fishing fleet, using more selective nets to prevent the capture of young fish, or implementing closures for specific fishing areas where dense concentrations of young fish occur. It is widely agreed that many fish stocks are outside safe biological limits after having been too heavily exploited, in particular cod, hake and whiting.

**Figure 3.6**  
**Processing and preserving of fish and fish products (NACE Group 15.2)**  
**Share of EU-25 value added, 2001 (%) (1)**



(1) The Czech Republic, Greece, France, Ireland, Cyprus, Hungary, Malta, Austria and Slovenia, not available.  
 Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

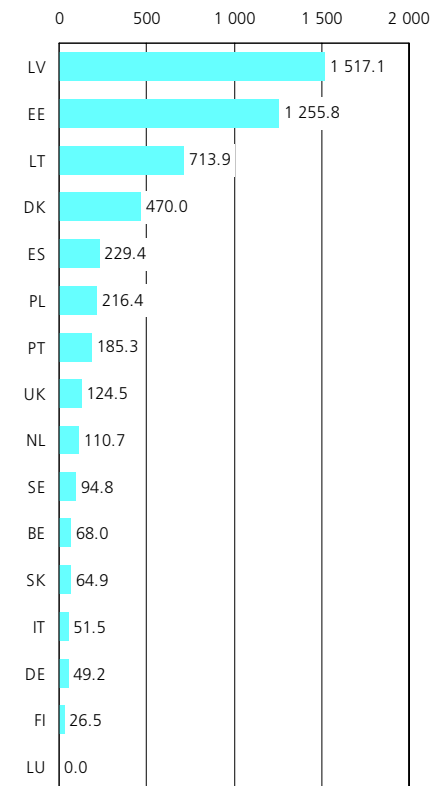
**STRUCTURAL PROFILE**

The fish processing and fish products' sector was the smallest among food, beverages and tobacco manufacturing at the NACE group level, with a value added estimated at EUR 3.8 billion in the EU-25 in 2001, or 2.0 % of the total for food, beverages and tobacco manufacturing. Its contribution in terms of employment was nevertheless somewhat higher, as it employed 101 500 persons in the EU-15 in 2001, or 2.8 % of the total for food, beverages and tobacco manufacturing. There were more than 31 700 persons employed in the 10 new Member States <sup>(10)</sup> in 2001.

In absolute terms, the United Kingdom was the largest contributor to EU-25 value added in the fish processing sector, with EUR 704.9 million, or almost one fifth (18.6 %) of the EU-25 total. Spain (EUR 590.5 million), Germany (EUR 501.1 million) and France (EUR 455.8 million, 2000) were also important producers.

<sup>(10)</sup> Cyprus and Malta, not available; Hungary, 2000; Slovenia, number of employees, 1999.

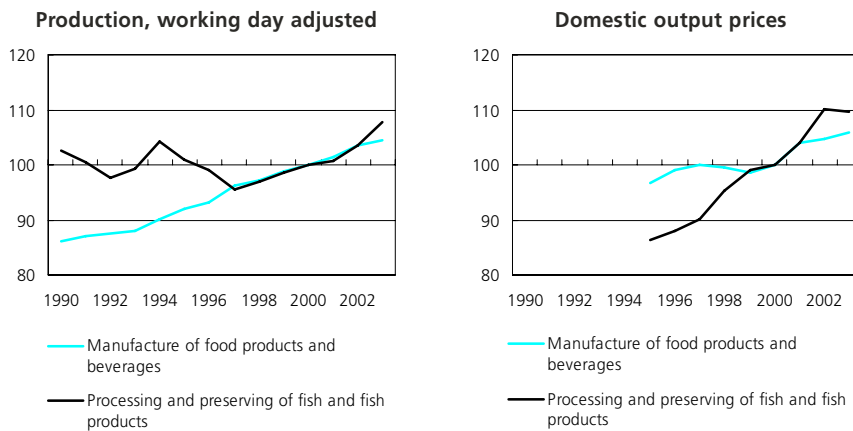
**Figure 3.7**  
**Processing and preserving of fish and fish products (NACE Group 15.2)**  
**Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)**



(1) The Czech Republic, Greece, France, Ireland, Cyprus, Hungary, Malta, Austria and Slovenia, not available.  
 Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

The statistical impact of enlargement on this sector is great, the 10 new Member States contributing 9.9 % of the EU-25's value added in the fish processing sector in 2001, compared with 9.3 % for food, beverages and tobacco manufacturing as a whole and a manufacturing average of 5.6 %. Relative to their manufacturing sectors as a whole, the Baltic States emerged as by far the most specialised countries for fish processing in the EU-25, with this sector contributing 7 to 15 times more than the EU-25 average to total manufacturing value added. In fact, fish processing was among the top three manufacturing groups in which the Baltic States were each specialised. Denmark was also highly specialised in fish processing (this was the manufacturing NACE group in which it was most specialised), as were Spain and Poland. At the other end of the ranking, Finland was among the least specialised countries, while no fish processing activity was recorded in Luxembourg. Note that no recent data (1999 to 2001) are available for some countries with important coastlines, notably Greece, Cyprus and Malta.

**Figure 3.8**  
**Processing and preserving of fish and fish products (NACE Group 15.2)**  
**Main indicators, EU-25 (2000=100)**



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

**LABOUR AND PRODUCTIVITY**

The fish processing sector reported generally lower apparent labour productivity than the other NACE groups that make up the food, beverages and tobacco manufacturing sector. Each person employed in fish processing in the EU-15 generated on average EUR 33 700 of value added in 2001, which compared to EUR 47 000 for food, beverages and tobacco manufacturing. Apparent labour productivity for fish processing was the lowest of all food, beverages and tobacco NACE groups.

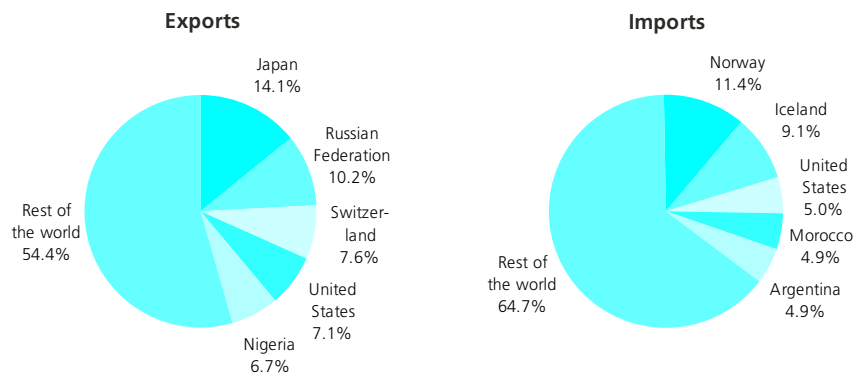
Nevertheless, these low productivity figures were matched by low average personnel costs, that were EUR 22 100 per employee in the EU-15 in 2001 (EUR 17 700 in the EU-25), significantly below the average for food, beverages and tobacco manufacturing (EUR 28 700). As a result, wage adjusted labour productivity in the EU-15's fish processing sector surpassed the manufacturing average, at 152.1 % (compared with 143.5 %), although it remained somewhat below the level recorded for the whole of food, beverages and tobacco manufacturing (163.7 %).

**EXTERNAL TRADE**

External trade in fish products is characterised by a great recourse to imports combined with limited exports. Indeed, EU-25 imports from non-Community countries reached EUR 11.0 billion in 2002, representing as much as 28.6 % of total imports of food products, beverages and tobacco, while exports were more than five times lower at EUR 1.9 billion, or 4.0 % of the total for food products and beverages. As a consequence, the EU-25 ran a significant trade deficit in these products in 2002 of EUR 9.1 billion. At a country level, only 6 out of the 25 Member States reported a trade surplus (intra- and extra-EU combined) for fish products in 2002, notably Denmark (EUR 887.2 million), the Netherlands (EUR 357.2 million) and Ireland (EUR 152.3 million). When compared with the EU-25 average, fish products contributed significantly more to manufactured exports in Denmark, Latvia and Estonia.

Norway (11.4 % of extra-EU-25 imports) and Iceland (9.1 %) were the largest suppliers of fish products, while the United States, Morocco and Argentina followed with similar shares of EU-25 imports (approximately 5 % each). The main EU-25 markets for exports of fish products were Japan (14.1 % of EU-25 exports) and Russia (10.2 %).

**Figure 3.9**  
**Processed and preserved fish and fish products (CPA Group 15.2)**  
**Share in extra-EU trade, 2002**



Source: Eurostat, Comext.

3.3: DAIRY PRODUCTS

This subchapter includes the production of fresh milk, cream, butter, yoghurt, cheese, whey, ice creams and sorbets which are all classified within NACE Group 15.5. As with the rest of this chapter, the data presented does not cover activities within the confines of farms themselves, as these are considered as agricultural rather than manufacturing activities.

Dairy products are primarily destined for human consumption, with the exception of powdered milk, which is also used for cattle rearing. Practically all dairy products relate to a saturated final market, looking to marketing instruments for product differentiation. For example, since the early 1990s, consumers have tended to prefer low-fat products and fresh foods, which has led to their introduction in most product segments. In line with these trends, health benefits from certain dairy products are put forward as an element of differentiation.

Milk production in the EU is governed by production quotas destined to match supply with demand, and this may affect dairy products manufacturers as it imposes on them higher input prices compared with free market conditions. In the EU-15, milk production was forecast to stay within quotas, growing from 121.6 million tonnes in 2003 to 122.5 million tonnes by 2010, in accordance with quota increases agreed under the Agenda 2000 reform. According to the European Commission Directorate-General for Agriculture <sup>(11)</sup>, in the 10 new Member States, subsistence production had a significant share in total milk production, accounting for about 20 % of output, although it is expected to gradually decline following enlargement. These developments are forecast to offset the foreseen milk quota increases in the new Member States. For the 10 new Member States total milk production was forecast to remain relatively stable at approximately 22 to 23 million tonnes.

<sup>(11)</sup> Prospects for agricultural markets 2003-2010, available at [http://europa.eu.int/comm/agriculture/publi/caprep/prospects2003/index\\_en.htm](http://europa.eu.int/comm/agriculture/publi/caprep/prospects2003/index_en.htm).

STRUCTURAL PROFILE

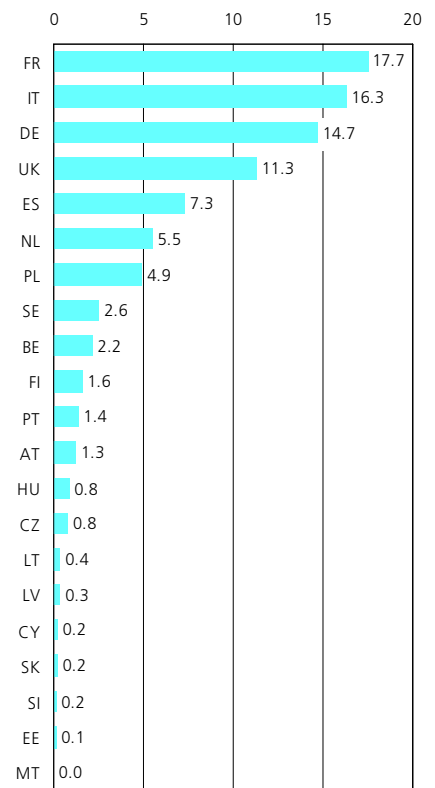
The EU's dairy products' sector was among the largest NACE groups within food, beverages and tobacco manufacturing, as it generated EUR 17.5 billion of value added in the EU-25 in 2001, equivalent to about 9.5 % of the total for food, beverages and tobacco manufacturing. It accounted for a slightly lower share of the workforce with 294 500 persons employed in the EU-15 in 2001 representing 8.3 % of the food, beverages and tobacco manufacturing workforce. The 10 new Member States numbered an additional 87 200 persons employed <sup>(12)</sup> in this sector.

France generated EUR 3.1 billion of value added in this sector in 2001 and was as such the largest producer of dairy products within the EU, accounting for 17.7 % of the EU-25 total. Lithuania stood out as by far the most specialised country in terms of the relative contribution of the dairy products' sector to manufacturing value added, a share that was more than four times higher than the EU-25 average. Specialisation ratios were also more than 300 % in Cyprus and Latvia and more than 200 % in Estonia <sup>(13)</sup>. In contrast, Germany, Austria and Malta were the least specialised countries in the EU-25.

<sup>(12)</sup> Slovenia, number of employees.

<sup>(13)</sup> Denmark, Greece, Ireland and Luxembourg, not available.

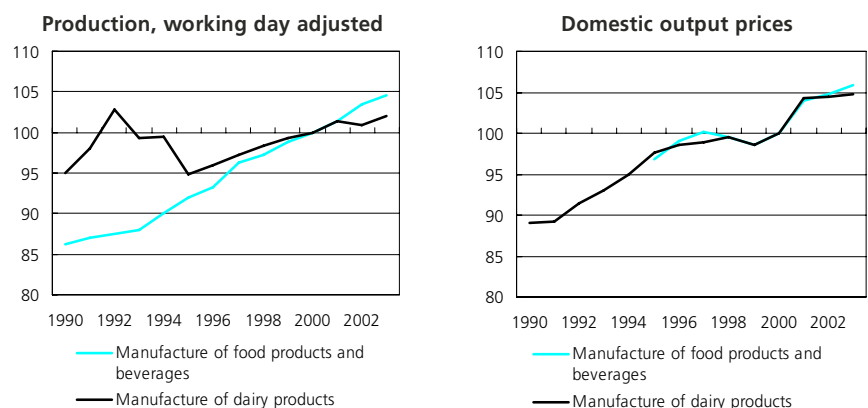
Figure 3.10  
**Manufacture of dairy products (NACE Group 15.5)**  
 Share of EU-25 value added, 2001 (%) (1)



(1) Denmark, Greece, Ireland and Luxembourg, not available.

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

Figure 3.11  
**Manufacture of dairy products (NACE Group 15.5)**  
 Main indicators, EU-25 (2000=100)



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



The main area of growth in recent years has been cheese, whose production increased by 8.5 % overall between 1998 and 2003 to reach 7.5 million tonnes in the EU-15 (see Table 3.9). The 10 new Member States accounted for an additional 1.0 million tonnes of cheese production in 2002 <sup>(14)</sup>. In contrast, drinking milk production in the EU-15 decreased by 1.9 % over the period considered to 29.2 million tonnes, while butter production remained stable at around 1.9 million tonnes. The 10 new Member States <sup>(15)</sup> produced 4.5 million tonnes of drinking milk and 0.3 million tonnes of butter in 2002.

<sup>(14)</sup> Cyprus, not available.

<sup>(15)</sup> Cyprus, not available.

**Table 3.10**  
**Production of milk and dairy products**  
**in the ten new Member States, 2002**  
**(thousand tonnes)**

	Drinking milk	Butter	Cheese
<b>CZ</b>	483.2	54.0	131.1
<b>EE</b>	65.6	8.3	22.3
<b>CY</b>	:	:	:
<b>LV</b>	89.4	5.8	24.3
<b>LT</b>	81.5	17.5	65.3
<b>HU</b>	1 199.2	24.0	156.0
<b>MT</b>	31.9	:	2.5
<b>PL</b>	1 916.7	157.9	484.5
<b>SI</b>	286.5	4.2	22.9
<b>SK</b>	321.9	14.9	42.3

Source: Eurostat, Agriculture and Fisheries  
(theme5/zpa1\_cc/milk\_cc/micoa\_cc).

**Table 3.9**  
**Production of milk and dairy products, EU-15 (million tonnes)**

	1998	1999	2000	2001	2002 (1)	2003 (1)
<b>Drinking milk</b>	29.8	29.4	29.3	29.5	29.4	29.2
<b>Butter</b>	1.9	1.9	1.8	1.8	1.9	1.9
<b>Cheese</b>	6.9	7.0	7.2	7.4	7.4	7.5

(1) Forecasts/estimates.

Source: EDA/ZMP.

### LABOUR AND PRODUCTIVITY

Apparent labour productivity in the EU-15's dairy products' manufacturing sector (EUR 54 600 per person employed) was higher than the food, beverages and tobacco manufacturing average in 2001, while average personnel costs (EUR 33 600 per employee in the EU-15 and EUR 26 700 in the EU-25) were lower. As a result, wage adjusted labour productivity in the dairy products manufacturing sector reached 162.5 % in the EU-15 in 2001, against 143.5 % for manufacturing as a whole, and was hence in line with the average for food, beverages and tobacco manufacturing (163.7 %).

### EXTERNAL TRADE

The EU-25 was an important exporter of dairy products (CPA Group 15.5), as exports were 5.5 times greater than imports in 2002. EU-25 exports were valued at EUR 5.2 billion in 2002, against EUR 0.9 billion for imports. In relative terms, dairy products represented as much as 10.8 % of the total exports of food products, beverages and tobacco made by the EU-25 in 2002, but only 2.4 % of imports. Cyprus emerged as the most specialised exporter of dairy products when comparing the proportion of this category of goods with the total exports of manufactured goods relative to the corresponding EU-25 average. Lithuania, Denmark and Estonia were also relatively specialised in the export of these goods.

The main extra-EU markets for dairy products were the United States, absorbing 14.7 % of the EU-25's exports, followed by Saudi Arabia (7.9 %), Russia (6.7 %) and Algeria (6.2 %). As regards imports, more than two thirds of the EU-25's imports of dairy products in 2002 came from Switzerland and New Zealand (each 33.2 %).

### 3.4: MISCELLANEOUS FOOD PRODUCTS

This subchapter deals with five different activities that are each treated separately: the processing and preserving of fruit and vegetables; vegetable and animal oils and fats; grain mill and starch products; prepared animal feed; and other food products (which includes, bread, sugar, confectionery, pasta, tea, coffee, homogenised and dietetic foods).

Of the five groups covered by this subchapter, the manufacture of other food products (NACE Group 15.8) was by far the largest in value added terms, some EUR 64.3 billion in the EU-25 in 2001. The next largest activities were the processing and preserving of fruit and vegetables (NACE Group 15.3) with EUR 10.5 billion of value added and the manufacture of prepared animal feeds and of grain mill and starch products (NACE Groups 15.6 and 15.7) with EUR 7.0 billion of value added each. The smallest subsector was the manufacture of vegetable and animal oils and fats (NACE Group 15.4) with a value added of EUR 4.1 billion.

#### PROCESSING AND PRESERVING OF FRUIT AND VEGETABLES (NACE GROUP 15.3)

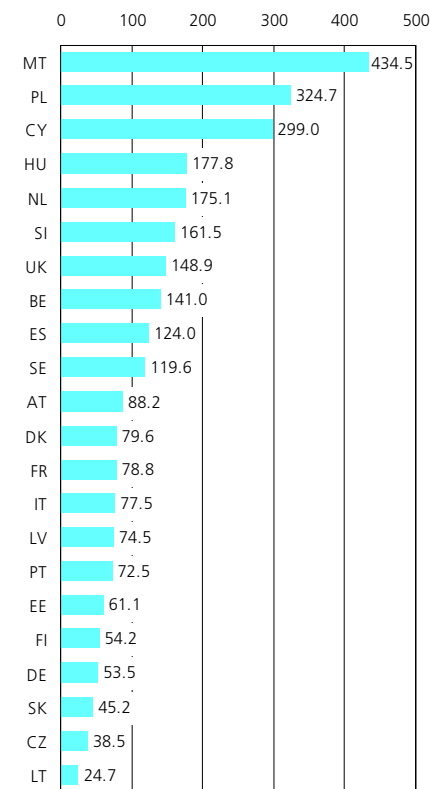
The value added generated in this subsector in the EU-25 in 2001 was estimated at EUR 10.5 billion, or 5.6 % of the total for food, beverages and tobacco manufacturing. A similar share was recorded in terms of employment, as this subsector accounted for 5.5 % of the total number of persons employed in the EU-15 in food, beverages and tobacco manufacturing. In absolute terms, this translated into 197 700 persons working in the processed and preserved fruit and vegetables subsector in the EU-15 in 2001, to which the 10 new Member States added some 63 800 persons employed <sup>(16)</sup>.

The United Kingdom was the largest producer in this subsector with value added of EUR 2.3 billion in 2001, more than one fifth (22.2 %) of the EU-25 total, followed by Germany (EUR 1.5 billion), France and Italy (EUR 1.1 billion each). Note the high level of value added in Poland (EUR 1.0 billion), which surpassed Spain (EUR 0.9 billion). This was reflected in a high value added specialisation ratio for Poland, when compared with manufacturing as a whole, as the contribution of this subsector to national manufacturing value added was 3.2 times higher in Poland than it was on average in the EU-25; this was the second highest specialisation ratio after Malta <sup>(17)</sup>. Cyprus, Hungary and the Netherlands were also relatively specialised in this activity, in contrast with Lithuania, the Czech Republic and Slovakia.

<sup>(16)</sup> Slovenia, number of employees.

<sup>(17)</sup> Greece, Ireland and Luxembourg, not available.

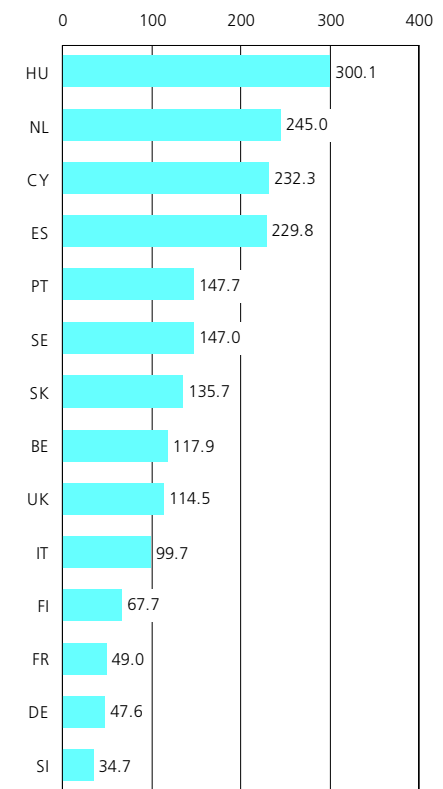
**Figure 3.12**  
Processing and preserving of fruit and vegetables (NACE Group 15.3)  
Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)



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

In 2002 the EU-25 ran an external trade deficit with non-Community countries for processed and preserved fruit and vegetables (CPA Group 15.3), valued at EUR 2.0 billion. Indeed, while the EU-25 imported EUR 4.8 billion of this category of goods in 2002, or 12.5 % of the total imports of food products, beverages and tobacco, exports were significantly lower at EUR 2.9 billion, or 6.0 % of the total. The largest suppliers of processed and preserved fruit and vegetables to the EU-25 in 2002 were Brazil (17.6 % of EU-25 imports), Turkey (15.1 %), China (12.5 %) and the United States (9.8 %). EU-25 exports were mainly destined for the United States (23.8 % of the total), ahead of Russia (11.5 %), China (6.8 %) and Japan (6.6 %).

**Figure 3.13**  
Manufacture of vegetable and animal oils and fats (NACE Group 15.4)  
Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)



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

#### VEGETABLE AND ANIMAL OILS AND FATS (NACE GROUP 15.4)

The manufacture of vegetable and animal oils and fats generated an estimated EUR 4.1 billion of value added in the EU-25 in 2001, representing 2.2 % of the total for food, beverages and tobacco manufacturing. As such, this was the second smallest NACE group within food and beverages manufacturing after fish processing. It was also among the smallest in employment terms, with 55 300 persons employed in the EU-15 in 2001, or 1.5 % of the total employed in the whole of food, beverages and tobacco manufacturing. The number of employees (therefore excluding working proprietors and family workers) in the EU-15 was 48 200, and in the EU-25 it was 59 400.

The United Kingdom (EUR 693.5 million) and Spain (EUR 632.8 million) were the largest contributors to EU-25 value added in this subsector. Although data for the Member States is very incomplete, Hungary emerged as particularly specialised in oils and fats manufacturing: the share of the Hungarian oils and fats manufacturing subsector within manufacturing value added was three times higher than the corresponding EU-25 average, and by this measure oils and fats manufacturing was the third most specialised manufacturing NACE group in Hungary. The Netherlands, Cyprus and Spain also reported a relative specialisation in this subsector, in contrast with Slovenia, Germany and France.

The statistical impact of enlargement in this subsector is quite important, as the production of margarine and fat spreads in Poland was, at 323 000 tonnes in 2001, the third largest volume of output in the EU-25 after Germany (574 000 tonnes) and the United Kingdom (409 200 tonnes) - see Table 3.11.

As regards oilseeds, the EU-15's production was 13.7 million tonnes in 2002, while the production of crude vegetable oils and fats stood at 8.6 million tonnes (see Table 3.12). Three crops (soya, rape and sunflower) made up more than 90 % of both oilseeds and vegetable oils and fats production.

The EU-25 is relatively dependent on imports to satisfy its demand for oils and fats. In 2002, the EU-25 imported EUR 6.1 billion of this category of goods (CPA Group 15.4) from non-Community countries, representing as much as 15.8 % of the total imports of food products, beverages and tobacco. In contrast, exports were valued at EUR 2.5 billion, or 5.2 % of total exports. As a consequence, the EU-25 posted a trade deficit for oils and fats equal to EUR 3.6 billion in 2002. The majority of the EU-25's imports of oils and fats came from South America or Asia. In 2002, Argentina (38.9 % of EU-25 imports) and Brazil (32.6 %) were the main suppliers, ahead of Indonesia (14.5 %) and Malaysia (11.1 %).

Table 3.11

**Production of margarine, fat spreads, three quarter fat and half-fat margarine (tonnes)**

	1990	1995	2000	2001
<b>BE</b>	189 138	275 434	280 935	278 789
<b>CZ</b>	33 975	83 166	90 815	:
<b>DK</b>	108 700	100 000	62 666	62 459
<b>DE</b>	560 570	591 361	568 135	573 973
<b>EE</b>	:	:	:	:
<b>EL</b>	32 200	35 962	38 923	:
<b>ES</b>	81 698	84 479	84 804	86 197
<b>FR</b>	168 219	164 500	136 750	133 365
<b>IE</b>	20 255	16 500	14 345	:
<b>IT</b>	79 976	82 366	58 448	58 549
<b>CY</b>	:	:	:	:
<b>LV</b>	:	:	:	:
<b>LT</b>	:	:	:	:
<b>LU</b>	:	:	:	:
<b>HU</b>	33 193	50 800	60 040	:
<b>MT</b>	:	:	:	:
<b>NL</b>	255 640	340 334	268 930	262 006
<b>AT</b>	48 135	48 536	43 472	42 470
<b>PL</b>	:	:	311 297	323 162
<b>PT</b>	60 019	41 905	49 830	49 825
<b>SI</b>	:	:	:	:
<b>SK</b>	:	:	:	:
<b>FI</b>	37 756	85 400	52 700	43 400
<b>SE</b>	110 539	134 975	137 800	:
<b>UK</b>	475 000	485 000	388 700	409 200

Source: IMACE (International Margarine Association of the Countries of Europe).

Table 3.12

**Production of crude vegetable oils, fats and oilseeds, EU-15, 2002 (thousand tonnes)**

<b>Total oilseeds</b>	13 655
<b>Soyabeans</b>	790
<b>Rapeseeds</b>	9 295
<b>Sunflower seeds</b>	2 702
<b>Cottonseeds</b>	785
<b>Linseeds</b>	83
<b>Total crude vegetable oils and fats</b>	8 653
<b>Groundnut</b>	7
<b>Soya</b>	3 071
<b>Rape</b>	3 668
<b>Sunflower</b>	1 343
<b>Cotton</b>	101
<b>Other liquid oils</b>	38
<b>Copra</b>	11
<b>Palmkernel</b>	2
<b>Other lauric oils</b>	0
<b>Linseed oil</b>	191
<b>Castor oil</b>	4
<b>Maize germ oil</b>	208
<b>Grape pips oil</b>	9

Source: Fediol - EC Seed Crushers' and Oil Processors' Federation.

### GRAIN MILL AND STARCH PRODUCTS (NACE GROUP 15.6)

Value added in this subsector was estimated at EUR 5.9 billion in the EU-25 in 2001, of which the United Kingdom accounted for more than one fifth (22.2 %). In total, the manufacturing of grain mill and starch products contributed 3.2 % to total value added within the food, beverages and tobacco manufacturing sector. Employment reached 88 900 persons employed in the EU-15 in 2001 and 119 800 in the EU-25 <sup>(18)</sup>.

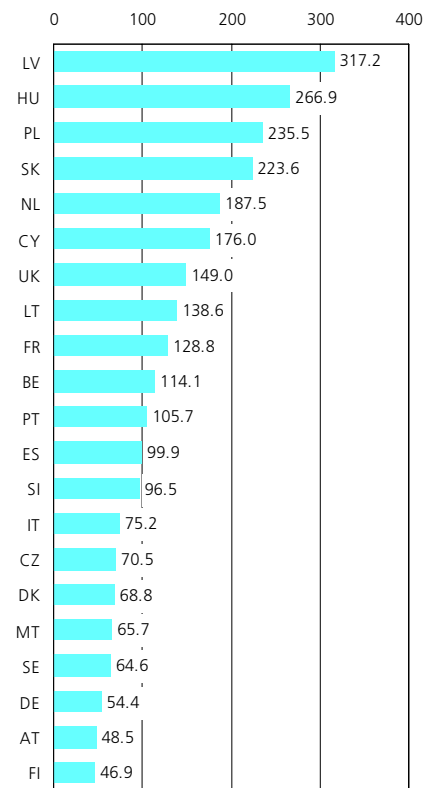
Several of the 10 new Member States <sup>(19)</sup> were among the most specialised in the manufacture of grain mill and starch products, led by Latvia, where the contribution of this subsector to manufacturing value added was more than three times higher than the EU-25 average. This subsector was also more than twice as important as the EU-25 average in its contribution to manufacturing value added in Hungary, Poland and Slovakia. The least specialised countries were Finland, Austria and Germany.

External trade in grain mill and starch products (CPA Group 15.6) with non-Community countries was relatively limited in 2002, as it accounted for only 3.8 % of total exports of food products, beverages and tobacco and 2.0 % of total imports. Exports covered imports more than twice, which resulted in a trade surplus of EUR 1.1 billion in 2002. The main export market for this category of goods was Libya, which received in 2002 some 11.5 % of extra EU-25 exports, ahead of the United States (7.9 %) and Switzerland (6.7 %). More than half of the EU-25's imports of grain mill and starch products originated from the United States (24.7 %), India (16.8 %) and Thailand (15.9 %) together.

<sup>(18)</sup> Estonia, 2002; Slovenia, number of employees.

<sup>(19)</sup> Estonia, not available.

**Figure 3.14**  
**Manufacture of grain mill products,  
starches and starch products  
(NACE Group 15.6)**  
**Value added specialisation ratio relative to  
total manufacturing, 2001 (EU-25=100) (1)**



(1) Estonia, Greece, Ireland and Luxembourg, not available.

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

**Table 3.13**  
**Main indicators for industrial dried pasta,  
2000**

	Production (tonnes)	Consumption per inhabitant (kg)
BE	99 500	5.4
CZ	48 755	6.5
DK	:	2.0
DE	243 446	6.0
EE	1 400	5.3
EL	132 000	8.7
ES	204 649	5.1
FR	252 600	7.5
IE	:	1.0
IT	3 100 843	28.0
CY	:	:
LV	1 845	4.1
LT	5 976	4.4
LU	:	:
HU	70 000	6.5
MT	:	:
NL	:	4.4
AT	27 000	5.4
PL	150 000	3.0
PT	69 000	6.7
SI	:	:
SK	22 000	5.0
FI	:	3.2
SE	20 000	7.0
UK	27 000	2.5

Source: UNAFPA - Union of Organisations of Manufacturers of Pasta Products in the European Community.

### PREPARED ANIMAL FEED (NACE GROUP 15.7)

Value added in the manufacture of prepared animal feed was EUR 7.0 billion in the EU-25 in 2001, representing 3.8 % of the food, beverages and tobacco manufacturing total. In terms of employment, the share of the manufacture of prepared animal feed was slightly lower, some 2.8 % of the number of persons employed in food, beverages and tobacco manufacturing in the EU-15. In absolute terms, 101 000 persons were employed in this subsector in the EU-15 in 2001 and 129 900 in the EU-25 <sup>(20)</sup>.

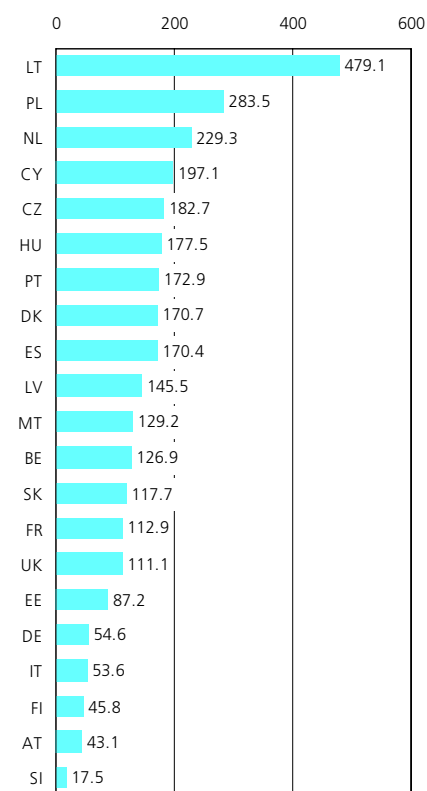
The United Kingdom (EUR 1.2 billion), France (EUR 1.1 billion) and Germany (EUR 1.0 billion) accounted jointly for almost half of the EU-25's output. In relative terms, this subsector was important in Lithuania, where it represented 2.2 % of national manufacturing value added, which was 4.8 times the average observed across the whole of the EU-25. Other relatively specialised countries included Poland, the Netherlands, Cyprus and the Czech Republic <sup>(21)</sup>.

Prepared animal feed (CPA Group 15.7) contributed 2.6 % to EU-25 exports of food products, beverages and tobacco and 2.1 % to imports in 2002. The EU-25 ran a small surplus for this category of goods, equal to EUR 0.4 billion. While the United States was by far the largest supplier of these goods, accounting for as much as 72.2 % of the EU-25's imports, they were surpassed by Switzerland (9.1 % of EU-25 exports) as the main client for EU-25 exports. The United States accounted for 7.5 % of exports, while other major destinations for exports included Russia (7.4 %) and Norway (5.6 %).

<sup>(20)</sup> Poland and Slovenia, number of employees.

<sup>(21)</sup> Greece, Ireland, Luxembourg and Sweden, not available.

**Figure 3.15**  
**Manufacture of prepared animal feeds  
(NACE Group 15.7)**  
**Value added specialisation ratio relative to  
total manufacturing, 2001 (EU-25=100) (1)**



(1) Greece, Ireland, Luxembourg and Sweden, not available.

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

### OTHER FOOD PRODUCTS (NACE GROUP 15.8)

In 2001, the value added of the other food products subsector was more than double that of the other four NACE groups covered in this subchapter, reaching EUR 64.3 billion in the EU-15, which represented over one third (34.7 %) of the total for food, beverages and tobacco manufacturing. In employment terms, the weight of this subsector was even more important, as it accounted for 43.5 % of the total number of persons employed in food, beverages and tobacco manufacturing in the EU-15. There were 1.9 million persons employed in the EU-25 <sup>(22)</sup> in 2001, of which 1.6 million were in the EU-15.

The manufacture of bread, fresh pastry goods and cakes (NACE Class 15.81) was the largest activity within the other food products' subsector, with value added of EUR 24.1 billion in the EU-15 in 2001, equivalent to 40.2 % of the subsector's value added. Three other classes in the EU-15's other food products subsector generated value added in excess of EUR 5 billion, namely the manufacture of cocoa, chocolate and sugar confectionery (NACE Class 15.84, EUR 9.5 billion), the manufacture of other food products not elsewhere classified (NACE Class 15.89, EUR 6.8 billion), and the manufacture of biscuits, rusks and preserved pastry goods and cakes (NACE Class 15.82, EUR 5.8 billion). The remaining five classes in this subsector collectively generated EUR 13.8 billion of value added, just under one quarter of the subsector's total. In employment terms the dominance of the manufacture of bread, fresh pastry goods and cakes within this subsector was respectively even stronger, as this activity provided employment for 991 000 persons in the EU-15, some 63.8 % of those employed in the manufacture of other food products.

<sup>(22)</sup> Slovenia, number of employees.

Looking at the size of this sector in the manufacturing economy reveals that Cyprus was the most specialised country in this activity in terms of value added (23). The manufacture of other food products in this country accounted for a share in total manufacturing that was 2.5 times higher than the corresponding EU-25 average in 2001. Lithuania, Poland and the Netherlands also reported relatively high value added specialisation ratios, in contrast to Finland and Sweden.

The development of the working day adjusted production index for the manufacture of other food products over recent years has been very similar to that for food, beverages and tobacco manufacturing as a whole: between 1993 and 2003 average growth was 1.8 % per annum for other food products in the EU-15, compared with 1.4 % per annum for food, beverages and tobacco manufacturing. Several of the activities within the manufacture of other food products in the EU-15 showed particularly interesting developments, most notably the manufacture of other food products not elsewhere classified (NACE Class 15.89) which averaged growth of 5.8 % per annum during the 10 years to 2003. The manufacture of sugar is one of the few activities within other food products' manufacturing that has experienced a decline in production over the same period, with an average rate of change of -0.9 % per annum between 1993 and 2003.

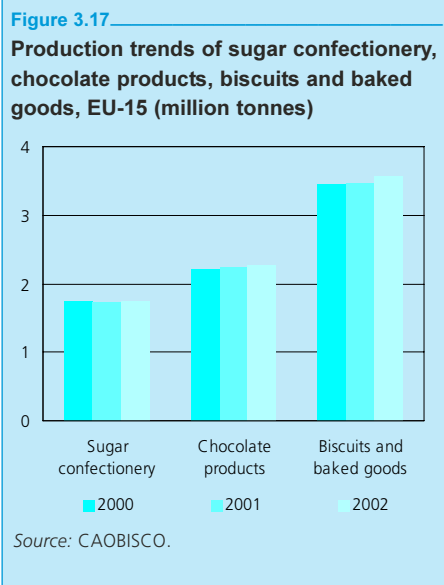
Regarding the external trade performance of the EU-25, exports of other food products (CPA Group 15.8) were valued at EUR 11.4 billion in 2002 and imports at EUR 5.3 billion. As such, the trade surplus was EUR 6.0 billion in 2002, the second highest trade surplus among the CPA groups making up food products, beverages and tobacco (CPA Subsection DA). Of the 25 Member States, 10 recorded external trade deficits (intra- and extra-EU combined) for other food products, of which the largest, by far, was the United Kingdom (EUR 1.9 billion).

(23) Greece and Ireland, not available.

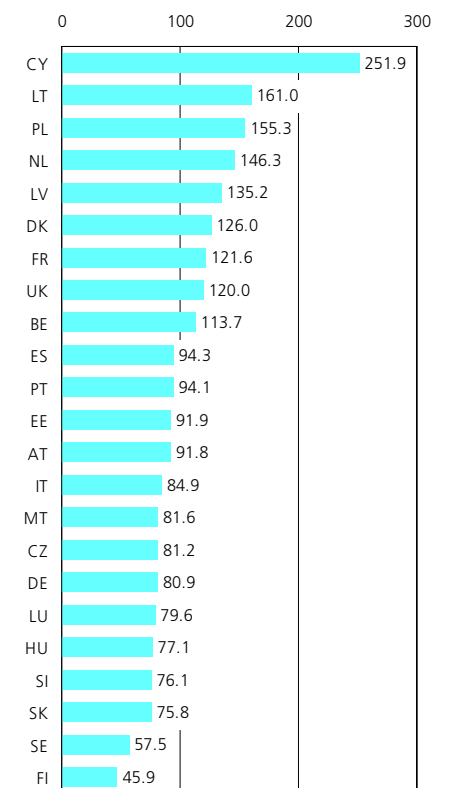
Within the other food products category, the largest trade surpluses recorded by the EU-25 were for the miscellaneous category of other food products (CPA Class 15.89), coffee and tea (CPA Class 15.86), and cocoa, chocolate and sugar confectionery (CPA Class 15.84), all of which were valued between EUR 1.2 billion and EUR 1.5 billion. The EU-25 only recorded a trade deficit for sugar (CPA Class 15.83), and for condiments and seasonings (CPA Class 15.87), both of which were less than EUR 250 million.

Denmark had the highest export specialisation (intra- and extra-EU combined) in other food products, as exports of other food products accounted for 3.4 % of Danish exports of manufactured goods, 2.2 times the average for the EU-25. By this same measure, the Netherlands, Ireland and Malta were also relatively specialised in the export of other food products.

The main EU-25 export markets for other food products were the United States, Switzerland and Russia. Switzerland and the United States were also the main origins of EU-25 imports of other food products, followed by the Côte d'Ivoire, which was mainly caused by a high value of imports of cocoa, chocolate and sugar confectionery (CPA Class 15.84), for which it was the main source of EU-25 imports.



**Figure 3.16**  
**Manufacture of other food products (NACE Group 15.8)**  
**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).

Table 3.14

**Manufacturing of miscellaneous food products (NACE Groups 15.3, 15.4 and 15.6 to 15.8)**  
**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)
Processing and preserving of fruit and vegetables	46.4	170.1	27.3
Manufacture of vegetable and animal oils and fats	65.6	165.1	39.7
Manufacture of grain mill products, starches and starch products	60.1	153.9	39.0
Manufacture of prepared animal feeds	60.2	166.5	36.1
Manufacture of other food products	38.4	152.4	25.2

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

Table 3.15

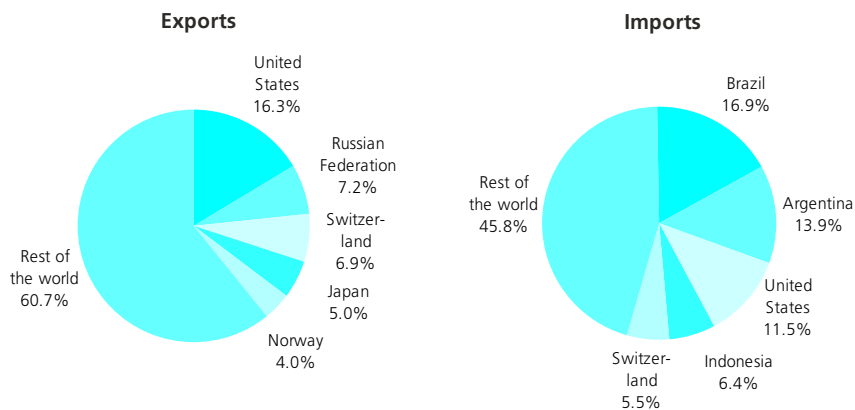
**Miscellaneous food products (CPA Groups 15.3, 15.4 and 15.6 to 15.8)**  
**External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
Processed and preserved fruit and vegetables	2 857	14.5	4 812	27.0	-1 955
Animal and vegetable oils and fats	2 475	12.5	6 108	34.3	-3 633
Grain mill products, starches and starch products	1 817	9.2	760	4.3	1 056
Prepared animal feeds	1 248	6.3	815	4.6	433
Other food products	11 351	57.5	5 304	29.8	6 047

Source: Eurostat, Comext.

Figure 3.18

**Miscellaneous food products (CPA Groups 15.3, 15.4 and 15.6 to 15.8)**  
**Share in extra-EU trade, 2002**



Source: Eurostat, Comext.

## 3.5: BEVERAGES

NACE Group 15.9 covers both alcoholic and non-alcoholic beverages. As such, the data presented in this subchapter include mineral waters, soft drinks, beer, wine and spirits. However, they do not include fruit and vegetable juices (NACE Class 15.32) or the processing of tea and coffee (NACE Class 15.86).

The supply of beverages has witnessed a remarkable increase in the past decades, marked by an ever-stronger differentiation of products. In contrast to many food products, this sector is often characterised by high advertising budgets, in a market dominated by multinational corporations. Note the peculiarity of the beer market where exclusive distribution contracts are common, whereby brewers control a network of outlets which exclusively sell their own beer brands alongside other drinks.

## STRUCTURAL PROFILE

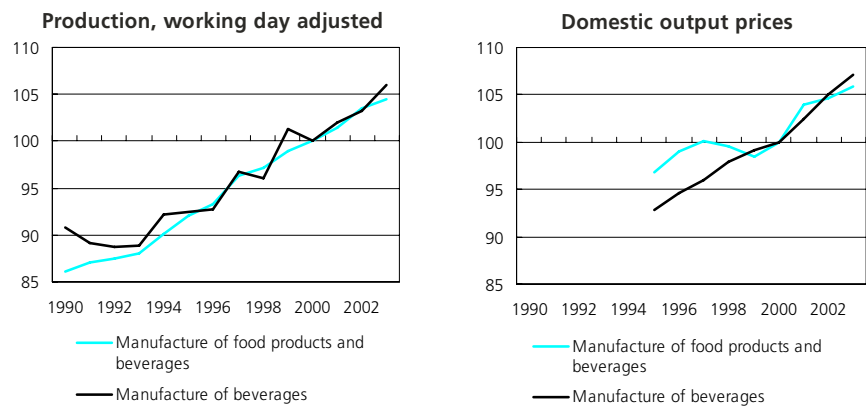
The EU-25's beverages sector generated EUR 31.7 billion of value added in 2001, of which EUR 3.1 billion originated from the 10 new Member States. Within food, beverages and tobacco manufacturing, the beverages sector was the second largest group in terms of value added (17.1 % of the total). It was also important in terms of employment, with 344 100 persons employed in the EU-15 in 2001, or 9.6 % of the food, beverages and tobacco manufacturing total; including the 10 new Member States the total number of persons employed in the EU-25 <sup>(24)</sup> was 442 400.

The United Kingdom (EUR 6.0 billion), Germany (EUR 5.3 billion) and France (EUR 4.6 billion) jointly represented approximately half of the wealth creation in beverages manufacturing in the EU-25. The relatively low level of value added recorded in Italy (EUR 2.2 billion) should be noted, reflected by the fact that this sector's share in manufacturing value added was half the level it was in the EU-25 on average; only Finland reported a lower manufacturing value added specialisation ratio in beverages <sup>(25)</sup>. In contrast, countries that stood out as being comparatively specialised in the manufacture of beverages were Cyprus, Latvia, Lithuania and Malta.

<sup>(24)</sup> Slovenia, number of employees.

<sup>(25)</sup> Greece, Ireland and the Netherlands, not available.

**Figure 3.19**  
**Manufacture of beverages (NACE Group 15.9)**  
**Main indicators, EU-25 (2000=100)**



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

**Table 3.16**  
**Consumption of soft drinks (million litres)**

	1995	1996	1997	1998	1999	2000	2001
<b>EU-15</b>							
<b>Carbonates</b>	24 739	24 502	25 478	25 738	26 723	27 375	27 836
<b>Packaged water</b>	29 094	28 863	30 214	31 375	32 907	34 516	36 168
<b>Fruit juices and nectars</b>	7 928	8 012	8 256	8 377	8 547	8 992	9 108
<b>Other soft drinks (1)</b>	8 785	9 773	9 108	9 302	9 859	10 076	10 458
<b>Other European countries (2)</b>							
<b>Carbonates</b>	4 937	4 958	5 352	5 573	5 676	5 918	5 990
<b>Packaged water</b>	2 972	3 495	3 776	4 153	4 160	4 689	4 860
<b>Fruit juices and nectars</b>	1 064	1 226	1 323	1 379	1 409	1 465	1 530
<b>Other soft drinks (1)</b>	2 839	2 934	3 070	3 082	2 690	2 779	2 777

(1) Includes still fruit drinks, fruit squashes / syrups, fruit powder, iced tea and coffee, sports and energy drinks.  
(2) The Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Slovakia, Bulgaria, Romania, Norway and Switzerland.

Source: UNESDA - Union of EU Soft Drinks Associations.

According to the Union of EU Soft Drinks Associations (Unesda), all main segments of the soft drinks market benefited from a growth in consumption between 1995 and 2001. The largest product segment in volume terms was packaged water, which also reported the highest increase in consumption over the period considered.



Turning to the beer market, Germany was by far the largest producer of beer in the EU-15, with an output of 108 million hectolitres, which was double that of the United Kingdom (see Table 3.17). In terms of demand, Germany was surpassed by Ireland with average consumption at 139.7 litres per inhabitant per year, against 121.6 litres in Germany.

#### LABOUR AND PRODUCTIVITY

The apparent labour productivity of the beverages sector was the highest among the various NACE groups that make up food, beverages and tobacco manufacturing, and was above the national manufacturing average in every Member State <sup>(26)</sup>, sometimes two (Lithuania and Poland) or even three times higher (Latvia). However, high apparent labour productivity was matched by high average personnel costs that were, with the exception of Luxembourg, also higher than national manufacturing averages in every Member State. Despite high average personnel costs, wage adjusted labour productivity in this sector was above the manufacturing average in all Member States, with the exception of the Netherlands.

<sup>(26)</sup> Greece, Ireland, the Netherlands and Slovenia, not available.

Table 3.17

Main indicators for beer, 2002			
	Number of active breweries (units)	Total beer production (thousand hl)	Consumption per inhabitant (litres)
BE	118	15 696	95.6
DK	14	8 534	96.6
DE	1 279	108 336	121.6
EL	-	4 550	40.2
ES	19	27 860	76.0
FR	19	18 117	34.6
IE	6	8 113	139.7
IT	16	12 592	28.2
LU	4	386	98.1
NL	16	24 898	79.0
AT	63	8 731	108.9
PT	7	7 129	57.2
FI	6	4 726	79.4
SE	22	4 376	55.9
UK (1)	64	56 672	99.2

(1) Excluding small and micro breweries.  
Source: The Brewers of Europe.

Table 3.18

#### Manufacture of beverages (NACE Group 15.9) 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 beverages	83.1	207.6	40.0
Manufacture of distilled potable alcoholic beverages	103.6	247.2	41.9
Production of ethyl alcohol from fermented materials	67.7	218.5	31.0
Manufacture of wines	63.3	216.4	29.3
Manufacture of cider and other fruit wines	110.2	253.1	43.5
Manufacture of other non-distilled fermented beverages	54.1	161.8	33.4
Manufacture of beer	93.8	205.3	45.7
Manufacture of malt	74.6	183.7	40.6
Production of mineral waters and soft drinks	75.3	190.8	39.5

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

Table 3.19

**Beverages (CPA Group 15.9)**  
**External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
<b>Beverages</b>	13 849	100.0	3 573	100.0	10 276
<b>Distilled alcoholic beverages</b>	5 442	39.3	907	25.4	4 535
<b>Ethyl alcohol</b>	52	0.4	30	0.8	22
<b>Wines</b>	4 393	31.7	2 258	63.2	2 136
<b>Cider and other fruit wines</b>	49	0.4	5	0.2	44
<b>Other non-distilled fermented beverages</b>	95	0.7	7	0.2	88
<b>Beer made from malt</b>	1 967	14.2	192	5.4	1 775
<b>Malt</b>	714	5.2	0	0.0	713
<b>Mineral waters and soft drinks</b>	1 137	8.2	173	4.8	964

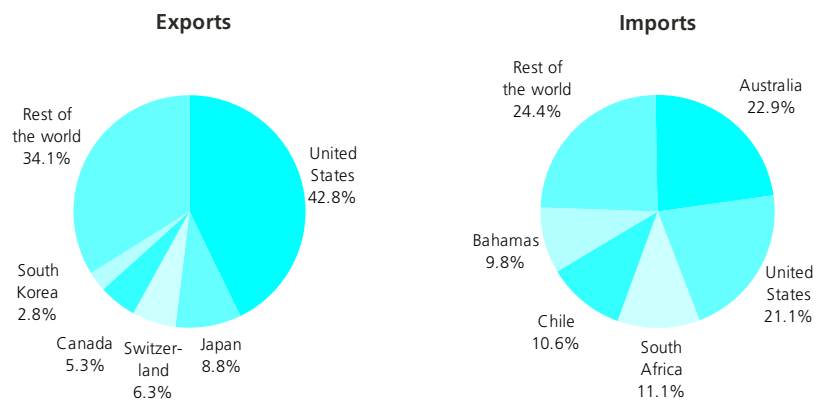
Source: Eurostat, Comext.

**EXTERNAL TRADE**

Beverages (CPA Group 15.9) are an important contributor to external trade in food products, beverages and tobacco. EU-25 exports of beverages to non-Community countries accounted for as much as 29.0 % of the total for food products, beverages and tobacco in 2002, at EUR 13.8 billion. Imports were somewhat less important, at EUR 3.6 billion, or 9.3 % of the total for food products, beverages and tobacco. As a result, the EU ran a sizeable trade surplus for beverages in 2002 that was valued at EUR 10.3 billion. The most specialised exporters (intra- and extra-EU combined) in beverages compared with their exports of all manufactured goods were France and Cyprus, where the share of this category of goods in total exports of manufactured goods was at least twice as high as the corresponding EU-25 average.

The United States was by far the main export market for EU-25 beverages, with some 42.8 % of EU-25 exports destined for that country in 2002, far ahead of the shares reported by Japan (8.8 %) and Switzerland (6.3 %). Australia surpassed the United States in terms of imports, accounting for a 22.9 % share of EU-25 imports against 21.1 % for the United States. Other major suppliers to the EU-25 included South Africa (11.1 %), Chile (10.6 %) and the Bahamas (9.8 %).

Figure 3.20

**Beverages (CPA Group 15.9)**  
**Share in extra-EU trade, 2002**


Source: Eurostat, Comext.

3.6: TOBACCO

NACE Division 16 covers the manufacture of all tobacco products, namely, cigarettes, cigarette tobacco, cigars, pipe tobacco, chewing tobacco and snuff.

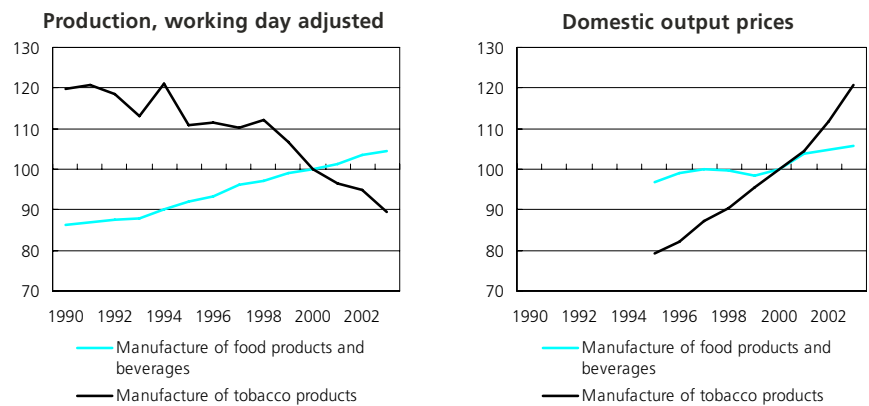
The reduction in tobacco consumption in the EU may be associated with smoking and tobacco advertising bans, health education campaigns, as well as higher indirect taxation on tobacco products.

Production of unmanufactured tobacco (regulated by the common agricultural policy) in the EU-15 fell from 430 000 tonnes in 1991 to 327 587 tonnes in 2001. The main EU-15 producers were Italy and Greece with, respectively, 127 418 tonnes and 117 872 tonnes in 2001. Among the 10 new Member States there were four tobacco producers in 2001: Poland (36 968 tonnes, 1998–2000 average), Hungary (12 904 tonnes), Slovakia (1 549) and Cyprus (337 tonnes).

**STRUCTURAL PROFILE**

The tobacco manufacturing sector generated EUR 9.5 billion of value added in the EU-25 in 2001, contributing 5.1 % to the total for food, beverages and tobacco manufacturing. Note that as much as EUR 1.5 billion of the tobacco manufacturing value added in the EU-25 originated from the 10 new Member States, equivalent to 15.3 %. This represented by far the largest percentage contribution of the 10 new Member States to EU-25 value added in any manufacturing NACE division. In employment terms the tobacco manufacturing sector was the smallest manufacturing NACE division in the EU-15, with 52 900 persons employed in 2001, just 1.5 % of the food, beverages and tobacco manufacturing total. There were 67 500 employees in the EU-25, of which 14 800 were working in the 10 new Member States. Data are only available for approximately half of the EU-25 Member States, but among these Cyprus reported a notably high value added specialisation ratio, as the contribution of tobacco manufacturing to national manufacturing value added was 3.5 times higher than the corresponding EU-25 average.

**Figure 3.21**  
**Manufacture of tobacco products (NACE Division 16)**  
**Main indicators, EU-25 (2000=100)**



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

**Table 3.20**  
**Production of tobacco products, 2002**

	Production of cigarettes (million pieces)	Production of cigars (million pieces)	Production of pipe tobacco (tonnes)	Production of hand rolling tobacco (tonnes)
<b>EU-15</b>	754 602	7 598	7 615	79 687
<b>BE/LU</b>	20 102	726	0	11 622
<b>DK</b>	12 436	339	4 464	0
<b>DE</b>	212 499	1 857	614	21 334
<b>EL</b>	40 049	0	0	12
<b>ES</b>	58 656	837	0	0
<b>FR</b>	39 400	584	659	3 041
<b>IE</b>	6 527	30	0	8 000
<b>IT</b>	37 335	119	36	0
<b>NL</b>	126 292	2 380	350	31 000
<b>AT</b>	36 748	30	0	0
<b>PT</b>	23 875	0	0	0
<b>FI</b>	4 169	:	0	121
<b>SE</b>	3 500	0	300	250
<b>UK</b>	133 014	696	1 193	4 306

Source: CECCM, most recent figures provided by national manufacturers' associations as of December 2003.

Tobacco manufacturing is dominated by large enterprises. In 2001, 82.6 % of the value added in the EU-25 originated from enterprises employing at least 250 persons, 1.5 times the equivalent proportion for manufacturing as a whole. Only 11.5 % of value added came from small enterprises and 5.8 % from medium-sized enterprises, while micro enterprises (0.2 %) had a marginal role in this sector.

The main tobacco product in the EU-15 was cigarettes, with production in 2002 of 754.6 billion units, of which almost two thirds were manufactured in just three countries: Germany (212.5 billion units), the United Kingdom (133.0 billion) and the Netherlands (126.3 billion) - see Table 3.20.

**LABOUR AND PRODUCTIVITY**

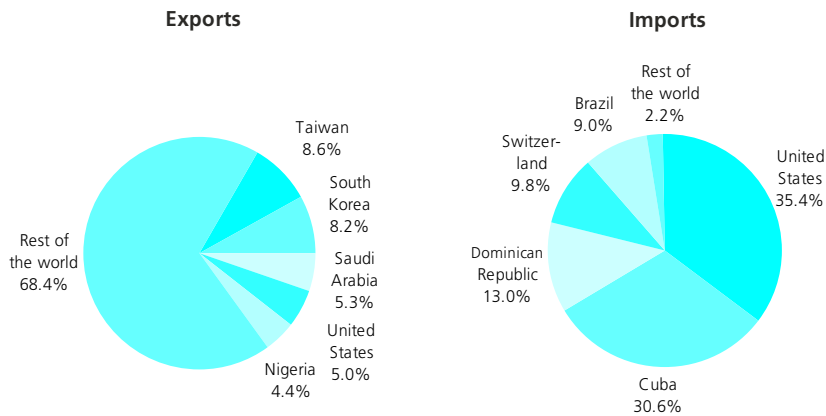
Within food, beverages and tobacco manufacturing, the EU-15 recorded its highest apparent labour productivity in tobacco manufacturing, each person employed generating on average EUR 153 200 of value added in 2001, against EUR 51 200 in manufacturing as a whole. Average personnel costs were also generally high, equal to EUR 43 400 per employee in the EU-25 in 2001 (EUR 51 500 in the EU-15) against EUR 30 900 in manufacturing (EUR 35 700 in the EU-15). The combination of these two ratios reveals that wage adjusted labour productivity in the EU-25 for tobacco manufacturing was approximately twice as high as the manufacturing average.

**EXTERNAL TRADE**

The EU-25 had a very low level of external trade in manufactured tobacco products (CPA Division 16) in 2002, with exports to non-Community countries being valued at only EUR 1.8 billion and imports at EUR 0.2 billion. The Netherlands was the most specialised exporter (intra- and extra-EU combined) of tobacco products relative to its total exports of manufactured goods.

The main EU-25 export markets for tobacco products were Taiwan (8.6 % of EU-25 exports), South Korea (8.2 %), Saudi Arabia (5.3 %) and the United States (5.0 %). The main EU-25 import partners were the United States (35.4 % of EU-25 imports) and Cuba (30.6 %).

Figure 3.22

**Tobacco products (CPA Division 16)  
Share in extra-EU trade, 2002**


Source: Eurostat, Comext.

Table 3.21

**Production, processing, preserving of meat, meat products (NACE Group 15.1)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	4 853	1 744	5 822	27 072	117	:	13 905	31 077	3 580	16 233	213	161	207	90
Value added at factor cost (EUR million) (1)	808	219	1 318	6 438	20	:	2 430	5 654	512	2 332	32	40	29	24
Purchases of goods and services (EUR million)	4 506	1 731	0	22 571	106	:	12 396	29 047	3 178	14 832	177	147	192	67
Gross investment in tangible goods (EUR million)	140	51	160	581	6	:	437	849	88	443	7	11	9	:
Number of persons employed (thousands)	16	30	25	211	3	:	73	173	14	57	1	5	9	1
App. labour productivity (EUR thous./pers. emp.) (1)	49.8	7.3	53.8	30.5	8.0	:	33.5	32.7	35.6	41.3	26.3	7.6	3.1	29.4
Average personnel costs (EUR thous./employee) (2)	33.9	5.3	37.0	22.2	4.9	:	20.8	25.3	22.2	28.2	14.7	2.7	2.1	30.1
Wage adjusted labour productivity (%) (2)	147.0	138.0	145.3	137.0	165.0	:	160.5	129.0	159.9	146.2	159.2	286.2	148.4	97.5
Gross operating rate (%) (1)	5.5	3.7	7.0	7.4	6.4	:	6.7	4.1	5.6	5.4	6.7	15.6	4.4	-0.3
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	2 003	33	8 414	2 316	5 773	1 619	404	404	1 940	3 124	18 102	258	1 014	:
Value added at factor cost (EUR million)	347	7	1 241	569	2 467	257	71	24	504	615	4 902	28	11	:
Purchases of goods and services (EUR million)	1 971	26	7 539	1 982	5 795	1 500	340	454	1 843	2 575	14 178	290	1 199	:
Gross investment in tangible goods (EUR million)	89	1	196	63	201	90	22	26	77	110	504	23	56	:
Number of persons employed (thousands)	34	0	27	17	106	15	:	9	11	15	121	16	32	:
App. labour productivity (EUR thous./pers. emp.)	10.1	20.9	45.2	33.2	23.2	16.9	:	2.5	47.8	41.3	40.7	1.8	0.3	:
Average personnel costs (EUR thous./employee)	6.2	11.9	31.2	25.6	5.6	11.2	10.9	4.3	33.8	33.5	26.9	1.3	1.9	:
Wage adjusted labour productivity (%)	162.0	175.1	144.8	129.4	414.6	151.6	:	58.6	141.2	123.1	151.4	141.4	17.8	:
Gross operating rate (%)	5.9	11.6	4.8	6.4	28.5	5.1	1.6	-3.5	6.4	3.8	8.8	5.1	-4.7	:

(1) Ireland, 2000.

(2) Ireland and Cyprus, 2000.

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

Table 3.22

**Processing and preserving of fish and fish products (NACE Group 15.2)**  
**Main indicators, 2001**

	BE	CZ (1)	DK	DE	EE	EL	ES	FR (2)	IE	IT	CY	LV	LT	LU
Production (EUR million)	381	40	1 477	2 169	131	:	2 834	2 542	384	1 687	:	167	121	0
Value added at factor cost (EUR million) (3)	74	:	298	501	31	:	591	456	79	258	:	61	24	0
Purchases of goods and services (EUR million)	380	64	0	1 870	103	:	2 612	2 495	321	1 698	:	127	109	0
Gross investment in tangible goods (EUR million)	9	:	46	44	7	:	113	97	11	46	:	12	9	:
Number of persons employed (thousands)	1	1	7	12	5	:	22	14	3	6	:	9	4	0
App. labour productivity (EUR thous./pers. emp.) (3)	50.2	:	42.9	42.0	5.7	:	26.5	31.5	30.8	43.0	:	7.2	5.7	:
Average personnel costs (EUR thous./employee) (3)	32.3	4.8	29.5	29.7	4.1	:	15.9	25.7	18.6	26.2	:	3.1	1.9	:
Wage adjusted labour productivity (%) (3)	155.4	:	145.4	141.4	139.8	:	167.1	122.8	165.8	164.0	:	228.2	302.5	:
Gross operating rate (%) (3)	6.4	5.1	5.9	6.4	6.6	:	7.9	2.9	8.7	6.3	:	20.3	12.5	:
	HU (2)	MT	NL	AT (1)	PL	PT	SI (1)	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	2	:	701	26	575	550	15	30	80	379	2 939	6	15	:
Value added at factor cost (EUR million)	1	:	148	9	242	82	3	6	20	98	705	1	3	:
Purchases of goods and services (EUR million)	2	:	631	23	502	574	12	34	63	319	2 295	6	13	:
Gross investment in tangible goods (EUR million)	1	:	13	1	32	31	0	1	3	16	89	1	3	:
Number of persons employed (thousands)	0	:	4	0	12	5	:	1	1	2	21	1	1	:
App. labour productivity (EUR thous./pers. emp.)	4.3	:	34.7	29.4	19.9	15.2	:	6.2	36.1	42.7	33.7	1.7	2.6	:
Average personnel costs (EUR thous./employee)	2.5	:	26.6	19.0	5.5	10.1	11.9	4.3	23.5	29.6	19.6	1.4	1.9	:
Wage adjusted labour productivity (%)	169.0	:	130.5	154.5	361.2	150.3	:	144.0	154.0	144.6	172.1	122.0	137.3	:
Gross operating rate (%)	8.6	:	6.3	9.2	27.2	4.3	0.9	4.7	10.2	7.9	10.0	3.6	6.1	:

(1) 1999.

(2) 2000.

(3) Ireland, 2000.

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

Table 3.23

**Processing and preserving of fruit and vegetables (NACE Group 15.3)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	1 884	186	569	7 209	15	:	4 569	6 018	213	6 700	54	29	11	:
Value added at factor cost (EUR million) (1)	425	39	139	1 502	4	:	880	1 112	112	1 070	19	8	2	:
Purchases of goods and services (EUR million)	1 570	173	0	6 075	13	:	4 119	5 459	157	5 888	44	25	9	:
Gross investment in tangible goods (EUR million)	184	5	29	300	2	:	255	283	13	591	4	2	1	:
Number of persons employed (thousands)	7	4	3	31	0	:	31	27	2	30	1	1	1	:
App. labour productivity (EUR thous./pers. emp.) (1)	61.1	9.1	51.1	48.9	8.9	:	28.4	41.5	68.7	36.0	25.7	10.1	3.2	:
Average personnel costs (EUR thous./employee) (2)	34.4	5.5	33.4	31.9	5.0	:	18.4	28.2	25.4	24.0	15.2	4.9	2.6	:
Wage adjusted labour productivity (%) (2)	178.0	165.1	152.8	153.5	177.7	:	154.0	147.4	270.7	149.7	187.7	206.3	122.0	:
Gross operating rate (%) (1)	9.6	8.3	7.9	7.1	11.3	:	6.5	5.5	26.3	6.1	12.0	13.4	3.8	:
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	630	60	2 860	883	2 214	415	185	50	373	1 090	6 143	116	86	:
Value added at factor cost (EUR million)	140	22	646	215	1 000	88	44	12	115	340	2 324	20	18	:
Purchases of goods and services (EUR million)	582	37	2 550	746	1 596	348	141	47	354	849	3 989	120	81	:
Gross investment in tangible goods (EUR million)	44	1	123	36	91	36	14	3	15	60	337	17	19	:
Number of persons employed (thousands)	12	1	10	3	35	4	:	2	2	6	35	8	6	:
App. labour productivity (EUR thous./pers. emp.)	11.5	37.9	66.9	64.9	28.5	22.4	:	8.0	55.9	59.7	65.9	2.4	2.9	:
Average personnel costs (EUR thous./employee)	6.1	11.5	39.4	38.6	7.7	15.1	15.2	4.5	32.7	37.7	29.6	1.3	2.0	:
Wage adjusted labour productivity (%)	187.1	330.5	169.9	167.9	368.0	147.8	:	179.7	171.0	158.5	222.8	178.7	142.2	:
Gross operating rate (%)	9.7	25.2	9.0	9.5	31.0	6.7	6.6	9.4	10.5	10.8	20.5	6.9	7.0	:

(1) Ireland, 2000.

(2) Ireland and Cyprus, 2000.

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

Table 3.24

**Manufacture of vegetable and animal oils and fats (NACE Group 15.4)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE (1)	IT	CY	LV	LT	LU
Production (EUR million)	2 298	:	:	4 739	:	:	5 452	2 643	9	4 381	36	:	:	:
Value added at factor cost (EUR million)	138	:	:	519	:	:	633	269	2	535	6	:	:	:
Purchases of goods and services (EUR million)	2 168	:	:	4 801	:	:	5 364	2 981	9	4 196	34	:	:	:
Gross investment in tangible goods (EUR million)	28	:	:	95	:	:	199	45	0	223	1	:	:	:
Number of persons employed (thousands)	2	:	:	7	:	:	14	4	0	13	0	:	:	:
App. labour productivity (EUR thous./pers. emp.)	88.8	:	:	76.7	:	:	44.9	73.3	32.5	41.1	29.7	:	:	:
Average personnel costs (EUR thous./employee) (3)	55.6	:	:	53.0	:	:	23.5	54.4	27.0	33.0	18.0	:	:	:
Wage adjusted labour productivity (%) (3)	159.7	:	:	144.7	:	:	190.8	134.7	120.6	124.5	182.9	:	:	:
Gross operating rate (%)	2.2	:	:	3.0	:	:	5.5	2.2	4.7	6.4	6.3	:	:	:
	HU	MT	NL	AT (1)	PL (2)	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	395	:	2 927	355	505	623	33	106	216	589	2 957	87	301	:
Value added at factor cost (EUR million)	92	:	351	112	83	70	4	14	56	162	694	14	55	:
Purchases of goods and services (EUR million)	413	:	4 945	542	398	597	31	96	180	477	2 443	101	321	:
Gross investment in tangible goods (EUR million) (4)	20	:	59	18	25	28	2	6	4	15	48	4	26	:
Number of persons employed (thousands)	2	:	4	1	:	2	:	1	1	2	4	3	6	:
App. labour productivity (EUR thous./pers. emp.)	41.0	:	99.3	118.5	:	29.0	:	12.6	77.4	90.1	162.9	4.7	8.5	:
Average personnel costs (EUR thous./employee)	19.1	:	44.7	77.4	9.2	15.8	15.6	6.5	49.3	45.4	65.9	2.0	3.3	:
Wage adjusted labour productivity (%)	214.1	:	222.2	153.1	:	183.1	:	194.2	157.1	198.3	247.1	236.0	254.6	:
Gross operating rate (%)	9.9	:	3.8	6.6	7.8	6.0	0.2	6.0	8.8	13.4	13.0	7.5	9.5	:

(1) 2000.

(2) 1999.

(3) Cyprus, 2000.

(4) The Netherlands, 2000.

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

Table 3.25

**Manufacture of dairy products (NACE Group 15.5)**  
**Main indicators, 2001**

	BE	CZ	DK (1)	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	3 150	1 183	3 158	20 220	196	:	6 665	23 137	3 731	16 386	133	195	376	:
Value added at factor cost (EUR million) (2)	383	145	571	2 580	26	:	1 280	3 107	757	2 861	38	61	68	:
Purchases of goods and services (EUR million)	2 932	1 171	3 440	19 881	226	:	6 005	21 893	3 930	14 612	100	157	330	:
Gross investment in tangible goods (EUR million)	93	38	141	449	14	:	276	565	101	765	13	12	31	:
Number of persons employed (thousands)	8	14	10	40	3	:	25	65	11	53	1	5	11	:
App. labour productivity (EUR thous./pers. emp.) (2)	50.6	10.5	54.5	65.0	8.7	:	50.2	47.9	82.1	54.3	26.4	11.7	6.4	:
Average personnel costs (EUR thous./employee) (3)	39.6	5.9	34.9	39.9	5.9	:	27.9	32.5	34.3	33.5	17.1	4.2	4.4	:
Wage adjusted labour productivity (%) (3)	128.0	176.3	156.2	162.9	147.4	:	179.9	147.4	239.2	162.0	163.4	276.5	145.9	:
Gross operating rate (%) (2)	3.2	4.9	5.6	4.5	3.4	:	8.5	4.0	10.2	7.6	9.8	19.8	5.7	:
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	860	31	7 404	1 697	3 459	1 347	270	333	1 707	2 323	9 231	122	300	:
Value added at factor cost (EUR million)	146	4	964	221	862	247	30	37	274	450	1 978	22	59	:
Purchases of goods and services (EUR million)	842	26	6 898	1 773	3 049	1 144	251	357	1 716	2 046	8 256	116	314	:
Gross investment in tangible goods (EUR million)	28	1	132	82	132	60	9	21	35	136	364	24	46	:
Number of persons employed (thousands)	9	0	13	5	51	8	:	5	5	9	37	7	18	:
App. labour productivity (EUR thous./pers. emp.)	15.7	16.5	74.3	48.8	16.8	32.7	:	8.0	51.7	50.3	52.8	3.1	3.3	:
Average personnel costs (EUR thous./employee)	7.5	12.6	47.1	38.7	7.4	14.6	15.9	5.0	36.0	38.6	30.2	1.6	2.2	:
Wage adjusted labour productivity (%)	208.8	130.7	157.8	126.3	227.8	224.1	:	160.3	143.6	130.3	174.9	200.4	153.8	:
Gross operating rate (%)	8.3	4.3	5.5	2.4	12.7	10.3	0.5	3.6	4.3	4.3	8.6	9.1	7.2	:

(1) 1999.

(2) Ireland, 2000.

(3) Ireland and Cyprus, 2000.

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

Table 3.26

**Manufacture of other food products (NACE Group 15.8)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE (1)	IT	CY	LV	LT	LU
Production (EUR million)	7 128	1 793	3 768	40 059	125	:	11 997	33 777	5 690	24 446	212	226	333	146
Value added at factor cost (EUR million)	2 107	507	1 354	13 968	38	:	4 110	10 542	1 619	7 203	98	93	92	76
Purchases of goods and services (EUR million)	5 759	1 586	0	29 166	104	:	9 105	26 847	4 213	20 310	158	172	272	83
Gross investment in tangible goods (EUR million)	401	86	267	1 517	10	:	605	1 791	125	1 668	24	18	23	:
Number of persons employed (thousands)	50	60	32	416	6	:	133	281	12	216	5	11	20	2
App. labour productivity (EUR thous./pers. emp.)	42.1	8.4	42.9	33.6	6.3	:	30.9	37.5	137.0	33.3	18.4	8.2	4.7	37.1
Average personnel costs (EUR thous./employee) (2)	29.2	5.4	27.9	23.3	4.3	:	21.3	26.6	29.4	25.4	12.0	3.7	3.3	25.7
Wage adjusted labour productivity (%) (2)	144.2	157.7	153.9	144.1	146.6	:	145.5	141.2	466.3	130.9	154.0	225.7	142.7	144.0
Gross operating rate (%)	11.3	9.9	12.9	10.7	8.5	:	12.3	10.4	22.0	14.0	13.7	21.7	8.6	16.4
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	1 280	60	10 629	3 204	7 059	2 051	389	507	1 845	2 788	28 129	407	1 265	:
Value added at factor cost (EUR million)	373	26	3 317	1 375	2 938	705	128	125	598	1 004	11 498	69	275	:
Purchases of goods and services (EUR million)	1 131	35	8 406	2 200	4 214	1 578	275	503	1 308	1 994	19 046	396	1 448	:
Gross investment in tangible goods (EUR million)	89	2	415	178	270	159	31	36	78	170	1 272	38	167	:
Number of persons employed (thousands)	34	2	68	40	156	47	:	18	15	22	205	34	90	:
App. labour productivity (EUR thous./pers. emp.)	11.0	15.1	48.8	34.5	18.8	14.9	:	7.0	39.7	44.9	56.2	2.0	3.0	:
Average personnel costs (EUR thous./employee)	5.6	9.7	29.5	26.6	6.7	10.1	13.6	4.4	29.7	33.5	29.2	1.5	1.6	:
Wage adjusted labour productivity (%)	195.8	155.4	165.4	129.5	280.8	147.2	:	161.2	133.4	133.7	192.3	130.2	191.3	:
Gross operating rate (%)	12.6	24.8	12.3	10.5	29.2	11.9	5.3	7.7	8.7	9.4	18.3	4.5	9.7	:

(1) 2000.

(2) Cyprus, 2000.

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

Table 3.27

**Manufacture of beverages (NACE Group 15.9)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	3 329	1 547	1 528	19 251	124	13 266	17 871	2 511	12 135	224	208	247	175	
Value added at factor cost (EUR million) (1)	954	416	434	5 298	34	3 931	4 648	1 215	2 201	80	138	95	61	
Purchases of goods and services (EUR million)	2 468	1 288	0	13 339	120	10 250	13 844	1 284	10 126	146	100	155	119	
Gross investment in tangible goods (EUR million)	217	140	84	1 329	11	925	776	130	597	34	32	29		
Number of persons employed (thousands)	11	21	6	80	2	50	47	6	37	2	4	7	1	
App. labour productivity (EUR thous./pers. emp.) (1)	86.1	19.9	71.3	66.6	16.7	78.3	99.9	197.6	60.3	38.9	37.9	14.2	97.0	
Average personnel costs (EUR thous./employee) (2)	50.4	8.2	40.6	42.8	7.5	33.6	44.6	46.2	33.6	19.6	6.7	5.8	42.4	
Wage adjusted labour productivity (%) (2)	170.7	241.2	175.8	155.6	222.9	232.6	224.0	427.4	179.4	220.8	569.4	245.7	228.5	
Gross operating rate (%) (1)	11.4	15.0	11.9	9.3	12.0	17.3	13.8	30.2	9.1	16.5	54.5	22.0	18.9	
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	1 172	82	1 771	4 832	2 159	279	402	904	1 633	19 807	435	1 264		
Value added at factor cost (EUR million)	418	40	589	1 681	580	67	89	311	541	5 967	90	412		
Purchases of goods and services (EUR million)	846	42	1 128	3 535	1 839	210	353	629	1 180	12 035	358	1 032		
Gross investment in tangible goods (EUR million)	72	8	206	117	306	252	28	72	122	1 587	45	349		
Number of persons employed (thousands)	14	1	10	9	36	14	9	4	6	56	17	38		
App. labour productivity (EUR thous./pers. emp.)	29.0	33.8	64.5	46.6	41.3	10.2	80.7	86.1	106.0	5.4	10.8			
Average personnel costs (EUR thous./employee)	10.0	14.7	43.0	11.2	18.1	18.9	5.4	39.1	44.3	44.4	2.4	3.0		
Wage adjusted labour productivity (%)	290.4	230.3	149.8	417.9	228.3	189.0	206.3	194.2	238.6	225.4	355.0			
Gross operating rate (%)	22.3	27.5	10.5	25.8	14.5	5.8	9.9	17.4	15.5	15.6	10.5	22.0		

(1) Ireland, 2000.

(2) Ireland and Cyprus, 2000.

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

Table 3.28

**Manufacture of tobacco products (NACE Division 16)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	1 562	627	1 544	14 440	0	224	1 407	1 359	8 450	129				
Value added at factor cost (EUR million)	237		242	1 942	0	65	519	207	440	20				
Purchases of goods and services (EUR million)	1 327	469	0	6 545	0	1 230		249	2 153	48				
Gross investment in tangible goods (EUR million)	48		17	185	0	64		13	31	9				
Number of persons employed (thousands)	3		1	13	0	1	6	1	8	0				
App. labour productivity (EUR thous./pers. emp.)	78.1		174.9	150.0		48.1	83.4	224.7	51.8	70.3				
Average personnel costs (EUR thous./employee) (2)	38.3		41.9	64.5			43.0	41.9	32.6					
Wage adjusted labour productivity (%) (2)	204.0		417.4	232.6			193.8	536.7	158.6					
Gross operating rate (%) (2)	7.8		11.9	6.3			15.2	11.6	1.7	9.9				
	HU (1)	MT	NL	AT	PL (1)	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	263			2 403	358			100	13 706	408	624			
Value added at factor cost (EUR million)	88			1 777	139			18	1 706	70	303			
Purchases of goods and services (EUR million)	194			805	210			93	1 862	197	361			
Gross investment in tangible goods (EUR million) (3)	11		76	96	25			3	141	10	82			
Number of persons employed (thousands)	2		5		1			0	5	11	5			
App. labour productivity (EUR thous./pers. emp.)	42.3				99.9			45.3	360.5	6.5	59.6			
Average personnel costs (EUR thous./employee)	11.8			13.8	35.0			43.6	85.2	4.2	6.6			
Wage adjusted labour productivity (%)	357.3				285.7			103.9	423.3	154.6	897.5			
Gross operating rate (%)	23.1			64.2	24.9			0.7	9.3	5.7	44.9			

(1) 2000.

(2) Ireland, 2000.

(3) The United Kingdom, 2000.

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



## Textiles, clothing, leather and footwear



Textile and clothing manufacturing has been greatly affected by globalisation. This activity is one of the oldest and most traditional within the manufacturing sector and is highly labour intensive, resulting in production moving to lower-cost regions of the world, especially in Asia. Competition by manufacturers in the EU concentrates on fashion and design, by investing in research and development for new materials (for example, man-made fibres in textiles), and by providing higher quality goods to consumers. The trend has been to outsource stages of production that are more labour intensive to lower-cost countries, such as Romania and some Mediterranean countries, especially Turkey, Morocco and Tunisia.

The interaction between enterprises in all parts of the production chain by means of EDI may permit textile and clothing manufacturers to react faster to market fluctuations and to cut distribution and stock management costs. The application of ICT may lead to a more integrated and efficient supply chain, and to further reduce the time taken for products to go from the design stage to retail outlets.

A further challenge for textile and clothing manufacturers is to adapt their activity to the liberalisation of textile and clothes trade. Indeed, in 2005, after almost four decades of World Trade Organisation (WTO) import quotas, the process of trade liberalisation should have been completed. This should involve the removal of quantitative restrictions on large textile producing nations like China, India or Indonesia when exporting, for example, to the EU or the United States.

### STRUCTURAL PROFILE

Value added in the EU-25's textile and clothing manufacturing sector (NACE Subsections DB and DC) was EUR 76.7 billion in 2001 (EUR 5.9 billion less in the EU-15) and accounted for 5.0 % of the whole of EU-25 manufacturing. There were 3.2 million persons employed in this sector in the EU-25 <sup>(1)</sup> and 2.4 million in the EU-15, 8.3 % of EU-15 manufacturing employment, accounting therefore for a notably higher share of employment than of value added. The 10 new Member States contributed 7.7 % of the EU-25's value added in this sector. Their contribution to employment was particularly high in the manufacture of clothing (NACE Group 17.7 and Division 18), where 28.6 % of the EU-25 workforce were employed in the 10 new Member States <sup>(2)</sup>.

Almost half of the EU-25's textile and clothing manufacturing activity was accounted for by the manufacture of textiles (NACE Groups 17.1 to 17.6, 43.7 % of value added), whilst the manufacture of clothing (NACE Group 17.7 and Division 18) accounted for more than one third (38.6 %) of value added and the manufacture of leather and footwear (NACE Division 19) for the remaining 17.7 %.

<sup>(1)</sup> Estonia and Slovenia, number of employees, 1999; Latvia, 2002; Lithuania and Hungary, 1999.

<sup>(2)</sup> Slovenia, number of employees.

This chapter covers the manufacture of textiles, clothing, fur and leather goods, as defined by NACE Subsections DB and DC, hereafter referred to as textile and clothing manufacturing. The processing stages of textile manufacture (as covered by NACE Groups 17.1 to 17.6) are dealt with in the first subchapter, while NACE Group 17.7 and Division 18 make up the second subchapter on clothing (which includes articles that are either knitted or crocheted). The final subchapter concentrates on leather and footwear (as covered by NACE Division 19).

### NACE

- 17: manufacture of textiles;
- 17.1: preparation and spinning of textile fibres;
- 17.2: textile weaving;
- 17.3: finishing of textiles;
- 17.4: manufacture of made-up textile articles, except apparel;
- 17.5: manufacture of other textiles;
- 17.6: manufacture of knitted and crocheted fabrics;
- 17.7: manufacture of knitted and crocheted articles;
- 18: manufacture of wearing apparel; dressing and dyeing of fur;
- 18.1: manufacture of leather clothes;
- 18.2: manufacture of other wearing apparel and accessories;
- 18.3: dressing and dyeing of fur; manufacture of articles of fur;
- 19: tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear;
- 19.1: tanning and dressing of leather;
- 19.2: manufacture of luggage, handbags and the like, saddlery and harness;
- 19.3: manufacture of footwear.

Table 4.1

**Manufacture of textiles and textile products; manufacture of leather and leather products (NACE Subsections DB and DC)**  
**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	Italy (25.2)	Portugal (369)	Italy (808.3)	China (18.7)	United States (8.4)
2	United Kingdom (9.1)	Italy (249)	Poland (324.0)	Turkey (9.6)	Switzerland (4.7)
3	Germany (9.0)	Malta (225)	Spain (316.0)	India (5.7)	Japan (3.7)
4	France (8.9)	Greece (221)	Portugal (293.7)	Romania (5.5)	Romania (3.6)
5	Spain (6.9)	Luxembourg (141)	France (259.7)	Tunisia (3.6)	Hong Kong (2.6)

(1) Estonia, Latvia, Lithuania, Hungary and Slovenia, not available.  
 Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

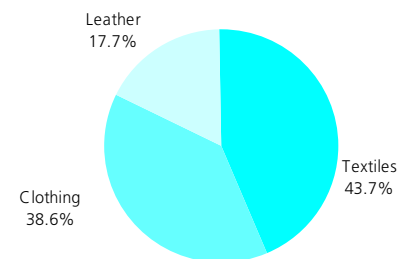
In value added terms, Italy had the largest textile and clothing manufacturing activity (EUR 25.2 billion, almost one third of the EU-25 total)<sup>(3)</sup>, and employed 808 300 persons. In fact, Italy generated the largest share of EU-25 value added in each of the three subsectors covered by this chapter (textiles, clothing and leather manufacturing). However, compared with its manufacturing sector as a whole, Portugal was the most specialised Member State in the textile and clothing manufacturing sector, followed by Italy, Malta and Greece. Ireland, Sweden and Finland were the least specialised in this sector compared with their overall level of manufacturing activity.

According to annual short-term statistics, the working day adjusted production index for textile and clothing manufacturing followed a downward evolution in recent years. As with manufacturing in general, 1993 marked the end of a downturn in textile and clothing manufacturing, and in 1994 textile and clothing manufacturing output grew by 2.2 %. However,

<sup>(3)</sup> Estonia, Latvia, Lithuania, Hungary and Slovenia, not available.

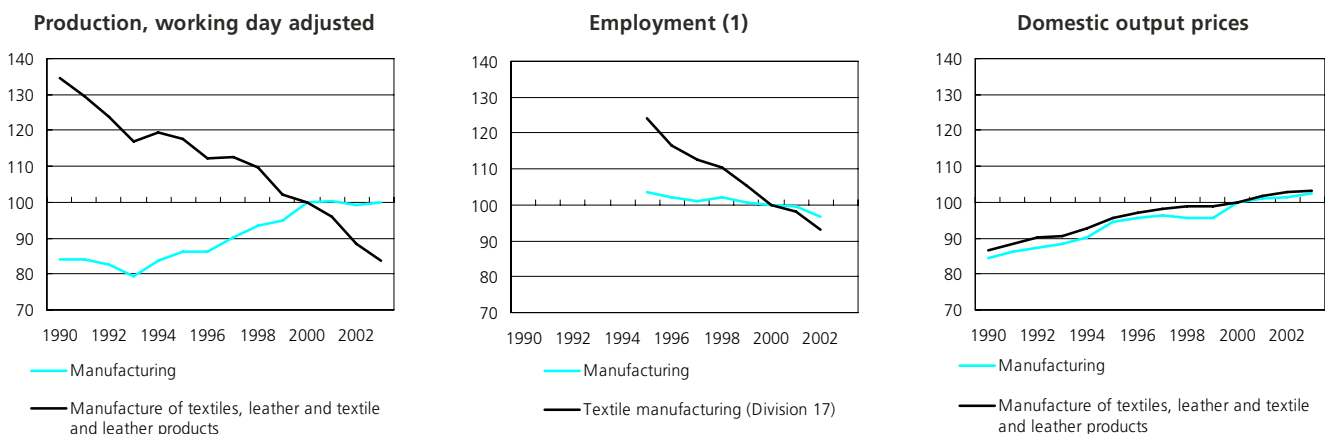
this recovery was very short lived in textile and clothing manufacturing, as 1995 was the start of an almost unbroken decline in EU-25 output that went through to 2003, with the only positive growth rate being registered in 1997 (+0.4 %). Textile and clothing manufacturing production decreased on average by 3.9 % per annum over the nine years to 2003, whereas over the same period manufacturing production increased on average by 2.0 % per annum. The largest decreases in EU-25 production were recorded in 1999 and 2002, when annual output fell by 6.6 % and 8.0 % compared to the year before. All three parts of textile and clothing manufacturing showed a similar evolution between 1994 and 2003, with the decline in production strongest for wearing apparel, dressing and dyeing of fur (NACE Division 18, -5.7 % per annum), followed by leather and leather products manufacturing (NACE Division 19, -3.8 % per annum), and textiles manufacturing (NACE Division 17, -2.1 % per annum). Most of the major textile and clothing manufacturing Member States registered a decline in their levels of production over the period 1994 to 2003.

**Figure 4.1**  
**Manufacture of textiles and textile products; manufacture of leather and leather products (NACE Subsections DB and DC)**  
**Share of value added at factor cost, EU-25, 2001 (%)**



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

Figure 4.2

**Manufacture of textiles and textile products; manufacture of leather and leather products (NACE Subsections DB and DC)**  
**Main indicators, EU-25 (2000=100)**


(1) Note that the data is for NACE Division 17 only.  
 Source: Eurostat, European Business Trends - Monthly and Quarterly Short Term Statistics (theme4/ebt).

Table 4.2

**Manufacture of textiles and textile products; manufacture of leather and leather products (NACE Subsections DB and DC)**  
**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
<b>EU-25</b>	13.7	:	26.5	:	31.5	:	28.3	:
<b>EU-15</b>	14.1	18.0	27.6	33.1	31.4	29.1	26.9	19.8

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

All three parts of textile and clothing manufacturing registered regular increases in output prices in the EU-25 during the 10-year period from 1993 to 2003, with the only falling prices being registered for textile manufacturing: -0.9 % in 1999 and -0.2 % in 2002. The fastest price increases were for leather manufacturing, averaging 2.2 % per annum during the 10 years to 2003, while price increases for textile manufacturing and clothing manufacturing averaged 1.2 % and 1.3 % respectively over the same period.

SMEs (with less than 250 persons employed) dominated the textile and clothing manufacturing sector in the EU-25. Micro enterprises (with less than 10 persons employed) generated EUR 10.5 billion of value added in 2001, a 13.7 % share of the total (compared with a manufacturing average of 7.3 % for this size-class). Small enterprises (from 10 to 49 persons employed) and medium-sized enterprises (from 50 to 249 persons employed) generated 26.5 % and 31.5 % respectively of total value added, each around 10 percentage points higher than their respective manufacturing averages. Large enterprises registered a 28.3 % share of value added, which was approximately half their average contribution within the manufacturing sector as a whole (54.9 %). All three of the NACE divisions within textile and clothing manufacturing reported a similar enterprise structure that was dominated by SMEs.

#### LABOUR AND PRODUCTIVITY

According to LFS data, in 2002, the workforce in textile and clothing manufacturing displayed atypical characteristics for a manufacturing sector. Indeed, in the EU-15 the share of women (61.2 %) working in NACE Subsections DB and DC was 32.8 percentage points higher than the average for the whole of manufacturing (28.3 %). The highest proportion of female employment was found in the manufacture of wearing apparel; dressing and dyeing of fur (NACE Division 18), at over 75 % in the EU-15. Across all Member States <sup>(4)</sup>, female employment rates were well above national manufacturing averages. In the vast majority of the 10 new

Table 4.3

**Manufacture of textiles and textile products; manufacture of leather and leather products (NACE Subsections DB and DC)**  
**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)
<b>EU-25</b>	:	:	:	:	:	:
<b>EU-15</b>	38.8	54.2	90.3	97.7	86.9	94.6
<b>BE</b>	42.1	56.7	86.3	94.8	93.6	98.7
<b>CZ</b>	25.0	40.6	95.8	98.3	90.2	97.4
<b>DK</b>	36.2	52.9	92.0	99.2	90.3	93.5
<b>DE</b>	40.6	56.6	82.3	91.8	91.6	96.1
<b>EE</b>	:	:	95.4	98.6	95.1	98.5
<b>EL</b>	40.7	57.4	95.7	97.6	71.1	97.0
<b>ES</b>	40.4	54.3	92.8	95.8	85.6	96.8
<b>FR</b>	37.7	53.3	93.1	98.6	94.6	99.7
<b>IE</b>	52.8	76.4	84.6	90.2	83.5	90.8
<b>IT</b>	39.9	57.3	92.2	97.4	83.9	101.4
<b>CY</b>	34.8	55.3	81.9	87.7	75.8	94.7
<b>LV</b>	:	:	95.1	100.4	95.8	100.3
<b>LT</b>	18.7	36.7	93.2	98.2	95.0	98.6
<b>LU</b>	:	:	:	:	:	:
<b>HU</b>	20.0	33.6	94.5	96.8	91.8	98.4
<b>MT</b>	37.0	52.8	94.7	98.0	97.6	104.8
<b>NL</b>	54.5	70.7	69.2	92.1	85.3	88.7
<b>AT</b>	41.8	56.2	:	:	90.9	95.5
<b>PL</b>	:	:	:	:	:	:
<b>PT</b>	25.9	46.2	95.4	98.4	88.5	101.5
<b>SI</b>	24.5	40.6	96.4	99.7	95.6	101.9
<b>SK</b>	14.7	24.8	97.2	98.5	96.4	100.4
<b>FI</b>	31.4	44.7	94.0	98.4	74.5	79.6
<b>SE</b>	52.0	70.3	79.3	86.5	75.5	80.2
<b>UK</b>	46.0	61.5	81.9	88.8	89.0	93.6

Source: Eurostat, Labour Force Survey.

Member States, female employment rates were above 65 %, whereas this threshold was only passed in just two of the EU-15 Member States. In general, self-employment was found more frequently in textile and clothing manufacturing than in the manufacturing sector as a whole. Finland and Sweden registered the largest differences with their self-employment rates in textile and clothing manufacturing more than

18 percentage points above their manufacturing averages. In the EU-15 textile and clothing manufacturing sector some 90.3 % of persons employed worked full-time, compared with a manufacturing average of 92.4 %.

<sup>(4)</sup> Luxembourg and Poland, not available.

In 2001, apparent labour productivity in the EU-15 textile and clothing manufacturing sector (EUR 29 900 per person employed) was lower than in any other manufacturing NACE subsection. Average personnel costs were EUR 17 300 per employee in the EU-25 and EUR 21 700 in the EU-15, again below the other manufacturing NACE subsections. Combining these two previous indicators results in a wage adjusted labour productivity ratio of 137.4 % in the EU-15. For the manufacture of textiles and textile products (NACE Subsection DB) this ratio was 135.6 %, while for the manufacture of leather and leather products (NACE Subsection DC) it was 144.9 %, the latter being just above the manufacturing average (143.3 %). Luxembourg registered the highest wage adjusted labour productivity <sup>(5)</sup>, as value added generated in its textile and clothing manufacturing sector covered personnel costs almost three times over (285.3 %). High ratios were also registered in Poland (182.9 %) and the United Kingdom (156.6 %). Sweden, Slovakia and Germany all registered ratios below 125 %.

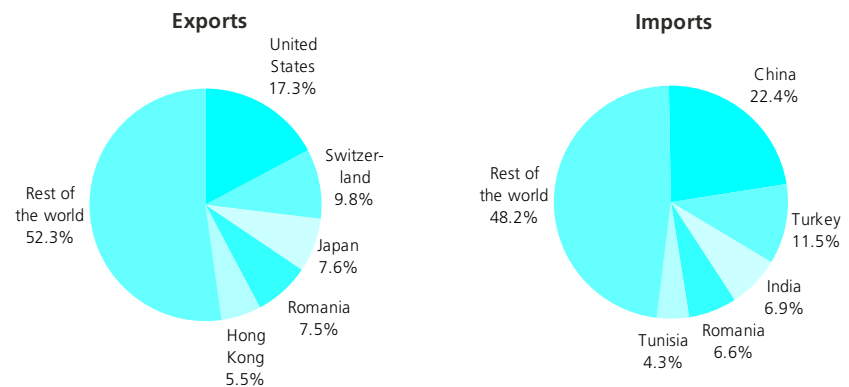
<sup>(5)</sup> Estonia, Greece, Ireland, Cyprus, Latvia, Lithuania, Hungary and Slovenia, not available.

#### EXTERNAL TRADE

In 2002, the EU-25's imports of textile, clothing, leather and footwear products (CPA Subsections DB and DC) with non-Community countries were valued at EUR 83.2 billion (11.4 % of manufacturing imports), equivalent to almost twice the value of exports (EUR 48.2 billion, 5.8 % of manufacturing exports). Textile products (CPA Groups 17.1 to 17.6) accounted for the largest proportion (39.5 %) of textile, clothing, leather and footwear exports, while clothing products (CPA Group 17.7 and Division 18) accounted for the largest proportion of imports (59.1 %). Italian exports (intra- and extra-EU combined) of textile, clothing, leather and footwear products accounted for 26.8 % of the exports made by EU-25 Member States and German imports for 20.3 %. The most specialised exporters of

textile and clothing products (compared with all manufactured exports) were Portugal, Greece, Lithuania, Estonia, Italy and Latvia. Indeed, their export specialisation ratios compared with the EU-25 ranged from 234.9 % (Latvia) to 399.3 % (Portugal). The main trading partners for the EU-25's exports were the United States (17.3 %), Switzerland (9.8 %), Japan and Romania (both around 7.5 %). For the EU-25's imports, the list was rather different, headed by China (22.4 %), Turkey (11.5 %) and India (6.9 %) and Romania (6.6 %), which was followed by seven countries from north Africa or Asia that collectively supplied 24.7 % of the EU-25's imports.

**Figure 4.3** Textiles and textile products; leather and leather products (CPA Subsections DB and DC) Share in extra-EU trade, 2002



Source: Eurostat, Comext.

**Table 4.4** Textiles and textile products; leather and leather products (CPA Subsections DB and DC) External trade, EU-25, 2002 (EUR million)

	Exports	Imports	Trade balance	Cover ratio (%)
<b>Textiles and textile products; leather and leather products</b>	48 234	83 178	-34 944	58.0
Textiles and textile articles, except apparel; knitted or crocheted fabrics	19 058	16 655	2 403	114.4
Wearing apparel; furs; knitted and crocheted articles	16 574	49 155	-32 580	33.7
Leather and leather products	12 584	17 366	-4 782	72.5

Source: Eurostat, Comext.

4.1: TEXTILES

This subchapter deals with the processing of textiles (hereafter referred to as textile manufacturing) and includes processes such as spinning, weaving and the finishing of products (other than clothes) which are classified within NACE Groups 17.1 to 17.6.

Textile manufacturers have to face new challenges, notably increased environmental and social concerns, enlargement and the cancellation of WTO quotas for certain products. Downstream integration and the creation of own-branded lines are two developments within textile manufacturing.

**Table 4.5**  
**Top ten textile groups, EU-15, 2001**

	Turnover (EUR million)	
<b>Benetton Gruppo (1)</b>	IT	1 980
<b>Gruppo Marzotto SpA (1)</b>	IT	1 772
<b>Coats Viyella (2)</b>	UK	1 464
<b>Chargeurs Textiles</b>	FR	1 229
<b>Daun &amp; Cie</b>	DE	1 180
<b>Hartmann Gruppe</b>	DE	1 150
<b>Somfy International (Damart) (1)</b>	FR	974
<b>Gamma Holding Text</b>	NL	906
<b>Freudenberg Nonwovens (2)</b>	DE	884
<b>Gruppo Tessile Miroglio (1)</b>	IT	842

(1) Company also active in the clothing / making-up sector.  
(2) Only textile activities covered.  
Source: Euratex, <http://www.euratex.org>.

**STRUCTURAL PROFILE**

In 2001, value added (EUR 33.5 billion) generated by the manufacture of textiles (NACE Groups 17.1 to 17.6) contributed 43.7 % to the EU-25's textile and clothing manufacturing sector (NACE Subsections DB and DC). In the EU-15 the level of value added was EUR 31.4 billion, while the corresponding share in textile and clothing manufacturing was 44.4 %. There were 1.1 million persons employed in the EU-25 (6) and 883 900 in the EU-15, equivalent to 37.3 % of the EU-15's textile and clothing manufacturing workforce.

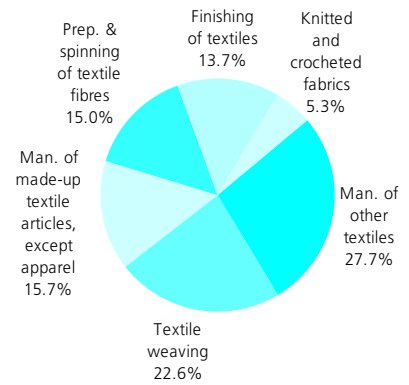
(6) Latvia and Slovenia, number of employees; Poland, 2000, number of employees; Estonia and Malta, not available.

The two largest subsectors, in terms of value added, were textile weaving (NACE Group 17.2, 22.6 % of the EU-25's textile manufacturing sector) and the residual activity of other textiles (NACE Group 17.5, 27.7 %). Italian textile manufacturing accounted for 28.1 % of the EU-25's value added, with EUR 9.4 billion. However, among the Member States for which data are available (7), Luxembourg and Portugal were relatively the most specialised in the manufacture of textiles, followed by Lithuania, Italy and Belgium. In Luxembourg and Belgium the other textiles manufacturing activity (NACE Group 17.5) was the manufacturing NACE Group in which these countries were most specialised, while the manufacture of made-up textile articles, except apparel (NACE Group 17.4) was the manufacturing group which had the highest specialisation ratio in Slovenia.

A breakdown of the EU-25's textile manufacturing sector by enterprise size-class shows that medium-sized enterprises (from 50 to 249 persons employed) generated the largest share of value added (36.3 %) in 2001. Moreover, 35.0 % of the persons employed in the EU-15 were working in this size-class. Micro and small enterprises (less than 50 persons employed) contributed a lower proportion of value added in the EU-25's textile manufacturing sector than for the clothing (NACE Group 17.7 and Division 18) or leather and leather products (NACE Division 19). However, the share (33.1 %) of these two size-classes in total value added was still well above the corresponding averages for the whole of manufacturing. Consequently, large enterprises generated 30.6 % of the textile manufacturing value added, which was well below the manufacturing average (54.9 %).

(7) Denmark, Estonia, Greece, Ireland, Latvia, Malta and Poland, not available.

**Figure 4.4**  
**Textile manufacturing (NACE Groups 17.1 to 17.6)**  
**Share of value added at factor cost, EU-25, 2001**

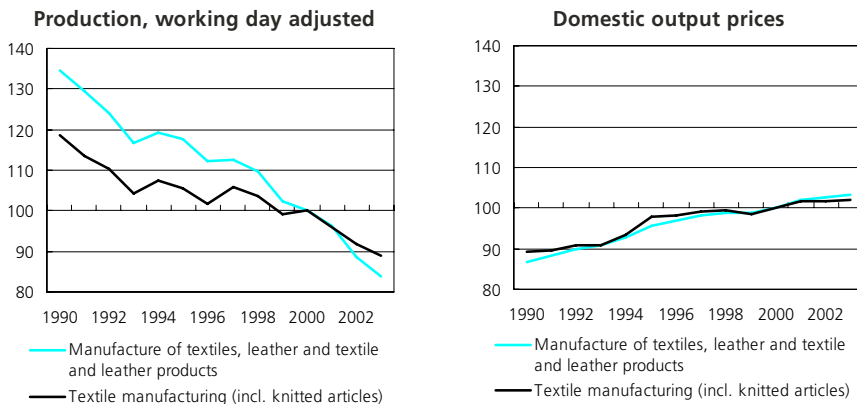


Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Annual short-term statistics provide information on the working day adjusted production index for the EU-25's textile manufacturing activity (defined as NACE Division 17 for the analysis of annualised short-term statistics). The production of textile manufacturing generally followed a downward path, punctuated by one-off increases in output. In 1994 production increased by 3.1 %, followed by two years of falling output (averaging -2.7 % per annum). This was followed by growth of 3.9 % in 1997 and a decline of 3.2 % per annum, on average, during the subsequent two years. In 2000 there was growth of 1.0 %, followed by three consecutive years of contraction, averaging 3.9 % per annum. The overall effect was an average reduction in the level of output that was equal to 2.1 % per annum between 1994 and 2003. Most NACE groups (8) within textile manufacturing registered gains in production during 1994, 1997 and 2000, with the exception of textile weaving (NACE Group 17.2) and the manufacture of knitted and crocheted fabrics (NACE Group 17.6), where output fell in 2000. Annual average growth rates over the period 1994–2003, across NACE Groups 17.1 to 17.6, ranged from -3.5 to -0.5 %. In the last three years (2001 to 2003), the only textile manufacturing activity to register any annual growth in production was the manufacture of made-up textile articles, except apparel (NACE Group 17.4), where growth of 3.1 % was registered in 2003.

(8) Excluding the manufacture of knitted and crocheted articles (NACE Group 17.7) covered in the next subchapter.

**Figure 4.5**  
**Textile manufacturing (including knitted articles) (NACE Division 17)**  
**Main indicators, EU-25 (2000=100)**



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

#### LABOUR AND PRODUCTIVITY

According to LFS data, a breakdown of employment by gender in 2002 for the manufacture of textiles (defined as NACE Division 17 for this analysis) showed that women represented more than half of this sector's labour force in the EU-15, as well as in a majority of the Member States<sup>(9)</sup>. Generally, full-time employment was slightly less common in textile manufacturing than in manufacturing

<sup>(9)</sup> Estonia, Cyprus, Luxembourg and Poland, not available.

as a whole, and this situation was also observed in the majority of the Member States<sup>(10)</sup>, with the most notable exception being Denmark, where the full-time employment rate (98.6 %) in textile manufacturing was 5.9 percentage points above the national manufacturing average. In the EU-15 some 90.2 % of persons working in textile manufacturing were paid employees, 1.7 percentage points below the manufacturing average.

<sup>(10)</sup> Cyprus, Luxembourg, Austria and Poland, not available.

In 2001, apparent labour productivity was EUR 35 500 per person employed and average personnel costs were EUR 25 800 per employee in the EU-15's textile manufacturing sector (NACE Groups 17.1 to 17.6). These values were higher than the levels registered for these two indicators in the clothing and the leather and leather products manufacturing sectors. For both indicators, the manufacture of other textiles (NACE Group 17.5) registered the highest values within the textile manufacturing NACE groups. The wage adjusted labour productivity ratio indicates that value added was equivalent to 137.9 % of personnel costs (adjusted for the ratio of the number or persons employed to the number of employees) in the EU-15's textile manufacturing sector, less than manufacturing as a whole (143.3 %). Luxembourg registered the highest<sup>(11)</sup> wage adjusted labour productivity ratio (290.7 %), mainly resulting from a particularly high ratio in its manufacture of other textiles sector (305.4 %). Lithuania had the lowest ratio for this indicator (106.3 %), resulting in part from the fact that value added in its textile weaving sector (NACE Group 17.2) did not even cover personnel costs (when adjusted for the ratio of the number of persons employed to the number of employees).

<sup>(11)</sup> Denmark, Estonia, Greece, Ireland, Cyprus, Latvia, Malta, Poland, Slovenia and Cyprus, not available.

**Table 4.6**  
**Textile manufacturing (NACE Groups 17.1 to 17.6)**  
**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)
<b>Textiles and textile articles, except apparel; knitted and crocheted fabrics</b>	35.5	137.9	25.8
Preparation and spinning of textile fibres	33.9	137.6	24.6
Textile weaving	38.3	142.1	26.9
Finishing of textiles	36.8	135.7	27.1
Manufacture of made-up textile articles, except apparel	29.0	132.9	21.8
Manufacture of other textiles	40.2	141.2	28.4
Manufacture of knitted and crocheted fabrics	30.1	135.0	22.3

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

**EXTERNAL TRADE**

In 2002, the EU-25 registered a EUR 2.4 billion trade surplus with non-Community countries for textile products (CPA Groups 17.1 to 17.6). Exports of those goods were EUR 19.1 billion and represented therefore 39.5 % of total EU-25 exports of textile, clothing, leather and footwear products (CPA Subsections DB and DC) and 20.0 % of imports. The EU-25 trade surplus was the result of a positive trade balance registered for the two main groups of textile products, other textiles (CPA Group 17.5, EUR 1.8 billion) and textile fabrics (CPA Group 17.2, EUR 4.0 billion). Knitted or

crocheted fabrics (CPA Group 17.6) also registered a positive trade balance in the EU-25. Made-up textile articles, except apparel (CPA Group 17.4) and textile yarn and thread (CPA Group 17.1) registered trade deficits of EUR 3.0 billion and EUR 0.9 billion respectively. Italy, the largest exporter (intra- and extra-EU trade combined) of textile products, exported EUR 12.2 billion of textile products ahead of Germany with EUR 10.5 billion. Germany was the EU-25's largest importer, with imports valued at EUR 9.1 billion.

EU-25 exports of textile products went mainly to the United States, Romania, Tunisia, Morocco and Turkey (which together accounted for 45.0 % of the EU-25's textile exports to non-Community countries). The three next most important destinations were an Asian trio of China, Hong Kong and Japan, with a collective share of 13.8 %. Some 56.0 % of textile products coming into the EU-25 (from non-Community countries) were from China, while Turkey and India each accounted for more than 10 % of the total, followed by Pakistan, the United States and Switzerland, with between 5 and 10 % each.

**Table 4.7****Textiles (CPA Groups 17.1 to 17.6)  
External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
<b>Textiles and textile articles, except apparel; knitted or crocheted fabrics</b>	19 058	100.0	16 655	100.0	2 403
<b>Textile yarn and thread</b>	1 908	10.0	2 818	16.9	-910
<b>Textile fabrics</b>	9 077	47.6	5 116	30.7	3 961
<b>Made-up textile articles, except apparel</b>	1 747	9.2	4 776	28.7	-3 029
<b>Other textiles</b>	4 960	26.0	3 152	18.9	1 808
<b>Knitted or crocheted fabrics</b>	1 366	7.2	792	4.8	574

Source: Eurostat, Comext.

**4.2: CLOTHING, INCLUDING KNITTED ARTICLES**

This subchapter contains information on the clothing industry (hereafter referred to as clothing manufacturing), as defined by NACE Group 17.7 (the manufacture of knitted and crocheted articles) and NACE Division 18 (the manufacture of leather clothes, workwear, outerwear, underwear and articles of fur).

ICT plays a varied role in the clothing manufacturing sector, as it allows manufacturers to reduce costs and respond more rapidly to clients needs through improvements in stock controls, production and management efficiency. Furthermore, the introduction of on-line sales is another opportunity (as in many sectors), while ICT also enables manufacturers to meet the taste and size requirements of their customers in a more rapid and reliable manner. The EU's sixth framework programme for research and development, started in 2003, may provide support for the launching of new products and processes. Indeed, according to the European Apparel and Textile Organisation (Euratex) <sup>(12)</sup> this could benefit the development of technology for cutting and sewing systems, as well as raw material (fabric) preparation and handling, linking this to recent developments in three-dimensional simulation and mass customisation.

<sup>(12)</sup> Newsletter number 19, year 9, March 2003.

**Table 4.8****Top ten clothing groups, EU-15, 2001**

		Turnover (EUR million)
<b>LVMH-Gruppe Clothing</b>	FR	3 610
<b>Zara-Ind.Dis.Text. (1) (2)</b>	ES	3 250
<b>Adidas Salomon AG</b>	DE	2 200
<b>Benetton Clothing (1) (2)</b>	IT	2 098
<b>Marzotto - Abbigliamento (1) (2)</b>	IT	1 410
<b>Armani Giorgio SpA (1)</b>	IT	1 272
<b>Groupe Etam (1)</b>	FR	1 100
<b>Boss Hugo World (1)</b>	DE	1 095
<b>Max Mara Fashion (1)</b>	IT	1 088
<b>Fila Holding (1)</b>	IT	977

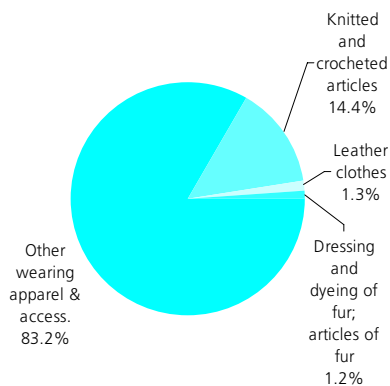
(1) Company also active in the distribution sector.

(2) Company also active in the textile sector, for which the turnover is not given.

Source: Euratex, <http://www.euratex.org>.

Figure 4.6

**Clothing manufacturing  
(NACE Group 17.7 and Division 18)  
Share of value added at factor cost,  
EU-25, 2001**



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

### STRUCTURAL PROFILE

Value added in the EU-25's clothing manufacturing sector (NACE Group 17.7 and Division 18) was EUR 29.6 billion (EUR 26.7 billion in the EU-15) in 2001, which was 38.6 % of the textile and clothing manufacturing total (37.7 % in the EU-15). In the EU-25's <sup>(13)</sup> clothing manufacturing sector there were 1.5 million persons employed (1.0 million in the EU-15, which was 43.6 % of the EU-15's textile and clothing total). The 10 new Member States <sup>(14)</sup> contributed 31.8 % of the total number of persons employed in the EU-25's clothing manufacturing sector, far above their average share in manufacturing of 16.9 %.

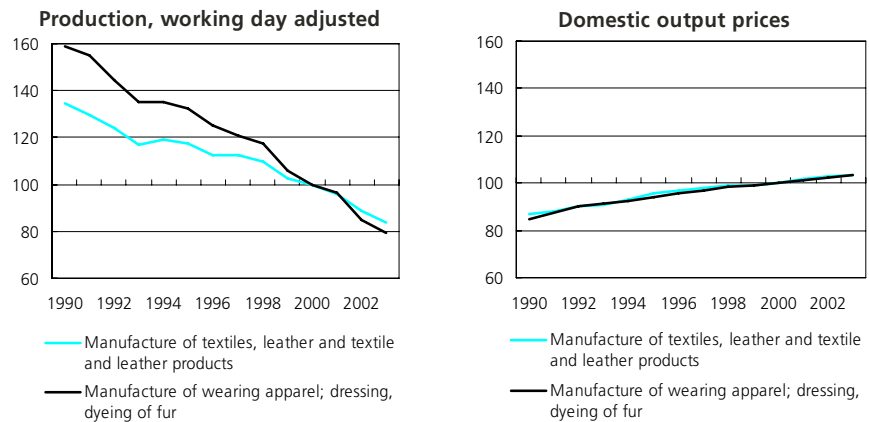
The largest NACE group within the clothing manufacturing sector was the manufacture of other wearing apparel and accessories (NACE Group 18.2) which generated 83.2 % of sectoral value added in the EU-25 in 2001, and the second largest group was the manufacture of knitted and crocheted articles (NACE Group 17.7) that accounted for 14.4 %. The manufacture of leather clothes (NACE Group 18.1) and the dressing and dyeing of fur/manufacture of articles of fur (NACE Group 18.3) were among some of the smallest activities across all manufacturing NACE groups, with each generating value added below EUR 400 million.

<sup>(13)</sup> Slovenia, number of employees.

<sup>(14)</sup> Slovenia, number of employees.

Figure 4.7

**Manufacture of wearing apparel; dressing; dyeing of fur (NACE Division 18)  
Main indicators, EU-25 (2000=100)**



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

Italy had the largest clothing manufacturing sector, registering EUR 9.6 billion of value added in 2001, which represented almost one third (32.5 %) of total activity in the EU-25. In fact Italy had the highest value added for each of the four NACE groups that compose clothing manufacturing.

All 10 of the new Member States were relatively specialised in clothing manufacturing compared with their manufacturing sectors as a whole and, while among all the EU-25 Member States <sup>(15)</sup>, Lithuania, Portugal, Estonia and Malta were the most specialised in this sector. In Lithuania, the manufacture of knitted and crocheted articles (NACE Group 17.7) registered the highest specialisation ratio of any manufacturing group in this Member State relative to the EU-25 average, while Portugal registered its second highest manufacturing specialisation ratio in the same subsector. Luxembourg and Sweden were the least specialised Member States in clothing manufacturing relative to manufacturing as a whole (note that Luxembourg had one of the highest specialisation ratios with respect to the manufacture of textiles).

<sup>(15)</sup> Greece and Ireland, not available.

The EU-25's working day adjusted production index for clothing manufacturing has followed a downward path for many years. The last positive year-on-year change that was recorded for the manufacture of wearing apparel, dressing and dyeing of fur (NACE Division 18) was in 1994 (+0.2 %), after which the decline in output averaged 5.7 % per annum through to 2003. A similar picture was observed for the manufacture of knitted and crocheted articles (NACE Group 17.7), except that the pattern of declining output was uninterrupted, averaging -4.9 % per annum between 1994 and 2003. The manufacture of other wearing apparel and accessories (NACE Group 18.2) followed a similar course to that described for NACE Division 18 (which it dominated), with an annual average decline of -5.8 % between 1994 and 2003. The dressing and dyeing of fur and the manufacture of articles of fur (NACE Group 18.3) registered an average contraction of -6.6 % per annum over the same period, but with higher fluctuations and notably growth in 1996 and 2000.

Micro enterprises (with less than 10 persons employed) generated 16.5 % of the value added in the EU-25's clothing manufacturing sector, more than double this size-class' share in manufacturing value added. Small, medium-sized and large enterprises all contributed between 27 and 28 % of the clothing manufacturing sector's value added, which was above the manufacturing average for small and medium-sized enterprises, but only half the manufacturing average for large enterprises.



**LABOUR AND PRODUCTIVITY**

In 2002, the female employment rate (76.2 %) in the EU-15's clothing manufacturing sector (defined as NACE Division 18 for this analysis) was more than three times higher than in manufacturing as a whole. Indeed, this share was the highest recorded across all of the NACE divisions that make up the business economy (NACE Sections C to K); the next highest was retail trade (16.4 percentage points lower). The EU-15 pattern was followed in every country, as female employment rates for clothing manufacturing were at least 25 percentage points higher than national manufacturing averages <sup>(16)</sup>. Some 88.4 % of the persons employed worked full-time in the EU-15's clothing manufacturing sector and there were 82.4 % of employees (respectively 4.0 and 9.5 percentage points below the EU-15 manufacturing averages). The low proportion of paid employees in clothing manufacturing (compared with the textiles or leather manufacturing sectors) was balanced by a much higher proportion of self-employed persons (15.8 %), and a slightly higher proportion of family workers (1.8 %). As such, this marked the second highest incidence of self-employment and of family workers among all manufacturing NACE divisions.

<sup>(16)</sup> Luxembourg and Poland, not available.

Apparent labour productivity was EUR 25 800 per person employed in the EU-15's clothing manufacturing sector (NACE Group 17.7 and Division 18) in 2001. The manufacture of leather clothes (NACE Group 18.1) and the manufacture of knitted and crocheted articles (NACE Group 17.7) had the highest apparent labour productivity, each more than EUR 27 000, while the manufacture of other wearing apparel and accessories (NACE Group 18.2) registered the lowest level among the NACE groups that compose the textile and clothing manufacturing sector (NACE Subsections DB and DC). Average personnel costs were EUR 14 300 per employee in the EU-25's clothing manufacturing sector (EUR 19 200 in the EU-15), the low level being influenced to some extent by the relatively high proportion of part-time employment within this activity. Wage adjusted labour productivity in the EU-15's clothing manufacturing sector showed that value added was the equivalent of 134.7 % of personnel costs, after adjusting the latter for the relatively low proportion of paid employees in the workforce. Within the EU-15's clothing manufacturing sector, wage adjusted labour productivity ratios ranged from 116.5 % for the dressing and dyeing of fur and the manufacture of articles of fur (NACE Group 18.3) to 160.1 % for the manufacture of leather clothes (NACE Group 18.1). The highest wage adjusted labour productivity was found in the United Kingdom (171.1 %), while

Luxembourg (55.6 %) and Sweden (91.9 %) had the lowest ratios and notably ones that indicated that value added in these countries did not even cover their personnel costs (after adjustment for the share of paid employees in the number of persons employed) <sup>(17)</sup>.

**EXTERNAL TRADE**

The EU's trade deficit with non-Community countries for clothing products (CPA Group 17.7 and Division 18) was EUR 32.6 billion in 2002. Exports of these products were valued at EUR 16.6 billion, 34.4 % of the total for textile, clothing, leather and footwear products (CPA Subsections DB and DC) and imports were valued at EUR 49.2 billion, 59.1 % of the total. More than four fifths of the EU-25's imports and exports of clothing products were related to other wearing apparel and accessories (CPA Group 18.2). Italy exported (intra- and extra-EU combined) nearly one quarter (24.9 %) of the clothing products exported by the EU-25 Member States and Germany imported a similar proportion (23.1 %). The main trading partners were the United States, Switzerland, Japan and Russia for exports and China and Turkey for imports. It can be noted that the partners for these products are different from those for textile products.

<sup>(17)</sup> Greece, Ireland, Cyprus and Slovenia, not available.

**Table 4.9**  
**Clothing manufacturing (NACE Group 17.7 and Division 18)**  
**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 knitted and crocheted articles; wearing apparel; fur	25.8	134.7	19.2
Manufacture of knitted and crocheted articles	27.1	133.2	20.4
Manufacture of leather clothes	27.3	160.1	17.1
Manufacture of other wearing apparel and accessories	25.4	133.9	19.0
Dressing and dyeing of fur; manufacture of articles of fur	22.8	116.5	19.6

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

**Table 4.10**  
**Wearing apparel; furs; knitted and crocheted articles (CPA Group 17.7 and Division 18)**  
**External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
Wearing apparel; furs; knitted and crocheted articles	16 574	100.0	49 155	100.0	-32 580
Knitted and crocheted articles	1 963	11.8	7 459	15.2	-5 495
Leather clothes	351	2.1	1 392	2.8	-1 041
Other wearing apparel and accessories	13 670	82.5	39 972	81.3	-26 301
Furs; articles of fur	590	3.6	332	0.7	258

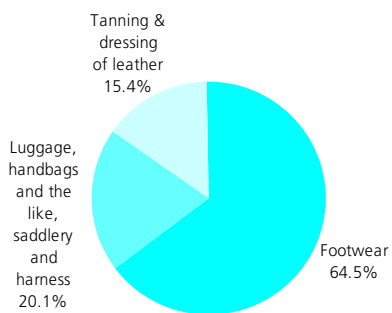
Source: Eurostat, Comext.

## 4.3: LEATHER AND FOOTWEAR

This subchapter covers the leather and leather products manufacturing sector of NACE Division 19, hereafter referred to as leather manufacturing. This subchapter covers tanning and dressing, as well as the manufacture of luggage, handbags and footwear.

Leather manufacturers transform intermediate goods (raw hides and skins), in most cases producing consumer goods, and hence, they are dependent on the stock of bovine and ovine rearing. According to the Confederation of National Associations of Tanners and Dressers of the European Community (Cotance), footwear represented the most important market for EU-15 tanner's production with a share of 50 % of their output in 2000. The footwear sector is dominated by small enterprises (see below) and shows a strong regional concentration.

**Figure 4.8**  
**Tanning, dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear (NACE Division 19)**  
**Share of value added at factor cost, EU-25, 2001**



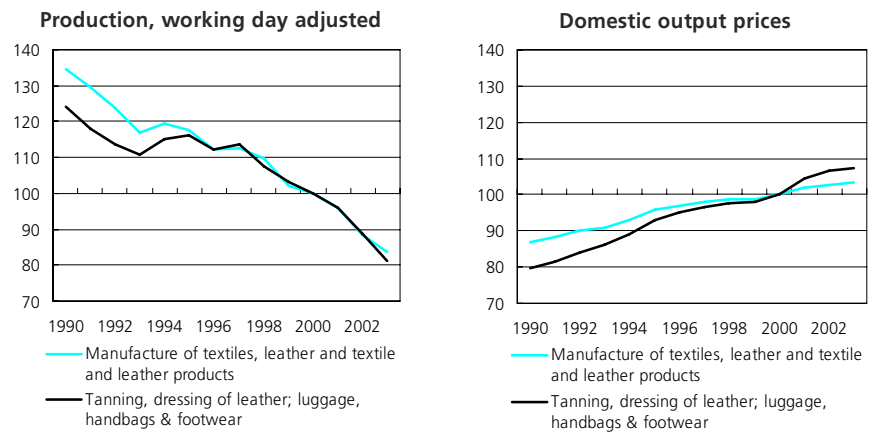
Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

**STRUCTURAL PROFILE**

The EU-25's leather manufacturing sector (NACE Division 19) was the smallest of the three activities covered by textile and clothing manufacturing. Indeed, it generated EUR 13.6 billion of value added in 2001, EUR 12.7 billion in the EU-15, and therefore contributed 17.7 % of the added value in the EU-25's textile and clothing manufacturing (NACE Subsections DB and DC). There were 562 800 persons employed in the EU-25's <sup>(18)</sup> leather manufacturing sector and 452 200 in the EU-15, equivalent to 19.1 % of the textile and clothing manufacturing workforce in the EU-15.

<sup>(18)</sup> Lithuania and Hungary, 2002; Latvia, number of employees; Estonia and Slovenia, not available.

**Figure 4.9**  
**Tanning, dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear (NACE Division 19)**  
**Main indicators, EU-25 (2000=100)**



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

The largest leather manufacturing subsector was footwear manufacturing (NACE Group 19.3), accounting for just under two thirds (64.5 %) of the EU-25's leather manufacturing value added.

Italian leather manufacturing accounted for 45.2 % of the value added registered by the EU-25's leather manufacturing sector, and as such clearly had the highest level of activity among the Member States <sup>(19)</sup>, far ahead of France (11.7 %) and Spain (10.1 %). Compared to national manufacturing totals, Portugal, Italy and Slovakia <sup>(20)</sup> were the most specialised countries in the leather manufacturing sector. The manufacture of footwear (NACE Group 19.3) was the manufacturing group in which Portugal was most specialised (relative to the EU-25), and also recorded the third highest specialisation ratio across all manufacturing groups in Italy, where the tanning and dressing of leather (NACE Group 19.1) had the highest specialisation ratio. The tanning and dressing of leather was also the manufacturing group with the third highest specialisation ratio in Slovenia.

<sup>(19)</sup> Estonia, Latvia, Lithuania, Hungary and Slovenia, not available.

<sup>(20)</sup> Estonia, Latvia, Lithuania, Luxembourg, Hungary and Slovenia, not available.

Annual short-term statistics show that the EU-25's working day adjusted production index for leather manufacturing (NACE Division 19) experienced a decline during the 1990's and through to 2003. After 1993, when production was at its lowest following the economic slowdown of the early 1990s, the production index for leather manufacturing grew in both 1994 and 1995, by 3.9 % and 1.0 % respectively. This was followed by a period of decline interrupted by 1.1 % growth in 1997. The average rate of decline in output accelerated after 1997, averaging -5.5 % per annum from 1998 to 2003. The manufacture of footwear (NACE Group 19.3) displayed a very similar evolution to that described for leather manufacturing as a whole. The manufacture of luggage and handbags (NACE Group 19.2) registered an annual average decline of 4.8 % between 1995 and 2003, a period during which it recorded output growth only twice, in 1998 (+7.7 %) and 2001 (+2.0 %). The tanning and dressing of leather (NACE Group 19.3) generally displayed a different evolution from the rest of leather manufacturing. From 1993 the index of production increased in three of the next four years, before falling back in 1998 and 1999. While the other leather manufacturing activities continued their downward trend, the tanning and dressing of leather recovered, as output increased by 9.8 % in 2000, after which there were three consecutive years of contraction, averaging -5.2 % per annum.

Table 4.11

## Selected leather products (CPA Division 19), EU-15

	PRODCOM code	Latest year for production	Production value (EUR million)
Chamois leather and combination chamois leather	19.10.10.30	2001	397.4
Handbags of leather, composition leather, patent leather, plastic sheeting, textile materials or other materials (including those without a handle)	19.20.12.20	2001	1 947.8
Articles of leather or of composition leather n.e.c.	19.20.14.50	1999	582.7
Men's and children's town footwear with leather uppers (including boots and shoes; excluding waterproof footwear, footwear with a protective metal toe-cap)	19.30.13.51 and 19.30.13.53	2001	4 868.7
Sports footwear with rubber; plastic or leather outer soles and leather uppers (excluding ski-boots; cross-country ski footwear and snowboard boots)	19.30.23.50	1999	346.4
Footwear with rubber; plastic or leather outer soles and leather uppers; and with a protective metal toe-cap	19.30.31.50	1999	778.2
Footwear (excluding with leather or composition leather uppers, with textile materials uppers)	19.30.32.90	2000	265.5
Rubber or plastic outer soles and heels	19.30.40.70	2001	1 442.7

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

The importance of micro and small enterprises (with less than 50 persons employed) was even greater in the EU-25's leather manufacturing sector than in other parts of textile and clothing manufacturing sector. Micro enterprises (with less than 10 persons employed) generated 17.5 % of value added in the leather manufacturing sector, and small enterprises contributed a further 30.3 %. This combined share of 47.8 % was greater than the corresponding proportion of value added accounted for by micro and small enterprises in the whole of textile and clothing manufacturing (40.2 %) or in the whole of manufacturing (23.1 %).

## LABOUR AND PRODUCTIVITY

According to LFS data, male and female employment was almost equally balanced in the EU-15's leather manufacturing sector in 2002. Indeed, the female employment rate was 50.7 %, although it exceeded 60 % in several of the Member States, notably among the new Member States <sup>(21)</sup>. Some 94.6 % of the persons employed in the EU-15's leather manufacturing sector were in full-time employment in 2001, just above the manufacturing average (92.4 %), while 88.5 % of the persons employed in the EU-15 were paid employees (3.4 percentage points less than the manufacturing average).

<sup>(21)</sup> Estonia, Cyprus, Latvia, Lithuania and Poland, not available.

Apparent labour productivity in 2001 was EUR 28 100 per person employed in the EU-15's leather manufacturing sector, compared to EUR 29 900 for the whole of textile and clothing manufacturing. Apparent labour productivity reached EUR 35 900 in the tanning and dressing of leather (NACE Group 19.1) and EUR 30 100 in the manufacture of luggage and handbags (NACE Group 19.2). Average personnel costs were EUR 16 300 per employee in the EU-25's leather manufacturing sector, higher than for clothing manufacturing, but lower than for textile manufacturing. Average personnel costs were particularly low (EUR 14 800 per employee) in the footwear manufacturing subsector, and highest for the tanning and dressing of leather (EUR 22 100 per employee).

Value added in the EU-15's leather manufacturing sector was equivalent to 144.9 % of personnel costs (adjusted for the ratio of the number of persons employed to the number of employees). The wage adjusted labour productivity ratio was slightly higher (146.9 % and 147.0 %) for the tanning and dressing of leather and the manufacture of footwear, and lower (135.9 %) for the manufacture of luggage and handbags.

Table 4.12

Tanning, dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear (NACE Division 19)  
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)
Tanning, dressing of leather; luggage, handbags, saddlery, harness and footwear	28.1	144.9	19.4
Tanning and dressing of leather	35.9	146.9	24.5
Manufacture of luggage, handbags and the like, saddlery and harness	30.1	135.9	22.1
Manufacture of footwear	26.1	147.0	17.8

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

**EXTERNAL TRADE**

In 2002, the EU-25 recorded a trade deficit of EUR 4.8 billion with non-Community countries for leather and leather products (CPA Division 19). Exports of these goods were valued at EUR 12.6 billion and represented 26.1 % of all textile, clothing, leather and footwear products (CPA Subsections DB and DC) exported from the EU-25; imports were valued at EUR 17.4 billion, equivalent to 20.9 % of the textile, clothing, leather and footwear products total. More than half of the EU-25's exports and imports of leather and leather products with non-Community countries were footwear, with a EUR 3.8 billion deficit recorded for these products. Leather (CPA Group 19.1) was the only CPA group among leather and leather products for which the EU-25 recorded a trade surplus in 2002, valued at EUR 317.5 million.

Italy exported (intra- and extra-EU trade combined) 39.2 % of the leather and leather products traded by the EU-25 Member States, while importing 17.2 % of the total in 2002, marginally more than Germany (17.1 %).

The main export market for the EU-25's leather and leather products in 2002 was the United States (EUR 3.0 billion, 23.9 % of the total), followed by Japan, Hong Kong, Switzerland and Romania, all between EUR 1 billion and EUR 1.5 billion. The main sources of the EU-25's imports of leather and leather products were China (EUR 5.3 billion, 30.8 %) and Vietnam (EUR 2.3 billion, 13.2 %).

**Table 4.13****Leather and leather products (CPA Division 19)  
External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
<b>Leather and leather products</b>	12 584	100.0	17 366	100.0	-4 782
<b>Leather</b>	3 202	25.4	2 884	16.6	317
<b>Luggage, handbags and the like; saddlery and harness</b>	3 052	24.3	4 360	25.1	-1 308
<b>Footwear</b>	6 331	50.3	10 122	58.3	-3 791

Source: Eurostat, Comext.

Table 4.14

Preparation and spinning of textile fibres; textile weaving; finishing of textiles; manufacture of made-up textile articles, except apparel; manufacture of other textiles; manufacture of knitted and crocheted fabrics (NACE Groups 17.1 to 17.6)  
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	7 053	1 658	:	14 540	:	:	8 323	13 527	:	33 871	22	:	221	503
Value added at factor cost (EUR million)	1 922	481	:	4 835	:	:	2 633	3 587	:	9 417	9	:	64	161
Purchases of goods and services (EUR million)	5 413	1 263	:	10 686	:	:	5 976	10 562	:	25 030	16	:	162	347
Gross investment in tangible goods (EUR million)	360	:	:	582	:	:	541	501	:	1 609	1	:	32	:
Number of persons employed (thousands)	42	60	:	123	:	:	99	101	:	248	1	:	15	1
App. labour productivity (EUR thous./pers. emp.)	46.1	8.0	:	39.2	:	:	26.7	35.4	:	37.9	17.3	:	4.3	126.2
Average personnel costs (EUR thous./employee) (2)	31.1	5.2	:	31.7	:	:	19.7	28.9	:	25.5	11.0	:	4.0	43.4
Wage adjusted labour productivity (%) (2)	148.3	154.2	:	123.4	:	:	135.4	122.6	:	149.0	145.8	:	106.3	290.7
Gross operating rate (%)	9.2	10.3	:	6.7	:	:	9.5	4.8	:	11.9	14.0	:	1.8	20.8
	HU	MT	NL	AT	PL (1)	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	514	:	2 847	2 282	1 840	4 056	643	179	609	982	11 313	224	525	:
Value added at factor cost (EUR million)	178	:	897	744	645	1 198	158	58	244	357	4 451	58	178	:
Purchases of goods and services (EUR million)	395	:	2 153	1 744	1 526	2 973	934	135	374	696	7 523	193	411	:
Gross investment in tangible goods (EUR million)	31	:	89	119	101	404	38	11	33	42	398	:	68	:
Number of persons employed (thousands)	27	:	21	17	:	82	:	11	5	9	109	24	67	:
App. labour productivity (EUR thous./pers. emp.)	6.5	:	43.1	42.6	:	14.7	:	5.1	49.3	38.4	40.8	2.4	2.7	:
Average personnel costs (EUR thous./employee)	4.9	:	32.9	33.2	5.6	10.1	10.9	3.8	32.4	32.5	29.0	1.7	1.7	:
Wage adjusted labour productivity (%)	132.3	:	131.2	128.3	:	145.4	:	133.9	152.3	118.3	140.7	143.6	157.2	:
Gross operating rate (%)	7.7	:	9.7	7.5	11.7	9.5	2.3	7.9	15.2	9.1	11.3	8.0	12.7	:

(1) 2000.

(2) Cyprus, 2000.

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

Table 4.15

Manufacture of knitted and crocheted articles (NACE Group 17.7)  
Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	109	114	190	1 137	11	:	1 072	1 624	94	6 149	13	12	77	0
Value added at factor cost (EUR million) (1)	43	43	48	439	4	:	393	562	42	1 530	6	8	34	0
Purchases of goods and services (EUR million)	69	78	0	754	8	:	771	1 118	67	4 742	9	7	43	0
Gross investment in tangible goods (EUR million)	7	5	5	23	1	:	43	59	10	218	1	3	6	:
Number of persons employed (thousands)	2	9	1	13	1	:	17	17	2	50	0	1	6	0
App. labour productivity (EUR thous./pers. emp.) (1)	23.9	4.9	47.1	33.7	3.9	:	23.6	32.5	15.3	30.8	16.5	6.6	5.3	:
Average personnel costs (EUR thous./employee) (2)	19.8	4.5	35.9	25.5	3.2	:	16.5	26.6	11.8	21.3	10.7	2.6	3.4	:
Wage adjusted labour productivity (%) (2)	120.7	109.4	131.4	132.2	120.8	:	143.0	121.9	129.0	145.0	119.2	257.0	152.7	:
Gross operating rate (%) (1)	8.4	6.3	6.7	9.9	6.8	:	11.8	6.3	8.7	10.6	12.9	42.1	15.7	:
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	29	3	81	173	352	619	70	65	68	39	1 082	50	234	:
Value added at factor cost (EUR million)	13	1	26	90	163	193	24	30	27	14	460	20	111	:
Purchases of goods and services (EUR million)	18	2	68	105	181	456	43	38	42	28	674	32	140	:
Gross investment in tangible goods (EUR million)	3	0	1	16	16	56	2	12	5	1	24	5	41	:
Number of persons employed (thousands)	3	0	1	2	19	18	:	8	1	1	18	9	40	:
App. labour productivity (EUR thous./pers. emp.)	4.2	5.2	38.0	37.4	8.5	10.7	:	3.7	27.4	26.5	25.9	2.3	2.8	:
Average personnel costs (EUR thous./employee)	3.7	8.4	25.7	34.5	4.9	8.6	9.6	3.3	26.3	25.2	22.3	1.7	1.7	:
Wage adjusted labour productivity (%)	114.6	61.9	147.8	108.3	172.6	124.6	:	111.7	104.2	105.1	116.0	139.6	161.8	:
Gross operating rate (%)	5.7	-13.4	8.7	4.1	24.1	6.8	2.6	4.7	3.9	4.2	6.1	11.8	18.6	:

(1) Ireland, 2000.

(2) Ireland and Cyprus, 2000.

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

Table 4.16

**Manufacture of leather clothes (NACE Group 18.1)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV (1)	LT	LU
Production (EUR million)	9	10	2	121	:	:	91	121	:	721	3	1	3	0
Value added at factor cost (EUR million)	2	5	1	39	:	:	23	34	:	190	1	0	1	0
Purchases of goods and services (EUR million)	7	9	0	88	:	:	83	96	:	546	2	1	2	0
Gross investment in tangible goods (EUR million)	0	0	0	1	:	:	2	0	:	13	0	0	0	:
Number of persons employed (thousands)	0	1	0	1	:	:	1	1	:	7	0	0	0	0
App. labour productivity (EUR thous./pers. emp.)	23.9	5.0	15.6	33.9	:	:	20.6	35.8	:	29.2	17.6	2.2	2.2	:
Average personnel costs (EUR thous./employee) (2)	20.7	4.3	15.9	21.5	:	:	15.5	28.9	:	16.9	13.0	1.1	1.0	:
Wage adjusted labour productivity (%) (2)	115.1	116.6	98.2	158.0	:	:	132.8	124.0	:	172.4	142.1	206.7	229.7	:
Gross operating rate (%)	8.4	11.8	15.4	12.4	:	:	6.1	6.3	:	16.0	13.9	12.9	17.4	:
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	13	:	7	:	36	23	5	7	14	12	113	5	20	:
Value added at factor cost (EUR million)	6	:	3	:	18	7	2	3	5	3	29	1	9	:
Purchases of goods and services (EUR million)	9	:	5	:	14	17	4	5	9	9	98	4	12	:
Gross investment in tangible goods (EUR million)	1	:	0	:	1	1	0	0	1	0	3	0	1	:
Number of persons employed (thousands)	1	:	0	:	3	1	:	1	0	0	1	1	3	:
App. labour productivity (EUR thous./pers. emp.)	4.6	:	19.9	:	5.1	9.9	:	5.0	28.0	16.1	24.8	1.6	2.7	:
Average personnel costs (EUR thous./employee)	3.9	:	17.7	:	4.2	7.6	:	8.2	3.4	24.7	23.8	9.5	1.2	1.6
Wage adjusted labour productivity (%)	118.5	:	112.1	:	122.3	128.9	:	147.0	113.4	67.7	261.4	131.1	166.1	:
Gross operating rate (%)	7.2	:	3.9	:	23.4	8.3	:	7.0	11.1	13.1	9.4	14.8	7.8	19.0

(1) 2000.

(2) Cyprus, 2000.

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

Table 4.17

**Manufacture of other wearing apparel and accessories (NACE Group 18.2)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	1 976	575	678	10 143	154	:	6 989	11 654	:	28 749	87	117	248	:
Value added at factor cost (EUR million)	453	236	182	2 610	65	:	2 381	3 141	:	7 792	37	68	131	:
Purchases of goods and services (EUR million)	1 575	369	0	8 398	112	:	4 959	9 655	:	22 062	66	67	129	:
Gross investment in tangible goods (EUR million)	31	22	13	163	8	:	159	199	:	778	5	11	21	:
Number of persons employed (thousands)	11	54	4	72	13	:	130	94	:	294	3	15	38	:
App. labour productivity (EUR thous./pers. emp.)	41.7	4.4	42.5	36.3	4.9	:	18.3	33.3	:	26.5	13.8	4.6	3.4	:
Average personnel costs (EUR thous./employee) (2)	25.9	4.1	33.4	29.3	3.8	:	14.6	26.5	:	19.5	11.0	2.8	2.6	:
Wage adjusted labour productivity (%) (2)	160.7	107.1	127.3	123.7	128.8	:	125.0	125.4	:	135.5	133.7	162.7	134.3	:
Gross operating rate (%)	10.2	8.4	8.4	5.3	8.6	:	9.2	5.6	:	11.2	10.2	22.8	13.6	:
	HU	MT (1)	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	817	144	657	834	2 169	3 440	296	216	519	269	7 254	403	1 265	:
Value added at factor cost (EUR million)	317	57	196	298	1 368	1 163	145	106	185	83	3 129	188	693	:
Purchases of goods and services (EUR million)	575	78	534	697	772	2 412	162	121	415	232	4 887	238	688	:
Gross investment in tangible goods (EUR million)	43	3	16	22	76	176	8	14	13	6	161	51	143	:
Number of persons employed (thousands)	65	3	8	10	184	125	:	29	6	3	82	125	308	:
App. labour productivity (EUR thous./pers. emp.)	4.9	19.1	24.3	28.8	7.4	9.3	:	3.6	29.9	26.3	38.2	1.5	2.3	:
Average personnel costs (EUR thous./employee)	3.9	11.7	23.3	25.1	4.5	7.7	:	9.1	3.2	25.3	28.6	20.8	1.2	1.5
Wage adjusted labour productivity (%)	124.4	163.9	104.6	114.8	165.1	121.1	:	112.9	118.4	91.8	183.5	121.2	148.7	:
Gross operating rate (%)	7.2	16.4	8.0	6.0	30.0	6.9	:	2.4	5.4	6.5	8.8	19.2	10.4	18.1

(1) 2000.

(2) Cyprus, 2000.

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

Table 4.18

**Dressing and dyeing of fur; manufacture of articles of fur (NACE Group 18.3)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV (1)	LT	LU
Production (EUR million)	38	11	23	81	:	:	299	111	4	373	0	0	6	:
Value added at factor cost (EUR million)	6	4	7	35	:	:	68	35	:	125	0	0	0	:
Purchases of goods and services (EUR million)	31	7	0	64	:	:	236	94	3	258	0	0	6	:
Gross investment in tangible goods (EUR million)	1	0	0	2	:	:	7	0	1	11	0	0	1	:
Number of persons employed (thousands)	0	1	0	2	:	:	3	1	0	6	0	0	1	:
App. labour productivity (EUR thous./pers. emp.)	35.4	4.4	22.2	22.8	:	:	21.4	38.9	:	20.7	:	1.2	-0.5	:
Average personnel costs (EUR thous./employee)	18.6	4.4	18.0	17.9	:	:	18.4	34.1	:	20.0	:	3.6	3.6	:
Wage adjusted labour productivity (%)	189.7	98.2	123.1	127.8	:	:	116.3	114.2	:	103.4	:	33.0	-14.8	:
Gross operating rate (%)	9.3	9.8	12.4	15.8	:	:	5.6	7.1	:	16.3	:	-58.2	-28.8	:
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	3	:	2	:	31	21	1	3	22	9	23	7	15	:
Value added at factor cost (EUR million)	1	:	1	:	16	6	0	0	8	2	9	2	6	:
Purchases of goods and services (EUR million)	2	:	1	:	18	15	1	3	14	6	13	6	12	:
Gross investment in tangible goods (EUR million)	0	:	0	:	0	1	0	0	0	0	1	0	1	:
Number of persons employed (thousands)	0	:	0	:	3	0	:	0	0	0	0	1	2	:
App. labour productivity (EUR thous./pers. emp.)	5.9	:	36.8	:	5.0	13.9	:	1.7	28.9	17.2	47.9	2.3	2.9	:
Average personnel costs (EUR thous./employee)	4.0	:	19.1	:	4.5	9.9	8.4	3.3	25.5	23.4	27.8	1.3	1.7	:
Wage adjusted labour productivity (%)	148.5	:	192.9	:	111.9	139.7	:	50.3	113.3	73.3	172.3	177.1	172.6	:
Gross operating rate (%)	8.9	:	18.8	:	25.4	9.2	8.3	-10.1	9.2	9.9	28.1	13.5	18.6	:

(1) 2000.

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

Table 4.19

**Tanning, dressing of leather; manufacture of luggage (NACE Division 19)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE (1)	EL	ES	FR	IE	IT	CY	LV	LT (1)	LU
Production (EUR million)	276	266	459	3 814	39	209	5 732	4 320	83	25 244	26	:	41	0
Value added at factor cost (EUR million)	87	85	83	1 006	13	78	1 372	1 589	22	6 140	12	:	10	0
Purchases of goods and services (EUR million)	258	190	0	3 153	26	:	4 671	3 286	60	19 954	25	:	31	0
Gross investment in tangible goods (EUR million)	7	8	13	66	1	:	136	125	9	685	2	:	1	:
Number of persons employed (thousands)	2	19	2	28	:	4	66	45	1	204	1	:	4	0
App. labour productivity (EUR thous./pers. emp.)	35.6	4.5	53.3	36.0	:	22.0	20.7	35.4	28.3	30.1	20.2	:	2.8	:
Average personnel costs (EUR thous./employee) (2)	28.5	4.5	37.0	28.4	3.6	:	15.7	25.7	19.4	20.4	13.3	:	2.6	:
Wage adjusted labour productivity (%) (2)	124.9	99.7	144.2	126.9	:	:	131.4	137.6	145.5	147.8	136.7	:	106.6	:
Gross operating rate (%) (3)	6.6	2.2	6.0	5.9	8.5	:	6.6	9.3	8.0	10.9	12.6	:	2.4	:
	HU (1)	MT	NL	AT	PL	PT	SI (1)	SK	FI	SE	UK	BG	RO	TR
Production (EUR million) (4)	223	42	377	903	916	2 483	225	214	239	180	2 360	83	528	:
Value added at factor cost (EUR million) (4)	98	13	114	273	444	733	86	78	91	47	1 065	29	233	:
Purchases of goods and services (EUR million) (4)	148	28	311	699	572	1 854	166	148	156	134	1 769	63	333	:
Gross investment in tangible goods (EUR million)	11	1	5	26	33	124	11	15	5	5	44	9	55	:
Number of persons employed (thousands) (4)	24	1	3	6	46	68	:	17	3	2	20	19	112	:
App. labour productivity (EUR thous./pers. emp.) (4)	4.0	14.5	39.7	42.1	9.7	10.8	:	4.6	34.5	30.3	54.2	1.5	2.1	:
Average personnel costs (EUR thous./employee) (2)	3.3	11.3	28.3	25.3	5.0	8.3	10.0	3.5	24.7	30.0	27.5	1.2	1.5	:
Wage adjusted labour productivity (%) (2)	123.1	128.6	140.6	166.3	192.5	129.4	:	133.0	139.7	100.7	197.6	123.8	136.9	:
Gross operating rate (%) (3)	9.4	7.2	9.9	11.9	27.2	7.1	2.0	9.1	12.1	5.0	19.2	8.5	12.8	:

(1) 1999.

(2) Ireland, Cyprus and Bulgaria, 2000.

(3) Ireland and Bulgaria, 2000.

(4) Bulgaria, 2000.

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

## Wood and paper



Wood is a sustainable raw material and hence its products and related processes make significant contributions to overall sustainable development. The EU's total forest area accounts for just over one third of its total surface area; this is modest in comparison to most other regions of the world. As a result, security of supply is an important issue in this sector, particularly regarding first processing stages of the production chain, where the highest proportion of costs is accounted for by raw material inputs.

Processed wood is primarily used as a building material and in the manufacture of furniture, while fibres that are derived from pulp processing are subsequently used to manufacture paper and board. Forest-based industries can be energy intensive, although they tend to contribute to their own energy needs through biomass, which supplies heat and power for own production.

While the wood and wood products sector is characterised by small enterprises producing for local or national markets, the pulp, paper and paper products sector displays much higher levels of industrial concentration and is dominated by multinational corporations (in particular from the Nordic countries and North America) - see Table 5.1 for a ranking of the 10 largest enterprises in the EU's forest-based industries.

This chapter covers some forest-based activities, more specifically the manufacture of wood and wood products (classified under NACE Division 20) and the manufacture of pulp, paper and paper products (NACE Division 21). The former includes all stages of wood processing that follow on from the activity of forestry, while the latter is a downstream activity that uses by-products from the initial processing of wood. Combined these activities are hereafter referred to as the wood and paper sector.

### NACE

- 20: manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials;
- 20.1: sawmilling and planing of wood; impregnation of wood;
- 20.2: manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards;
- 20.3: manufacture of builders' carpentry and joinery;
- 20.4: manufacture of wooden containers;
- 20.5: manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials;
- 21: manufacture of pulp, paper and paper products;
- 21.1: manufacture of pulp, paper and paperboard;
- 21.2: manufacture of articles of paper and paperboard.

**Table 5.1**  
Top ten enterprises/groups in the forest and paper sector in the EU, 2002 (EUR million)

		World ranking	Sales	Net income	Return on capital employed (%)
<b>Stora Enso</b>	FI	5	11 522	-201	4.5
<b>UPM-Kymmene</b>	FI	7	9 442	496	5.2
<b>Svenska Cellulosa</b>	SE	10	8 664	560	7.1
<b>Metsaliitto</b>	FI	11	7 993	112	4.0
<b>Anglo American (Mondi)</b>	UK	15	4 579	329	12.3
<b>Jefferson Smurfit</b>	IE	16	4 246	89	8.9
<b>Worms</b>	FR	17	3 989	172	4.0
<b>Kappa Packaging</b>	NL	28	2 636	-9	4.2
<b>David S. Smith (1)</b>	UK	30	2 080	25	3.5
<b>Ahlstrom</b>	FI	39	1 603	50	4.9

(1) Year ending 30 April 2002.

Source: PricewaterhouseCoopers 2003 Global Forest and Paper Survey, available at <http://www.pwcglobal.com/forestry>.



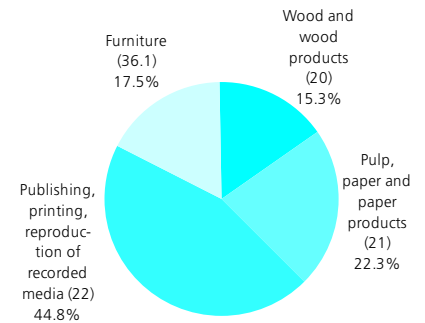
**STRUCTURAL PROFILE**

In a broad sense wood-based industries (often referred to as the forest-based cluster) constitute one of Europe's largest manufacturing sectors accounting for almost 14 % of manufacturing value added and employment in the EU-25 in 2001. However, this overall figure includes publishing and printing industries (see Chapter 24) and the manufacture of furniture (see Chapter 13) - see Figure 5.1. More specifically, the two NACE divisions that make up this chapter contributed 5.2 % to EU-25 manufacturing value added in 2001. This was composed of a 3.1 % share for the pulp, paper and paper products sector (NACE Division 21) and a 2.1 % share for the wood and wood products sector (NACE Division 20).

Germany generated the highest proportion of value added in the wood and paper sector in the EU-25 in 2001 (20.6 %). France, Italy and the United Kingdom all reported shares of between 11 and 13 %, while the next largest contributors were Finland (7.8 %) and Sweden (7.7 %). The admission of Austria, Finland and Sweden to the EU brought significant changes to the structure of the wood and paper sector. Indeed, these three countries accounted for 43.6 % of the EU-15's value added in the pulp, paper and paperboard sector (NACE Group 21.1) in 2001. In a similar way, the addition of the 10 new Member States also led to significant changes, in particular within the wood and wood products sector (NACE Division 20), where the 10 new Member States contributed 9.3 % of EU-25 value added in 2001 (compared with a manufacturing average of 5.6 %).

The evolution of the production index for the EU-25's manufacturing sector recorded an average increase of 1.3 % per annum between 1998 and 2003, a similar pace to that observed for wood and wood products (1.2 %) and pulp, paper and paper products (1.7 %).

**Figure 5.1**  
**Breakdown of value added in the forest-based products sector, EU-25, 2001 (share of total value added in the forest-based sector)**



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

**Table 5.2**

**Manufacture of wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)**  
**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 (16.4)	Latvia (418)	Germany (329.7)	United States (3.6)	United States (4.1)
2	Italy (9.6)	Finland (385)	Italy (264.2)	Canada (2.1)	Switzerland (2.6)
3	United Kingdom (9.6)	Sweden (285)	France (186.3)	Switzerland (1.9)	Norway (1.5)
4	France (8.8)	Estonia (273)	United Kingdom (180.5)	Norway (1.5)	Russian Federation (1.4)
5	Finland (6.2)	Austria (183)	Spain (167.3)	Brazil (1.5)	Japan (1.4)

(1) Luxembourg, Malta and Poland, not available.

(2) Luxembourg, Malta, Poland and Slovenia, not available.

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

**Figure 5.2**

**Manufacture of wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)**  
**Main indicators, EU-25 (2000=100)**



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

Table 5.3

**Manufacture of wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)**  
**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
<b>EU-25</b>	10.5	:	18.4	:	24.7	:	46.4	:
<b>EU-15</b>	10.7	20.0	18.6	25.5	24.5	25.1	46.2	29.4

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

Enterprises operating in the wood and wood products sector are often located in rural areas, contributing to economic activity and employment in remote regions. There were a high number of micro, small and medium-sized enterprises in the EU-25's wood and wood products sector, as SMEs (with less than 250 persons employed) accounted for 78.8 % of the value added generated in 2001 (compared with a manufacturing average of 45.1 %). On the other hand, the high level of concentration in the pulp, paper and paper products sector was evident from the 63.7 % share of value added that was accounted for by large enterprises with 250 or more persons employed (compared with a manufacturing average of 54.9 %).

#### LABOUR AND PRODUCTIVITY

There were approximately 1.9 million persons employed in the wood and paper sector in the EU-25 <sup>(1)</sup> in 2001. Almost two thirds (63.1 %) of these were active in the wood and wood products sector. This share was quite different to that recorded for value added, where wood and wood products accounted for 40.8 % of output in the whole of the wood and paper sector.

Combining the data for value added and employment, the resulting ratio of apparent labour productivity was more than twice as high in the EU-15's pulp, paper and paper products sector (EUR 68 600 of value added per person employed) as it was in the wood and wood products sector (EUR 33 600). Average personnel costs per employee in the EU-25 were also considerably higher in the pulp, paper and paper products sector (EUR 34 800) in 2001, almost EUR 4 000 above the manufacturing average, whereas in the wood and wood products sector they averaged EUR 20 300 per employee.

<sup>(1)</sup> Malta, NACE Division 20, not available; Poland, NACE Division 21, not available; Slovenia, number of employees.

Table 5.4

**Manufacture of wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)**

**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)
<b>EU-25</b>	:	:	:	:	:	:
<b>EU-15</b>	80.6	112.5	93.6	101.3	87.0	94.7
<b>BE</b>	78.3	105.3	93.0	102.1	88.3	93.1
<b>CZ</b>	75.3	122.2	96.6	99.0	82.4	89.0
<b>DK</b>	76.1	111.3	94.0	101.4	97.7	101.2
<b>DE</b>	78.8	109.8	90.1	100.5	92.3	96.8
<b>EE</b>	72.0	138.0	95.9	99.1	96.0	99.4
<b>EL</b>	90.3	127.4	96.7	98.6	59.0	80.5
<b>ES</b>	86.0	115.9	98.2	101.4	79.8	90.3
<b>FR</b>	79.6	112.5	95.9	101.5	95.7	100.8
<b>IE</b>	83.7	121.0	93.1	99.3	87.0	94.5
<b>IT</b>	80.9	116.2	94.4	99.7	73.0	88.2
<b>CY</b>	82.5	131.1	98.4	105.4	65.5	81.9
<b>LV</b>	81.4	131.9	90.9	96.0	96.6	101.1
<b>LT</b>	85.5	167.4	95.0	100.2	94.9	98.5
<b>LU</b>	:	:	:	:	:	:
<b>HU</b>	77.9	130.5	96.6	99.0	88.7	95.1
<b>MT</b>	100.0	142.8	77.4	80.1	100.0	107.4
<b>NL</b>	87.3	113.2	78.2	104.2	94.6	98.4
<b>AT</b>	79.9	107.5	:	:	91.8	96.4
<b>PL</b>	:	:	:	:	:	:
<b>PT</b>	79.7	142.1	98.0	101.1	78.6	90.2
<b>SI</b>	71.6	118.6	96.6	99.9	90.0	95.9
<b>SK</b>	75.5	127.5	98.9	100.2	88.8	92.4
<b>FI</b>	76.5	108.8	95.5	100.0	95.1	101.7
<b>SE</b>	80.5	108.9	92.3	100.6	92.7	98.6
<b>UK</b>	80.0	106.9	93.8	101.7	93.7	98.5

Source: Eurostat, Labour Force Survey.

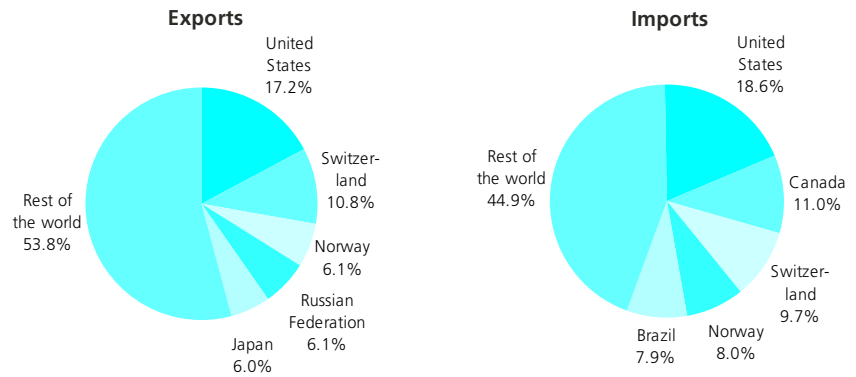
### EXTERNAL TRADE

The EUR 23.8 billion of exports of wood and paper products (CPA Divisions 20 and 21) made by the EU-25 in 2002 represented 2.9 % of total manufactured exports. In the same year, the EU imported EUR 19.2 billion of wood and paper products, which represented 2.6 % of total manufactured imports. The external trade performance of the EU-25 was split between a trade deficit of EUR 1.1 billion for wood and wood products (CPA Division 20) and a surplus of EUR 5.7 billion for pulp, paper and paper products (CPA Division 21).

The United States was the most important trading partner in terms of exports and imports for both wood and wood products and pulp, paper and paper products. The United States accounted for 17.2 % of the EU's exports of wood and paper products, while it was the origin of 18.6 % of the EU's imports.

Figure 5.3

### Wood and wood products; pulp, paper and paper products (CPA Divisions 20 and 21) Share in extra-EU trade, 2002



Source: Eurostat, Comext.

### 5.1: WOOD AND WOOD PRODUCTS

The wood and wood products sector is classified as NACE Division 20. It is split into five groups that cover the initial processing stages of sawing and planing wood (NACE Group 20.1), through semi-processed wood products, such as boards and panels (NACE Group 20.2) and builders' carpentry and joinery (NACE Group 20.3), towards end uses such as wooden containers (NACE Group 20.4) and other wood products, including household goods made from wood (NACE Group 20.5).

Wood is one of the oldest and most important building materials. It is biodegradable and increasing quantities of wood are recovered for secondary use. The recycling of wood is encouraged by initiatives such as the directive on packaging<sup>(2)</sup>, whereby enterprises and government agencies will be required to recover 15 % (by weight) of the wood they use in packaging by the end of 2008.

#### STRUCTURAL PROFILE

EU-25 value added in the wood and wood products sector was EUR 32.4 billion in 2001, equivalent to 2.1 % of the manufacturing total. There were approximately 1.2 million persons employed in the EU-25<sup>(3)</sup> in 2001, which represented 3.5 % of the manufacturing total.

<sup>(2)</sup> Directive 2004/12/EC of the European Parliament and of the Council of 11 February 2004 amending Directive 94/62/EC on packaging and packaging waste.

<sup>(3)</sup> Malta, excluding NACE Group 20.4; Slovenia, number of employees.

The manufacture of builders' carpentry and joinery, which makes building elements such as roof beams, windows, doors and flooring systems, was the largest single contributor to output. Increasingly, production in this subsector takes the form of pre-fabricated units. Builders' carpentry and joinery generated 42.5 % of the EU's value added in the wood and wood products sector in 2001. This was twice as high as the next most important subsector (in terms of value added), namely sawmilling and planing of wood (21.2 %). The manufacture of boards and panels and other wood products were similar in size, accounting for 14.8 % and 13.8 % of total value added, while the smallest contribution came from the wooden containers sector (7.7 %).

More detailed information is available for the wooden boards and panels sector, where particleboard was by far the most important product, accounting for 66.2 % of total production (measured in square metres). However, the fastest growing board sectors were medium density fibreboard (MDF), which almost accounted for 20 % of board production in 2002, and oriented strand board (OSB), which represented slightly less than 4 % of total board output (see Table 5.5).

Table 5.5

#### Wood processing output in Europe, 2002 (million m<sup>3</sup>)

<b>Sawnwood</b>	108.1
<b>Wood based panels (1)</b>	
<b>Particleboard</b>	35.9
<b>MDF</b>	10.5
<b>Plywood</b>	3.4
<b>Hard-/Softboard</b>	2.3
<b>OSB</b>	2.1
<b>Parquet (2)</b>	62.5

(1) Surface area in million square metres; EU-15 (excluding Greece, Ireland, Luxembourg, Portugal and the United Kingdom), Switzerland and Norway.  
(2) All Western and Eastern European countries, except for the CIS.

Source: EPF (European Panel Federation); FAO (Food and Agriculture Organization of the United Nations); FEP (European Federation of the Parquet Industry).

Germany had the largest wood and wood products sector in the EU-25 in 2001, accounting for 20.4 % of total value added. Italy (15.2 %) followed, while the United Kingdom and France were the only other Member States to report double-digit shares of EU-25 value added. Poland generated EUR 1.8 billion of value added, equivalent to 5.4 % of the EU-25 total, while the next highest contribution from any of the 10 new Member States was made by Latvia (1.0 %). Although this does not appear to be a very high share, it was 10 times higher than the Latvian share of EU-25 manufacturing value added (0.1 %).

In Denmark, Cyprus, the Netherlands and the United Kingdom the builders' carpentry and joinery subsector accounted for more than half of the value added generated in the wood and wood products sector. The three Baltic States, Sweden and Finland were relatively specialised in sawmilling activities, while Portugal was relatively specialised in the manufacture of cork.

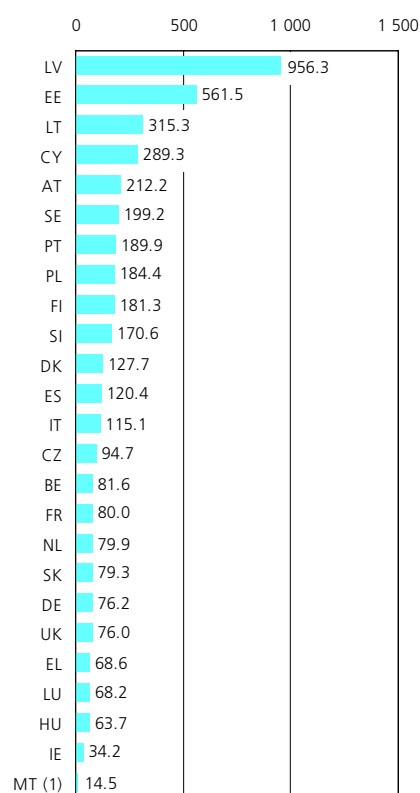
The evolution of EU-25's wood and wood products sector is closely linked to activity in the construction sector, not just the number of housing starts, but also the level of renovation and repair. During the period 1993 to 2003 the production index for the wood and wood products sector rose at an average annual rate of 1.6 %, while the corresponding rate for manufacturing was 2.3 % per annum. The fastest expansion was registered for the manufacture of boards and panels (NACE Group 20.2), with average growth of 4.3 % per annum between 1993 and 2003. The manufacture of wooden containers (NACE Group 20.4) and other wood products (NACE Group 20.5) recorded three consecutive annual reductions in output from 2001 to 2003.

The wood and wood products sector is characterised by a high number of family-run businesses that supply local markets. Micro and small enterprises (employing less than 50 persons) predominate and these accounted for a majority (53.4 %) of the EU-25's value added in the wood and wood products sector in 2001. Their share of total employment in the EU-15 was even higher at 64.8 %. Micro and small enterprises accounted for more than 65 % of the total number of persons employed in the wood and wood products sector in the Czech Republic, Spain, Italy, Cyprus and Portugal <sup>(4)</sup>.

<sup>(4)</sup> Belgium, Estonia, Greece, Ireland, Hungary, Poland, Slovenia and Slovakia, not available.

**Figure 5.4**  
**Manufacture of wood and wood products (NACE Division 20)**

**Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100)**



(1) 2000.

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

## LABOUR AND PRODUCTIVITY

Apparent labour productivity in the wood and wood products sector (EUR 33 600 of value added per person employed) was considerably below the EU-15 manufacturing average (EUR 51 200). This was the case for each of the five groups that make up the wood and wood products sector, with the highest productivity being recorded for boards and panels (EUR 46 500).

Some 71.7 % of the EU-15's manufacturing workforce was composed of men in 2002, while the equivalent proportion for the wood and wood products sector was 84.7 %. Denmark was the only country to report that its share of men working in the wood and wood products sector (66.7 %) was below its national manufacturing average (68.4 %) <sup>(5)</sup>.

There was a relatively high proportion of self-employed persons in the EU-15's wood and wood products sector in 2002 (17.6 % compared with a manufacturing average of 7.2 %). The wood and wood products sector recorded a similar part-time employment rate (6.6 %) to that registered for the whole of the manufacturing sector (7.6 %) in the EU-15 in 2002.

<sup>(5)</sup> Luxembourg and Poland, not available.

**Table 5.6**  
**Manufacture of wood and wood products (NACE Division 20)**  
**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)
<b>Wood &amp; wood products, except furniture; articles of straw &amp; plaiting materials</b>	33.6	129.2	26.0
<b>Sawmilling and planing of wood, impregnation of wood</b>	36.7	137.7	26.7
<b>Veneer sheets; boards and panels</b>	46.5	148.5	31.3
<b>Builders' carpentry and joinery</b>	31.1	119.6	26.0
<b>Wooden containers</b>	34.5	137.1	25.2
<b>Other products of wood; articles of cork, straw and plaiting materials</b>	29.4	134.1	21.9

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

Table 5.7

**Wood and products of wood and cork (except furniture); articles of straw and plaiting materials (CPA Division 20)**  
**External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
<b>Wood &amp; wood products (except furniture); straw &amp; plaiting materials</b>	7 389	100.0	8 478	100.0	-1 089
<b>Wood, sawn, planed or impregnated</b>	2 655	35.9	4 006	47.3	-1 351
<b>Veneer sheets; boards and panels</b>	2 187	29.6	1 926	22.7	260
<b>Builders' joinery and carpentry, of wood</b>	1 288	17.4	878	10.4	410
<b>Wooden containers</b>	341	4.6	114	1.3	227
<b>Other products of wood; articles of cork, straw and plaiting materials</b>	918	12.4	1 554	18.3	-636

Source: Eurostat, Comext.

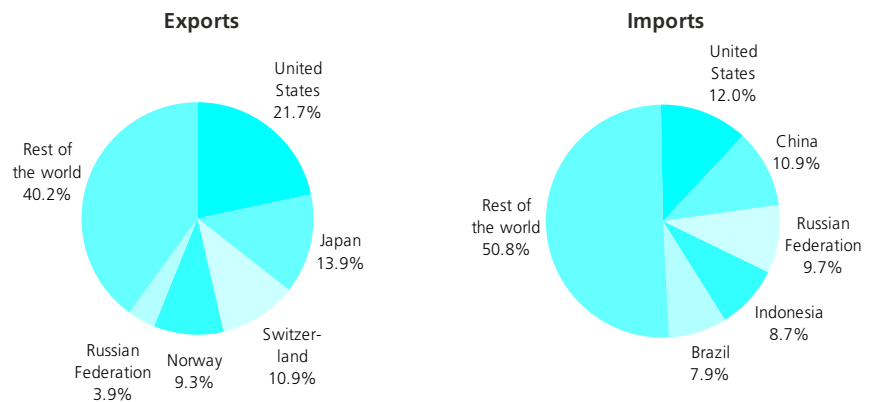
### EXTERNAL TRADE

The EU-25 had a trade deficit of EUR -1.1 billion in 2002 for wood and wood products (CPA Division 20), with exports valued at EUR 7.4 billion, compared with imports of EUR 8.5 billion. The deficit was unevenly spread across product groups, as the EU ran a trade deficit for sawn, planed or impregnated wood (CPA Group 20.1) that was equal to EUR 1.4 billion and a deficit of EUR 636 million for other products of wood (CPA Group 20.5). On the other hand, the EU-25 registered a trade surplus for the three remaining CPA groups.

The EU-25's main trading partners for wood and wood products in 2002 included the United States, Switzerland, Japan, China, the Russian Federation and Norway. The EU-25's largest trade surplus was with Japan (EUR 1.0 billion), followed by the United States, Switzerland and Norway. The largest deficit was registered with Indonesia (EUR -722 million), while deficits of EUR 400 million or more were also recorded with China, Brazil, the Russian Federation and Malaysia. Of the EUR 920 million of EU-25 imports of wood and wood products from China in 2002, some 81.5 % were accounted for by other products of wood (including household goods made from wood).

Figure 5.5

**Wood and products of wood and cork (except furniture); articles of straw and plaiting materials (CPA Division 20)**  
**Share in extra-EU trade, 2002**



Source: Eurostat, Comext.

## 5.2: PULP, PAPER AND PAPER PRODUCTS

The pulp, paper and paper products sector is broken down in the NACE classification into two groups. The first (NACE Group 21.1) covers the manufacture of pulp, paper and paperboard, through mechanical and chemical processes. These products often require further processing, as covered by the second activity (NACE Group 21.2), which includes the manufacture of corrugated, household and sanitary paper products, as well as newsprint, wallpaper and stationery. Printing and publishing activities (NACE Division 22) are covered in the final chapter of this publication (see Chapter 24).

Pulp, paper and paper products are destined for a wide variety of uses such as packaging (corrugated boxes), printed matter (newspapers, magazines and books), office stationery, household products (kitchen rolls, coffee filters, paper bags), medical and sanitary products. As such, paper and paper products find their way into practically every sector of the economy.

Technological improvements have led to innovations such as the use of paper together with other materials, such as plastics and aluminium, to allow a single package to benefit from the properties of different materials (for example, cartons for beverages).

The use of recycled fibre has grown steadily in recent years and stood at around 50 % in 2002. Table 5.8 provides some main indicators relating to paper recycling in the EU in 2002. Packaging is the biggest user of recovered paper, as almost two thirds of recovered paper is used to produce case materials, cartons, wrappings and other packaging. Recovered paper utilisation rates are also high in the newsprint sector, where the utilisation rate of recovered paper was 73.2 % in 2002, according to the Confederation of European Paper Industries (CEPI). The recycling of paper and board is further encouraged by initiatives such as the directive on packaging <sup>(6)</sup>, whereby enterprises in each Member State will be required to recover at least 60 % (by weight) of the paper and board they use in packaging by the end of 2008.

<sup>(6)</sup> Directive 2004/12/EC of the European Parliament and of the Council of 11 February 2004 amending Directive 94/62/EC on packaging and packaging waste.

**Table 5.8**  
**Main indicators for paper recycling, 2002**

	Recovered paper utilisation (thousand tonnes)	Collection rate (%)	Utilisation rate (%)
<b>EU-15 (1)</b>	40 499	55.9	47.9
<b>BE</b>	602	48.1	35.3
<b>DK</b>	377	55.7	102.7
<b>DE</b>	12 038	72.2	65.0
<b>EL</b>	380	34.1	77.1
<b>ES</b>	4 370	52.1	81.5
<b>FR</b>	5 705	49.7	58.2
<b>IE</b>	47	33.8	109.3
<b>IT</b>	5 194	44.9	56.0
<b>LU</b>	:	:	:
<b>NL</b>	2 372	64.8	71.1
<b>AT</b>	1 900	61.4	43.0
<b>PT</b>	341	45.3	22.4
<b>FI</b>	702	71.7	5.5
<b>SE</b>	1 861	68.8	17.4
<b>UK</b>	4 610	47.6	74.2

(1) Excluding Luxembourg.

Source: CEPI (Confederation of European Paper Industries), Annual statistics 2002. For more information see: <http://www.cepi.org>.

### STRUCTURAL PROFILE

Value added in the pulp, paper and paper products sector was EUR 47.1 billion in 2001 in the EU-25, which equated to 3.1 % of total manufacturing value added. There were 706 300 persons employed in the pulp, paper and paper products sector in the EU-25 in 2001 <sup>(7)</sup>, approximately 2.2 % of those employed in the whole of the manufacturing sector.

The relative importance of the two NACE groups that make up the pulp, paper and paper products sector was almost identical in terms of their contribution to value added in 2001. The manufacture of pulp, paper and paperboard (NACE Group 21.1) contributed 49.8 % of sectoral value added compared with 50.2 % for the manufacture of articles of paper and paperboard (NACE Group 21.2). When expressed in terms of employment, the manufacture of articles of paper and paperboard employed approximately two thirds of the total sectoral workforce. Table 5.9 provides a more detailed breakdown (in volume terms) of output within the EU-15's pulp, paper and paper products sector.

<sup>(7)</sup> Poland, not available; Slovenia, number of employees.

**Table 5.9**  
**Breakdown of pulp and paper production, EU-15, 2002 (thousand tonnes) (1)**

<b>Total pulp</b>	34 887
<b>Woodpulp for papermaking</b>	34 389
<b>Mechanical &amp; semi-chemical pulp</b>	11 480
<b>Chemical pulp</b>	22 909
<b>Other pulp</b>	498
<b>Total graphic paper</b>	40 909
<b>Newsprint</b>	8 801
<b>Uncoated mechanical</b>	5 412
<b>Coated</b>	8 487
<b>Uncoated woodfree</b>	9 311
<b>Coated woodfree</b>	8 898
<b>Household &amp; sanitary</b>	5 336
<b>Total packaging</b>	34 618
<b>Case materials</b>	19 669
<b>Carton boards</b>	11 729
<b>Wrappings</b>	3 220
<b>Others</b>	3 701

(1) Excluding Luxembourg.

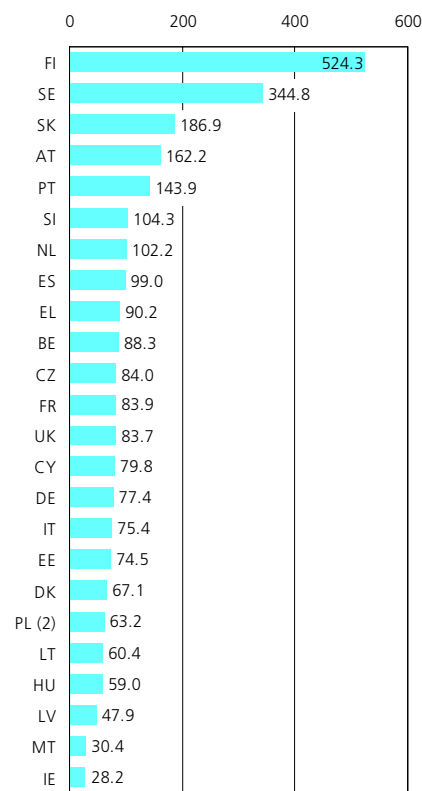
Source: CEPI (Confederation of European Paper Industries), Annual statistics 2002. For more information see: <http://www.cepi.org>.

A majority of Member States reported that the pulp, paper and paper products sector accounted for between 1.5 and 3.5 % of manufacturing value added in 2001 <sup>(8)</sup>. Ireland and Malta were below this level, as output in this sector equated to 0.9 % of manufacturing value added. The highest relative contributions of the pulp, paper and paper products sector to total manufacturing value added were recorded in Finland (16.1 %) and Sweden (10.6 %), while Slovakia, Austria and Portugal also reported relatively high degrees of specialisation.

The evolution of the pulp, paper and paper products sector during the period 1993 to 2003 showed that output was generally rising at a slightly slower pace (1.8 % per annum) than for manufacturing as a whole (2.3 %). The manufacture of pulp, paper and paperboard recorded average growth of 2.8 % per annum compared with 0.6 % per annum for the manufacture of articles of paper and paperboard.

<sup>(8)</sup> Luxembourg and Poland, not available.

**Figure 5.6**  
**Manufacture of pulp, paper and paper products (NACE Division 21)**  
**Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)**

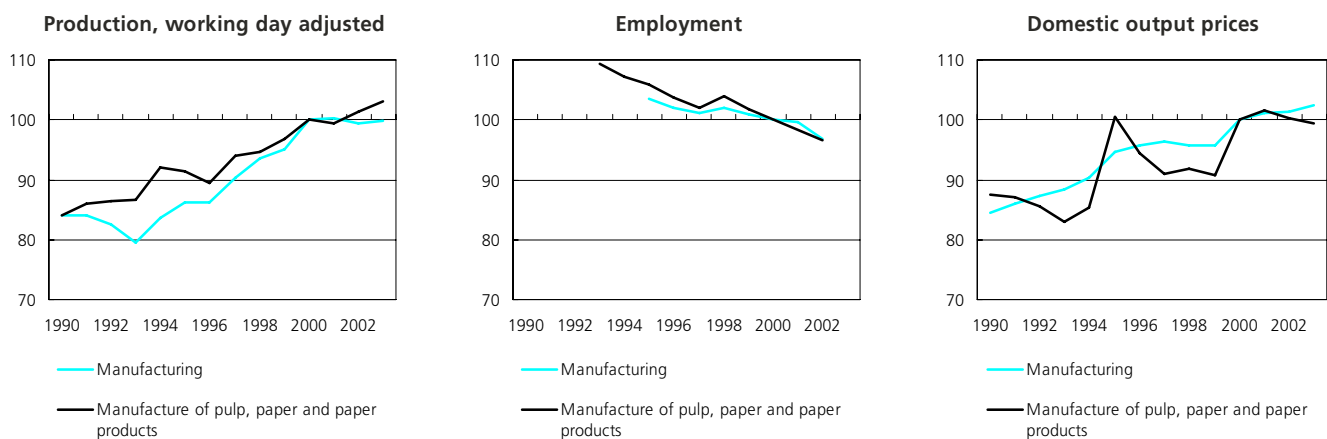


(1) Luxembourg, not available.  
 (2) 2000.  
 Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr).

Output prices for pulp, paper and paper products rose, on average, by 1.8 % per annum between 1993 and 2003 in the EU-25, slightly faster than the manufacturing average of 1.5 % per annum. The evolution of prices has historically been marked by erratic fluctuations, particularly in the price of pulp. Output prices for the manufacture of pulp (NACE Class 21.11) in the EU-15 often rose or fell by more than +/-10 % on the basis of a year-on-year comparison. A shortage of pulp in 2000 drove output prices up by 50.2 %, followed by corrections in the three years that followed.

Whereas SMEs predominate in the wood and wood products sector, the opposite is true in the pulp, paper and paper products sector. Large enterprises (with 250 or more persons employed) generated 63.7 % of total value added in the EU-25's pulp, paper and paper products sector in 2001 (compared with a manufacturing average of 54.9 %); this same group of enterprises employed exactly half of the total workforce in the pulp, paper and paper products sector in the EU-15 in 2002.

**Figure 5.8**  
**Manufacture of pulp, paper and paper products (NACE Division 21)**  
**Main indicators, EU-25 (2000=100)**



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

Table 5.10

**Manufacture of pulp, paper and paper products (NACE Division 21)**  
**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)
<b>Manufacture of pulp, paper and paper products</b>	68.6	178.7	38.4
<b>Manufacture of pulp, paper and paperboard</b>	99.6	224.5	44.4
<b>Manufacture of articles of paper and paperboard</b>	52.4	149.0	35.2

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

**LABOUR AND PRODUCTIVITY**

Apparent labour productivity was EUR 68 600 per person employed in the EU-15's pulp, paper and paper products sector in 2001. There was a wide range of productivity across the different subsectors, as each person employed in the manufacture of pulp (NACE Class 21.11) generated an average of EUR 145 100 of value added, while for the manufacture of paper and paperboard (NACE Class 21.12) each person generated an average of EUR 95 900 of value added. The apparent labour productivity of EU-15 enterprises in the articles of paper and paperboard sector (NACE Group 21.2) was, at EUR 52 400 per person employed, similar to that recorded for the whole of manufacturing (EUR 51 200 per person employed).

Paid employees accounted for 96.3 % of those employed in the EU-15's pulp, paper and paper products sector in 2002; this could be compared with a manufacturing average of 91.9 %. Belgium was the only country to report that a lower proportion of paid employees worked in the pulp, paper and paper products sector (90.6 %) than in the manufacturing sector as a whole (94.8 %) <sup>(9)</sup>. Belgium, the Czech Republic, Hungary and Slovakia were the only countries where the proportion of men working in the pulp, paper and paper products sector was lower than the manufacturing average in 2002 <sup>(10)</sup>. On the other hand, the proportion of men working in the pulp, paper and paper products sector was more than 10 percentage points above the manufacturing average in Malta (30.0 percentage points), Portugal (20.1) and Denmark (17.4). Full-time employment rates were generally slightly above the manufacturing average in the pulp, paper and paper products sector, reaching 94.0 % in 2002 in the EU-15 (compared with a manufacturing average of 92.4 %).

<sup>(9)</sup> Estonia, Cyprus, Latvia, Lithuania, Luxembourg and Poland, not available.

<sup>(10)</sup> Estonia, Cyprus, Latvia, Lithuania, Luxembourg and Poland, not available.

**EXTERNAL TRADE**

The EU-25 ran a trade surplus of EUR 5.7 billion in 2002 for pulp, paper and paper products (CPA Division 21), made up of EUR 16.4 billion of exports and EUR 10.7 billion of imports. Of the seven CPA classes that compose CPA Division 21, six reported a trade surplus, the highest of which was EUR 6.9 billion for paper and paperboard (CPA Class 21.12). Pulp (CPA Class 21.11) was the only Class where the EU-25 recorded a trade deficit (EUR 3.7 billion).

The EU's main trading partners for pulp, paper and paper products were the United States, Switzerland, Canada, Norway and the Russian Federation. Almost 90 % of the EU-25's imports came from its 10 largest import partners, while export markets were less concentrated, as the top 10 destinations accounted for 55.7 % of total exports in 2002. The EU ran its largest trade surpluses for pulp, paper and paper products with the Russian Federation (EUR 597 million), Turkey (EUR 570 million), and China (EUR 450 million) in 2002, while the biggest deficits were registered with Canada (EUR 1.3 billion), Brazil (EUR 642 million) and Norway (EUR 453 million).

Table 5.11

**Pulp, paper and paper products (CPA Division 21)**  
**External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
<b>Pulp, paper and paper products</b>	16 424	100.0	10 701	100.0	5 723
<b>Pulp, paper and paperboard</b>	12 206	74.3	9 029	84.4	3 177
<b>Articles of paper and paperboard</b>	4 114	25.0	1 672	15.6	2 442

Source: Eurostat, Comext.



Table 5.12

**Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials (NACE Division 20)**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	2 917	1 796	1 807	18 925	505	368	9 033	11 689	866	15 889	136	697	355	123
Value added at factor cost (EUR million)	761	298	691	6 626	117	129	2 643	3 495	244	4 922	57	330	91	33
Purchases of goods and services (EUR million)	2 249	1 378	0	13 057	413	:	6 849	8 937	662	11 289	84	541	281	90
Gross investment in tangible goods (EUR million)	235	122	113	949	51	:	483	716	59	965	9	88	32	:
Number of persons employed (thousands)	15	76	16	176	15	5	111	94	6	182	3	30	26	1
App. labour productivity (EUR thous./pers. emp.)	50.9	3.9	44.0	37.6	7.7	27.9	23.8	37.4	39.3	27.0	19.1	10.9	3.5	64.0
Average personnel costs (EUR thous./employee) (2)	33.5	5.3	33.9	31.3	4.3	:	18.0	27.9	24.4	21.5	15.9	3.4	2.1	38.6
Wage adjusted labour productivity (%) (2)	151.9	73.9	129.9	120.4	177.5	:	132.2	134.0	161.3	125.3	116.8	324.3	165.5	165.8
Gross operating rate (%) (3)	10.6	1.9	9.5	8.8	10.1	:	9.5	8.0	10.5	15.8	12.4	30.1	10.3	10.8
	HU	MT (1)	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	542	6	2 654	4 904	4 172	3 182	516	292	5 186	7 062	9 764	152	890	:
Value added at factor cost (EUR million)	155	3	912	1 602	1 758	717	145	66	1 189	1 752	3 671	24	233	:
Purchases of goods and services (EUR million)	468	3	1 871	3 656	2 563	2 605	382	248	4 181	5 583	6 829	148	803	:
Gross investment in tangible goods (EUR million)	63	1	120	442	248	234	32	28	316	384	420	20	302	:
Number of persons employed (thousands)	22	0	23	36	136	49	:	14	29	43	89	17	89	:
App. labour productivity (EUR thous./pers. emp.)	6.9	10.3	40.5	44.0	13.0	14.7	:	4.8	40.9	41.0	41.4	1.5	2.6	:
Average personnel costs (EUR thous./employee) (2)	4.5	8.2	31.9	31.4	5.6	10.6	10.8	3.7	31.2	33.2	27.1	1.4	1.4	:
Wage adjusted labour productivity (%) (2)	153.9	124.6	127.0	140.3	232.8	138.3	:	128.0	131.3	123.7	152.7	102.9	186.3	:
Gross operating rate (%)	9.1	25.5	10.6	10.6	28.0	7.9	2.9	4.7	5.7	6.4	13.8	3.3	12.7	:

(1) 2000.

(2) Ireland, Cyprus and Bulgaria, 2000.

(3) Ireland, 2000.

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

Table 5.13

**Manufacture of pulp, paper and paperboard (NACE Group 21.1)  
Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	2 045	773	249	14 048	:	:	3 875	7 592	32	5 222	0	:	24	:
Value added at factor cost (EUR million) (1)	571	216	80	4 313	:	:	1 219	2 045	15	1 434	0	:	7	:
Purchases of goods and services (EUR million)	1 538	565	0	10 061	:	:	2 862	5 648	18	4 237	0	:	17	:
Gross investment in tangible goods (EUR million)	252	40	7	847	:	:	279	384	1	743	0	:	3	:
Number of persons employed (thousands)	6	8	1	47	:	:	14	27	0	19	0	:	1	:
App. labour productivity (EUR thous./pers. emp.) (1)	99.4	26.3	85.1	91.5	:	:	84.4	75.7	77.0	76.6	:	:	6.0	:
Average personnel costs (EUR thous./employee) (1)	52.6	7.7	44.4	47.5	:	:	36.5	42.1	34.4	36.8	:	:	4.7	:
Wage adjusted labour productivity (%) (1)	188.9	343.1	191.7	192.8	:	:	231.2	179.8	223.6	208.3	:	:	127.2	:
Gross operating rate (%) (1)	12.6	19.7	15.4	14.2	:	:	17.3	11.4	22.7	13.6	:	:	6.4	:
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	205	0	1 974	3 317	1 630	1 645	380	523	14 042	10 200	5 043	42	173	:
Value added at factor cost (EUR million)	45	0	609	1 173	687	612	72	171	4 784	3 740	1 560	8	33	:
Purchases of goods and services (EUR million)	169	0	1 346	2 695	914	1 049	280	367	10 198	6 755	3 513	35	161	:
Gross investment in tangible goods (EUR million)	11	0	91	262	253	116	29	37	1 759	813	233	4	29	:
Number of persons employed (thousands)	1	0	7	9	10	6	:	6	36	31	19	3	9	:
App. labour productivity (EUR thous./pers. emp.)	34.8	:	90.2	137.1	65.6	108.2	:	27.9	132.0	121.3	82.4	2.3	3.6	:
Average personnel costs (EUR thous./employee)	9.0	:	46.2	50.9	12.1	30.4	17.5	6.2	49.8	44.3	44.3	2.7	2.5	:
Wage adjusted labour productivity (%)	387.0	:	195.3	269.6	541.7	355.6	:	451.7	264.8	273.7	185.8	84.9	147.8	:
Gross operating rate (%)	15.4	:	15.5	19.1	40.1	27.3	7.2	24.5	20.3	23.0	14.1	-2.6	5.8	:

(1) Ireland, 2000.

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

Table 5.14

**Manufacture of articles of paper and paperboard (NACE Group 21.2)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
<b>Production (EUR million)</b>	2 089	644	1 233	16 412	:	:	6 851	11 761	693	13 185	64	:	63	:
<b>Value added at factor cost (EUR million) (2)</b>	628	168	448	5 469	:	:	1 941	3 287	278	3 257	23	:	18	:
<b>Purchases of goods and services (EUR million)</b>	1 936	500	0	12 288	:	:	5 096	9 443	408	10 029	45	:	46	:
<b>Gross investment in tangible goods (EUR million)</b>	83	46	62	850	:	:	378	559	48	506	4	:	5	:
<b>Number of persons employed (thousands)</b>	10	12	8	107	:	:	42	66	4	63	1	:	2	:
<b>App. labour productivity (EUR thous./pers. emp.) (2)</b>	62.8	14.3	58.1	51.3	:	:	46.6	50.0	60.1	51.6	26.6	:	11.1	:
<b>Average personnel costs (EUR thous./employee) (3)</b>	40.3	6.8	41.6	39.3	:	:	26.0	35.5	33.3	29.4	14.5	:	4.9	:
<b>Wage adjusted labour productivity (%) (3)</b>	155.7	208.4	139.9	130.8	:	:	179.0	140.7	180.3	175.4	170.0	:	226.0	:
<b>Gross operating rate (%) (2)</b>	9.0	13.5	10.4	7.3	:	:	12.4	7.3	16.3	12.2	14.6	:	17.2	:
	HU	MT	NL	AT	PL (1)	PT	SI	SK	FI	SE	UK	BG	RO	TR
<b>Production (EUR million)</b>	631	20	3 473	1 577	1 230	631	223	253	602	2 051	12 162	87	224	:
<b>Value added at factor cost (EUR million)</b>	164	7	1 088	608	326	178	57	55	213	667	4 321	17	66	:
<b>Purchases of goods and services (EUR million)</b>	526	12	2 794	1 152	1 047	465	164	226	412	1 540	8 614	76	192	:
<b>Gross investment in tangible goods (EUR million)</b>	79	5	179	98	102	66	17	18	24	106	475	7	21	:
<b>Number of persons employed (thousands)</b>	9	0	19	9	:	8	:	4	4	11	73	7	10	:
<b>App. labour productivity (EUR thous./pers. emp.)</b>	19.1	18.6	56.9	68.1	:	22.0	:	12.9	50.4	59.4	59.3	2.4	6.5	:
<b>Average personnel costs (EUR thous./employee)</b>	9.4	13.1	39.0	41.7	6.6	14.1	13.0	5.5	37.4	39.9	38.4	1.7	2.3	:
<b>Wage adjusted labour productivity (%)</b>	202.9	141.6	145.6	163.3	:	156.2	:	233.4	134.8	148.8	154.5	143.7	283.8	:
<b>Gross operating rate (%)</b>	12.2	14.6	8.9	13.3	12.1	10.1	5.7	11.1	9.1	11.0	12.0	5.8	17.8	:

(1) 2000.

(2) Ireland, 2000.

(3) Ireland and Cyprus, 2000.

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

## Furniture, other manufacturing industries and recycling



### 13.1: FURNITURE

Furniture manufacturing (NACE Group 36.1) is made up of the following activities: the manufacture of chairs and seats (NACE Class 36.11), other office and shop furniture (NACE Class 36.12), other kitchen furniture (NACE Class 36.13), other furniture (NACE Class 36.14) and mattresses (NACE Class 36.15).

Traditionally, furniture manufacturing was almost exclusively a wood-processing industry. Over time, as a consequence of changes in taste, cost and techniques, glass, plastics and metals have been used increasingly in furniture making. Furthermore, solid wood has to a greater or lesser extent been substituted by composites, such as chipboard, which may for example be produced from off-cuts or recycled wood.

#### STRUCTURAL PROFILE

The EU-25's furniture sector generated a value added of EUR 37.0 billion in 2001, equivalent to 2.4 % of manufacturing value added. In the same year there were 1.3 million persons employed in the furniture sector in the EU-25 <sup>(1)</sup>, of which 1.0 million were employed in the EU-15. Within the EU-15, the number of persons employed in the furniture sector corresponded to 3.6 % of total manufacturing employment.

<sup>(1)</sup> Slovenia, employees.

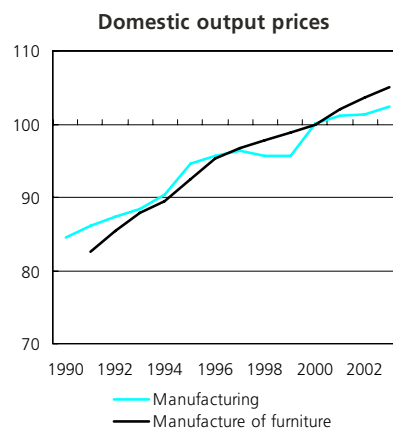
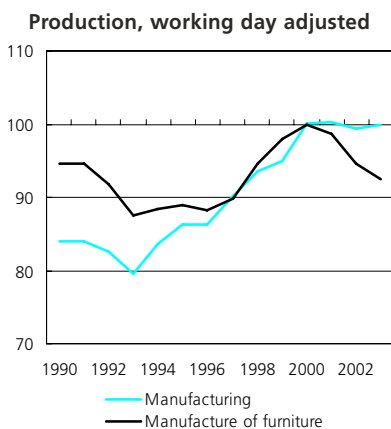
This chapter covers a number of unrelated manufacturing activities that are classified within NACE Divisions 36 and 37. The largest of these is the furniture sector (NACE Group 36.1), which is the subject of a specific subchapter. The remaining activities include the manufacture of jewellery and related articles (NACE Group 36.2), musical instruments (NACE Group 36.3), sports goods (NACE Group 36.4) and games and toys (NACE Group 36.5), as well as recycling and waste treatment (NACE Division 37). Note that NACE Division 36 does not cover the manufacture of sports clothes or footwear (which are classified within NACE Divisions 18 and 19).

#### NACE

- 36: manufacture of furniture; manufacturing n.e.c.;
- 36.1: manufacture of furniture;
- 36.2: manufacture of jewellery and related articles;
- 36.3: manufacture of musical instruments;
- 36.4: manufacture of sports goods;
- 36.5: manufacture of games and toys;
- 36.6: miscellaneous manufacturing n.e.c.;
- 37: recycling;
- 37.1: recycling of metal waste and scrap;
- 37.1: recycling of non-metal waste and scrap.

Figure 13.1

#### Manufacture of furniture (NACE Group 36.1) Main indicators, EU-25 (2000=100)



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

In 2001, Germany (22.2 %) had the highest value added share of the EU-25's furniture sector, followed by Italy (17.2 %) and the United Kingdom (15.9 %). The importance of the furniture sector in manufacturing value added <sup>(2)</sup> was highest in Estonia with a 7.5 % proportion. Malta and Cyprus were also relatively highly specialised within this sector as furniture accounted for over 5 % of manufacturing value added in both of these countries. In contrast, Luxembourg, Ireland (2000) and Hungary accounted for the lowest specialisation rates, registering less than 1 % of their manufacturing value added in the furniture sector.

The development of the EU-25's furniture manufacturing production index was very similar to the index for manufacturing as a whole when considering working day adjusted series during the period from 1996 to 2000. There was an annual increase of 3.2 % in furniture manufacturing compared with 3.7 % in manufacturing. After 2000, production

declined quite strongly in furniture manufacturing, with an average reduction of 2.6 % per annum through to 2003, while the index for manufacturing was more stable. Domestic output prices for furniture manufacturing showed growth throughout the period 1993 to 2003, increasing on average by 1.8 % per annum, slightly faster than the manufacturing average of 1.5 %; price increases were also more regular in furniture manufacturing than in manufacturing as a whole.

#### LABOUR AND PRODUCTIVITY

In 2001, apparent labour productivity was EUR 33 500 per person employed in the EU-15's furniture sector. This was 34.6 % less than the productivity recorded in the manufacturing sector. Apparent labour productivity in the furniture sector was lower than the manufacturing average in every Member State <sup>(3)</sup>.

<sup>(3)</sup> Greece and Slovenia, not available; Ireland, 2000.

In the EU-15, average personnel costs were EUR 26 800 per employee in the furniture sector, EUR 8 900 less than in total manufacturing. As with apparent labour productivity, average personnel costs in the furniture sector were consistently below manufacturing averages in every Member State <sup>(4)</sup>.

Despite lower than average personnel costs, the wage adjusted labour productivity ratio in the EU-15's furniture sector in 2001 was 125.0 %, 18.5 percentage points less than the manufacturing average. Again, the furniture sector recorded ratios that were lower than those registered across the whole of manufacturing in every Member State <sup>(5)</sup>.

<sup>(4)</sup> Greece, not available; Ireland and Cyprus, 2000.

<sup>(5)</sup> Greece and Slovenia, not available; Ireland and Cyprus, 2000.

<sup>(2)</sup> Greece, not available.

**Table 13.1**  
**Selected furniture (CPA Group 36.1), EU-15**

	Prodcom code	Latest year for production	Production value (EUR million)
<b>Seats for aircraft and motor vehicles</b>	36.11.11.10 and 36.11.11.30	2000	8 225.7
<b>Swivel seats with variable height adjustment, with backrest and fitted with castors or glides excluding medical, surgical, dental or veterinary seats - barbers' or similar chairs</b>	36.11.11.55 and 36.11.11.59	2001	1 739.6
<b>Upholstered seats with metal frames (excluding swivel seats, medical, surgical, dental or veterinary seats, barbers' or similar chairs, for motor vehicles, for aircraft)</b>	36.11.11.70	2000	2 235.1
<b>Seats convertible into beds (excluding garden seats or camping equipment)</b>	36.11.12.10	2001	1 507.3
<b>Upholstered seats with wooden frames (including three piece suites) (excluding swivel seats)</b>	36.11.12.50	2001	9 160.4
<b>Wooden furniture for shops (including shop, office, bar and hotel fittings, modular shop fitting systems, counters, coat stands) (excluding seats, shop fronts of wood)</b>	36.12.13.00	2001	2 662.4
<b>Wooden units for fitted kitchens; wooden kitchen furniture (excluding units for fitted kitchens)</b>	36.13.10.50 and 36.13.10.90	2001	10 078.7
<b>Metal furniture excluding office, medical, surgical, dental or veterinary furniture; barbers' chairs - cases and cabinets specially designed for hi-fi systems, videos or televisions</b>	36.14.11.00	2001	4 426.6
<b>Wooden bedroom furniture (excluding builders' fittings for cupboards to be built into walls, mattress supports, lamps and lighting fittings, floor standing mirrors, seats)</b>	36.14.12.30	2001	7 588.0
<b>Wooden furniture for the dining-room and living-room (excluding floor standing mirrors, seats)</b>	36.14.12.50	2001	5 803.5
<b>Other wooden furniture excluding bedroom, dining-, living-room, kitchen office, shop, medical, surgical, dental/veterinary furniture, cases &amp; cabinets designed for hi-fi, videos &amp; televisions</b>	36.14.13.00	2001	4 225.7
<b>Furniture of materials other than metal and wood excluding medical, surgical, dental or veterinary furniture - cases and cabinets specially designed for hi-fi systems, videos and televisions</b>	36.14.14.30 and 36.14.14.50	2001 (1)	960.9
<b>Mattress supports (including wooden or metal frames fitted with springs or steel wire mesh, upholstered mattress bases, with wooden slats, divans)</b>	36.15.11.00	2001	1 422.6
<b>Mattresses of cellular rubber (including with a metal frame) (excluding water-mattresses, pneumatic mattresses); with spring interiors (excluding of cellular rubber or plastics); mattresses (excluding with spring interiors, of cellular rubber or plastics)</b>	36.15.12.30, 36.15.12.70 and 36.15.12.90	2001 (2)	2 013.3

(1) 1999 for one heading in the aggregate.

(2) 2000 for one heading in the aggregate.

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

Table 13.2

**Manufacture of furniture (NACE Group 36.1)**  
**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)
<b>Manufacture of furniture</b>	33.5	125.0	26.8
<b>Manufacture of chairs and seats</b>	33.5	122.3	27.4
<b>Manufacture of other office and shop furniture</b>	41.3	132.9	31.1
<b>Manufacture of other kitchen furniture</b>	38.6	133.2	29.0
<b>Manufacture of other furniture</b>	29.5	121.3	24.3
<b>Manufacture of mattresses</b>	36.8	133.0	27.7

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

**EXTERNAL TRADE**

In 2002, the EU-25's exports of furniture (CPA Group 36.1) were valued at EUR 9.8 billion, while imports reached EUR 6.9 billion, resulting in a trade surplus of EUR 2.8 billion. The main destination for EU exports of furniture was the United States, which imported furniture from the EU-25 valued at almost EUR 3.0 billion in 2002. This was double the value of EU-25 exports to Switzerland, the next most important destination. China was the largest supplier of furniture to the EU-25, as EUR 1.4 billion of furniture were imported, approximately double the level of imports from Indonesia (EUR 773.2 million), while the third most important origin of imports was Romania (EUR 560.6 million).

A more detailed analysis of the export and import performance of the Member States shows that Italy dominated exports (intra- and extra-EU combined), accounting for 26.4 % of the exports by EU-25 Member States. Germany (15.8 %) and Poland (8.4 %) followed in the ranking. Collectively the ten new Member States accounted for 18.7 % of all furniture exports made by EU-25 Member States. This was about three times higher than their corresponding share for all manufactured goods (6.1 %), and was the fourth highest proportion of the 10 new Member States to any CPA group within manufactured goods.

Italy, Poland and Denmark recorded the highest external trade surpluses (intra- and extra-EU combined) for furniture, while the United Kingdom, France, Germany and the Netherlands accounted for the highest deficits.

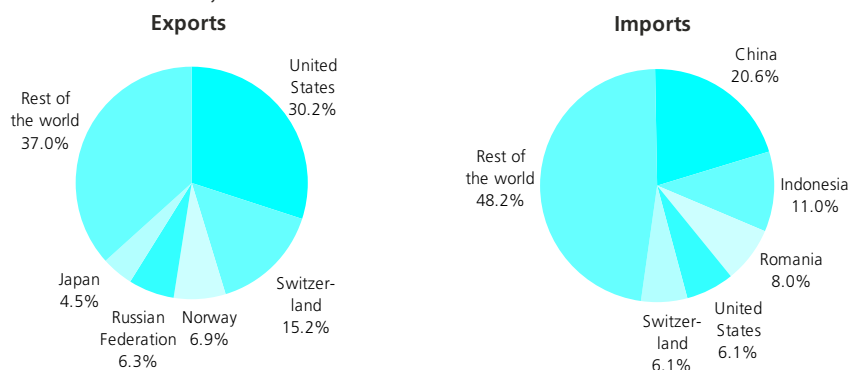
Table 13.3

**Furniture (CPA Group 36.1)**  
**External trade, EU-25, 2002**

	Exports		Imports		Trade balance (EUR million)
	Value (EUR million)	Share of total (%)	Value (EUR million)	Share of total (%)	
<b>Furniture</b>	9 768	100.0	6 922	100.0	2 846
<b>Chairs and seats</b>	3 279	33.6	2 992	43.2	286
<b>Other office and shop furniture</b>	753	7.7	199	2.9	555
<b>Kitchen furniture</b>	596	6.1	32	0.5	563
<b>Other furniture</b>	4 968	50.9	3 581	51.7	1 387
<b>Mattresses</b>	172	1.8	117	1.7	55

Source: Eurostat, Comext.

Figure 13.2

**Furniture (CPA Group 36.1)**  
**Share in extra-EU trade, 2002**


Source: Eurostat, Comext.

### 13.2: MUSICAL INSTRUMENTS, SPORTS GOODS, TOYS AND GAMES, JEWELLERY

This subchapter covers the manufacture of: coins, medals and jewellery; musical instruments including string, wind and percussion instruments, as well as electronic instruments and juke boxes; sports goods for indoor and outdoor sports as well as other physical pursuits (note that sportswear and vehicles are excluded); games and toys including electronic games and scale-sized models (but excluding bicycles); miscellaneous goods, including imitation jewellery, brooms, and brushes, umbrellas and lighters. Collectively these activities cover NACE Groups 36.2 to 36.6 and are hereafter referred to as other manufacturing.

#### STRUCTURAL PROFILE

The other manufacturing sector in the EU-25 generated a value added of EUR 15.7 billion in 2001, equivalent to 1.0 % of total manufacturing value added. There were 489 400 persons employed in the other manufacturing sector in the EU-25 <sup>(6)</sup>. Miscellaneous manufacturing (NACE Group 36.6) was the largest subsector in value added terms, contributing 43.4 % of sectoral value added, followed by jewellery manufacturing (NACE Group 36.2) with a 26.6 % share.

<sup>(6)</sup> Estonia, Malta and Slovakia, not available; Latvia, 1999; Slovenia, employees.

In jewellery manufacturing, Cyprus recorded the highest specialisation among the Member States <sup>(7)</sup>, with this activity generating 1.4 % of manufacturing value added, while Italy, Malta and Portugal were also relatively specialised. The Czech Republic, Austria and Germany were relatively specialised in the manufacture of musical instruments <sup>(8)</sup>, while Austria was by far the most specialised country <sup>(9)</sup> in the manufacture of sports goods, generating 0.7 % of its manufacturing value added in this activity (compared with an EU-25 average of 0.1 %). Indeed, sports goods manufacturing was the manufacturing NACE group in which Austria was most specialised compared with the EU-25 in 2001. Finland, France and Estonia (2000) were also relatively specialised in the manufacture of sports goods. In the manufacture of games and toys, Malta was by far the most specialised country <sup>(10)</sup>, generating 3.0 % of manufacturing value added in 2001. As such, the manufacture of games and toys was the manufacturing NACE group in which Malta was most specialised relative to the EU-25.

<sup>(7)</sup> Estonia, Greece and Ireland, not available.

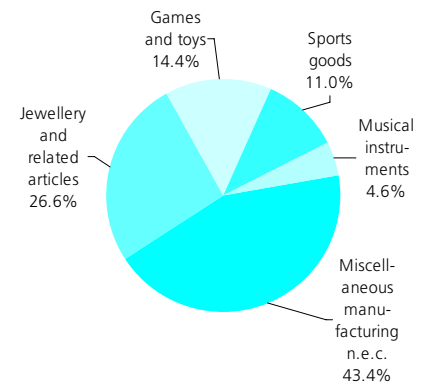
<sup>(8)</sup> Slovakia, 1999; Denmark, Ireland and Latvia, 2000; Estonia and Greece, not available.

<sup>(9)</sup> Latvia, 1999; Estonia, Ireland and Slovakia, 2000; Greece, Luxembourg and Malta, not available.

<sup>(10)</sup> Denmark, Estonia, Greece, Ireland and Cyprus, not available.

Figure 13.3

**Musical instruments, sport goods, toys and games, jewellery (NACE Groups 36.2 to 36.6)**  
Share of value added at factor cost, EU-25, 2001



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

#### LABOUR AND PRODUCTIVITY

In 2001, the apparent labour productivity of other manufacturing was EUR 37 500 per person employed in the EU-15, some EUR 13 700 less than the manufacturing average. Average personnel costs were EUR 26 600 per employee in the EU-15. The low average personnel costs compensated for the low apparent labour productivity, such that the resulting wage adjusted labour productivity ratio was 140.9 % in this sector, not far below the ratio for manufacturing as a whole (143.5 %).

Table 13.4

**Musical instruments, sport goods, toys and games, jewellery (NACE Groups 36.2 to 36.6)**  
Labour productivity and personnel costs, EU-15, 2001

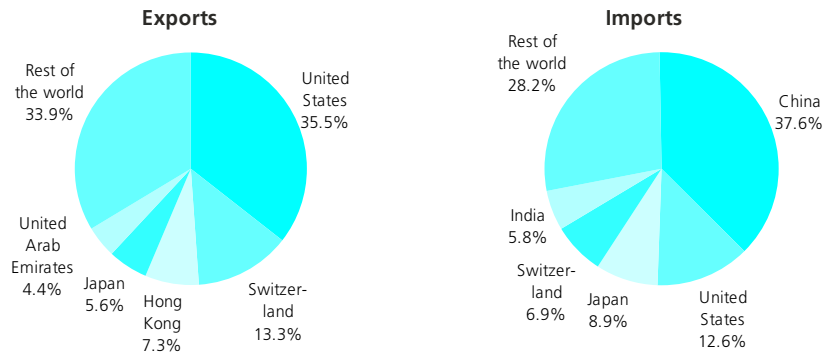
	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Manufacture of musical instruments, sport goods, toys and games, jewellery	37.5	140.9	26.6
Manufacture of jewellery and related articles	34.6	142.1	24.4
Manufacture of musical instruments	35.1	119.6	29.4
Manufacture of sports goods	46.2	148.9	31.0
Manufacture of games and toys	41.0	143.7	28.5
Miscellaneous manufacturing n.e.c.	36.9	141.6	26.0

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

**EXTERNAL TRADE**

In 2002, EUR 19.6 billion worth of other manufactured goods (CPA Groups 36.2 to 36.6) were exported from the EU-25, while imports of these goods were valued at EUR 26.5 billion. More than one third (35.5 %) of the EU-25's exports were destined for the United States, while the main origin of EU-25 imports was China (37.6 %). Most Member States registered an external trade deficit for these goods; however, Italy registered a trade surplus of EUR 4.6 billion. The United Kingdom (EUR -4.6 billion), France (EUR -1.5 billion) and Spain (EUR -813.4 million) recorded the highest external trade deficits.

**Figure 13.4** Musical instruments, sport goods, toys and games, jewellery (CPA Groups 36.2 to 36.6) Share in extra-EU trade, 2002



Source: Eurostat, Comext.

**13.3: RECYCLING AND WASTE TREATMENT**

This subchapter covers the recycling of waste and scrap (NACE Division 37) and solid waste treatment (part of NACE Division 90). NACE characterises recycling as the processing of used or unused, sorted or unsorted, waste and scrap into secondary raw materials which can then be used by other sectors as an intermediate good. It involves a number of treatment stages, such as sorting, crushing, mechanical reduction, stripping, separation and cleaning which may be followed by further treatments to prepare raw materials for use by other sectors. Note that the re-use of products is not covered by this NACE heading and is treated in the appropriate chapters elsewhere in the publication.

Solid waste treatment covers the treatment of solid waste, which is neither recycled nor re-used. As well as the collection and transportation of solid waste, this activity also involves disposal by means of dumping (for example, land-fill), incineration (with or without energy recovery) or other means of destruction. Treatment of liquid waste is covered in Chapter 14.

At the beginning of 2004, an amendment <sup>(12)</sup> to the packaging directive <sup>(13)</sup> was adopted. This modified recovery rates for packaging, setting an overall target and specific targets for different kinds of materials to be achieved by the end of 2008 for the EU-15 Member States, except for Greece, Ireland and Portugal who would have an extra three years before implementation. The minimum recycling targets (by weight) were set at 60 % for glass, paper and board, 50 % for metals, 22.5 % for plastics (counting exclusively material that is recycled back into plastics) and 15 % for wood.

Another development in terms of environmental protection has been the proposal for a new directive for the collection and recycling of batteries and accumulators <sup>(14)</sup> adopted by the Commission in November 2003. The use of metals in batteries leads to environmental risks if they are burned in incinerators or stored in landfill sites. As such, the proposal aims to recover the metals used in batteries, creating a closed loop. It includes rules to enable collection and recycling systems, as well as using collection targets as a measure of efficiency, notably with respect to the recovery of lead.

<sup>(12)</sup> Directive 2004/12/EC of the European Parliament and of the Council.

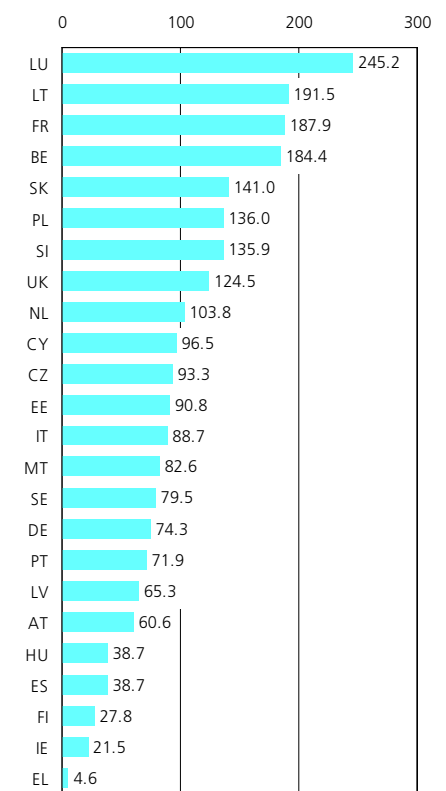
<sup>(13)</sup> Directive 94/62/EC of the European Parliament and of the Council of 20 December 1994 concerning packaging and packaging waste.

<sup>(14)</sup> COM(2003) 723 final.

Based on the sixth environment action programme, the European Commission adopted a communication, *Towards a thematic strategy on waste prevention and recycling* <sup>(11)</sup>, in May 2003. Its aim is to find ways to avoid waste, to minimise the input of resources and recycle waste.

<sup>(11)</sup> COM(2003) 301.

**Figure 13.5** Recycling (NACE Division 37) Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)



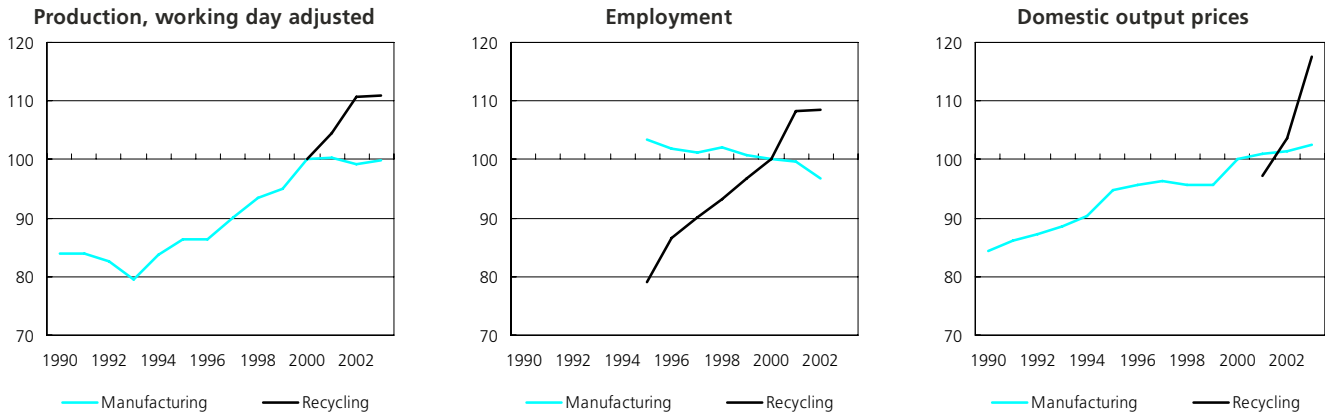
(1) Denmark, not available.

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

Figure 13.6

## Recycling (NACE Division 37)

Main indicators, EU-25 (2000=100)



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

## STRUCTURAL PROFILE

In 2001, the EU-25's recycling sector (NACE Division 37) generated a value added of EUR 4.5 billion and employed 106 100 persons<sup>(15)</sup>. This was equivalent to 0.3 % of the EU-25's manufacturing value added and of the EU-15's employment.

The recycling of non-metal waste and scrap (NACE Group 37.2) was slightly larger than the recycling of metal waste and scrap (NACE Group 37.1), as the former generated 52.4 % of sectoral value added in the EU-25, and 54.1 % of sectoral value added in the EU-15, while a similar distribution was observed for employment in the EU-15.

France reported the largest contribution to the EU-25's value added in the recycling sector, with a 25.3 % share in 2001. Germany and the United Kingdom were the next largest contributors adding a further 38.5 % together. Luxembourg and Lithuania had the highest value added specialisation<sup>(16)</sup> in recycling, as this sector contributed 0.7 % and 0.6 % respectively of total manufacturing value added in 2001.

The working day adjusted production index for recycling in the EU-25 recorded strong increases in 2001 (4.5 %) and 2002 (6.1 %), while in 2003 output was stable (0.1 %). In employment terms, after a period of annual growth averaging 4.8 % between 1995 and 2000, there was an 8.2 % increase in the number of persons employed between 2000 and 2001. In 2002 growth was much more subdued at 0.2 %.

<sup>(15)</sup> Slovenia, employees.<sup>(16)</sup> Denmark, 1999.

Micro and small enterprises (with less than 50 persons employed) accounted for 62.5 % of the value added generated in the EU-25's recycling sector in 2001. This was the highest share of any manufacturing NACE division. Equally, the 11.5 % share of value added accounted for by large enterprises (with 250 or more persons employed) in the recycling sector was the smallest of any manufacturing NACE division. A similar situation was observed in terms of employment in EU-15, as micro and small enterprises employed 67.8 % of the workforce, while the corresponding share of large enterprises was 9.9 %.

Figure 13.7

## Quantity of collectable plastics waste by end use in Europe, 2001 (1)

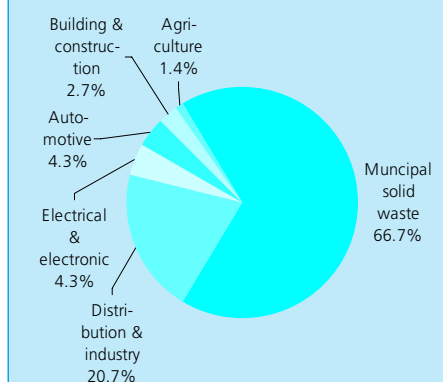
(1) EU-15, Norway and Switzerland.  
Source: APME.

Table 13.5

## Share of size-class in value added and employment, 2001 (%)

	Medium-sized				Total
	Micro	Small	Large		
<b>Proportion in value added, EU-25</b>					
<b>Recycling (Division 37)</b>	21.5	41.1	25.9	11.5	100
<b>Recycling of metal waste and scrap (Group 37.1)</b>	19.2	35.7	27.3	17.8	100
<b>Recycling of non-metal waste and scrap (Group 37.2)</b>	23.5	45.9	24.7	5.9	100
<b>Proportion in employment, EU-15</b>					
<b>Recycling (Division 37)</b>	27.0	40.8	22.3	9.9	100
<b>Recycling of metal waste and scrap (Group 37.1)</b>	30.0	35.6	19.5	14.9	100
<b>Recycling of non-metal waste and scrap (Group 37.2)</b>	24.5	45.2	24.6	5.7	100

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



Data from Eurostat's environmental statistics database on waste provides information on the infrastructure and volume of waste treatment, covering recovery and disposal (see Tables 13.6 to 13.8). In this context, the term 'waste' refers to materials that are not prime products (destined for the market), for which the generator has no further own use and which are discarded. This definition excludes residuals directly recycled or reused at the place of generation and waste materials that are directly discharged into ambient water or air.

Waste management operations can be considered as recovery or disposal. Recovery is defined as any waste management operation that diverts a waste material from the waste stream and which results in a certain product with a potential economic or ecological benefit. Recovery mainly refers to recycling (material recovery), incineration (energy recovery), composting (biological recovery) and reuse. Reuse is any operation by which end-of-life products and equipment or their components are used for the same purpose for which they were conceived. Disposal is defined as any waste management operation serving or carrying out the final treatment and/or disposal of waste.

**Table 13.6**  
**Treatment of municipal waste (thousand tonnes) (1)**

	Year	Recovery			Disposal operations		
		Recycling	Composting	Incineration with energy recovery	Incineration without energy recovery	Landfill	of which: controlled
<b>EU-25</b>		:	:	:	:	:	:
<b>EU-15 (2)</b>	2002	:	:	:	:	102 131	:
<b>BE</b>	2000	826	828	665	121	360	360
<b>CZ (3)</b>	1998	433	:	398	4	:	:
<b>DK</b>	2002	680	560	2 090	:	297	297
<b>DE (4)</b>	2001	13 025	7 325	31	10 796	12 174	:
<b>EE (5)</b>	2001	15	11	0	0	403	402
<b>EL</b>	2002	375	32	:	:	4 233	2 380
<b>ES</b>	2001	2 956	2 746	1 488	:	15 707	15 707
<b>FR</b>	2001	3 769	4 145	8 905	1 465	13 890	13 890
<b>IE (6)</b>	2001	271	17	:	:	2 071	2 071
<b>IT (7)</b>	2002	2 595	2 209	2 554	107	19 705	19 705
<b>CY (8)</b>	2002	1	:	:	:	450	450
<b>LV</b>	2001	14	16	27	0	911	:
<b>LT</b>	2002	:	:	:	:	1 000	:
<b>LU</b>	2000	1	41	123	:	60	60
<b>HU</b>	2002	67	47	288	:	3 907	3 761
<b>MT</b>	2001	1	31	:	:	185	:
<b>NL</b>	2002	2 113	2 386	3 227	:	830	830
<b>AT</b>	2000	1 129	1 818	481	:	1 478	1 578
<b>PL</b>	2002	116	215	:	36	10 142	10 142
<b>PT</b>	2000	347	275	930	:	3 410	2 820
<b>SI</b>	2002	87	11	5	0	699	699
<b>SK (9)</b>	2002	37	39	91	65	1 192	:
<b>FI</b>	2002	:	:	280	:	1 540	1 540
<b>SE</b>	2001	1 130	390	1 500	:	880	:
<b>UK (10)</b>	2001	4 294	:	2 555	0	27 846	:

(1) Municipal waste includes waste originating from households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings), as well as selected municipal services (park and garden maintenance, street cleaning services) if managed as waste.

(2) Estimated.

(3) Recycling, incineration with energy recovery, estimated; composting, 2002.

(4) Incineration with energy recovery, 2000.

(5) Recovery, estimated.

(6) Recovery, 2000.

(7) Recycling, composting, 1999; landfill, landfill of which: controlled, 2001.

(8) Recycling, 1999.

(9) Landfill, landfill of which: controlled, 2000.

(10) Incineration without energy recovery, estimated.

Source: Eurostat, Environment statistics (theme8/milieu/waste).

Table 13.7

## Treatment of hazardous waste (thousand tonnes) (1)

	Year	Recovery (2)			Disposal operations						
		Total	Incineration with energy recovery	Recycling and composting	Preparatory activities	Total	Physical/chemical treatment	Biological treatment	Incineration without energy recovery	Landfill	Preparatory activities
BE	1999	634	:	:	:	:	:	:	129	631	:
CZ	2001	1 003	46	60	:	1 371	555	269	5	394	148
DK	2000	185	99	86	:	103	:	:	:	103	:
DE	1999	10 465	2 210	2 247	:	6 555	2 331	:	:	4 224	:
EE	2000	141	3	59	1	5 773	2	:	0	5 768	3
EL	2000	114	19	95	:	:	:	:	3	:	265
ES	2000	1 300	204	982	:	:	950	140	84	1 472	:
FR	1998	222	:	222	:	2 466	302	:	1 361	803	:
IE	1998	153	5	115	6	120	3	10	66	41	:
IT	1998	1 903	134	666	970	2 982	908	291	497	10	680
CY		:	:	:	:	:	:	:	:	:	:
LV	2001	:	:	:	:	:	23	:	5	:	:
LT	2001	84	3	:	:	5	:	:	1	3	:
LU	2000	72	:	68	4	11	11	:	:	:	:
HU		:	:	:	:	:	:	:	:	:	:
MT		:	:	:	:	:	:	:	:	:	:
NL	2000	339	:	:	:	1 406	627	:	389	390	:
AT	1999	:	110	:	:	:	:	:	:	:	:
PL	2001	406	:	:	37	902	:	:	:	63	:
PT		:	:	:	:	:	:	:	:	:	:
SI		:	:	:	:	:	:	:	:	:	:
SK	1998	:	68	158	:	:	592	103	68	292	:
FI	2000	135	69	66	239	828	:	:	35	793	:
SE		:	:	:	:	:	:	:	:	:	:
UK	1999	1 045	56	989	:	3 762	1 576	:	102	2 054	407

(1) Hazardous waste refers to the categories of waste streams to be controlled according to the Basle Convention on the control of transboundary movements of hazardous wastes and their disposal.

(2) Recovery, recycling or re-use.

Source: Eurostat, Environment statistics (theme8/milieu/waste).

Table 13.8

**Hazardous and non-hazardous waste: estimated number of waste treatment facilities (units)**

	Year	Incineration plants	Landfill sites
BE		:	:
CZ	1998	:	3
DK		:	:
DE		:	:
EE	2000	17	170
EL		:	:
ES		:	:
FR		:	:
IE		:	:
IT	1998	:	152
CY		:	:
LV	2001	:	341
LT	2001	7	:
LU	2001	1	14
HU		:	:
MT		:	:
NL	2000	:	36
AT	1999	53	53
PL		:	:
PT	1999	:	120
SI	2001	7	51
SK	2000	67	141
FI		:	:
SE	2000	:	243
UK		:	:

Source: Eurostat, Environment statistics (theme8/milieu/waste).

**LABOUR AND PRODUCTIVITY**

In 2001, the apparent labour productivity of the recycling sector was EUR 48 000 per person employed in the EU-15 and, as such, was EUR 3 200 lower than the manufacturing average. However, average personnel costs (EUR 28 800 per employee) were much lower than the manufacturing average (EUR 35 700), a situation that existed in the majority of Member States <sup>(17)</sup>, exceptions being the Czech Republic, Poland, Portugal, Slovenia and Slovakia. Due to particularly low average personnel costs, the wage adjusted labour productivity ratio was higher in the EU's recycling sector (166.3 %) than the manufacturing average (143.5 %).

<sup>(17)</sup> Denmark, 1999; Ireland and Cyprus, 2000; Greece, not available.

Table 13.9

**Recycling (NACE Division 37)**
**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)
Recycling	48.0	166.3	28.8
Recycling of metal waste and scrap	48.1	158.6	30.3
Recycling of non-metal waste and scrap	47.9	173.2	27.7

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

Table 13.10

**Manufacture of furniture; manufacturing n.e.c. (NACE Division 36)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	4 163	2 034	3 963	29 923	280	429	12 831	19 179	1 386	33 443	149	149	201	53
Value added at factor cost (EUR million)	1 070	546	1 464	11 153	85	201	4 319	5 931	693	9 141	67	78	60	14
Purchases of goods and services (EUR million)	3 552	1 577	0	20 050	213	:	9 106	14 757	:	25 475	114	102	147	75
Gross investment in tangible goods (EUR million)	167	99	209	914	19	:	526	663	:	1 334	14	16	14	:
Number of persons employed (thousands)	29	81	32	279	13	8	178	168	11	297	3	10	15	1
App. labour productivity (EUR thous./pers. emp.)	37.4	6.7	45.9	40.0	6.6	26.7	24.3	35.2	63.1	30.8	20.3	8.0	4.0	22.8
Average personnel costs (EUR thous./employee) (1)	30.1	5.4	33.5	33.1	4.5	:	18.9	29.9	:	23.0	14.4	3.2	3.1	29.1
Wage adjusted labour productivity (%) (1)	124.4	125.3	136.9	120.7	147.1	:	128.4	117.8	:	134.0	135.6	252.6	131.9	78.5
Gross operating rate (%)	7.4	8.0	10.9	7.9	9.4	:	10.0	6.2	:	11.9	13.1	33.5	7.6	-3.0
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	479	173	4 704	4 086	4 518	2 464	587	432	1 663	3 006	22 655	151	873	:
Value added at factor cost (EUR million)	155	65	1 685	1 887	1 942	778	181	84	653	1 058	9 294	40	307	:
Purchases of goods and services (EUR million)	449	100	3 397	2 608	3 115	1 828	406	372	1 180	2 152	14 620	124	707	:
Gross investment in tangible goods (EUR million)	31	18	307	178	219	146	30	39	53	143	940	11	100	:
Number of persons employed (thousands)	26	4	46	49	167	64	:	16	16	32	214	22	117	:
App. labour productivity (EUR thous./pers. emp.)	5.9	17.2	36.3	38.6	11.7	12.1	:	5.3	39.9	32.8	43.4	1.8	2.6	:
Average personnel costs (EUR thous./employee)	4.5	12.1	30.1	29.1	5.7	9.3	10.5	4.2	29.5	30.7	28.6	1.4	1.7	:
Wage adjusted labour productivity (%)	130.4	141.5	120.7	132.6	203.4	129.8	:	126.2	135.4	106.7	152.0	131.1	152.9	:
Gross operating rate (%)	6.3	19.3	10.7	13.3	24.1	9.6	4.4	4.0	11.0	5.9	15.5	8.9	12.8	:

(1) Cyprus, 2000.

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

Table 13.11

**Recycling (NACE Division 37)**  
**Main indicators, 2001**

	BE	CZ	DK (1)	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	1 288	367	123	2 981	9	6	447	4 090	60	2 146	10	21	25	38
Value added at factor cost (EUR million)	237	40	32	890	3	1	117	1 131	21	523	3	3	8	16
Purchases of goods and services (EUR million)	1 195	327	106	2 515	17	:	366	3 760	47	1 721	10	19	30	21
Gross investment in tangible goods (EUR million)	79	13	10	138	0	:	25	282	5	136	0	1	3	:
Number of persons employed (thousands)	4	6	0	18	0	0	3	26	0	12	0	0	1	0
App. labour productivity (EUR thous./pers. emp.)	62.2	6.8	74.3	48.1	8.5	40.0	43.9	43.4	69.6	42.0	26.9	6.9	5.5	72.3
Average personnel costs (EUR thous./employee) (2)	32.1	6.9	39.5	30.9	3.8	:	24.7	29.7	26.6	24.7	12.1	2.7	2.7	40.6
Wage adjusted labour productivity (%) (2)	193.5	98.9	187.9	155.7	222.0	:	177.9	145.9	261.6	169.9	266.4	255.4	205.5	178.0
Gross operating rate (%) (3)	8.7	1.4	11.7	10.0	8.3	:	11.3	7.9	20.5	12.8	10.6	9.4	10.1	19.6
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	65	6	693	193	387	180	67	33	84	487	3 052	28	169	:
Value added at factor cost (EUR million)	13	2	163	63	179	37	16	16	25	96	829	1	38	:
Purchases of goods and services (EUR million)	152	3	537	152	431	158	57	38	80	391	2 273	26	193	:
Gross investment in tangible goods (EUR million)	5	0	47	20	24	31	10	2	5	30	147	2	18	:
Number of persons employed (thousands)	2	0	3	1	7	2	:	1	0	2	15	0	9	:
App. labour productivity (EUR thous./pers. emp.)	7.9	21.5	49.7	60.9	24.7	24.2	:	19.8	68.3	60.7	54.9	4.0	4.2	:
Average personnel costs (EUR thous./employee)	6.5	10.8	29.0	34.7	9.1	14.1	15.9	6.0	30.3	35.5	27.9	1.2	2.1	:
Wage adjusted labour productivity (%)	121.9	198.5	171.2	175.3	270.3	171.3	:	327.6	225.5	171.0	196.4	340.2	200.5	:
Gross operating rate (%)	1.5	19.2	12.1	13.2	20.2	8.4	4.3	21.2	13.6	8.7	14.1	3.2	9.0	:

(1) 1999.

(2) Ireland and Cyprus, 2000.

(3) Ireland, 2000.

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

## Media



Three different concepts intervene in the definition of 'media': the medium itself, the form of transmission and its content. The medium is a carrier allowing the dissemination of information through material objects or devices, for example TV or radio sets, printed paper or plastic discs. The information carried by the media may be transmitted in the form of text, sound and/or images. The content, in other words, the information itself, may be assimilated to a service, such as, for example, news reporting, entertainment or art.

Enterprises involved in media activities are classified within NACE on the basis of one or many of these concepts. Unsurprisingly given the pace of developments in this area, NACE is somewhat outdated as regards media activities, as it relies on the assumption that medium and contents are merged in some cases and separate in others, a criterion that determines whether they are classified as manufacturing or services activities. For example, publishing of sound recordings or book editing are seen as manufacturing activities, while visual media (for example, television or film-making) are seen as services activities. In the former case the medium (the CD or the printed book) and the information (the music or the text) were considered as intrinsically joined, while in the latter case the distinction between the medium and the content was seen as clear-cut <sup>(1)</sup>.

<sup>(1)</sup> From a statistical point of view, the consequence is that media activities assimilated to manufacturing activities have been historically well covered by broad-based official data (SBS, STS, Prodcorn, external trade), while media activities classified as services, notably TV and cinema activities, face significant gaps in coverage, which are only partly compensated by the development of specific 'sectoral' databases, such as AUVIS. In the absence of comprehensive SBS data for NACE Division 92, this overview chapter concentrates on publishing, printing and reproduction activities (NACE Division 22), which covers the publishing, printing and reproduction of books, newspapers, magazines and sound recordings, while some of the more service-oriented activities are covered in the following subchapters.

This traditional pattern has been put into question as a result of technological developments. For example, sound recordings are increasingly dematerialised, as they tend to be replaced by electronic files that can be stored, copied and listened to on a variety of devices, from PCs to portable telephones or dedicated devices (such as MP3 players) or, for that matter, also recorded onto CDs, vinyl or tapes. Conversely, the development of home video devices (VCR or DVD) allows final consumers to record TV and cinema content and store it for viewing at a later date.

EU policy in the field of media, and in particular the audio-visual sector, is founded on Article 151 of the Treaty establishing the European Community, and has been developed along two main lines: on the one hand, the respect of public interest objectives, such as cultural and linguistic diversity, the free circulation of services, the protection of copyright, the protection of minors or competition rules; on the other hand, the sector has benefited from direct support, in particular in the field of distribution, innovation and competitiveness.

This chapter looks at several activities linked to the media sector. For the purpose of this publication, media is defined in NACE terms as the activities of publishing, printing and reproduction of recorded media (NACE Division 22), motion picture and video activities (NACE Group 92.1), and radio and television activities (NACE Group 92.2). The latter two are not covered by regular SBS data and hence the availability of official data is weak. In addition, freelance authors are included in NACE Class 92.31 and are not considered from the statistical point of view as part of the publishing industry. News agencies (NACE Group 92.4), that are important content providers, are also excluded from the chapter definition in terms of NACE.

### NACE

- 22: publishing, printing and reproduction of recorded media;
- 22.1: publishing
- 22.11: publishing of books;
- 22.12: publishing of newspapers;
- 22.13: publishing of journals and periodicals;
- 22.14: publishing of sound recordings;
- 22.15: other publishing;
- 22.2: printing and service activities related to printing;
- 22.21: printing of newspapers;
- 22.22: printing n.e.c.;
- 22.23: bookbinding and finishing;
- 22.24: composition and plate-making;
- 22.25: other activities related to printing;
- 22.3: reproduction of recorded media;
- 22.31: reproduction of sound recording;
- 22.32: reproduction of video recording;
- 22.33: reproduction of computer media;
- 92.1: motion picture and video activities;
- 92.2: radio and television activities.

Table 24.1

**Publishing, printing, reproduction of recorded media (NACE Division 22)**  
**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	United Kingdom (24.9)	Ireland (177)	Germany (401.1)	United States (1.4)	Switzerland (1.2)
2	Germany (20.2)	United Kingdom (176)	United Kingdom (383.0)	China (0.5)	United States (1.2)
3	France (11.1)	Netherlands (164)	France (216.9)	Switzerland (0.4)	Norway (0.4)
4	Italy (8.3)	Malta (129)	Italy (173.7)	Hong Kong (0.2)	Japan (0.3)
5	Spain (5.7)	Latvia (125)	Spain (147.1)	Singapore (0.1)	Russian Federation (0.3)

(1) Luxembourg, not available.

(2) Luxembourg and Slovenia, not available.

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

Notable regulatory measures in the audio-visual field include the *Television without frontiers* directive <sup>(2)</sup> aiming at creating the conditions necessary for the free movement of television broadcasts within the Community, by providing that Member States cannot restrict reception or retransmission of broadcast from other Member States. Furthermore, financial support to the industry is provided within the framework of the MEDIA Plus programme (2001–05), equipped with a budget of EUR 400 million, that co-finances training initiatives for audio-visual industry professionals, the development of production projects (feature films, television drama, documentaries, animation and new media), as well as the distribution and promotion of European audiovisual works. Beneficiary countries include Member States, EEA countries and candidate countries <sup>(3)</sup>.

**STRUCTURAL PROFILE**

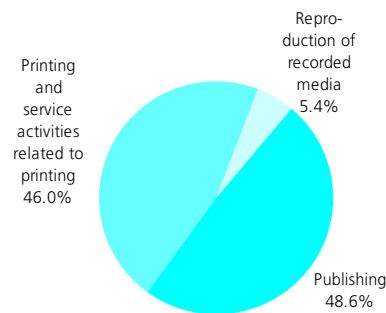
There were 2.3 million persons employed in media enterprises in the EU-15 in 2001 <sup>(4)</sup> (NACE Divisions 22 and 92). The total turnover of the sector reached EUR 337.8 billion, of which almost two thirds was accounted for by publishing activities (EUR 119.5 billion) and printing activities (EUR 100.8 billion). This was two to three times more than the turnover of radio and TV activities (EUR 60.9 billion) and film and video activities (EUR 43.1 billion). The smallest subsector was that of reproduction activities, with EUR 13.5 billion of turnover.

<sup>(2)</sup> Directive 89/552/EEC, adopted on 3 October 1989 by the Council and amended on 30 June 1997 by the European Parliament and the Council Directive 97/36/EC.

<sup>(3)</sup> As of 1 January 2004 the participating countries were all EEA member States except for Luxembourg, plus Bulgaria; see [http://europa.eu.int/comm/avpolicy/media/index\\_en.html](http://europa.eu.int/comm/avpolicy/media/index_en.html).

<sup>(4)</sup> NACE Division 92, 2000.

Figure 24.1

**Publishing, printing, reproduction of recorded media (NACE Division 22)**  
**Share of value added at factor cost, EU-25, 2001**


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

Available national data (see Table 24.3) indicate some country media specialisation patterns on the basis of turnover figures, comparing the weight of each subsector with the corresponding EU average. Within the media sector, publishing was a relatively important source of turnover in the Nordic countries (Denmark, Sweden and Finland) and Lithuania; printing in Belgium, Portugal and Slovenia; reproduction activities in Ireland and Austria; film and video in France, Italy and Luxembourg; radio and TV activities in Spain, Luxembourg and the United Kingdom.

An analysis of publishing, printing and reproduction activities (NACE Division 22) shows that this sector was one of the largest manufacturing activities (at NACE division level) in 2001. It generated value added that was equal to an estimated EUR 94.7 billion in the EU-25, of which EUR 4.0 billion originated from the 10 new Member States. As such, publishing, printing and reproduction activities contributed 6.2% of EU-25 manufacturing value added.

Table 24.2

**Main indicators for the media sector, EU-15, 2001**

	Turnover (EUR billion)	Persons employed (thousands)
<b>Publishing (NACE Group 22.1)</b>	119.5	722.0
<b>Printing (NACE Group 22.2)</b>	100.8	931.4
<b>Reproduction of media (NACE Group 22.3)</b>	13.5	41.8
<b>Film and video (NACE Group 92.1) (1)</b>	43.1	222.0
<b>Radio and TV (NACE Group 92.2) (1)</b>	60.9	333.0

(1) 2000.

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter\_ms) and Audiovisual services (theme4/auvis/quest/gedata).

In terms of employment, publishing, printing and reproduction activities numbered some 1.9 million persons employed in the EU-25 in 2001 <sup>(5)</sup>, of which 0.2 million worked in the 10 new Member States. This activity accounted for 5.6% of the manufacturing workforce in the EU-25 <sup>(6)</sup>, a share that was below its contribution to value added, suggesting higher apparent labour productivity.

<sup>(5)</sup> Slovenia, number of employees.

<sup>(6)</sup> Slovenia, number of employees.

Table 24.3

## Turnover in the media sector, 2001 (EUR million)

	Publishing (NACE Group 22.1)	Printing (NACE Group 22.2)	Reproduction of media (NACE Group 22.3)	Film and video (NACE Group 92.1) (1)	Radio and TV (NACE Group 92.2) (1)
<b>EU-25</b>	124 185	105 255	13 650	:	:
<b>EU-15</b>	119 528	100 775	13 500	43 100	60 900
<b>BE</b>	2 626	3 865	59	722	902
<b>CZ</b>	852	:	:	:	:
<b>DK</b>	2 739	1 802	117	467	860
<b>DE</b>	28 247	21 275	1 239	10 000	8 614
<b>EE</b>	90	:	:	9	12
<b>EL</b>	:	:	:	:	:
<b>ES</b>	7 051	7 681	328	3 172	5 223
<b>FR</b>	19 823	14 365	502	8 861	9 803
<b>IE</b>	555	866	8 466	:	:
<b>IT</b>	11 737	13 223	368	7 936	6 635
<b>CY</b>	48	89	0	:	:
<b>LV</b>	111	96	3	10	43
<b>LT</b>	135	79	3	9	29
<b>LU</b>	:	140	:	145	655
<b>HU</b>	675	608	18	192	175
<b>MT</b>	:	95	:	:	:
<b>NL</b>	7 168	5 937	538	:	:
<b>AT</b>	1 877	2 126	399	:	:
<b>PL</b>	2 251	2 248	58	:	:
<b>PT</b>	1 074	1 392	19	333	509
<b>SI</b>	271	330	1	48	28
<b>SK</b>	205	225	9	:	:
<b>FI</b>	2 482	1 579	24	261	742
<b>SE</b>	3 977	2 994	32	871	1 364
<b>UK</b>	29 313	23 118	1 637	7 580	20 457

(1) 2000.

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter\_ms) and Audiovisual services (theme4/auvis/quest/gedata).

In absolute terms, the United Kingdom emerged as the country where publishing, printing and reproduction activities played a prominent role within the manufacturing economy. With a workforce of 383 000 persons (20.2 % of the EU-25 total) generating EUR 24.9 billion of value added (26.3 % of the EU-25 total), these activities represented approximately one tenth of manufacturing activity in the United Kingdom. In relative terms, high specialisation ratios were also reported by Ireland and the Netherlands, in the former case almost entirely due to the particularly large size of reproduction activities (based on 2000 data). The least specialised countries<sup>(7)</sup>, in contrast, were the Czech Republic, Slovakia and Hungary, where the contribution of publishing, printing and reproduction activities to national manufacturing was less than half the EU-25 average.

<sup>(7)</sup> Luxembourg, not available.

Looking at the structure of the publishing, printing and reproduction activities among the Member States<sup>(8)</sup>, it was to a large extent equally split between publishing and printing activities, while reproduction activities accounted for only a small percentage of the total (with the notable exception of Ireland (2000)). The breakdown of value added in 2001 between publishing, printing and reproduction activities was 48.6 %, 46.0 % and 5.4 % within the EU-25. The balance was nevertheless slightly more in favour of publishing activities in Lithuania, Poland and Finland, while printing prevailed significantly in Malta, Cyprus, Belgium and Portugal. Ireland stood out from all other Member States with a totally different structure, as four fifths of the value added generated in publishing, printing and reproduction activities was accounted for by reproduction activities (80.0 %, 2000), almost exclusively the reproduction of computer media (NACE Class 22.33).

<sup>(8)</sup> Ireland and Malta, 2000; the Czech Republic, Estonia, Greece and Luxembourg, incomplete or not available.

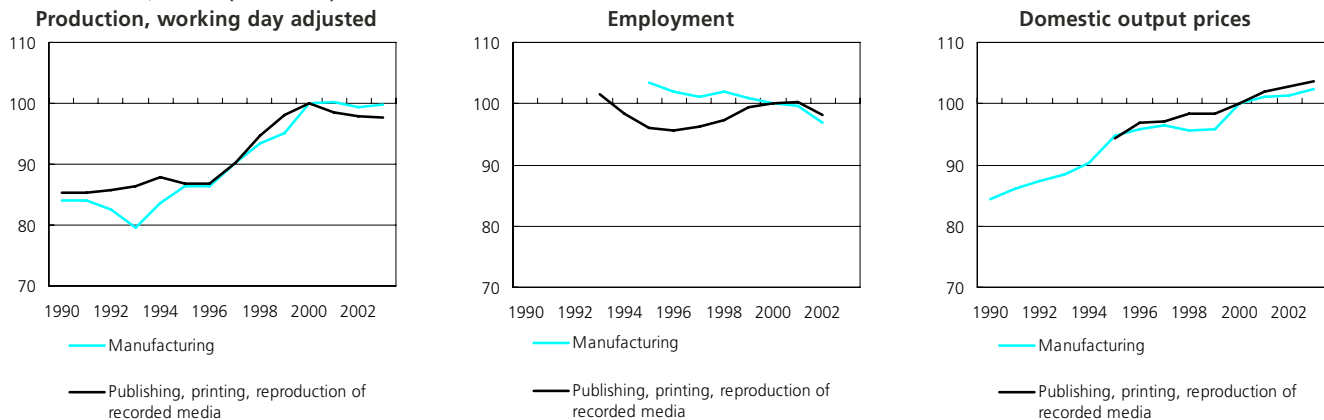
The distribution of publishing, printing and reproduction enterprises across size-classes highlights the greater importance of smaller enterprises compared with the average for manufacturing activities. Indeed, micro enterprises (with 1 to 9 persons employed) and small enterprises (with 10 to 49 persons employed) generated respectively 13.9 % and 22.7 % of the sector's value added in the EU-25 in 2001, which compared with respectively 7.3 % and 15.8 % for the whole of manufacturing (NACE Section D).

The evolution of production and employment showed contrasting trends for printing, publishing and reproduction. On the one hand, production growth was relatively slow, with an average growth of 2.6 % per annum between 1996 and 2001 in the EU-25, some 0.4 percentage points below the manufacturing average. On the other hand, printing, publishing and reproduction activities were a source of job creation, compared with the generally negative trends reported for manufacturing as a whole. In the five years to 2001, the number of persons employed in these activities increased, on average, by 1.0 % per annum in the EU-25, while manufacturing employment decreased, on average, by 0.5 % per annum over the same period. Among the EU-15 Member States, only Sweden and Portugal registered a decrease in production between 1996 and 2001, by 0.9 % and 1.5 % per annum respectively. Note also that growth was slightly slower in the EU-15 than in the EU-25 for both production and employment, mainly due to large increases recorded in Poland, where production more than doubled between 1995 and 2003. At a more detailed level there was a remarkably high growth rate recorded in reproduction activities in the EU-25, where the average growth in production reached 9.5 % per annum between 1996 and 2001.

Figure 24.2

## Publishing, printing, reproduction of recorded media (NACE Division 22)

## Main indicators, EU-25 (2000=100)



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

Table 24.4

## Publishing, printing, reproduction of recorded media (NACE Division 22)

## 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	13.9	:	22.7	:	23.7	:	39.7	:
EU-15	13.9	20.4	22.8	25.9	23.3	23.4	40.1	30.3

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

## LABOUR AND PRODUCTIVITY

The characteristics of the labour force in publishing, printing and reproduction underline the presence of activities with a large service content. Looking at the gender balance, for example, although this sector had a predominantly male workforce, this was to a lesser extent than in most other manufacturing activities. According to the LFS, about 6 out of 10 persons employed in this sector in the EU-25 in 2001 were men<sup>(9)</sup> (61.6 %), a proportion that was closer to the services average (56.3 %) than to the manufacturing one (70.0 %). The pattern was even more clear-cut as regards work duration patterns, where 17.5 % of the sector's workforce worked part-time in 2001 in the EU-15, more than double the manufacturing average (7.6 %) and only 2.4 points below the services average (19.9 %).

<sup>(9)</sup> Estonia, Latvia and Poland, not available.

Table 24.5

## Publishing, printing, reproduction of recorded media (NACE Division 22)

## 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	62.0	86.6	82.5	89.2	89.5	97.4
BE	68.4	92.0	87.1	95.7	89.3	94.2
CZ	53.0	86.0	92.8	95.2	84.8	91.6
DK	56.9	83.2	77.7	83.8	90.7	94.0
DE	55.7	77.5	72.3	80.6	91.7	96.2
EE	:	:	:	:	:	:
EL	65.0	91.7	96.4	98.4	82.0	111.8
ES	65.5	88.2	93.1	96.1	89.1	100.8
FR	60.1	85.0	89.4	94.7	92.3	97.3
IE	61.0	88.2	89.9	95.8	87.8	95.5
IT	67.2	96.6	93.4	98.7	72.2	87.2
CY	46.7	74.2	88.6	94.9	82.6	103.2
LV	:	:	:	:	:	:
LT	48.7	95.4	92.4	97.4	100.0	103.8
LU	71.1	87.7	90.5	94.8	98.4	100.2
HU	51.3	86.0	95.0	97.3	94.0	100.7
MT	87.4	124.8	100.0	103.5	93.6	100.5
NL	65.8	85.4	55.8	74.3	93.8	97.5
AT	59.7	80.3	:	:	91.6	96.2
PL	:	:	:	:	:	:
PT	71.2	126.9	96.2	99.2	91.0	104.3
SI	60.4	100.0	93.6	96.9	78.1	83.3
SK	63.1	106.5	100.0	101.3	90.0	93.6
FI	53.7	76.4	85.4	89.5	92.4	98.8
SE	58.8	79.5	78.6	85.7	88.1	93.7
UK	66.3	88.7	86.6	94.0	92.7	97.4

Source: Eurostat, Labour Force Survey.



Apparent labour productivity of the workforce in publishing, printing and reproduction was EUR 53 500 per person employed in the EU-15 in 2001, EUR 2 300 above the manufacturing average. However, this apparent productivity advantage was compensated by high average personnel costs, that were EUR 1 300 per employee above the manufacturing average, at EUR 37 000 per employee in the EU-15

(EUR 34 300 per employee in the EU-25). As a result, wage adjusted labour productivity was practically on a par with the manufacturing average, equal to 144.5 %. When comparing wage adjusted labour productivity in publishing, printing and reproduction activities with the national average for manufacturing activities, productivity by this measure was lower in publishing, printing and reproduction

activities in as many as fifteen countries <sup>(10)</sup>, and was at least 10 % lower in eleven of them. In contrast, wage adjusted labour productivity in the publishing, printing and reproduction sector was significantly higher than national manufacturing averages in Ireland (2000 data), Malta, Poland and Lithuania.

<sup>(10)</sup> Ireland, Cyprus, 2000; Greece, Luxembourg and Slovenia, not available.

Table 24.6

**Publishing, printing, reproduction of recorded media (NACE Division 22)  
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)
<b>Publishing, printing, reproduction of recorded media</b>	53.5	144.5	37.0
<b>Publishing</b>	60.6	145.4	41.7
<b>Printing and service activities related to printing</b>	44.9	135.0	33.2
<b>Reproduction of recorded media</b>	120.5	335.6	35.9

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

## 24.1: PRODUCTION, REPRODUCTION AND DISTRIBUTION OF FILM, VIDEO AND TELEVISION

The film and video industry is covered by NACE Group 92.1. It includes services of cinematographic and audio-visual production (including films and TV fiction, advertising and documentaries) and production services (for example, special effects or dubbing), as well as distribution activities. Activities relating to the reproduction of video recordings (NACE Class 22.32) are also covered within this subchapter, while some information on the demand for the output of these activities is provided as regards the retail trade and renting of videos.

The television sector consists of three major activities: the production of programmes, the compilation of schedules for those programmes, and their transmission to the final consumer. The first two are included in Group 92.2 and form part of this subchapter, while the transmission of signals via hertzian relays, satellite or cable networks is covered by Group 64.2 (telecommunication services – see Subchapter 23.2). Radio activities, also covered by Group 92.2, are addressed in Subchapter 24.2.

All activities related to media using an image as the transmission format are covered in this subchapter <sup>(11)</sup>. Three main sectors of activity are addressed, each very different from another, although closely inter-related: cinema, television and video. The development of audiovisual media over recent decades has been marked by significant deregulation, which coupled to the fast pace of technological progress, notably the digitalisation of information, and the adoption of ICT, has spurred an explosion of supply.

<sup>(11)</sup> Data from Eurostat's AUVIS database are used to supplement SBS data where appropriate. A comprehensive statistical view of the activities covered in this subchapter is available in the publication Cinema, TV and radio in the EU, Eurostat, 2003.

### STRUCTURAL PROFILE

The total turnover of the activities covered in this subchapter was estimated at approximately EUR 195.3 billion in the EU-15 in 2000 (see Table 24.7). TV broadcasting accounted for the largest share, with turnover of EUR 53.9 billion, almost equally split between public and commercial TV. Cinema and video activities recorded an estimated turnover of EUR 43.1 billion, most of which from production activities (EUR 25.5 billion). This was twice as high as the turnover in film and video distribution (EUR 12.4 billion), and five times more than projection activities (EUR 5.2 billion). The smallest activity within the visual media subsector was the reproduction of video recordings, with turnover of just EUR 1.2 billion in the EU-15 in 2000.

Table 24.7

**Evolution of turnover in visual media activities, EU-15 (EUR million) (1)**

	1997	1998	1999	2000	2001
<b>Reproduction of video recording</b>	:	:	:	1 205	1 164
<b>Motion picture and video</b>	28 000	36 000	35 200	43 100	:
<b>Production</b>	16 200	22 900	20 100	25 500	:
<b>Distribution</b>	7 400	8 400	10 200	12 400	:
<b>Projection</b>	4 400	4 700	4 900	5 200	:
<b>TV broadcasting</b>	42 626	44 768	48 925	53 925	:
<b>Commercial TV</b>	21 752	22 970	25 879	29 964	:
<b>Public TV</b>	20 874	21 798	23 046	23 960	:

(1) Eurostat estimates.

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr/enter\_ms) and Audiovisual services (theme4/auvis/quest/gedata).

Employment in cinema and video activities (NACE Group 92.1) was estimated at 222 000 persons in the EU-15 in 2000, a large majority of which (146 000 persons) were working in production (NACE Class 92.11). Contrary to turnover values, projection activities (NACE Class 92.13) had a higher share in employment terms than film and video distribution activities (NACE Class 92.12), as they employed almost three times more persons (57 000 against 19 000). Reproduction of video recordings activities (NACE Class 22.32) employed a further 7 600 persons in the EU-15 in 2001. Note that a total of 333 000 persons worked in radio and television enterprises in the EU-15 in 2001, although no breakdown was available for each individual activity.

#### Films

On aggregate, there were an estimated 726 long-length feature films produced in the EU-25 in 2002 (see Table 24.8) <sup>(12)</sup>. Of those, 625 originated from the EU-15 Member States (taking into account co-productions by different Member States), up from 594 in 2000 and 443 in 1995. The largest producing country in the EU was France, where 200 long-length feature films were made in 2002, just four less than a year before. Spain (137 productions) and Italy (130 productions) followed as the next most important EU film producers. Among the 10 new Member States <sup>(13)</sup>, Hungary and

Poland emerged as the most important film-making countries, with more than 30 productions each. Note that there is no real equivalent of the 'studio' structure of the American film industry in Europe. The majority of European productions are made by small enterprises, most of which produce only one film per year. There are, nevertheless, some important film producers in the EU, like Cinecittà (Italy), Pinewood Studios (the United Kingdom), Bavaria Film Studios (Germany), Studio Babelsberg (Germany) and Studios de Boulogne (France).

<sup>(12)</sup> Malta, not available.

<sup>(13)</sup> Malta, not available.

Table 24.8

#### Main indicators of the cinema industry, 2001

	Full-length cinema films produced (units) (1)	New films released (units) (2)	of which, from US origin (%) (3)	Cinema sites (units) (4)	Screens (units) (5)	Seats (thousands) (6)	Admissions (millions) (7)	Box office receipts (EUR million) (8)	of which, from US films (%) (9)	Average ticket price (EUR) (10)
<b>EU-25</b>	726	:	:	12 759	27 681	6 594	998.1	5 359.0	64.6	5.42
<b>EU-15</b>	625	298	46	10 552	24 822	5 859	934.0	5 167.5	64.2	5.60
<b>BE</b>	16	444	41	123	465	107	22.8	130.9	72.2	5.60
<b>CZ</b>	16	116	63	660	749	195	10.7	16.7	53.0	1.90
<b>DK</b>	19	172	53	165	361	55	12.9	86.7	56.0	7.30
<b>DE</b>	84	338	43	1 815	4 792	884	163.9	960.1	81.9	5.50
<b>EE</b>	3	105	75	10	81	5	1.3	4.8	76.2	3.70
<b>EL</b>	20	220	62	350	391	:	13.2	73.6	:	5.60
<b>ES</b>	137	516	43	1 254	3 770	1 308	140.7	625.9	62.2	4.20
<b>FR</b>	200	506	32	2 182	5 236	1 071	185.1	1 013.9	46.6	5.50
<b>IE</b>	7	:	:	70	320	58	17.3	83.0	:	5.20
<b>IT</b>	130	414	43	2 243	3 198	:	112.0	636.0	57.8	5.30
<b>CY</b>	4	120	81	:	44	11	0.9	5.5	88.4	6.40
<b>LV</b>	3	141	71	34	36	25	1.1	3.2	89.3	2.80
<b>LT</b>	0	196	87	74	84	23	2.4	4.2	85.9	1.80
<b>LU</b>	10	289	48	11	25	5	1.4	8.5	80.6	6.00
<b>HU</b>	33	164	57	427	622	134	15.5	38.9	79.5	2.50
<b>MT</b>	:	:	:	:	45	10	1.0	4.9	:	4.70
<b>NL</b>	29	248	43	173	558	98	24.0	149.5	60.1	6.20
<b>AT</b>	26	239	54	206	587	100	19.2	119.5	:	6.30
<b>PL</b>	30	204	53	648	855	227	25.9	99.5	78.4	3.60
<b>PT</b>	:	208	62	238	455	102	19.3	76.1	56.7	3.90
<b>SI</b>	7	146	78	78	92	22	2.5	9.1	:	4.10
<b>SK</b>	5	160	59	276	290	96	2.8	4.7	:	1.60
<b>FI</b>	11	165	57	219	339	58	7.7	46.3	66.9	7.10
<b>SE</b>	21	203	55	811	1 155	194	18.3	147.0	63.7	8.10
<b>UK</b>	78	352	37	692	3 164	733	176.0	1 276.3	77.1	6.70

(1) EU-25, excluding Malta; 2002 data except the Czech Republic, Estonia, Cyprus, Latvia and Lithuania.

(2) Belgium, Luxembourg and Slovenia, 2000.

(3) Belgium, Luxembourg, Slovenia and the United Kingdom, 2000.

(4) Slovenia, 2000; EU-25, excluding Cyprus and Malta.

(5) Belgium and Greece, 2000.

(6) EU-15, 1999; Belgium, Poland and Slovakia, 2000.

(7) 2002 data except Estonia, Greece, Cyprus, Latvia, Lithuania, Hungary, Malta, Portugal, Slovenia and Slovakia.

(8) Germany, Spain, Italy and the United Kingdom, 2002; the Czech Republic and Slovenia, 2000.

(9) Latvia, Lithuania and Poland, 2000; EU-25 excluding Malta, Slovenia and Slovakia.

(10) The Czech Republic and Slovenia, 2000.

Source: Eurostat, Audiovisual services (theme4/avis/quest).

Looking at the distribution side, some 298 new films were released in the EU-15 in 2001 <sup>(14)</sup>. Almost half of these films were American productions (46 %), although the proportion varied from less than 40 % in France or the United Kingdom up to more than 60 % in Portugal and Greece <sup>(15)</sup>. Note, in addition, that American films accounted for more than two thirds of the new films released in a majority of the 10 new Member States, notably in the Baltic States, Slovenia and Cyprus. More details on the importance of American films, in terms of their share of box office receipts, is given later in this subchapter.

The EU-15 film distribution market is fragmented with over 5 000 enterprises in 2001, of which the top nine largest exhibitors controlled 17 % of the screens. Many exhibitors operated in just one country with just one cinema site. In comparison, the nine largest exhibitors in the United States operated approximately 54 % of the total number of screens in 2001.

Cinema exhibition has been marked over the past decade by a trend towards larger cinemas, resulting from a decrease in the number of cinema theatres, combined with an increase in the number of screens per site. In parallel with the development of multi-screen theatres, the average cinema hall has become smaller, resulting in the number of seats per screen decreasing over the past decade. Data from the 10 new Member States show that the same trends are only just starting, particularly in central and eastern Europe.

There were 12 759 cinema theatres in the EU-25 in 2001 <sup>(16)</sup> numbering a total of 27 681 cinema halls (or screens), which corresponds to an average of slightly more than two screens per cinema. In the 10 new Member States, cinemas were in general smaller, in terms of their average number of screens, with 1.3 screens per theatre against 2.4 in the EU-15. Estonia nevertheless reported the highest average number of screens in the EU-25 <sup>(17)</sup>, as its 10 cinemas totalled as many as 81 screens. The United Kingdom and Ireland also had relatively large cinemas compared with the other Member States, with an average of more than four screens per cinema. That was more than double the average size of cinemas in Italy and Sweden (1.4 screens). Greece, Latvia and Slovakia reported a low presence of multi-screen cinemas, which resulted in an average of just over one screen per site.

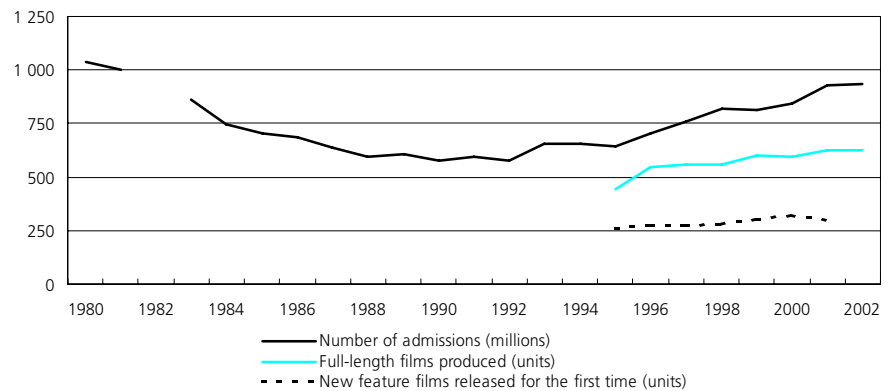
<sup>(14)</sup> Belgium and Luxembourg, 2000; Ireland, not available.

<sup>(15)</sup> Belgium, Luxembourg and the United Kingdom, 2000; Ireland, not available.

<sup>(16)</sup> Slovenia, 2000; Cyprus and Malta, not available.

<sup>(17)</sup> Cyprus and Malta, not available.

**Figure 24.3**  
**Evolution of film demand and supply, EU-15**



Source: Eurostat, Audiovisual services (theme4/avis/quest).

Cinema auditoria in the EU-25 had 238 seats on average in 2001, and were generally larger in the 10 new Member States than in the EU-15. The largest cinema halls <sup>(18)</sup> were found in Latvia, with almost 700 seats per screen, and in Spain and Slovakia where they numbered on average more than 300 seats. In contrast, the average size of a cinema hall was half the size recorded in those countries in the Nordic countries, as well as in Estonia where the average size of a cinema hall was smallest, with an average of just 62 seats per screen.

Close to one billion cinema tickets were sold in the EU-25 in 2002, of which 93.6 % were sold in the EU-15. This was not far from twice the number of admissions recorded in 1990 (576.7 million), although it was still below the level of 1980 (1.0 billion) or 1970 (1.6 billion) and a far cry from the historical peaks of the 1950s (4.1 billion). On average, Europeans went to the cinema slightly more than twice (2.2 times) in 2002, and paid an average of EUR 5.40 for each ticket. As a comparison, US inhabitants went on average 5.7 times to the cinema in 2001 and spent an average of EUR 6.30 per ticket. Cinema going was a far less frequent activity in the 10 new Member States, with less than one visit per year per inhabitant (0.9), against an average of 2.5 visits in the EU-15. The country where people went most often to the cinema was Ireland, with an average of 4.5 admissions per inhabitant in 2002. Other cinema-going countries included Spain, Luxembourg and France, all with more than 3 cinema visits per inhabitant, while on average Slovaks or Latvians went once every two years to the cinema (2001).

<sup>(18)</sup> Greece and Italy, not available.

Box-office receipts reached EUR 5.4 billion in the EU-25 in 2001 <sup>(19)</sup>, of which EUR 5.2 billion originated from admissions in the EU-15. Box-office revenues were on a rising trend in the EU over the past decade, supported by an increasing number of admissions. The average return on a cinema seat in terms of receipts was EUR 757 per year (or EUR 2.10 per day) in the EU-25 in 2001 <sup>(20)</sup>. Luxembourg (EUR 1 700), Denmark (EUR 1 576) and the Netherlands (EUR 1 526) boasted the highest returns, while in the Czech Republic and Slovakia the average receipts per seat were below EUR 100 or less. The new Member States generally reported among the lowest seat returns, with the notable exception of Estonia where the average receipts per seat reached EUR 960 per year. Among the EU-15 Member States, Sweden (EUR 758), Portugal (EUR 746) and Spain (EUR 471) reported the lowest returns per seat.

<sup>(19)</sup> The Czech Republic and Slovenia, 2000.

<sup>(20)</sup> Belgium, the Czech Republic, Malta, Poland and Slovenia, 2000; Greece and Italy, 1999.

American productions dominated the European film marketplace, as almost two thirds of the box-office receipts in the EU-25 were from American films. Only in France was the market share of American films below 50 % <sup>(21)</sup>. All 10 of the most popular films in the EU-15 on the basis of admissions over the period 1996–2002 were of American origin and three of the top EU productions were made in association with American partners – see Table 24.9.

#### Video

The video market (video tapes and DVD) represented an important source of revenue for film producers, often accounting for more than half of a film's overall revenue, sometimes compensating film producers for mediocre results in theatres. On average, 37 % of turnover originated from cinema exhibition in 2001 in the EU-15, against 41 % from VHS sales and rentals and 22 % from DVD sales and rentals <sup>(22)</sup>. The rapid development of video sales in the 1990s and of video rentals in the second half of the decade led to turnover in the video sales and rentals market increasing from EUR 3.6 billion in 1990 to EUR 4.6 billion in 1995 and a peak of EUR 6.0 billion in 2000. The trend nevertheless reversed in 2001, with a contraction to EUR 5.7 billion. Total video turnover was split approximately two thirds for sales and one third for rentals. There was a clear shift from rentals to sales during the first half of the 1990s, as their respective shares of turnover reversed in just five years between 1990 and 1995 (see Figure 24.4), mainly because of a sharp decline of turnover from rentals. The rebound of the rental market in the second half of the 1990s, marked by a continued growth of turnover between 1995 and 2001, was insufficient to compensate for the loss accumulated in the first half of the decade and turnover from rentals was in 2001 still below its level of 1990. The development of the video retail network mirrored this evolution, as 40 % of the 40 000 rental outlets still present in the EU-15 in 1990 disappeared by 1996 leaving only 24 100 in activity. Their number has since stabilised, with 24 400 outlets in 2001, and even started to grow, an upturn probably linked to the emergence of the DVD format – see Table 24.10.

<sup>(21)</sup> Latvia, Lithuania and Poland, 2000; Spain, Ireland, Malta, Austria, Slovenia and Slovakia, not available.

<sup>(22)</sup> See *Cinema, TV and radio in the EU*, Eurostat, 2003.

Table 24.9

#### Top ten movies, cumulative admissions, EU-15, 1996-2002

Title	Country of origin	Year	Admissions (millions)
<b>All origins</b>			
<b>Titanic</b>	US	1997	103.6
<b>Harry Potter and the Sorcerer's Stone</b>	US	2001	58.9
<b>The Lord of the Rings: The Fellowship ...</b>	US / NZ	2001	57.7
<b>Star Wars: Episode I</b>	US	1999	44.9
<b>Independence Day</b>	US	1996	42.7
<b>Harry Potter and the Chamber of Secrets</b>	US	2002	42.3
<b>The Sixth Sense</b>	US	1999	37.1
<b>Men in Black</b>	US	1997	33.5
<b>Spider-Man</b>	US	2002	32.2
<b>Tarzan</b>	US	1999	31.2
<b>Productions within the EU-15</b>			
<b>Bridget Jones's Diary</b>	UK / US	2001	30.0
<b>Notting Hill</b>	UK	1999	29.7
<b>James Bond: The World Is Not Enough</b>	UK / US	1999	26.9
<b>Bean - The Ultimate Disaster Movie</b>	UK / US	1997	26.1
<b>The Full Monty</b>	UK	1997	25.7
<b>Astérix et Obélix contre César</b>	FR / DE / IT	1999	22.0
<b>Le cinquième élément</b>	FR	1997	21.5
<b>James Bond: Tomorrow Never Dies</b>	UK / US	1997	21.4
<b>Astérix &amp; Obélix : Mission Cléopâtre</b>	FR / DE	2002	21.1
<b>La vita è bella</b>	IT	1997	19.9

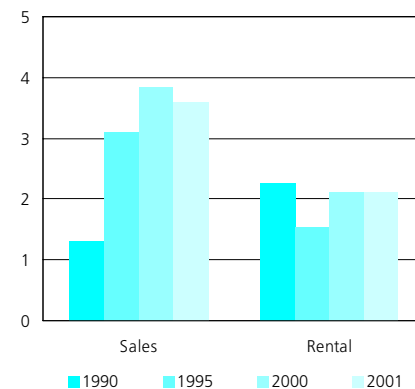
Source: EAO, Focus 2003.

Enterprises active in the reproduction of video recordings are covered by NACE Class 22.32. The small size of the reproduction of video recordings sector can be demonstrated by the fact that it accounted in 2001 for only 0.5 % of the value added generated in publishing, printing and reproduction activities in the EU-15. The Netherlands <sup>(23)</sup> clearly stood out as the most specialised in the reproduction of video recordings looking at the relative contribution of this sector to manufacturing value added.

<sup>(23)</sup> Ireland and Slovakia, 1999; the Czech Republic, Denmark, Germany, Estonia, Greece, Luxembourg and Malta, not available.

Figure 24.4

#### Receipts from pre-recorded video cassettes or discs, EU-15 (EUR billion)



Source: Eurostat, Audiovisual services (theme4/auvis/quest).

Table 24.10

#### Evolution of the sales and rentals of DVD (EUR million)

	1998	1999	2000	2001
<b>EU-25</b>	:	:	:	:
<b>EU-15</b>	48.5	396.8	1 391.7	3 141.1
<b>BE</b>	1.8	19.7	68.2	131.2
<b>CZ</b>	:	1.4	4.0	8.6
<b>DK</b>	2.0	5.4	19.2	43.2
<b>DE</b>	11.5	44.0	183.0	447.3
<b>EE</b>	:	:	:	:
<b>EL</b>	0.4	2.3	6.3	7.6
<b>ES</b>	3.9	26.6	69.5	142.3
<b>FR</b>	15.5	129.5	379.7	795.1
<b>IE</b>	0.1	1.6	7.1	15.5
<b>IT</b>	3.5	27.1	73.4	131.7
<b>CY</b>	:	:	:	:
<b>LV</b>	:	:	:	0.2
<b>LT</b>	:	:	:	:
<b>LU</b>	:	:	:	:
<b>HU</b>	0.2	1.4	2.8	9.0
<b>MT</b>	:	:	:	:
<b>NL</b>	1.7	17.3	61.3	143.4
<b>AT</b>	0.4	3.3	10.7	34.1
<b>PL</b>	1.1	4.5	9.1	23.8
<b>PT</b>	0.4	1.6	4.1	12.8
<b>SI</b>	:	:	:	:
<b>SK</b>	:	:	:	:
<b>FI</b>	0.8	3.9	11.7	29.0
<b>SE</b>	0.9	7.5	28.3	64.6
<b>UK</b>	5.1	107.0	469.3	1 143.3

Source: Eurostat, Audiovisual services (theme4/auvis/quest).

### Television

Turning to the TV sector, its turnover of EUR 53.9 billion (2000) was almost roughly split between public TV (EUR 24.0 billion) and commercial TV (EUR 30.0 billion). Television broadcasters can count on three main types of revenues: public funding through annual television licence fees and/or subsidies (for public operators); revenues from advertising and sponsorship (for public and commercial operators); and direct receipts from viewers (in the case of pay-TV operators). Advertising and sponsorship was the primary source of financing in 2000 as it accounted for 50.6 % of broadcasters' turnover in the EU-15 <sup>(24)</sup>. Public funding was the second most important source of income (30.1 %) ahead of subscription fees (19.4 %). In general, public funding remained relatively unchanged during the 1990s, while income from advertising and subscriptions increased at a faster pace. Note that Portugal, Spain and Luxembourg do not levy a TV licence fee and the Netherlands stopped levying one in 2000.

<sup>(24)</sup> See Cinema, TV and radio in the EU, Eurostat, 2003.

**Table 24.11**  
**Leading television enterprises/groups by turnover, 2001**

		(EUR billion)
<b>TV broadcasters (1)</b>		
<b>BBC</b>	UK	3.88
<b>RAI</b>	IT	2.82
<b>B-Sky-B</b>	UK	2.81
<b>ProSiebenSat.1</b>	DE	2.22
<b>RTL Television</b>	DE/LU	2.00
<b>TV production groups</b>		
<b>Endemol Entertainment</b>	NL	0.91
<b>RTL Group (Content Division)</b>	DE	0.90
<b>Mediatrade</b>	IT	0.65
<b>Bavaria Film</b>	DE	0.28
<b>Expand</b>	FR	0.27
<b>TV fiction production</b>		
<b>Arbol Producciones</b>	ES	0.12
<b>Thames Television</b>	UK	0.11
<b>Expand</b>	FR	0.09
<b>Endemol UK</b>	UK	0.09
<b>Grundy UFA TV Produktions</b>	DE	0.08
<b>Animation production</b>		
<b>Hit Entertainment</b>	UK	0.09
<b>TV - Toonland</b>	DE	0.08
<b>RTV Family Entertainment</b>	DE	0.07
<b>Carrere Group</b>	FR	0.04
<b>BKN International</b>	DE	0.03

(1) 2000.

Source: EAO in Cinema, TV and radio in the EU, Eurostat, 2003.

## 24.2: PUBLISHING AND REPRODUCTION OF SOUND RECORDINGS

The music recording industry includes activities that range from the selection, management and production of artists, to the manufacturing, marketing and distribution of recorded media in the form of compact discs, vinyl and cassettes. Two classes of the NACE classification cover this industry, Class 22.14 for the publishing side and Class 22.31 for the reproduction side. This subchapter also covers the radio sector, which is part of NACE Group 92.2 (the other part being TV activities).

The music recording sector is dominated by a small number of multinational distribution companies, known as the 'majors', (Universal, Sony Music, EMI, Warner and BMG), all of which are part of larger entertainment conglomerates. Each major owns, in part or in full, various 'labels', enterprises that sign and groom artists, guide the album production process and market the final product. Global market-share figures for 2002 were as follows: Universal 25.9%, Sony 14.1%, EMI 12.0%, Warner 11.9% and BMG 11.1%, while independent labels accounted for the remaining 25.0%.

The sound recordings sector has witnessed important merger or joint-ventures activity in recent years. In 2000, while the Warner Music and EMI merger was refused by the European Commission on antitrust grounds, Vivendi Universal was created with the sale by Seagram of Universal Music to Vivendi. More recently, Time Warner announced in November 2003 the sale of its Warner Music division to a private investor, Mr E. Bronfman, who was the former owner of Universal Music, while Sony and Bertelsmann announced plans to merge their music divisions.

### STRUCTURAL PROFILE

There were close to 10 000 enterprises active in the sector of publishing and reproduction of sound recordings (NACE Classes 22.14 and 22.31) in the EU-25 in 2001<sup>(25)</sup> that employed just under 40 000 persons<sup>(26)</sup>. They generated some EUR 2.3 billion of value added<sup>(27)</sup>, which represented 0.2 % of the manufacturing total. The United Kingdom (EUR 0.7 billion) and France (EUR 0.5 billion) dominated this sector, as more than half of the EU-25's value added originated from these two countries. The Netherlands also played an important role in this sector with value added of EUR 0.2 billion. These three countries<sup>(28)</sup> also appeared as the most specialised, as the relative weight of the music industry in their respective manufacturing economies was 1.5 to 2.5 times higher than the EU average.

Looking at the breakdown of the structure of this activity between publishing and reproduction, the reproduction of sound recordings accounted for 52.4 % of sectoral value added in the EU-25<sup>(29)</sup>, against 47.6 % for publishing (although considerable differences existed at national level). Indeed, publishing accounted for more than 90 % of the value added in Luxembourg (100.0%), Sweden (97.2%) and Slovenia (96.4%), and more than 80% in France (86.1%), Hungary and Finland (both 81.5%). In contrast, reproduction activities generated at least two thirds of the sector's value added in Poland (84.8 %), Germany (81.8 %) and Spain (69.9 %).

<sup>(25)</sup> The Czech Republic and Malta, not available.

<sup>(26)</sup> Poland and Slovenia, number of employees; Latvia, 1999; the Czech Republic, Estonia and Malta, not available.

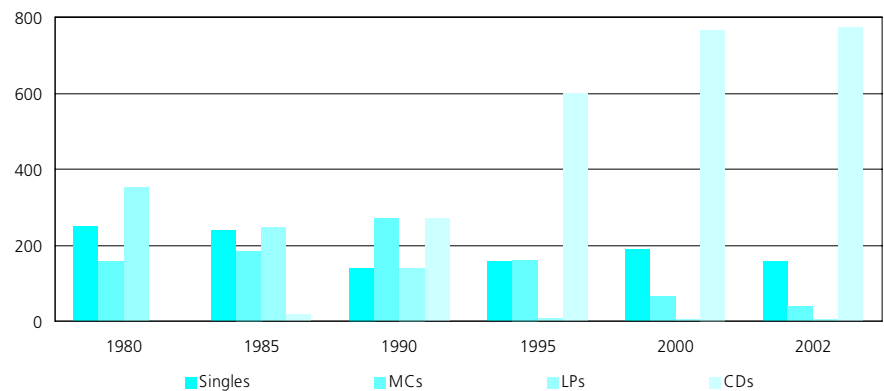
<sup>(27)</sup> Latvia, 1999; the Czech Republic, Estonia and Malta, not available.

<sup>(28)</sup> Latvia, 1999; the Czech Republic, Denmark, Estonia, Greece, Ireland, Austria and Malta, not available.

<sup>(29)</sup> The Czech Republic, Estonia, Latvia and Malta, not available.

Figure 24.5

### Evolution of the number of music recordings sold, EU-15 (millions) (1)



(1) Eurostat estimates.

Source: Eurostat, Audiovisual services (theme4/auvis/quest).

### Music industry sales

An analysis of sales in unit terms reveals that growth in the music industry in the past decade has been principally fuelled by sales of (long-play) CDs and to a lesser extent by singles. The sales of CDs steadily increased from 270 million units in 1990 to 772 million units in the EU-15 in 2002 (see Figure 24.5). The only year during which the number of CDs sold declined was 2001 (by 0.4 %), however, the market recovered in 2002 with an increase of 1.3 %. Similarly, singles sales increased strongly between 1990 (141 million sold) and 1999 (207 million sold) before falling to 159 million in 2002.

In total<sup>(30)</sup>, more than 1.0 billion sound recordings were sold in the EU-25 in 2002 (see Table 24.12). The United Kingdom was the largest market in the EU-25 with 278 million recordings sold in 2002. It was also the country with the highest average sales, 4.6 recordings per person, ahead of Sweden (3.5 per person), France (3.0) and Germany (2.9). Six of the 10 new Member States closed the ranking with less than 0.7 recordings bought per person<sup>(31)</sup>, among which were Slovakia and Latvia with less than 0.3 per person. The share of music cassettes in total sales was significantly higher in most of the 10 new Member States compared with the EU-15 average.

<sup>(30)</sup> Cyprus, Poland, 2001; Luxembourg and Malta, not available.

<sup>(31)</sup> Malta, not available; Poland (0.8), Estonia (1.0), Cyprus (1.3) excluded.

Table 24.12

### Sound recording sales, 2002 (millions)

	Total (1)	Singles (2)	MCs (3)	LPs (4)	CDs (1)
BE	24.1	6.2	0.0	0.0	17.8
CZ	4.8	0.0	1.2	0.1	3.6
DK	12.4	0.6	0.0	0.0	11.8
DE	240.2	39.2	21.8	1.0	178.2
EE	1.4	0.0	0.5	:	0.9
EL	8.3	1.1	0.2	0.0	7.0
ES	66.3	2.2	2.4	0.0	61.7
FR	176.4	40.5	5.0	0.5	130.4
IE	10.2	2.0	0.2	0.0	8.0
IT	52.4	3.6	4.0	0.1	44.7
CY	0.9	:	0.1	:	0.8
LV	0.7	:	0.3	:	0.4
LT	1.2	0.0	0.4	0.0	0.8
LU	:	:	:	:	:
HU	5.1	0.3	1.8	0.0	3.0
MT	:	:	:	:	:
NL	31.8	3.6	0.1	0.2	27.9
AT	16.9	2.1	0.2	0.1	14.5
PL	32.5	0.2	4.2	:	21.3
PT	15.0	0.3	2.2	0.0	12.5
SI	1.4	:	0.3	:	1.1
SK	1.3	0.0	0.3	:	1.0
FI	10.5	0.6	0.1	0.0	9.8
SE	30.8	4.0	0.3	0.1	26.4
UK	278.2	52.5	1.9	2.2	221.6

(1) Cyprus and Poland, 2001.

(2) Estonia, 2001.

(3) Cyprus, 2001.

(4) The Czech Republic, Latvia and Portugal, 2001.

Source: Eurostat, Audiovisual services (theme4/auvis/quest).

*Radio*

Turning to radio activities, the process of deregulation initiated at the start of the 1980s resulted in rapid growth for the number of radio stations in the EU up until 1994, when 7 600 existed. From 1995 onwards there was a period of consolidation, as the number of radio stations declined to 5 400 by 2000, of which 5 050 were private and 350 publicly owned (see Table 24.13). It should be noted that the vast majority of radio stations have only regional or local coverage. Italy was the Member State with the highest number of radio stations (1 718) in 2001, nearly all of them being private. Note that in the Netherlands about 91 % of radio stations were public.

Total turnover of public radio stations in the EU-15 amounted to EUR 5.5 billion in 2000, half of which originated from Germany. Private broadcasters reported turnover of EUR 4.1 billion.

The average daily listening time of adults in European countries in 2001 <sup>(32)</sup> varied from 315 minutes in Poland to 77 minutes in Hungary (2000). It should be noted that contrary to television, radio is considered as an accompanying media, in the sense that listening often takes place at the same time as other activities, for example, driving a car or working. Indeed, radio-listening patterns generally show a peak in the morning between 7 a.m. and 9 a.m., although a second peak is also observed in the late afternoon in some countries.

<sup>(32)</sup> Germany, Spain, Italy, Lithuania, Poland, Portugal, Finland and Sweden, 2001; Denmark, Hungary and the Netherlands, 2000; France and the United Kingdom, 1999.

**Table 24.13**  
**Main indicators for radio activities, 2001**

	Number of radio stations (units) (1)			Turnover (EUR million)		Average daily listening time (minutes) (6)
	Total	Public (2)	Private (3)	Public stations (4)	Private stations (5)	
<b>EU-25</b>	:	:	:	:	:	:
<b>EU-15</b>	5 400	350	5 050	5 452	4 122	162
<b>BE</b>	:	:	:	:	:	:
<b>CZ</b>	:	:	:	:	:	:
<b>DK</b>	567	13	554	:	:	192
<b>DE</b>	253	69	184	2 680	56	203
<b>EE</b>	30	5	25	89	:	:
<b>EL</b>	266	25	241	:	:	:
<b>ES</b>	1 193	:	:	145	312	94
<b>FR</b>	1 129	54	1 075	574	390	161
<b>IE</b>	:	4	23	:	:	:
<b>IT</b>	1 718	4	1 714	117	107	178
<b>CY</b>	:	:	:	:	:	:
<b>LV</b>	:	:	:	6	3	:
<b>LT</b>	17	3	14	:	:	175
<b>LU</b>	24	1	23	:	:	:
<b>HU</b>	139	27	112	48	19	77
<b>MT</b>	:	:	:	:	:	:
<b>NL</b>	363	330	33	107	:	176
<b>AT</b>	:	:	:	:	:	:
<b>PL</b>	:	5	:	62	:	315
<b>PT</b>	376	10	366	63	29	200
<b>SI</b>	70	3	67	:	:	:
<b>SK</b>	30	6	24	20	:	:
<b>FI</b>	101	34	67	:	11	209
<b>SE</b>	86	3	83	222	:	174
<b>UK</b>	346	47	299	717	:	177

(1) EU-15, Germany, Greece, the Netherlands, Sweden and the United Kingdom, 2000; Spain, 1999.

(2) EU-15, Germany, Greece, Ireland, the Netherlands and the United Kingdom, 2000.

(3) EU-15, Germany, Greece, the Netherlands, Sweden and the United Kingdom, 2000; Ireland, 1999.

(4) Germany, France and the Netherlands, 2000; the United Kingdom, 1999.

(5) Germany and France, 2000; Italy, 1999.

(6) Denmark, Hungary and the Netherlands, 2000; EU-15, France and the United Kingdom, 1999.

Source: Eurostat, Audiovisual services (theme4/avis/quest).

Table 24.14

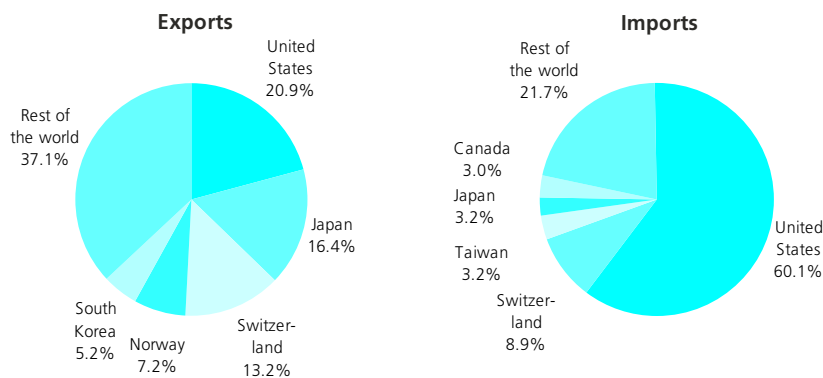
**Publishing of sound recordings; reproduction of sound recording (NACE Classes 22.14 and 22.31)**  
**Labour productivity and personnel costs, EU-15, 2001**

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
<b>Publishing of sound recordings; reproduction of sound recording</b>	60.5	162.0	37.3
<b>Publishing of sound recordings</b>	65.4	159.5	41.0
<b>Reproduction of sound recording</b>	56.7	162.9	34.8

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

Figure 24.6

**Sound recordings (CPA Class 22.14)**  
**Share in extra-EU trade, 2002**



Source: Eurostat, Comext.

### 24.3: PUBLISHING AND PRINTING

Publishing can be defined as the act of producing and issuing informative material. Printing involves placing the published material on paper or other materials. These activities are covered by NACE Group 22.1 (publishing) and NACE Group 22.2 (printing). Note that the publishing of sound recordings (NACE Class 22.14) was treated in the previous subchapter, although the statistics presented in this subchapter are based on an aggregate of NACE Groups 22.1 and 22.2 and hence also include the publishing of sound recordings.

Information technologies (IT) have revolutionised the publishing and printing sector in the past couple of decades. On the production side, much of the preparation and setting of a document is now executed on computers, using desktop publishing (DTP) solutions, which has led to more cost-efficient production and has resulted in smaller and more flexible print-runs. In addition, IT has created a number of electronic alternatives to traditional printing. Newspapers, magazines, books or reference material are increasingly consulted online or on some other type of electronic medium, for example CD-ROMs.

#### STRUCTURAL PROFILE

The total value added generated in the publishing and printing sector (NACE Groups 22.1 and 22.2) reached EUR 89.6 billion in the EU-25 in 2001. This represented 5.8 % of total manufacturing value added. The contribution of this sector to manufacturing employment was somewhat lower, as it employed 1.8 million persons in 2001<sup>(33)</sup>, approximately 5.4 % of the manufacturing total.

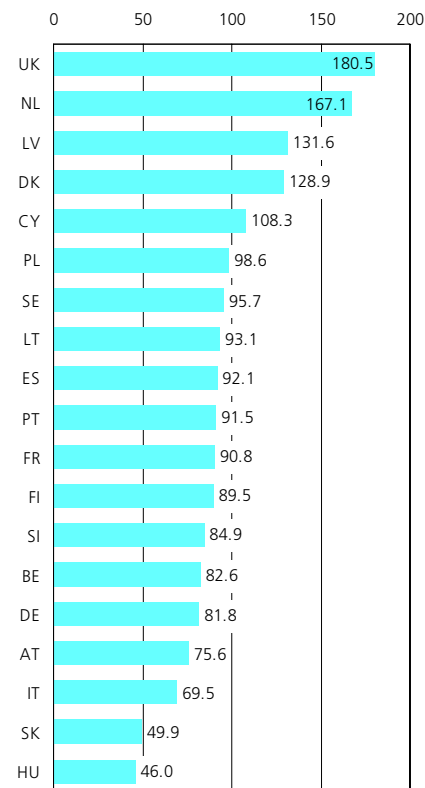
<sup>(33)</sup> Malta, 2000; Slovenia, number of employees; Estonia, not available.

Two countries alone accounted for almost half of the wealth created in publishing and printing activities in the EU in 2001, namely the United Kingdom (EUR 24.1 billion of value added) and Germany (EUR 19.7 billion). The United Kingdom was also the most specialised country in this sector, when looking at its relative contribution to manufacturing value added in comparison with the other Member States<sup>(34)</sup>. Publishing and printing enterprises generated as much as 10.5 % of manufacturing value added in the United Kingdom in 2001, almost twice the corresponding ratio for the EU-25. In a similar fashion, three other countries reported relatively high specialisation ratios for publishing and printing: the Netherlands (9.7 %), Latvia (7.7 %) and Denmark (7.5 %). In contrast, the least specialised countries included Slovakia (2.9 %), Hungary (2.7 %) and Ireland (2.2 %, 2000). Publishing was slightly larger than printing in the EU-25, as it accounted for 51.4 % of sectoral value added in 2001. Nevertheless, a few countries showed a clear predominance of printing activities, notably Malta (79.1 %; 2000), Cyprus (70.1 %), Belgium (65.3 %) and Portugal (64.5 %).

<sup>(34)</sup> Ireland and Malta, 2000; the Czech Republic, Estonia, Greece and Luxembourg, not available.



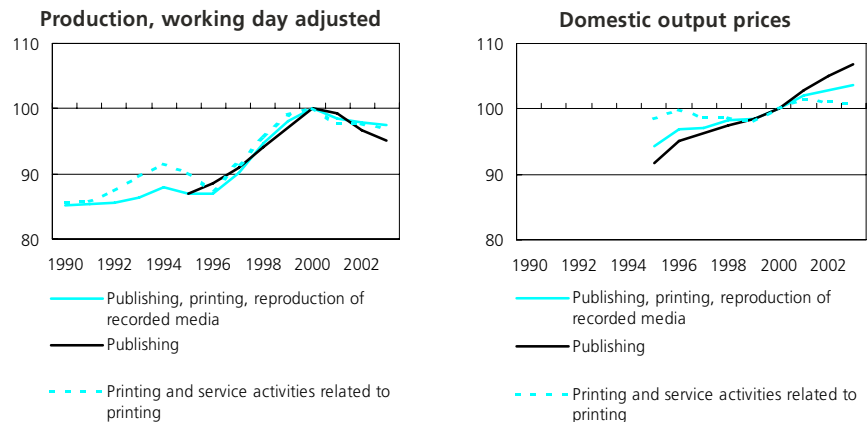
**Figure 24.7**  
**Publishing; printing and service activities related to printing (NACE Groups 22.1 and 22.2)**  
**Value added specialisation ratio relative to total manufacturing, 2001 (EU-25=100) (1)**



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

Publishing and printing activities were characterised by a relatively high importance for SMEs (less than 250 persons employed) compared with other manufacturing activities, although not as high as the non-financial services average. Micro enterprises (with less than 10 persons employed) accounted for 14.4 % of the value added generated in the publishing and printing sector in the EU-25 in 2001, almost twice their weight for the whole of manufacturing (7.3 %), but not far from half their weight in the non-financial services total (26.5 %). Small enterprises (employing between 10 and 49 persons) accounted for a further 23.4 % of sectoral value added, compared with 15.8 % within manufacturing and 20.2 % for non-financial services.

**Figure 24.8**  
**Publishing; printing and service activities related to printing (NACE Groups 22.1 and 22.2)**  
**Main indicators, EU-25 (2000=100)**



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

Between 1996 and 2000, both publishing and printing generally experienced growth similar to that for manufacturing as a whole. Output of publishing went up on average by 3.1 % per annum in the EU-25 and that for printing by 3.4 % per annum, compared with a manufacturing average of 3.7 %. However, output fell for three consecutive years between 2000 and 2002, averaging -1.7 % per annum for publishing and -1.1 % for printing, while manufacturing output was relatively more stable, recording slight growth in 2001 and 2003 and a comparable contraction in 2002.

**LABOUR AND PRODUCTIVITY**

Labour productivity in publishing and printing activities was generally below both the manufacturing and non-financial services average, mainly due to low productivity levels reported in printing activities. The wage adjusted labour productivity ratio in the EU-15 was equal to 139.6 % in 2001, which was almost four percentage points below the manufacturing average (143.5 %) and 8.0 percentage points below the non-financial services average (147.6 %). Publishing, however, reported a wage adjusted labour productivity ratio as much as 10 percentage points above the corresponding level in printing activities, at 145.4 % against 135.0 %. Lithuania and Poland were the only Member States<sup>(35)</sup> where the wage adjusted labour productivity ratio for both of these subsectors was higher than the manufacturing average.

<sup>(35)</sup> Ireland, Cyprus and Malta, 2000; the Czech Republic, Estonia, Greece, and Slovenia, not available.

**EXTERNAL TRADE**

The EU-25 was a net exporter of published and printed goods in 2002, with a trade surplus equal to EUR 2.9 billion for printed matter and recorded media (CPA Groups 22.1 and 22.2 (hence including Class 22.14)) and a cover ratio of 188.6 %. Germany was by far the biggest contributor, as its trade surplus was the highest among the Member States, reaching EUR 2.3 billion (intra- and extra-EU combined) of which EUR 941.1 million was with non-Community countries. Italy, the United Kingdom, Spain and Ireland all recorded a trade surplus (intra- and extra-EU combined) in excess of EUR 500 million, while the Netherlands was just below this level, with a trade surplus of EUR 471.6 million. The largest deficits were registered in Portugal (EUR 224.8 million) and Austria (EUR 223.3 million). Among the 10 new Member States, only four reported a positive trade balance for these products, namely Slovakia (EUR 48.8 million), Malta (EUR 42.0 million), the Czech Republic (EUR 39.0 million) and Slovenia (EUR 15.7 million).

The United States and Switzerland were by far the most important markets for EU-25 exporters of printed matter and recorded media in 2002, each supplying close to one fifth of the total. Furthermore, the United States was also the most frequent origin of EU-25 imports of printed matter and recorded media, supplying 40.8 % of the total in 2002. China surpassed Switzerland as the second most frequent origin of imports in 2002.

## 24.4: OTHER REPRODUCTION

This subchapter completes the coverage of NACE Division 22 and addresses the activity of the reproduction of computer media (NACE Class 22.33). This class includes the reproduction from master copies of software and data on discs and tapes.

**STRUCTURAL PROFILE**

Reproduction of computer media in the EU-15 is carried out mainly in one country: Ireland. In 2001, this sector generated EUR 3.4 billion of value added in the EU-15, while Ireland reported EUR 2.0 billion of value added in 1999. Only three other countries <sup>(36)</sup> reported significant value added creation in this activity: the United Kingdom, with EUR 135.5 million in 2001 and France and Spain with similar values (EUR 23.3 million and EUR 19.5 million respectively). Among the new Member States <sup>(37)</sup>, only Hungary and Poland recorded value added in this sector that exceeded EUR 1 million.

<sup>(36)</sup> Ireland, 1999; Germany, Greece and Austria, not available.

<sup>(37)</sup> Latvia and Slovakia, 2000; The Czech Republic, not available.

Employment figures for this sector confirm the dominance of Ireland. The sector numbered some 13 342 persons employed in the EU-15 in 2001. Approximately one third of them were working in Ireland (5 591, 1999), and almost one fifth in the United Kingdom (2 364 persons). France (922 persons employed) and Spain (594 persons employed) reported the next largest labour forces in this sector <sup>(38)</sup>.

<sup>(38)</sup> Ireland, 1999; Latvia and Slovakia, 2000; the Czech Republic, Germany, Greece, Austria, Poland and Slovenia, not available.

Table 24.15

**Publishing, printing, reproduction of recorded media (NACE Division 22)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	6 430	1 503	4 692	50 233	174	1 105	14 901	33 470	9 387	25 107	138	214	214	:
Value added at factor cost (EUR million)	2 150	352	1 971	20 158	59	422	5 691	11 105	3 695	8 332	59	126	75	:
Purchases of goods and services (EUR million)	4 401	1 156	0	30 096	118	:	9 861	23 737	5 408	17 259	80	125	136	:
Gross investment in tangible goods (EUR million)	331	137	257	2 255	6	:	764	1 057	239	1 321	11	23	14	:
Number of persons employed (thousands)	38	39	50	401	5	15	147	217	19	174	2	9	10	:
App. labour productivity (EUR thous./pers. emp.)	56.6	9.1	39.6	50.3	11.0	28.1	38.7	51.2	195.8	48.0	26.5	13.6	7.3	:
Average personnel costs (EUR thous./employee) (1)	44.1	7.9	31.4	38.3	8.0	:	27.2	42.5	34.8	33.9	18.0	5.1	4.4	:
Wage adjusted labour productivity (%) (1)	128.5	115.3	126.1	131.1	136.9	:	142.2	120.3	563.4	141.3	155.6	268.5	165.9	:
Gross operating rate (%) (2)	10.8	6.5	9.8	10.6	9.8	:	13.7	6.0	31.6	14.5	13.8	38.8	14.7	:
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	1 060	115	13 462	4 199	4 608	2 479	564	397	3 996	6 986	52 996	220	507	:
Value added at factor cost (EUR million)	315	60	5 458	1 760	2 632	960	200	115	1 632	2 336	24 863	56	196	:
Purchases of goods and services (EUR million)	989	52	8 152	2 621	1 503	1 545	369	329	2 534	4 799	28 888	178	391	:
Gross investment in tangible goods (EUR million)	69	4	486	306	274	320	44	23	227	307	2 591	17	61	:
Number of persons employed (thousands)	25	2	97	27	90	38	:	11	31	56	383	13	32	:
App. labour productivity (EUR thous./pers. emp.)	12.8	27.6	56.3	65.0	29.3	25.2	:	10.4	52.1	41.8	64.9	4.4	6.0	:
Average personnel costs (EUR thous./employee)	7.5	13.3	39.2	43.5	10.3	17.7	18.5	6.4	36.8	38.0	39.1	2.7	2.7	:
Wage adjusted labour productivity (%)	170.5	207.2	143.8	149.5	284.5	141.9	:	164.2	141.4	110.1	165.9	160.3	219.8	:
Gross operating rate (%)	10.1	29.7	15.7	14.1	42.1	12.8	5.1	10.4	12.2	5.6	20.3	10.6	21.2	:

(1) Ireland and Cyprus, 2000.

(2) Ireland, 2000.

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

Table 24.16

**Publishing (NACE Group 22.1)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million)	2 560	825	2 762	27 901	91	:	7 019	19 140	555	11 554	49	113	133	:
Value added at factor cost (EUR million) (2)	740	181	1 116	10 140	32	:	2 595	5 855	330	3 515	18	63	50	:
Purchases of goods and services (EUR million)	1 894	669	0	17 801	59	:	4 884	14 422	261	8 405	32	59	81	:
Gross investment in tangible goods (EUR million) (3)	57	33	101	740	2	:	186	356	113	221	3	5	6	:
Number of persons employed (thousands)	11	16	33	191	3	:	52	90	5	45	1	5	7	:
App. labour productivity (EUR thous./pers. emp.) (2)	68.0	11.4	33.8	53.2	10.5	:	50.1	65.3	77.3	77.3	25.2	12.0	7.4	:
Average personnel costs (EUR thous./employee) (4)	50.6	8.0	27.1	40.3	8.7	:	34.0	52.2	39.7	51.9	21.0	5.4	4.9	:
Wage adjusted labour productivity (%) (4)	134.5	147.9	124.6	132.0	120.1	:	147.4	125.1	194.6	149.1	156.8	220.4	152.7	:
Gross operating rate (%) (2)	9.3	5.7	8.7	9.4	6.8	:	13.7	6.1	28.4	13.7	4.8	31.7	13.8	:
	HU	MT (1)	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	542	21	7 081	1 758	2 295	1 075	248	172	2 384	4 027	28 869	112	221	:
Value added at factor cost (EUR million)	160	11	2 894	621	1 592	338	102	59	944	1 221	13 119	25	76	:
Purchases of goods and services (EUR million)	513	9	4 264	1 252	458	760	163	151	1 599	2 849	16 057	90	194	:
Gross investment in tangible goods (EUR million)	17	1	135	75	136	36	10	10	124	102	930	3	20	:
Number of persons employed (thousands)	8	1	45	8	37	11	:	5	18	30	173	5	16	:
App. labour productivity (EUR thous./pers. emp.)	20.2	18.5	64.1	73.2	43.4	29.7	:	12.4	53.3	40.9	76.0	4.5	4.7	:
Average personnel costs (EUR thous./employee)	10.8	10.1	41.6	49.5	13.7	25.6	27.0	7.0	38.7	39.8	42.7	2.8	3.0	:
Wage adjusted labour productivity (%)	186.5	182.7	154.0	148.0	317.4	116.0	:	177.0	137.9	102.8	178.0	160.8	155.9	:
Gross operating rate (%)	11.1	26.9	17.9	11.5	52.3	5.7	4.3	12.9	10.8	3.7	20.7	9.6	14.7	:

(1) 2000.

(2) Ireland, 2000.

(3) The Czech Republic, 1999.

(4) The Czech Republic, Ireland and Cyprus, 2000.

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

Table 24.17

## Printing and service activities related to printing (NACE Group 22.2)

Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU
Production (EUR million) (1)	3 815	457	1 815	21 118	:	:	7 573	13 848	774	13 175	89	98	79	140
Value added at factor cost (EUR million) (2)	1 392	:	812	9 521	:	:	2 998	5 111	407	4 706	41	62	24	64
Purchases of goods and services (EUR million) (1)	2 467	333	0	11 554	:	:	4 741	8 952	534	8 584	48	63	54	75
Gross investment in tangible goods (EUR million)	271	55	154	1 468	:	:	551	675	68	1 083	9	18	8	:
Number of persons employed (thousands)	27	21	16	202	:	:	92	124	9	126	2	4	3	1
App. labour productivity (EUR thous./pers. emp.) (2)	52.1	:	51.2	47.0	:	:	32.6	41.3	46.4	37.3	27.1	15.8	7.0	54.5
Average personnel costs (EUR thous./employee) (3)	41.4	5.5	40.1	36.6	:	:	23.4	35.6	28.8	27.3	16.6	4.6	3.6	39.1
Wage adjusted labour productivity (%) (4)	126.0	:	127.6	128.6	:	:	139.4	115.9	160.9	136.9	155.7	341.5	195.1	139.5
Gross operating rate (%) (5)	11.8	11.8	11.6	11.8	:	:	13.8	5.9	18.3	15.2	18.6	47.5	15.6	14.0
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	503	97	5 847	2 062	2 254	1 386	316	220	1 592	2 925	22 484	105	279	:
Value added at factor cost (EUR million)	150	49	2 384	956	1 006	616	98	55	678	1 106	10 974	31	118	:
Purchases of goods and services (EUR million)	463	47	3 529	1 157	1 022	772	205	169	920	1 925	11 954	86	190	:
Gross investment in tangible goods (EUR million)	50	4	340	165	135	283	34	13	100	203	1 605	14	41	:
Number of persons employed (thousands)	16	1	49	17	52	27	:	6	13	26	198	7	16	:
App. labour productivity (EUR thous./pers. emp.)	9.2	35.8	49.0	55.7	19.3	23.2	:	9.0	50.4	43.3	55.3	4.3	7.6	:
Average personnel costs (EUR thous./employee)	5.9	16.5	37.3	40.6	7.6	14.4	13.6	5.8	34.4	36.0	35.9	2.7	2.5	:
Wage adjusted labour productivity (%)	156.8	216.7	131.4	137.2	254.1	161.5	:	154.3	146.4	120.3	154.2	159.8	297.1	:
Gross operating rate (%)	9.1	30.0	12.8	13.3	31.9	18.2	5.7	8.6	14.3	8.3	19.6	11.4	26.8	:

(1) The Czech Republic, 1999.

(2) Ireland, 2000.

(3) Ireland and Cyprus, 2000; the Czech Republic, 1999.

(4) Ireland and Cyprus, 2000.

(5) Ireland, 2000; the Czech Republic, 1999.

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

Table 24.18

## Reproduction of sound recording (NACE Class 22.31)

Main indicators, 2001

	BE	CZ	DK	DE	EE	EL	ES	FR	IE (1)	IT	CY	LV (1)	LT	LU
Production (EUR million)	48	:	:	705	:	:	209	225	77	128	0	1	2	0
Value added at factor cost (EUR million)	17	:	:	323	:	:	58	73	18	37	0	0	1	0
Purchases of goods and services (EUR million)	34	:	:	408	:	:	157	163	58	93	0	1	1	0
Gross investment in tangible goods (EUR million)	3	:	:	32	:	:	24	22	5	3	0	0	0	:
Number of persons employed (thousands)	0	:	:	5	:	:	2	2	1	1	0	0	0	0
App. labour productivity (EUR thous./pers. emp.)	45.8	:	:	65.5	:	:	30.4	48.0	32.8	46.7	:	4.9	9.3	:
Average personnel costs (EUR thous./employee)	34.0	:	:	34.6	:	:	24.8	35.3	24.6	37.9	:	1.8	0.8	:
Wage adjusted labour productivity (%)	134.5	:	:	189.2	:	:	122.6	136.0	133.1	123.3	:	269.4	1 105.6	:
Gross operating rate (%)	12.6	:	:	21.6	:	:	10.5	9.2	5.8	12.1	:	52.3	36.8	:
	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	RO	TR
Production (EUR million)	5	:	395	:	50	2	0	3	9	5	1 053	:	7	:
Value added at factor cost (EUR million)	1	:	121	:	32	1	0	0	5	2	483	:	2	:
Purchases of goods and services (EUR million)	4	:	278	:	17	1	0	5	8	3	570	:	7	:
Gross investment in tangible goods (EUR million) (2)	0	:	9	:	2	1	0	0	0	1	32	:	0	:
Number of persons employed (thousands)	0	:	2	:	:	:	0	0	0	0	8	:	0	:
App. labour productivity (EUR thous./pers. emp.)	7.4	:	56.8	:	:	13.9	:	4.2	70.2	22.2	62.6	:	3.9	:
Average personnel costs (EUR thous./employee)	6.4	:	35.9	:	12.1	8.6	8.4	6.8	35.1	36.1	36.9	:	2.0	:
Wage adjusted labour productivity (%)	116.1	:	158.3	:	:	162.0	:	60.9	200.3	61.6	169.6	:	192.9	:
Gross operating rate (%)	2.8	:	16.1	:	48.1	18.9	8.3	-4.6	24.7	14.0	22.9	:	11.9	:

(1) 1999.

(2) The Netherlands, 2000.

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

Table 24.19

**Reproduction of video recording (NACE Class 22.32)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE (1)	IT	CY	LV	LT	LU
Production (EUR million)	4	:	:	:	:	:	70	136	0	229	0	2	0	:
Value added at factor cost (EUR million)	1	:	:	:	:	:	21	42	0	65	0	1	0	:
Purchases of goods and services (EUR million)	3	:	:	:	:	:	68	99	0	164	0	2	0	:
Gross investment in tangible goods (EUR million)	0	:	:	3	:	:	4	4	0	11	0	0	0	:
Number of persons employed (thousands)	0	:	:	:	:	:	1	1	0	1	0	0	0	:
App. labour productivity (EUR thous./pers. emp.)	32.1	:	:	:	:	:	29.1	40.4	:	63.4	:	35.5	0.5	:
Average personnel costs (EUR thous./employee)	23.5	:	:	:	:	:	24.8	37.6	:	37.1	:	3.0	1.6	:
Wage adjusted labour productivity (%)	136.3	:	:	:	:	:	117.1	107.4	:	170.6	:	195.8	29.5	:
Gross operating rate (%)	14.5	:	:	:	:	:	6.6	3.0	:	15.2	:	20.2	-11.5	:
	HU	MT	NL	AT	PL	PT	SI	SK (1)	FI	SE	UK	BG	RO	TR
Production (EUR million)	5	:	130	0	5	16	0	0	9	17	347	:	0	:
Value added at factor cost (EUR million)	2	:	54	0	2	5	0	0	4	3	151	:	0	:
Purchases of goods and services (EUR million)	3	:	74	0	2	12	0	0	6	14	196	:	0	:
Gross investment in tangible goods (EUR million)	1	:	1	0	0	1	0	0	2	1	18	:	0	:
Number of persons employed (thousands)	0	:	1	0	:	0	:	:	0	0	2	:	0	:
App. labour productivity (EUR thous./pers. emp.)	17.7	:	76.7	:	:	35.7	:	:	55.7	17.1	81.5	:	1.4	:
Average personnel costs (EUR thous./employee)	10.4	:	40.1	:	8.0	19.6	27.4	:	33.8	32.8	45.9	:	2.5	:
Wage adjusted labour productivity (%)	170.1	:	191.3	:	:	182.0	:	:	165.0	52.1	177.5	:	55.4	:
Gross operating rate (%)	17.4	:	19.9	:	25.5	12.2	0.9	:	17.6	-6.7	21.1	:	-50.0	:

(1) 1999.

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

Table 24.20

**Reproduction of computer media (NACE Class 22.33)**  
**Main indicators, 2001**

	BE	CZ	DK	DE	EE	EL	ES	FR	IE (1)	IT	CY	LV (2)	LT	LU
Production (EUR million)	4	:	5	:	0	:	30	122	6 330	21	0	0	0	0
Value added at factor cost (EUR million)	1	:	2	:	0	:	20	23	2 002	8	0	0	0	0
Purchases of goods and services (EUR million)	3	:	0	:	0	:	12	101	4 499	13	0	0	0	0
Gross investment in tangible goods (EUR million) (3)	0	:	0	12	0	:	1	0	45	2	0	0	0	:
Number of persons employed (thousands)	0	:	0	:	0	:	1	1	6	0	0	0	0	0
App. labour productivity (EUR thous./pers. emp.)	39.8	:	30.8	:	:	:	32.8	25.2	358.0	20.0	:	:	6.0	:
Average personnel costs (EUR thous./employee)	30.6	:	30.2	:	:	:	25.2	27.2	37.9	17.5	:	:	1.7	:
Wage adjusted labour productivity (%)	130.2	:	101.9	:	:	:	130.2	92.8	943.5	114.3	:	:	344.9	:
Gross operating rate (%)	11.3	:	12.5	:	:	:	15.2	-1.3	27.6	14.5	:	:	27.0	:
	HU	MT	NL	AT	PL	PT	SI	SK (2)	FI	SE	UK	BG	RO	TR
Production (EUR million)	5	0	10	:	4	0	1	1	2	12	243	:	0	:
Value added at factor cost (EUR million)	1	0	4	:	1	0	0	0	1	4	136	:	0	:
Purchases of goods and services (EUR million)	6	0	8	:	3	0	0	3	1	8	111	:	0	:
Gross investment in tangible goods (EUR million) (3)	0	0	1	:	0	0	0	0	1	7	:	:	0	:
Number of persons employed (thousands)	0	0	0	:	:	0	:	0	0	2	:	:	0	:
App. labour productivity (EUR thous./pers. emp.)	9.1	:	19.1	:	:	5.2	:	2.0	76.1	21.0	57.3	:	4.1	:
Average personnel costs (EUR thous./employee)	5.8	:	10.7	:	6.0	7.8	8.6	4.4	42.5	47.4	37.1	:	1.5	:
Wage adjusted labour productivity (%)	157.2	:	178.3	:	:	67.1	:	45.8	179.2	44.3	154.5	:	270.2	:
Gross operating rate (%)	6.9	:	15.6	:	15.9	-12.6	2.2	-2.1	19.2	-9.9	21.5	:	33.3	:

(1) 1999.

(2) 2000.

(3) The Netherlands, 2000.

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