

Machinery and equipment

10

This chapter covers NACE Subsection DK (Division 29), in other words all mechanical machinery and equipment, except for transport equipment. This sector of the industrial economy provides equipment for use in many mining, manufacturing, energy and construction sectors, as well as producing domestic appliances. Furthermore, the machinery and equipment manufacturing sector covers arms and ammunition, whether for military or sporting uses, including some military vehicles such as tanks, but not military aircraft or warships (which are classified under the manufacture of transport equipment – see Chapter 12).

Technological advancements in the machinery and equipment that is used in other sectors of the economy (particularly in mining, manufacturing, energy provision and construction) can have a considerable impact upon the speed, quality and quantity of what is produced, thereby impacting on downstream productivity and profitability. The machinery and equipment sector is sensitive, therefore, to overall economic conditions and investment patterns both within the European Union and across the world (the two arguably being more intertwined than ever).

Structural profile

Machinery and equipment manufacturing (NACE Subsection DK) was the core business activity of 174.0 thousand enterprises across the EU-27 in 2006. These enterprises provided employment for 3.6 million persons in the Member States, corresponding to 2.8 % of those employed in the EU-27's non-financial business economy (NACE Sections C to I and K) in 2006. The EU-27's machinery and equipment manufacturing sector generated turnover of EUR 621.3 billion in 2006, of which a little less than one third (31.0 %) remained as added value; the EUR 192.6 billion of value added generated by the sector in 2006 corresponded to 3.4 % of the total value added within the non-financial business economy.

Within the subchapters that follow, the manufacture of general purpose machinery (NACE Groups 29.1 and 29.2, as presented in Subchapter 10.1) was the largest in terms of wealth creation, accounting for about one half (52.2 %) of the value added generated in the EU-27's machinery and equipment manufacturing sector. The next largest subsector was that of industrial processing

machinery (NACE Groups 29.4 and 29.5, as presented in Subchapter 10.3), which generated just over one third (34.0 %) of the value added of the machinery and equipment manufacturing sector. By way of comparison, the contributions made by the activities presented in the remaining three subchapters (Subchapters 10.2, 10.4 and 10.5) were relatively small, none contributing more than 7 % of sectoral value added in 2006.

Machinery and equipment manufacturing activities in Germany made the largest contribution (36.6 %) of any Member State to EU-27 value added within this sector in 2006. Indeed, German value added was more than twice that of the second largest contribution (16.2 %) from Italy. No other Member State⁽¹⁾ generated a double-digit share of EU-27 value added. Among the subchapters that follow, Germany was the largest manufacturing Member State in value added terms for all but one of the machinery and equipment manufacturing subsectors, the exception being the manufacture of arms and ammunition (NACE Group 29.6, see Subchapter 10.4). The value added generated by the machinery and equipment manufacturing sector in Germany accounted for 6.1 % of its non-financial business economy value added total in 2006, which was the highest share among any of the Member States and much more than the EU-27 average (3.4 %) in 2006. In comparison to most other Member States, Italy and Finland were also relatively specialised in machinery and equipment manufacturing, as this sector provided 4.9 % and 4.7 % respectively of their non-financial business economy value added.

The map shows the contribution of the machinery and equipment manufacturing sector to employment within the non-financial business economy (NACE Sections C to I and K) of each region. This sector was unsurprisingly particularly important in a number of German regions and in four of them (Unterfranken, Tübingen, Stuttgart and Schwaben) provided employment for about one in every nine or ten people within the non-financial business economy workforce. There were also a number of regions in the Czech Republic, Italy, Slovakia, Finland and Sweden that were also particularly specialised in this sector.

For much of the period between 1997 and 2007, the EU-27's production index for machinery and equipment manufacturing followed closely the development for industry (NACE Sections C to E)

(1) The Netherlands and Poland, 2005; Malta, not available.

Table 10.1: Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Structural profile, EU-27, 2006 (1)

	Enterprises		Turnover		Value added		Persons employed	
	(thousand)	(% of total)	(EUR million)	(% of total)	(EUR million)	(% of total)	(thousand)	(% of total)
Machinery & equipment	174.0	100.0	621 319	100.0	192 559	100.0	3 649.5	100.0
General purpose machinery	81.3	46.7	314 730	50.7	100 549	52.2	1 792.5	49.1
Agricultural & forestry machinery	22.2	12.8	40 000	6.4	8 922	4.6	212.0	5.8
Industrial processing machinery	64.0	36.8	200 688	32.3	65 400	34.0	1 215.0	33.3
Arms & ammunition	1.3	0.7	14 402	2.3	4 687	2.4	97.3	2.7
Domestic appliances	5.2	3.0	52 711	8.5	12 711	6.6	287.6	7.9

(1) Rounded estimates based on non-confidential data.

Source: Eurostat (SBS)

Table 10.2: Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Structural profile: ranking of top five Member States, 2006

	Highest value added (1)			Largest number of persons employed (1)			Most specialised: share in the non-financial business economy (%)	
	Country	(EUR million)	(% of EU-27)	Country	(thousand)	(% of EU-27)	Value added (2)	Persons employed (3)
1	Germany	70 548	36.6	Germany	1 056.4	28.9	Germany (6.1)	Germany (4.9)
2	Italy	31 184	16.2	Italy	567.4	15.5	Italy (4.9)	Slovakia (4.7)
3	United Kingdom	18 960	9.8	France	305.8	8.4	Finland (4.7)	Czech Republic (4.6)
4	France	18 047	9.4	United Kingdom	278.1	7.6	Slovenia (4.6)	Finland (4.6)
5	Spain	9 319	4.8	Poland	196.6	5.4	Austria (4.5)	Slovenia (4.5)

(1) Malta, not available; the Netherlands and Poland, 2005.

(2) Malta and the Netherlands, not available; Bulgaria, Cyprus, Poland and Romania, 2005.

(3) Malta, not available; Bulgaria, Cyprus, the Netherlands, Poland and Romania, 2005.

Source: Eurostat (SBS)

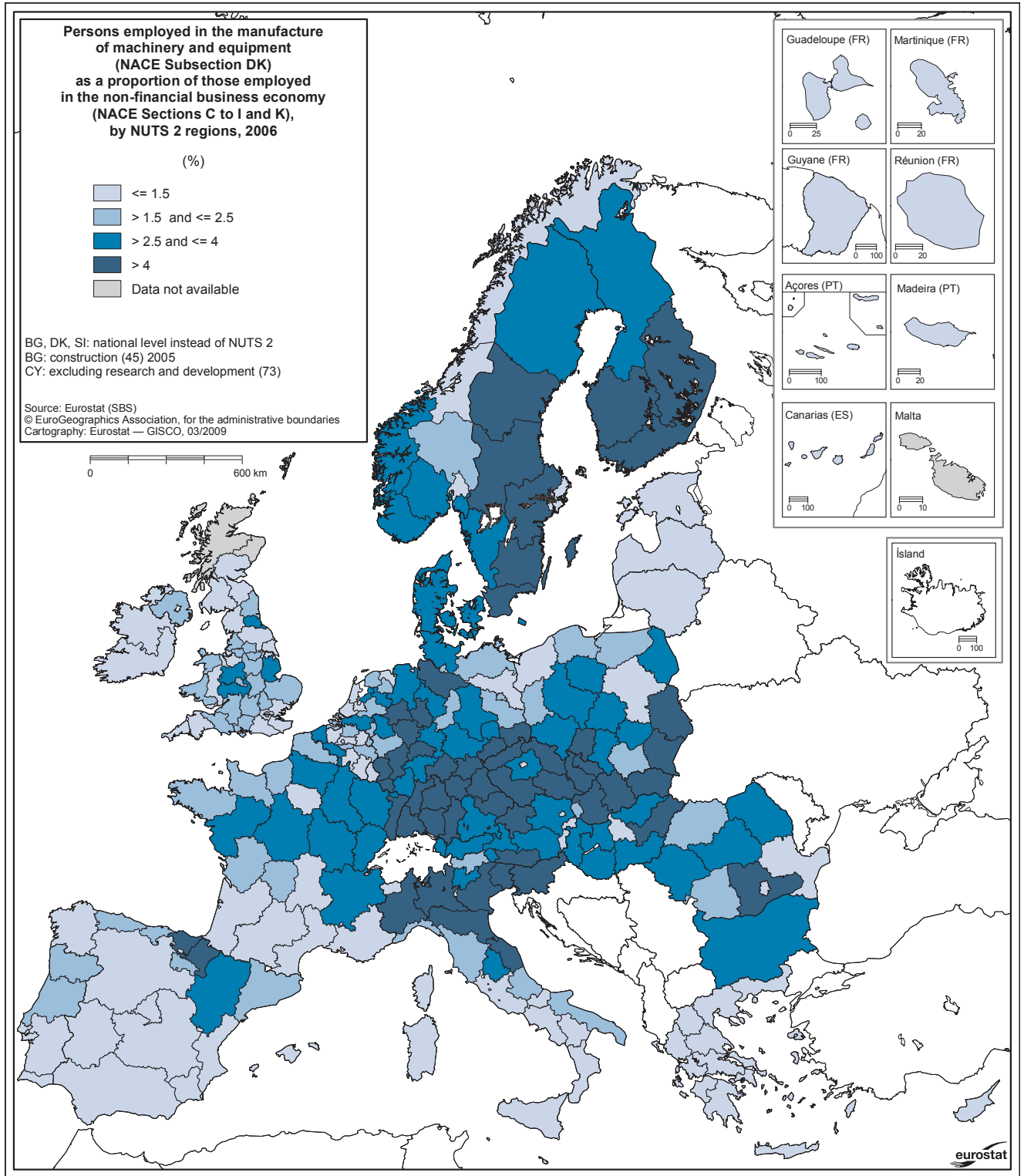
as a whole. Differences were principally restricted to the first and last two years of the period; the output of machinery and equipment manufacturing remained relatively stable between 1997 and 1999 when industrial output rose, but increased much more sharply than industrial output in 2006 and 2007. Over the ten-year period, the output of machinery and equipment manufacturing rose by an average 2.6 % per annum in the EU-27, which was faster than the rate (2.1 % per annum) for industry as a whole. Among the NACE groups that make up the manufacture of machinery and equipment, growth in the production index for the manufacture of power machinery (NACE Group 29.1) was strongest in the period between 1997 and 2007 (an average 3.2 % per annum).

The EU-27's index of domestic output prices for machinery and equipment manufacturing rose continuously throughout the ten years through until 2007, at a remarkably steady rate as prices rose by an average of 1.5 % per annum. This contrasted with the more uneven development for industry as a whole, for which there were some

declines in output prices in 1998 and 1999 (compared with a year before) and much stronger price increases in the period between 2005 and 2007. There were steady annual price rises in line with the average for development for machinery and equipment manufacturing as a whole for all the NACE groups that comprise machinery and equipment manufacturing, with the exception of the domestic appliances subsector (NACE Group 29.7), for which prices remained relatively unchanged through until 2005 before relatively modest price increases through to 2007. It should be noted that data are not available for the price developments of arms and ammunition manufacturing (NACE Group 29.6).

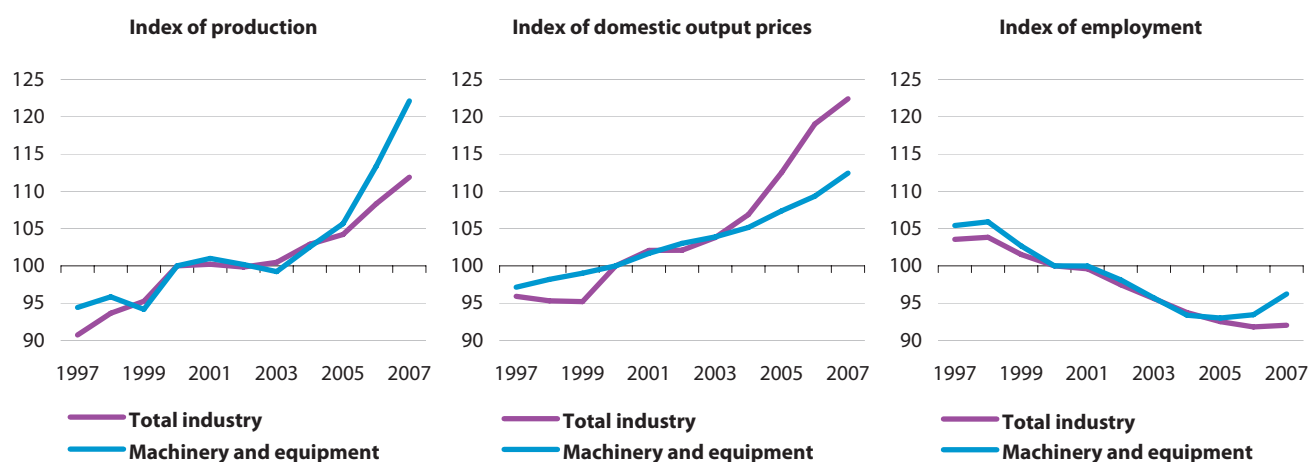
About one half (50.7 %) of the value added generated across the EU-27's machinery and equipment manufacturing sector came from its small and medium-sized enterprises (SMEs employing less than 250 persons), which was a slightly lower proportion than the average for the EU-27's non-financial business economy (57.9 %). The relative contribution of the value added of enterprises

Map 10.1: Manufacture of machinery and equipment n.e.c. (NACE Division 29)
 Persons employed in the manufacture of machinery and equipment (NACE Division 29) as a proportion of those employed in the non-financial business economy (NACE Sections C to I and K) (%)



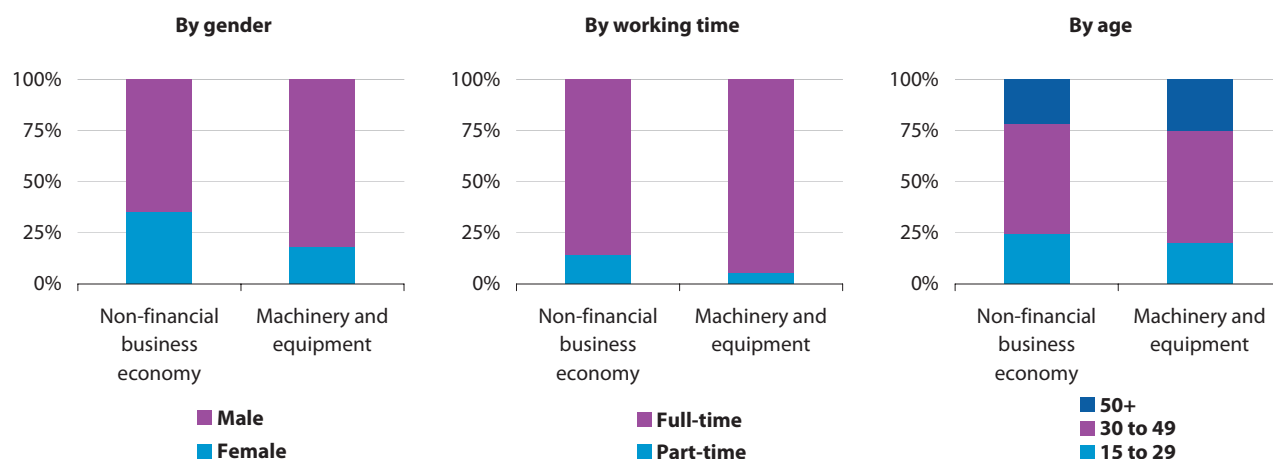
Source: Eurostat (SBS)

Figure 10.1: Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Evolution of main indicators, EU-27 (2000=100)



Source: Eurostat (STS)

Figure 10.2: Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Employment characteristics, 2007



Source: Eurostat (LFS)

within the machinery and equipment manufacturing sector tended to increase with size, which was not the case across the non-financial business economy. In part, this reflects the relatively small proportion (6.3 %) of value added generated by micro enterprises (those employing less than 10 persons) within the machinery and equipment manufacturing sector in comparison to the share (21.0 %) generated by all micro enterprises within the non-financial business economy. There were a few Member States where large enterprises within the machinery and equipment manufacturing sector generated a majority of sectoral value added within the machinery and

equipment manufacturing sector, among which Bulgaria, Germany and Romania were the most noteworthy.

Employment characteristics

A much higher proportion of the workforce of the EU-27's machinery and equipment manufacturing sector in 2007 were men (81.9 %) than was the case across the non-financial business economy as a whole (64.9 %). This was a characteristic noted in all of the Member States for which data is available⁽²⁾, although most notably in Cyprus and Estonia. In common with most industrial activities, a much higher proportion of the EU-27's

(2) Malta, not available.

machinery and equipment workforce were engaged on a full-time basis (94.8 %) in 2007 than was the case across the non-financial business economy (85.7 %). This was also a characteristic noted among all of the Member States for which data is available⁽³⁾.

About one in every five (20.1 %) workers within the EU-27's machinery and equipment manufacturing sector was aged under 30 years, whereas such so-called young workers represented closer to one in every four workers (24.3 %) within the EU-27's non-financial business economy as a whole. The relatively older profile of the machinery and equipment manufacturing sector was underlined by a higher share of workers aged over 50 years (25.1 % compared with 21.9 % for the non-financial business economy).

Expenditure, productivity and profitability

Only 1.8 % of all the tangible investment in the EU-27's non-financial business economy (NACE Sections C to I and K) in 2006 was made in the machinery and equipment manufacturing (NACE Subsection DK) sector. This represented a much lower share than the contribution that this sector made to non-financial business economy value added (3.4 %). The corresponding investment rate for the EU-27's machinery and equipment manufacturing sector was a little less than half the average across the EU-27's non-financial business economy in 2006 (9.0 % compared with 18.4 %).

Purchases of goods and services accounted for just over three quarters (76.4 %) of operating expenditure within the EU-27's machinery and equipment manufacturing sector. As such, the proportion of operating expenditure that went on personnel costs (23.6 %) was much higher than the average share (16.1 %) across the EU-27's non-financial business economy in 2006. In part, this reflected the fact that average personnel costs of EUR 38.8 thousand per employee in the machinery and equipment manufacturing sector were about one third (34.8 %) or EUR 10.0 thousand per employee higher than the non-financial business economy average.

The average amount of value added generated per person employed in the EU-27's machinery and equipment manufacturing sector was EUR 52.8 thousand in 2006, a little over a fifth more than the average for the non-financial business economy. However, after taking into account the relatively high level of average personnel costs, the wage adjusted labour productivity ratio for the machinery and equipment sector fell well beneath the corresponding ratio for the non-financial business economy (135.8 % compared with 151.1 %). Among the activities presented in the subchapters that follow, even the highest wage adjusted labour productivity ratio of 139.3 % for the manufacture of industrial processing machinery (NACE Groups 29.4 and 29.5) was notably lower than the non-financial business economy average.

⁽³⁾ Malta, not available.

Table 10.3: Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Expenditure, productivity and profitability, EU-27, 2006 (1)

	(EUR million)			(EUR thousand per person)		(%)	
	Personnel costs	Purchases of goods & services	Investment in tangible goods	Apparent labour productivity	Average personnel costs	Wage adjusted labour productivity	Gross operating rate
Machinery & equipment	135 577	439 701	17 425	52.8	38.8	135.8	9.2
General purpose machinery	69 918	224 203	8 871	56.1	40.8	137.6	9.7
Agricultural & forestry machinery	6 000	30 000	907	42.1	31.4	134.0	7.5
Industrial processing machinery	46 879	140 281	5 468	53.8	38.6	139.3	9.2
Arms & ammunition	3 632	9 309	326	48.2	37.8	127.3	7.3
Domestic appliances	9 153	40 599	1 856	44.2	32.8	134.6	6.8

(1) Rounded estimates based on non-confidential data.

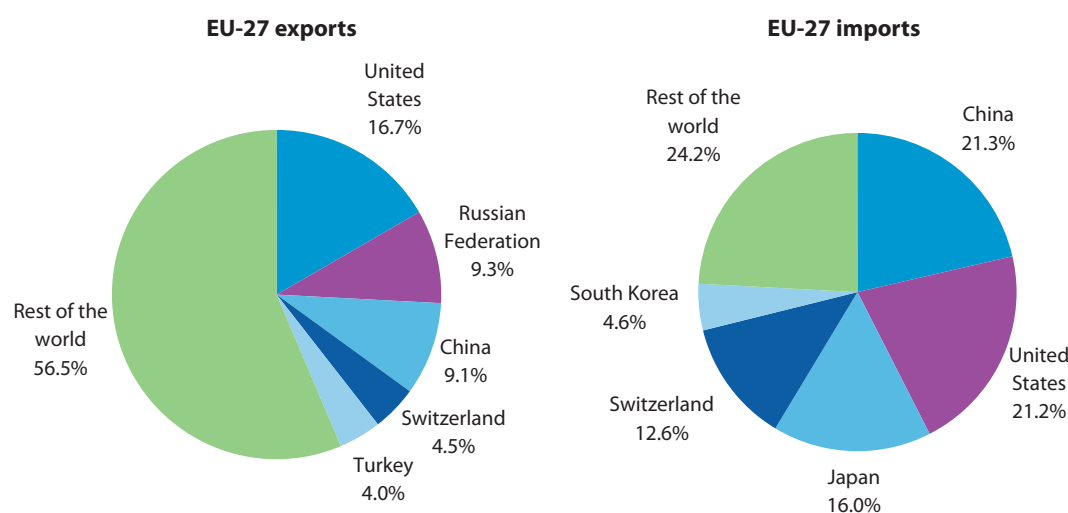
Source: Eurostat (SBS)

Table 10.4: Machinery and equipment n.e.c. (CPA Division 29)
External trade, EU-27, 2007

	Value (EUR million)			Share of industrial exports (%)	Share of industrial imports (%)
	Extra-EU exports	Extra-EU imports	Trade balance		
Machinery & equipment	193 354	84 899	108 455	16.6	6.4
General purpose machinery	92 550	41 456	51 094	8.0	3.1
Agricultural & forestry machinery	6 864	2 526	4 338	0.6	0.2
Industrial processing machinery	83 746	30 357	53 388	7.2	2.3
Arms & ammunition	957	410	547	0.1	0.0
Domestic appliances	9 238	10 150	-912	0.8	0.8

Source: Eurostat (Comext)

Figure 10.3: Machinery and equipment n.e.c. (CPA Division 29)
Main trading partners, EU-27, 2007 (% share of exports/imports in value terms)



Source: Eurostat (Comext)

The rate of profitability across the EU-27's machinery and equipment sector was also relatively low; the gross operating rate was 9.2 % in 2006 compared with a rate of 10.8 % for the non-financial business economy. Again, none of the activities presented in the subchapters that follow had a gross operating rate that exceeded the average for the non-financial business economy in 2006, and in the case of the domestic appliances subsector (NACE Group 29.7) this ratio fell as low as 6.8 %.

External trade

The EU's internal market accounted for a relatively small majority (55.6 %) of the EU-27's total trade in machinery and equipment (CPA Subsection DK) in 2007. Trade with non-member countries generated a trade surplus of EUR 108.5 billion in 2007, by far the largest trade surplus of any CPA subsection for industrial (CPA Sections C to

E) goods. It also represented a fourth consecutive annual widening of the trade surplus from a level of EUR 65.2 billion in 2003.

The EU-27's trade surplus for machinery and equipment in 2007 reflected extra-EU-27 exports valued at EUR 193.4 billion (corresponding to 16.6 % of the value of industrial exports) and imports of EUR 84.9 billion (corresponding to 6.4 % of the value of industrial imports). Among the products presented in the subchapters that follow, the only trade deficit recorded in 2007 concerned domestic appliances n.e.c. (CPA Group 29.7) and this was relatively small at EUR 0.9 billion. In contrast, the EU-27's trade surpluses for industrial processing machinery (CPA Groups 29.4 and 29.5) and general purpose machinery (CPA Groups 29.1 and 29.2) both exceeded EUR 50 billion.

In this growing export market for EU-27 machinery and equipment, the value of exports to the United States stabilised between 2006 and 2007. Although, the United States remained the largest export market for these goods in value terms, its share of the export market fell to 16.7 %. In contrast, the share of exports to Russia rose sharply to 9.3 %, moving it ahead of China as the EU-27's second biggest export market in 2007. This change reflected a steep jump (28.9 %) in the value of machinery and equipment exports to Russia between 2006 and 2007. A little more than seven tenths (71.2 %) of all the imports of machinery and equipment into the EU-27 came from just four countries in 2007; the value of imports from China (21.3 % of the total) was almost identical to

those from the United States (21.1 %), followed by Japan (16.0 %) and Switzerland (12.6 %).

Germany was the largest exporter of machinery and equipment in 2007, accounting for a third (32.5 %) of all intra- and extra-EU exports by the Member States. However, exports of machinery and equipment from Italy (valued at EUR 74.3 billion) represented the highest proportion (21.6 %) of national industrial exports in 2007, ahead of Germany (15.9 %). These two Member States recorded the highest trade surpluses for machinery and equipment; in Germany the surplus reached EUR 82.7 billion and in Italy it reached EUR 47.5 billion, dwarfing the next highest surplus of EUR 7.0 billion in the Netherlands.

10.1: General purpose machinery

The manufacture of general purpose machinery covers the manufacture of machinery for the production and use of mechanical power (NACE Group 29.1), hereafter termed power machinery, and the manufacture of other general purpose machinery (NACE Group 29.2).

In more detail, the manufacture of power machinery includes internal combustion engines, as well as steam, gas, wind and hydraulic turbines, pumps, compressors, taps, valves, bearings and transmission equipment. However, it excludes the manufacture of propulsion engines for aircraft, vehicles or cycles. The manufacture of other general purpose machinery includes furnaces and burners, lifting and handling equipment and non-domestic cooling and ventilation equipment.

Structural profile

General purpose machinery manufacturing (NACE Groups 29.1 and 29.2) was the principal activity of 81.3 thousand enterprises throughout the EU-27 in 2006, providing employment for almost 1.8 million persons (about one half of the EU-27's machinery and equipment workforce). These enterprises generated EUR 100.5 billion of value added in 2006 from a turnover of EUR 314.7 billion. A majority (57.0 %) of the value added within this sector came from the other general purpose machinery subsector (NACE Group 29.2), the remainder (43.0 %) coming from the manufacture of power machinery subsector (NACE Group 29.1). Among the eight NACE classes that comprise the general purpose machinery sector, the manufacture of lifting and handling equipment was the largest in terms of value added, contributing a little over one fifth

Table 10.5: Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines; manufacture of other general purpose machinery (NACE Groups 29.1 and 29.2)
Structural profile, EU-27, 2006 (1)

	Enterprises (thousand)	Turnover (EUR million)	Value added (EUR million)	Persons employed (thousand)	Share in total (%)	
					Value added	Persons employed
General purpose machinery	81.3	314 730	100 549	1 792.5	100.0	100.0
Machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines	14.5	136 000	43 200	722.0	43.0	40.3
Other general purpose machinery	66.7	178 730	57 349	1 070.5	57.0	59.7

(1) Rounded estimates based on non-confidential data.

Source: Eurostat (SBS)

Table 10.6: Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines; manufacture of other general purpose machinery (NACE Groups 29.1 and 29.2)
Structural profile: ranking of top five Member States in terms of value added and persons employed, 2006

	Highest value added (1)			Largest number of persons employed (1)			Most specialised: share in non-financial business economy (%) (2)	
	Country	(EUR million)	(% of EU-27)	Country	(thousand)	(% of EU-27)	Country	Value added
1	Germany	35 899	35.7	Germany	518.4	28.9	Germany	3.1
2	Italy	16 595	16.5	Italy	291.4	16.3	Italy	2.6
3	France	11 309	11.2	France	179.3	10.0	Sweden	2.3
4	United Kingdom	10 544	10.5	United Kingdom	157.9	8.8	Denmark	2.2
5	Spain	4 374	4.4	Spain	84.5	4.7	Slovakia	2.2

(1) Luxembourg and Malta, not available; the Netherlands and Poland, 2005.

(2) Luxembourg, Malta and the Netherlands, not available; Bulgaria, Cyprus, Poland and Romania, 2005.

Source: Eurostat (SBS)

Table 10.7: Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines; manufacture of other general purpose machinery (NACE Groups 29.1 and 29.2)
Expenditure, productivity and profitability, EU-27, 2006 (1)

	(EUR million)			(EUR thousand per person)	
	Personnel costs	Purchases of goods & services	Investment in tangible goods	Apparent labour productivity	Average personnel costs
General purpose machinery	69 918	224 203	8 871	56.1	40.8
Machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines	29 500	100 000	4 460	59.8	41.5
Other general purpose machinery	40 418	124 203	4 411	53.6	40.2

(1) Rounded estimates based on non-confidential data.

Source: Eurostat (SBS)

(20.4 %) of sectoral value added. This was closely followed by the manufacture of other general purpose machinery not elsewhere classified (NACE Class 29.24) – including the manufacture of gas generators, oil filters and weighing machinery – which contributed just under one fifth (19.7 %) of sectoral value added.

The general purpose machinery sectors in Germany and Italy together contributed more than half (52.2 %) of the EU-27's value added generated in 2006. Germany had by far the highest level of activity, however, with EUR 35.9 billion of value added generated in 2006, which was more than double the EUR 16.6 billion recorded for Italy. These two countries were the most specialised Member States in the manufacture of general purpose machinery, as the relative contributions of this sector to non-financial business economy value added stood at 3.1 % for Germany and 2.6 % for Italy, well above the EU-27 average (1.8 %).

Annual short-term statistics show that the staggered growth in both the production indices for the manufacture of power machinery (NACE Group 29.1) and other general purpose machinery (NACE Group 29.2) followed a similar pattern, although slightly more pronounced, than the index of production for machinery and equipment manufacturing (NACE Subsection DK) as a whole during the ten-year period between 1997 and 2007. The growth in EU-27 output of power machinery was particularly strong from 2003 onwards, raising the average rate of growth over the ten years considered to 3.2 % per annum. In contrast, the strongest growth in output for other general purpose machinery was recorded in the period between 1997 and 2000, which lifted its average rate of growth over the ten years through to 2007 to 3.0 % per annum. As such, both rates were above the average (2.6 % per annum) recorded for the whole of machinery and equipment manufacturing.

Expenditure and productivity

A majority (58.1 %) of the tangible investment made in the EU-27's machinery and equipment manufacturing (NACE Subsection DK) activities in 2006 could be attributed to general purpose machinery manufacturing (NACE Groups 29.1 and 29.2). In comparison to the value added generated by the sector, tangible investment of EUR 8.9 billion corresponded to an investment rate of 9.7 %, which although relatively low in comparison with the non-financial business economy was a little higher than the average (9.0 %) for the whole of machinery and equipment manufacturing.

The structure of operating expenditure in the EU-27's general purpose machinery sector was very similar to that across machinery and equipment manufacturing as a whole, with 23.8 % of the total being accounted for by personnel costs in 2006. Average personnel costs of EUR 40.8 thousand per employee were recorded in the

EU-27 for general purpose machinery manufacturing which was about EUR 12.0 thousand per employee higher than the average for the EU-27's non-financial business economy.

The apparent labour productivity of each person employed within the EU-27's general purpose machinery manufacturing sector averaged EUR 56.1 thousand of value added in 2006. However, the resulting wage adjusted labour productivity ratio of 137.6 % was roughly equal to the machinery and equipment manufacturing average (135.8 %) and was relatively low in terms of a comparison with the non-financial business economy average (151.1 %). This characteristic was common for the majority of Member States, with exceptions limited to Belgium, Greece, France, Italy and Austria, where the wage adjusted labour productivity ratio for the general purpose machinery sector was higher than the non-financial business economy average.

10.2: Agricultural and forestry machinery

NACE Group 29.3 covers the manufacture of agricultural tractors and other agricultural and forestry machinery, but not agricultural hand tools.

Domestic demand for agricultural machinery is closely linked to structural developments and profitability within farming, which in turn are, at least in part, linked to the Common Agricultural Policy and to the opening-up of world agricultural markets.

The number of agricultural holdings in the EU has been declining rapidly for many years. A lengthy time-series is only available for the EU-15, and this shows that the number of holdings fell from 7.4 million in 1995 to 5.7 million by 2007 (an overall decline of 23.2 %). Within the EU-27, the number of holdings fell by 8.8 % overall between 2005 and 2007 to 13.7 million. This reduction in holdings may reflect a change in land use, or the consolidation of small-sized holdings into larger farms, both of which are likely to result in a reduction in domestic demand for machinery.

Table 10.8: Manufacture of agricultural and forestry machinery (NACE Group 29.3)

Structural profile: ranking of top five Member States in terms of value added and persons employed, 2006

	Highest value added (1)			Largest number of persons employed (1)			Most specialised: share in non-financial business economy (%) (2)	
	Country	(EUR million)	(% of EU-27)	Country	(thousand)	(% of EU-27)	Country	Value added
1	Germany	2 390	26.8	Germany	38.3	18.1	Finland	0.4
2	Italy	1 578	17.7	Italy	35.7	16.8	Austria	0.3
3	France	1 219	13.7	France	27.3	12.9	Italy	0.2
4	United Kingdom	441	5.0	Poland	17.2	8.2	Denmark	0.2
5	Austria	435	4.9	Spain	11.2	5.3	Germany	0.2

(1) Malta, not available; the Netherlands and Poland, 2005.

(2) Malta and the Netherlands, not available; Bulgaria, Cyprus, Poland and Romania, 2005.

Source: Eurostat (SBS)

Structural profile

The agricultural and forestry machinery manufacturing sector (NACE Group 29.3) was one of the smaller activities within the EU-27's machinery and equipment (NACE Subsection DK) manufacturing sector. There were 22.2 thousand enterprises for whom this was their principal activity, together employing an estimated 212.0 thousand persons in 2006. The EU-27's agricultural and forestry machinery manufacturing sector generated EUR 8.9 billion of value added in 2006 from a turnover of approximately EUR 40 billion. This equated to 4.6 % of the total value added for the whole of the machinery and equipment sector, while sectoral shares were somewhat higher in terms of employment (5.8 %) and turnover (6.4 %), and much higher in terms of numbers of enterprises – where the agricultural and forestry machinery manufacturing sector made its greatest contribution to the machinery and equipment sector (12.8 %).

Within the EU-27's agricultural and forestry machinery sector, the vast majority of activity could be attributed to the other agricultural and forestry machinery (NACE Class 29.32) manufacturing subsector, which accounted for the bulk of sectoral value added (80.4 %), the remainder being generated by the manufacture of agricultural tractors (NACE Class 29.31).

More than one quarter (26.8 %) of the EU-27's value added in 2006 within the agricultural and forestry machinery manufacturing sector was generated in Germany, the next largest contributions coming from Italy (17.7 %) and France (13.7 %) – the only other Member States to provide double-digit shares. In terms of this sector's contribution to non-financial business economy (NACE Sections C to I and K) value added, Finland and Austria were relatively the most specialised countries for the manufacture of agricultural and forestry machinery⁽⁴⁾, as this sector provided 0.4 % of non-financial business economy value added in Finland and 0.3 % in Austria, compared with an EU-27 average of 0.2 %.

EU-27 agricultural and forestry machinery manufacturing output grew by 2.5 % per annum, on average, during the period between 1997 and 2007. The development of the index of production followed an uneven pattern, with rapid growth to 1998, followed by a period of almost no change in output through to 2001, a temporary expansion in 2002 and then more renewed growth from 2004 onwards. A particularly rapid increase in production was recorded in 2007 when output rose by 9.5 %.

(*) Bulgaria, Cyprus, Poland and Romania, 2005; Malta and the Netherlands, not available.

Table 10.9: Agricultural and forestry machinery (CPA Group 29.3)
Production of selected products, EU-27, 2007 (1)

	Prodcom code	Production value (EUR million)	Volume of sold production (thousand)	Unit of volume	Rounding base (thousand)
New agricultural and forestry tractors, wheeled, of an engine power > 90 kW (excluding pedestrian-controlled tractors)	29.31.23.70	4 559	60	units	3
New agricultural and forestry tractors, wheeled, of an engine power > 59 kW but ≤ 75 kW (excluding pedestrian-controlled tractors)	29.31.23.30	1 742	63	units	-
Combine harvester-threshers	29.32.34.10	1 418	16	units	-
New agricultural and forestry tractors, wheeled, of an engine power > 75 kW but ≤ 90 kW (excluding pedestrian-controlled tractors)	29.31.23.50	1 031	19	units	-

(1) Excluding products of a generic nature (other), sales of services such as repair, maintenance and installation; estimates; threshold of production value set at EUR 1 billion; the rounding base indicates the magnitude of the rounding employed to protect confidential cells (in the case of PRODCOM code 29.31.23.50, the volume of production lies within the range +/- 3 000 units of the reported value).

Source: Eurostat (PRODCOM)

Expenditure and productivity

The apparent labour productivity of those working in the EU-27's manufacture of agricultural and forestry machinery sector was EUR 42.1 thousand per person employed in 2006, well below the machinery and equipment average (EUR 52.8 thousand) and also the lowest among the NACE groups covered within this chapter. Average personnel costs within the agricultural

and forestry machinery sector were also relatively low, at EUR 31.4 thousand per employee in the EU-27 in 2006, again the lowest level among any of the NACE groups in this chapter. The resulting wage adjusted labour productivity ratio for the agricultural and forestry machinery sector (134.0 %) was slightly below the machinery and equipment average (135.8 %) and well below the average for the whole of the non-financial business economy (151.1 %).

Table 10.10: Manufacture of agricultural and forestry machinery (NACE Group 29.3)
Expenditure, productivity and profitability, EU-27, 2006

	(EUR million)			(EUR thousand per person)	
	Personnel costs	Purchases of goods & services	Investment in tangible goods	Apparent labour productivity	Average personnel costs
Agricultural & forestry machinery (1)	6 000	30 000	907	42.1	31.4
Agricultural tractors (2)	:	:	189	42.4	:
Other agricultural & forestry machinery	4 708	20 398	718	40.3	29.5

(1) Rounded estimate based on non-confidential data.

(2) Apparent labour productivity, 2005.

Source: Eurostat (SBS)

10.3: Industrial processing machinery

The manufacture of industrial processing machinery is made up of two NACE groups that cover the manufacture of machine-tools (NACE Group 29.4 and the manufacture of other special purpose machinery (NACE Group 29.5).

Industrial processing machinery covers the manufacture of a wide range of products that are destined for specific purposes within downstream manufacturing sectors. As such, demand is closely linked to general economic developments, as during periods of recession manufacturers in other areas of the industrial economy are unlikely to invest in or renew their machinery and equipment. Industrial processing machinery producers make specialist machines and applications to aid the manufacturing processes in a range of diverse sectors: for example, special purpose machinery for mining and quarrying, metallurgy, food and beverages processing, textiles and clothing production, paper and paperboard production, or construction.

Structural profile

There were 64.0 thousand enterprises in the EU-27 whose main activity was the manufacture of industrial processing machinery (NACE Groups 29.4 and 29.5) in 2006; together they generated EUR 65.4 billion of value added from sales of EUR 200.7 billion. As such, industrial processing machinery contributed just over one third (34.0 %) of the total value added that was generated across the whole of the machinery and equipment (NACE Subsection DK) manufacturing sector. The 1.2 million persons employed in the industrial processing machinery manufacturing sector within the EU-27 in 2006 also represented around a third (33.3 %) of the machinery and equipment workforce.

Of the two NACE groups that make up the manufacture of industrial processing machinery, the largest subsector (using any of the standard indicators to measure size) was the manufacture of other special purpose machinery (NACE Group 29.5), which accounted for a about three quarters of EU-27 sectoral value added (74.9 %) and employment (74.1 %), the remainder being

Table 10.11: Manufacture of machine-tools; manufacture of other special purpose machinery (NACE Groups 29.4 and 29.5) Structural profile, EU-27, 2006 (1)

	Enterprises (thousand)	Turnover (EUR million)	Value added (EUR million)	Persons employed (thousand)	Share in total (%)	
					Value added	Persons employed
Industrial processing machinery	64.0	200 688	65 400	1 215.0	100.0	100.0
Machine-tools	14.3	47 688	16 400	315.0	25.1	25.9
Other special purpose machinery	49.7	153 000	49 000	900.0	74.9	74.1
For metallurgy	3.1	7 700	2 600	60.0	4.0	4.9
For food, beverage & tobacco processing	9.8	19 300	6 600	130.0	10.1	10.7
For textile, apparel & leather production	4.7	12 600	3 800	81.7	5.8	6.7
For paper & paperboard production	1.2	8 952	2 808	45.8	4.3	3.8
Other special purpose machinery n.e.c.	24.0	66 178	22 949	435.1	35.1	35.8
For mining, quarrying and construction	6.9	38 504	10 420	191.4	15.9	15.8

(1) Rounded estimates based on non-confidential data.

Source: Eurostat (SBS)

Table 10.12: Manufacture of machine-tools; manufacture of other special purpose machinery (NACE Groups 29.4 and 29.5) Structural profile: ranking of top five Member States in terms of value added and persons employed, 2006

	Highest value added (1)			Largest number of persons employed (2)			Most specialised: share in non-financial business economy (%) (3)	
	Country	(EUR million)	(% of EU-27)	Country	(thousand)	(% of EU-27)	Country	Value added
1	Germany	27 597	42.2	Germany	429.9	35.4	Germany	2.4
2	Italy	9 975	15.3	Italy	175.9	14.5	Finland	2.0
3	United Kingdom	4 902	7.5	Poland	75.4	6.1	Austria	2.0
4	France	4 240	6.5	Spain	73.7	5.9	Czech Republic	1.8
5	Spain	3 143	4.8	France	71.8	5.9	Italy	1.6

(1) Luxembourg, Malta and the Netherlands, not available; Latvia and Poland, 2005.

(2) Luxembourg and Malta, not available; the Netherlands and Poland, 2005.

(3) Luxembourg, Malta and the Netherlands, not available; Bulgaria, Cyprus, Latvia, Poland and Romania, 2005.

Source: Eurostat (SBS)

attributed to the manufacture of machine tools (NACE Group 29.4). The largest of the six NACE classes within the other special purpose machinery subsector was the miscellaneous category of other special purpose machinery not elsewhere classified (NACE Class 29.56), which accounted for almost half of the value added (46.8 %) within this subsector, while the manufacture of special purpose machinery for mining, quarrying and construction (NACE Class 29.52, 21.3 %) and for food, beverage and tobacco processing (NACE Class 29.53, 13.5 %) were also relatively important.

The EU-27's industrial processing machinery manufacturing sector was dominated by output from Germany, which contributed 42.2 % of sectoral value added in 2006 (some EUR 27.6 billion). The German share of EU-27 value added

was almost three times as high as the next biggest share, recorded in Italy (15.3 %), which in turn was twice as high as the third highest share in the United Kingdom (7.5 %). When restricting the analysis to just the machine tools subsector, Germany had an even greater presence, providing more than half (51.5 %) of the EU-27's value added in 2006.

Germany was also the most specialised Member State for industrial processing machinery manufacturing, as this sector contributed 2.4 % to German non-financial business economy (NACE Sections C to I and K) value added in 2006, which was double the EU-27 average (1.2 %); other Member States⁽⁵⁾ that were relatively specialised included Finland and Austria (both 2.0 %).

The production indices for the two NACE groups that comprise industrial processing machinery

(5) Bulgaria, Cyprus, Latvia, Poland and Romania, 2005; Luxembourg, Malta and the Netherlands, not available.

Table 10.13: Industrial processing machinery (CPA Groups 29.4 and 29.5)
Production of selected products, EU-27, 2007 (1)

	Prodcom code	Production value (EUR million)	Rounding base (EUR million)	Volume of sold production (thousand)	Unit of volume	Rounding base (million)
Parts for earthmoving equipment., ships' derricks, cranes, mobile lifting frames excluding buckets, shovels, grabs, grips, blades (all types of construction equipment), for boring/sinking machinery	29.52.61.50	5 270	-	-	-	-
Self-propelled bulldozers with a 360° revolving superstructure	29.52.26.00	4 637	-	74	units	-
Injection or compression type mould tools for rubber or plastics	29.56.24.70	4 500	30	4 084	units	4
Sorting, screening, separating, washing machines; crushing, grinding, mixing, kneading machines excluding concrete/mortar mixers, machines for mixing mineral substances with bitumen	29.52.40.30	3 392	-	187	units	-

(1) Excluding products of a generic nature (other), sales of services such as repair, maintenance and installation; estimates; threshold of production value set at EUR 3 billion; the rounding base indicates the magnitude of the rounding employed to protect confidential cells (in the case of PRODCOM code 29.56.24.70, the value lies within the range +/- EUR 30 million of the reported value).

Source: Eurostat (PRODCOM)

manufacturing followed a similar path in the past decade. Growth was, on average, relatively modest within the EU-27, averaging 1.7 % per annum during the ten-year period from 1997 to 2007 for machine tools, while the corresponding rate for other special purpose machinery was 1.6 % per annum. Both of these values were considerably lower than the average rates of growth recorded for the whole of machinery and equipment manufacturing over the same period (2.6 % per annum).

Expenditure and productivity

EU-27 gross tangible investment in the industrial processing machinery manufacturing sector was EUR 5.5 billion in 2006, almost one third (31.4 %) of all investment in the machinery and equipment manufacturing sector. The investment rate for the industrial processing machinery manufacturing sector (8.3 %) was slightly lower than the machinery and equipment average (9.0 %).

Personnel costs accounted for 25.0 % of operating expenditure in the EU-27's industrial processing machinery manufacturing sector in 2006, which was somewhat higher than the machinery and equipment average of 23.6 %. Average personnel costs in the EU-27's industrial processing

machinery manufacturing sector were EUR 38.6 thousand per employee in 2006 (almost the same as the machinery and equipment average). Each person employed within the EU-27's industrial processing machinery manufacturing sector generated an average of EUR 53.8 thousand of added value in 2006, which was EUR 1.1 thousand more than the average recorded for the whole of the machinery and equipment sector. Combining these two ratios results in a wage adjusted labour productivity ratio of 139.3 % for the industrial processing machinery manufacturing sector in 2006, which – although the highest ratio among the subchapters covered by this chapter – was well below the non-financial business economy average (151.1 %).

Looking in more detail at these productivity measures, the highest level of labour productivity in the EU-27 was recorded for the manufacture of special purpose machinery for paper and paperboard production (NACE Class 29.55), where each person employed generated an average of EUR 61.3 thousand of value added in 2006. This disparity was however reflected in the average personnel costs for this subsector, which stood at EUR 49.9 thousand per employee, again by far the highest level among the NACE classes covered.

Table 10.14: Manufacture of machine-tools; manufacture of other special purpose machinery (NACE Groups 29.4 and 29.5) Expenditure, productivity and profitability, EU-27, 2006 (1)

	(EUR million)			(EUR thousand per person)	
	Personnel costs	Purchases of goods & services	Investment in tangible goods	Apparent labour productivity	Average personnel costs
Industrial processing machinery	46 879	140 281	5 468	53.8	38.6
Machine-tools	11 879	32 281	1 310	52.1	39.2
Other special purpose machinery	35 000	108 000	4 158	54.4	38.5
For metallurgy (2)	1 800	6 300	173	43.3	30.7
For food, beverage & tobacco processing	4 700	13 000	450	50.8	37.9
For textile, apparel & leather production (2)	3 000	9 000	300	46.5	38.9
For paper & paperboard production	2 202	6 404	152	61.3	49.9
Other special purpose machinery n.e.c.	16 943	44 021	1 921	52.7	40.4
For mining, quarrying & construction (2)	6 491	29 291	943	54.4	35.1

(1) Rounded estimates based on non-confidential data.

(2) Investment in tangible goods, 2005.

Source: Eurostat (SBS)

10.4: Arms and ammunition

The activity of NACE Group 29.6 covers the manufacture of tanks and other fighting vehicles, artillery material and ballistic missiles, small arms and ammunition. This activity also includes the manufacture of hunting, sporting or protective firearms and ammunition, as well as explosive devices such as bombs, mines and torpedoes.

In comparison to many of the other sectors of the economy covered by this publication, the availability of data on the arms and ammunition sector is often restricted by issues of confidentiality. Therefore, the likelihood of an under-reporting of arms production and sales must be borne in mind by readers.

Structural profile

In the EU-27, the arms and ammunition (NACE Group 29.6) manufacturing sector was the smallest of the NACE groups that make up machinery and equipment (NACE Subsection DK) manufacturing. In 2006, it generated EUR 4.7 billion of value added and employed 97.3 thousand persons, and thereby accounted for only 2.4 % of the total value added generated across machinery and equipment manufacturing as a whole and 2.7 % of its workforce. There were 1.3 thousand enterprises registered in the EU-27's arms and

ammunition manufacturing sector in 2006, less than 1 % of all the machinery and equipment manufacturing enterprises in the EU-27.

The arms and ammunition manufacturing sector generated more value added in the United Kingdom than in any other Member State, accounting for well over one third (37.3 %) of EU-27 value added in 2006. The next largest contribution in this sector was made by Germany, with a 22.4 % share, and no other Member State recorded a double-digit share of the EU-27 total. The contribution made by the manufacture of arms and ammunition to the value added of the non-financial business economy (NACE Sections C to I and K) reached 0.6 % in Bulgaria, more than three times its share in the next most specialised Member State⁽⁶⁾, namely Sweden. In employment terms, this sector was less concentrated: although the United Kingdom was again the largest by this measure (16.6 thousand persons employed), its share of the EU-27 total was just 17.0 %, less than half its share in value added terms. Bulgaria had the second largest workforce, 14.1 thousand persons employed, slightly more than in Germany.

Over the period between 1997 and 2007, the production index for arms and ammunition manufacturing grew by an average 1.3 % per annum in the EU-27, the second slowest rate of growth among the NACE groups that comprise

(6) Bulgaria, Cyprus, Poland, Portugal and Romania, 2005; Denmark, Estonia, Latvia, Luxembourg, Malta and the Netherlands, not available.

Table 10.15: Manufacture of weapons and ammunition (NACE Group 29.6)

Structural profile: ranking of top five Member States in terms of value added and persons employed, 2006

	Highest value added (1)			Largest number of persons employed (2)			Most specialised: share in non-financial business economy (%) (3)	
	Country	(EUR million)	(% of EU-27)	Country	(thousand)	(% of EU-27)	Country	Value added
1	United Kingdom	1 750	37.3	United Kingdom	16.6	17.0	Bulgaria	0.6
2	Germany	1 050	22.4	Bulgaria	14.1	14.5	Sweden	0.2
3	Italy	416	8.9	Germany	13.8	14.2	United Kingdom	0.2
4	France	354	7.5	France	10.2	10.5	Czech Republic	0.1
5	Sweden	280	6.0	Romania	9.2	9.5	Germany	0.1

(1) Denmark, Estonia, Latvia, Luxembourg, Malta and the Netherlands, not available; Poland and Portugal, 2005.

(2) Denmark, Estonia, Luxembourg and Malta, not available; the Netherlands, Poland and Portugal, 2005.

(3) Denmark, Estonia, Latvia, Luxembourg, Malta and the Netherlands, not available; Bulgaria, Cyprus, Poland, Portugal and Romania, 2005.

Source: Eurostat (SBS)

machinery and equipment manufacturing, faster only than for the manufacture of domestic appliances (NACE Group 29.7). However, there were three distinct periods of output development: the first was characterised by falling output after 1997 through until 2000; the second was the subsequent, sustained strong growth through until 2006, at an average rate of 5.3 % per annum; the third and most recent was a return to negative rates of change in 2007 when output contracted by 4.9 %.

Expenditure and productivity

Gross tangible investment by the EU-27's arms and ammunition manufacturing sector was valued at EUR 326 million in 2006, 1.9 % of the machinery and equipment manufacturing total. This level of investment was equivalent to just 6.9 % of the sector's value added, which was the lowest investment rate among all of the EU-27's machinery and equipment manufacturing NACE groups in 2006. In Slovenia and Cyprus, the investment rate in this sector was much higher than the average for machinery and equipment manufacturing, more than three times as high in Slovenia, and more than twice as high in Cyprus.

An analysis of expenditure shows that personnel costs accounted for 28.1 % of operating expenditure in the EU-27's arms and ammunition manufacturing sector in 2006, higher than the average 23.6 % share for machinery and equipment manufacturing. Average personnel costs were EUR 37.8 thousand per employee in the EU-27's arms and ammunition manufacturing sector in 2006, while apparent labour productivity was EUR 48.2 thousand per person employed: both of these were below the averages for machinery and equipment manufacturing as a whole, particularly the apparent labour productivity. The wage adjusted labour productivity ratio of the EU-27's arms and ammunition manufacturing sector was 127.3 % in 2006, the lowest of any of the NACE groups that make up machinery and equipment manufacturing. The United Kingdom, Slovenia, the Czech Republic and Spain were the only Member States⁽⁷⁾ to record higher wage adjusted labour productivity ratios for arms and ammunition manufacturing than for machinery and equipment manufacturing as a whole in 2006. Several Member States, namely Romania, France, Greece and Lithuania, reported wage adjusted labour productivity ratios below 100 % in this sector, indicating that average personnel costs exceeded apparent labour productivity.

(7) Poland and Portugal, 2005; Denmark, Estonia, Ireland, Latvia, Luxembourg, Malta and the Netherlands, not available.

10.5: Domestic appliances

The activities of NACE Group 29.7 cover the manufacture of domestic electrical appliances (such as refrigerators, freezers and dish washing machines), heating appliances, and non-electric domestic cooking equipment.

Among the activities covered by the machinery and equipment manufacturing sector, the domestic appliances manufacturing sector (NACE Group 29.7) is the only one for which households are the main customers. Product innovations have tended to concentrate on efficiency and environmental considerations such as energy and water consumption, lifestyle changes, the incorporation of new materials, design and ergonomics.

Structural profile

The domestic appliances manufacturing sector (NACE Group 29.7) of the EU-27 consisted of 5.2 thousand enterprises, which employed 287.6 thousand persons, accounting for 7.9 % of the workforce within machinery and equipment manufacturing (NACE Subsection DK). These enterprises recorded EUR 52.7 billion of turnover in 2006, from which EUR 12.7 billion of value added was generated, the latter accounting for 6.6 % of the machinery and equipment manufacturing total. Within this sector the manufacture of electric domestic appliances (NACE Class 29.71) contributed just over 84 % of sectoral value added and employment, the remainder coming from the manufacture of non-electric domestic appliances (NACE Class 29.72).

The value added generated by the domestic appliances manufacturing sector in Germany was much larger than that in any other Member State, accounting for 28.4 % of the EU-27 total in 2006: Italy (20.6 % of the EU-27 total) and the United Kingdom (10.4 %) were the only other Member States with a double-digit share. Italy and Germany had the largest workforces in this sector, both over 55 000 persons employed. In relative terms, Slovenia was by far the most specialised Member State⁽⁸⁾ in the manufacture of domestic appliances, as this sector contributed 2.0 % to Slovenian non-financial business economy (NACE Sections C to I and K) value added in 2006, approaching nine times the average contribution (0.2 %) across the EU-27: this high degree of specialisation in Slovenia was due essentially to the electric domestic appliances manufacturing subsector.

The production index for domestic appliances manufacturing in the EU-27 developed in an almost identical manner to the index for machinery and equipment manufacturing as a whole in the period between 1997 and 2002. Thereafter, the output of domestic appliances manufacturing either contracted or grew weakly in every year with the exception of 2006 when growth of 4.4 % was recorded. Between 2003 and 2007 output from domestic appliances manufacturing grew on average by 0.8 % per annum, whereas overall output from machinery and equipment manufacturing averaged growth of 5.3 % per annum during the same period.

(8) Bulgaria, Cyprus, Poland, Portugal and Romania, 2005; Denmark, Estonia, Latvia, Luxembourg, Malta and the Netherlands, not available.

Table 10.16: Manufacture of domestic appliances n.e.c. (NACE Group 29.7)
Structural profile: ranking of top five Member States in terms of value added and persons employed, 2006

	Highest value added (1)			Largest number of persons employed (2)			Most specialised: share in non-financial business economy (%) (3)	
	Country	(EUR million)	(% of EU-27)	Country	(thousand)	(% of EU-27)	Country	Value added
1	Germany	3 613	28.4	Italy	57.7	20.0	Slovenia	2.0
2	Italy	2 621	20.6	Germany	55.9	19.4	Hungary	0.6
3	United Kingdom	1 324	10.4	United Kingdom	24.4	8.5	Italy	0.4
4	Spain	1 183	9.3	Spain	20.6	7.2	Poland	0.3
5	France	925	7.3	Poland	18.5	6.6	Romania	0.3

(1) Denmark, Estonia, Latvia, Luxembourg and Malta, not available; the Netherlands, Poland and Portugal, 2005.

(2) Denmark, Estonia, Luxembourg and Malta, not available; the Netherlands, Poland and Portugal, 2005.

(3) Denmark, Estonia, Latvia, Luxembourg, Malta and the Netherlands, not available; Bulgaria, Cyprus, Poland, Portugal and Romania, 2005.

Source: Eurostat (SBS)

Table 10.17: Domestic appliances (CPA Group 29.7)
Production of selected products, EU-27, 2007 (1)

	Prodcom code	Production value (EUR million)	Rounding base (EUR million)	Volume of sold production (million)	Unit of volume
Fully-automatic washing machines of a dry linen capacity ≤ 10 kg (including machines which both wash and dry)	29.71.13.30	4 470	-	18	units
Household dishwashing machines	29.71.12.00	2 529	-	10	units
Combined refrigerators-freezers, with separate external doors	29.71.11.10	2 082	-	8	units
Domestic electric ovens for building-in	29.71.28.70	1 737	-	8	units
Parts for electro-mechanical domestic appliances with a self-contained electric motor	29.71.30.30	1 589	-	-	-
Non-electric instantaneous or storage water heaters	29.72.14.00	1 498	-	5	units
Domestic electric hobs for building-in	29.71.28.33	1 441	-	13	units
Electric water heaters (including storage water heaters) (excluding instantaneous)	29.71.25.50	1 333	-	15	units
Domestic electric cookers with at least an oven and a hob (including combined gas-electric appliances)	29.71.28.10	1 260	30	4	units
Ventilating or recycling hoods incorporating a fan, with a maximum horizontal side ≤ 120 cm	29.71.15.50	1 169	-	15	units
Household-type refrigerators (including compression-type, electrical absorption-type) (excluding built-in)	29.71.11.33	1 131	-	5	units
Drying machines of a dry linen capacity ≤ 10 kg	29.71.13.70	1 057	-	5	units
Iron or steel solid fuel domestic appliances (including heaters, grates, fires and braziers; excluding cooking appliances and plate warmers)	29.72.12.70	1 028	-	2	units

(1) Excluding products of a generic nature (other), sales of services such as repair, maintenance and installation; estimates; threshold of production value set at EUR 1 billion; the rounding base indicates the magnitude of the rounding employed to protect confidential cells (in the case of PRODCOM code 29.71.28.10, the value lies within the range +/- EUR 30 million of the reported value).

Source: Eurostat (PRODCOM)

Expenditure and productivity

The EU-27's domestic appliances manufacturing sector recorded EUR 1.9 billion of gross tangible investment in 2006, 10.6 % of the machinery and equipment manufacturing total. This was equivalent to 14.6 % of the domestic appliances manufacturing sector's value added, giving this sector the highest investment rate among any of the machinery and equipment manufacturing NACE groups in 2006, although it was still some way below the non-financial business economy average of 18.4 %.

The proportion of operating expenditure accounted for by personnel costs in the EU-27's domestic appliances manufacturing sector was 18.4 % in 2006, much lower than the average proportion within machinery and equipment manufacturing as a whole (23.6 %) and much closer to the proportion across the non-financial business economy (16.1 %). This low proportion may be explained, in part, by average personnel costs in the sector

that were EUR 6.0 thousand per employee lower than the machinery and equipment manufacturing average, at EUR 32.8 thousand per employee. The apparent labour productivity of the domestic appliances manufacturing sector was EUR 44.2 thousand per person employed in 2006, resulting in a wage adjusted labour productivity ratio of 134.6 %, fractionally below the ratio (135.8 %) for machinery and equipment manufacturing as a whole. The non-electric domestic appliances manufacturing subsector recorded a higher wage adjusted labour productivity ratio (150.4 %) that was only just below the non-financial business economy average (151.1 %). Slovakia recorded a negative wage adjusted labour productivity ratio in its domestic appliances manufacturing sector in 2006, due to negative value added, while Sweden recorded a ratio of 92.1 % indicating that average personnel costs exceeded apparent labour productivity in its domestic appliances manufacturing sector.

Table 10.18: Manufacture of domestic appliances n.e.c. (NACE Group 29.7)
Expenditure, productivity and profitability, EU-27, 2006

	(EUR million)			(EUR thousand per person)	
	Personnel costs	Purchases of goods & services	Investment in tangible goods	Apparent labour productivity	Average personnel costs
Domestic appliances	9 153	40 599	1 856	44.2	32.8
Electric domestic appliances	7 879	35 813	1 625	44.2	33.5
Non-electric domestic appliances	1 274	4 786	231	44.1	29.3

Source: Eurostat (SBS)

Table 10.19: Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Main indicators, 2006 (1)

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT
Enterprises	2.0	1.9	8.5	2.3	19.2	0.3	0.3	6.6	14.5	16.0	41.4	0.2	0.3	0.4
Persons employed	43.7	70.2	163.3	62.7	1 056.4	5.6	11.6	22.8	193.6	305.8	567.4	1.0	7.2	10.9
Turnover	11 116	1 365	10 686	11 108	207 870	272	2 338	1 773	30 332	65 354	116 214	82	177	340
Production	10 356	1 280	10 596	10 803	198 719	256	2 250	1 722	28 235	57 298	114 131	72	174	332
Purch. of goods & serv.	8 020	1 100	8 440	7 481	140 328	201	1 398	1 336	21 955	46 589	88 612	53	119	237
Value added	3 270	352	2 909	4 026	70 548	81	954	691	9 319	18 047	31 184	29	65	115
Personnel costs	2 131	211	1 814	2 965	53 794	59	448	430	6 330	13 964	20 197	19	40	76
Average personnel costs	50.9	3.1	11.7	48.0	51.4	10.6	39.1	26.6	34.1	46.4	39.8	20.4	5.6	7.1
Gross operating surplus	1 139	141	1 095	1 061	16 754	23	506	262	2 989	4 084	10 987	11	25	39
Gross investment	260	127	578	380	5 402	18	129	157	1 010	1 427	3 009	4	16	29
Apparent labour prod.	74.8	5.0	17.8	64.3	66.8	14.6	82.3	30.3	48.1	59.0	55.0	28.6	9.0	10.5
Wage adj. labour prod.	147.1	162.8	152.8	134.0	129.9	138.3	210.7	114.1	141.0	127.3	138.1	140.6	161.7	149.4
Gross operating rate	10.2	10.4	10.2	9.6	8.1	8.4	21.6	14.7	9.9	6.2	9.5	13.2	14.0	11.5
Investment rate	8.0	36.0	19.9	9.4	7.7	22.4	13.5	22.7	10.8	7.9	9.6	14.0	24.4	25.3
	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	NO
Enterprises	0.0	6.3	:	4.4	2.3	14.0	7.7	1.5	1.5	0.7	3.5	5.8	13.0	2.4
Persons employed	2.4	68.7	:	85.8	81.5	196.6	47.6	103.4	27.1	45.4	58.4	117.3	278.1	24.0
Turnover	654	4 732	:	18 466	17 261	10 172	3 491	2 222	2 590	2 762	14 741	25 582	53 891	7 637
Production	585	4 010	:	17 456	16 822	9 365	3 286	2 212	2 338	2 703	14 211	22 683	49 737	7 389
Purch. of goods & serv.	486	3 606	:	12 990	11 950	7 568	2 450	1 675	1 904	2 197	11 311	18 849	34 962	5 525
Value added	181	1 203	:	5 727	6 185	3 169	1 143	633	725	593	3 910	7 026	18 960	2 225
Personnel costs	124	695	:	3 942	3 928	1 590	765	518	480	407	2 623	4 950	12 531	1 527
Average personnel costs	52.2	10.7	:	47.3	49.0	8.8	16.3	5.0	18.4	9.0	45.6	49.1	46.1	66.6
Gross operating surplus	57	508	:	1 785	2 257	1 578	378	115	245	186	1 286	1 875	6 430	698
Gross investment	25	247	:	341	562	510	201	275	137	200	249	681	1 173	166
Apparent labour prod.	75.7	17.5	:	66.8	75.9	16.1	24.0	6.1	26.7	13.1	66.9	59.9	68.2	92.8
Wage adj. labour prod.	145.0	163.7	:	141.2	154.8	183.6	146.7	121.8	145.3	145.4	146.9	121.9	147.8	139.2
Gross operating rate	8.7	10.7	:	9.7	13.1	15.5	10.8	5.2	9.5	6.7	8.7	7.3	11.9	9.1
Investment rate	13.7	20.5	:	5.9	9.1	16.1	17.6	43.5	18.9	33.7	6.4	9.7	6.2	7.5

(1) The Netherlands and Poland, 2005; unless otherwise stated, values refer to EUR million; number of enterprises and number of persons employed are given in thousands; average personnel costs and apparent labour productivity are given in EUR thousand per person; wage adjusted labour productivity, gross operating rate and investment are ratios expressed as percentages.

Source: Eurostat (SBS)

