

# **FROM THE BORDER TO THE CHART: FREIGHT SERVICES IN THE PORTUGUESE BALANCE OF PAYMENTS STATISTICS\***

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## **ABSTRACT**

As part of the globalisation process, an increasingly integrated and complex global system of production and exchange has emerged. The reduction of restrictions on trade across borders contributed to the increase of movements of resources and goods between countries. In fact, international trade has grown considerably in the last two decades, not only on consumption but also on intermediate goods. The context of globalisation poses great challenges to statisticians, a multiplicity of goods and services are traded in several markets with a variety of companies and using a wide range of modes of transport. Larger distances became closer at lower costs. Against this background, among other items, the Balance of Payments (BoP) records the economic transactions on merchandise freight services undertaken between resident and non-resident companies. The aim of this paper is: i) to present the methodology followed by the Portuguese Central Bank for the data collection and compilation of the merchandise transport services in the BoP statistics, ii) to promote the use of this methodology and also iii) to contribute to a short description of part of the transport activity in Portugal. The main results are presented broken down by mode of transport (sea, air, road and others) and emphasis is given to "fobisation" method used to convert the invoice value of the imported goods from cif to fob basis, obtaining the underlying services (transport and insurance) from import values. Finally, future plans to improve this method according to novel international recommendations are also presented.

*Keywords: International transport services; Balance of Payments statistics; Cif-fob adjustment*

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## **1. INTRODUCTION**

Nations are increasingly integrated and interdependent in a globalised world. Each one is committed to sell its manufactures, to purchase what it lacks and also to produce more efficiently than other nations. As sustained by economic theory, international trade promotes economic efficiency by providing a wider diversity of goods and resources at lower costs. Although international trade has taken place centuries before the modern age, as trade routes promoted by the Portuguese discoveries can testify, the scale, volume and efficiency of international trade all have increased unprecedentedly over the last 20 years. This expansion has been motivated by significant growth in the transport services sector. Not only the amount of merchandise being traded has increased, but also a large diversity of origins and destinations has been promoted by international transport services. On the other hand, international transport has been under increasing stress to keep up with additional demands in volume and distance. As a consequence, nowadays larger distances can be overcome for a decreased amount of time, at similar or lower costs.

The context of globalisation poses great challenges to statisticians, since a multiplicity of goods and services are traded in several markets with a variety of companies, using a wide range of modes of transport. In this context the Balance of Payments (BoP) is a statistical statement that systematically summarises, over time, all transactions of an economy with the rest of the world. Among other items, the BoP records the economic transactions on merchandise freight services undertaken between resident and non-resident companies. Effectively, transport services are one of the most significant items of the services account of the Portuguese BoP. These flows (payments and receipts) have grown considerably in the last decade, alongside with the expansion of international trade in goods. As a consequence, some Portuguese based companies have emerged as important regional players in the market. The intention of the authors is not only to disseminate and promote the use of the BoP statistics for transport research, namely imports and exports of this kind of services, but also to contribute to a short description of transport activity in Portugal.

The remainder of this work is organised as follows. After a brief description of the main concepts, definitions and underlying institutional framework in chapter two, the methodology followed by the Portuguese Central Bank for the data collection and compilation of the transport services in the BoP statistics are presented in chapter three. Chapter four is devoted to an interpretation of the main figures of the transport services of the Portuguese BoP, in the context of other European Union (EU) countries. The main results are broken down by mode of transport (sea, air, road and others). Some concluding remarks are discussed in chapter five. Finally, in chapter six, future plans to improve the "fobisation method" are presented, according to novel international recommendations.

## 2. DEFINITIONS AND INSTITUTIONAL FRAMEWORK

### 2.1 Definitions

According to the fifth edition of the Balance of Payments Manual (BPM5, IMF, 1993:§230), transport services covers all modes of transport (sea, air, and other - including land, rail, internal waterway, space, and pipeline) that are performed by residents of one economy for those of another and that involve the carriage of passengers, the movement of goods (freight), rentals (charters) of carriers with crew, and related supporting and auxiliary services, which covers a range of services provided in ports, airports, and other terminal facilities.<sup>1</sup> A freight service charged by a resident transport company to a non-resident customer is recorded as an export of services in the BoP, and, similarly, a freight service charged by a non-resident transport company to a resident customer is recorded as an import of services (Figure 1).

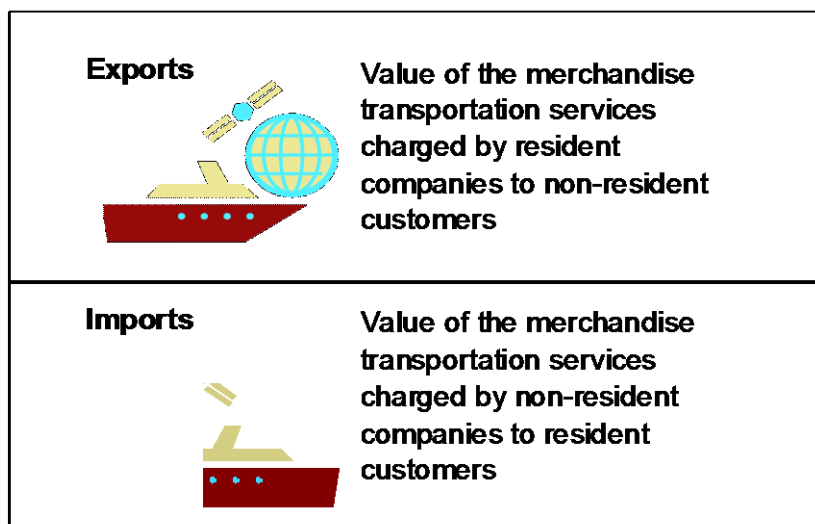


Figure 1 – Freight Transport Services in the Balance of Payments

Only the transport services related with the movement of goods or resources, i.e., freight services, will be discussed in this paper.

<sup>1</sup> Some interconnected transport activities are excluded from the BoP transport services: freight insurance, which is included in insurance services; repairs of transport equipment, which are included in goods; repairs of railway facilities, harbours, and airfield facilities, which are included in construction services; and rentals (charters) of carriers without crew, which are included in other business services.

The measurement of transport services is affected by the convention that goods should be valued on a fob (free on board) basis at the customs frontier of the exporting economy — and also by the assumption that freight charges are supported by the importing economy. (IMF 1993: §234). Therefore, those freight charges performed beyond the customs frontier of the exporting economy are included in transport services. These services cover transport of goods to the customs frontier of the importing economy and, within that economy, to the point of delivery. Thus, imports (payments) should only be recorded when (i) these services are performed by non-residents and (ii) when these services are performed after the goods are loaded on board of a carrier at the customs frontier of the exporting economy. Conversely, exports (receipts) should only be recorded between resident companies and their non-resident clients when such services are performed after the goods have been loaded on board a carrier at the customs frontier.

While the adoption of a uniform valuation method, i.e., exports and imports valued both at fob basis, may be analytically useful, statistical problems arise. An additional source of complexity arise from non standardised shipping practices, i.e., the documents on which the compiler must usually rely as the basis for estimates of goods and transport services will often cover shipping services performed on both sides of the customs frontier, without detailing shipping costs. Consequently, there is at least one major measurement difficulty worth mentioning. Usually goods are derived from collection forms that show imports valued at the frontier of the importing economy (cif valuation), consequently, a separate estimate must be made for the value of the transport services performed beyond the customs frontier of the economy from which the goods are exported – this is known as the estimate for the cif-fob margin or the “fobisation method”. This treatment implies reallocating transport services included in the cif value of imports from goods to transport and insurance services (Figure 2).

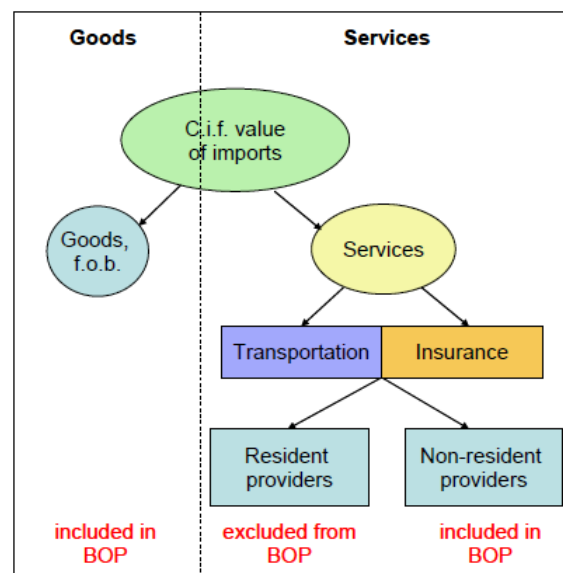


Figure 2 – Decomposition of cif value of imports (UN, 2008:§4.73)

## **2.2. Institutional Framework**

The Banco de Portugal (BdP) has been responsible for compiling and producing the Portuguese BoP statistics since 1963. Following the full liberalisation of foreign exchange regulations and the commitment by Portugal with regard to statistical harmonisation at the European level, a new methodological and statistical production system was introduced in 1993 in close cooperation with the banking community. The legal basis for the compilation of BoP statistics are the Organic Law of BdP and the National Statistics System Law<sup>2</sup>, empowering BdP as a statistical authority. These laws allow the BdP to request information from any public or private body for statistical purposes, in particular within the scope of its cooperation with the European Central Bank (ECB). Particularly, there is a specific regulation that imposes a general obligation on banks (as indirect reporters) and non-banks (as direct reporters) to report the BoP transactions, i.e., those reported between residents and non-residents. The details of the information to be reported under the BoP framework are provided in a BdP Instruction on External Statistics. The Portuguese BoP is in compliance with the standard components of the BPM5 and the compilation of the transport services also follows the recommendations of a Manual (UN, 2002) developed by several International Organisations, in the context of trade in services.

Against this background, the BdP compiles and produces a monthly Portuguese BoP, which is first released on the website of the BdP and subsequently published in the Statistical Bulletin (print edition). Monthly data consistent with the BPM5 are available since January 1996. Monthly BoP and, consequently, transport services data are available within six weeks of the reference period. Since the beginning of 2006, the BdP has been providing internet access to its Statistical Data, through a Statistical Interactive Database (BPstat – statistics online), which allows disseminating a more detailed BoP than the one published in the Statistical Bulletin. The BdP not only provides monthly and quarterly BoP data to the ECB and Eurostat, in line with the timeliness laid down in guidelines and regulations on the statistical reporting requirements, but also reports annual data to the Eurostat, IMF and OECD for the purpose of trade in services statistics.

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<sup>2</sup> Law 22/2008, 13<sup>th</sup> May.

### 3. COMPILATION SYSTEM

The compilation method used for exports is different from the one used for imports of freight transport services because of the dissimilar characteristics of the data. In this section these two different compilation methods are briefly explained.

#### 3.1. Exports of transport services

The main sources for the production of transport services exports are the resident banking system and the resident transport companies that engage in transactions with the rest of the world (Figure 3).

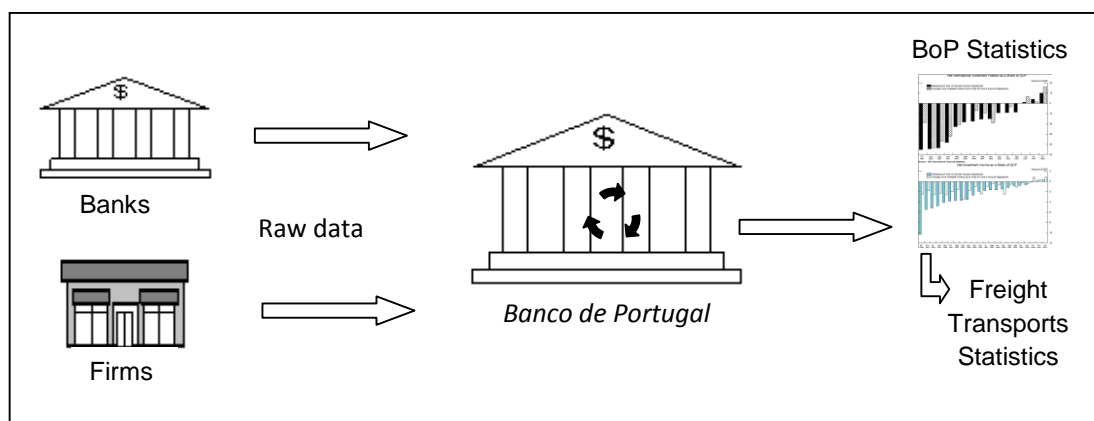


Figure 3 – Balance of Payments Statistics compilation system for exports of transport services

In general, banks are required to report the following types of external transactions: those carried out on behalf of their resident and non-resident customers or on their own account. Regarding transactions on behalf of costumers banks have to report operations where it act as an intermediary between a non-resident (bank or non-bank) and another resident bank, and also other interbank operations whenever it affects an external position. Some companies, known as direct reporters, communicate the statistical data directly to the BdP according to some defined standards (Figure 4). The direct reporters provide information on all transactions with non-residents, whether settled through a resident bank or not. Those residents holding current accounts with non-residents must report all settlements cleared through those accounts.

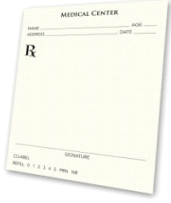
Resident Firm's Name	
	- Customer's ID: non resident Company X
	- Value of transaction: 1,000,000
	- Service: road freight
	- Customer's Country: France
	- Currency: EUR
	- Type: Credit

Figure 4 – Direct report for exports of transport services

Concerning the timeliness of the data both direct and indirect reporters have ten working-days from the end of the reporting period to submit monthly data to the BdP. Under the general reporting system, banks may be exempted from reporting whenever transactions fare below €50.000. Missing data concerning transactions below €50.000 are estimated according to historical information about such transactions. Nowadays, more than 100 direct reporters and around 30 financial institutions report data to the BdP on a monthly basis for transport services exports. Furthermore, there is an average of 4.000 monthly observations.

### 3.2. Imports of transport services

The main data source for the BoP compilation of transport services imports are the Merchandise Trade Statistics (MTS) collected by Instituto Nacional de Estatística (INE – Statistics Portugal). The recorded value of all imported goods follows the cif method, i.e, all transport and insurance services from the exporter's frontier to the importer's frontier are included in the value of imported goods. However, for BoP purposes compilers must convert the values from cif-type to fob-type, removing from the total amount of imports the distributive services element (mainly transport and insurance). This adjustment is made just for the services that have been provided by non-residents. The deducted values are then allocated to the merchandise transport and in the insurance BoP item. Because the collection of information about these two services by the INE is optional, the cif-fob adjustment is usually obtained by an estimation method (Figure 5), which will be described in the following paragraphs.

From the border to the chart: freight services in the Portuguese Balance of Payments statistics

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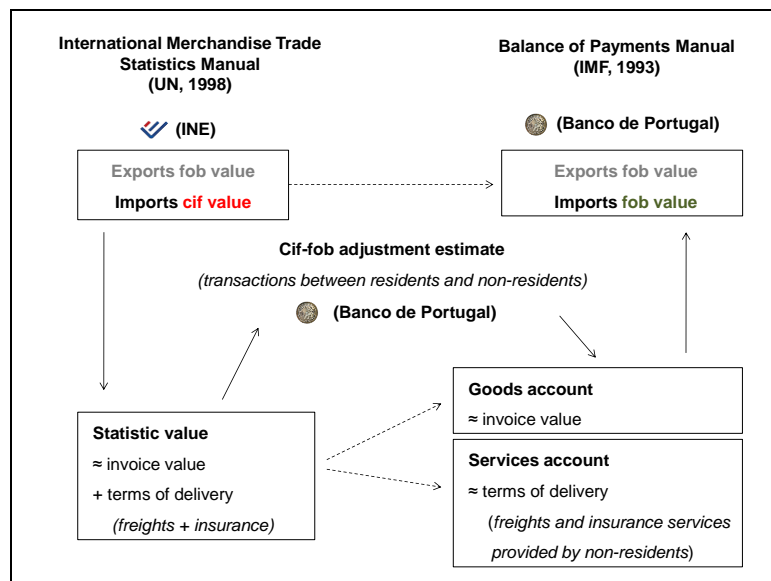


Figure 5 – Cif-fob adjustment estimate

The current cif-fob adjustment methodology followed by BdP was set up in 1996. In the context of this initial study, data from different sources were used for 1992 as the base year (Figure 6). Data on trade volumes of imports cif value were based on statistics of INE on Merchandise Trade, while data on share of mode of transport were based on statistics of INE on Transport Sector. For international transport costs data (mode of transport, type of product, type of load, distance and respectively freight rates) a sample survey was conducted among non-resident carriers, for each mode of transport, in order to gather information about the average unit costs of international transport. For the data on insurance costs (insurance premium rate by type of product) Portuguese Insurance Companies Association was asked to supply information in order to compile the average insurance rate of international transport of merchandise.




Cif-fob adjustment estimate (transactions between residents and non-residents)		
Data	Source	
 Trade volumes of imports (cif value)	Merchandise Trade Statistics	
Share of mode of transportation	Annual Transportation Sector Statistics	
 Insurance costs by resident and non-resident	Internal surveys	
 International transportation costs	Sample survey conducted among non-resident carriers	

Figure 6 – Cif-fob adjustment estimate sources

Cif-fob adjustment estimate (transactions between residents and non-residents)	
VARIABLE TYPE	DATA VARIABLE
CONSTANT	Share of non-residents carriers companies
	Share of non-residents insurance companies
	Share of freight values on trade volumes of cif value imports broken down by mode of transportation and type of merchandise
	Share of insurance value on trade volumes of cif value imports broken down by mode of transportation and type of merchandise
DYNAMIC – f(t)	Average unit costs of international transportation
	Share of mode of transportation on trade volumes of cif value imports

Figure 7 – Cif-fob adjustment monthly estimate variables



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Total transport costs were calculated multiplying volumes by freight rates. Afterwards costs were broken down according to carrier's country of residence information, which was estimated by the survey to carriers. Total insurance costs were calculated multiplying the volumes of imports (already deducted from total transport costs) by insurance risk rates. On the basis of this information, it was possible to set up, for further years, the share by resident and non-resident companies, for both the total freight costs and the total insurance costs.

On a monthly basis, the above information about freight costs broken down by market shares of non-residents carriers and by mode of transport is used together with data on total insurance costs broken down by non residents companies. On the basis of these compilations, import cif values figures are converted into fob figures obtaining the BoP figures for goods, transport and insurance services accounts (Figure 7)<sup>3</sup>. For example, cif-fob adjustment ( $mcf_i$ ) for the year of 2007 is calculated as follows (Figure 8):

$$mcf_{2007} = [Air](0,0549 \times 0,078) + [Rail](0,0215 \times 0,001) + [Sea](0,0687 \times 0,267) + [Road](0,0292 \times 0,654) + [Other](0,0077 \times 0) + [Insurance]0,0034 = 0,0452$$

→ 4,52% of imports value corresponds to transport and insurance related services.

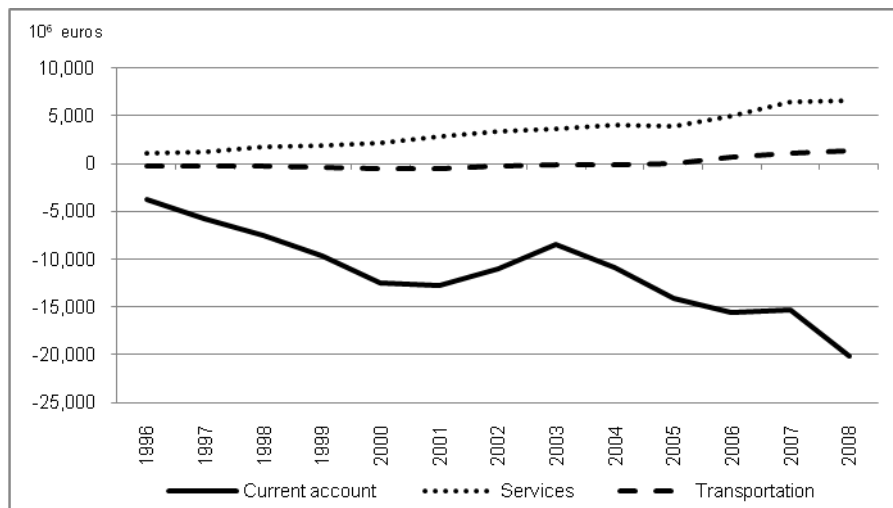
Mode of transport (j)	Share of freights by mode of transport and insurance in imports cif value (fim, e sim)	Residents		Share of modes of transport in imports cif value (j <sub>k</sub> )							
		(R)	(nR)	2001	2002	2003	2004	2005	2006	2007	2008
Air	5.49%	26.8%	73.2%	6.4%	5.4%	5.4%	4.7%	4.3%	7.6%	7.8%	3.8%
Rail	2.15%	0.0%	100.0%	0.6%	0.4%	0.4%	0.8%	0.7%	0.1%	0.1%	0.8%
Sea	6.87%	4.6%	95.4%	28.3%	26.7%	25.2%	27.7%	30.7%	26.3%	26.7%	34.4%
Road	2.92%	46.8%	53.2%	64.7%	66.4%	69.0%	66.7%	64.3%	66.1%	65.4%	61.0%
Other	0.77%	0.0%	100.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Insurance	0.34%	22.9%	77.1%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Total Freight+Insurance</b>	<b>CIF-FOB ADJUSTMENT (<math>mcf_k</math>)</b>			<b>4.54%</b>	<b>4.43%</b>	<b>4.39%</b>	<b>4.47%</b>	<b>4.58%</b>	<b>4.49%</b>	<b>4.52%</b>	<b>4.71%</b>

Figure 8 – Cif-fob adjustment (sample)

<sup>3</sup> Some items are not included in this estimate because they are not valued at cif-basis by INE. For instance, the following items: electricity and aircraft imports, goods for processing, natural gas, pipeline and some governmental trade.

## 4. RESULTS

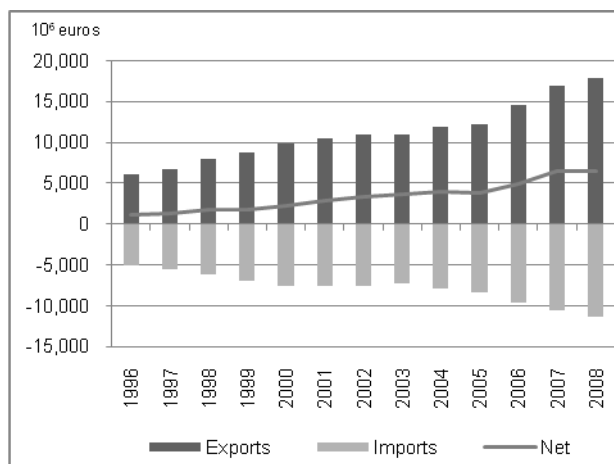
This chapter analyses the main figures of the transport services recorded in Portuguese BoP. A cross-comparison with other EU countries is made and differences are highlighted. Through the analysis of the Portuguese current account it is possible to notice that, despite its continued worsening during the period under analysis, the services account has been on a slight upward trend (Figure 9).



Source: Banco de Portugal

Figure 9 – Balance of Payments: Current account, services and transport – net

Travel or tourism services are utmost the main contributors to the positive net value of the services account. However, it is worth mentioning the recent trend transport services, which not only became positive since 2005 as well as its share on services account has widely increased, year after year (Figure 10 and Figure 11), with an annual average increase of two percentage points since 2006 (from 13,9 per cent in 2006 to 19,7 per cent in 2008), reaching about €1.3 billion in 2008.



Source: Banco de Portugal

Figure 10 – Services account



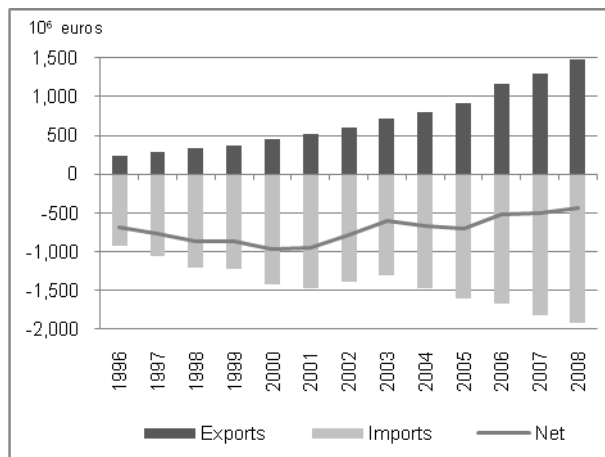
Source: Banco de Portugal

Figure 11 – Transport services account

*From the border to the chart: freight services in the Portuguese Balance of Payments statistics*

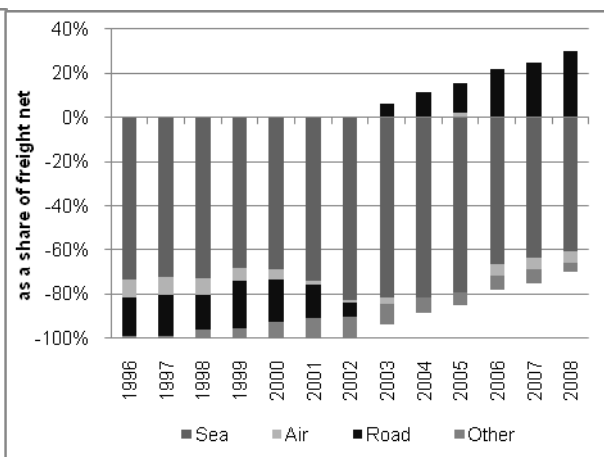
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As mentioned before, BoP transport services include not only freights but also the transport of passengers that also had widely contributed for the improvement of transport services account. Considering only the former, since our purpose is just to assess the transport of goods and resources, the net value of the transport services account is negative over time, (Figure 12). Nevertheless, the same chart suggests the freight and services account has been on a path of recovery since 2001, in line with transport services.



Source: Banco de Portugal

Figure 12 – Freight transport services account



Source: Banco de Portugal and authors' calculations.

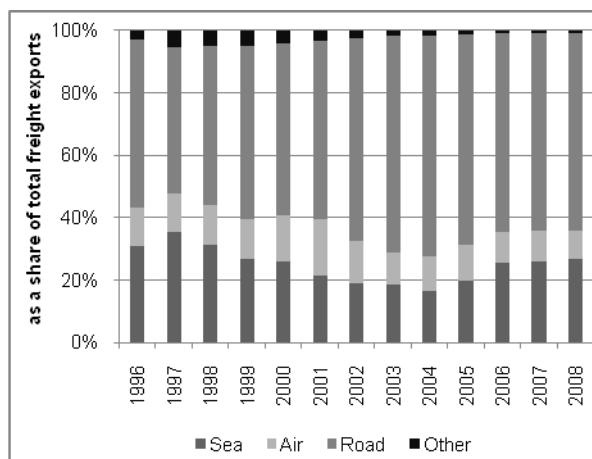
Figure 13 – Freight services by mode of transport

Breaking down freights services by mode of transport it is possible to notice that the increasing path of its exports net of imports as a percentage of freights is explained mainly by road mode, whose contribution have risen considerably in the last few years, especially since 2003 (Figure 13). Sea freights relative improvement has also contributed for this trend specially since 2006.

Figure 14 presents the share of each mode of transport in total Portuguese exports of freights. Road freights have a substantial share in the total of freights, representing more than 60 per cent of Portuguese exports in the 1996-2008 period. However, there was a slight reduction of its share in total freights exports in the last years, in particular since 2004. In contrast, after a decline between 1997 and 2004, the share of the second most relevant mode of transport in Portuguese exports of freights, sea freights, increased since 2004, accounting for around 25 per cent of total in the most recent period. The shares of each mode of transport in total Portuguese imports of freights are presented in Figure 15. Two modes of transport have substantial shares in freight imports. Sea is the most important one, representing more than 50 per cent of Portuguese imports of freight services in the 1996-2008 period. The share of the second most relevant mode of transport in Portuguese imports of services, road freights, accounts for around 30 per cent of total. Note that Exports and Imports by road are interconnected, since freight companies that carry the merchandise from Portugal to other EU countries take the opportunity to bring other products, or vice-versa, wherever possible, in order to increase profits obtained in each trip. Future research is required to advance more explanations on this subject.

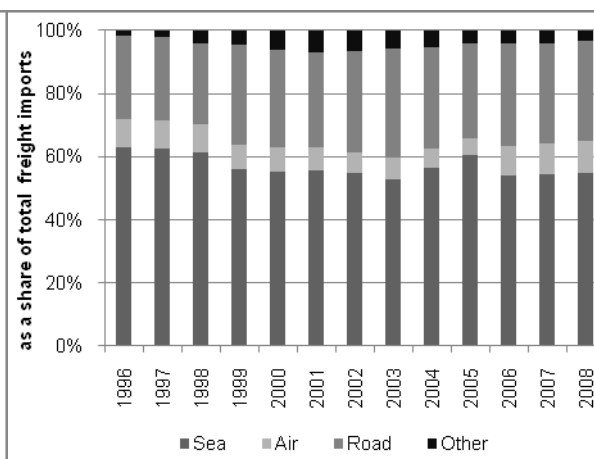
*From the border to the chart: freight services in the Portuguese Balance of Payments statistics*

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Source: Banco de Portugal and authors' calculations.

Figure 14 – Exports of freight services by mode of transport



Source: Banco de Portugal and authors' calculations.

Figure 15 – Imports of freight services by mode of transport

The analysis of the Portuguese freight services can be enhanced by taking a set of countries as a benchmark, and investigating their relative behaviours. The following charts will present figures for some of Portugal's trading partners (EU5)<sup>4</sup> and for the current 27 EU countries (EU27), considering the period between 2004 and 2008.<sup>5</sup> Subsequently, the evolution of the Portuguese export and import structure of freight services is placed in perspective against its trading partners to evaluate the relative specialisation of Portugal.

Figure 15 shows the exports, imports and the net values of freight services as a percentage of each country GDP. The EU27 as a whole<sup>6</sup>, the United Kingdom (UK), Germany and France are net exporters of freight services while Italy and Portugal are net importers, meaning that resident companies pay more for freight services to non-residents than non-resident companies pay to resident carriers. All these countries alike in aspects related with the geographical location or the type of goods exported and imported, imposing different figures for the freight services charged. The peripheral location of a country like Portugal and its multiple accesses by road, sea, air or rail are crucial factors to bear in mind when doing comparisons with other countries.

When freight services are placed as a percentage of services (Figure 17), the conclusion is that these services are much more significant in Portugal's imports than in other countries, which represent about 18 per cent of total services. Once again, future research is required to advance more explanations on this subject.

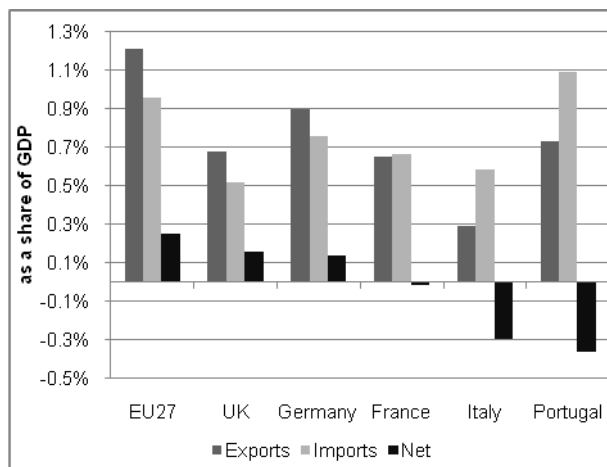
<sup>4</sup> Unfortunately, the detailed and complete data on freights are not available for some countries, in particularly the other initial EU Cohesion Fund beneficiaries (Spain, Greece and Ireland).

<sup>5</sup> Except for France, to which the period available is 2005-2008.

<sup>6</sup> The EU27 exports and imports vis-à-vis the rest of the world, which excludes the trade between the EU27 countries.

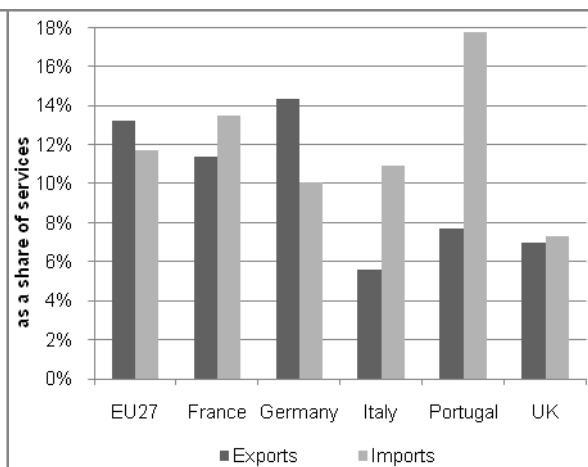
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Source: Eurostat and authors' calculations.

Figure 16 – Freight services by country (% GDP) (2004-2008)



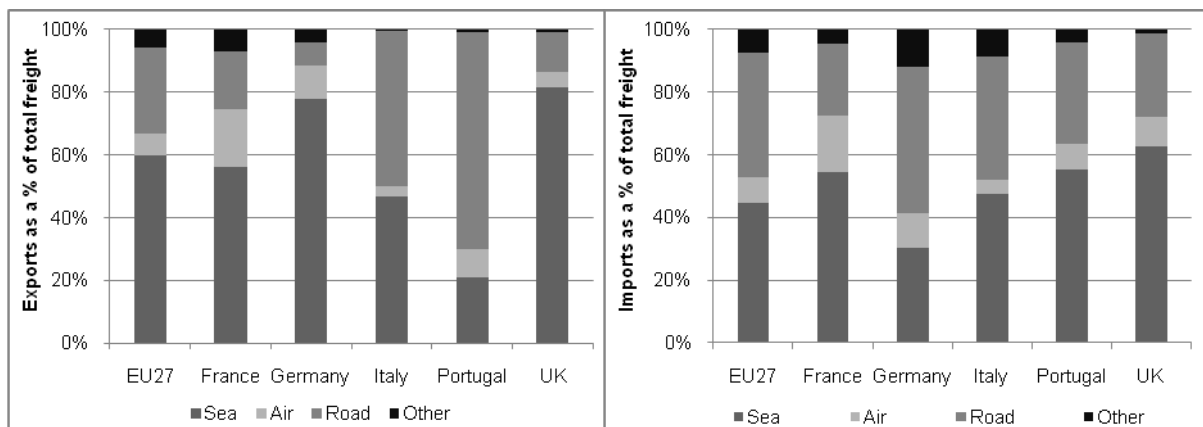
Source: Eurostat and authors' calculations.

Figure 17 – Freight services by country (% services) (2004-2008)

According to Figure 18 sea and road freight exports represent 87 per cent of total freight exports in the EU (shares of 60 and 27 per cent, respectively). Freight exports by sea are the most important mode of transport in the UK, as expected, followed closely by Germany, both above the EU27 average. France is the most relevant country for the case of air freight exports as a share of total freight exports, being also relevant on road freights. In contrast to other EU27 countries, the most representative mode of transport in Portuguese freight exports is by road, representing 69 per cent of total freight exports, followed distantly by sea mode with a share of only 21 per cent of total freight exports. Once again, the geographical location and the destination of Portuguese exports of goods may be the main causes of this outcome, given that the EU27 accounted for more than 75 per cent of these exports during the same period. Similar reasons might explain the Portuguese share of freight imports by mode of transport in total freight imports as presented in Figure 19. However, for imports, it is noticeable the inversion of the relevance of almost all modes of transport, particularly when considering sea and road, accounting for more than 50 per cent and around 30 per cent, respectively. The contrasting situation is observed for Germany's profile of freight imports and exports by mode of transport, i.e. sea is the most representative mean for freight exports and road is the most representative mean for German freight imports. Interestingly, for the aggregate EU27 the share of sea and road freight imports by mode of transport is equivalent. France and Italy imports share by mode of transport do not present relevant differences when compared to exports.

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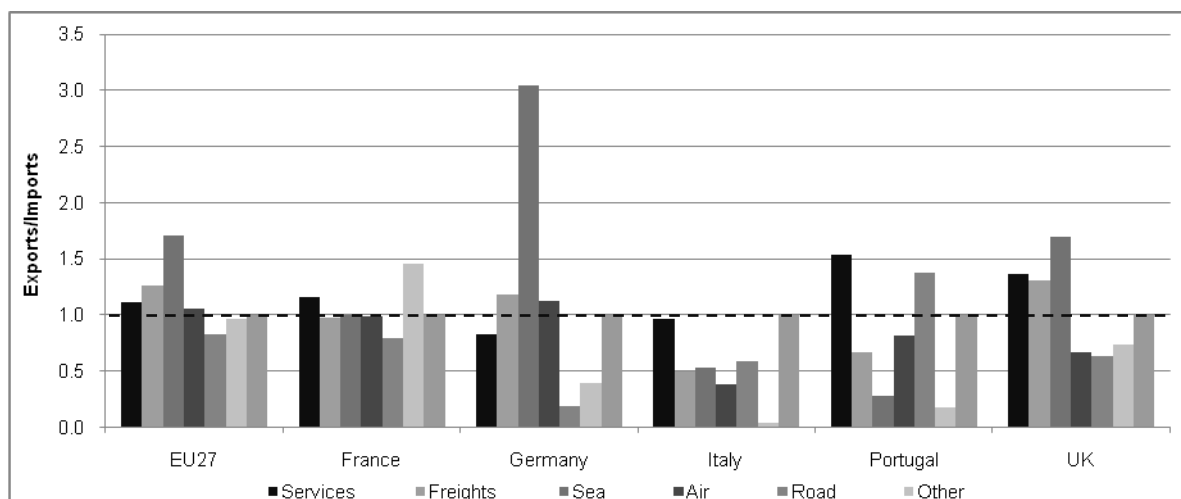
Source: Eurostat and authors calculations.

Source: Eurostat and authors' calculations.

Figure 18 – Freight exports by country and mode of transport (2004-2008)

Figure 19 – Freight imports by country and mode of transport (2004-2008)

The exports-to-imports ratio or trade balance ratio (Figure 20), is above 1 for Portugal for the services account (1.54) and below 1 for freights (0.67); meaning that between 2004 and 2008 services exports exceeded imports by about 54 per cent, but freight exports covered only 67 per cent of imports. This outcome is a likely consequence of the negative balance of goods account over, given that Portugal has had continued deficits in the current account. By mode of transport, only for road freights the exports-to-imports ratio in Portugal has been above 1, with a ratio of 1.37. When compared with other EU countries, the exports-to-imports ratio of road freights is greater in Portugal due to its peripheral location in west-southern Europe and, consequently, to the large development of the road transport sector in the country. Different conclusions can be drawn for other countries. For instance, the value of sea freights exports' exceeds imports in Germany and in the UK by 3 and 1.7, respectively, and air freights exports' exceeds imports in Germany by 1.12.



Source: Eurostat and authors' calculations.

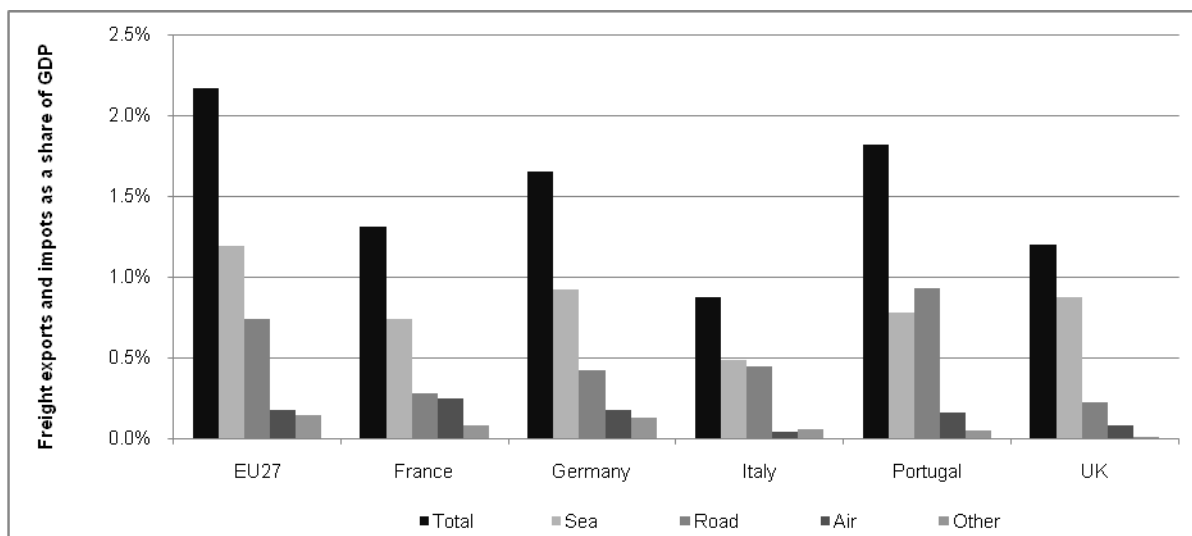
Figure 20 – Exports-to-Imports ratio by country and mode of transport (2004-2008)

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The trade-to-GDP-ratio for freights, defined as the share of the sum of freight exports and imports in total GDP, is presented in Figure 21. This indicator measures a country's "openness" or "integration" into the rest of the world, since it represents the degree of dependence of domestic producers on foreign markets (for freight exports) and the degree of reliance of domestic demand on foreign supply of freight services (for freight imports).

The trade-to-GDP-ratio for Portuguese freights is 1.8 per cent, greater than that of France, Germany, UK and Italy ratios, while is lesser than the current composition of EU27, on average for the period 2004-2008. By mode of transport, trade-to-GDP-ratio for road freights is 0.9 per cent greater than the other countries and the EU27.



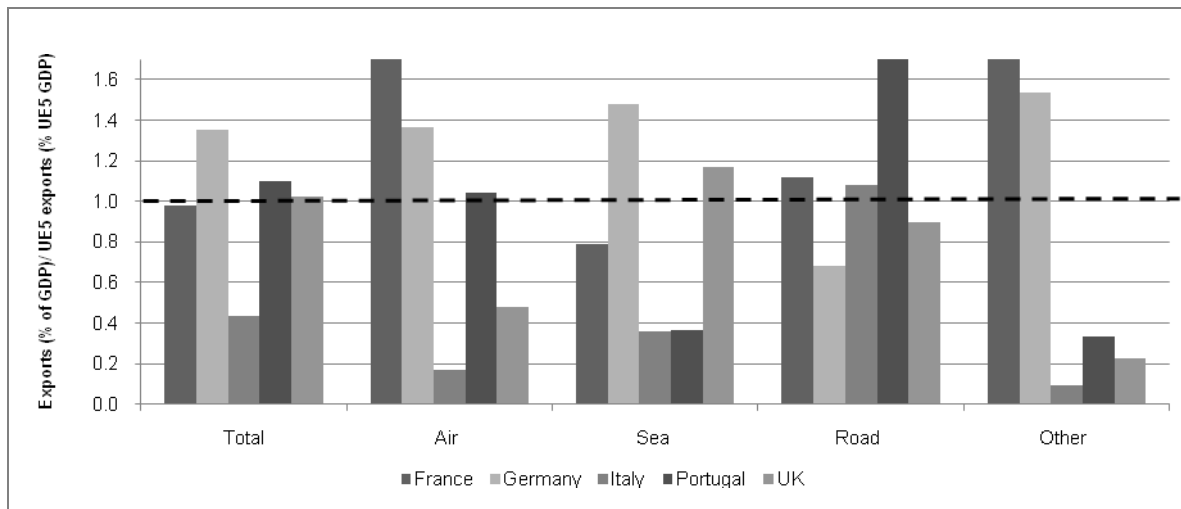
Source: Eurostat and authors' calculations.

Figure 21 – Trade-to-GDP-ratio for freights, by country and mode of transport (2004-2008)

The Portuguese export structure of freight services can be placed in perspective against its trading partners countries (EU5) average to evaluate the share and the relative specialisation of Portugal. For that purpose, the analysis of the specialisation of Portuguese exports of freight services is made through the use of an indicator similar to the traditional index of revealed comparative advantages presented in Balassa (1965), as it is usually done for international trade in goods. The Balassa index is defined as the ratio between the share of a given sector in total exports of the country under analysis and the share of that sector in total world exports. In this case, the indicator is the ratio between the share of freight exports in the country's GDP and the share of EU27 freight exports in its GDP (Figure 23). If the indicator reaches a value higher than 1, the country is classified as being relatively more specialised in that mode of transport, that is, as having a revealed comparative advantage in the sector.

*From the border to the chart: freight services in the Portuguese Balance of Payments statistics*

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Source: Eurostat and authors' calculations.

Figure 23 – Relative specialisation of freight services (2004-2008)

Figure 23 suggest that Portugal reveals a clear comparative advantage in road freight services, in the period 2004-2008. Portuguese sea and other modes (rail, pipeline and inland waterway) freight services are relatively less specialised than the EU5 average, although the superior degree of specialisation of air freight services when compared with Italy and UK. Additionally, as expected, Germany and UK also reveal a clear comparative advantage in sea transport especially the former. Finally, France and Germany are the most specialised in air mode of transport of the five countries under analysis, especially the former, which reveals a clear comparative advantage in this mode of transport of both countries.



## **5. CONCLUDING REMARKS**

The aim of this work was to disseminate and promote the use of the BoP statistics for transport research, specially imports and exports of freights, shortly describing the transport activity in Portugal. BoP figures for the Portuguese freight services were analysed, broken down by mode of transport, and an integrated analysis was made in the context of other EU countries.

Net exports of total freight services were found to be negative throughout the period under analysis, although, improving since 2001. The increasing path of net exports was explained mainly by road and sea freight services, whose contribution rose considerably in the last few years. Road freights were found to have a substantial share in total of freights, representing more than 60 per cent of the Portuguese exports during 1996-2008. In contrast, after a decline between 1997 and 2004, the share of the second most relevant mode of transport in Portuguese exports of freights, sea freights, increased since 2004, accounting for around 25 per cent of the total in the most recent period. Regarding imports of freight services, sea was found to be the most important one, representing more than 50 per cent of Portuguese imports of freight services in the 1996-2008 period. The share of the second most relevant mode of transport in Portuguese imports of services, road freights, accounted for around 30 per cent of total.

The exports-to-imports ratio or trade balance was found to be 0.67 for total freights, meaning that on average between 2004 and 2008 freight exports covered only 67 per cent of imports. There is only one mode of transport in which the exports-to-imports ratio in Portugal was above 1, the road freights, with a ratio of 1.37. When compared with other EU countries, the exports-to-imports ratio of road freights is greater in Portugal due to its peripheral location in west-southern Europe and, consequently, to the large development of the road mode of transport sector in the country. Although the share of Portuguese exports of freight services in the EU27 exports was found to be practically insignificant, about 1 per cent, Portugal reveals a comparative advantage in road freight services, on average in the period 2004-2008.

## 6. FUTURE PLANS

A final word for the future prospects of the BoP statistics. Bearing in mind a recent EU regulation, in two or three years time the resident banking system will reduce the details reported to the BdP on behalf of their clients for the Balance of Payments statistics purposes. The compilation system will need to adjust and will, almost certainly, move forward to more direct reporting from firms engaged in operations with non-residents. Consequently, this particular feature will also impose adjustments into the compilation of freight transport services exports, implying the collection of data directly from carriers and other transport companies. Regarding imports of freight transport services, there are also plans to revise the estimate for the cif-fob margin. As it was explained in chapter three, imports of freight transport services are obtained from this estimate. In general, the future estimation will follow some minimum standards defined by International Organisations engaged in the harmonisation of statistics among countries, namely Eurostat for the EU countries. The minimum standards that should be applied by the EU member States are the following, listed in order of priority (Eurostat 2008:11) i) different partner countries must be considered; ii) should be updated at least every five years; iii) should follow different means of transport (air, road, rail, sea, pipeline, etc.); iv) must take into account different product groups or product characteristics as they impact the transport costs; v) and, finally, should be consistent with the ratios used by neighbouring countries whenever trade patterns are somehow similar.

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