Metals and metal products

The EU-27 is largely dependent on imports of ore and concentrates for steel, ferro-alloys and non-ferrous metals production; according to the Directorate-General for Enterprise and Industry, the EU had a dependency rate of 83 % for iron ore (a raw material for steel), 74 % for copper ore, and 76 % for lead ore in 2003 by way of example. This dependency reflects, among other things, the EU's geology, the exhaustion of certain deposits over time and the absence of certain minerals. Domestic supply constraints have been magnified by the strong growth in international demand (largely driven by the industrialisation of countries such as China and India) that has sent prices for most raw materials soaring. As metal is a fundamental material for many manufacturing activities (in transport equipment and chemicals manufacturing, by way of example) and the construction sector, the issue of whether the EU's metals and metal products enterprises will be able to secure supply at affordable prices has clear downstream consequences. These concerns of access to raw materials are being considered by the High-Level Group (HLG) on Competitiveness, Energy and the Environment in 2007. Furthermore, the EU's Competitiveness Council called in May 2007 for further actions in industrial policy to deal with raw materials supply to industry as well as appropriate measures for cost-effective, reliable and environmentally responsible access to and exploitation of natural resources.

NACE Divisions 27 and 28 cover the manufacture of basic metals and fabricated metal products (except machinery and equipment, see Chapter 8).

The manufacture of basic metals (NACE Division 27) includes activities such as the manufacture of iron, steel and ferro-alloys, as well as basic precious and non-ferrous metals; it also includes first processing stages of metal manufacturing (such as the manufacture of tubes, bars, strips, wires, and sheets of metal, as well as casting). The downstream activity of the manufacture of fabricated metal products (NACE Division 28) covers the production of structural metal products; boilers, metal containers and steam generators; forging, pressing, stamping and roll forming of metal; the treatment and coating of metal and general mechanical engineering (such as turning, milling, or welding); the manufacture of cutlery, tools and general hardware; and the manufacture of other fabricated metal products (such as metal drums, metal packaging, wire products, and household articles of metal).

Note that there are no external trade statistics for a number of industrial services covered in this chapter, namely foundry work services (CPA Group 27.5), forging, pressing, stamping and roll forming metal services (CPA Group 28.4) and treatment and coating of metal services and general mechanical engineering services (CPA Group 28.5).

NACE

27: manufacture of basic metals;
27.1: manufacture of basic iron and steel and of ferro-alloys;
27.2: manufacture of tubes;
27.3: other first processing of iron and steel;
27.4: manufacture of basic precious and non-ferrous metals;
27.5: casting of metals;
28: manufacture of fabricated metal products, except machinery and equipment;
28.1: manufacture of structural metal products;
28.2: manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers;
28.3: manufacture of steam generators, except central heating hot water boilers;
28.4: forging, pressing, stamping and roll forming of metal; powder metallurgy;
28.5: treatment and coating of metals; general mechanical engineering;
28.6: manufacture of cutlery, tools and general hardware;
28.7: manufacture of other fabricated metal products.

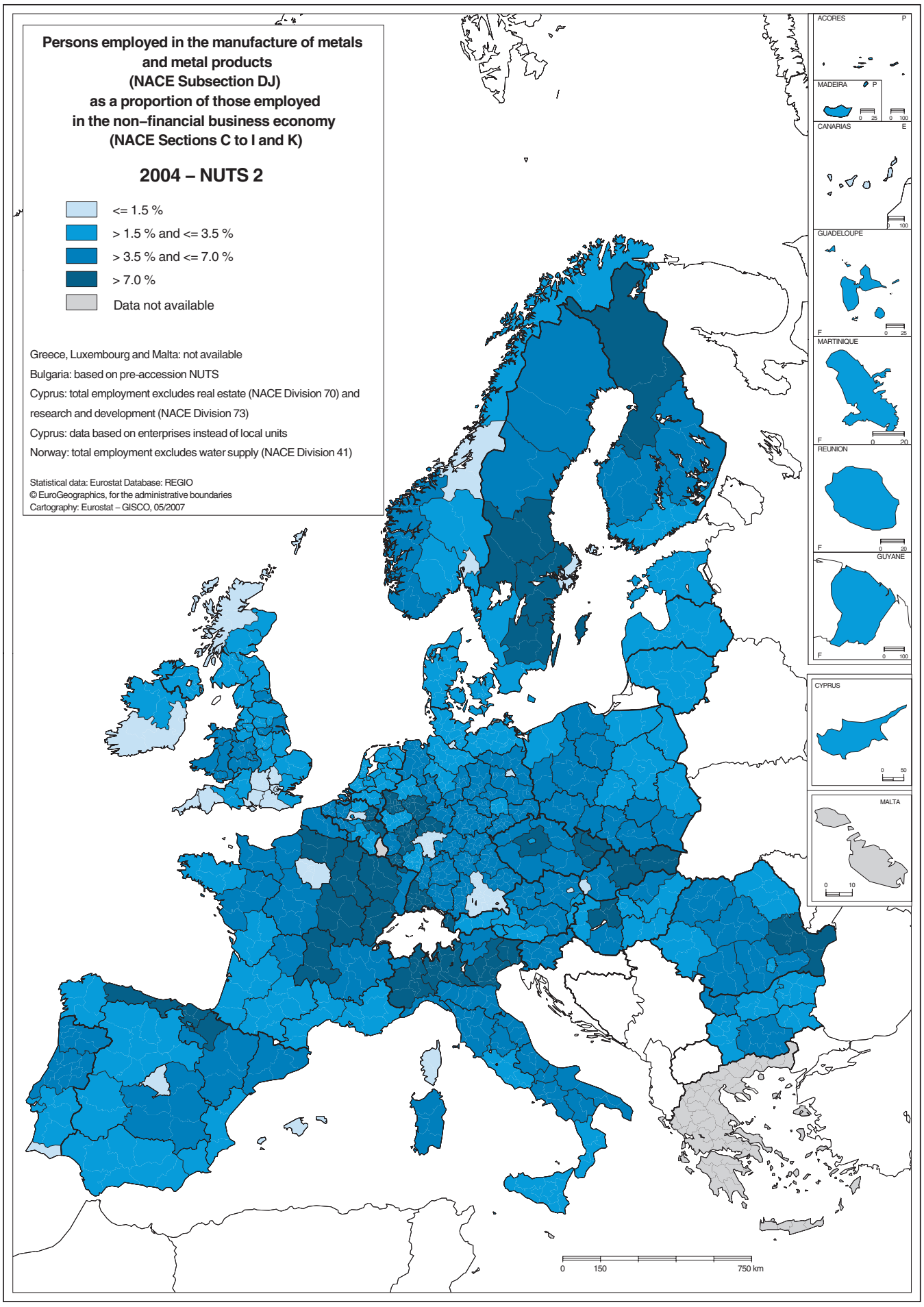

Persons employed in the manufacture of metals and metal products (NACE Subsection DJ) as a proportion of those employed in the non–financial business economy (NACE Sections C to I and K)
2004 – NUTS 2
<= 1.5 %
> 1.5 % and <= 3.5 %
> 3.5 % and <= 7.0 %
> 7.0 %
Data not available
Greece, Luxembourg and Malta: not available
Bulgaria: based on pre-accession NUTS
Cyprus: total employment excludes real estate (NACE Division 70) and research and development (NACE Division 73)
Cyprus: data based on enterprises instead of local units
Norway: total employment excludes water supply (NACE Division 41)
Statistical data: Eurostat Database: REGIO
© EuroGeographics, for the administrative boundaries
Cartography: Eurostat – GISCO, 05/2007
ACORES P
MADEIRA P
CANARIAS E
GUADELOUPE F
MARTINIQUE F
REUNION F
GUYANE F
CYPRUS
MALTA
0 150 750 km

Table 7.1

Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Structural profile, EU-27, 2004

	No. of enterprises		Turnover		Value added		Employment	
	(thousands)	(% of total)	(EUR million)	(% of total)	(EUR million)	(% of total)	(thousands)	(% of total)
Basic metals and fabricated metal products	398.6	100.0	698 911	100.0	212 567	100.0	4 991.4	100.0
First processing of ferrous metals (1)	6.0	1.5	187 000	26.8	41 000	19.3	630.0	12.6
Basic precious and non-ferrous metals	3.3	0.8	76 646	11.0	14 329	6.7	228.3	4.6
Casting of metals	6.5	1.6	31 294	4.5	10 924	5.1	273.7	5.5
Structural metal products	107.4	27.0	103 944	14.9	33 894	15.9	1 029.6	20.6
Boilers, metal containers and steam generators (1)	14.0	3.5	36 838	5.3	12 463	5.9	306.6	6.1
Other metal processing (1)	154.0	38.6	134 749	19.3	52 920	24.9	1 378.0	27.6
Miscellaneous fabricated metal products (1)	107.2	26.9	130 000	18.6	46 000	21.6	1 150.0	23.0

(1) Rounded estimates based on non-confidential data.
Source: Eurostat (SBS)

Table 7.2

Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Structural profile: ranking of top five Member States, 2004

			Share of non-financial business economy			
Rank	Value added (EUR million) (1)	Employment (thousands) (1)	No. of enterprises (2)	Turnover (2)	Value added (2)	Employment (2)
1	Germany (56 424)	Germany (1 041.2)	Slovenia (5.1 %)	Luxembourg (18.0 %)	Slovakia (9.6 %)	Slovenia (7.1 %)
2	Italy (36 172)	Italy (839.2)	Czech Republic (4.1 %)	Slovakia (6.9 %)	Slovenia (7.3 %)	Slovakia (6.8 %)
3	France (26 658)	France (553.6)	Slovakia (3.3 %)	Czech Republic (5.8 %)	Czech Republic (6.9 %)	Czech Republic (6.5 %)
4	United Kingdom (21 922)	Spain (433.7)	Italy (2.7 %)	Slovenia (5.8 %)	Italy (6.4 %)	Italy (5.7 %)
5	Spain (18 288)	United Kingdom (427.3)	Portugal (2.6 %)	Italy (5.5 %)	Romania (5.9 %)	Luxembourg (5.6 %)

(1) Greece and Malta, not available; Luxembourg, 2003.
(2) Ireland, Greece, Cyprus and Malta, not available; Luxembourg, 2003.
Source: Eurostat (SBS)

The metals and metal products manufacturing sector is also energy-intensive, particularly in the early, first processing activities. Another key area of policy and enterprise concern, therefore, is the availability of energy at affordable prices (see Chapter 13). The cost profile for those operating in the sector is further influenced by transport costs, environmental issues on emissions reductions, waste, water, and health and safety issues. The importance of innovation for the sector in order to remain competitive has prompted the establishment of a European Technology Platform on Sustainable Mineral Resources and a European Steel Technology Platform as part of the 7th Framework Programme for research, technological development and demonstration activities.

STRUCTURAL PROFILE

The metal and metal products manufacturing sector (NACE Subsection DJ) of the EU-27 had approximately 398 600 enterprises which created EUR 212.6 billion of value added in 2004, the highest contribution (4.2 %) of any industrial (NACE Sections C to E) NACE subsection to the value added of the non-financial business economy (NACE Sections C to I and K) – see Table 7.1. With 5.0 million persons employed in this sector throughout the EU-27 in 2004, metal and metal products manufacturing was also the biggest industrial employer and accounted for 4.0 % of the non-financial business economy workforce.

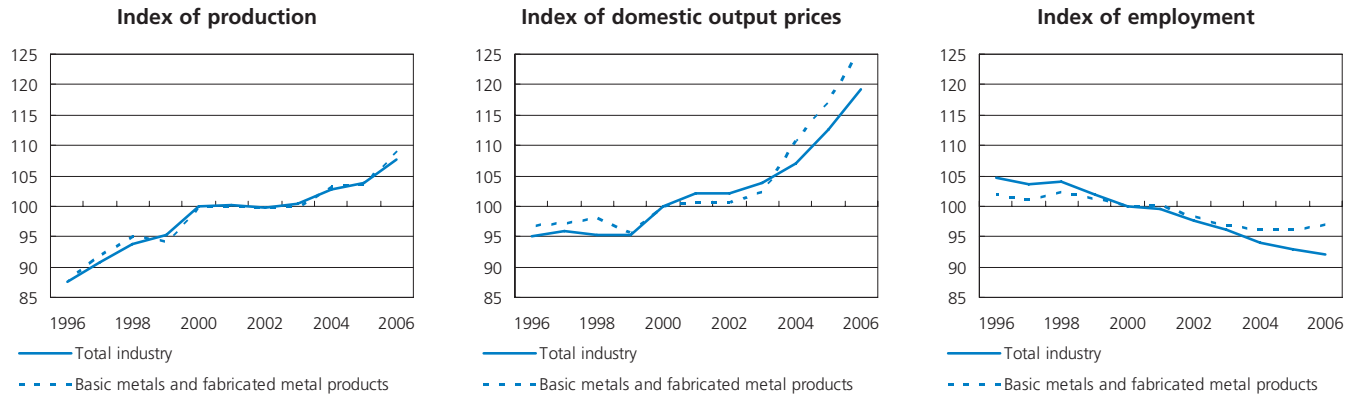
Within the metal and metal products sector the largest subsector (in terms of the activity coverage of Subchapters 7.1 to 7.7) was other metal processing (NACE Groups 28.4 and 28.5, Subchapter 7.6), contributing about one quarter of value added and employment; the manufacture of miscellaneous fabricated metal products (NACE Groups 28.6 and 28.7, Subchapter 7.7) contributed a little more than one fifth of value added and employment; the first processing of ferrous metal (NACE Groups 27.1 to 27.3) generated a little under one fifth of value added but a much smaller proportion (12.6 %) of employment - see Subchapter 7.1; and the manufacture of structural metal products (NACE Group 28.1, Subchapter 7.4) accounted for a little over one fifth of employment but a lower proportion (15.9 %) of value added. The other subsectors presented in Subchapters 7.2, 7.3 and 7.5 each accounted for less than 7 % of sectoral employment and value added.

Germany was by far the leading producer of metals and metal products in 2004, generating EUR 56.4 billion of value added, representing more than a quarter (26.5 %) of the EU-27's total, and employed 1.0 million persons, which corresponded to slightly more than a fifth (20.9 %) of the sectoral employment throughout the EU-27. Despite this high German contribution, the metals and metal products manufacturing sector was only the fourth largest industrial NACE subsection in value added terms in Germany, while it was the second largest in terms of industrial employment. Italy, France, the United Kingdom and Spain were the next largest producers (see Table 7.2), who together with Germany accounted for exactly three-quarters of the value added generated throughout the EU-27 in 2004.

Almost one-tenth (9.6 %) of the value added generated by the non-financial business economy as a whole in Slovakia came from its metal and metal products manufacturing sector, making it the most specialised Member State in this sector by this measure; the 0.6 % share of EU-27 value added generated by Slovakia in this sector was the highest contribution by Slovakia to the EU-27 total in any industrial NACE subsection in 2004. The metals and metal products manufacturing sector also contributed significant proportions of the value added generated across national non-financial business economies in Slovenia (7.3 %) and the Czech Republic (6.9 %).

Figure 7.1

Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Evolution of main indicators, EU-27 (2000=100)



Source: Eurostat (STS)

The map on page 138 shows, on a regional basis, the relative size of the metal and metal products manufacturing sector within the non-financial business economy in terms of employment. More than one in every seven workers within the non-financial business economy were employed in the metal and metal products manufacturing sector in Arnsberg (Germany), Východné Slovensko (Slovakia) and Norra Mellansverige (Sweden) in 2004, making them the most specialised regions (at the level of detail shown in the map). There were many regions across the Czech Republic, Germany, Spain, France, Italy, Slovakia and Sweden that were also specialised in this sector.

The development of the production index for metals and metal products manufacturing for the EU-27 during the ten years through until 2006 was very similar to the development of output for industry as a whole (see Figure 7.1), although the index of metals and metal products manufacturing tended to have somewhat larger fluctuations both when expanding and contracting. The average rates of growth in output over the ten years between 1996 and 2006 was 2.2 % per annum for metals and metal products manufacturing compared to 2.1 % per annum for industry as a whole.

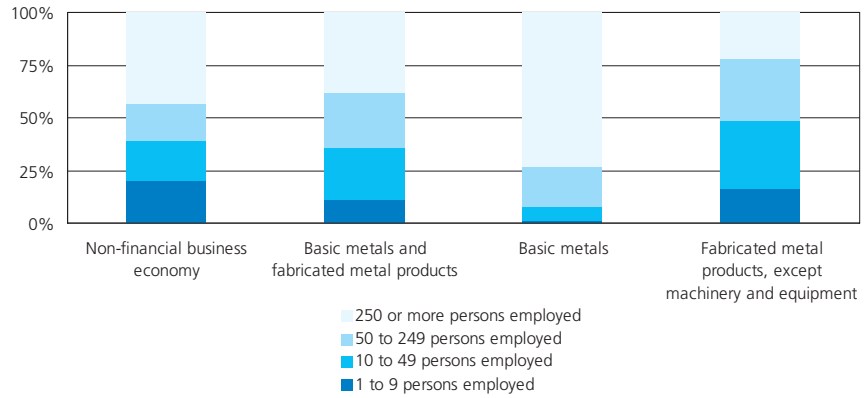
Within metal and metal products manufacturing, the average rate of growth (2.6 % per annum) in the output of the manufacture of fabricated metal products (NACE Division 28) during the ten years through until 2006 was much stronger than that (1.5 %) for the manufacture of basic metals (NACE Division 27). Among the dozen NACE groups that comprise metal and metal products manufacturing, the strongest rates of growth in output concerned the two other metal processing activities (see Subchapter 7.6); the annual average rate of growth in the output of forging, pressing, stamping and roll forming of metals (NACE Group 28.4) was 4.4 % per annum and that of the treatment and coating of metal and general mechanical engineering (NACE Group 28.5) was 4.2 % per annum.

The development of the EU-27's domestic output price index for metals and metal products manufacturing during the ten years between 1996 and 2006 reflected three patterns; firstly, there were relatively stable prices between 1996 and 1999, secondly, there was a rise in 2000 to a new plateau that was maintained through 2001 and 2002, and finally there was a strong upsurge in prices through until 2006. The rise in the domestic output price index between 1996 and 2002 was limited to 4.0 % but the index rose by 23.0 % in the last three years of the period under review, partly reflecting price increases for raw materials and energy. The rise in the domestic output price of basic metals was particularly strong after 2002 (a rise of 42.8 %), with the price increase in 2006 being even higher than 2005 in large part due to the surge (up 36.7 %) in the price of basic precious and non-ferrous metals (NACE Group 27.4).

In comparison to industry as a whole, the decline in the index of employment for metals and metal products manufacturing during the period between 1996 and 2006 was rather moderate (an average decline of 0.5 % per year compared with an average fall of 1.3 % per year for industry). Within metals and metal products manufacturing, however, there were net employment gains in the manufacture of fabricated metal products. Indeed, this NACE division was one of only a few industrial divisions for which the index of employment rose during the most recent ten-year period for which data are available, with an average increase of 0.5 % per annum.

Small and medium-sized enterprises (SMEs), which employ less than 250 persons, generated the majority (61.6 %) of value added in the EU-27's metals and metal products manufacturing sector in 2004. Within the sector, however, there was a distinct difference between the dominance of large enterprises (that employ 250 persons or more) in the manufacture of basic metals (accounting for 74.7 % of the value added generated by this activity) and the dominance of SMEs in the manufacture of fabricated metal products (accounting for 77.5 % of value added). This dichotomy placed these two subsectors at odds with the average situation across the non-financial business economy, for which SMEs contributed a relatively small majority (57.0 %) of value added – see Figure 7.2. These structural differences were also apparent in terms of relative shares of employment.

Figure 7.2
Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Share of value added by enterprise size class, EU-27, 2004



Source: Eurostat (SBS)

EMPLOYMENT CHARACTERISTICS

A little more than eight in every ten workers (84.4 %) within the metals and metal products manufacturing sector of the EU-27 were male, a much higher share than across the non-financial business economy as a whole (65.0 %) – see Figure 7.3 – a characteristic that was noted across all of the Member States for which information was available [(1)]. Almost all (94.8 %) of the metals and metal products manufacturing workforce of the EU-27 were in full-time employment, a proportion rather more in keeping with the industrial average (92.4%) than the non-financial business economy average (85.6 %), which was a characteristic generally noted among the Member States. The age profile of the metal and metal products manufacturing workforce of the EU-27 was quite similar to the profile among the whole of the non-financial business economy workforce, albeit with a slightly lower share of workers aged 15 to 29 and slightly higher proportion of workers aged 50 or more. Among the Member States, the share of workers aged under 30 in the metals and metal products sector was closer to half of the share across the non-financial business economy in Bulgaria, Denmark, Latvia, Luxembourg (2003), Romania and the United Kingdom, generally with the share of workers aged over 50 years being disproportionately high.

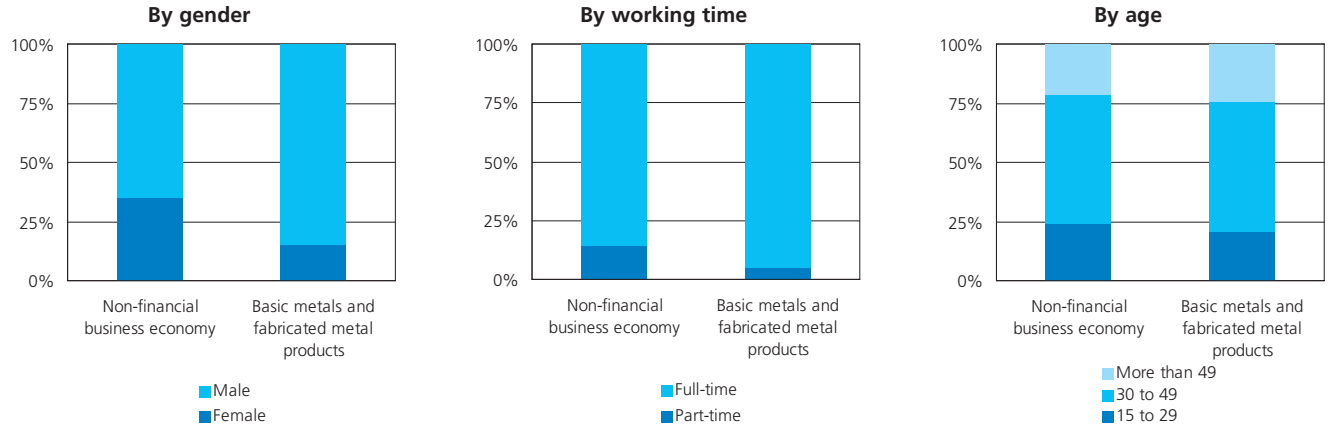
The proportion of paid employees among the number of persons employed by the metals and metal products sector was 92.5 % in 2004, a higher proportion than across the non-financial business economy as a whole (86.2 %).

COSTS, PRODUCTIVITY AND PROFITABILITY

As a proportion of total expenditure within the metals and metal products manufacturing sector of the EU-27, tangible investment accounted for a share (4.1 %) that was a little less than that (4.9 %) for the non-financial business economy in 2004. In contrast, the share of total expenditure accounted for by personnel costs in the sector (21.1 %) was notably higher than that across the non-financial business economy (16.4 %) in 2004. In part, this reflected the fact that the average personnel costs of EUR 30 400 per employee in the sector across the EU-27 were about one-tenth higher than the average across the non-financial business economy.

[(1)] Luxembourg and Malta, not available.

Figure 7.3
Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Labour force characteristics, EU-27, 2006



Source: Eurostat (LFS)

Table 7.3

Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Productivity and profitability, EU-27, 2004

	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
Basic metals and fabricated metal products	42.6	30.4	140.2	10.3
First processing of ferrous metals (1)	66.0	37.0	180.0	10.3
Basic precious and non-ferrous metals	62.8	40.1	156.4	6.9
Casting of metals	39.9	30.6	130.3	8.7
Structural metal products	32.9	25.2	130.8	10.1
Boilers, metal containers and steam generators	40.7	33.0	123.0	7.0
Other metal processing	38.4	29.7	129.2	12.0
Miscellaneous fabricated metal products (1)	40.0	29.0	138.0	12.4

(1) Rounded estimates based on non-confidential data.
Source: Eurostat (SBS)

Table 7.4

Basic metals and fabricated metal products (CPA Subsection DJ)
External trade, EU-27, 2006

	Extra-EU exports		Extra-EU imports			
	(EUR million)	(% share of industrial exports)	(EUR million)	(% share of industrial imports)	Trade balance (EUR million)	Cover ratio (%)
Basic metals and fabricated metal products	90 147	8.3	104 480	8.3	-14 333	86.3
Basic iron and steel and ferro-alloys; tubes; other iron and steel	36 928	3.4	33 027	2.6	3 901	111.8
Basic precious metals and other non-ferrous metals	23 740	2.2	49 632	4.0	-25 892	47.8
Foundry work services	:	:	:	:	:	:
Structural metal products	5 086	0.5	1 572	0.1	3 515	323.6
Tanks, reservoirs and containers of metal; central heating radiators and boilers; steam generators, except central heating hot water boilers	2 981	0.3	1 060	0.1	1 921	281.3
Other metal processing	:	:	:	:	:	:
Cutlery, tools and general hardware; other fabricated metal products	21 412	2.0	19 190	1.5	2 222	111.6

Source: Eurostat (Comext)

The apparent labour productivity of the EU-27's metals and metal products manufacturing sector was EUR 42 600 per person employed in 2004 (see Table 7.3), a little above (4.2 %) the level of the non-financial business economy but some EUR 6 400 lower than the industrial average. Although the apparent labour productivity of the sector more than covered its average personnel costs, the wage adjusted labour productivity ratio of 140.2 % was lower than the non-financial business economy ratio (148.0 %) and among the lower tier of industrial NACE subsections. The gross operating rate of the EU-27's metals and metal products manufacturing sector was 10.3 %, again a slightly lower rate than the non-financial business economy average (11.0 %), indicating a lower rate of operating profitability.

The highest wage adjusted labour productivity level (180.0 %) was for the first processing of ferrous metals subsector and the lowest (123.0 %) for the boilers, metal containers and steam generators subsector. The highest rates of operating profitability were in the miscellaneous fabricated metals subsector and the other metal processing subsector (both around 12 %), with the lowest rate being in the basic precious and non-ferrous metals subsector (6.9 %).

EXTERNAL TRADE

The EU-27 had a trade deficit of EUR 14.3 billion in metals and fabricated metal products (CPA Subsection DJ) in 2006, following a trade surplus of EUR 2.0 billion in 2005. This turnaround reflected a sharp rise in the value of imports from non-member countries to EUR 104.5 billion, the highest shares of which came from Russia (12.9 %) and China (12.8 %). The value of EU-27 exports of metals and fabricated metal products increased to EUR 90.1 billion in 2006, accounting for 8.3 % of industrial exports (see Table 7.4). In 2006 trade with non-member countries accounted for 26.3 % of all exports (intra- and extra-EU) by the EU-27 Member States and 30.3 % of imports.

Exports (intra- and extra-EU) of metals and fabricated metal products from Germany were valued at EUR 81.1 billion, accounting for a little less than one quarter (23.7 %) of all exports by EU-27 Member States. Among the Member States, Germany also had the largest trade surplus (EUR 12.9 billion) in metal and fabricated metal products, with other sizeable trade surpluses recorded for Belgium (EUR 4.2 billion), the Netherlands, Austria, Finland and Sweden (all between EUR 1.9 billion and EUR 2.4 billion). In contrast, Spain and Italy had the largest trade deficits in these products (EUR 6.7 billion and EUR 5.9 billion respectively).

It is also worth noting that the share of metals and fabricated metal products exports in national industrial exports (intra- and extra-EU) was highest in Bulgaria (28.7 %), where such goods accounted for the highest proportion of industrial exports (at the level of CPA subsections), and Luxembourg (21.3 %), where they accounted for the second highest proportion of industrial exports after electrical and optical equipment (CPA Subsection DL).

7.1: FIRST PROCESSING OF FERROUS METALS

This subchapter includes information on NACE Groups 27.1 to 27.3. The first of these covers the manufacture of basic iron and steel and ferro-alloys (NACE Group 27.1). The manufacture of tubes (be they of iron or steel) is included in NACE Group 27.2, while other first processing activities associated with iron and steel (drawing, rolling, forming, wire drawing) are covered by NACE Group 27.3. The aggregate covering all three of these activities is hereafter referred to as the first processing of ferrous metals.

The consumption of crude steel by China during the current period of rapid industrialisation represented a little less than one-third (30.9 %) of global consumption in 2006 according to the International Iron and Steel Institute [2]. This strong demand at a time of supply bottlenecks has led to sharply higher prices. China was also the largest producer of steel in the world in 2006, accounting for a little over one third (34.0 %) of global production, a little more than double the share (16.5 %) of EU-27 production in 2006.

There has been a recent round of consolidation in the global market, with the merger of Mittal Steel and Arcelor in 2006 creating the largest steel manufacturing enterprise in the world (see Table 7.5). This was followed by the buy-out of the Corus Group by Tata Steel of India.

[2] IISI (International Iron and Steel Institute), more information at: http://www.worldsteel.org.

Table 7.5

Largest global steel producing enterprise (groups) (million tonnes of crude steel output)

	2005	2006
Arcelor Mittal (1)	:	117.2
Nippon Steel	32.0	32.7
JFE	29.9	32.0
POSCO	30.5	30.1
Baosteel	22.7	22.5
U.S. Steel	19.3	21.2
Nucor	18.4	20.3
Tangshan	16.1	19.1
Corus Group	18.2	18.3
Riva Group	17.5	18.2

(1) 2005 tonnages, Mittal Steel (63.0) and Arcelor (46.7).
Source: IISI (International Iron and Steel Institute), http://www.worldsteel.org

STRUCTURAL PROFILE

The first processing of ferrous metals sector (NACE Groups 27.1 to 27.3) had some 6 000 enterprises which generated EUR 41.0 billion of value added across the EU-27 in 2004, accounting for a little less than one fifth (19.3 %) of the value added generated by metals and metal products manufacturing as a whole (NACE Subsection DJ). The sector was much smaller in terms of its workforce, the 630 000 persons employed across the EU-27 accounting for 12.6 % of those employed in metals and metal products manufacturing. Within the first processing of ferrous metals sector, the manufacture of basic iron and steel (NACE Group 27.1) was by far the largest activity among the three NACE groups covered, accounting for about three-quarters (75.2 %) of value added and two-thirds of employment (66.9 %). The next largest activity was the manufacture of tubes (NACE Group 27.2), which generated 14.6 % of sectoral value added and accounted for 20.6 % of the sectoral workforce. The remaining was accounted for by other first processing of iron and steel (NACE Group 27.3).

Table 7.6

Manufacture of basic iron and steel and of ferro-alloys; manufacture of tubes; other first processing of iron and steel (NACE Groups 27.1, 27.2 and 27.3)
Structural profile, EU-27, 2004

	No. of enterprises (thousands)	Turnover (EUR million)	Value added (EUR million)	Employment (thousands)
First processing of ferrous metals (1)	6.0	187 000	41 000	630.0
Basic iron and steel and of ferro-alloys	2.1	141 694	30 866	421.4
Tubes (1)	1.9	25 000	6 000	130.0
Other first processing of iron and steel	1.9	20 372	4 512	74.4

(1) Rounded estimate based on non-confidential data.
Source: Eurostat (SBS)

Table 7.7

Manufacture of basic iron and steel and of ferro-alloys; manufacture of tubes; other first processing of iron and steel (NACE Groups 27.1, 27.2 and 27.3)
Structural profile: ranking of top five Member States, 2004

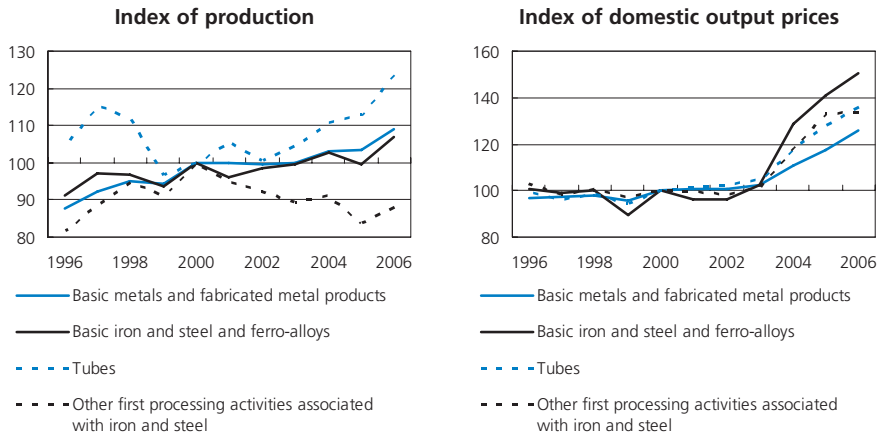
Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (2)	Value added specialisation ratio (EU-27=100) (3)	Employment specialisation ratio (EU-27=100) (4)
1	Germany (24.9)	Germany (20.4)	Romania (410.2)	Sweden (261.2)
2	Italy (14.6)	Italy (12.0)	Bulgaria (276.9)	Romania (246.9)
3	France (10.5)	France (9.0)	Czech Republic (271.0)	Czech Republic (196.6)
4	Spain (8.8)	Romania (7.9)	Finland (230.4)	Belgium (196.1)
5	Belgium (6.0)	Spain (6.2)	Belgium (221.6)	Finland (182.5)

(1) Estonia, Greece, Cyprus, Latvia, Luxembourg, Malta, Netherlands and Slovakia, not available; Portugal and Slovenia, 2003.
(2) Estonia, Greece, Cyprus, Luxembourg, Malta, Netherlands and Slovakia, not available; Portugal and Slovenia, 2003.
(3) Estonia, Ireland, Greece, Cyprus, Latvia, Luxembourg, Malta, Netherlands and Slovakia, not available; Portugal and Slovenia, 2003.
(4) Estonia, Ireland, Greece, Cyprus, Luxembourg, Malta, Netherlands and Slovakia, not available; Portugal and Slovenia, 2003.
Source: Eurostat (SBS)

Almost exactly one-quarter of the value added generated by the first processing of ferrous metals sector across the EU-27 as a whole came from Germany (see Table 7.7), the next largest contributions coming from Italy (14.6 %) and France (10.5 %). These three Member States also had the largest sectoral workforces (a combined 41.4 %). It is interesting to note the contrast between the relative size of the sector in terms of employment and value added in Romania and the Czech Republic; the first processing of ferrous metals sector in Romania accounted for 7.9 % of the EU-27 workforce and in the Czech Republic this share was 5.6 %, whereas these Member States accounted for only 1.7 % and 2.8 % of EU-27 value added. Relative to the value added generated across their respective non-financial business economies, Romania, the Czech Republic and Bulgaria were the most specialised Member States in the activities covered by this sector.

Figure 7.4

Manufacture of basic iron and steel and of ferro-alloys; manufacture of tubes; other first processing of iron and steel (NACE Groups 27.1, 27.2 and 27.3)
Evolution of main indicators, EU-27 (2000=100)



Source: Eurostat (STS)

The development of the production index for the manufacture of basic iron and steel in the EU-27 was similar to that for metals and metal products manufacturing as a whole, with average growth of 1.6 % per annum between 1996 and 2006. In contrast, the evolution of the production indices for the other two NACE groups was far more variable. After staggered but strong growth in the output of other first processing of iron and steel activities between 1996 and 2000, there was an almost equally strong decline through until 2005, before a slight rebound in 2006. After the relative low in 1999, there was strong growth (3.5 % per annum) in the production index for the manufacture of tubes through until 2006, albeit with a short-lived cutback in output in 2002.

COSTS, PRODUCTIVITY AND PROFITABILITY

The apparent labour productivity of the EU-27's first processing of ferrous metals sector was EUR 66 000 per person employed in 2004, an average EUR 23 400 more than across metals and metal products manufacturing as a whole – see Table 7.8 – the highest level among Subchapters 7.1 to 7.7. Average personnel costs were also relatively high at EUR 37 000 per employee. When comparing these two ratios, personnel costs per employee were more than covered by the value added per person employed, the resulting wage adjusted productivity ratio of 180.0 % being much higher than the average (140.2 %) of metals and metal products manufacturing as a whole. Among the three subsectors, the manufacture of basic iron and steel had the highest wage adjusted labour productivity ratio of 197.3 % in 2004, as well as having the highest gross operating rate (10.8 %).

EXTERNAL TRADE

EU-27 exports of ferrous metals (CPA Groups 27.1 to 27.3) were valued at EUR 36.9 billion in 2006, accounting for 41.0 % of the value of metals and fabricated metal product exports (see Table 7.9). The United States and Turkey were the main export markets for ferrous metals, accounting for a little over one quarter (a combined 26.4 %) of the value of EU-27 exports. During the period between 2001 and 2006, the value of exports of ferrous metals from the EU-27 doubled but the internal market still accounted for the overwhelming majority (74.1 %) of all trade (both intra and extra-EU) by EU-27 Member States in 2006. During the same period, the value of imports from non-member countries tripled to EUR 33.0 billion in 2006, with Russia and China accounting for a little under one-third (a combined 30.3 %) of these imports.

Table 7.8

Manufacture of basic iron and steel and of ferro-alloys; manufacture of tubes; other first processing of iron and steel (NACE Groups 27.1, 27.2 and 27.3)
Productivity and profitability, EU-27, 2004

	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
First processing of ferrous metals (1)	66.0	37.0	180.0	10.3
Basic iron and steel and of ferro-alloys	73.2	37.1	197.3	10.8
Tubes (1)	50.0	35.0	140.0	8.0
Other first processing of iron and steel	60.6	36.5	166.0	9.1

(1) Rounded estimates based on non-confidential data.
Source: Eurostat (SBS)

Table 7.9

Basic iron and steel and ferro-alloys; tubes; other iron and steel (CPA Groups 27.1, 27.2 and 27.3)
External trade, EU-27, 2006

	Extra-EU exports		Extra-EU imports			
	(EUR million)	(% share of chapter)	(EUR million)	(% share of chapter)	Trade balance (EUR million)	Cover ratio (%)
Basic iron and steel and ferro-alloys; tubes; other iron and steel	36 928	41.0	33 027	31.6	3 901	111.8
Basic iron and steel and ferro-alloys	24 106	26.7	26 614	25.5	-2 508	90.6
Tubes	10 869	12.1	3 427	3.3	7 442	317.2
Other first processed iron and steel	1 953	2.2	2 986	2.9	-1 032	65.4

Source: Eurostat (Comext)

The EU-27's trade surplus in ferrous metals narrowed to EUR 3.9 billion in 2006, down from the relative peak of EUR 8.3 billion in 2005. Within ferrous metals, tubes (CPA Group 27.2) generated a trade surplus of EUR 7.4 billion in 2006, a little less than twice as much as the trade surplus in 2004. In contrast, there were trade deficits of EUR 1.0 billion for other first processed iron and steel (CPA Group 27.3) and EUR 2.5 billion for basic iron and steel and ferro-alloys (CPA Group 27.1) in 2006.

Among the EU-27 Member States, a little over one fifth (20.2 %) of ferrous metal exports (intra- and extra-EU) came from Germany in 2006, making it by far the largest exporter. Germany also recorded the largest trade surplus for ferrous metals (EUR 5.4 billion), closely followed by Belgium (EUR 4.7 billion). As a proportion of industrial exports, however, ferrous metals were particularly significant in Luxembourg (15.5 %) and Latvia (10.7 %) compared to other Member States and the EU-27 average (3.4 %).

7.2: BASIC PRECIOUS AND NON-FERROUS METALS

NACE Group 27.4 covers the manufacture of a wide range of metals other than iron and steel, including precious metals (such as gold, silver and platinum) and common metals (aluminium, lead, zinc, tin, copper, chrome, nickel and manganese), hereafter referred to as basic precious and non-ferrous metals manufacturing.

STRUCTURAL PROFILE

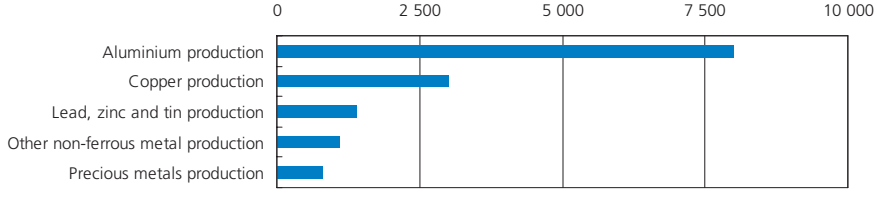
There were some 3 300 enterprises in the EU-27's basic precious and non-ferrous metals manufacturing (NACE Group 27.4) sector, which generated EUR 14.3 billion of value added and employed 228 300 persons across the EU-27 in 2004, making it one of the smaller activities within the manufacturing activities of metals and metal products (NACE Subsection DJ); it accounted for 6.7 % of value added and 4.6 % of the employment within metals and metal products manufacturing. Within the five NACE Classes that make-up the EU-27's basic precious and non-ferrous metals manufacturing sector, aluminium production was the largest activity, with EUR 8.0 billion of value added recorded in 2004.

The value added generated by the basic precious and non-ferrous metals manufacturing sector in Germany was EUR 4.6 billion in 2004, almost one third (32.3 %) of the value added generated by the sector across the EU-27 and a little more than the combined value added of the three next largest Member States, namely Italy, France and the United Kingdom (each with value added of EUR 1.5 billion) - see Table 7.10. The structure of the basic precious and non-ferrous metals manufacturing sector in terms of employment was very similar. As a proportion of the value added generated across their respective non-financial business economies, the precious and non-ferrous metals manufacturing sectors of Slovakia and Bulgaria generated the highest value added in 2004, approaching three times the average contribution (0.3 %) across the EU-27. Romania and Belgium were also relatively specialised in this activity.

There was a similar strong upward development in the production index for basic precious and non-ferrous metals manufacturing between 1996 and 2000 to that of metals and metal products manufacturing as a whole. Whereas the output of metals and metal products manufacturing then stabilised through until 2003 before rising strongly through until 2006, the output of basic precious and non-ferrous metals manufacturing declined steadily through until 2003 after which there was a partial rebound to a level in

Figure 7.5

Manufacture of basic precious and non-ferrous metals (NACE Group 27.4)
Value added, EU-27, 2004 (EUR million) (1)



(1) Rounded estimates based on non-confidential data.
Source: Eurostat (SBS)

Table 7.10

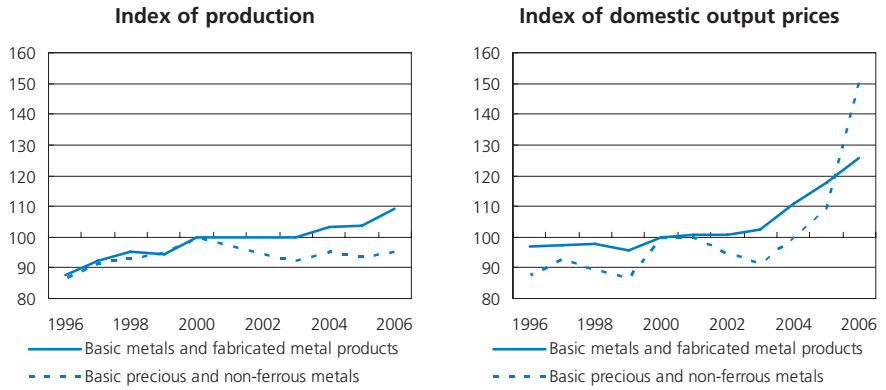
Manufacture of basic precious and non-ferrous metals (NACE Group 27.4)
Structural profile: ranking of top five Member States, 2004

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (1)	Value added specialisation ratio (EU-27=100) (2)	Employment specialisation ratio (EU-27=100) (2)
1	Germany (32.3)	Germany (27.5)	Slovakia (285.1)	Belgium (206.9)
2	United Kingdom (10.3)	Italy (10.4)	Bulgaria (276.6)	Slovakia (167.5)
3	Italy (10.1)	France (9.1)	Romania (208.4)	Germany (166.4)
4	France (10.1)	United Kingdom (8.6)	Belgium (192.6)	Sweden (160.6)
5	Spain (6.7)	Spain (6.3)	Hungary (165.5)	Bulgaria (158.5)

(1) Estonia, Greece, Cyprus, Luxembourg and Malta, not available; Lithuania, Portugal and Slovenia, 2003.
(2) Estonia, Ireland, Greece, Cyprus, Lithuania, Luxembourg and Malta, not available; Portugal and Slovenia, 2003.
Source: Eurostat (SBS)

Figure 7.6

Manufacture of basic precious and non-ferrous metals (NACE Group 27.4)
Evolution of main indicators, EU-27 (2000=100)



Source: Eurostat (STS)

2006 that remained 4.7 % below the relative peak of 2000 (see Figure 7.6). The domestic output price index for basic precious and non-ferrous metals manufacturing fluctuated within a relatively narrow range during the period between 1996 and 2003, during which growth was limited to an average 0.6 % per annum. After 2003, however, there were very strong price rises of a combined 63.9 % in the three years up to and including 2006, which far outstripped the rate of price increase for metals and metal products manufacturing as a whole.

COSTS, PRODUCTIVITY AND PROFITABILITY

Average personnel costs with the EU-27's basic precious and non-ferrous metals sector were EUR 40 100 per employee in 2004, the highest level among the dozen NACE groups that comprise metals and metal products manufacturing and almost half as much (45.3 %) as the average across the non-financial business economy. Despite these high average personnel costs across the sector, relative to total expenditure, personnel costs accounted for a relatively low share (12.1 %) compared to both the non-financial business economy (16.4 %) and the metals and metal products manufacturing as a whole (21.1 %).

The high personnel costs in the sector were also more than covered by an apparent labour productivity of EUR 62 800 per person employed in the EU-27. As a result, the wage adjusted labour productivity ratio of 156.4 % for the basic precious and non-ferrous metals sector of the EU-27 in 2004 was higher than the non-financial business economy average (148.0 %) and more particularly the ratio for metals and metal products manufacturing (140.2 %).

The wage adjusted labour productivity of the basic precious and non-ferrous metals sector was the same or higher than the non-financial business economy ratio in almost all the Member States (the main exception being Denmark) and was notably higher in Slovakia, where the ratio of 446.0 % for the sector compared to an average 207.0 % across its non-financial business economy.

In contrast, the gross operating rate (6.9 %) of the EU-27's basic precious and non-ferrous metals sector was the lowest among the seven subchapters of this metals and metal products chapter and considerably lower than the rate (11.0 %) for the non-financial business economy.

EXTERNAL TRADE

The EU-27 had a trade deficit of EUR 25.9 billion in basic precious metals and other non-ferrous metals (CPA Group 27.4) in 2006, which was the fourth largest deficit among all of the CPA groups that comprise industrial (CPA Sections C to E) products and double the deficit that had been recorded in 2005. The considerable widening of the deficit in large part reflected the surge in the value of imports of basic precious metals and other non-ferrous metals to EUR 49.6 billion (see Table 7.11), a large part of which was explained by the sharp rise in prices. The main markets from which the EU-27 imported basic precious metals and non-ferrous metals were Russia (14.8 % of EU-27 imports), Chile (12.4 %) and Norway (10.4 %). The main imports of basic precious metals and other non-ferrous metals to the EU-27 concerned aluminium and aluminium products (CPA Class 27.42), valued at EUR 15.2 billion, copper products (CPA Class 27.44), valued at EUR 14.2 billion, and precious metals (CPA Class 27.41) which were valued at EUR 10.2 billion. Trade of these three types of basic precious metals or other non-ferrous metals generated a deficit between EUR 5.1 billion to EUR 8.4 billion in 2006.

Although the vast majority of the Member States recorded trade deficits (intra- and extra-EU combined) for basic precious metals and other non-ferrous metals, including Germany who was the principal exporter, there were small trade surpluses in Bulgaria (EUR 1.5 billion), Poland (EUR 1.3 billion) and Finland (EUR 1.1 billion), as well as even smaller surpluses below EUR 300 million in Romania, Luxembourg, the Netherlands, Slovakia, Latvia and Ireland.

Table 7.11

Basic precious metals and other non-ferrous metals (CPA Group 27.4)
External trade, EU-27, 2006

	Extra-EU exports		Extra-EU imports			
	(EUR million)	(% share of chapter)	(EUR million)	(% share of chapter)	Trade balance (EUR million)	Cover ratio (%)
Basic precious metals and other non-ferrous metals	23 740	26.3	49 632	47.5	-25 892	47.8
Precious metals	5 152	5.7	10 248	9.8	-5 096	50.3
Aluminium and aluminium products	6 761	7.5	15 173	14.5	-8 411	44.6
Lead, zinc and tin and products thereof	990	1.1	2 386	2.3	-1 396	41.5
Copper production	7 688	8.5	14 237	13.6	-6 549	54.0
Other non-ferrous metal production	3 149	3.5	7 589	7.3	-4 439	41.5

Source: Eurostat (Comext)

7.3: CASTING

NACE Group 27.5 covers the casting of metals (including iron, steel, light metals and other non-ferrous metals). As such, this activity specialises in the manufacture of semi-finished castings for downstream customers. The information presented does not include the manufacture of standardised, finished products (such as tubes, see Subchapter 7.1) or boilers or radiators (see Subchapter 7.5). Note that external trade statistics are not available for foundry work services (CPA Group 27.5).

Foundry work consists of pouring a molten metal alloy into a mould to obtain a part with the same shape as the mould after it solidifies, and uses casting procedures appropriate for the alloy used, the number of parts to be made, and their shape and weight. Main downstream activities for casting enterprises include machinery and equipment and transport equipment manufacturers, as well as the construction and telecommunications sectors.

Table 7.12

Casting of metals (NACE Group 27.5)
Structural profile, EU-27, 2004 (1)

	No. of enterprises (thousands)	Turnover (EUR million)	Value added (EUR million)	Employment (thousands)
Casting of metals	6.5	31 294	10 924	273.7
Casting of iron	1.8	11 600	4 000	110.0
Casting of steel	0.5	3 610	1 410	35.2
Casting of light metals	2.1	11 500	4 080	90.0
Casting of other non-ferrous metals	2.0	4 580	1 430	34.8

(1) Rounded estimate based on non-confidential data.
Source: Eurostat (SBS)

STRUCTURAL PROFILE

The casting of metals (NACE Group 27.5) sector consisted of approximately 6 500 enterprises which generated EUR 10.9 billion of value added across the EU-27 in 2004, making the smallest contribution (5.1 %) to the total value added of the metals and metal products manufacturing sector (NACE Subsection DJ) of all of the activities presented in Subchapters 7.1 to 7.7. The sector employed 273 700 persons across the EU-27 in 2004, corresponding to 5.5 % of the metals and metal products manufacturing workforce, a slightly higher share than that recorded for basic precious and non-ferrous metals (NACE Group 27.4).

The casting of metals sector in Germany generated a little over one third (36.1 %) of the value added generated by the sector across the EU-27, by far the largest contribution and far greater than the next highest shares from Italy (16.2 %) and France (11.9 %) – see Table 7.13. However, the proportional contribution made by the sector to the value added of the non-financial business economy was highest in Slovenia (0.7 % in 2003) – more than three times the average share across the EU-27. In these terms, the Czech Republic and then Germany were the next most specialised Member States in the casting of metals.

Table 7.13

Casting of metals (NACE Group 27.5)
Structural profile: ranking of top five Member States, 2004

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (2)	Value added specialisation ratio (EU-27=100) (3)	Employment specialisation ratio (EU-27=100) (4)
1	Germany (36.1)	Germany (25.6)	Slovenia (319.4)	Slovenia (300.4)
2	Italy (16.2)	Italy (13.2)	Czech Republic (207.7)	Czech Republic (252.6)
3	France (11.9)	France (11.9)	Germany (172.2)	Germany (154.7)
4	Spain (9.6)	Spain (7.9)	Italy (145.6)	Bulgaria (127.7)
5	United Kingdom (8.7)	United Kingdom (7.9)	Austria (135.6)	Poland (122.9)

(1) Greece, Latvia, Luxembourg, Malta, Netherlands and Slovakia, not available; Estonia, Lithuania, Portugal and Slovenia, 2003.
(2) Greece, Luxembourg, Malta, Netherlands and Slovakia, not available; Estonia, Lithuania, Portugal and Slovenia, 2003.
(3) Ireland, Greece, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Netherlands and Slovakia, not available; Estonia, Portugal and Slovenia, 2003.
(4) Ireland, Greece, Cyprus, Lithuania, Luxembourg, Malta, Netherlands and Slovakia, not available; Estonia, Portugal and Slovenia, 2003.
Source: Eurostat (SBS)

The index of production for EU-27 casting of metals followed closely the development in output for the manufacture of metals and metal products as a whole between 1996 and 2006, growing by an average 1.9 % per annum. The development of the domestic output price index was also very similar between the two sets of activities in the period between 1996 and 2003, in that they both remained relatively unchanged, but since then the rise in the price for metals and metals products manufacturing far outpaced that of the casting of metals.

COSTS, PRODUCTIVITY AND PROFITABILITY

Average personnel costs in the EU-27's casting of metals sector were EUR 30 600 per employee in 2004 (see Table 7.14), almost the same as across the manufacture of metals and metal products as a whole. However, as a proportion of total expenditure, personnel costs in the sector accounted for a relatively high share (26.9 %) both in comparison to metals and metal products manufacturing (21.1 %) and more particularly the non-financial business economy (16.4 %). The apparent labour productivity level of EUR 39 900 per person employed in the casting of metals sector was very slightly lower (2.4 %) than the non-financial business economy level but more than covered personnel costs. The wage adjusted labour productivity level of 130.3 % for the EU-27's casting of metals sector, however, was somewhat lower than the level for metals and metal products manufacturing as a whole (140.2 %) and more clearly lower than the level for the non-financial business economy (148.0 %). The relatively low wage adjusted labour productivity levels for the casting of metals sector in comparison to the non-financial business economy was a characteristic noted in almost all of the Member States [3], with the exception of Spain and Italy where it was slightly higher.

The profitability of the casting of metals sector, as indicated by the gross operating rate, was also lower (at 8.7 %) than for metals and metal products manufacturing as a whole (10.3 %) and the non-financial business economy (11.0 %). The major exception to this characteristic among the Member States concerned Hungary, where the gross operating rate of the sector was 11.4 % and that of its non-financial business economy was 8.8 %.

[3] Estonia, Portugal and Slovenia, 2003; Ireland, Greece, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Netherlands and Slovakia, not available.

Table 7.14

Casting of metals (NACE Group 27.5)
Productivity and profitability, EU-27, 2004 (1)

	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
Casting of metals	39.9	30.6	130.3	8.7
Casting of iron	35.0	28.0	120.0	7.2
Casting of steel	40.2	32.0	126.0	8.5
Casting of light metals	45.4	32.7	139.0	10.4
Casting of other non-ferrous metals	41.2	31.9	129.0	8.2

(1) Rounded estimates based on non-confidential data.
Source: Eurostat (SBS)

7.4: STRUCTURAL METAL PRODUCTS

This subchapter includes information on NACE Group 28.1 that covers the manufacture of structural metal products. The vast majority of the products that are produced within this activity are destined for the construction sector (see Chapter 15), for example, as metal supports and structures, prefabricated buildings, metal doors, window frames, or shutters. Demand is therefore closely linked to developments in the construction sector for new housing, renovation and civil engineering projects.

Table 7.15

Manufacture of structural metal products (NACE Group 28.1)
Structural profile, EU-27, 2004

	No. of enterprises (thousands)	Turnover (EUR million)	Value added (EUR million)	Employment (thousands)
Structural metal products	107.4	103 944	33 894	1 029.6
Metal structures and parts of structures (1)	50.0	75 100	23 900	690.0
Builders' carpentry and joinery of metal (1)	57.7	28 900	9 950	340.0

(1) Rounded estimate based on non-confidential data.
Source: Eurostat (SBS)

STRUCTURAL PROFILE

There were 107 400 enterprises with their core activities in the structural metals products (NACE Group 28.1) sector which employed 1.0 million persons across the EU-27 and generated EUR 33.9 billion of value added in 2004, which corresponded to a little more than one in every five people (20.6 %) within the metals and metal products (NACE Subsection DJ) manufacturing workforce and 15.9 % of its value added. The manufacture of metal structures and parts of structures subsector (NACE Class 28.11) was much larger than the manufacture of builders' carpentry and joinery of metal subsector (NACE Class 28.12), accounting for two-thirds (67.0 %) of the sectoral workforce and a slightly greater share (70.5 %) of value added.

Table 7.16

Manufacture of structural metal products (NACE Group 28.1)
Structural profile: ranking of top five Member States, 2004

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (1)	Value added specialisation ratio (EU-27=100) (2)	Employment specialisation ratio (EU-27=100) (2)
1	Germany (20.5)	Italy (18.8)	Italy (176.9)	Italy (160.2)
2	Italy (19.7)	Germany (16.3)	Austria (152.5)	Estonia (148.9)
3	Spain (13.5)	Spain (14.9)	Spain (150.3)	Spain (145.4)
4	United Kingdom (11.8)	United Kingdom (7.5)	Slovenia (136.0)	Portugal (139.6)
5	France (7.6)	Poland (6.6)	Estonia (128.1)	Romania (128.9)

(1) Greece and Malta, not available; Luxembourg, 2003.
(2) Ireland, Greece, Cyprus and Malta, not available; Luxembourg, 2003.
Source: Eurostat (SBS)

Table 7.17

Production of selected products - structural metal products (CPA Group 28.1), EU-27, 2006 (1)

	Prodcom code	Production value (EUR million)	Volume of sold production (thousands)	Unit of volume
Aluminium doors, thresholds for doors, windows and their frames	28.12.10.50	11 025	36 612	units
Aluminium structure and parts of structures..., n.e.c.	28.11.23.70	7 055	1 336 637	kg
Iron or steel doors, thresholds for doors, windows and their frames	28.12.10.30	6 458	c	units
Installation in situ of self produced metal structures	28.11.91.00	5 066	-	-
Structures, solely or principally of iron or steel sheet comprising two walls of profiled (ribbed) sheet with an insulating core (excluding prefabricated buildings)	28.11.23.40	3 057	1 648 836	kg
Iron/steel equipment for scaffolding, shuttering, propping/pit-propping including pit head frames and superstructures, extensible coffering beams, tubular scaffolding and similar equipment	28.11.23.10	3 056	2 633 121	kg
Iron or steel towers and lattice masts	28.11.22.00	1 919	c	kg
Iron or steel bridges and bridge-sections	28.11.21.00	1 230	773 377	kg
Prefabricated buildings, of aluminium	28.11.10.50	1 186	-	-
Weirs, sluices, lock-gates, fixed landing stages, fixed docks and other maritime and waterway structures of iron or steel	28.11.23.30	378	131 904	kg

(1) Estimated.
Source: Eurostat (PRODCOM)

The value added generated by the structural metals products sectors in Germany and Italy each accounted for about one-fifth (20.5 % and 19.7 % respectively) of the value added generated by the sector across the EU-27 (see Table 7.16). The contribution (1.2 %) made by the sector to the value added generated across the non-financial business economy was also highest in Italy, making it the most specialised Member State in this activity. Austria and Spain were the next most specialised Member States in structural metals products manufacturing, an activity for which the average contribution to the value added of the non-financial business economy across the EU-27 was 0.7 %.

The development of the production index for structural metals products manufacturing during the ten years through to 2006 was broadly similar to that of metals and metal products manufacturing as a whole, except that the period of relatively unchanged output that started in 2000 extended beyond 2003 to 2005. This helps explain why the average rate of growth (1.9 % per annum) in the output of structural metals products manufacturing was slightly lower than that of metals and metal products manufacturing. Similarly there was little difference in the development of the two domestic output price indices, although that for structural metals products manufacturing was slightly steadier and grew year-on-year throughout the ten years.

Table 7.18

Manufacture of structural metal products (NACE Group 28.1)
Productivity and profitability, EU-27, 2004

	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
Structural metal products	32.9	25.2	130.8	10.1
Metal structures and parts of structures (1)	34.7	26.4	132.0	9.3
Builders' carpentry and joinery of metal (1)	29.2	22.5	130.0	12.0

(1) Rounded estimates based on non-confidential data.
Source: Eurostat (SBS)

COSTS, PRODUCTIVITY AND PROFITABILITY

Average personnel costs of EUR 25 200 per employee within the EU-27's structural metal products manufacturing sector were the lowest among the dozen NACE groups that comprise metals and metal products manufacturing and 8.7 % lower than the average across the non-financial business economy. As a proportion of total expenditure, however, personnel costs in the sector accounted for a relatively high share (23.9 %), supporting the notion of this as a relatively low-cost, labour intensive sector. The apparent labour productivity of EUR 32 900 per person employed (see Table 7.18) was also the lowest among the NACE groups within the metals and metal products manufacturing and a fifth lower than the non-financial business economy average. It was enough, nevertheless, to cover personnel costs; as the wage adjusted labour productivity ratio was 130.8 % in 2004. The wage adjusted labour productivity ratio of the sector was lower than that of the national non-financial business economy in each of the Member States [4], except Bulgaria where it was very slightly higher. The gross operating rate for the structural metal products manufacturing sector was 10.1 % in 2004, which was very similar to this profitability measure for the whole of metals and metal products manufacturing and, therefore, a little less than the rate for the non-financial business economy (11.0 %).

[4] Luxembourg, 2003; Ireland, Greece, Cyprus and Malta, not available.

EXTERNAL TRADE

The EU-27's exports of structural metal products (CPA Group 28.1) to non-member countries were valued at EUR 5.1 billion in 2006, generating a trade surplus of EUR 3.5 billion. Since 2001, the trade surplus in these products has increased every year. Exports (intra- and extra-EU trade combined) of structural metal products from Germany accounted for a quarter of EU trade and the country recorded the highest trade surplus in these products (EUR 2.3 billion) among the Member States in 2006, more than double the next largest trade surplus that was recorded by Poland.

7.5: BOILERS, METAL CONTAINERS AND STEAM GENERATORS

This subchapter covers NACE Groups 28.2 and 28.3 together, which are referred to as the boilers, metal containers and steam generators manufacturing sector. The first of the groups covered includes the manufacture of metal tanks, reservoirs and containers, as well as central heating radiators and boilers, while the latter covers the manufacture of steam generators (except for central heating), for example, vapour generators, condensers or nuclear reactors.

The manufacture of boilers, containers and steam generators supplies various downstream sectors, most notably the construction (see Chapter 15) and energy (see Chapter 13) sectors.

STRUCTURAL PROFILE

The boilers, metal containers and steam generators manufacturing sector (NACE Groups 28.2 and 28.3) accounted for 14 000 enterprises which generated EUR 12.5 billion of value added in the EU-27, accounting for 5.9 % of the value added generated by metals and metal products manufacturing (NACE Subsection DJ), and employed 306 600 persons. France contributed the largest share (29.5 %) to the value added created by the boilers, metal containers and steam generators manufacturing sector across the EU-27, with Germany contributing the second highest amount (24.6 %) – see Table 7.20. The two NACE groups that compose this subchapter were of similar size both in terms of value added and employment.

Despite declines in the production index for the EU-27's manufacture of steam generators subsector (NACE Group 28.3) in 1997, 1999 and 2003, there was otherwise strong growth in the ten years through to 2006, at an average rate (2.5 % per annum) that was slightly more than the rate for metals and metal products manufacturing (2.2 % per annum). In contrast, there was much slower growth (an average 1.1 % per annum) in the output of boilers, reservoirs, containers and central heating radiators and boilers (NACE Group 28.2) during this period, the rate of growth being restricted by strong declines in 2000 and 2001.

Table 7.19

Manufacture of boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3)
Structural profile, EU-27, 2004 (1)

	No. of enterprises (thousands)	Turnover (EUR million)	Value added (EUR million)	Employment (thousands)
Boilers, metal containers and steam generators	14.0	36 838	12 463	306.6
Tanks, reservoirs and containers of metal; central heating radiators and boilers	6.1	20 322	6 444	160.1
Tanks, reservoirs and containers of metal	3.6	8 560	3 010	86.0
Central heating radiators and boilers	2.6	11 800	3 440	74.3
Steam generators, except central heating hot water boilers	8.2	16 515	6 019	146.5

(1) Rounded estimate based on non-confidential data.
Source: Eurostat (SBS)

Table 7.20

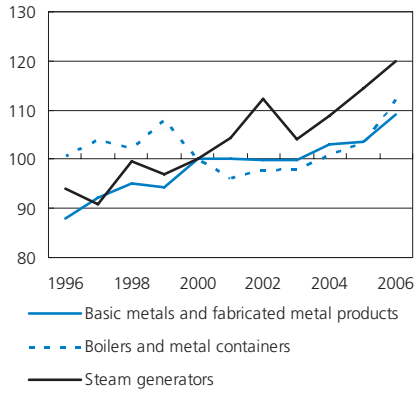
Manufacture of boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3)
Structural profile: ranking of top five Member States, 2004

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (2)	Value added specialisation ratio (EU-27=100) (1)	Employment specialisation ratio (EU-27=100) (2)
1	France (29.5)	France (28.1)	France (209.7)	France (245.9)
2	Germany (24.6)	Germany (17.0)	Czech Republic (158.5)	Finland (196.3)
3	United Kingdom (8.9)	Italy (8.0)	Belgium (149.0)	Czech Republic (185.9)
4	Italy (8.9)	Poland (8.0)	Romania (138.4)	Belgium (152.3)
5	Spain (5.6)	Spain (6.4)	Poland (131.9)	Romania (137.6)

(1) Denmark, Estonia, Ireland, Greece, Cyprus, Lithuania, Luxembourg, Malta and Netherlands, not available; Latvia and Slovenia, 2003.
(2) Denmark, Estonia, Ireland, Greece, Cyprus, Lithuania, Luxembourg and Malta, not available; Slovenia, 2003.
Source: Eurostat (SBS)

Figure 7.7

Manufacture of boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3)
Index of production, EU-27 (2000=100)



Source: Eurostat (STS)

COSTS, PRODUCTIVITY AND PROFITABILITY

The wage adjusted labour productivity of the EU-27's boilers, metal containers and steam generators manufacturing sector was 123.0 % in 2004 (see Table 7.21), the lowest rate of the seven subchapters within this chapter on metals and metal products manufacturing, reflecting average personnel costs (EUR 33 000 per employee) that were a little higher (8.6 %) than the metal and metal products manufacturing average and an apparent labour productivity ratio (EUR 40 700 per person employed) that was a little lower (4.5 %) than the chapter average. The ratio of gross operating surplus to turnover (the gross operating rate) was 7.0 % for the boilers, metal containers and steam generators manufacturing sector, also lower than the metals and metal products manufacturing average (10.3 %).

EXTERNAL TRADE

The EU-27 had a trade surplus of EUR 1.9 billion with non-member countries for boilers, metal containers and steam generators (CPA Groups 28.2 and 28.3) in 2006, two thirds of which came from the surplus for tanks, reservoirs, containers and central heating radiators and boilers (CPA Group 28.2). EU-27 exports of boilers, metal containers and steam generators were valued at EUR 3.0 billion in 2006, about 10 % each to Russia, Turkey and the United States. Among the Member States, Italy and Germany generated the largest trade surpluses (intra- and extra-EU trade) of EUR 1.2 billion and EUR 1.0 billion respectively.

Table 7.21

Manufacture of boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3)
Productivity and profitability, EU-27, 2004 (1)

	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
Boilers, metal containers and steam generators	40.7	33.0	123.0	7.0
Tanks, reservoirs and containers of metal; central heating radiators and boilers	40.3	30.3	132.7	8.5
Tanks, reservoirs and containers of metal	35.0	28.6	122.0	7.3
Central heating radiators and boilers	46.3	32.3	143.0	9.4
Steam generators, except central heating hot water boilers	41.1	36.0	114.2	5.2

(1) Rounded estimate based on non-confidential data.
Source: Eurostat (SBS)

7.6: OTHER METAL PROCESSING

Together, NACE Groups 28.4 and 28.5 are referred to as other metal processing. Both activities concern the transformation of metals, with NACE Group 28.4 covering forging, pressing, stamping and roll forming of metal, while NACE Group 28.5 covers the treatment and coating of metal and general mechanical engineering (such as turning, milling, welding or planing).

STRUCTURAL PROFILE

The EU-27's other metal processing sector (NACE Groups 28.4 and 28.5) generated EUR 52.9 billion of value added in 2004, contributing almost a quarter (24.9 %) of the value added generated by metals and metal products (NACE Subsection DJ) manufacturing, thereby being the largest of the activities covered in Subchapters 7.1 to 7.7. There were some 154 000 enterprises in the other metal processing sector which employed 1.4 million persons, representing an even larger share (27.6 %) of the share of metals and metal products manufacturing workforce. About three quarters of the EU-27's value added in the other metal processing sector came from the treatment and coating of metal and general mechanical engineering (NACE Group 28.5) in 2004, while the remaining share was generated by forging, pressing, stamping and roll forming of metal (NACE Group 28.4) – see Table 7.22.

Three quarters (75.4 %) of the value added generated by the EU-27's other metal processing sector came from Germany (23.6 %), Italy (22.4 %), France (16.3 %) and the United Kingdom (13.1 %) - see Table 7.23. Italy was the most specialised Member State in the manufacture of other metal processing, this sector contributing 2.1 % of the value added of the Italian non-financial business economy in 2004, which was slightly more than double the EU-27 average (1.0 %).

Table 7.22

Forging, pressing, stamping and roll forming of metal; powder metallurgy; treatment and coating of metals; general mechanical engineering (NACE Groups 28.4 and 28.5)
Structural profile, EU-27, 2004 (1)

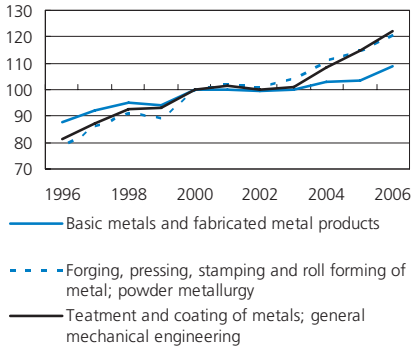
	No. of enterprises (thousands)	Turnover (EUR million)	Value added (EUR million)	Employment (thousands)
Other metal processing	154.0	134 749	52 920	1 378.0
Forging, pressing, stamping and roll forming of metal; powder metallurgy	14.1	45 831	14 286	313.8
Treatment and coating of metals; general mechanical engineering	139.8	88 918	38 634	1 064.2
Treatment and coating of metals	22.0	23 000	10 100	270.0
General mechanical engineering	117.0	66 000	29 000	790.0

(1) Rounded estimates based on non-confidential data.
Source: Eurostat (SBS)

The development of the production indices of the two NACE groups that make-up other metal processing were very similar in the ten years through until 2006; the average rate of growth in the output of forging, pressing, stamping and roll forming of metal was 4.4 % per annum for the EU-27, while the corresponding rate for the treatment and coating of metal and general mechanical engineering was 4.2 %, these rates being the highest rates among the twelve NACE groups that comprise metal and metal products manufacturing.

Figure 7.8

Forging, pressing, stamping and roll forming of metal; powder metallurgy; teatment and coating of metals; general mechanical engineering (NACE Groups 28.4 and 28.5)
Index of production, EU-27 (2000=100)



Source: Eurostat (STS)

Table 7.23

Forging, pressing, stamping and roll forming of metal; powder metallurgy; treatment and coating of metals; general mechanical engineering (NACE Groups 28.4 and 28.5)
Structural profile: ranking of top five Member States, 2004

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (2)	Value added specialisation ratio (EU-27=100) (3)	Employment specialisation ratio (EU-27=100) (4)
1	Germany (23.6)	Italy (21.8)	Italy (201.0)	Italy (185.9)
2	Italy (22.4)	Germany (20.1)	Slovenia (152.1)	Slovenia (172.5)
3	France (16.3)	France (14.7)	Czech Republic (117.6)	Sweden (128.9)
4	United Kingdom (13.1)	United Kingdom (11.1)	France (115.9)	France (128.4)
5	Spain (7.7)	Spain (7.8)	Germany (112.6)	Czech Republic (126.1)

(1) Estonia, Greece, Luxembourg and Malta, not available.
(2) Estonia, Greece, Luxembourg and Malta, not available; Slovenia, 2003.
(3) Estonia, Ireland, Greece, Cyprus, Luxembourg and Malta, not available.
(4) Estonia, Ireland, Greece, Cyprus, Luxembourg and Malta, not available; Slovenia, 2003.
Source: Eurostat (SBS)

Table 7.24

Forging, pressing, stamping and roll forming of metal; powder metallurgy; treatment and coating of metals; general mechanical engineering (NACE Groups 28.4 and 28.5)
Productivity and profitability, EU-27, 2004

	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
Other metal processing	38.4	29.7	129.2	12.0
Forging, pressing, stamping and roll forming of metal; powder metallurgy	45.5	33.7	135.1	8.9
Treatment and coating of metals; general mechanical engineering	36.3	28.4	127.6	13.5

Source: Eurostat (SBS)

COSTS, PRODUCTIVITY AND PROFITABILITY

Personnel costs in the EU-27's other metal processing sector were an average EUR 29 700 per employee (see Table 7.24) in 2004, slightly lower than the average across metal and metal products manufacturing as a whole. As a proportion of total expenditure, however, personnel costs accounted for 29.0 %, the highest share among the activities covered in Subchapters 7.1 to 7.7 and considerably more than the average share across metals and metal products manufacturing as a whole (21.1 %), underlining the labour intensive nature of the sector.

The apparent labour productivity of those employed across the EU-27 in the other metal processing sector was EUR 38 400 per person employed, which covered average personnel costs by 129.2 % in 2004. This wage adjusted labour productivity ratio for the sector was beneath the level for metals and metal products manufacturing (140.2 %) and more particularly the level for the non-financial business economy (148.0 %).

The gross operating rate, one measure of profitability, for other metal processing in the EU-27 was 12.0 % in 2004, a little higher than the rate (11.0 %) for the non-financial business economy.

7.7: MISCELLANEOUS FABRICATED METAL PRODUCTS

Together, NACE Groups 28.6 and 28.7 are referred to as miscellaneous fabricated metal products manufacturing. These two activities concern the manufacture of finished products for use in other industrial and construction activities, as well as final consumer markets. NACE Group 28.6 covers the manufacture of cutlery, tools and general hardware, such as locks and hinges, while NACE Group 28.7 covers the manufacture of other fabricated metal products, such as metal drums, light metal packaging, wire products, fasteners, baths and sinks, and household articles.

Table 7.25

Manufacture of cutlery, tools and general hardware; manufacture of other fabricated metal products (NACE Groups 28.6 and 28.7)
Structural profile, EU-27, 2004 (1)

	No. of enterprises (thousands)	Turnover (EUR million)	Value added (EUR million)	Employment (thousands)
Miscellaneous fabricated metal products	107.2	130 000	46 000	1 150.0
Cutlery, tools and general hardware	45.7	41 000	18 000	430.0
Cutlery	2.5	2 340	999	24.0
Tools	14.2	21 000	9 500	218.0
Locks and hinges	29.0	18 000	7 100	183.0
Other fabricated metal products	61.5	86 425	28 681	722.7
Steel drums and similar containers	1.1	2 910	829	23.0
Light metal packaging	1.2	13 700	3 760	68.1
Wire products	3.9	11 200	3 060	70.0
Fasteners, screw machine products, chain and springs	:	14 000	5 500	120.0
Other fabricated metal products n.e.c.	50.0	45 000	15 000	440.0

(1) Rounded estimate based on non-confidential data.
Source: Eurostat (SBS)

STRUCTURAL PROFILE

The miscellaneous fabricated metal products manufacturing (NACE Groups 28.6 and 28.7) sector of the EU-27 consisted of 107 200 enterprises which generated EUR 46.0 billion of value added in 2004, accounting for a little over one fifth (21.6 %) of the value added created across the metals and metal products manufacturing sector (NACE Subsection DJ). 1.2 million persons were employed in this sector, representing a little less than one in every four (23.0 %) of the metals and metal products manufacturing workforce. Miscellaneous fabricated metal products manufacturing was the second largest of the activities, therefore, covered by Subchapters 7.1 to 7.7, both in terms of value added and employment, with shares that were just below those of other metal processing (see Subchapter 7.6). Within the sector, the manufacture of other fabricated metal products (NACE Group 28.7) subsector generated EUR 28.7 billion of value added in 2004, being about 1.5 times as big as the manufacture of cutlery, tools and general hardware (NACE Group 28.6).

Table 7.26

Production of selected products - cutlery, tools and general hardware; other fabricated metal products (CPA Groups 28.6 and 28.7), EU-27, 2006 (1)

	Prodcom code	Production value (EUR million)	Volume of sold production (thousands)	Unit of volume
Cans used for preserving food and drink of iron or steel, < 50 litres, food cans	28.72.11.33	3 174	35 569 738	units
Welded grill, netting and fencing manufactured from wire of a diameter of <= 3 mm, with mesh size of <= 100 cm² including with a backing of paper as used in cementing and plastering	28.73.13.20	2 702	4 910 128	kg
Aluminium articles; inspection traps, gutters and gutter spouts, ladders and steps, thimbles, venetian blinds, cigarette cases, cosmetic/powder boxes and cases excluding of cast aluminium	28.75.27.55	2 411	c	kg
Iron or steel stranded wire, ropes and cables (including stranded wires and wire ropes with or without attached fittings not electrically insulated) (excluding electrically insulated)	28.73.11.30	1 796	1 442 596	kg
Closed-die forged	28.75.27.45	1 703	723 228	kg
Finished products of iron/steel wire; snares, traps, etc., fodder ties, animal nose rings, mattress hooks, butchers' hooks, tile hangers, waste paper baskets excluding lampshade frames	28.75.27.25	1 617	1 511 456	kg
Indexable inserts for tools, unmounted, of sintered metal carbides and cermets	28.62.50.67	911	3 520	kg
Cast aluminium articles such as inspection traps, gutters and gutter spouts, ladders and steps, thimbles, venetian blinds, cigarette cases, cosmetic or powder boxes and cases	28.75.27.53	874	315 562	kg
Cast articles of iron or steel, n.e.c.	28.75.27.19	804	365 996	kg
Rock drilling or earth boring tools with working part of cermets	28.62.50.13	284	38 623	kg

(1) Estimated.
Source: Eurostat (PRODCOM)

Table 7.27

Manufacture of cutlery, tools and general hardware; manufacture of other fabricated metal products (NACE Groups 28.6 and 28.7) Structural profile: ranking of top five Member States, 2004

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (2)	Value added specialisation ratio (EU-27=100) (3)	Employment specialisation ratio (EU-27=100) (4)
1	Germany (33.0)	Germany (24.6)	Slovenia (311.5)	Slovenia (297.0)
2	Italy (16.0)	Italy (16.1)	Czech Republic (202.5)	Czech Republic (230.0)
3	United Kingdom (10.9)	United Kingdom (8.7)	Germany (157.4)	Germany (148.7)
4	France (10.3)	France (8.4)	Italy (143.9)	Italy (136.6)
5	Spain (7.1)	Poland (7.3)	Austria (138.7)	Slovakia (133.1)

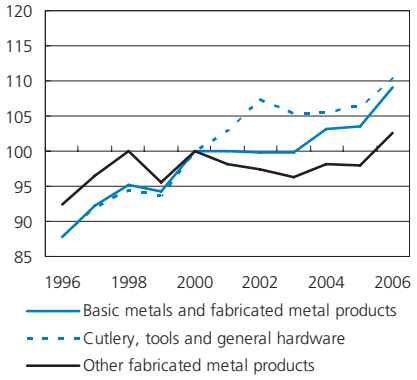
(1) Greece, Lithuania, Luxembourg, Malta and Netherlands, not available; Latvia, 2003.
(2) Greece, Lithuania, Luxembourg and Malta, not available.
(3) Ireland, Greece, Cyprus, Lithuania, Luxembourg, Malta and Netherlands, not available; Latvia, 2003.
(4) Ireland, Greece, Cyprus, Lithuania, Luxembourg and Malta, not available.
Source: Eurostat (SBS)

The miscellaneous fabricated metal products manufacturing sector in Germany created EUR 15.2 billion of value added in 2004, contributing about one third (33.0 %) of the value added generated by the sector across the EU-27 (see Table 7.27). The sector in Italy was the second largest, generating a little less than half of the value created in Germany. As a proportion of the value added of each Member State's non-financial business economy, however, the miscellaneous fabricated metal products manufacturing sector contributed the highest share (2.8 %) in Slovenia, a little more than three times the average share across the EU-27. The Czech Republic was also relatively specialised in this activity in value added terms, the contribution made by the sector being about double the EU-27 average.

The average rate of growth (2.2 % per annum) in the production index for the manufacture of cutlery, tools and general hardware (NACE Group 28.6) between 1996 and 2006 was similar to that for metals and metal products manufacturing as a whole (2.1 % per annum). The development in the respective production indices was also similar through until 2000, after which there were differences in the staggered growth of output; the production index of cutlery, tools and general hardware manufacturing dipped and then stabilised in the period between 2002 and 2005, whereas the period of relative stability in metals and metal products manufacturing was between 2000 and 2003. Although there was also growth (an average 1.0 % per annum) in the output of the manufacture of other fabricated metal products (NACE Group 28.7) during the ten years through to 2006, almost all of this was concentrated at the two ends of this period; between 2000 and 2005 there was relative stability in output and it was only in 2006 that the level of output rose above the level that had been reached in 1998.

Figure 7.9

Manufacture of cutlery, tools and general hardware; manufacture of other fabricated metal products (NACE Groups 28.6 and 28.7) Index of production, EU-27 (2000=100)



Source: Eurostat (STS)

Table 7.28

Cutlery, tools and general hardware; other fabricated metal products (CPA Groups 28.6 and 28.7)
External trade, EU-27, 2006

	Extra-EU exports		Extra-EU imports			
	(EUR million)	(% share of chapter)	(EUR million)	(% share of chapter)	Trade balance (EUR million)	Cover ratio (%)
Cutlery, tools and general hardware; other fabricated metal products	21 412	23.8	19 190	18.4	2 222	111.6
Cutlery, tools and general hardware	8 406	9.3	7 204	6.9	1 202	116.7
Other fabricated metal products	13 005	14.4	11 985	11.5	1 020	108.5

Source: Eurostat (Comext)

COSTS, PRODUCTIVITY AND PROFITABILITY

The wage adjusted labour productivity ratio of those working in the miscellaneous fabricated metal products manufacturing sector of the EU-27 was 138.0 % in 2004, similar to the ratio for metals and metal products manufacturing (140 %) but moderately lower than ratio for the non-financial business economy (148.0 %). The similar ratios between the sector and the metals and metal products manufacturing average reflected the fact that both average personnel costs (EUR 29 000 per employee) and apparent labour productivity levels (EUR 40 000 per person employed) were slightly lower than for metals and metal products manufacturing as a whole.

There was a relatively high level of profitability in the EU-27's miscellaneous metal products manufacturing in so far that the gross operating rate was 12.4 % in 2004, the highest rate among the activities grouped in Subchapters 7.1 to 7.7. The relative profitability of the sector was most clearly illustrated in Finland, where there was a gross operating rate for miscellaneous metal products manufacturing of 17.6 % in 2004 compared to a rate of 10.4 % across the Finnish non-financial business economy.

EXTERNAL TRADE

The EU-27 had a trade surplus with non-member countries of EUR 2.2 billion for cutlery, tools and general hardware, and other fabricated metal products (CPA Groups 28.6 and 28.7) in 2006 – see Table 7.28. Although the trade surplus changed little in the period between 2002 and 2006, after widening relatively strongly between 2001 and 2002, there was strong growth in both exports and imports. EU-27 exports of cutlery, tools and general hardware, and other fabricated metal products were valued at EUR 21.4 billion in 2006, with the United States (19.9 % of the value of EU-27 exports) and China (9.0 %) being the main export markets. China was the main origin of EU-27 imports of these products, accounting for a little over one third (37.5 %) of the EUR 19.2 billion of EU-27 imports in 2006.

In contrast to the majority of Member States that recorded trade deficits for cutlery, tools and general hardware, and other fabricated metal products as a whole, Germany and Italy had considerable trade surpluses (intra- and extra-EU combined) of EUR 9.1 billion and EUR 6.9 billion respectively in 2006.

Table 7.29

Manufacture of basic metals (NACE Division 27)
Main indicators, 2004

	EU-27 (1)	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT
No. of enterprises (thousands)	16.0	0.3	0.2	0.6	0.2	2.7	0.0	0.1	:	1.5	1.1	3.8	0.0	0.0	0.0
Turnover (EUR million)	295 000	14 932	1 803	7 023	1 310	73 607	16	417	:	24 684	31 757	47 078	54	328	18
Production (EUR million)	280 000	15 131	1 861	6 791	1 265	69 802	16	407	:	24 891	30 865	46 380	55	333	16
Value added (EUR million)	66 900	3 395	264	1 481	376	18 762	3	135	:	5 631	7 036	9 204	21	110	6
Gross operating surplus (EUR million)	27 300	1 225	155	839	131	5 889	1	56	:	2 793	2 295	4 333	12	87	1
Purchases of goods & services (EUR million)	235 000	11 870	1 681	5 748	1 002	55 509	13	286	:	20 048	25 201	38 874	35	232	12
Personnel costs (EUR million)	39 700	2 170	108	643	246	12 872	2	79	:	2 837	4 741	4 871	10	23	5
Investment in tangible goods (EUR million)	10 300	294	84	194	49	2 178	2	16	:	1 048	1 006	1 600	16	21	0
Employment (thousands)	1 130	36	22	60	6	262	0	2	:	75	110	135	0	4	1
Apparent labour prod. (EUR thousand)	59.4	95.5	11.8	24.8	65.3	71.7	8.4	64.0	:	75.3	63.9	68.0	48.6	31.0	6.3
Average personnel costs (EUR thousand)	35.9	61.9	4.9	10.9	43.1	49.4	4.8	38.3	:	38.2	43.1	37.6	22.3	6.5	5.3
Wage adjusted labour productivity (%)	165.0	154.3	240.7	227.7	151.6	145.1	175.7	166.9	:	196.9	148.3	181.0	217.8	477.9	118.2
Gross operating rate (%)	9.2	8.2	8.6	11.9	10.0	8.0	8.5	13.3	:	11.3	7.2	9.2	21.2	26.5	5.4
Investment / employment (EUR thousand)	9.1	8.3	3.8	3.3	8.4	8.3	6.5	7.8	:	14.0	9.1	11.8	37.5	5.9	0.4

	LU (2)	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	NO
No. of enterprises (thousands)	0.0	0.4	:	0.3	0.2	0.8	0.4	0.5	0.1	0.1	0.2	0.5	1.8	0.2
Turnover (EUR million)	8 247	2 460	:	6 667	8 802	7 393	2 055	3 740	1 053	3 129	7 969	11 821	21 626	8 237
Production (EUR million)	2 159	2 399	:	6 606	8 718	7 572	1 969	4 078	1 052	2 926	7 514	11 839	21 140	5 205
Value added (EUR million)	459	532	:	2 099	2 677	1 916	443	865	255	928	1 763	2 851	4 858	1 635
Gross operating surplus (EUR million)	60	276	:	950	1 093	1 339	252	562	106	632	949	1 158	1 604	889
Purchases of goods & services (EUR million)	7 808	1 998	:	4 685	6 390	6 109	1 745	3 177	825	2 334	6 462	9 169	17 053	6 632
Personnel costs (EUR million)	399	256	:	1 150	1 584	577	191	303	149	296	814	1 693	3 254	746
Investment in tangible goods (EUR million)	122	98	:	142	532	181	121	436	61	193	584	350	688	401
Employment (thousands)	7	19	:	21	32	66	11	69	8	28	17	45	78	12
Apparent labour prod. (EUR thousand)	66.2	27.9	:	99.5	82.8	29.0	40.9	12.5	30.4	32.8	102.9	62.8	62.3	133.6
Average personnel costs (EUR thousand)	57.6	13.5	:	54.4	49.1	8.9	17.8	4.4	17.9	10.5	47.5	48.1	42.4	61.1
Wage adjusted labour productivity (%)	115.0	206.3	:	182.8	168.7	327.0	229.1	283.1	170.3	313.2	216.4	130.7	146.9	218.8
Gross operating rate (%)	0.7	11.2	:	14.2	12.4	18.1	12.3	15.0	10.1	20.2	11.9	9.8	7.4	10.8
Investment / employment (EUR thousand)	17.5	5.2	:	6.7	16.5	2.7	11.2	6.3	7.3	6.8	34.1	7.7	8.8	32.7

(1) Rounded estimates based on non-confidential data. (2) 2003.
Source: Eurostat (SBS)

Table 7.30

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Main indicators, 2004

	EU-27 (1)	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT
No. of enterprises (thousands)	380.0	6.3	3.1	35.6	4.1	38.5	0.7	0.6	:	42.4	30.5	97.1	1.1	0.5	0.7
Turnover (EUR million)	403 000	10 505	576	6 883	5 471	95 994	468	1 627	:	36 815	55 161	85 977	241	189	340
Production (EUR million)	391 000	10 214	508	6 782	5 225	92 379	426	1 578	:	35 629	53 295	85 300	226	187	335
Value added (EUR million)	146 000	3 364	123	2 147	2 380	37 663	120	632	:	12 657	19 622	26 969	90	60	98
Gross operating surplus (EUR million)	45 000	925	57	993	627	9 914	41	208	:	3 863	3 745	10 496	34	29	30
Purchases of goods & services (EUR million)	262 000	7 241	484	4 935	3 213	58 689	361	1 015	:	25 085	35 350	59 995	158	140	260
Personnel costs (EUR million)	101 000	2 439	66	1 164	1 753	27 748	79	424	:	8 794	15 877	16 473	55	32	68
Investment in tangible goods (EUR million)	16 800	413	50	344	300	3 444	21	45	:	1 597	1 867	4 331	16	15	22
Employment (thousands)	3 860	65	36	173	45	780	11	13	:	359	444	704	4	9	15
Apparent labour prod. (EUR thousand)	37.7	51.7	3.4	12.4	53.1	48.3	10.6	48.1	:	35.3	44.2	38.3	24.3	6.9	6.3
Average personnel costs (EUR thousand)	28.6	41.0	2.0	8.4	41.2	37.1	7.1	32.9	:	26.5	36.3	29.7	18.4	3.8	4.5
Wage adjusted labour productivity (%)	132.0	125.9	169.4	146.7	128.9	130.4	150.0	146.3	:	133.0	121.8	128.9	132.1	181.9	141.8
Gross operating rate (%)	11.2	8.8	9.9	14.4	11.5	10.3	8.8	12.8	:	10.5	6.8	12.2	14.2	15.2	8.8
Investment / employment (EUR thousand)	4.3	6.3	1.4	2.0	6.7	4.4	1.8	3.4	:	4.4	4.2	6.2	4.3	1.7	1.4

	LU (2)	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	NO
No. of enterprises (thousands)	0.2	10.2	:	7.6	4.0	29.8	14.7	5.3	4.5	1.1	4.6	11.2	27.7	2.4
Turnover (EUR million)	669	3 121	:	15 093	9 625	9 238	4 491	1 498	2 146	1 264	5 048	10 788	38 671	2 614
Production (EUR million)	633	2 612	:	14 631	9 099	8 547	4 403	1 433	2 004	1 193	4 978	10 357	37 366	2 490
Value added (EUR million)	203	833	:	5 094	3 979	2 832	1 481	418	731	339	1 934	4 218	17 064	1 028
Gross operating surplus (EUR million)	50	334	:	1 439	1 395	1 560	493	147	288	129	540	1 146	6 299	235
Purchases of goods & services (EUR million)	447	2 307	:	10 299	5 850	6 723	3 127	1 195	1 483	955	3 268	6 689	21 600	1 613
Personnel costs (EUR million)	152	499	:	3 655	2 585	1 272	989	271	443	210	1 394	3 072	10 765	793
Investment in tangible goods (EUR million)	18	236	:	412	472	390	296	140	110	90	252	483	1 319	87
Employment (thousands)	4	73	:	93	69	235	84	96	32	32	41	84	349	19
Apparent labour prod. (EUR thousand)	47.4	11.5	:	54.9	57.7	12.0	17.7	4.4	22.9	10.4	47.7	50.5	48.8	53.9
Average personnel costs (EUR thousand)	36.4	7.4	:	41.4	39.1	6.4	12.9	2.9	15.3	6.5	35.5	40.3	32.7	43.6
Wage adjusted labour productivity (%)	130.1	154.9	:	132.4	147.7	189.3	137.0	152.3	149.1	160.6	134.5	125.3	149.4	123.6
Gross operating rate (%)	7.5	10.7	:	9.5	14.5	16.9	11.0	9.8	13.4	10.2	10.7	10.6	16.3	9.0
Investment / employment (EUR thousand)	4.3	3.2	:	4.4	6.8	1.7	3.5	1.5	3.4	2.8	6.2	5.8	3.8	4.5

(1) Rounded estimates based on non-confidential data. (2) 2003.
Source: Eurostat (SBS)