

# Specific aspects of road freight transport 1999-2003

*Empty journeys represent 25% of national transport, and only 12% of international transport.*

## Statistics in focus

### TRANSPORT

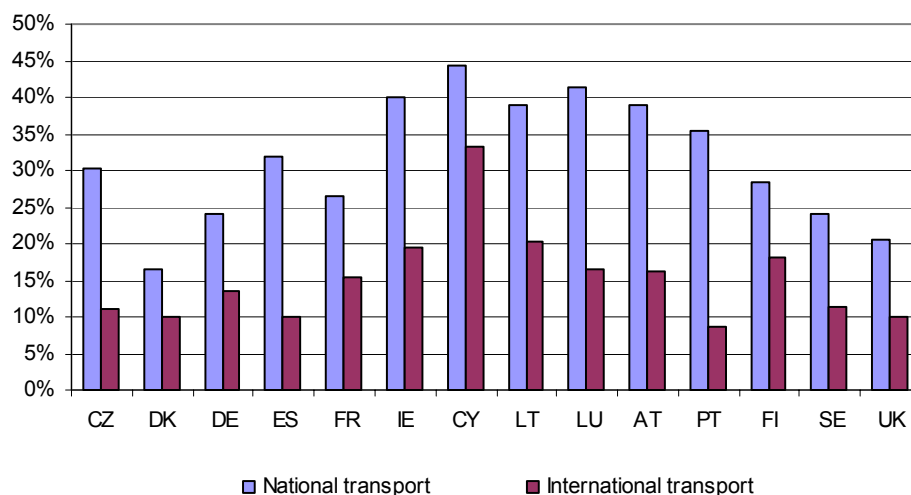
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Figure 1: Empty running by reporting country, for national and international transport - % in vkm, 2003



### Highlights

Since 1999, the proportion of vehicle-kilometres accounted for by freight vehicles over 6 years old has fallen from over a quarter to nearly a fifth, according to figures reported by 16 Member States (see the data availability table on page 7). Vehicles 3 years or under have accounted for more than half of the total since 2001. However, there were differences between Member States. The new Member States and some old ones appear to make greater use of older vehicles.

In 2003, empty running accounted for about 23% of the total vehicle-kilometres and for over 40% of the total number of journeys for the 14 Member States reporting this variable. National transport accounted for the large majority, around 90%, of empty running. 25% of vehicle-kilometres in national transport was empty compared with 12% in international transport.

Breaking tonne-kilometres down by type of transport, 83% of the 2003 total was operated on 'hire or reward', whereas only 17% was performed on 'own account'.



## Introduction

This publication looks into three aspects of road freight transport as reported by EU Member States and Norway. The first part presents data on the age of vehicles undertaking road freight transport. The second part deals with empty running, in terms of

vehicle-kilometres and number of journeys. The analysis of empty running covers also national and international transport. Finally, the third part of this publication focuses on type of transport, broken down by different variables.

## Age of road freight vehicles

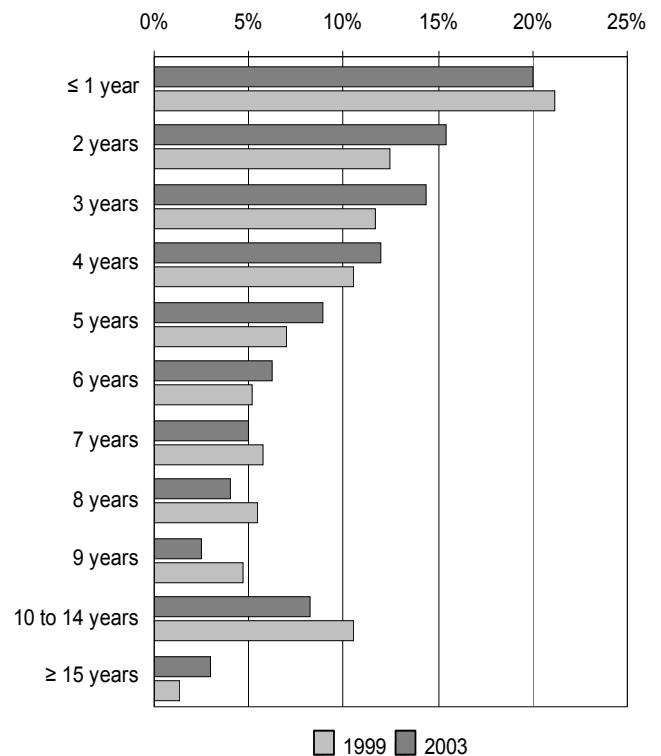
**Table 1: Distribution of total transport by age of vehicle in the reporting countries (\*) - % in tkm, 1999- 2003**

Age of vehicle	1999	2000	2001	2002	2003
≤ 1 year	21.3	22.2	23.0	20.2	21.1
2 years	13.0	15.3	16.3	17.5	16.3
3 years	12.3	10.6	13.2	14.9	15.1
4 years	11.2	9.2	8.8	10.9	12.6
5 years	6.9	7.8	7.6	7.2	9.3
6 years	4.7	4.6	6.5	6.1	6.0
7 years	5.7	8.3	3.9	5.2	4.6
8 years	5.4	3.9	3.3	2.9	3.7
9 years	4.7	3.5	3.0	1.8	2.2
10 to 14 years	10.0	9.1	8.9	7.7	6.7
≥ 15 years	1.0	1.1	1.1	1.3	2.2
Unknown	3.8	4.4	4.4	4.2	0.5
Total	100.0	100.0	100.0	100.0	100.0

(\*) Data availability: See "methodological notes"

Table 1 shows the percentage of tonne-kilometres transported by vehicles of varying age ranges over the years from 1999 to 2003. Vehicles up to one year old accounted for over 20% of tonne-kilometres throughout the reference period. There were significant increases in the shares of vehicles over one year and less than 7 years old, whereas there was less use of vehicles between 7 and 14 years. An increase in use was registered for vehicles over 14 years old, although this comparison could be affected by the changes in the coverage of Member States

**Figure 2: Distribution of total transport by age of vehicle in the reporting countries (\*) - % in vkm, 1999 and 2003**



(\*) Data availability: See "methodological notes"

reporting. Figure 2 shows the same analysis for vehicle-kilometres. In 2003, vehicles up to one year old accounted for 20% of total vehicle-kilometres, slightly down on the 21% recorded in 1999. In 2003, vehicles 2 and 3 years old accounted for about 15% and 14% respectively. The shares of vehicles in the range from more than one to less than seven years all rose substantially. In contrast, the shares of vehicles in the range of more than seven years up to 14 years fell, while the oldest vehicles over 14 years saw an increase.

**Table 2: Distribution of total transport by reporting country and age of vehicle (\*) -% in vkm loaded, 2003**

Reporting country	≤ 1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 to 14 years	≥ 15 years	Un-known	Total
BE	18.9	12.3	11.7	10.5	8.6	5.7	5.6	3.2	2.4	11.2	10.0	:	100.0
CZ	10.5	12.0	11.7	9.0	9.9	7.7	6.9	5.0	3.1	12.7	11.3	:	100.0
DK	24.5	15.4	12.9	13.8	8.6	7.7	5.7	3.7	1.6	4.5	1.6	:	100.0
DE	23.9	15.8	15.4	13.1	9.4	5.6	4.0	3.3	1.9	6.6	1.0	:	100.0
ES	12.2	15.7	14.6	12.7	9.0	5.7	4.3	4.8	3.1	13.5	4.5	:	100.0
FR	22.0	18.9	15.7	11.5	8.6	5.4	4.6	3.2	2.2	7.0	0.9	:	100.0
IE	23.2	15.9	14.8	15.1	9.7	5.9	4.6	3.6	2.2	4.3	0.5	c	100.0
CY	6.1	10.4	24.3	2.6	4.3	7.0	1.7	5.2	2.6	15.7	17.4	1.7	100.0
LV	20.0	12.4	5.7	5.2	8.4	4.9	6.1	5.4	2.4	17.4	12.0	:	100.0
LT	4.0	5.0	7.3	3.0	6.8	5.8	3.4	2.7	2.1	23.7	15.7	20.4	100.0
LU	32.1	20.9	17.9	10.3	7.2	2.9	2.4	1.9	1.0	2.6	0.7	:	100.0
AT	24.3	17.7	15.8	12.3	8.2	5.4	3.5	3.1	2.2	5.8	1.8	:	100.0
PT	:	1.3	9.2	20.6	12.2	11.5	7.9	7.5	5.0	18.7	6.0	:	100.0
FI	15.8	9.8	11.2	10.7	10.8	8.4	6.4	6.4	3.6	10.4	6.5	:	100.0
SE	15.1	13.4	15.3	13.6	9.7	7.1	8.5	3.9	2.3	7.1	4.1	:	100.0
UK	23.2	15.4	14.4	11.2	8.0	6.9	5.7	4.5	2.7	5.4	1.1	1.5	100.0
Total	20.0	15.4	14.4	11.9	8.9	6.2	5.0	4.0	2.5	8.3	2.9	0.5	100.0

(\*) Data availability: See "methodological notes"

In 2003, there were marked differences between Member States in the distribution of vehicle-kilometres over the range of vehicle ages, as shown in Table 2. Luxembourg is the country with the largest share of vehicles under 4 years old, accounting for 71% of the vehicle-kilometres performed in 2003. For the larger economies, Germany, France and the United Kingdom, over half of the total transport was accounted for by vehicles under 4 years old and under 10% for vehicles 10 years and over. Spain was an

exception to this rule with less than half its transport accounted for by vehicles under 4 years old and 18% by vehicles 10 years and over. This same pattern emerges for the new Member States with much less than half of the total transport accounted for by the younger vehicles but substantially more by those 10 years and over. For Cyprus, Lithuania and Latvia, the share of the older vehicles was 33%, 39% and 29% respectively.

**Table 3: Average distance travelled by reporting country and age of vehicle (\*) – in km loaded, 2003**

Reporting country	≤ 1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 to 14 years	≥ 15 years	Total
BE	171	154	152	158	146	138	117	123	97	85	110	133
CZ	194	293	219	202	184	134	142	121	105	48	25	88
DK	177	161	133	131	111	101	89	92	119	62	43	122
DE	148	137	114	112	104	91	74	60	43	36	24	95
ES	155	155	150	127	129	93	76	78	68	47	37	92
FR	156	135	128	117	119	97	91	67	59	46	38	106
IE	82	72	63	65	60	64	56	63	49	38	34	65
CY	22	34	44	51	39	28	26	22	9	23	18	26
LV	232	340	79	76	151	267	136	184	106	92	49	115
LT	472	724	653	124	200	316	468	211	247	99	62	148
LU	255	254	212	185	198	118	99	80	63	35	28	174
AT	200	187	155	128	101	82	67	58	44	34	24	104
PT	:	95	333	324	260	207	192	196	165	113	74	177
FI	107	87	71	104	94	90	99	69	93	34	28	68
SE	122	104	110	103	136	102	94	104	112	57	35	95
UK	130	117	119	118	109	106	98	91	70	65	42	109
Total	146	136	125	120	116	101	91	78	64	49	36	100

(\*) Data availability: See "methodological notes"

Another way of looking at the utilisation of vehicles of various ages is to consider the average length of journey by Member State and age range. This is shown in Table 3.

Overall, in 2003 the average journey length was 100 km, but for vehicles up to one year old, it was 146 km. Older vehicles saw the average length of journey decline gradually, 136 km for 2 years old, 125 km

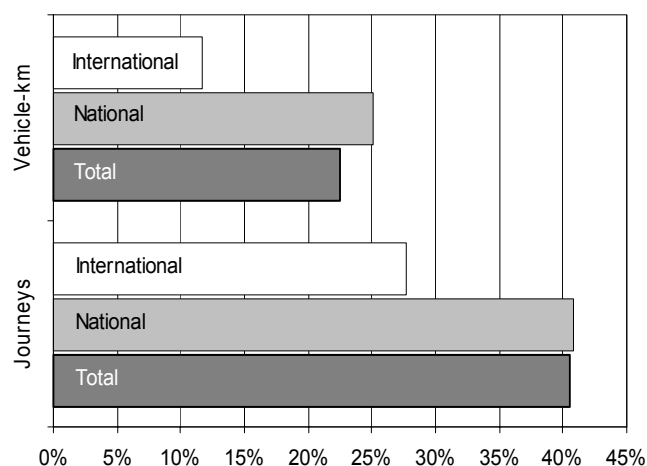
for 3 years, and down to 36 km for vehicles 15 years and over. The older the vehicle it seems, the more it is used for local journeys, while newer vehicles run over longer distances. While this picture of steady decline with age held true at the overall level, there was considerable variation among Member States. For Luxembourg, the average journey length was 174 km, 148 km for Lithuania and 133 km for Belgium. At the other extreme, for the island economy of Cyprus the average journey length was 26 km, while it was 65 km

for Ireland and 68 for Finland. For most Member States, the highest average journey length was recorded for vehicles aged one year or less, but there were four, Czech Republic, Spain, Latvia and Lithuania where the highest length fell in the 2 years class. Great variation could also be observed in the 15 years and over band. Belgium recorded a substantial 110 km and Lithuania 62 km, while the figure for Cyprus was 18.

## Empty running

In terms of number of journeys, empty running accounted for over 40% of all journeys and a lower 28% of international ones. However, when considering vehicle-kilometres, empty running was only 23% of total transport and half of this share when looking at international transport (Figure 3). Still, as Table 4 shows, there were great differences between Member States. In 2003, less than 20% of vehicle-kilometres was driven empty by Danish, Luxembourgish and UK hauliers, while Cyprus and Ireland reported figures greater than 35%. In all Member States, empty running in international transport was much lower than the corresponding figure for national transport. Portugal and Denmark recorded less than 10% of international empty running. In contrast, Cyprus and Lithuania had scores of over 20%. With coverage varying over the years, it is difficult to detect trends in this measure, but it has stayed close to 20% over the whole period since 1999.

**Figure 3: Empty running for national, international and total transport (\*) - % in number of journeys and vkm, 2003**



(\*) Data availability: See "methodological notes"

**Table 4: Empty running by reporting country for national, international and total transport (\*) - % in vkm, 1999-2003**

Reporting country	National					International					Total				
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
CZ	:	29.3	32.5	31.2	30.3	:	15.4	14.6	14.3	11.1	:	24.5	25.2	24.1	22.1
DK	15.3	15.8	16.2	15.7	16.4	8.6	9.2	11.3	10.7	9.9	12.8	13.3	14.5	14.0	14.1
DE	27.7	26.6	25.5	24.6	24.0	16.0	15.3	14.8	14.5	13.4	26.1	25.0	23.8	23.0	22.2
ES	31.7	31.5	31.9	31.9	31.9	10.7	10.7	11.0	10.5	10.1	27.7	27.2	27.5	27.3	27.5
FR	26.7	26.3	26.8	26.3	26.5	13.8	13.9	14.3	15.4	15.4	24.8	24.7	25.2	25.1	25.3
IE	40.3	40.2	40.6	40.6	40.0	17.8	20.8	22.3	19.0	19.6	37.0	36.5	37.5	37.3	36.8
CY	:	:	:	42.0	44.3	:	:	:	33.3	33.3	:	:	:	42.0	44.2
LT	:	:	:	:	38.9	:	:	:	:	20.4	:	:	:	:	27.2
LU	40.7	38.7	39.4	39.8	41.5	17.6	15.3	16.0	16.9	16.6	20.5	18.1	18.3	19.6	19.4
AT	39.3	39.3	39.3	38.8	39.0	18.0	17.1	16.6	15.8	16.1	29.0	28.4	27.7	27.0	27.2
PT	40.5	40.0	40.1	40.1	35.4	9.4	8.9	10.1	9.0	8.6	32.5	31.4	31.8	30.7	23.0
FI	30.1	29.6	30.1	29.1	28.3	17.7	18.2	19.9	17.4	18.1	29.0	28.6	29.2	28.0	27.3
SE	:	24.4	23.7	24.3	23.9	:	11.6	11.7	11.8	11.5	:	22.9	22.3	22.7	22.2
UK	20.1	20.4	20.5	20.2	20.5	4.3	4.7	9.2	10.0	10.1	18.9	19.3	19.7	19.5	19.8
NO	27.5	27.4	26.3	26.4	:	12.0	11.7	12.1	13.5	:	25.4	25.5	24.6	25.0	:
Total	22.6	22.1	22.1	21.7	25.1	9.3	9.5	9.8	9.6	11.6	20.3	19.8	19.7	19.4	22.6

(\*) Data availability: See "methodological notes"

Table 5 shows total transport and empty running by Member States in 2003. In absolute figures, four countries dominate the scene: Germany, France, Spain and the United Kingdom, both for total transport and empty running. Given its above average level of empty running, Spain outstrips the United Kingdom in terms of empty journeys, though not in terms of vehicle-kilometres.

In general, the percentage of empty journeys was substantially higher (40%) than that for empty vehicle-kilometres (23%). This may reflect the short distances nature of the transport which generates empty running. For example, construction work entails first the removal of rubble in which heavy lorries make a short journey to transport the material to landfill sites before returning to collect another load. A similar pattern repeats with building materials in the construction phase.

**Table 5: Total transport and empty running by reporting country (\*)- absolute values and % in million vkm and 1000 journeys, 2003**

Reporting country	in mio vehicles-km			in 1000 journeys		
	Total	Empty	Share of empty	Total	Empty	Share of empty
CZ	6 137	1 356	22.1%	98 002	43 519	44.4%
DK	2 339	330	14.1%	22 353	5 906	26.4%
DE	27 912	6 204	22.2%	382 989	153 621	40.1%
ES	16 908	4 649	27.5%	249 696	117 141	46.9%
FR	20 821	5 267	25.3%	262 166	115 822	44.2%
IE	2 080	766	36.8%	38 128	17 904	47.0%
CY	206	91	44.2%	8 245	3 904	47.3%
LT	1 164	317	27.2%	10 907	5 186	47.5%
LU	720	140	19.4%	5 081	1 757	34.6%
AT	3 328	905	27.2%	38 800	15 533	40.0%
PT	1 761	405	23.0%	14 024	6 357	45.3%
FI	2 548	696	27.3%	48 030	20 835	43.4%
SE	2 550	566	22.2%	34 583	13 697	39.6%
UK	24 220	4 796	19.8%	274 163	95 263	34.7%
Total	116 563	26 488	22.6%	1 516 342	616 445	40.5%

(\*) Data availability: See "methodological notes"

## Type of transport

**Table 6: Total transport by reporting country (\*) and type of transport – absolute values and % in million tkm, 2003**

Reporting country	Own account	Hire or reward	Total	Share of Own account
BE	8 565	41 977	50 542	16.9%
CZ	7 429	39 106	46 535	16.0%
DK	1 955	21 055	23 009	8.5%
DE	65 072	225 678	290 750	22.4%
ES	17 296	175 298	192 595	9.0%
FR	33 155	170 441	203 595	16.3%
IE	4 255	11 395	15 650	27.2%
CY	603	798	1 401	43.0%
LV	1 289	5 519	6 808	18.9%
LT	1 619	9 844	11 462	14.1%
LU	779	8 866	9 645	8.1%
AT	8 197	31 360	39 557	20.7%
FI	2 322	28 604	30 926	7.5%
SE	2 759	33 878	36 638	7.5%
UK	39 616	127 527	167 143	23.7%
Total	194 911	931 346	1 126 256	17.3%

(\*) Data availability: See "methodological notes"

In 2003, only 17% of tonne-kilometres was undertaken as 'own account' transport (Table 6), while 83% was conducted for 'hire or reward' as a business venture. However, the situation varied markedly between Member States. Cyprus recorded a share of 43% for 'own account', Ireland 27%, the United Kingdom 24%, Germany 22% and Austria 21%. In contrast, Finland, Sweden, Luxembourg, Denmark and Spain all recorded figures less than 10%. For all types of international transport, the share of 'hire or

**Table 7: 'Hire or reward' by reporting country in national, international loaded and unloaded, cross-trade and cabotage transport (\*) - % in tonnes, 2003**

Reporting country	National	Inter-national	Cross-trade	Cabotage	Total
BE	68.0	87.3	91.7	85.2	72.4
CZ	56.4	89.4	99.5	:	59.1
DK	79.5	99.1	100.0	98.2	81.0
DE	54.6	87.5	95.0	88.2	56.2
ES	72.5	97.3	100.0	99.4	73.1
FR	58.3	89.1	98.1	97.6	59.4
IE	60.7	59.9	98.6	56.4	60.6
CY	44.7	100.0	:	:	44.8
LV	45.8	91.5	99.3	100.0	49.2
LT	39.6	92.2	100.0	97.6	46.0
LU	26.6	82.4	95.5	91.9	58.0
AT	52.5	81.6	90.2	88.2	56.8
FI	73.6	100.0	100.0	100.0	74.0
SE	89.2	97.8	93.8	94.6	89.4
UK	63.1	85.7	97.6	99.2	63.3
Total	62.7	88.6	94.8	86.6	64.0

(\*) Data availability: See "methodological notes"

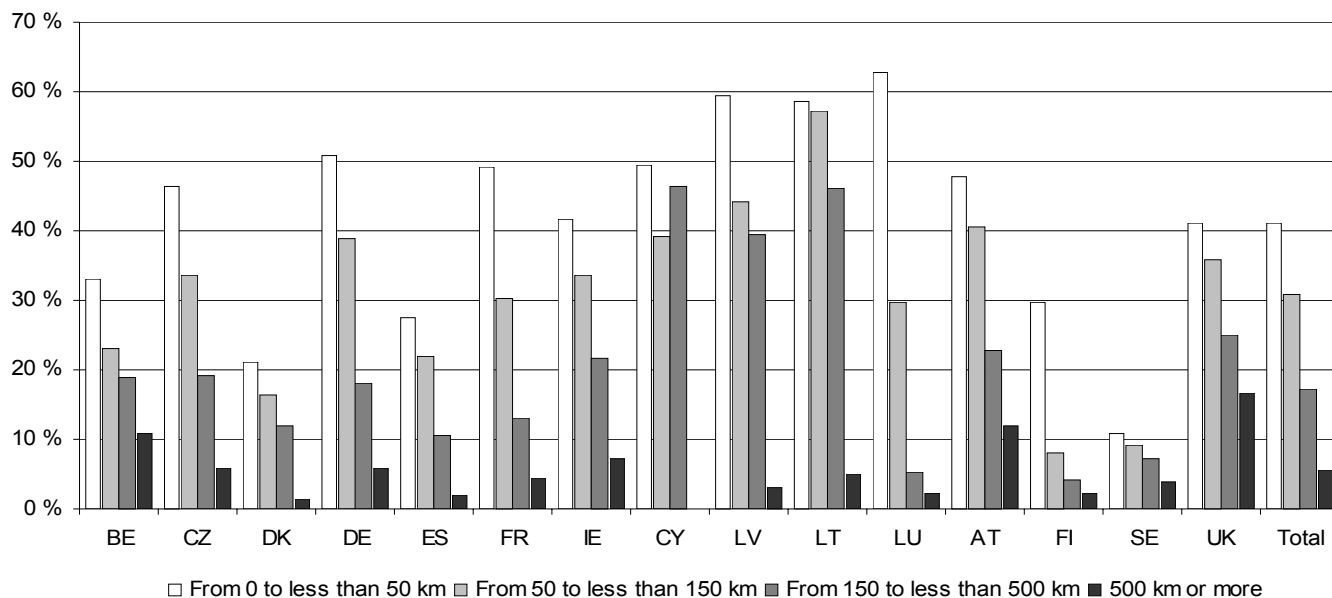
'reward' was over 80% for almost all reporting countries. Ireland was an exception with less than 60% both for international loaded and unloaded, and cabotage transport. The share of transport for 'hire or reward' was much lower for national transport. Hauliers operating national transport for 'hire or reward' had particularly low shares in Luxembourg (27%) and Lithuania (40%). Sweden, with 89%, showed the largest share of 'hire or reward' in national transport.

Figure 4 presents the percentage of total transport undertaken on 'own account' by distance classes in 2003. For all reporting countries 41% of total transport covering distances up to 50 kilometres was performed on 'own account', 31% between 50 and 150 kilometres, 17% between 150 and 500 kilometres and 6% for longer journeys.

Whilst most of the reporting countries showed the same decline in the share of 'own account' transport as journey length increases, there were some marked differences. 63% of journeys under 50 kilometres

performed by Luxembourgish hauliers were for 'own account', for Latvian and Lithuanian hauliers 60% and 59% respectively, whereas for Swedish hauliers only 11%. Journeys of 500 kilometres or more operated for 'own account' amounted to 17% for hauliers from United Kingdom, in contrast to the figure of 1% for Danish and 2% for Finnish hauliers. Cypriot hauliers operating for 'own account', show a higher share in the 150 to 500 kilometres distance range than in the 50 to 150 kilometres range.

**Figure 4: 'Own account' transport by reporting country and distance classes (\*) - % of total transport in tkm, 2003**

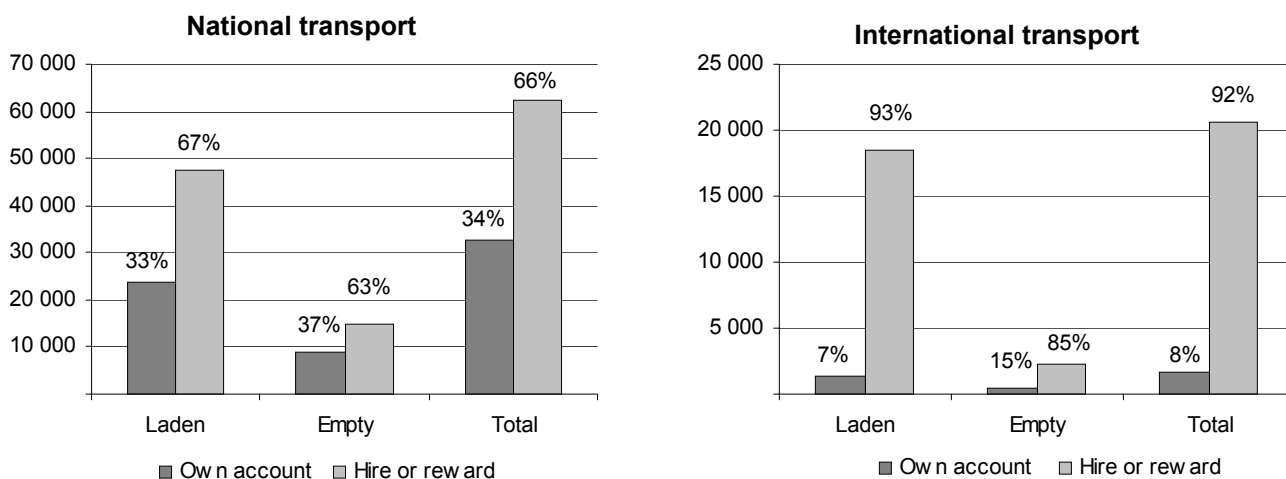


(\*) Data availability: See "methodological notes"

Figure 5 shows 'own account' transport as a share of the total in national and international transport. For national transport about a third of vehicle-kilometres was on 'own account' with a somewhat higher figure

for empty running. 8% of international transport was on 'own account', but it accounted for 15% of international empty running.

**Figure 5: Distribution of transport by type of transport for laden, empty and total journeys in national and international transport (\*) – absolute values and % in million vkm, 2003**



(\*) Data availability: See "methodological notes"

## ➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

Data presented in this publication were collected in the frame of Council Regulation (EC) 1172/98 on statistical returns in respect of the carriage of goods by road. These data are based on sample-surveys carried out in the reporting countries, i.e. EU Member States and Norway and present the road goods transport performed by vehicles registered in these countries.

**Empty journeys** are defined as 'the goods road vehicle containing no article or any item of transport equipment that has to be unloaded at a given destination'. This information always refers to journey related data. It needs to be stressed that this variable is still an optional one, consequently not all MS are reporting it (cf Data availability below).

### Total transport

Total transport includes national transport, international transport of goods loaded in the reporting countries, international transport of goods unloaded in the reporting countries, cross-trade and cabotage transport.

### International transport

International transport is composed by international transport of goods loaded in the reporting countries, international transport of goods unloaded in the reporting countries, cross-trade and cabotage transport. Double counting is avoided since reporting relates only to resident carriers of the reporting countries.

'**Haulier**' refers to a transport operator that performs road transport for 'hire or reward' (i.e. the carriage of goods for remuneration on behalf of third parties) as well as the one that performs transport for 'own account'.

### Belgium

Belgium reported "unknown" for the variable "age of vehicle" up to 2002.

### Greece

Since 1999, Greece has not reported any road transport data.

### Portugal

At the day of the extraction of the data for this publication, Portugal had reported only 'hire or reward' transport figures for 2003.

### Sweden

Sweden reported 1999 data according to the former Directives.

Member States use their own national surveys for the collection of data based on indications from road hauliers. The result is micro-data referring to vehicles and their linked journeys. As mentioned, the results are based on surveys and some of the cells are based on a small number of observations and therefore the statistical precision can be low. Additionally, applied validations and common aggregation procedures on EU level might divert from national practices. Therefore differences of the figures in this publication might occur when comparing them to the national values.

The source of all the figures presented in this publication is Eurostat and reflects the **state of data availability** in Eurostat's reference database NewCronos as of July 2004.

### In this publication:

MS Member State of the European Union

: non available

c confidential data, based on less than 10 vehicle records.

**This publication** was produced with the assistance of Marie-Noëlle Dietsch and Richard Butchart.

### Data availability:

Reporting Country	Age of vehicle					Empty journey					Type of transport	
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003	2003	
BE	Belgium											
CZ	Czech Republic											
DK	Denmark											
DE	Germany											
EE	Estonia											
EL	Greece											
ES	Spain											
FR	France											
IE	Ireland											
IT	Italy											
CY	Cyprus											
LV	Latvia											
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LU	Luxembourg											
HU	Hungary											
MT	Malta											
NL	Netherlands											
AT	Austria											
PL	Poland											
PT	Portugal											
SI	Slovenia											
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SE	Sweden											
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## ***Further information:***

### ➤ **Databases**

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