

# Survey on International Merchandise Transport

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## Main findings

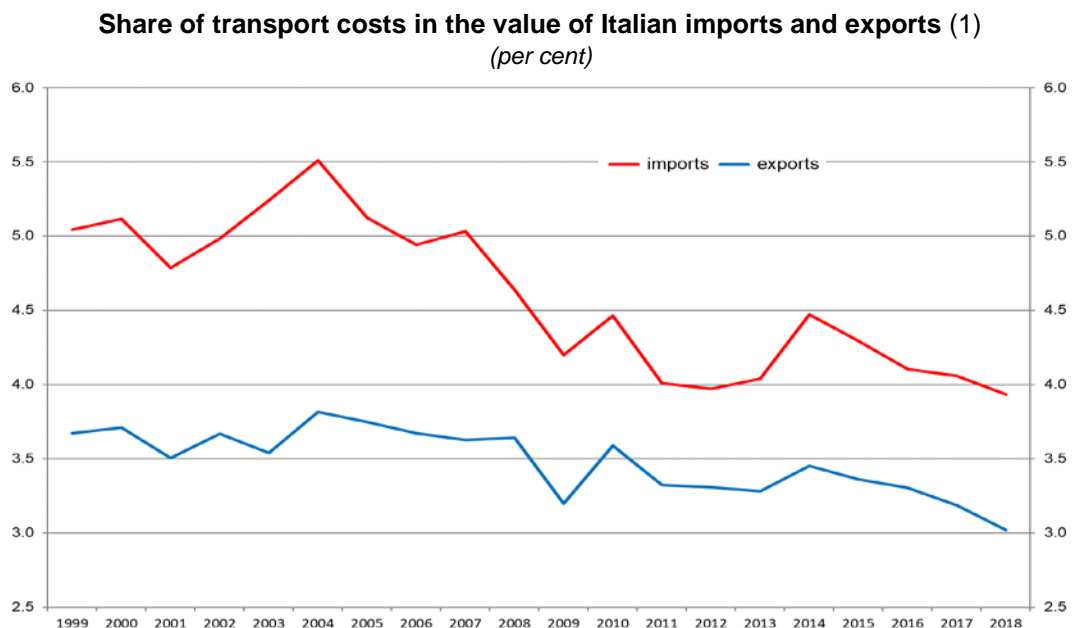
In 2018, Italy's balance of payments recorded a freight transport deficit of €5.5 billion, a slight decrease compared with 2017. The improvement was due to the narrowing in the deficit in the sea freight sector determined by the contraction in transport costs and the slight uptick in the market share of resident carriers. In transport services, which include the cross-border transport of passengers and mail, the merchandise component accounted for about 61 per cent of the overall deficit in 2018.

The share of transport costs in the value of goods continued to decrease and in 2018 came to 3.0 per cent for exports and 3.9 per cent for imports (excluding those transported by pipeline; Figure 1).

In 2018, the average cost of road transport held stable, albeit with a significant degree of heterogeneity according to the goods' country of origin or place of provenance. Conversely, the cost of rail transport increased, especially in the container segment, but remained at historically low levels. The rise in the average cost was significant for air transport, especially for exports, in connection with the favourable developments in demand.

An overall reduction in costs was observed in sea transport, owing both to the appreciation of the euro-dollar exchange rate (sea freight contracts are usually denominated in dollars) and the slowdown in world trade. This last factor had an impact only in the second half of the year and did not seem to influence niche markets such as the transport of chemical products and Ro-Ro freight, which instead recorded an increase in costs in 2018.

Figure 1



Source: Based on data from Istat, Alps Crossing, Eurostat, and ENAC.

(1) Excludes goods transported via pipeline (natural gas imports). Provisional data for 2018; the costs include ancillary and logistical services linked to international freight transport, as well as any road transport cost supporting other modes of transport (container ships, bulk and container rail transport).

Reference period: 2018

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## 1. Introduction<sup>1</sup>

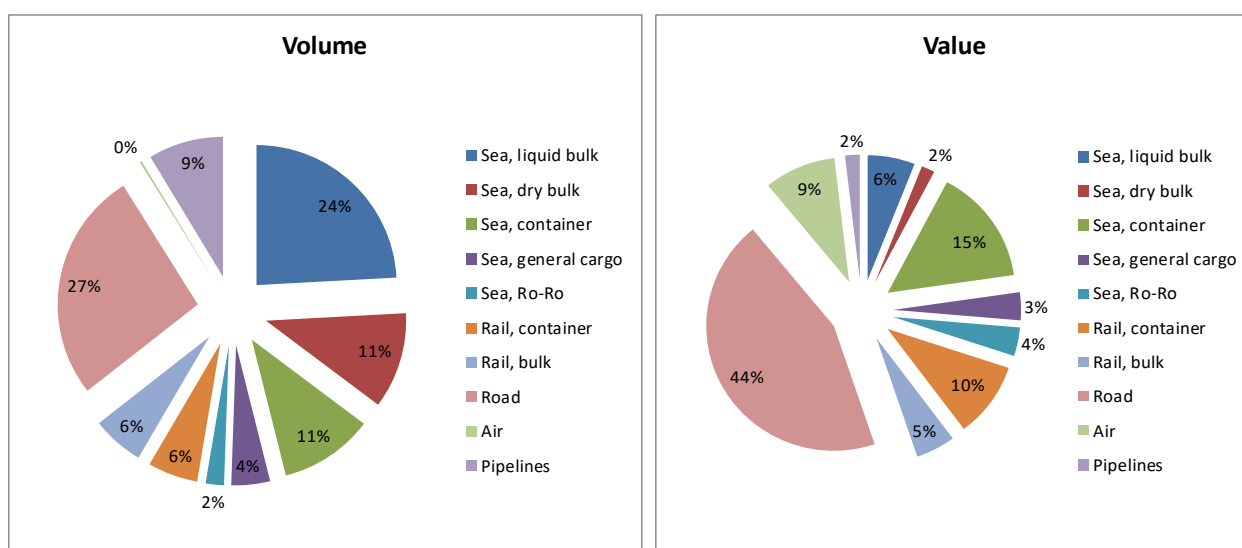
Since 1999, the Bank of Italy has conducted sample surveys of international freight transport operators to collect the data needed to compile the balance of payments. In 2018, almost 200 transport firms operating in Italy took part in the survey.

The survey's main purpose is to estimate the unit cost of freight to and from Italy by mode of transport; carriers' market shares by nationality are also estimated. The tonnage of imports and exports is calculated based on Istat data on Italy's external trade. This information is then used to calculate the volume of goods transported by foreign and Italian carriers. Multiplying the freight costs by the volume of goods transported produces an estimate of the transport services purchased or sold abroad. This estimate also includes some other items, such as cross-trade by domestic carriers. The findings of the survey are also used to adjust the breakdown by mode of transport of external trade flows, which, owing to their calculation method, tend to overestimate road haulage to the detriment of other modes of transport, especially rail freight; in addition, the breakdown was expanded to include information not present in Istat data, to take accounts of the different types of load (and the corresponding differences in freight rates) existing in sea and rail transport.<sup>2</sup>

A breakdown by mode of transport of Italy's external trade in 2018, in terms of quantities and of value, is given in Figure 2. Considering imported and exported volumes, ships were the main form of transport (53 per cent of the total, compared with 27 per cent for road and 12 per cent for rail). In value terms, however, ships declined to 27 per cent, against 47 per cent for road haulage and 14 per cent for rail freight. Air transport was significant only for its share of the value of trade (11 per cent) while the opposite was true for pipelines (imports of natural gas), which were significant only in terms of volume (9 per cent). Compared with the beginning of the available time series (see Tables A.1 e A.2), there has been a decline in the share of rail, pipeline and sea transport, with the important exception of container sea freight. Therefore, there has been a reduction in the share of commodities in external trade. Conversely, the importance of road transport has increased.

Figure 2

**Breakdown by mode of transport of Italy's external trade in 2018**  
(percentage shares, averages of imports and exports)



The next section illustrates the main findings of the 2018 survey by mode of transport and by area of origin/destination in relation to about 6,400 'standard consignments'.<sup>3</sup> Freight rates are given at

<sup>1</sup> This report and the statistical appendix were prepared by Enrico Tosti.

<sup>2</sup> The data can be found in the Statistical Appendix to this report. The method of correction is described in a separate document: [Methods and Sources: Methodological Notes](#).

<sup>3</sup> For the definition of standard consignments, see [Methods and Sources: Methodological Notes](#).

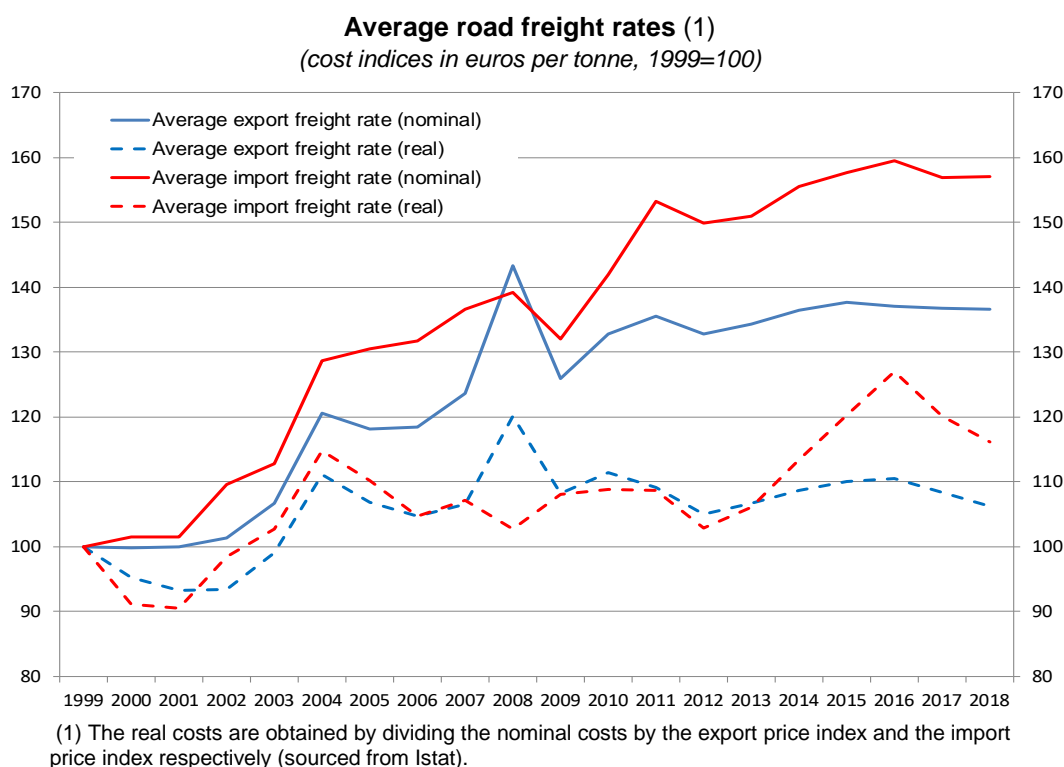
market prices in euros per tonne and include ancillary transport costs (cargo handling, motorway tolls, carrier fees etc.), for which the data are also gathered in interviews with transport operators. In specific cases, the prices are given in the trading currency (the dollar is widely used for sea transport) or net of ancillary services. The average freight rates by mode of transport are calculated as the average of the tariffs by area of origin/destination, weighted by volumes transported; accordingly, the trends over time also reflect the geographical composition of the volumes transported. Finally, for some modes of transport, the market prices relate not to the weight but to the unit (e.g. a container) or to the overall load. In this way, the cost per tonne can vary according to the average volume transported.

## 2. International freight rates

### 2.1 Road freight rates

Average road freight rates in euros per tonne have shown overall stability in nominal terms in recent years, particularly for exports (Figure 3). In real terms, i.e. relative to the producer price index for exports (PPIX) and for imports (PPIM), export freight rates have been largely stable since 2004, save for the peak recorded in 2008, while import freight rates declined for the second consecutive year following the peak registered in 2016.

Figure 3



#### Road freight rates increase for full loads and fall for partial loads

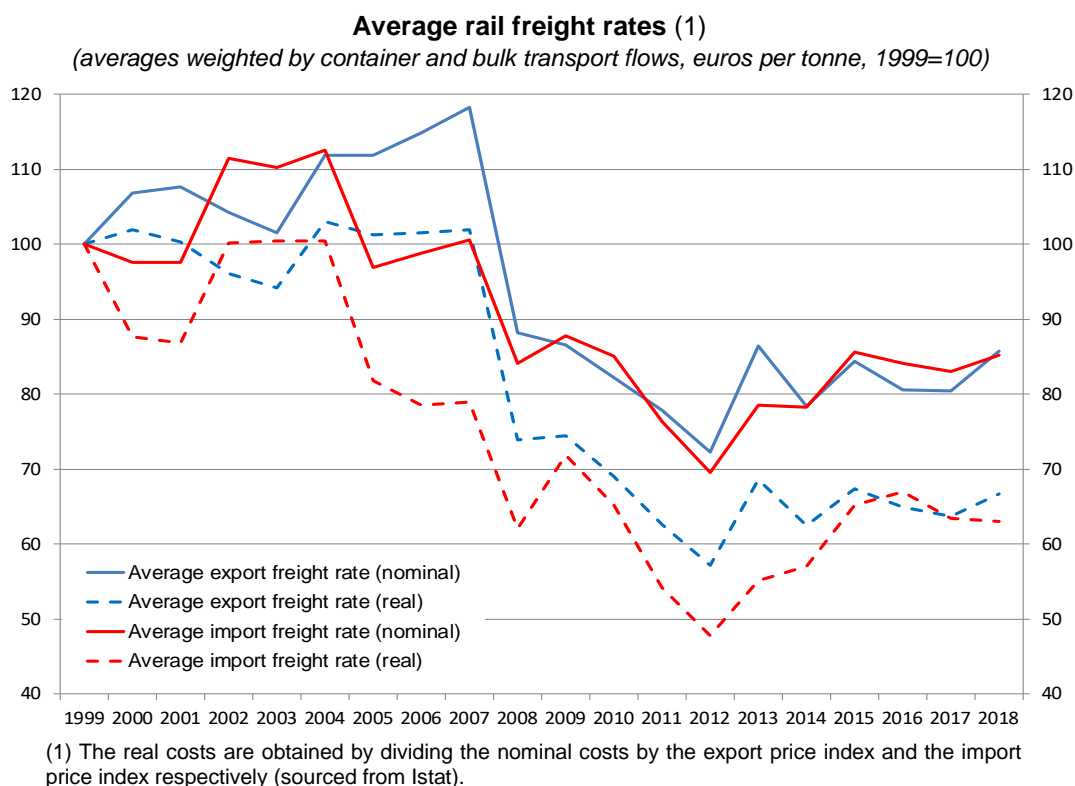
In 2018, against a backdrop of moderate growth in transported volumes (Table A.1 in the Appendix), average costs held stable overall owing to the divergence between the cost of full loads, which rose, and that of partial loads (groupage), which declined (Table 1). In 2017, conversely, the prices for partial loads had buoyed road freight rates.

Full load freight rates (net of ancillary services) were somewhat uneven between countries of origin or destination of the goods. The rates rose for trade from/to Germany and to a lesser extent, France; they declined for the Alpine and Eastern European countries. Significant geographical variability also marked the partial loads (groupage) segment (Table 1).

## 2.2 Rail freight rates

Average rail freight rates are still far from the levels recorded at the start of the last decade, having only partially recouped the steep drop recorded between 2008 and 2012 (Figure 4). The sector continues to be increasingly contestable, with the market share of the Italian state railways (which previously had the monopoly) in constant decline, while transport demand is held down both by competition from road transport and by poor infrastructure (lack of interchanges between rail and other modes of transport).

Figure 4



### Average rail freight rates rise in 2018, particularly for exports

Compared with 2017, the average costs for container rail transport held stable for imports while they rose slightly for exports (Table 2). The increase occurred in most geographical areas, especially Spain, Portugal, the Benelux countries, France and Germany. For rail transport overall, import costs also rose owing to a rise in average costs of bulk rail transport,

which in turn was ascribable more to the reduction in the average loads than to an actual increase in freight rates.

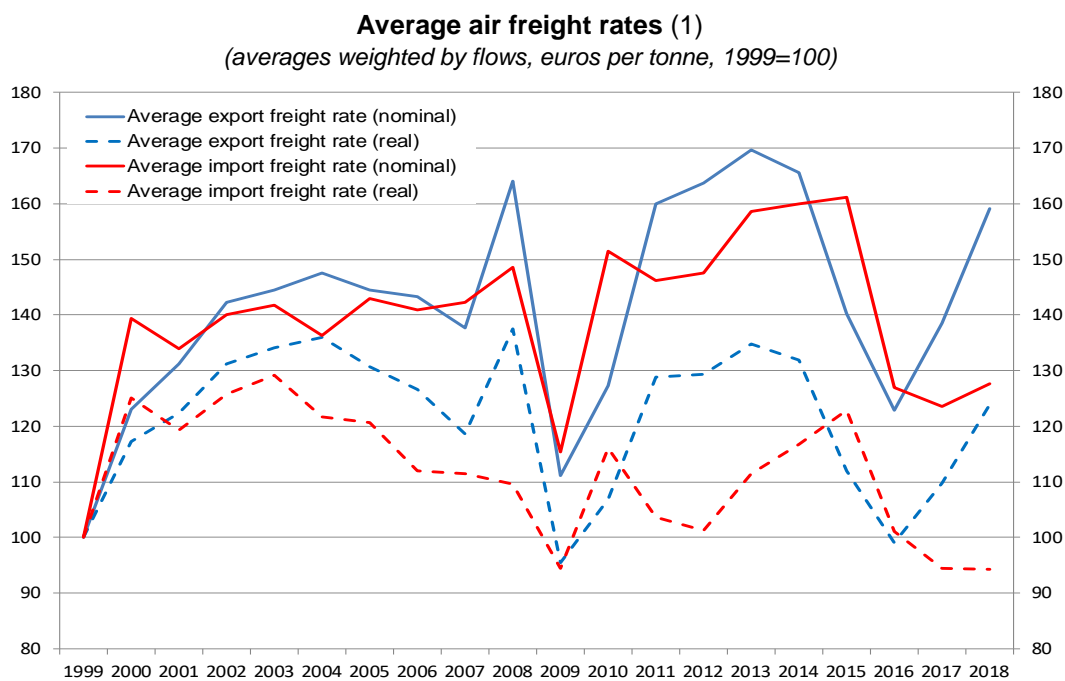
## 2.3 Air freight rates

After the sharp drop recorded in 2016, which had brought them close to the minimum level reached in 2009, in the last two years export air freight rates have for the most part returned to the levels recorded in the early 2010s. Import freight rates have instead remained at about the same levels of 2016, while decreasing below the 2009 minimum in real terms. Real export costs were instead not far from the peak reached in 2008 (Figure 5).

### Air freight rates increase, especially for exports

Against a backdrop of growing transported volumes (Table A.1), compared with the previous year air freight rates (including ancillary services) rose significantly for exports and more moderately for imports. The increase in tariffs on exported goods was, as in the previous year, widespread across all geographical areas with exception of India and the Middle East. The rise was especially pronounced for exports to North America, one of the main destination markets, while rates for imports from that area declined (Table 3).

Figure 5



(1) The real costs are obtained by dividing the nominal costs by the export price index and the import price index respectively (sourced from Istat).

## 2.4 Sea freight rates

Sea freight rates are surveyed by load type (container, bulk cargo, general cargo and Ro-Ro; see [Methods and Sources: Methodological Notes](#)) to take into account the different tariffs for the various market segments.

### 2.4.1 Container sea freight

After picking up between 2009 and 2014, container sea freight rates, including ancillary costs, decreased significantly over the following four years (Figure 6); the reduction recorded last year brought them back, in real terms, to the levels observed during the crisis years 2008-09, especially for exports.

#### Container sea freight rates decrease overall

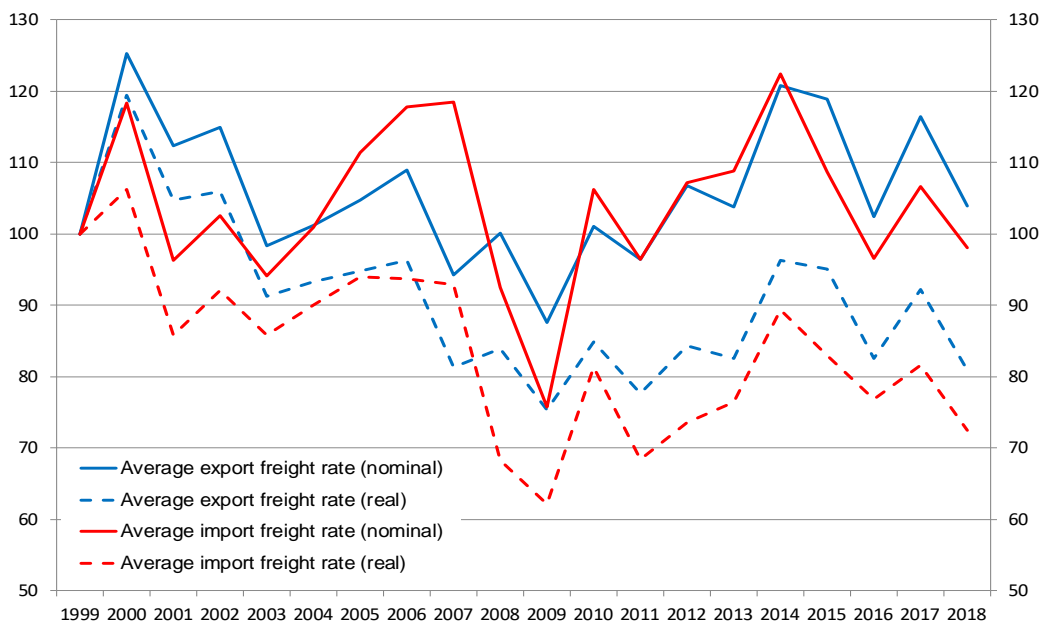
In 2018, the costs per tonne in euros decreased by more than 10 per cent for both imports and exports (Table 4), completely wiping out the gains made in 2017. This was due in part to the appreciation of the euro against the dollar, given that the rates as collected in the survey – i.e. in dollars per container (TEU) excluding ancillary services – recorded instead much more moderate decreases for exports and a non-negligible increase for imports, in line with the trends observed for transported volumes (Table A1).<sup>4</sup>

A factor that contributed to the contraction in overall costs was the increase in average transported loads per container, which reduced the cost per tonne.

<sup>4</sup> A comparison between annual averages does not show the downward trend recorded over the course of 2018 for dollar-denominated freight rates, which can be attributed to the slowdown in world trade recorded in the same period.

Figure 6

**Average container sea freight rates (1)**  
(cost indices in euros per tonne, 1999=100)



(1) The real costs are obtained by dividing the nominal costs by the export price index and the import price index respectively (sourced from Istat).

### 2.4.2 Bulk sea freight (liquid and dry)

In 2018 there was a slowdown in the recovery, under way since 2016, in average sea freight rates (including ancillary services) applying to imports of dry bulk, especially commodities (Figure 7). Besides changes in exchange rates, the slight contraction in real terms appears connected to the slowdown in the fleet decommissioning policy, which in the previous two years had contributed to reducing the cargo excess supply.

Average liquid bulk freight rates (mainly petroleum and petroleum products) decreased in nominal terms as well, confirming the fluctuating trend displayed after the recovery registered in the two years 2014-15. Stagnant demand for transport has made it harder to achieve an equilibrium between the demand and supply of cargo.

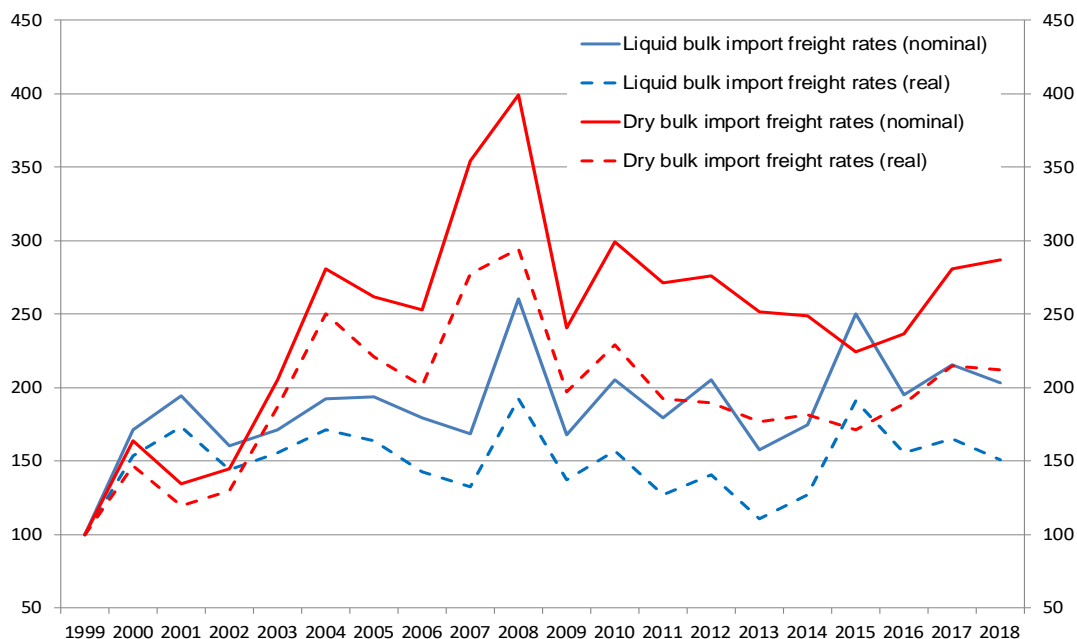
#### Divergent trends emerged within the bulk sea freight sector in 2018

In 2018, dollar-denominated freight rates (excluding ancillary services) for dry commodities grew significantly for coal and mineral ores, and moderately for grain. Measured in euros and including ancillary services, transport costs rose moderately for the former and decreased in an equally moderate manner for the latter (Table 5).

In the liquid commodity sector, the reduction in imported volumes (Table A.1) was reflected in a decrease in freight rates in the most significant segment, crude oil, while for chemical products, a niche transport market, an increase in freight rates was recorded.

Figure 7

**Average sea freight rates: liquid and dry bulk imports (1)**  
(cost indices in euros per tonne, 1999=100)



(1) The real costs are obtained by dividing the nominal costs by the export price index and the import price index respectively (sourced from Istat).

### 2.4.3 General cargo and Ro-Ro sea freight rates

**General cargo sea freight rates for the transport of plant and machinery have reached their lowest levels since 1999**

The average general cargo sea freight rates (including ancillary services and in euros per tonne) for the transport of plant, machinery and transport equipment have been declining for several years now, especially for imports. For both exports and imports, the rates are at historically low levels for the 20 years considered, including in real terms (Figure 8). In recent years, a part has been played by the geographical recomposition of import and export flows in favour of the countries nearer to the Italy, which has pushed down average freight rates.

In 2018, in part owing to the appreciation of the euro against the dollar, costs in euros per tonne have decreased not only in the most significant category, ‘plant, machinery and transport equipment’, but also in the ‘chemicals, building material, forestry products’ category. In the ‘tubes, pipes and metal products’ category, freight rates have increased for exports and held stable for imports (Table 6).

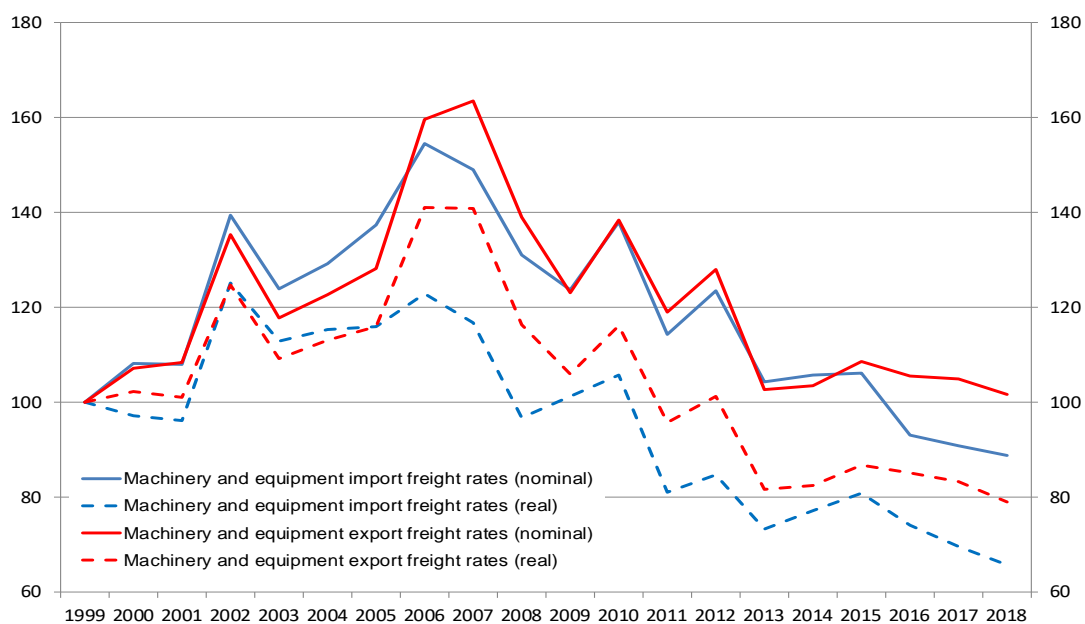
**Ro-Ro sea freight rates increase on average**

In 2018, Ro-Ro (Roll-on/Roll-off) rates for the sea transport of road vehicles (mainly in the Mediterranean area and usually euro-denominated) increased on average by around 12 per cent (Table 7). As in previous years, freight rates changes were varied across geographical areas; among the most important routes, they increased for transport to and from Turkey, Spain and France but decreased for those to and from Northern Europe and North Africa.



Figure 8

**Average sea freight rates: general cargo, transport of plant and machinery (1)**  
(cost indices in euros per tonne, 1999=100)



(1) The real costs are obtained by dividing the nominal costs by the export price index and the import price index respectively (sourced from Istat).

## 2.5 Natural gas transportation rates

The sample survey has collected data on the cost of transporting (imports only) natural gas via pipelines since 2016. In previous years the data came directly from the companies belonging to the group managing the gas pipelines; when the market was liberalized, other operators were allowed to purchase and transport gas to Italy, making it necessary to broaden the survey to include this highly concentrated sector. The costs are those borne from the point of sale (and not the point of production) of the natural gas until the point of entry into Italy<sup>5</sup> and these costs tend to be the same regardless of the volumes that are actually imported (take-or-pay contracts); therefore, changes in unit costs (in euros per tonne) also depend on the actual volumes transported compared with those agreed in the contract.

### Natural gas freight rates rise on average in 2018

In 2018 transport costs rose on average by almost 3.8 per cent compared with the previous year, reflecting the increase in freight rates on imports from all the supplier countries except Russia, for which transport costs have decreased coinciding with a slight decline in imported volumes (Table 8).

## 3. Carriers' market shares

Since 2002 a specific section of the survey estimates the distribution of international merchandise transport to and from Italy among Italian and foreign carriers.

Air transport data comes from administrative sources, while sea and road transport data are obtained from specific sample surveys that constitute an original source of information, including internationally. In fact, statistical data on the maritime sector often look at ship owners and not at the actual operators of those ships. For balance of payments purposes, it is the residence of the operator that is needed and that is why the Bank of Italy survey addresses the operators (see [Methods and](#)

<sup>5</sup> As regards Russian gas, the point of supply is at the border between Austria and Slovakia; for Algerian gas it is at the border between Algeria and Tunisia; for gas originating in Norway and the Netherlands the supply point is at the border between Germany and the Netherlands; and for gas from Libya, the supply point is on the Libyan coastline.

Sources: [Methodological Notes](#)).

**The market shares of Italian carriers increase on average**

For the second consecutive year the average share of Italian carriers in the maritime sector recorded an increase, albeit a marginal one, reaching 11.4 per cent in 2018, about 2 percentage points above the historical low of 2016 (Table 9). The increase was recorded in almost all sectors, particularly in Ro-Ro and general cargo. The share also rose in sea container freight, but remains at a very low level. As regards road transport, the market share of Italian carriers rose slightly, to 20.5 per cent, interrupting a ten-year decline; the share grew slightly in the air freight segment as well, to 18.0 per cent. In the case of foreign sea freight carriers, in 2018 the main shipping companies for container transport were Swiss (Table 10); in the bulk cargo sector, ship owners in Greece continue to hold first place with a very high share of liquid bulk freight, while those in Italy are in second place for liquid and sixth place for dry bulk cargo. In general cargo transport, Turkey is the biggest player while Italy is in third place. It is only in Ro-Ro transport that Italian ship owners claim the highest share.

#### 4. Balance on merchandise transport

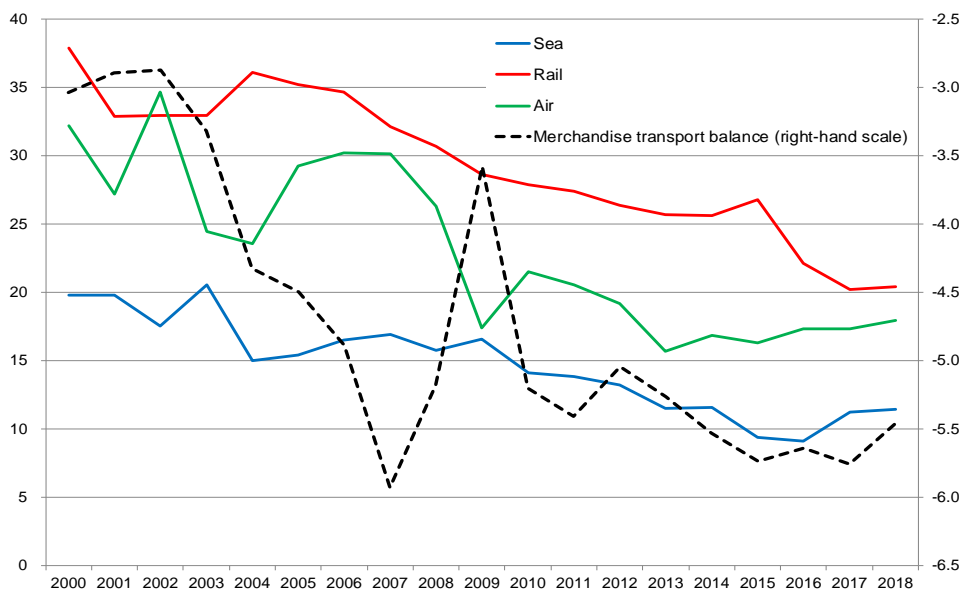
As mentioned in the introduction, the volume of goods transported by foreign and by Italian carriers are attributed according to market shares (as shown in Table A.1). The freight rates, multiplied by these volumes, provide an estimate of the merchandise transport services purchased and sold abroad. Other items are also included in this estimate, such as cross-trade carried out by Italian ship owners in the maritime sector.

**The deficit in the merchandise balance narrows slightly in 2018, especially in the sea transport sector**

Given the small market share of Italian carriers, the balance on merchandise transport has a structural deficit that fluctuated between €5 billion and €6 billion between 2010 and 2018, accounting on average for about 63 per cent of the overall deficit in transport services (Table 11). In 2018, the deficit stood at €5.5 billion, marking a slight decrease compared with 2017. The reduction was attributable to the narrowing in the sea transport deficit, in turn arising from the overall decline in costs and the slight increase in the market share of Italian ship owners. Figure 9 shows the relation between the trend in the market shares of Italian carriers and that in the balance of merchandise transport services; a significant worsening (e.g. that recorded in 2007) or improvement in the deficit (2009) is largely determined by the effects of the economic cycle on average costs.

Figure 9

**Market shares of Italian carriers and balance on merchandise transport**  
(percentage market shares, left-hand scale; balance on merchandise transport in billions of euros, right-hand scale)



## Tables

Unless otherwise specified, the source of the data for all the figures and tables in this section is the Bank of Italy's Survey on International Merchandise Transport.

Table 1

### Average road freight rates (FTL and groupage)\* (2018)

Geographical area	Average freight rates for all loads (including ancillary services)				FTL and groupage freight rates (average exports and imports, excluding ancillary services)			
	Exports (€/tonne)	% change on 2017	Imports (€/tonne)	% change on 2017	FTL (€/vehicle)	% change on 2017	Groupage (€/tonne)	% change on 2017
Austria - Switzerland	106.1	-7.6	106.6	-7.1	987	-13.3	188.0	-5.0
Benelux	123.8	2.0	123.9	2.1	1,629	4.2	193.0	2.1
Eastern Europe (1)	107.0	-1.7	99.0	-1.1	1,148	-3.2	174.4	0.6
France	101.3	-2.6	102.3	-2.0	1,360	4.6	155.9	-5.8
Germany	114.8	7.5	113.8	6.7	1,493	10.9	177.0	4.7
Greece - Turkey	132.2	-8.9	128.5	-11.2	2,133	-5.0	177.7	-14.3
Balkans	124.5	20.1	125.0	20.0	1,320	5.9	205.0	21.3
Baltic countries	129.8	-18.6	135.5	-15.5	2,558	3.4	168.5	-28.5
Former USSR	223.0	18.8	171.0	-0.5	3,550	1.1	273.4	20.0
UK - Ireland	184.8	-5.8	157.6	-10.1	2,679	6.0	247.3	-16.1
Scandinavia	153.3	-12.5	162.4	-7.3	2,597	-8.6	223.8	-8.3
Spain - Portugal	120.6	-6.0	112.1	-4.3	1,676	-1.7	173.5	-7.2
<b>Weighted average (2)</b>	<b>119.5</b>	<b>-0.2</b>	<b>114.6</b>	<b>0.1</b>	<b>1,521</b>	<b>1.8</b>	<b>183.6</b>	<b>-1.3</b>

\* FTL = Full Truck Loads, while the term 'Groupage' = a partial load.

(1) Eastern Europe includes Poland, Czech Republic, Slovakia and Hungary. – (2) Weights are based on transported volumes.

Table 2

### Average rail freight rates: total cargo and container cargo (2018)

Geographical area	Average freight rates for all loads				Container cargo rates			
	Exports (€/tonne)	% change on 2017	Imports (€/tonne)	% change on 2017	Exports (€/tonne)	% change on 2017	Imports (€/tonne)	% change on 2017
Austria - Switzerland	39.2	3.8	38.5	4.8	44.6	3.3	44.3	1.8
Benelux	54.8	12.2	51.0	7.0	60.2	13.9	57.0	3.1
Eastern Europe (1)	53.9	-2.9	52.3	-2.9	57.0	-4.9	53.4	-15.1
France	48.1	8.6	43.7	6.3	54.1	8.5	53.0	4.6
Germany	46.9	6.5	45.8	7.9	52.8	3.4	54.6	9.9
Greece - Turkey	70.3	2.0	70.3	12.3	74.4	-2.2	81.6	15.6
Balkans	62.4	6.1	54.4	-13.9	65.9	2.8	58.4	-17.3
Baltic countries	84.5	-10.5	83.6	-3.6	90.9	-10.8	100.3	6.9
Former USSR	98.6	-0.1	88.5	-9.8	106.1	6.3	100.4	-4.2
UK - Ireland	61.5	10.8	59.2	11.7	66.6	9.2	67.7	12.6
Scandinavia	71.1	16.0	65.9	11.1	75.8	14.8	74.4	10.8
Spain - Portugal	56.3	14.5	53.7	6.6	65.8	22.5	58.1	-2.4
<b>Weighted average (2)</b>	<b>52.1</b>	<b>6.5</b>	<b>48.0</b>	<b>2.7</b>	<b>58.2</b>	<b>6.2</b>	<b>54.6</b>	<b>-0.2</b>

(1) Eastern Europe includes Poland, Czech Republic, Slovakia and Hungary. – (2) Weights are based on transported volumes.

Table 3

**Average air freight rates**  
(2018)

Geographical area	Exports		Imports	
	€/tonne	% change on 2017	€/tonne	% change on 2017
Europe	2,140	20.2	2,140	20.2
Russia	3,095	54.7	3,095	54.7
Mediterranean and Middle East	1,643	-13.5	1,643	-13.5
Rest of Africa	2,437	30.6	2,437	30.6
India	1,461	-10.4	2,183	-24.9
Indonesia - Singapore	1,790	9.1	2,457	0.7
China	1,512	15.0	2,557	0.7
Japan - Korea	2,091	15.8	2,625	21.0
Oceania	3,442	16.5	3,442	16.5
USA - Canada	2,183	30.3	1,540	-9.1
Central and South America	2,989	22.2	2,989	22.2
<b>Weighted average (1)</b>	<b>2,001</b>	<b>14.9</b>	<b>2,243</b>	<b>3.3</b>

(1) Weights are based on transported volumes.

Table 4

**Average container sea freight rates**  
(2018)

Geographical area	Average rates (€/tonne) (including ancillary services)				Rates (\$/TEU) (excluding ancillary services)			
	Exports	% change on 2017	Imports	% change on 2017	Exports	% change on 2017	Imports	% change on 2017
Europe	87.9	5.4	88.0	4.0	331	-10.9	331	-10.9
Mediterranean	87.9	-23.1	88.0	-23.8	331	-12.2	331	-12.2
Rest of Africa	137.9	4.7	137.9	3.2	1,111	23.2	1,111	23.2
Middle East	93.3	-20.9	93.3	-21.8	487	-17.4	487	-17.4
India	92.9	-25.1	109.9	-14.8	492	-27.9	738	1.5
South-East Asia	85.1	-22.6	111.6	-15.0	378	-40.2	763	-14.1
China and Japan	75.2	-20.7	115.7	-1.1	223	-47.0	812	17.5
Oceania	142.6	-12.1	142.6	-13.4	1,105	-16.0	1,105	-16.0
USA - Canada	150.5	-11.4	140.0	-11.3	1,168	8.9	1,016	14.1
Central America	140.8	2.5	140.8	1.2	1,022	11.6	1,022	11.6
South America	98.9	-7.3	98.9	-8.4	510	-1.3	510	-1.3
<b>Weighted average (1)</b>	<b>107.8</b>	<b>-10.7</b>	<b>109.3</b>	<b>-8.0</b>	<b>629</b>	<b>-1.7</b>	<b>664</b>	<b>4.4</b>

(1) Weights are based on transported volumes.

Table 5

**Average rates for liquid and dry bulk sea freight**  
(2018)

Type of merchandise		Average rate for imports			
		€/tonne (including ancillary services)	% change on 2017	\$/tonne (excluding ancillary services)	% change on 2017
<b>Liquid cargo</b>	Petroleum and petroleum products	12.6	-7.8	12.8	-4.0
	Chemicals	85.3	3.1	92.9	8.2
<b>Dry cargo</b>	Coal/mineral ores	19.9	3.1	13.0	14.7
	Grain	31.9	-3.8	21.9	1.0

Table 6

**Average general cargo sea freight rates**  
(2018)

Type of merchandise	Exports		Imports	
	€/tonne	% change on 2017	€/tonne	% change on 2017
Plant, machinery and transport equipment 1)	217.2	-3.3	193.9	-2.2
Chemicals, building material, forestry products	66.6	-5.9	73.9	-4.1
Tubes, pipes and metal products (2)	70.9	1.8	70.5	-0.6

(1) 'Plant, machinery and transport equipment' are Categories 11 (Machinery and equipment) and 12 (Transport equipment) of the NST 2007 classification; – (2) 'Tubes, pipes and metal materials' come under Category 10 (Basic metals; manufactured metal products, excluding machinery and equipment) of the NST 2007 classification.

Table 7

**Average Ro-Ro sea transport rates**  
(2018)

Geographical area	Average of exports and imports (including ancillary services)	
	€/tonne	% change on 2017
Balkans	22.4	0.8
France	17.4	7.3
Greece	46.5	22.5
Northern Europe	213.7	-9.0
North Africa (excluding Tunisia)	122.6	-9.5
Rest of Africa	158.6	0.0
Spain	55.1	4.2
Tunisia - Malta	55.9	-1.4
Turkey	89.8	6.0
Other countries	221.5	39.6
<b>Weighted average (1)</b>	<b>137.2</b>	<b>12.4</b>

(1) Weights are based on transported volumes.

Table 8

**Average rates for natural gas transport via pipeline**  
(2018)

Point of entry	Country of origin of natural gas	€/tonne	% change on 2017
Mazara del Vallo	ALGERIA	33.8	10.4
Gela	LIBYA	33.0	3.9
Passo Gries	NETHERLANDS	32.7	11.7
Passo Gries	NORWAY	81.2	11.7
Tarvisio	RUSSIA	10.2	-11.0
<b>Weighted average (1)</b>		<b>22.0</b>	<b>3.8</b>

(1) Weights are based on transported volumes.

Table 9

**Market shares of Italian carriers for imports and exports of goods to and from Italy**  
(weighted by transported volumes; percentages)

YEARS	Sea						Road	Air
	Liquid bulk	Dry bulk	Container	General cargo	Ro-Ro	Average (1)		
2002	23.3	8.0	16.0	16.0		17.5	33.0	34.7
2003	27.7	10.3	11.9	24.4		20.6	33.0	24.5
2004	19.4	12.9	5.7	14.6		15.0	36.1	23.6
2005	20.8	8.6	8.9	17.7		15.5	35.2	29.3
2006	19.6	15.5	9.3	16.7		16.5	34.7	30.3
2007	21.5	13.6	7.9	17.9		17.0	32.1	30.2
2008	18.2	12.1	10.6	18.6	25.0	15.8	30.7	26.3
2009	21.2	12.2	5.5	16.7	23.8	16.6	28.6	17.4
2010	18.9	8.8	1.6	10.0	32.2	14.1	27.9	21.5
2011	18.0	12.7	2.8	12.9	27.4	13.9	27.4	20.6
2012	16.6	13.6	3.2	11.6	23.8	13.2	26.4	19.2
2013	13.8	12.2	2.7	10.1	29.7	11.5	25.7	15.7
2014	13.7	12.1	2.5	10.5	39.7	11.6	25.6	16.9
2015	10.7	8.9	2.8	9.7	34.1	9.4	26.8	16.3
2016	10.8	8.7	1.0	11.4	26.7	9.1	22.1	17.4
2017	15.5	8.7	1.8	6.1	30.7	11.2	20.2	17.3
2018	15.7	4.7	3.4	10.5	41.2	11.4	20.5	18.0

(1) Weights are based on transported volumes.

Table 10

**Market shares by nationality of maritime carriers in 2018**  
(per cent, imports and exports of goods to and from Italy by ship)

Container	Dry bulk		Liquid bulk		General cargo		Ro-Ro		
Switzerland	33.3	Greece	21.5	Greece	34.6	Turkey	24.9	<b>Italy</b>	<b>41.2</b>
Japan	14.5	Turkey	12.9	<b>Italy</b>	<b>15.7</b>	Germany	13.7	Greece	24.1
China	8.8	Germany	9.2	Denmark	7.2	<b>Italy</b>	<b>10.5</b>	Turkey	18.0
Denmark	8.3	China	6.6	United Kingdom	5.4	Switzerland	8.6	Japan	5.0
France	8.3	Denmark	5.0	Turkey	4.0	Netherlands	8.1	Norway	2.4
Taiwan	8.1	<b>Italy</b>	<b>4.7</b>	Netherlands	3.8	Greece	5.2	Sweden	2.1
Germany	6.4	Japan	4.6	United States	3.7	Lebanon	4.8	Switzerland	2.0
<b>Italy</b>	<b>3.4</b>	Poland	4.4	Norway	2.7	Norway	4.6	Croatia	2.0
Singapore	2.2	United States	4.1	Switzerland	2.3	Albania	2.7	Tunisia	1.6
United Kingdom	1.4	Bermuda	3.5	Monaco	2.2	Russia	2.2	United States	0.2
Hong Kong	1.2	Belgium	3.3	Libya	1.9	Ukraine	1.4	Spain	0.2
Turkey	1.1	Hong Kong	2.2	Singapore	1.6	Romania	1.2	Saudi Arabia	0.2
Lebanon	0.8	Monaco	1.8	Germany	1.4	Bulgaria	1.1	China	0.1
Israel	0.5	Bulgaria	1.7	Russia	1.3	Egypt	0.9	Denmark	0.1
United States	0.5	Lebanon	1.7	Romania	1.3	Latvia	0.9	Belgium	0.1
Greece	0.4	Canada	1.5	Bermuda	1.1	Cyprus	0.8	Albania	0.1
Cuba	0.3	Singapore	1.4	Canada	1.1	Lithuania	0.8	Cyprus	0.1
Sub-total	99.5	Sub-total	89.9	Sub-total	91.2	Sub-total	92.3	Sub-total	99.6
Other countries	0.5	Other countries	10.1	Other countries	8.8	Other countries	7.7	Other countries	0.4
<b>Total</b>	<b>100.0</b>	<b>Total</b>	<b>100.0</b>	<b>Total</b>	<b>100.0</b>	<b>Total</b>	<b>100.0</b>	<b>Total</b>	<b>100.0</b>

Table 11

**Balance on merchandise transport**  
(millions of euros and per cent)

Flows	Mode of transport	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Credit</b>	Sea	3,585	4,641	3,948	4,006	3,887	3,601	4,055	3,912	4,510	4,511
	<i>o.w.: cross-trade</i>	2,395	3,217	2,587	2,468	2,518	2,132	2,346	2,030	2,705	2,802
	Air	191	701	296	281	289	299	286	287	352	377
	Road	2,260	2,779	2,733	2,502	2,761	2,889	3,034	3,051	2,974	3,010
	Rail:	32	32	29	29	26	28	30	30	30	30
	Pipeline	5	5	6	6	6	10	11	12	12	12
	<b>Total</b>		<b>6,073</b>	<b>8,158</b>	<b>7,011</b>	<b>6,823</b>	<b>6,969</b>	<b>6,828</b>	<b>7,417</b>	<b>7,293</b>	<b>7,878</b>
<b>Debit</b>	Sea	4,452	6,685	5,836	5,626	5,312	5,276	5,956	5,173	5,568	5,179
	Air	542	1,103	645	646	808	864	817	753	906	968
	Road	3,782	4,776	5,062	4,775	5,131	5,262	5,423	6,061	6,215	6,303
	Rail:	295	370	334	289	342	378	372	380	404	403
	Pipeline	577	422	542	533	639	574	587	563	543	549
	<b>Total</b>		<b>9,648</b>	<b>13,357</b>	<b>12,420</b>	<b>11,868</b>	<b>12,231</b>	<b>12,354</b>	<b>13,154</b>	<b>12,929</b>	<b>13,637</b>
<b>Balances</b>	Sea	-867	-2,045	-1,889	-1,620	-1,425	-1,676	-1,901	-1,261	-1,058	-668
	Air	-351	-403	-350	-365	-519	-565	-531	-466	-554	-590
	Road	-1,522	-1,997	-2,329	-2,273	-2,371	-2,373	-2,388	-3,010	-3,241	-3,293
	Rail:	-263	-338	-305	-260	-316	-350	-342	-349	-374	-373
	Pipeline	-572	-416	-537	-527	-633	-563	-576	-550	-531	-537
	<b>Total (A)</b>		<b>-3,575</b>	<b>-5,199</b>	<b>-5,409</b>	<b>-5,044</b>	<b>-5,263</b>	<b>-5,526</b>	<b>-5,737</b>	<b>-5,636</b>	<b>-5,758</b>
<i>Memorandum item:</i>											
<b>Overall balance of transport services<sup>1</sup> (B)</b>		<b>-6,923</b>	<b>-8,517</b>	<b>-8,677</b>	<b>-8,223</b>	<b>-7,934</b>	<b>-8,286</b>	<b>-8,363</b>	<b>-7,991</b>	<b>-9,228</b>	<b>-8,903</b>
<i>A as a percentage of B</i>		51.6	61.0	62.3	61.3	66.3	66.7	68.6	70.5	62.4	61.3
<b>Current account balance</b>		<b>-29,716</b>	<b>-54,742</b>	<b>-49,061</b>	<b>-5,456</b>	<b>15,847</b>	<b>30,960</b>	<b>22,200</b>	<b>42,920</b>	<b>44,864</b>	<b>44,042</b>

(1) In addition to international merchandise transport, includes passenger transport and postal services.

## Statistical Appendix

Table A.1

### Import and export volumes by mode of transport (1)

(millions of tonnes)

Imports	Sea					Rail		Road	Air	Pipeline
	Liquid bulk	Dry bulk	Container	General cargo	Ro-Ro	Container	Bulk			
1999	127.3	55.7	16.7	19.5		9.1	16.8	35.0	0.4	42.9
2000	129.7	60.1	17.8	20.7		9.8	17.6	38.4	0.5	38.6
2001	124.3	61.1	17.1	21.6		9.9	17.6	40.2	0.4	38.0
2002	121.4	59.9	17.0	21.7		9.8	17.0	42.3	0.3	41.5
2003	117.7	62.7	18.2	22.5		10.1	17.2	44.4	0.4	42.4
2004	114.3	69.8	17.8	23.6		10.7	17.9	47.9	0.4	47.4
2005	113.7	66.5	17.3	23.1		10.8	17.9	50.0	0.4	50.7
2006	111.0	65.8	20.0	23.8	5.1	11.6	19.1	53.9	0.4	54.6
2007	114.0	70.3	21.8	25.0	4.9	11.9	19.9	58.4	0.4	51.5
2008	106.7	68.1	20.8	22.7	4.6	11.0	18.6	54.3	0.3	56.3
2009	99.1	48.9	16.9	14.9	4.2	9.3	15.9	47.9	0.3	50.2
2010	106.0	51.0	21.0	20.3	4.2	10.7	19.1	55.7	0.3	48.0
2011	97.8	55.2	20.2	21.3	4.4	10.7	18.9	55.8	0.3	43.7
2012	78.9	51.4	16.6	17.7	3.9	10.1	17.3	52.7	0.3	41.3
2013	81.9	47.3	17.4	18.4	3.3	11.2	18.0	53.5	0.3	40.7
2014	73.9	44.7	18.2	19.4	3.3	11.8	19.0	55.9	0.3	37.1
2015	83.9	50.1	21.1	11.4	4.5	13.7	17.4	56.8	0.3	39.7
2016	86.4	50.1	22.2	11.9	4.5	13.8	18.1	57.8	0.4	39.0
2017	90.3	47.8	22.6	12.0	4.8	14.4	19.0	60.0	0.4	40.4
2018	88.3	47.6	23.2	12.7	5.0	14.9	19.3	61.7	0.5	39.5
Exports	Sea					Rail		Road	Air	Pipeline
	Liquid bulk	Dry bulk	Container	General cargo	Ro-Ro	Container	Bulk			
1999	18.7	4.5	19.2	8.6		7.9	5.0	36.9	0.4	
2000	18.1	4.4	20.9	9.7		8.7	5.2	39.5	0.4	
2001	18.2	3.9	20.8	9.6		9.2	5.4	40.3	0.4	
2002	18.0	3.3	21.8	9.7		9.3	5.5	40.7	0.5	
2003	21.0	2.6	20.8	9.1		9.5	5.6	40.8	0.4	
2004	21.3	2.4	22.3	9.8		10.3	5.8	43.5	0.5	
2005	24.7	2.1	23.0	10.3		11.1	6.2	45.9	0.5	
2006	23.0	1.7	24.0	9.4	5.3	12.0	6.9	48.1	0.5	
2007	27.2	2.7	25.3	9.5	5.5	12.7	7.4	54.5	0.7	
2008	25.8	2.9	25.5	9.9	5.4	12.1	7.3	52.6	0.5	
2009	24.2	2.4	21.6	7.0	4.2	9.8	6.1	42.2	0.4	
2010	27.7	2.8	24.7	7.7	4.4	12.4	7.9	52.7	0.5	
2011	23.7	2.5	25.8	7.6	4.1	12.6	7.9	53.6	0.5	
2012	25.8	2.4	27.3	8.5	4.1	12.5	7.8	53.3	0.5	
2013	19.1	4.1	25.1	9.9	3.9	10.2	8.6	55.5	0.5	
2014	18.5	4.2	25.4	10.1	3.8	9.3	8.5	52.2	0.5	
2015	23.2	4.8	26.5	9.0	5.1	10.9	7.2	56.3	0.5	
2016	22.8	4.1	25.7	8.6	5.0	12.2	8.0	62.2	0.5	
2017	24.9	3.6	26.6	8.1	4.8	11.6	8.1	60.4	0.6	
2018	22.4	3.3	26.5	7.7	4.7	11.5	8.2	60.5	0.6	

Source: Based on data from Istat, Alps Crossing, Eurostat, and ENAC.

(1) In 2015 there were some breaks in the time series (for general cargo imports and Ro-Ro) because of an update to the methodology for estimating the modal distribution of the external trade data. Provisional data for 2018.



**Import and export values by mode of transport (1)**  
(billions of euros)

Imports	Sea					Rail		Road	Air	Pipeline
	Liquid bulk	Dry bulk	Container	General cargo	Ro-Ro	Container	Bulk			
1999	18.0	6.6	41.5	19.1		14.6	18.0	67.9	15.8	
2000	31.3	7.4	47.2	23.0		17.3	20.7	82.5	20.1	
2001	28.2	7.6	44.2	22.3		18.5	21.6	91.2	20.0	
2002	25.3	7.0	40.2	20.2		18.5	21.2	94.8	19.8	
2003	24.5	6.6	37.3	19.4		19.1	21.5	100.2	18.6	
2004	25.6	7.6	37.3	21.4		20.9	23.1	111.7	19.7	
2005	33.6	7.7	36.8	21.3		22.1	23.8	120.3	21.2	
2006	39.9	8.0	38.5	22.0	5.9	24.6	26.6	136.3	22.3	
2007	41.6	9.3	44.0	25.4	6.4	26.3	28.7	153.2	20.5	
2008	49.8	11.2	45.2	24.2	6.3	25.1	27.8	147.8	20.3	
2009	31.2	7.9	36.7	14.6	4.9	20.4	22.5	121.8	18.3	
2010	45.7	9.3	49.7	20.0	6.0	24.0	26.6	144.1	20.9	
2011	54.9	11.8	52.6	22.5	6.7	25.1	27.9	152.9	22.8	
2012	53.8	10.7	44.8	18.9	6.1	22.8	25.4	142.3	23.5	
2013	49.3	7.8	43.5	17.7	5.9	29.2	23.8	138.4	22.5	
2014	40.9	7.5	46.5	18.4	6.3	29.5	24.9	140.4	23.4	
2015	30.7	12.5	50.9	11.9	12.6	33.8	22.6	150.3	27.9	15.5
2016	25.5	11.5	51.0	11.3	13.8	34.7	23.9	156.0	26.5	11.7
2017	33.4	13.1	54.1	12.7	14.8	37.2	26.3	167.8	26.7	13.5
2018	40.1	13.7	56.2	13.8	14.9	38.2	27.2	172.8	29.0	16.0
Exports	Sea					Rail		Road	Air	Pipeline
	Liquid bulk	Dry bulk	Container	General cargo	Ro-Ro	Container	Bulk			
1999	2.9	1.3	43.7	22.0		19.8	10.5	98.7	17.9	
2000	4.9	1.3	52.5	25.6		23.5	11.9	112.4	22.8	
2001	4.5	1.2	54.1	24.9		25.9	12.6	119.1	24.3	
2002	4.2	1.0	53.0	22.7		26.0	12.4	116.7	24.4	
2003	4.9	0.8	48.6	20.1		27.2	12.6	118.4	23.0	
2004	5.6	0.6	50.8	20.3		30.1	13.7	129.0	24.4	
2005	8.7	0.4	52.6	19.3		32.2	14.5	135.3	26.1	
2006	9.5	0.3	57.4	15.3	11.8	36.6	16.2	145.0	28.6	
2007	11.4	0.5	62.2	18.0	13.2	39.8	17.8	169.6	31.7	
2008	13.8	0.7	65.1	19.7	13.6	38.5	17.9	168.7	30.7	
2009	8.4	0.5	54.7	15.3	10.4	30.0	14.1	131.1	25.9	
2010	13.1	0.6	60.9	16.5	11.5	34.2	16.0	151.0	30.8	
2011	14.5	0.7	66.6	17.4	11.9	37.2	17.6	169.0	35.4	
2012	17.9	0.7	72.2	18.9	11.7	37.0	17.4	171.0	38.0	
2013	13.9	1.4	69.8	18.0	10.3	35.1	21.3	176.3	38.9	
2014	12.2	1.4	72.9	18.4	10.4	36.2	21.7	181.3	39.2	
2015	11.2	1.3	70.1	18.1	18.4	42.6	14.7	193.0	44.3	
2016	9.0	1.2	68.4	17.0	17.2	43.1	15.1	195.9	44.1	
2017	11.9	1.3	73.1	17.8	18.1	46.1	16.1	209.2	49.0	
2018	12.7	1.2	76.1	18.0	17.7	47.4	17.1	216.3	51.0	

Source: Based on data from Istat, Alps Crossing, Eurostat, and ENAC.

(1) In 2015 there were some breaks in the time series (for general cargo imports and Ro-Ro) because of an update to the methodology for estimating the modal distribution of the foreign trade data. Provisional data for 2018.

Table A.3

**Import and export unit values by mode of transport (1)**  
(euros/tonne)

Imports	Sea					Rail		Road	Air	Pipeline
	Liquid bulk	Dry bulk	Container	General cargo	Ro-Ro	Container	Bulk			
1999	142	119	2,488	980		1,609	1,072	1,939	36,929	
2000	241	123	2,649	1,112		1,770	1,175	2,148	42,367	
2001	227	124	2,588	1,035		1,862	1,226	2,269	54,425	
2002	209	116	2,361	933		1,896	1,249	2,242	57,581	
2003	209	105	2,047	864		1,884	1,251	2,255	48,422	
2004	224	109	2,103	909		1,945	1,289	2,335	53,762	
2005	295	116	2,121	922		2,042	1,330	2,404	59,066	
2006	360	122	1,928	924	1,158	2,116	1,388	2,528	59,252	
2007	365	133	2,014	1,016	1,302	2,217	1,440	2,621	53,885	
2008	466	164	2,168	1,064	1,384	2,271	1,492	2,723	60,377	
2009	314	161	2,171	984	1,172	2,196	1,414	2,543	52,471	
2010	431	183	2,364	988	1,430	2,233	1,398	2,588	64,753	
2011	561	214	2,608	1,058	1,514	2,338	1,475	2,740	71,558	
2012	681	208	2,696	1,070	1,565	2,268	1,466	2,702	76,457	
2013	601	165	2,495	960	1,800	2,594	1,321	2,585	82,822	
2014	553	167	2,553	948	1,925	2,498	1,311	2,512	76,832	
2015	366	249	2,412	1,042	2,797	2,474	1,299	2,646	81,779	391
2016	296	230	2,294	950	3,074	2,510	1,320	2,698	70,227	300
2017	370	273	2,396	1,065	3,097	2,578	1,383	2,798	64,263	334
2018	454	287	2,420	1,084	2,995	2,560	1,410	2,803	54,684	406
Exports	Sea					Rail		Road	Air	Pipeline
	Liquid bulk	Dry bulk	Container	General cargo	Ro-Ro	Container	Bulk			
1999	157	277	2,279	2,545		2,511	2,116	2,677	40,282	
2000	271	287	2,515	2,637		2,717	2,278	2,845	51,982	
2001	249	300	2,594	2,610		2,808	2,340	2,951	54,715	
2002	233	299	2,436	2,336		2,800	2,251	2,868	53,508	
2003	235	291	2,337	2,213		2,863	2,267	2,902	51,256	
2004	263	261	2,275	2,060		2,920	2,339	2,963	51,160	
2005	352	211	2,288	1,868		2,913	2,334	2,950	55,925	
2006	413	157	2,398	1,629	2,237	3,047	2,334	3,015	59,448	
2007	418	186	2,460	1,889	2,393	3,127	2,386	3,114	46,395	
2008	534	221	2,551	1,997	2,519	3,179	2,460	3,209	61,747	
2009	345	217	2,529	2,172	2,455	3,067	2,314	3,105	63,753	
2010	473	212	2,464	2,145	2,606	2,750	2,029	2,865	67,666	
2011	611	270	2,578	2,299	2,907	2,944	2,218	3,155	71,263	
2012	692	300	2,641	2,224	2,854	2,951	2,230	3,209	78,245	
2013	727	349	2,775	1,819	2,617	3,440	2,465	3,175	82,338	
2014	662	343	2,866	1,822	2,767	3,897	2,568	3,472	82,010	
2015	481	281	2,648	2,009	3,612	3,894	2,027	3,426	85,621	
2016	396	304	2,663	1,971	3,433	3,528	1,882	3,151	81,710	
2017	476	358	2,746	2,198	3,760	3,979	1,985	3,466	80,345	
2018	569	378	2,876	2,331	3,780	4,111	2,079	3,576	79,486	

Source: Based on data from Istat, Alps Crossing, Eurostat, and ENAC.

(1) In 2015 there were some breaks in the time series (for general cargo imports and Ro-Ro) because of an update to the methodology for estimating the modal distribution of the foreign trade data. Provisional data for 2018.

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