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Transport and storage

Transport services are composed of: land transport (rail, road and pipelines: NACE Division 60); water transport (NACE Division 61), air transport (NACE Division 62), warehousing and transport support activities (NACE Groups 63.1, 63.2 and 63.4) and travel agencies (NACE Group 63.3).

Note that this chapter focuses on transport services provided to clients for hire and reward. When analysing transport traffic volumes (for example, tonnes of freight) as presented in this chapter, it is important to bear in mind that these include own account transport as well as transport services for hire and reward. This is particularly important in road transport where, for example, a manufacturer might collect materials or deliver own output, rather than contracting a transport service enterprise to do this. Equally, the use of own vehicles (typically passenger cars) accounts for a very large part of passenger transport. Such own account transport does not contribute towards the statistics on the transport services sector.

EU transport policy is based upon the 2001 White paper 'European transport policy for 2010: time to decide' [1] and the 2006 mid-term review in the European Commission's communication [2] 'Keep Europe moving – sustainable mobility for our continent'. In 2007 the European Commission adopted a communication [3] on 'Keeping freight moving', to make rail freight more competitive, facilitate modernisation of ports, and review progress in the development of sea shipping.

Environmental issues remain of great importance to this sector, as transport is a major source of emissions and noise. In 2008 the European Commission put forward a package of measures related to road and rail transport referred to as 'Greening Transport'. This included a communication [4] summarising the packages and initiatives planned for 2009, a strategy to internalise the cost of transport externalities, a proposal for a Directive on road tolls for lorries, and a communication on rail noise. The overall thrust of the package is to try to move towards more sustainable transport.

Structural profile

There were in excess of 1.1 million enterprises in the transport services sector (NACE Divisions 60 to 63) in the EU-27 which employed 8.8 million persons in 2006 in the EU-27, which represented 6.8 % of those working in the non-financial business economy (NACE Sections C to I and K). This sector generated EUR 400.3 billion of value added in 2006 from turnover valued at EUR 1 209.5 billion: equivalent to 7.1 % of value added in the non-financial business economy and 5.4 % of its turnover.

(1) Available at: http://europa.eu.int/comm/energy_transport/en/lb_en.html.
(2) COM(2006) 314.
(3) COM(2007) 606.
(4) COM(2008) 433.

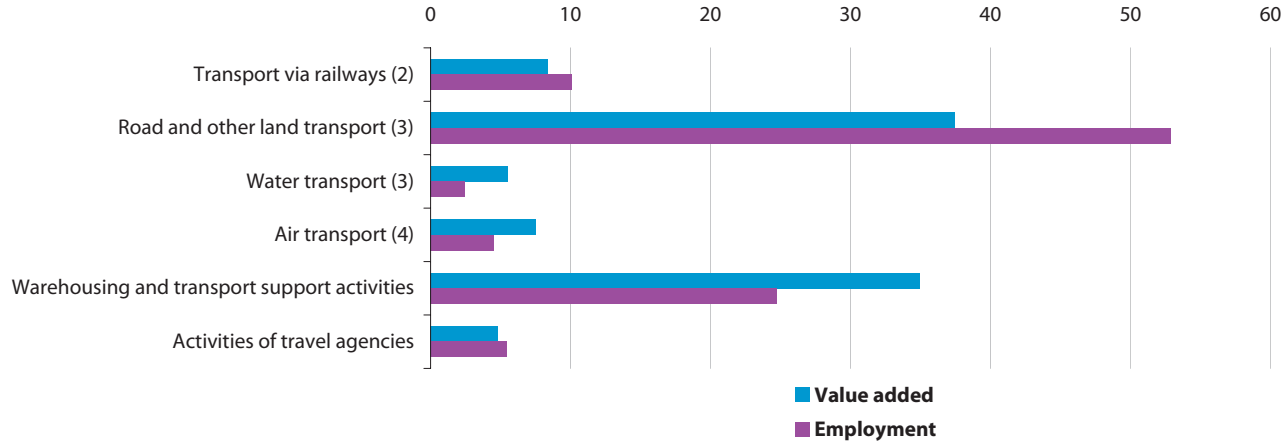
Table 21.1: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Structural profile, EU-27, 2006 (1)

	Enterprises		Turnover		Value added		Persons employed	
	(thousand)	(% of total)	(EUR million)	(% of total)	(EUR million)	(% of total)	(thousand)	(% of total)
Transport and storage	1 137.8	100.0	1 209 490	100.0	400 268	100.0	8 847.4	100.0
Transport via railways (2)	0.8	0.1	66 645	6.0	31 881	8.4	880.7	10.1
Road and other land transport (3)	900.0	79.1	370 000	30.6	150 000	37.5	4 616.0	52.9
Transport via pipelines (4)	:	:	11 000	1.0	:	:	:	:
Water transport (3)	18.9	1.7	100 000	8.3	22 000	5.5	213.5	2.4
Air transport (5)	3.5	0.3	110 000	9.9	30 000	7.5	400.0	4.5
Warehousing and transport	109.6	9.6	384 271	31.8	139 837	34.9	2 186.1	24.7
Activities of travel agencies	78.2	6.9	153 203	12.7	19 272	4.8	484.7	5.5

(1) Rounded estimates based on non-confidential data.
(2) Turnover, value added and number of persons employed, 2005.
(3) Number of persons employed, 2005.
(4) Turnover, 2005.
(5) Number of enterprises and turnover, 2005.

Source: Eurostat (SBS)

Figure 21.1: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Share of transport services, EU-27, 2006 (%) (1)



(1) Transport via pipelines, not available.
(2) 2005.
(3) Rounded estimates based on non-confidential data; number of persons employed, 2005.
(4) Rounded estimates based on non-confidential data.

Source: Eurostat (SBS)

Table 21.2: Transport and storage (NACE Divisions 60, 61, 62 and 63)
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	United Kingdom	73 393	18.3	Germany	1 317.6	14.9	Latvia (12.2)	Latvia (10.6)
2	Germany	69 906	17.5	France	1 125.1	12.7	Lithuania (11.1)	Luxembourg (9.5)
3	France	60 062	15.0	United Kingdom	1 085.2	12.3	Estonia (10.7)	Finland (9.4)
4	Italy	45 216	11.3	Italy	968.5	10.9	Luxembourg (10.1)	Cyprus (9.3)
5	Spain	38 363	9.6	Spain	888.3	10.0	Bulgaria (9.8)	Lithuania (9.2)

(1) Malta, not available; Cyprus 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.

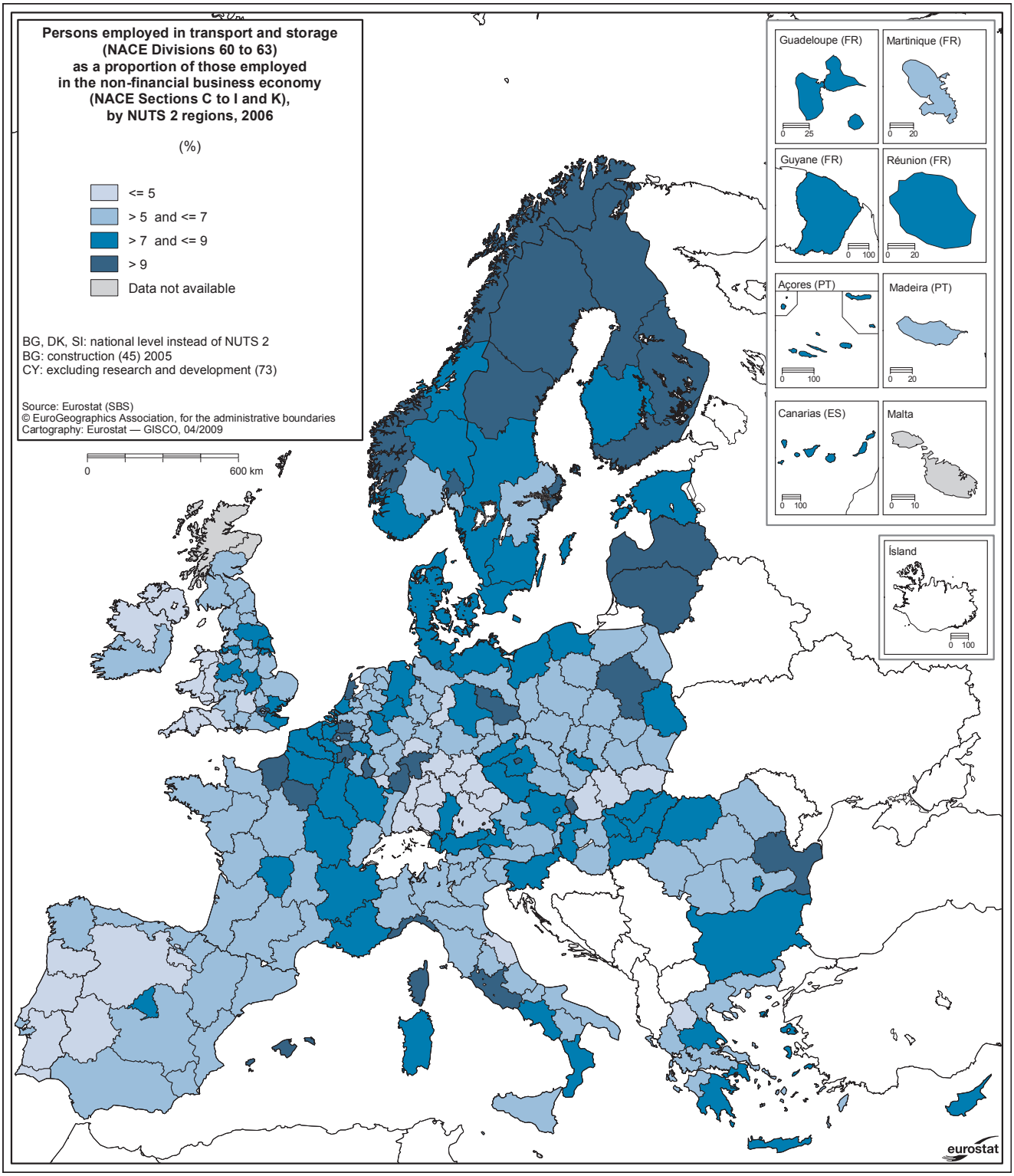
Source: Eurostat (SBS)

By far the two largest subsectors (based on an analysis of the activities covered in Subchapters 21.1 to 21.7) were road and other land transport (NACE Group 60.2, see Subchapter 21.2) and warehousing and transport support activities (NACE Groups 63.1, 63.2 and 63.4, see Subchapter 21.6) which each contributed more than one third of transport services value added. The next largest subsectors were rail transport (NACE Group 60.1, see Subchapter 21.1) and air transport (NACE Division 62, see Subchapter 21.5) which each generated around EUR 30 billion of value added (in 2005 and 2006 respectively). Water transport (NACE Division 61, see Subchapter 21.4) and the activities of travel agencies (NACE Group 63.3, see Subchapter 21.7) were around two thirds of this size, with value added around EUR 20 billion in 2006. In employment terms the dominance of the single largest subsector, road and other land transport, was even greater, occupying more than one half of the EU-27's transport services workforce. Transport via railways and the activities of travel agencies were the only other subsectors whose contribution to transport services was greater in employment than in value added terms.

The United Kingdom had the largest transport services sector in value added terms while Germany had the largest workforce in this sector. In value added terms the Baltic Member States were the most specialised [5] in transport services, as they, as well as Luxembourg, generated 10 % or

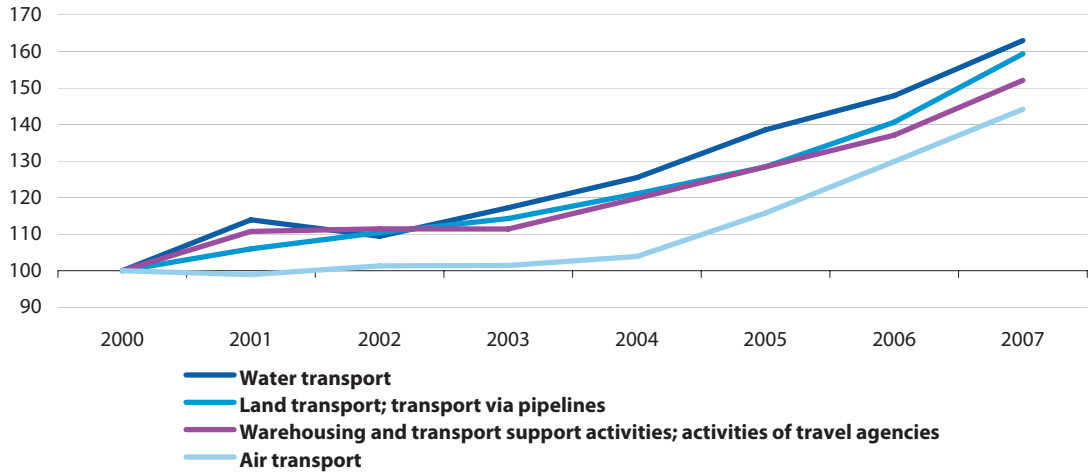
[5] Bulgaria, Cyprus, Poland and Romania, 2005; Malta and the Netherlands, not available.

Map 21.1: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Persons employed in transport and storage (NACE Divisions 60 to 63) as a proportion of those employed in the non-financial business economy (NACE Sections C to I and K) (%)



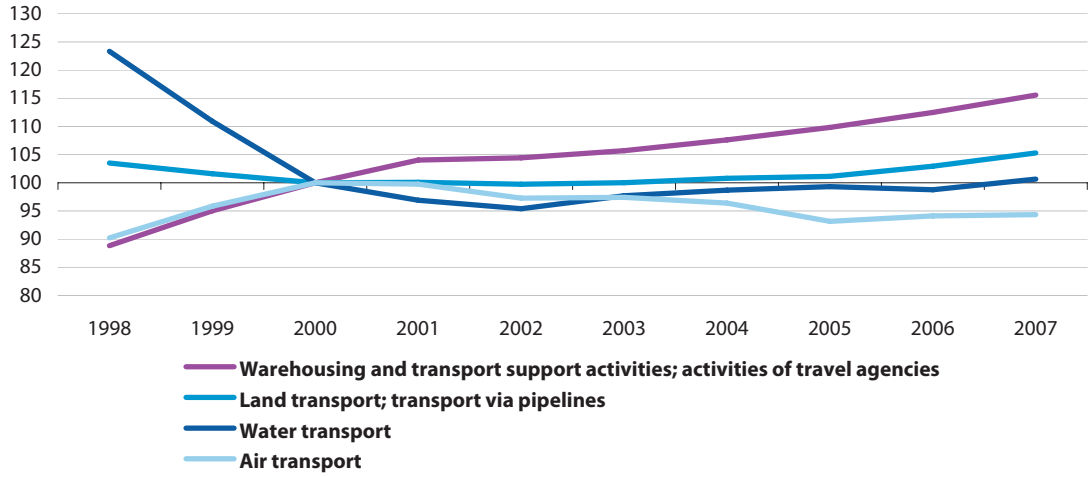
Source: Eurostat (SBS)

Figure 21.2: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Index of turnover, EU-27 (2000=100)



Source: Eurostat (STS)

Figure 21.3: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Index of employment, EU-27 (2000=100)



Source: Eurostat (STS)

more of their non-financial business economy value added in this sector. The transport services sector recorded its smallest shares of non-financial business economy value added in Germany, Slovakia and Ireland. In the case of Latvia, in value added terms transport services was the second largest of the activities presented in the sectoral Chapters 2 to 25 of this publication, smaller only than wholesale trade.

An analysis of the regional specialisation based on the non-financial business economy employment share of this sector shows that there are a number of regions that have a very different level of specialisation from the average recorded for the country to which they belong. While the island region of Åland (Finland) is by far the most specialised region (at the level of detail shown in the map) in transport services, the next two most specialised regions, Bratislavský kraj (Slovakia) and Bremen (Germany), are both in Member States which had a particularly low value added specialisation in transport services.

The development of the EU-27 turnover indices between 2000 and 2007 for transport services NACE divisions shows that the strongest growth was for water transport, with average growth of 7.2 % per annum over this period. Land transport and transport via pipelines recorded average growth that was only slightly slower (6.9 % per annum). Average growth in warehousing, transport

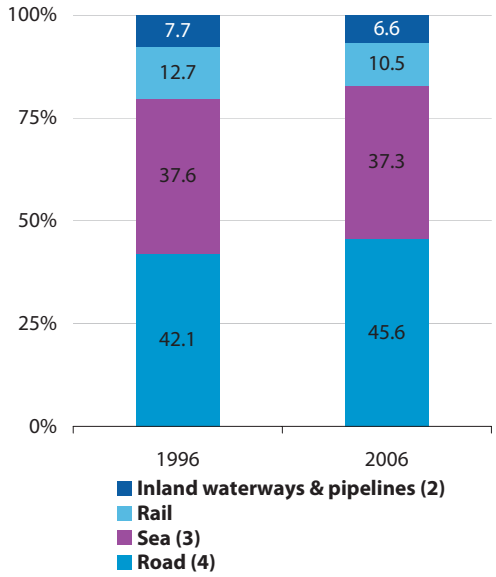
Table 21.3: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Share of value added and persons employed by enterprise size class, EU-27, 2006 (%)

	Value added		Persons employed	
	Non-financial business economy (1)	Transport and storage	Non-financial business economy	Transport and storage
1 to 9 persons employed	21.0	16.9	29.7	23.8
10 to 49 persons employed	18.9	18.0	20.7	19.2
50 to 249 persons employed	17.8	16.6	17.0	16.3
250 or more persons employed	42.1	48.5	32.6	40.7

(1) 1 to 9 persons employed and 50 to 249 persons employed, 2005.

Source: Eurostat (SBS)

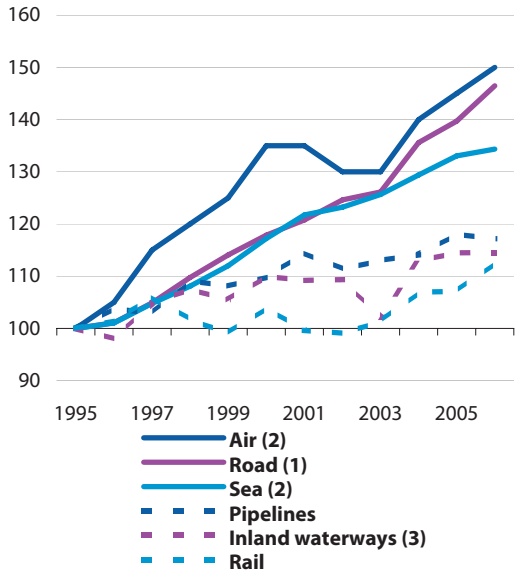
Figure 21.4: Transport and storage
Modal split of goods transport, EU-27 (% of billion tonne-kilometres) (1)



(1) Excluding air.
(2) Finland, inland waterways cover shipborne transport only.
(3) Domestic and intra-EU27 transport only; provisional estimates.
(4) Haulage by vehicles registered in the EU-27.

Source: Eurostat, ITF, UIC, national statistics, estimates, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

Figure 21.5: Transport and storage
Index of goods transport (billion tonne-kilometres), EU-27 (1995=100)



(1) Domestic and intra-EU27 transport only; provisional estimates.
(2) Haulage by vehicles registered in the EU-27.
(3) Finland, shipborne transport only.

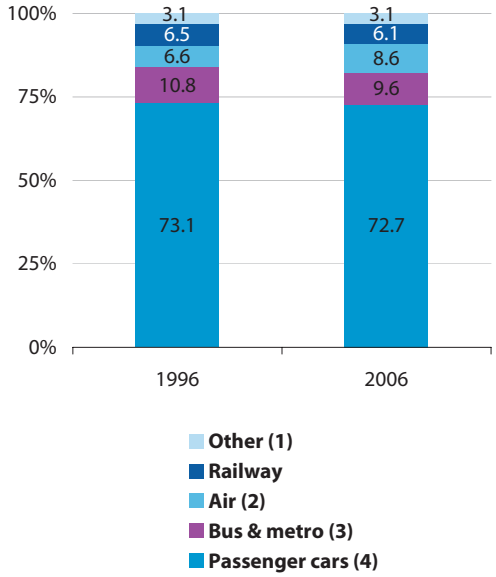
Source: Eurostat, ITF, UIC, national statistics, estimates, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

support activities and activities of travel agencies (6.2 % per annum) and air transport (5.4 % per annum) was somewhat lower still, but nevertheless above the non-financial services (NACE Sections G to I and Divisions 72 and 74) average in both cases.

During the period from 2000 to 2007, there was a negative rate of change in the turnover index for water transport in 2002 (-3.9 %) and for air transport in 2001 (-1.1 %), the latter reflecting a general economic slowdown as well as a number of exceptional circumstances. Whilst air transport recorded the lowest average growth over the seven-year period studied, in the most recent years for which data are available (2005 to 2007) it recorded double-digit growth each year, with the highest sales growth among the four transport services NACE divisions in two of these three years.

EU-27 employment indices are available for transport services NACE divisions from 1998, and these show a contrasting development in the various activities. The strongest growth was for warehousing, transport support activities and

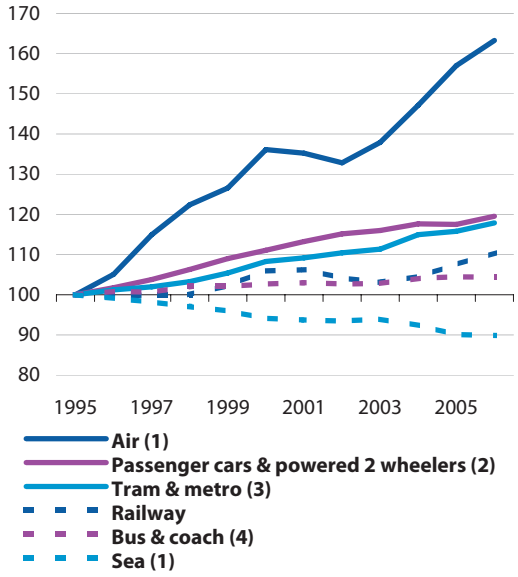
Figure 21.6: Transport and storage
Estimated modal split of passenger transport, EU-27
(% of billion passenger-kilometres)



(1) Powered two wheelers and sea (provisional estimates); sea includes only domestic and intra-EU-27 transport.
(2) Includes only domestic and intra-EU-27 transport; provisional estimates.
(3) Includes also coach and tram; Romania and Slovenia, only regular inter-urban transport for bus and coach; excluding Northern Ireland for bus and coach; Portugal, tram and metro includes only Lisbon and Porto metro.
(4) Belgium includes transport by light goods vehicle for personal use; the United Kingdom includes transport by vans; excluding Northern Ireland.

Source: Eurostat, ITF, IUPT, UIC, national statistics, estimates, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

Figure 21.7: Transport and storage
Index of estimated passenger transport (billion passenger-kilometres), EU-27
(1995=100)



(1) Includes only domestic and intra-EU-27 transport; provisional estimates.
(2) Belgium includes transport by light goods vehicle for personal use; the United Kingdom includes transport by vans; excluding Northern Ireland.
(3) Portugal, includes only Lisbon and Porto metro.
(4) Romania and Slovenia, only regular inter-urban transport; excluding Northern Ireland.

Source: Eurostat, ITF, IUPT, UIC, national statistics, estimates, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

activities of travel agencies, for which growth averaged 3.0 % per annum over this nine-year period, with growth recorded each and every year. This was the only one of the four transport services NACE divisions that recorded average employment growth above the non-financial services average (2.3 %). Air transport recorded an annual average growth rate of 0.5 %, but this was composed of strong growth in 1999 and 2000, followed by a more gentle decline most years since then, with the 1.0 % increase of 2006 the only significant recent employment gain in this subsector. Land transport and transport via pipelines also recorded overall growth during this period, a more modest 0.2 % per annum average. This resulted from a relatively strong fall in employment in 1999 and 2000, followed by a period of relatively stable employment, with more rapid expansion in the last two years for which data are available. Water transport was the only transport services NACE division to record an overall fall in employment between 1998 and 2007, averaging 2.2 % per annum. This was, however, due to a very strong fall in employment in 1999, 2000 and to a lesser extent 2001 and 2002. Since then the water transport employment index only fell once (-0.6 % in 2006), and averaged growth of 1.1 % per annum over the period 2002 to 2007.

Size class data show that large enterprises (with 250 or more persons employed) played an important role in transport services, with close to half (48.5 %) of the sector's value added and more than two fifths (40.7 %) of its employment within the EU-27 in 2006: in both cases this was well above the non-financial business economy average. All three of the other size classes contributed less in employment and value added terms to the transport services total than they did to the non-financial business economy total. Behind these averages for the transport services

sector lies a distinction, essentially between air and rail transport which are dominated by large enterprises on one hand, and the remaining transport services which are characterised by an employment contribution from large enterprises closer to the average for the non-financial business economy. The information that is available for a few Member States illustrates that transport via railways is dominated by large enterprises to a greater extent than in nearly any other activity: in Germany large enterprises contributed 93.2 % of employment in rail transport in 2006, while the equivalent share in the United Kingdom was 98.6 %. Equally, large enterprises accounted for a large share of air transport employment, exceeding 60 % in all of the Member States with data available for 2006. The importance of large enterprises in the EU-27's air transport sector was such that they accounted for 93.2 % of this activity's employment in 2006: this was the second highest employment share of large enterprises among all of the non-financial business economy NACE divisions [6] in 2005 or 2006, only smaller than for the mining of coal and lignite and the extraction of peat (NACE Division 10).

Transport of goods and passengers

Over several decades, road and sea transport of goods increased strongly in the EU, while the volume of goods transported by inland waterways was relatively stable and rail freight transport declined. For the EU-27 around ten years of data is now available for most modes of transport, and this provides an insight into the changes in more recent periods for both goods and passengers. Since 1996 the use of road freight transport increased steadily and strongly, and by 2006 its share (in terms of tonne-kilometres) of total freight (excluding air transport and extra-EU-27 sea transport) was approaching 50 %. Rail, pipeline and inland water freight transport, as well as intra-EU sea transport all increased in terms of tonne-kilometres transported, but their share of total freight transport decreased (only slightly for sea freight transport).

EU-27 sea passenger transport displayed a fall in the number of passenger-kilometres transported every year from 1995 onwards, with the exception of 2003. The fall in 2005 was particularly strong, down 2.4 %. In contrast, rail passenger transport recorded growth most years from 1997 onwards, with falls recorded only in 2002 and 2003. Growth was particularly strong in the two most recent years, 2.8 % recorded in 2005, and 2.7 % in 2006. Other collective land passenger transport such as buses, metros, trams and coaches also recorded relatively stable increases in their respective volumes of passenger transport, generally stronger for trams and metros than for buses and coaches.

In the EU-27 the fastest increase in passenger transport over the period considered was recorded for air transport, as its share of total passenger transport (in terms of passenger-kilometres) rose from 6.6 % in 1996 to 8.6 % by 2006. The relatively stable modal share of passenger cars reflects a growth rate in the use of passenger cars that was slightly higher than the rates recorded by all other forms of passenger transport (except for air transport).

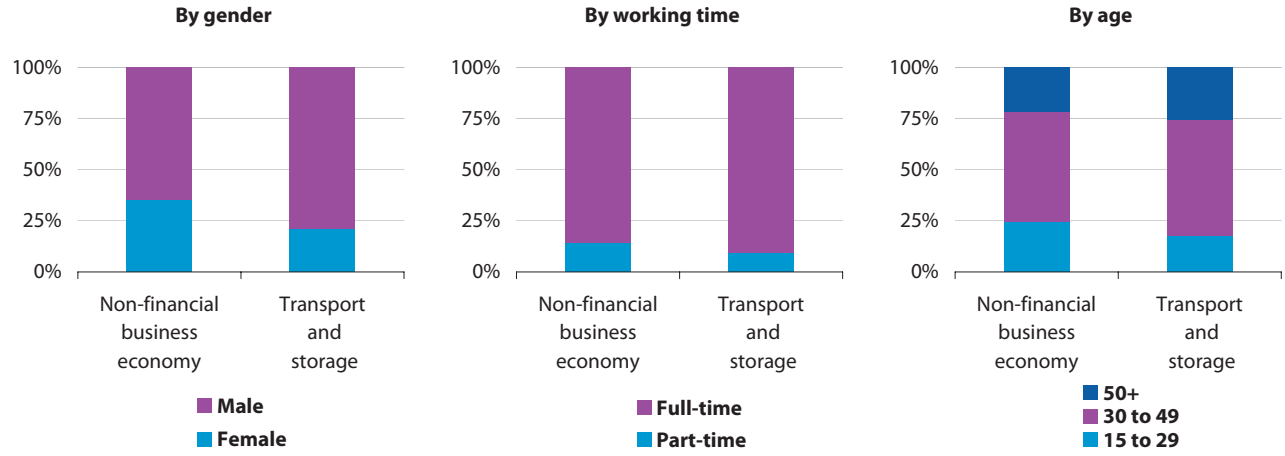
Employment characteristics

On the basis of Labour Force Survey data, transport services clearly stand out from most other service activities in terms of their gender profile. Only 20.9 % of those persons employed in this sector in 2007 in the EU-27 were women, around three fifths of the average for the non-financial business economy where women accounted for 35.1 % of those employed. In land transport and transport via pipelines (NACE Division 60) the share of women in the workforce was just 13.5 %, among the lowest shares across the non-financial business economy NACE divisions, higher only than in construction and two mining and quarrying (NACE Section C) divisions. The share of women in the workforce was also particularly low in water transport, 19.9 %, and just below the non-financial business economy average in warehousing, transport support activities and the activities of travel agencies (32.4 %). The only one of the four transport services NACE divisions where the share of women in the workforce was above the non-financial business economy was air transport where 40.7 % of the workforce was female.

Part-time work was also less common in transport services than in other activities, since 90.9 % of those employed in transport services in the EU-27 in 2007 worked on a full-time basis, compared with a non-financial business economy average of 85.7 %. The high incidence of full-time employment was observed in three of the transport services NACE divisions, particularly so in water transport (94.2 %) and land transport and transport via pipelines (92.7 %). The lowest rate of full-time employment was recorded for air transport (84.3 %), just 1.4 percentage points below the non-financial business economy average.

[6] NACE Divisions 11 and 12, not available.

Figure 21.8: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Employment characteristics, 2007



Source: Eurostat (LFS)

The age profile of the transport services workforce was also markedly different from the non-financial business economy average. The proportion of the EU-27 transport services workforce aged 15 to 29 was 17.7 % in 2007, some 6.7 percentage points below the average for the non-financial business economy. This was reflected in an above average share of older workers (aged 50 or more) representing more than one quarter (25.7 %) of the workforce, compared with just over one fifth (21.9 %) for the non-financial business economy as a whole. All of the transport services NACE divisions recorded a relatively low proportion of younger workers, but this was most notable for land transport and transport via pipelines where the proportion was as low as 14.1 %, one of the lowest among the non-financial business economy NACE divisions, higher only than in some mining and quarrying (NACE Section C) divisions. Air transport was the only transport services NACE division where the proportion of older workers (20.0 %) was below the non-financial business economy average, while the highest proportion of older workers was recorded for land transport and transport via pipelines and for water transport services (both 27.8 %).

Expenditure, productivity and profitability

Transport services reported high gross tangible investment, EUR 114.1 billion in 2006 in the EU-27, equivalent to 11.0 % of the total within the non-financial business economy, a share far greater than this sector's employment or value added shares. As such, the investment rate (investment compared to value added as a percentage) in transport services was 28.5 %, just over 10 percentage points higher than the non-financial business economy average (18.4 %). Water transport recorded a particularly high investment rate (45.5 %) in 2006, as did warehousing and transport support activities (34.7 %). In 2005, the three subsectors that make up land transport and transport via pipelines (NACE Divisions 60) recorded a combined investment rate of 27.0 %, and air transport recorded a rate of 24.8 %, in both cases below the transport services average but above the non-financial business economy average. By this measure one of the transport services subsectors stood out from the others, and this was the activities of travel agencies where gross tangible investment was equivalent to just 7.8 % of value added.

An analysis of operating expenditure indicates that transport services use a relatively large amount of labour, with personnel costs accounting for around 22.5 % of operating expenditure in the EU-27 in 2006, approximately 1.4 times the average share in the non-financial business economy. This share was particularly high for transport via railways (38.6 %, 2005), and road and other land transport (30.3 %), while it was particularly low for the activities of travel agencies (8.1 %), an activity that often involves relatively high purchases of goods and services that are resold to customers.

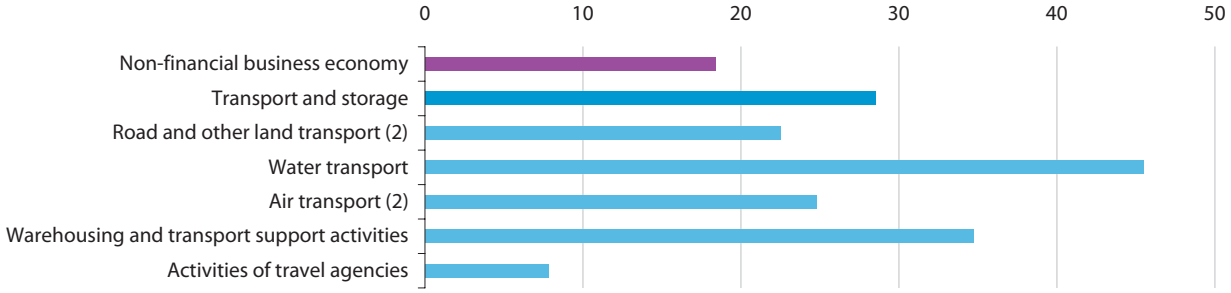
Table 21.4: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Expenditure, productivity and profitability, EU-27, 2006 (1)

	(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
Transport and storage	243 797	841 003	114 149	45.2	31.3	144.5	12.9
Transport via railways (2)	26 760	42 635	:	36.2	30.4	118.9	7.7
Road and other land transport (3)	100 000	230 000	31 910	30.7	25.0	120.1	13.5
Transport via pipelines (4)	:	6 000	:	:	:	:	40.0
Water transport (5)	7 900	80 000	10 000	120.0	39.5	280.0	14.0
Air transport (6)	23 000	90 000	6 734	75.0	58.0	120.0	3.8
Warehousing and transport support activities	74 813	259 062	48 524	64.0	35.8	178.8	16.9
Activities of travel agencies	11 697	131 941	1 504	39.8	27.5	144.7	4.9

(1) Rounded estimates based on non-confidential data.
(2) 2005.
(3) Investment in tangible goods, apparent labour productivity and wage adjusted labour productivity, 2005.
(4) Purchases of goods and services and gross operating rate, 2005.
(5) Apparent labour productivity and wage adjusted labour productivity, 2005.
(6) Personnel costs, investment in tangible goods, average personnel costs, wage adjusted labour productivity and gross operating rate, 2005.

Source: Eurostat (SBS)

Figure 21.9: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Investment rate, EU-27, 2006 (%) (1)

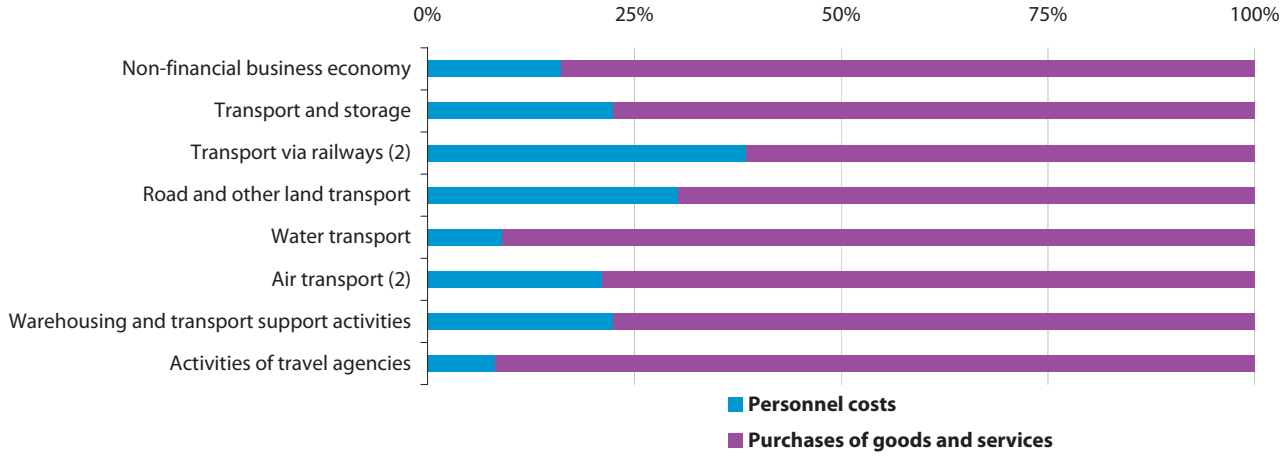


(1) Transport via railways and transport via pipelines, not available.
(2) 2005.

Source: Eurostat (SBS)

The high levels of full-time employment may, to some extent, explain why average personnel costs faced by transport services enterprises were generally high: in transport services they averaged EUR 31.3 thousand per employee in 2006 in the EU-27 compared with EUR 28.8 thousand for the non-financial business economy as a whole. The relatively high level of average personnel costs impacted on the wage adjusted labour productivity ratio, which represents the extent to which value added per person employed covers average personnel costs per employee. In the EU-27's transport services sector this ratio was 144.5 % in 2006, below the non-financial business economy average of 151.1 %. There were considerable differences in the value of this ratio between the transport services subsectors, with a particularly high ratio for water transport (280.0 %, 2005). No recent data is available for transport via pipelines, but in all six of the Member States with 2005 or 2006 data available for this subsector the wage adjusted labour productivity ratio was in excess of 500 %.

Figure 21.10: Transport and storage (NACE Divisions 60, 61, 62 and 63)
Analysis of operating expenditure, EU-27, 2006 (%) (1)



(1) Transport via pipelines, not available.
(2) 2005.

Source: Eurostat (SBS)

In contrast, the gross operating rate (gross operating surplus relative to turnover) was higher for transport services (12.9 %) in 2006 than the non-financial business economy average (10.8 %). An exceptionally high gross operating rate (40.0 %, 2005) was recorded for transport via pipelines, the highest rate among all non-financial business economy NACE groups with data available.

21.1: Rail transport

This subchapter includes information on the transport of passengers and goods by railways (NACE Group 60.1). The activities relating to the operation of the rail infrastructure are classified as auxiliary transport activities and are covered by Subchapter 21.6. Equally, this subchapter does not cover urban and suburban rail transport of passengers, which is included in the following subchapter on road and other land transport.

Considerable legislative efforts have been made to open up and revitalise the rail transport sector, motivated in part by the wish to take advantage of lower emissions from rail transport, and to reduce road congestion. Both national and international rail freight networks have been open since the beginning of 2007, and international passenger transport will be open from January 2010. Further legislative measures since 2001 have concerned improving network interoperability and safety, and laying down passenger rights and obligations. In December 2008 the European Commission adopted a proposal for a Regulation of the European Parliament and of the Council [7] to support a competitive freight network, essentially to increase the speed of rail freight.

Structural profile

Value added in the EU-27's rail transport (NACE Group 60.1) sector reached EUR 31.9 billion in 2005, equivalent to 8.4 % of the transport services (NACE Divisions 60 to 63) total. In the EU-27, there were 0.8 thousand enterprises in this sector with a total of 880.7 thousand persons employed (2005), equivalent to 10.1 % of the EU-27's transport services workforce. Although data availability among the Member States is weak in this sector, it is clear that the rail transport sector is particularly important in Hungary and Luxembourg, as this sector accounted for 2.0 % and 1.8 % respectively of national non-financial business economy value added in 2006, more than three times the 0.6 % (2005) share for the EU-27 as a whole.

(7) COM(2008) 852.

STRUCTURAL CHANGE – RAIL TRANSPORT SERVICES AND INFRASTRUCTURE

In structural business statistics (SBS), enterprises are classified according to their principal activity. An enterprise that is simultaneously a rail service operator and a rail infrastructure operator would often be classified in the rail transport activity (NACE Group 60.1), assuming that the rail service operation part is the larger of the two activities. If such an enterprise is split into two separate enterprises (as has happened in some countries), only the rail transport enterprise would stay classified to NACE Group 60.1, and the rail infrastructure operator would be classified to supporting land transport activities (NACE Class 63.21) – this in part explains some of the large changes in employment in the rail transport sector seen in recent years.

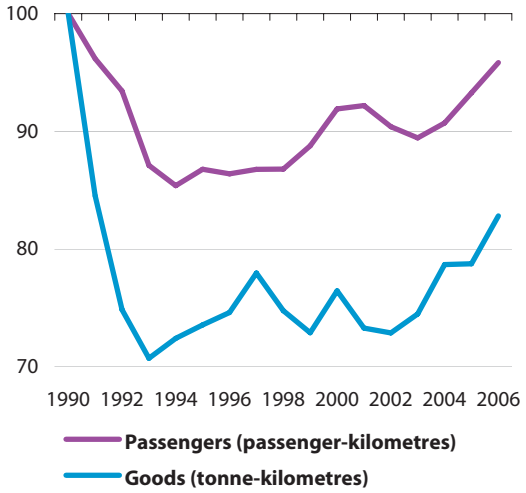
Transport of goods and passengers

The development of EU-27 goods and passenger rail transport between 1990 and 2006 shows a significant change: passenger transport volumes reached a low in 1994, after which average growth was 1.0 % per annum; goods transport volumes stabilised in 1993 after which average growth was 1.2 % per annum. Growth was particularly strong in the last three years for which data are available, passenger transport increasing by an average of 2.3 % per annum between 2003 and 2006, and goods transport by an average of 3.6 % over the same period.

Expenditure and productivity

Personnel costs accounted for 38.6 % of rail transport operating expenditure in the EU-27 in 2005, the highest share among transport services activities (as presented in Subchapters 21.1 to 21.7) and more than double the average share for the non-financial business economy. Average personnel costs reached EUR 30.4 thousand per employee in 2005, in line with the transport services average, while apparent labour productivity of EUR 36.2 thousand per person employed was well below the average. The resulting wage adjusted labour productivity ratio in the EU-27 was 118.9 % for the rail transport sector in 2005, some way below the 141.9 % average for all transport services in the same year.

Figure 21.11: Rail transport
Evolution of rail transport, EU-27 (1990=100)



Source: Eurostat, ITF, UIC, national statistics, estimates, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

21.2: Road and other land transport

Road and other land transport activities (NACE Group 60.2) cover road freight transport, urban and suburban passenger transport by bus, coach, tram, trolleybus, underground or elevated railway, inter-city land passenger transport (other than railways), as well as taxi operations and charters. This definition includes a diverse number of enterprises, ranging from independent lorry or taxi drivers to large national or metropolitan public transport enterprises.

Over a long period road freight transporters have expanded beyond simple transport services, to provide other supporting activities, notably logistics and warehousing, competing with specialists in these activities as well as wholesalers who have also extended the range of their operations into transport and supporting activities. Road transport has been one of the main areas of growth in the transport services sector as it benefited from increased demand for mobility and flexibility from private individuals and enterprises alike. In May 2007 the European Commission adopted three proposals [8] aimed at modernising the rules governing road transport operators and access to the road transport market. The proposals aim to reduce distortions of competition and improve transport operators' compliance with the provisions of social legislation and road safety rules.

In July 2008, the European Commission adopted a proposal [9] to reform the legislation on road charges for heavy goods vehicles, the so-called 'Eurovignette'. The proposal is intended to enable Member States to reduce environmental damage and congestion through more efficient and environmentally-targeted road tolls for lorries.

A Regulation [10] on public passenger transport services by rail and by road was adopted in October 2007. Its purpose is to define the conditions under which public service operators providing services of general interest may be compensated for costs incurred, and/or may be granted exclusive rights in return for the discharge of public service obligations.

In September 2007 the European Commission published a Green paper on urban transport [11], to look, among others, at the questions of congestion and pollution linked to urban transport.

Structural profile

An estimated 900.0 thousand enterprises were registered in the EU-27's road and other land transport (NACE Group 60.2) sector which employed about 4.6 million persons in 2005. As such, the road and other land transport sector supplied just over half (52.9 %) of the workforce in transport services (NACE Divisions 60 to 63). The proportion of paid employees in the total number of persons employed (which also includes working proprietors and unpaid family workers) was 80.7 % in the EU-27 road and other land transport services sector in 2005, the only transport services activity where it was below the non-financial business economy average. This share was just below four fifths (79.4 %) in the road freight transport subsector (NACE Class 60.24).

The EU-27's road and other land transport sector generated value added of EUR 150 billion in 2006 from turnover valued at EUR 370 billion. As such, road and other land transport accounted for close to two fifths (37.5 %) of all value added generated by transport services in 2006. Within road and other land transport services the largest activity was the road freight transport (NACE Class 60.24) subsector. This subsector accounted for around two thirds of the value added created by the EU-27's road and other land transport sector in 2006 and occupied around three fifths of the workforce; other passenger land transport activities (NACE Classes 60.21 to 60.23) made up the remainder of the sector.

The relative importance of the road freight transport subsector on the one hand and other passenger land transport on the other differed considerably between the Member States [12]: the share of road freight (in value added terms) rose to above 80 % of the total in Estonia and Slovenia, while the other passenger land transport subsector generated more than half of sectoral value added in Greece and Cyprus (2005) – it should be noted that Cyprus has no rail network as an alternative form of inland passenger transport, and many residents and tourists therefore use other forms of public transport (notably buses, coaches, minibuses and taxis).

[8] COM(2007) 263 to 265.

[9] COM(2008) 436.

[10] Regulation of the European Parliament and of the Council (EC) No 1370/2007.

[11] COM(2007) 551.

[12] Cyprus and Poland, 2005; Bulgaria, Ireland and Malta, not available.

Table 21.5: Road and other land transport (NACE Group 60.2)
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
Road and other land transport (2)	900.0	370 000	150 000	4 616.0	100.0	100.0
Passenger land transport other than railways (3)	329.8	91 000	50 834	1 863.3	:	40.4
Freight transport by road	600.0	280 000	100 000	2 800.0	66.7	59.6

(1) Rounded estimates based on non-confidential data.
(2) Number of persons employed, 2005.
(3) Value added and number of persons employed, 2005.

Source: Eurostat (SBS)

Table 21.6: Road and other land transport (NACE Group 60.2)
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			Most specialised: share in non-financial business economy (%) (4)	
	Country	(EUR million)	(% of EU-27)	Country	(thousand) (2)	(% of EU-27) (3)	Country	Value added
1	United Kingdom	23 181	15.5	Germany	601.9	12.5	Lithuania	5.8
2	France	22 341	14.9	France	568.9	12.1	Latvia	4.7
3	Germany	21 241	14.2	Spain	564.4	12.1	Finland	3.9
4	Spain	19 889	13.3	United Kingdom	519.2	11.4	Luxembourg	3.8
5	Italy	17 779	11.9	Italy	490.2	10.5	Spain	3.7

(1) Bulgaria, Ireland and Malta, not available; Cyprus and Poland, 2005.
(2) Bulgaria, Ireland, Malta, the Netherlands and Slovenia, not available; Cyprus and Poland, 2005.
(3) 2005; Bulgaria, Denmark, Ireland, Greece, Malta, the Netherlands and Slovenia, not available.
(4) Bulgaria, Ireland, Malta and the Netherlands, not available; Cyprus, Poland and Romania, 2005.

Source: Eurostat (SBS)

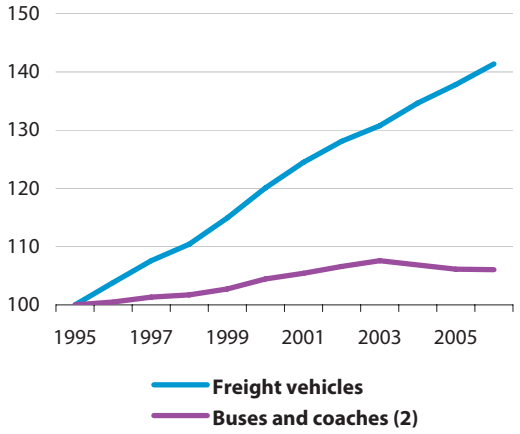
Unsurprisingly, the larger Member States contributed the greatest shares of EU-27 value added in this sector. The United Kingdom, France and Germany each accounted for around 15 % of EU-27 value added in 2006. However, an analysis based on relative specialisation highlights the importance of the road and other land transport sector in several other Member States [13]. For example, this activity contributed 5.8 % of non-financial business economy value added in Lithuania, and over 3.5 % in Latvia, Finland, Luxembourg, Spain, Slovenia and Greece. In contrast, the road and other land transport sector was notably smaller in relative terms in Cyprus (2005), Slovakia and Germany where it accounted for less than 2.0 % of the value added created within the non-financial business economy.

Transport of goods and passengers

When analysing statistics on land transport equipment and traffic volumes it is important to bear in mind that this includes own account transport as well as transport services marketed to clients (for hire and reward). The growth in the stock of road transport vehicles (buses, coaches and road freight vehicles) between 1995 and 2006 for the EU-27 shows that road freight vehicles, in particular, experienced very strong growth whereas for buses and coaches the growth was more subdued, with the stock of such vehicles falling in 2004 and 2005, before stabilising in 2006. The volume of passenger transport by trams and metros increased significantly faster since 1995 than for buses and coaches, but both of these were outstripped by the growth in road freight which averaged an increase of 3.5 % per annum between 1995 and 2006.

([13]) Cyprus, Poland and Romania, 2005; Bulgaria, Ireland, Malta and the Netherlands, not available.

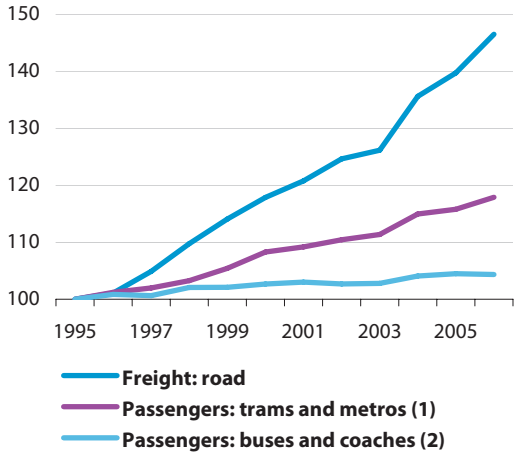
Figure 21.12: Road and other land transport
Development of the end of year stock of road vehicles, EU-27 (1995=100) (1)



(1) Belgium, stock as of 1 August; the data is not fully comparable between countries; includes various breaks in series for individual countries.
(2) Usually includes trolleybuses.

Source: Eurostat, national statistics, United Nations Economic Commission for Europe, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

Figure 21.13: Road and other land transport
Evolution of the volume (passenger/tonne-kilometres) of other land transport, EU-27 (1995=100)



(1) Portugal, includes only Lisbon and Porto metro.
(2) Romania and Slovenia, only regular inter-urban transport; excluding Northern Ireland.

Source: Eurostat, ITF, IUPT, national statistics, estimates in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

Table 21.7: Road and other land transport
Road freight transport traffic; national and international haulage by vehicles registered in the country (billion tonne-kilometres)

	2000	2001	2002	2003	2004	2005	2006
EU-27	1 518.7	1 556.3	1 605.9	1 625.4	1 747.3	1 800.3	1 887.6
BE	51.0	53.2	52.9	50.5	47.9	43.8	43.0
BG	6.4	8.0	8.8	9.5	12.0	14.4	13.8
CZ	37.3	39.1	43.7	46.5	46.0	43.4	50.4
DK	24.0	22.2	22.5	23.0	23.1	23.3	21.3
DE	280.7	289.0	285.2	290.7	303.8	310.1	330.0
EE (1)	3.9	4.7	4.4	4.0	5.1	5.8	5.5
IE	12.3	12.3	14.3	15.7	17.1	17.9	17.5
EL	29.0	30.0	31.0	33.0	36.8	32.5	34.0
ES	148.7	161.0	184.5	192.6	220.8	233.2	241.8
FR	204.0	206.9	204.4	203.6	212.2	205.3	211.4
IT (2)	184.7	186.5	192.7	174.1	197.0	211.8	220.4
CY	1.3	1.3	1.3	1.4	1.1	1.4	1.2
LV	4.8	5.4	6.2	6.8	7.4	8.4	10.8
LT	7.8	8.3	10.7	11.5	12.3	15.9	18.1
LU	7.6	8.7	9.2	9.6	9.6	8.8	8.8
HU	19.1	18.5	17.9	18.2	20.6	25.2	30.5
MT	0.3	0.3	0.3	0.3	0.3	0.3	0.3
NL	79.6	78.5	77.4	79.8	89.7	84.2	83.2
AT	35.1	37.5	38.5	39.6	39.2	37.0	39.2
PL (2)	75.0	77.2	80.3	86.0	102.8	111.8	128.3
PT	38.9	40.5	40.2	39.8	40.8	42.6	44.8
RO	14.3	18.5	25.4	30.9	37.2	51.5	57.3
SI (3)	5.3	7.0	6.6	7.0	9.0	11.0	12.1
SK	14.3	13.8	14.9	16.7	18.5	22.6	22.2
FI	32.0	30.5	32.0	30.9	32.3	31.9	29.7
SE	35.6	34.2	36.7	36.6	36.9	38.6	39.9
UK	165.6	163.3	164.0	167.1	167.8	167.5	172.2

(1) Break in series 2002/2003.
(2) Break in series 2003/2004.
(3) Break in series 2000/2001.

Source: Eurostat, ITF, national statistics, estimates, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

Information relating to the development of road freight transport in the Member States is available for a shorter period, between 2000 and 2006. Only Belgium, Denmark, Cyprus and Finland witnessed a fall in road freight transport volumes during this period. The strongest growth was recorded in Romania, where the volume of road haulage increased four-fold, and it more than doubled in Lithuania, Slovenia, Latvia and Bulgaria.

Table 21.8: Road and other land transport (NACE Group 60.2)
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
Road and other land transport (2)	100 000	230 000	31 910	30.7	25.0
Passenger land transport other than railways (2)	40 000	50 000	15 542	27.3	26.7
Freight transport by road	60 000	180 000	18 000	35.7	26.1

(1) Rounded estimates based on non-confidential data.
(2) Investment in tangible goods and apparent labour productivity, 2005.

Source: Eurostat (SBS)

Expenditure and productivity

Gross tangible investment in the EU-27's road and other land transport sector was around EUR 31.9 billion in 2005, resulting in an investment rate of 22.5 %, lower than the transport services average but above the non-financial business economy average.

An analysis of operating expenditure shows a significant difference between the two subsectors, with personnel costs accounting for around one quarter of the total for road freight transport, compared to more than two fifths (44.4 %) for other passenger land transport.

The road and other land transport sector is characterised by a relatively low apparent labour productivity: in 2005, this was EUR 30.7 thousand per person employed in the EU-27, well below the transport services average of EUR 43.6 thousand. Average personnel costs were also low at EUR 26.1 thousand per employee in the road freight transport subsector in 2006, and EUR 26.7 thousand per employee for the other passenger land transport subsector. Despite the low average personnel costs the wage adjusted labour productivity ratio was also relatively low, 120.1 % for the road and other land transport sector in 2005, among the lowest of the transport services activities. Greece (78.9 %) and Cyprus (56.5 %, 2005) recorded wage adjusted labour productivity ratios below 100 % indicating that average personnel costs were higher than apparent labour productivity.

21.3: Pipelines

Transport via pipelines (NACE Group 60.3) includes the transport of gases, liquids, slurry and other commodities via pipelines and the operation of pump stations; it does not include the distribution (as opposed to the transport) of natural or manufactured gas via mains, or of water or steam.

The EU-27's transport via pipelines (NACE Group 60.3) sector had approximately 130 enterprises which together generated EUR 11.0 billion of turnover in 2005 and as such its share in transport services (NACE Divisions 60 to 63) turnover was 1.0 %. Although data is only available for a few Member States it is clear that in turnover terms this sector is relatively important in Italy which accounted for 18.3 % of the EU-27's turnover in 2005, while Germany also recorded a large share (14.8 %). Employment in this sector in the EU-27 was in excess of 16.8 thousand persons in 2005, with large workforces in Romania (7.9 thousand), Poland (3.4 thousand) and Italy (3.0 thousand).

21.4: Water transport

This subchapter covers all water transport activities, both sea and coastal transport (NACE Group 61.1) and inland water transport (NACE Group 61.2). For information on water transport networks and ports see Subchapter 21.6.

Maritime freight shipping is made up of line (generally scheduled services) and tramp shipping, with a distinction between tankers (liquid and gas) and bulk carriers, and between containerised and general cargo. The EU relies heavily on maritime transport for its external trade. As well as freight, maritime transport activities also cover passenger transport, for example, scheduled ferry services and cruises. Inland navigation traditionally holds a strong market share in the transport of bulk cargo (such as iron ores, construction materials and metal products).

Structural profile

Employment in the EU-27's water transport sector (NACE Division 61) sector in 2005 was 213.5 thousand persons. In 2006, there were 18.9 thousand enterprises in this sector, with combined turnover valued at EUR 100 billion resulting in value added of EUR 22.0 billion. As such, this sector contributed around 5.5 % of the wealth created in all transport services (NACE Divisions 60 to 63) in 2006 but a much smaller proportion (2.4 %) of the transport services workforce in 2005. Sea and coastal transport (NACE Group 61.1) dominated the water transport sector, with EUR 20.0 billion of value added in 2006 and 171.9 thousand persons employed in 2005, the remainder accounted for by inland water transport (NACE Group 61.2).

The relative importance of water transport depends largely on geographical, climatic, or historical factors. Close to one quarter of added value generated in the transport services sector was accounted for by water transport in Cyprus (23.1 %, 2005), while this share was close to one fifth in Denmark (19.2 %) and Greece (19.1 %). In contrast, all of the Member States with no coastline reported only limited activity within the water transport sector, which accounted for no more than 1 % of the total value added created within the transport services sector. For the third consecutive year Estonia recorded the unusual situation of a negative value added for water transport in 2006, indicating that the intermediate consumption (purchases of goods and services adjusted for changes in stocks) exceeded production value.

The high level of specialisation in the water transport sector in some of the smaller and medium-sized Member States resulted in them contributing particularly large shares of total EU-27 value added and employment in this sector. The Netherlands and Denmark were the fourth and fifth largest Member States in value added terms, while the Greek water transport sector's workforce represented 9.0 % of the EU-27 total. Denmark and Greece emerged as the second and third most specialised Member States [14] in water transport (based on their value added), behind Cyprus (2005). An analysis of the two subsectors shows particular specialisations in some Member States. For example, in the Netherlands inland water transport was much more significant, accounting for more than one third (37.2 %) of Dutch water transport value added; this was reflected in the fact that the Netherlands had the largest inland water transport subsector in the EU-27, approximately two fifths of EU-27 value added.

([14]) Bulgaria, Cyprus and Poland, 2005; the Czech Republic, Ireland, Malta, the Netherlands and Romania, not available.

Table 21.9: Water transport (NACE Division 61)
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
Water transport	18.9	100 000	22 000	213.5	100.0	100.0
Sea and coastal water transport	10.0	90 000	20 000	171.9	90.9	80.5
Inland water transport	8.8	5 500	2 000	41.6	9.1	19.5

(1) Rounded estimates based on non-confidential data; number of persons employed, 2005.

Source: Eurostat (SBS)

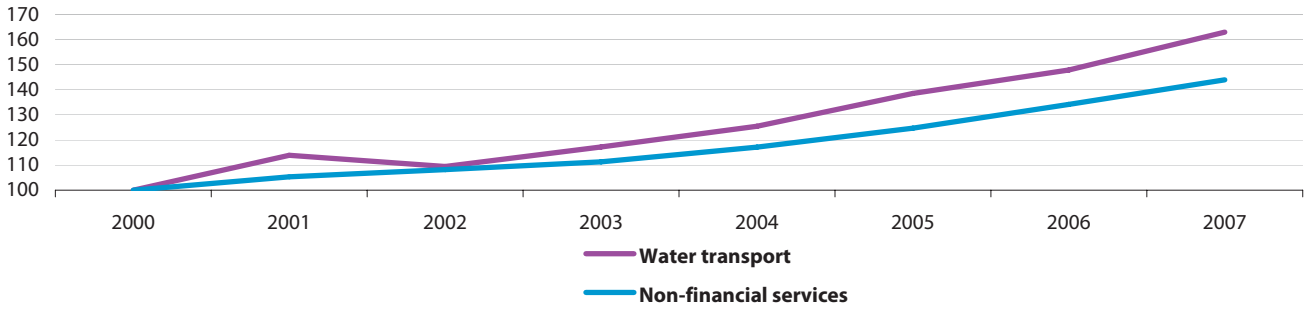
Table 21.10: Water transport (NACE Division 61)
Structural profile: ranking of top five Member States in terms of value added and persons employed, 2006

	Highest value added (1)			Largest number of persons employed			Most specialised: share in non-financial business economy (%) (4)	
	Country	(EUR million)	(% of EU-27)	Country	(thousand) (2)	(% of EU-27) (3)	Country	Value added
1	Germany	6 510	29.6	Germany	33.9	15.6	Cyprus	2.1
2	United Kingdom	2 949	13.4	Italy	28.0	12.3	Denmark	1.5
3	Italy	2 684	12.2	Greece	18.4	9.0	Greece	1.5
4	Netherlands	2 400	10.9	France	17.3	8.3	Bulgaria	1.0
5	Denmark	1 784	8.1	United Kingdom	16.2	7.9	Finland	0.7

(1) The Czech Republic, Ireland and Malta, not available; Cyprus and Poland, 2005.
(2) The Czech Republic, Ireland, Malta and the Netherlands, not available; Cyprus and Poland, 2005.
(3) 2005; the Czech Republic, Ireland, Malta and the Netherlands, not available.
(4) The Czech Republic, Ireland, Malta, the Netherlands and Romania, not available; Bulgaria, Cyprus and Poland, 2005.

Source: Eurostat (SBS)

Figure 21.14: Water transport (NACE Division 61)
Index of turnover, EU-27 (2000=100)



Source: Eurostat (STS)

Among the transport services NACE divisions, the EU-27's water transport sector recorded the strongest growth in turnover between 2000 and 2007, an average increase of 7.2 % per annum over this period, nearly two percentage points more than the non-financial services average (NACE Sections G to I and Divisions 72 and 74). In contrast, the employment index for water transport recorded an average fall of 2.2 % per annum over the period 1998 to 2007, the only transport services NACE division to record an overall reduction in employment during this period. This was due to a strong fall in employment between 1999 and 2002; after which the water transport employment index only fell in one year (-0.6 % in 2006), and averaged growth of 1.1 % per annum in the period 2002 to 2007.

Table 21.11: Water transport
Merchant fleet, EU-27, 2006 (1)

	Number of ships (units)	Tonnage (million DWT)
Total fleet controlled	9 990	332
National flag	3 340	107
Foreign flag	6 650	225

(1) Ships of 1 000 GRT and over, as of 1 January 2006; including international registers like the Danish International Ship Register; including vessels registered at territorial dependencies.

Source: ISL merchant fleet databases, based on the Lloyd's Maritime Information System, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

Transport of goods and passengers

A majority of the merchant fleet controlled from the EU-27 sails under foreign flags – this proportion is roughly two thirds whether calculated based on the number of ships or their tonnage.

Sea transport, for the total movement of goods, combining inward and outward transport, reached 3 800 million tonnes in the EU-27 in 2007. The United Kingdom accounted for the largest share of sea transport of goods (both inward and outward), with 15.2 % of the EU-27 total, followed by Italy (13.6 %), the Netherlands (13.2 %) and Spain (11.1 %). Only in the Baltic States and Poland did the outward volume of sea freight transport exceed the inward volume, with Malta having by far the highest ratio of inward to outward sea freight transport.

The total number of sea passengers in the EU-27 was 397.6 million in 2007 (inward plus outward), of which Greece (23.2 %) and Italy (21.6 %) provided by far the largest shares. The Nordic trio of Denmark (12.2 %), Sweden (8.2 %) and Finland (4.1 %) also contributed relatively high shares, as did Malta (2.0 %). In contrast to goods transport, the inward and outward flows of passengers are similar in nearly all Member States with the exception of Sweden where there were half a million more inward transported passengers as outward.

Table 21.12: Water transport
Seaborne transport of goods and passengers, 2007 (1)

	Goods (million tonnes)		Passengers (thousands)	
	Inward	Outward	Inward	Outward
EU-27	2 436.2	1 397.8	199 420	198 177
BE	134.1	102.2	452	457
BG	15.9	9.0	5	5
CZ	-	-	-	-
DK	60.8	48.8	24 200	24 208
DE	192.0	123.0	15 030	15 171
EE	7.9	37.1	3 250	3 273
IE	38.9	15.2	1 682	1 542
EL	98.0	66.3	46 250	46 173
ES	305.7	121.0	11 576	11 557
FR	249.4	99.6	13 537	13 511
IT	358.1	162.1	42 969	43 015
CY	6.3	1.2	87	87
LV	7.7	53.4	179	183
LT	10.9	18.3	104	108
LU	-	-	-	-
HU	-	-	-	-
MT	3.1	0.2	3 902	3 900
NL	377.1	130.3	945	925
AT	-	-	-	-
PL	26.1	26.3	1 218	1 238
PT	47.1	21.2	368	367
RO	28.6	20.3	0	0
SI	11.2	4.7	35	17
SK	-	-	-	-
FI	64.0	50.8	8 251	8 199
SE	97.1	87.9	16 582	16 080
UK	357.8	223.7	15 156	15 309
HR	18.7	11.4	12 298	12 313
IS	4.1	1.9	217	216
NO	63.9	134.6	3 029	3 418

(1) EU-27, Italy and Iceland, 2006.

Source: Eurostat (Maritime transport)

Expenditure and productivity

The EU-27's water transport sector recorded a particularly high investment rate, with gross tangible investment equivalent to 45.5 % of value added in 2006, approximately two and a half times as high as the non-financial business economy average (18.4 %). Denmark recorded the largest level of gross tangible investment in the water transport sector in 2006, with investment valued at EUR 2.4 billion, while investment also exceeded EUR 1.3 billion in France, Italy and the Netherlands.

The share of personnel costs in total operating expenditure was as high as 20.0 % in the EU-27's inland water transport subsector in 2006, compared with just 8.0 % in the sea and coastal transport subsector, around one third the transport services average (22.5 %).

Water transport services were characterised by high apparent labour productivity with an average EUR 120.0 thousand of value added per person employed in the EU-27 in 2005. The sea and coastal transport subsector recorded a value of EUR 135.3 thousand per person employed, while the inland water transport average of EUR 50.0 thousand per person employed was much closer to the transport services average. Average personnel costs were also above the transport services average, but not to the same extent as for apparent labour productivity, resulting in high wage adjusted labour productivity ratios; for the sector as a whole a ratio of 280.0 % was recorded in 2005 in the EU-27, with the sea and coastal transport subsector recording a ratio of 300.1 % and the inland water transport subsector a ratio of 175.0 %, both well above the transport services average (141.9 %) in the same year. Due to its negative value added Estonia recorded a negative wage adjusted labour productivity ratio in the water transport sector in 2006, while Austria and Hungary both recorded ratios below 100 % as a result of average personnel costs exceeding apparent labour productivity.

21.5: Air transport

The air transport sector comprises enterprises engaged in the transport of passengers and freight by air on scheduled (NACE Group 62.1) as well as unscheduled services (NACE Group 62.2). Space transport activities (NACE Group 62.3), which essentially include the launching of satellites and space vehicles are also covered by the air transport sector. For information on airports see Subchapter 21.6.

The expansion of air traffic has faced criticism, notably because of the growing levels of emissions and noise from this means of transport, although emissions have grown more slowly than air traffic volumes due to technological improvements. In November 2008 a Directive was adopted [15] to include aviation in the existing emissions trading scheme for carbon dioxide, starting from 2012.

Growth in EU air traffic has occurred during a period of market liberalisation and structural change, with an increased number of operators, particularly low-cost carriers. The development of low-cost carriers has expanded the market for air travel, by offering the possibility of relatively cheap flights for the leisure market. The three largest low-cost carriers in Europe in 2006 in terms of revenue passenger-kilometres were Ryanair, easyJet and Air-Berlin. Increased competition, allied with greater costs (notably for fuel), and the rapidly worsening economic climate, have led to a number of airlines struggling to continue operations, with Alitalia, for example, entering administration in 2008 before emerging in a restructured form in 2009.

In September 2008, a Regulation [16] for air services was adopted, updating legislation from 1992. With the aims of ensuring more competition, and improving quality, it covers a wide range of issues, such as price transparency, oversight of operating licences, market access, aircraft registration, and public service obligations.

Structural profile

In 2005, there were 3.5 thousand enterprises in the air transport sector (NACE Division 62) in the EU-27. In 2006, the estimated 400.0 thousand persons employed in this sector generated EUR 30 billion of value added, and as such the air transport sector's contribution to the transport services (NACE Divisions 60 to 63) total was 4.5 % for employment and 7.5 % for value added. Paid employees accounted for 99.0 % of all persons employed in the EU-27's air transport sector in 2005, the highest share among the transport services activities presented in Subchapters 21.1 to 21.7, and one of the highest rates among all non-financial business economy NACE divisions in 2005 or 2006.

Three tenths of the EU-27's value added in air transport was generated in the United Kingdom alone, while France's contribution was one fifth. For the third consecutive year Germany recorded a negative value added for air transport in 2006, and this Member State's relative size can be better expressed by its 13.9 % share of the EU-27 workforce.

[15] Directive of the European Parliament and of the Council (EC) No 2008/101.
[16] Regulation of the European Parliament and of the Council (EC) No 1008/2008.

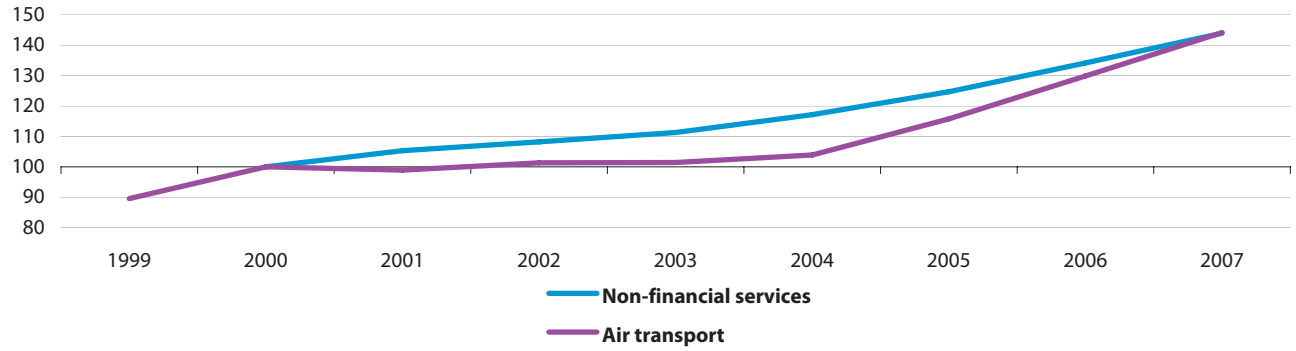
Table 21.13: Air transport (NACE Division 62)
Structural profile: ranking of top five Member States in terms of value added and persons employed, 2006

	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	9 232	30.8	United Kingdom	90.1	22.5	Luxembourg	3.3
2	France	5 996	20.0	France	72.4	18.1	Cyprus	1.4
3	Italy	3 618	12.1	Germany	55.5	13.9	Portugal	1.0
4	Netherlands	3 054	10.2	Spain	40.4	10.1	United Kingdom	0.9
5	Spain	2 618	8.7	Italy	23.5	5.9	France	0.8

(1) The Czech Republic, Ireland and Malta, not available; Denmark, Cyprus and Poland, 2005.
(2) The Czech Republic, Ireland, Malta and the Netherlands, not available; Denmark, Cyprus and Poland, 2005.
(3) The Czech Republic, Ireland, Malta, the Netherlands and Romania, not available; Bulgaria, Denmark, Cyprus and Poland, 2005.

Source: Eurostat (SBS)

Figure 21.15: Air transport (NACE Division 62)
Index of turnover, EU-27 (2000=100)



Source: Eurostat (STS)

Luxembourg was by far the most specialised Member State[17] in this sector as air transport represented 3.3 % of non-financial business economy value added, while this share only exceeded 1.0 % in two other Member States, namely Cyprus (2005) and Portugal. Although recent shares of the air transport sector in non-financial business economy value added can not be calculated for Malta and the Netherlands it is likely that these Member States were also relatively specialised in air transport, particularly Malta.

The EU-27's air transport sector recorded low average turnover growth between 2000 and 2004, however in the most recent years for which data are available (2005 to 2007) it has recorded double-digit annual growth each year. Concerning the employment index, air transport in the EU-27 recorded an annual average growth rate of 0.5 % between 1998 and 2007, but this was composed of strong growth in 1999 and 2000, followed by a more gentle decline most years since then, with a 1.0 % increase in 2006 the only significant recent employment gain in this sector.

Transport of goods and passengers

Turning to traffic figures, the United Kingdom accounted for close to one quarter (24.2 %) of all passengers on flights originating or ending outside of the EU-27 in 2007, and Germany just under one fifth (19.9 %). For intra-EU air travel, the United Kingdom again topped the ranking (19.4 % of passengers carried between EU-27 Member States) followed by Spain (15.6 %); Spain had by far the largest market for domestic flights. The volume of passenger traffic (based on passenger kilometres rather than passenger numbers)

Table 21.14: Air transport
Passengers carried, 2007 (thousands)

	Total	National	Intra-EU	Extra-EU
EU-27 (1)	792 755	175 764	346 064	270 927
BE	20 805	60	15 036	5 710
BG	6 071	99	4 928	1 045
CZ	13 098	268	9 485	3 345
DK	24 042	1 951	15 857	6 233
DE	163 844	24 378	85 635	53 831
EE	1 723	20	1 400	303
IE	29 840	888	25 712	3 239
EL	34 786	6 685	23 775	4 326
ES	163 523	44 171	101 017	18 335
FR	120 034	27 192	50 968	41 874
IT	106 291	28 670	58 381	19 240
CY	7 004	0	5 820	1 184
LV	3 156	15	2 418	723
LT	2 196	0	1 783	412
LU	1 634	0	1 340	294
HU	8 580	0	6 547	2 033
MT	2 971	0	2 698	273
NL	50 501	56	30 006	20 439
AT	22 926	666	15 371	6 889
PL	17 120	1 087	12 984	3 049
PT	24 324	2 953	17 285	4 087
RO	6 909	544	5 322	1 043
SI	1 504	0	941	563
SK	2 232	175	1 759	298
FI	14 465	2 887	8 994	2 583
SE	26 967	6 893	15 939	4 135
UK	217 288	26 106	125 744	65 439
NO	26 386	13 357	:	:
CH	34 538	668	:	:

(1) For intra-EU transport, passengers are counted only once, not at departure and arrival.

Source: Eurostat (Air transport)

(17) Bulgaria, Denmark, Cyprus and Poland, 2005; the Czech Republic, Ireland, Malta, the Netherlands and Romania, not available.

Table 21.15: Air transport
Scheduled and non-scheduled passenger traffic, selected airlines, 2006
(billion revenue passenger-kilometres)

Airline		1980	1990	2000	2005	2006
Air France	FR	25.4	36.8	91.8	115.9	123.3
British Airways	UK	16.1	67.0	119.4	110.9	114.9
Lufthansa	DE	21.1	42.0	94.3	112.8	114.7
KLM Royal Dutch Airlines	NL	14.1	26.4	60.3	68.3	71.8
Iberia	ES	14.9	22.1	40.0	48.9	52.6
Ryanair (1)	IE	-	0.4	5.0	32.6	39.8
Alitalia	IT	12.9	23.4	40.8	37.2	37.7
Virgin Atlantic	UK	-	-	29.5	32.1	35.3
easyJet (2)	UK	-	-	4.7	27.4	31.6
SAS Scandinavian Airlines	DK/NO/SE	7.5	16.7	22.9	27.7	27.5
Air Berlin	DE	:	:	7.8	20.5	24.5
THY Turkish Airlines	TR	:	5.8	17.4	20.5	24.4
SWISS (Crossair)	CH	:	:	3.5	20.5	22.1
Austrian Airlines	AT	1.1	2.8	8.8	18.8	19.9
TAP Portugal	PT	3.4	6.9	10.4	14.5	16.6

(1) Year to 30 March of the following year.
(2) Financial year to 30 September of the year indicated.

Source: Association of European Airlines, International Air Transport Association, air companies, in EU energy and transport in figures statistical pocketbook 2007/2008, European Commission, Directorate-General for Energy and Transport

for a selection of airlines shows that the three largest airlines from France, the United Kingdom and Germany dominated. An analysis of the rates of change between 2005 and 2006 shows an increase for all of the selected airlines except SAS Scandinavian Airlines, with the fastest rates of growth recorded by Ryanair, THY Turkish Airlines and Air Berlin.

Expenditure and productivity

Gross tangible investment by the EU-27's air transport sector in 2005 was valued at EUR 6.7 billion, equivalent to 24.8 % of value added. This investment rate was below the transport services average in the same year (31.2 %) but above the non-financial business economy average (18.0 %). France alone accounted for 26.9 % of the EU-27's investment in this sector in 2005.

The share of personnel costs (21.1 %) in operating expenditure recorded by the EU-27's air transport sector in 2005 was slightly lower than the average recorded for all transport services in the same year (23.4 %). In contrast, average personnel costs were higher, reaching EUR 58.0 thousand per employee in air transport compared with a transport services average of EUR 30.7 thousand. This high figure for average personnel costs was only partly compensated for by higher apparent labour productivity, which reached EUR 75.0 thousand per person employed in 2006. This was reflected in a wage adjusted labour productivity ratio that was 120.0 % for the EU-27's air transport sector in 2005, below the transport services average of 141.9 % in the same year. Due to their negative value added in this sector Germany and Slovakia both recorded negative wage adjusted labour productivity ratios for air transport in 2006. These two exceptional cases aside, Hungary recorded the lowest wage adjusted labour productivity ratio, just 45.2 %, while Estonia, Greece, Lithuania and Austria also registered ratios below parity (100 %), indicating that average personnel costs were greater than apparent labour productivity.

21.6: Warehousing and transport support activities

This subchapter includes information on auxiliary and supporting transport activities as covered by NACE Groups 63.1, 63.2 and 63.4, hereafter referred to as warehousing and transport support activities. Note that travel agencies are covered in Subchapter 21.7.

The services covered by this subchapter are very diverse: they include a number of support services for all modes of transport, such as baggage and cargo handling, storage/warehousing and freight forwarding/brokerage. Note that these services may be provided by enterprises with their principal activity in warehousing and transport support activities or by enterprises classified to other activities, often transporters or wholesalers (in which case they will not be included in the statistics described below). The operation of terminals (rail and bus stations, ports and airports) and infrastructure (notably for inland waterways, railways, roads, tunnels and bridges) is included, as well as the provision of navigational services (notably for air and water transport), towing, berthing and parking services (including car parks).

In June 2008, the European Commission adopted a communication [18] on the further development of the so-called 'Single European Sky' (legislation adopted in 2004), focussing on safety, capacity, efficiency and the environment in the context of air traffic control.

In October 2007, the European Commission adopted a communication [19] on a ports policy, focussing on capacity, freedom of access, competition, flexible employment and the environment.

Structural profile

Warehousing and transport support activities (NACE Groups 63.1, 63.2 and 63.4) constitute a significant part of the EU-27's transport services sector, with 109.6 thousand enterprises which collectively employed 2.2 million persons in 2006. Paid employees accounted for 95.7 % of all persons employed in this sector, well above the transport services average (88.0 %). The workforce generated EUR 384.3 billion of turnover in 2006, resulting in EUR 139.8 billion of value added. As such, the warehousing and transport support activities sector generated 34.9 % of transport services (NACE Divisions 60 to 63) value added and employed 24.7 % of the workforce. By both of these measures it was the second largest transport services activity (among the activities presented in Subchapters 21.1 to 21.7).

In value added and employment terms Germany dominated the warehousing and transport support activities sector, contributing between one quarter and one fifth of both value added and employment. In relative terms, Estonia and Latvia were the most specialised in this sector, as warehousing and transport support activities contributed 6.0 % and 4.2 % respectively of the non-financial business economy's value added in these Member States [20]. At the other end of the range, warehousing and transport support activities contributed only around 1 % to non-financial business economy value added in Poland (2005), Luxembourg, Slovakia and the Czech Republic.

[18] COM(2008) 389.

[19] COM(2007) 616.

[20] Bulgaria, Cyprus, Poland and Romania, 2005; Malta and the Netherlands, not available.

Table 21.16: Warehousing and transport support activities (NACE Groups 63.1, 63.2 and 63.4)
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	33 357	23.9	Germany	482.6	22.1	Estonia	6.0
2	United Kingdom	27 782	19.9	Italy	312.6	14.3	Latvia	4.2
3	France	18 047	12.9	United Kingdom	290.9	13.3	Cyprus	3.3
4	Italy	15 885	11.4	France	251.6	11.5	Austria	3.1
5	Spain	12 202	8.7	Spain	198.5	9.1	Bulgaria	3.1

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

Source: Eurostat (SBS)

Table 21.17: Warehousing and transport support activities
Density of land transport networks, 2004 (m/km^2 of land area)

	Railway lines (1)	Motorways (2)
BE	117	58
BG	:	:
CZ	124	7
DK	64	23
DE	100	34
EE	22	2
IE	:	3
EL	18	:
ES	25	20
FR	49	16
IT	54	:
CY	0	29
LV	36	0
LT	28	7
LU	:	:
HU	83	6
MT	0	0
NL	83	69
AT	68	20
PL	65	2
PT	30	20
RO	:	:
SI	61	24
SK	75	6
FI	19	2
SE	27	4
UK	68	15
NO	13	1
CH	129	34

(1) The Czech Republic, Estonia, Greece and Sweden, 2003; Denmark, Germany, Italy, Austria and Switzerland, 2002.
(2) The Czech Republic and France 2003; Denmark, Germany, Portugal and Sweden, 2002.

Source: Eurostat (Transport)

Focus on transport networks

While the transport services described in Subchapters 21.1 to 21.5 use transport infrastructure, infrastructure management enterprises are considered as supporting transport activities (within NACE Group 63.2).

In 2005, rail transport services relied on a network encompassing approximately 215.5 thousand km of lines across the EU-27. In density terms, in other words the length of railway line in relation to the area of a country, this was the equivalent of 50 m of track per square kilometre.

Table 21.18: Warehousing and transport support activities
Inland waterways network, 2004 (1)

	Length in use (km)
BE	1 516
CZ	664
DE	7 565
EE	320
FR	5 372
IT	1 477
LT	290
HU	1 439
NL	6 595
AT	351
PL	3 638
SK	172
FI	8 018
UK	1 065

(1) The Czech Republic, 2003; Italy, 2002.

Source: Eurostat (Inland waterways transport)

The Czech Republic, Belgium and Germany had the most dense rail networks, all [21] in excess of 100 m of railway line per square kilometre. Cyprus and Malta had no rail network, and the least dense networks were unsurprisingly found in Finland, Estonia and Sweden (the three Member States with the lowest population densities), as well as in Greece.

Road transport services could count on approximately 59.5 thousand km of motorways in the EU-27 in 2004. While Germany (12.0 thousand km), France (10.4 thousand km) and Spain (10.3 thousand km) had by far the most extensive motorway networks, accounting together for more than half (55 %) of the EU-27 total in 2004, the Netherlands and Belgium had the highest densities of motorways. Note that there was no motorway network in Latvia or Malta. A low density of motorway networks was also recorded in the three least densely populated Member States, as well as in Poland and Ireland.

Inland waterways used for transport constituted a network in excess of 38.0 thousand km in the EU-27 in 2004: note that when such waterways constitute a border between two countries they are counted by both countries. Among the Member States, Finland, Germany and the Netherlands had the longest inland waterways on their territory.

([21]) Recent data is not available for Luxembourg, but older data indicates a high density.

Table 21.19: Warehousing and transport support activities
Top 10 sea ports ranked by freight traffic, EU-27, 2007 (million tonnes)

		2007
Rotterdam	NL	374.2
Antwerp	BE	165.5
Hamburg	DE	118.2
Marseille	FR	92.6
Le Havre	FR	78.9
Grimsby & Immingham	UK	66.3
Amsterdam	NL	62.5
Algeciras	ES	62.1
London	UK	52.7
Taranto (1)	IT	50.9

(1) 2006.

Source: Eurostat (Maritime transport)

Table 21.20: Warehousing and transport support activities
Top 10 airports by number of passengers carried, EU-27, 2007 (million passengers)

		2007
London Heathrow	UK	67.9
Paris Ch. de Gaulle	FR	59.5
Frankfurt	DE	53.9
Madrid Barajas	ES	51.2
Amsterdam Schiphol	NL	47.8
London Gatwick	UK	35.2
München F.J. Strauss	DE	33.8
Barcelona Transoceanico	ES	32.7
Roma Fiumicino	IT	32.4
Paris Orly	FR	26.4

Source: Eurostat (Air transport)

Table 21.21: Warehousing and transport support activities
Top 10 airports by goods loaded and unloaded, EU-27, 2007 (thousand tonnes) (1)

		2007
Frankfurt	DE	2 162.2
Amsterdam Schiphol	NL	1 651.0
Paris Ch. de Gaulle	FR	1 434.8
London Heathrow	UK	1 393.2
Bruxelles National	BE	734.2
Köln/Bonn	DE	709.3
Luxembourg Findel	LU	702.8
Milano Malpensa	IT	482.6
Liège	BE	363.7
Madrid Barajas	ES	341.6

(1) Total freight and mail loaded and unloaded; Swedish airports not available.

Source: Eurostat (Air transport)

Focus on ports and airports

Seven of the ten largest EU-27 sea ports in 2007 were on the North Sea. Rotterdam (the Netherlands) was the largest of all, with 374.2 million tonnes of freight loaded and unloaded in 2007, more than twice the volume of the next largest port, Antwerp (Belgium) with 165.5 million tonnes.

In 2007, the EU-27's largest airport in passenger terms was London Heathrow (the United Kingdom) with 67.9 million passengers. As regards freight traffic, the largest airport in the EU-27 was Frankfurt (Germany) with 2.2 million tonnes of loaded and unloaded freight and mail in 2007.

Expenditure and productivity

Tangible investment by the warehousing and transport support activities sector in the EU-27 was valued at EUR 48.5 billion in 2006, equivalent to 42.5 % of the transport services total. This high level of investment resulted in an investment rate of 34.7 % in 2006, well above the transport services average and close to double the non-financial business economy average (18.4 %). Slovakia, Slovenia and Hungary all recorded investment rates in excess of 200 % in this sector in 2006, between 4.4 and 7.4 times as high as the average rates in their national non-financial business economies.

The share of personnel costs (22.4 %) in operating expenditure recorded by the EU-27's warehousing and transport support activities sector was almost identical to the average recorded for all transport services. In contrast, average personnel costs in this sector were above average, reaching EUR 35.8 thousand per employee in the EU-27 in 2006. Nevertheless, above average apparent labour productivity (EUR 64.0 thousand per person employed) more than compensated for the high average personnel costs, and this was reflected in the ratio of wage adjusted labour productivity which was 178.8 % in the EU-27, well above the transport services and non-financial business economy averages.

21.7: Activities of travel agencies

Travel agencies are enterprises that are engaged in arranging transport, accommodation and catering on behalf of travellers (NACE Group 63.3).

Travel agents act as retailers selling travel services or packaged trips to the customer. Traditionally, tour operators acted as wholesalers to travel agents, while more recently they have moved towards selling directly to customers. Tourist guides and tourist information services play a supporting role, offering information and services usually at the tourism destination. Like airlines, tour operators also faced trading difficulties in 2008: for example, the United Kingdom's third largest operator, XL leisure group (which also operated XL airways), declared bankruptcy in September 2008.

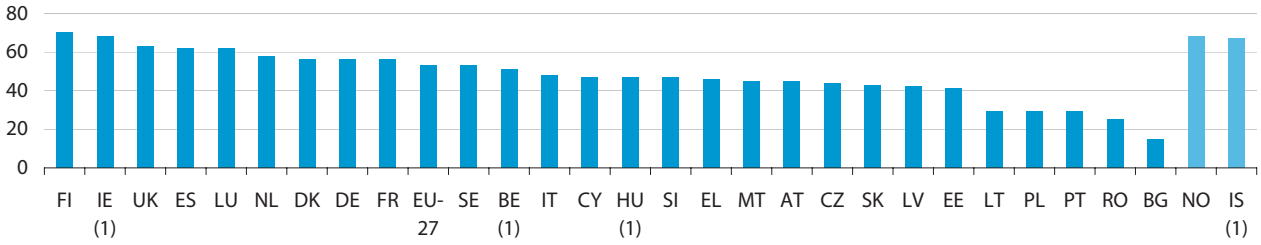
More than half of all individuals (aged 16 to 74 that use the Internet), made use of on-line services for travel and/or accommodation. This may include research or bookings, and may be directly with travel and accommodation providers, or with intermediaries.

Structural profile

There were approximately 78.2 thousand enterprises in the travel agencies activity (NACE Group 63.3) in the EU-27 in 2006 and they employed a total of 484.7 thousand persons. Together these generated EUR 153.2 billion of turnover and EUR 19.3 billion of value added. This sector accounted for 12.7 % of the transport services (NACE Divisions 60 to 63) turnover, but just 4.8 % of its value added, while its share of the transport services workforce was 5.5 %.

The very different turnover and value added shares reflects the nature of this activity which is quite different from the other transport services, in that it often involves the purchase and resale of travel and accommodation services; as such this activity is similar to a distributive trades activity. The United Kingdom and Germany were by far the largest contributors to the wealth and employment generated by travel agencies in the EU-27 as together they accounted for 53.0 % of the value added and 36.8 % of the workforce. In value added terms these two Member States were also relatively specialised in the travel agencies

Figure 21.16: Activities of travel agencies and tour operators; tourist assistance activities n.e.c. (NACE Group 63.3)
Proportion of individuals (aged 16 to 74) who use the Internet, who used the Internet for travel and accommodation services in the three months prior to the survey, 2008 (%)



(1) 2007.

Source: Eurostat (Information society statistics)

Table 21.22: Activities of travel agencies and tour operators; tourist assistance activities n.e.c. (NACE Group 63.3)
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	United Kingdom	6 121	31.8	United Kingdom	114.6	23.6	Cyprus	1.1
2	Germany	4 095	21.2	Germany	63.6	13.1	United Kingdom	0.6
3	France	1 844	9.6	Spain	56.8	11.7	Greece	0.4
4	Spain	1 817	9.4	Italy	45.6	9.4	Estonia	0.4
5	Italy	1 308	6.8	France	42.4	8.7	Germany	0.4

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

Source: Eurostat (SBS)

sector, although not to the same extent as Cyprus (2005) which generated 1.1 % of its non-financial business economy value added in this sector [22].

Expenditure and productivity

The travel agencies sector may be contrasted with the other transport services covered in this chapter in that its gross tangible investment expenditure was particularly low, just EUR 1.5 billion in the EU-27 in 2006. As such, this sector stood out from the other transport services as gross tangible investment was equivalent to 7.8 % of value added, only just over one quarter of the average investment rate for transport services (28.5 %).

An analysis of operating expenditure in 2006 also shows a particularly low share of personnel costs for the activities of travel agencies (8.1 %) within the EU-27, again reflecting the high purchases of goods and services that are resold to customers. Average personnel costs and apparent labour productivity were also low, EUR 27.5 thousand per employee and EUR 39.8 thousand per person employed respectively. These two relatively low average values counterbalanced each other such that the wage adjusted labour productivity ratio for the activities of travel agencies (144.7 %) was almost identical to the transport services' average. Austria and Luxembourg both recorded wage adjusted labour productivity ratios below parity (100 %), indicating that average personnel costs were higher than apparent labour productivity [23], while Germany was the only Member State to record a wage adjusted labour productivity ratio for travel agencies that was significantly above the average ratio for the non-financial business economy.

[22] Bulgaria, Cyprus, Poland and Romania, 2005; Malta and the Netherlands, not available.

[23] Cyprus and Poland, 2005; Malta, not available.

Table 21.23: Land transport; transport via pipelines (NACE Division 60)
Main indicators, 2006 (1)

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT
Enterprises	9.6	14.7	35.4	10.9	58.5	2.2	4.4	56.4	199.5	78.0	120.9	2.9	3.0	4.6
Persons employed	96.5	95.1	213.8	79.2	682.0	23.4	30.8	128.9	585.2	741.4	558.9	4.8	48.5	66.2
Turnover	13 724	1 848	8 989	8 231	60 777	1 165	3 191	5 259	46 121	71 250	57 871	160	1 304	2 396
Production	13 530	1 762	8 586	8 042	57 232	1 147	2 749	5 285	37 733	72 530	59 187	160	1 392	2 306
Purch. of goods & serv.	10 664	1 443	6 922	5 501	37 210	811	1 982	3 122	26 940	38 409	38 233	77	852	1 690
Value added	4 786	506	3 362	3 752	26 934	331	1 215	2 477	21 156	32 886	21 721	83	630	767
Personnel costs	3 572	210	2 013	2 683	16 754	190	1 001	1 437	10 922	26 640	15 119	77	263	355
Average personnel costs	40.6	2.7	10.9	38.2	27.4	8.2	37.4	28.6	27.3	38.3	37.3	30.5	5.4	5.6
Gross operating surplus	1 214	296	1 350	1 069	10 181	141	214	1 040	10 234	6 246	6 602	6	367	412
Gross investment	1 373	388	960	888	5 810	96	599	1 144	5 033	6 916	5 757	13	375	215
Apparent labour prod.	49.6	5.3	15.7	47.4	39.5	14.1	39.5	19.2	36.2	44.4	38.9	17.2	13.0	11.6
Wage adj. labour prod.	122.1	196.8	143.9	124.2	144.2	172.1	105.5	67.2	132.6	115.7	104.2	56.5	238.7	208.4
Gross operating rate	8.8	16.0	15.0	13.0	16.8	12.1	6.7	19.8	22.2	8.8	11.4	3.7	28.1	17.2
Investment rate	28.7	76.7	28.5	23.7	21.6	29.2	49.3	46.2	23.8	21.0	26.5	15.6	59.5	28.1
	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	NO
Enterprises	0.6	28.0	:	13.9	12.1	119.5	23.9	24.1	7.3	1.2	20.2	23.8	46.2	16.3
Persons employed	13.2	165.6	:	198.9	122.4	471.1	106.5	211.4	32.5	62.7	73.9	138.0	573.4	66.3
Turnover	1 585	6 279	:	22 774	14 010	15 573	7 345	5 443	2 242	1 733	7 568	15 459	64 779	9 602
Production	1 272	5 092	:	22 497	10 464	14 678	6 359	5 278	2 146	1 700	7 674	15 950	65 443	9 577
Purch. of goods & serv.	982	4 334	:	14 218	9 573	10 120	5 070	4 132	1 605	1 230	4 126	10 557	40 641	4 238
Value added	811	2 327	:	9 760	5 653	5 138	2 551	1 870	628	669	3 724	5 830	27 309	5 784
Personnel costs	585	1 501	:	6 885	3 948	2 545	1 752	840	469	519	2 308	4 204	18 601	2 248
Average personnel costs	45.6	10.4	:	37.0	35.4	7.4	16.8	4.1	17.5	8.3	39.3	37.1	34.5	41.5
Gross operating surplus	226	826	:	2 875	1 706	2 593	799	1 030	159	150	1 416	1 627	8 708	3 536
Gross investment	142	837	:	:	1 898	2 534	1 187	1 558	392	513	821	1 753	4 937	1 920
Apparent labour prod.	61.6	14.1	:	49.1	46.2	10.9	24.0	8.8	19.3	10.7	50.4	42.2	47.6	87.2
Wage adj. labour prod.	135.1	134.9	:	132.6	130.4	146.7	142.5	218.2	110.5	128.0	128.3	113.7	138.0	210.1
Gross operating rate	14.2	13.2	:	12.6	12.2	16.6	10.9	18.9	7.1	8.6	18.7	10.5	13.4	36.8
Investment rate	17.5	36.0	:	13.3	33.6	49.3	46.5	83.3	62.4	76.7	22.0	30.1	18.1	33.2

(1) Denmark (except for number of enterprises), Cyprus and Poland, 2005; Netherlands, investment rate, 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)

Table 21.24: Water transport (NACE Division 61)
Main indicators, 2006 (1)

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT
Enterprises	0.4	0.0	0.1	0.4	2.7	0.0	:	3.0	0.2	1.9	1.5	0.1	0.0	0.0
Persons employed	1.8	5.6	:	15.1	33.9	1.1	:	18.4	7.4	17.3	28.0	4.7	0.8	1.8
Turnover	3 909	252	:	19 451	25 907	447	:	2 066	1 863	9 319	10 879	255	53	143
Production	3 894	248	:	19 597	16 186	390	:	1 580	1 632	9 330	11 314	252	56	151
Purch. of goods & serv.	3 340	175	:	18 101	20 096	470	:	1 111	1 450	8 127	8 482	105	43	92
Value added	557	78	:	1 784	6 510	-20	:	1 019	570	1 289	2 684	147	13	63
Personnel costs	94	29	:	849	1 316	18	:	525	260	841	1 053	89	13	27
Average personnel costs	70.3	5.2	:	56.5	41.8	16.9	:	33.6	35.6	51.0	40.2	18.9	17.3	14.9
Gross operating surplus	462	49	:	935	5 195	-38	:	494	310	448	1 631	58	0	36
Gross investment	387	59	:	2 363	580	19	:	157	247	1 696	1 350	2	24	38
Apparent labour prod.	316.6	14.1	:	118.0	192.2	-18.0	:	55.4	76.9	74.4	95.9	31.2	17.6	35.1
Wage adj. labour prod.	450.3	268.0	:	208.8	459.3	-106.2	:	164.9	216.2	145.7	238.5	165.2	102.1	235.4
Gross operating rate	11.8	19.5	:	4.8	20.1	-8.5	:	23.9	16.7	4.8	15.0	22.8	0.5	25.2
Investment rate	69.6	74.8	:	132.4	8.9	-95.5	:	15.4	43.3	131.6	50.3	1.4	178.5	60.5
	LU	**HU**	**MT**	**NL**	**AT**	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	**UK**	**NO**
Enterprises	0.0	0.1	:	3.7	0.1	0.6	0.5	0.2	0.1	0.0	0.3	1.1	1.4	1.7
Persons employed	0.2	1.2	:	:	0.4	3.2	2.4	4.0	0.3	0.8	7.6	15.7	16.2	23.9
Turnover	33	62	:	6 999	116	445	589	183	65	30	1 956	4 374	9 656	14 820
Production	33	55	:	6 918	64	429	595	187	58	28	1 798	4 345	9 645	14 640
Purch. of goods & serv.	24	52	:	4 618	109	327	481	148	54	24	1 431	3 408	6 985	10 823
Value added	9	12	:	2 400	15	123	134	37	11	9	611	998	2 949	4 358
Personnel costs	6	12	:	633	15	33	53	22	6	7	348	607	993	1 514
Average personnel costs	49.8	10.1	:	46.1	37.8	13.3	22.7	5.4	24.5	8.6	46.0	46.7	64.4	63.8
Gross operating surplus	3	-1	:	1 766	1	90	81	16	5	3	263	391	1 956	2 844
Gross investment	0	4	:	1 389	6	23	207	32	1	5	277	694	348	3 727
Apparent labour prod.	60.3	9.3	:	105.9	33.7	38.7	55.1	9.2	41.6	11.6	80.1	63.7	181.7	182.2
Wage adj. labour prod.	121.1	92.7	:	229.4	89.3	290.1	243.0	170.5	169.5	133.9	174.2	136.6	282.1	285.5
Gross operating rate	9.0	-0.8	:	25.2	0.4	20.1	13.8	8.4	8.3	8.3	13.5	8.9	20.3	19.2
Investment rate	0.0	31.7	:	57.9	40.5	19.1	154.7	86.5	9.9	57.4	45.2	69.6	11.8	85.5

(1) Cyprus and Poland, 2005; Netherlands, average personnel costs and labour productivity, 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)

Table 21.25: Air transport (NACE Division 62)
Main indicators, 2006 (1)

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT
Enterprises	0.2	0.0	0.0	0.1	0.4	0.0	:	0.0	0.1	0.4	0.3	0.0	0.0	0.0
Persons employed	5.6	2.5	:	5.7	55.5	0.7	:	3.8	40.4	72.4	23.5	2.4	1.1	0.8
Turnover	2 503	383	:	2 487	13 879	140	:	1 174	9 498	18 245	11 852	423	206	114
Production	2 503	378	:	2 379	12 169	141	:	1 181	9 382	18 346	12 171	423	206	113
Purch. of goods & serv.	2 007	358	:	2 199	16 045	125	:	1 052	7 194	12 104	8 070	325	173	100
Value added	500	25	:	317	-990	13	:	161	2 618	5 996	3 618	98	33	14
Personnel costs	324	18	:	380	3 899	16	:	181	2 129	4 886	1 294	106	21	16
Average personnel costs	60.4	7.2	:	67.5	71.1	22.2	:	47.8	52.7	67.5	55.9	43.7	18.8	19.0
Gross operating surplus	176	7	:	-63	-4 889	-3	:	-20	489	1 110	2 324	-9	13	-2
Gross investment	150	39	:	127	1 150	2	:	10	393	2 300	147	5	23	2
Apparent labour prod.	89.7	10.1	:	56.1	-17.8	18.0	:	42.4	64.8	82.8	154.1	40.1	30.1	17.0
Wage adj. labour prod.	148.5	140.3	:	83.2	-25.1	80.9	:	88.8	122.9	122.7	275.8	91.7	159.9	89.5
Gross operating rate	7.0	1.9	:	-2.5	-35.2	-2.2	:	-1.7	5.2	6.1	19.6	-2.1	6.1	-1.5
Investment rate	30.0	154.4	:	40.1	-116.1	13.7	:	6.3	15.0	38.4	4.0	4.8	70.1	13.0
	LU	**HU**	**MT**	**NL**	**AT**	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	**UK**	**NO**
Enterprises	0.0	0.1	:	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.2	1.0	0.1
Persons employed	3.8	2.7	:	:	9.3	4.9	9.7	3.5	0.7	0.8	7.3	7.5	90.1	7.2
Turnover	1 716	837	:	9 334	3 291	1 006	2 824	398	174	186	2 413	3 442	28 325	2 467
Production	1 604	711	:	9 268	2 230	999	2 889	406	173	186	2 420	3 119	28 332	2 452
Purch. of goods & serv.	1 232	786	:	6 278	2 850	718	2 178	315	124	186	1 911	2 863	18 557	1 825
Value added	470	44	:	3 054	602	283	748	92	44	-1	512	572	9 232	694
Personnel costs	283	97	:	1 950	660	116	513	43	33	18	424	474	4 708	604
Average personnel costs	74.9	36.7	:	61.9	71.5	24.5	53.0	12.1	48.7	22.0	58.5	71.3	52.3	84.4
Gross operating surplus	187	-53	:	1 104	-58	167	236	49	12	-19	88	98	4 524	91
Gross investment	7	23	:	:	203	134	350	178	11	1	258	125	897	80
Apparent labour prod.	124.5	16.6	:	93.9	64.6	58.4	77.1	26.0	65.2	-0.8	70.5	76.5	102.4	96.9
Wage adj. labour prod.	166.2	45.2	:	151.7	90.3	238.6	145.6	215.7	133.9	-3.4	120.5	107.2	195.8	114.8
Gross operating rate	10.9	-6.3	:	11.8	-1.7	16.6	8.3	12.4	6.6	-10.0	3.6	2.9	16.0	3.7
Investment rate	1.4	52.9	:	10.4	33.7	47.2	46.8	193.9	25.6	-176.1	50.5	21.8	9.7	11.5

(1) Denmark (except for number of enterprises), Cyprus and Poland, 2005; Netherlands, average personnel costs, labour productivity and investment rate, 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)

Table 21.26: Warehousing and transport support activities; activities of travel agencies (NACE Division 63)
Main indicators, 2006 (1)

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT
Enterprises	3.7	3.0	10.0	2.0	24.1	1.2	1.1	11.3	22.6	12.2	28.8	1.1	1.6	1.9
Persons employed	54.9	42.7	45.1	35.7	546.2	12.0	21.6	44.2	255.3	293.9	358.2	7.6	17.9	16.8
Turnover	22 382	1 212	6 448	11 742	97 907	1 959	5 329	4 419	50 675	66 911	55 161	418	1 673	1 297
Production	22 032	1 184	5 133	8 591	60 934	1 914	2 368	2 449	24 487	66 221	56 581	418	830	1 268
Purch. of goods & serv.	18 183	896	5 551	9 031	67 193	1 591	3 804	3 013	38 143	47 825	40 487	110	1 346	1 062
Value added	4 427	360	970	2 921	37 451	473	1 527	1 557	14 019	19 891	17 193	308	386	269
Personnel costs	2 594	203	534	1 599	17 646	154	881	758	8 211	11 885	10 762	170	135	135
Average personnel costs	49.7	5.2	13.7	45.4	33.8	13.1	42.6	23.1	34.0	40.5	34.0	23.8	7.6	8.5
Gross operating surplus	1 833	157	437	1 322	19 806	319	646	799	5 809	8 006	6 432	138	251	134
Gross investment	1 016	124	226	421	9 055	156	270	150	4 117	7 261	6 045	20	185	133
Apparent labour prod.	80.6	8.4	21.5	81.8	68.6	39.4	70.7	35.3	54.9	67.7	48.0	40.3	21.6	16.0
Wage adj. labour prod.	162.1	163.8	156.9	180.1	203.1	301.2	165.9	152.6	161.4	167.0	141.4	169.5	283.6	189.2
Gross operating rate	8.2	13.0	6.8	11.3	20.2	16.3	12.1	18.1	11.5	12.0	11.7	33.0	15.0	10.3
Investment rate	22.9	34.3	23.3	14.4	24.2	32.9	17.7	9.6	29.4	36.5	35.2	6.4	48.0	49.4
	LU	**HU**	**MT**	**NL**	**AT**	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	**UK**	**NO**
Enterprises	0.2	5.1	:	6.1	2.8	11.7	3.5	4.2	1.0	1.0	2.7	5.9	16.9	3.5
Persons employed	2.9	33.8	:	96.8	61.2	78.4	41.8	73.8	9.5	11.8	30.5	63.8	405.4	30.9
Turnover	911	5 258	:	26 565	18 416	5 898	7 725	2 656	1 328	1 293	6 725	20 705	110 832	11 490
Production	257	1 557	:	26 168	6 386	4 502	7 894	2 595	1 224	1 248	5 898	17 905	111 628	11 247
Purch. of goods & serv.	747	4 444	:	20 625	15 234	4 186	5 586	1 853	986	1 051	5 076	14 608	77 124	8 583
Value added	164	833	:	7 022	4 592	1 417	2 356	787	328	242	1 709	3 487	33 903	3 056
Personnel costs	111	414	:	4 026	2 684	655	1 129	522	201	123	1 198	2 585	17 030	1 736
Average personnel costs	39.4	13.3	:	43.6	45.1	10.3	27.5	7.1	21.9	10.7	40.0	45.4	43.2	57.6
Gross operating surplus	53	419	:	2 996	1 908	762	1 226	265	126	119	512	902	16 873	1 321
Gross investment	3	1 567	:	1 941	2 011	347	1 601	638	648	504	258	542	10 413	523
Apparent labour prod.	56.8	24.6	:	72.6	75.1	18.1	56.4	10.7	34.3	20.6	56.0	54.6	83.6	98.8
Wage adj. labour prod.	144.1	184.5	:	166.3	166.4	175.1	204.9	149.3	156.8	192.5	140.0	120.2	193.8	171.5
Gross operating rate	5.8	8.0	:	11.3	10.4	12.9	15.9	10.0	9.5	9.2	7.6	4.4	15.2	11.5
Investment rate	1.7	188.1	:	27.6	43.8	24.5	67.9	81.1	197.9	208.1	15.1	15.5	30.7	17.1

(1) Cyprus 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)