

Services sector in terms of changing environment

# Logistic services trade balance as indicator of Macedonian logistic industry potential

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## Abstract

Logistic industry as one of the leading world industries has respectable influence towards world economy flows. There are many indicators that confirm importance of logistic industry in certain country. One of those indicators is logistic services trade balance, as part of country's balance of payment, expressed by all international transactions of the country made on logistic services. Balance of payment indicates real economic condition of a country; in fact, countries with positive pay balance are sufficient and otherwise. Countries can reduce their negative balance of payment and also convert it into positive with incomes realized on trade in logistic services. It must be considered that effects of logistic services on balance of payment are hard to determine because of the complexity of logistic industry as well as lack of necessary data, and there is a need to mark all those elements that can not be calculated in logistic services trade balance. That way we can present a better picture for the potential of the logistic industry and its impact on national economy. Data given in logistic services trade balance are still worth to realize potential of logistic sector development of any country, as well as Macedonia in this case.

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*Keywords:* logistic services, trade balance; balance of payment; suffice; deficit; Macedonia; logistic industry.

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## 1. Introduction

Each country expresses the results of its economic activities with foreign countries with a system of accounts that provides insight into country's position compared to the rest of the world. Different forms of economics and financial relations with foreign countries assume the existence of different kinds of balances as trade balance or balance of payment (Gogoski, 1999). These accounts or balances are useful

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for analyzing the national economy relations with the other countries in a certain period, usually one year, and based on the findings, appropriate measures can be considered and undertaken in different economy sectors.

One of today's lead industries with a great impact of world economy is trade logistic as worldwide logistic expenditures represent 10-15% of the total world GDP and global logistics industry was valued a 3.5 billions USD in 2005 (ICRIER, 2008). Generally, trade logistics encompasses an array of actions, from transportation, consolidation of cargo, warehousing, and border clearance to in-country distribution and payment systems (LPI, 2007). There are several indicators for the potential and development of logistic sector, but in general they can be divided to non-economic (non-financial) and economic (financial) indicators. We can settle in the first group the following indicators: quality of infrastructure, number of transactions and number of subjects involved in supply chain, type of activities provided by logistic operators, time to import/export goods etc. On the other hand, logistic market expenditures, or incomes and outcomes realized with logistic services trade are considered as economic (financial) indicators.

One of the data sources that can express economic importance of trade logistic to a country is country's balance of payment where all transactions with foreign countries are registered including those for logistic services. Credit transactions in balance of payment represent the income for a country when foreign subject pays to a domestic logistic operator for a certain logistic activity. Debit transactions represent the outcome when domestic subject pays to a foreign logistic operator. Classification of the transactions between the residents of reporting country and residents of foreign countries determines the structure of the balance of payment that consists of: (1) current account, (2) financial account and (3) reserve account. Current account involves sub-balances for goods, services and transfers. So, in the services sub-balance, we can obtain data for incomes and outcomes based on logistic services trade. In fact, part of the balance of payment that provides inside into incomes and outcomes that a country has based on international trade with logistic services in a given period of time, can be also identified as a logistic services trade balance.

Considering the set of activities that refer to trade logistics, we can easily understand and confirm its great influence on many countries balance of payments that directly determines their external liquidity. In general, balance of payment condition reflects real economic situation of a country. Also it is well known that trade logistics, through revenues that are realized on a basis of hiring domestic logistic operators by foreign entities, could play significant role in increasing the income of the country. In fact, the impact of trade logistic on countries balance of payment depends on productive capacities of a country as a function of its geographical, economy, technical, social and other characteristics on one side, and of the level of development on other side.

## **2. Methodological issues when analyzing logistic services trade balance**

Logistic services are wide set of activities that should be correctly identified in order to make a proper analyze on logistic services trade balance. Besides differences in data collection methodology in different statistical reports, also a correct identification of the activities that are considered as a part of logistic services can be a problem. Main reason is that these services are not categorized as a different service sector in United Nations Central Product Classification (UN CPC). Also, logistic services are not defined as a separate category of services under General Agreement on Trade in Services (GATS) Classification list W/120. Hence, for the purpose of our overview of logistic services trade we will use activities suggested in the Checklist of logistic services TN/S/W/20 that is a part of the GATS proposal of the so-called group "Friends of Freight Logistics".

According to the Freight logistic checklist TN/S/W/20, logistic services are divided into 3 main categories as given in the table below (WTO, 2004):

Table 1: Types of logistic services according Freight logistic checklist TN/S/W/20

Group	Description and W/120 category	CPC Codes
<b>Core freight logistic services</b>	<u>11.H Services auxiliary to all modes of transport</u>	
	a. cargo handling services	7411,7419
	b. storage and warehousing	742
	c. transport agency services	748
	d. other auxiliary services	749
<b>Related freight logistic services</b>	(1) <u>11.A Maritime transport services</u>	
	<u>11.B. Inland waterways transport</u>	
<b>(1) freight transport</b>	<u>11.C Air transport services</u>	732,734
	<u>11.E Rail transport services</u>	7112
	<u>11.F Road transport services</u>	7123
<b>(2) other</b>	(2) <u>1.F.e. Technical testing and analyzing services</u>	8676
	<u>2.B. Courier services</u>	7512
	<u>4.A. Commission agents services</u>	621
	<u>4.B. Wholesale trade services</u>	622
	<u>4.C. Retail trade services</u>	631,632,6111,6121
<b>Noncore freight logistic services</b>	1.F.c and 1.F.d. Computer, management consulting services	865,866

Source: own review based on data taken from: WTO, Logistics services, TN/S/W/20, WTO, Geneva, 25 June 2004, pp.5-7

Table 1 allows easy identification of logistic services that can be recognized in national balance of payment, according to their description and CPC codes. Still, we have to put an effort for correct identification as data in national balance of payment are not given exactly according the GATS list of logistic services TN/S/W/20. It is almost impossible to identify the share of noncore freight logistic services and other related logistic services on total logistic services trade, as these activities are not only part of logistic sector. On the other hand, all core logistic services and part of the related logistic services that concern to freight transport are generally considered as part of logistic sector, and for that reason we will put an emphasis on them when analyzing logistic services trade balance.

Beside this, some other methodological issues must be considered when calculating data taken from logistic services balance of payments. For example, some significant categories can be left from the balance of payment because it is hard to identify their real purpose as: import of equipment, goods and services for logistic sector development, interest and payments for foreign loans used in logistic sector, payments for foreign staff and profit repatriation of foreign logistic operators, dividend for foreign stakeholders in logistic companies, expenses for promoting the domestic logistic sector in foreign countries etc. Therefore, when analyzing data from logistic services balance of payment we will consider, in a first place, incomes realized on a basis of hiring domestic logistic operators by foreign entities and outcomes when our companies hire foreign logistic operators. We must note that information obtained in the further presentation will in some extend be neutralized, but still, they can be considered as a significant indicator for logistic industry potential and development.

### 3. Analyze of the Macedonian logistic services trade balance

Our calculation based on the Macedonian balance of payment data taken from International Monetary Found (IMF) showed that the value of exports and imports of logistics services in the Republic of Macedonia has seen steady growth in the 2001-2008 period, with an annual average growth rate (AAGR) of imports by 40% and even 50% AAGR of exports. These data indicate more dynamic growth of trade in logistics services than the total trade in services. It shows that these services are gaining greater share in total import and export of services.

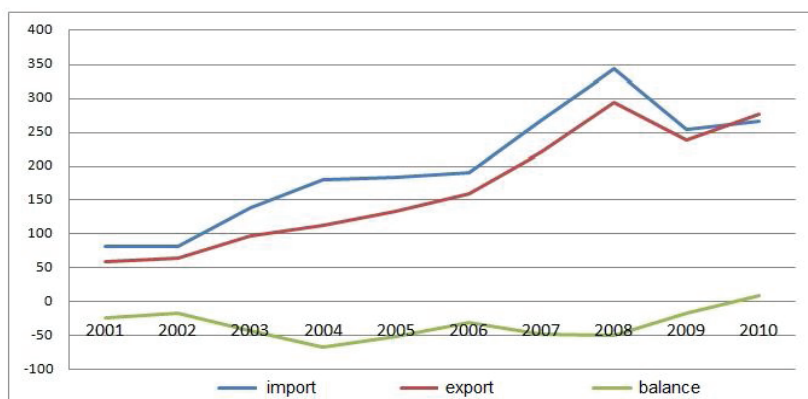


Fig. 1: Republic of Macedonia international trade to logistic services in the period 2001-2010, million USD  
 Source: own presentation based on IMF Balance of payment data for Republic of Macedonia, taken from: [www.imf.com](http://www.imf.com)

After this period, following the general economic trends, there is 18.8% decline of the export of logistic services in 2009 compared to the previous year. It's a result of the global economic crisis that caused reduced economic activity in general. Decline of import of logistic services in 2009 compared to 2008 is even greater, amounting to 25.5%. In line with the general trends of the total trade in services is the growth of trade in logistic services in 2010, where the value of exports in this period exceeds the value of imports of logistics services. Therefore, for the first time in the last decade we can mark a positive trade balance in logistics services foreign exchange (See figure 1).

We also made calculations to examine the share of core and related logistic services export and import in total export and import of logistic services according to the data given in the detailed Macedonian balance of payment. Results have shown that the share of core logistic services import is increased in the analyzed period from 29% to 34%, on behalf of reduction of related logistic services import share from 71% to 66% in total logistic services import. This lead to a conclusion that domestic subjects are increasingly engaging foreign logistic operators for activities that are related to organizing delivery of goods but with remark that there is reduction of demand for foreign transport operators for freight transport. As for export of logistic services, it can be seen that the share of core logistic services export in total export of logistic services have a very high decline in the analyzed period, from 33,6% in 2001 to 14,6% in 2010. It is a result of 22 percentage points increased share of the related logistic services export in total logistic services export in the analyzed period. It shows to us that foreign companies have increased the confident for domestic transport operators in the last period and they arrange our logistic operators for freight transport much more than for providing activities related to organizing delivery of the goods.

More complete analyze of logistic industry potential will be made if we make an overview of export and import of core and related logistic services in different transport modalities using the data from logistic services trade balance as a part of national balance of payment

### 3.1. Core logistic services in Macedonian balance of payment

According to general trends in trade in services, total trade of core logistic services is characterized with constant growth in 2001-2008 period, followed with decline in 2009 and re-growth in 2010 (see figure 2). Analyzing data from logistic services trade balance concerning core logistic services in all transport modalities for the last decade we can extract very interesting conclusions. First, we can split analyzed period according the tendencies of the export and import of these services. First period is 2001-2008 or the period before the global economic crises and the second is for last two years.

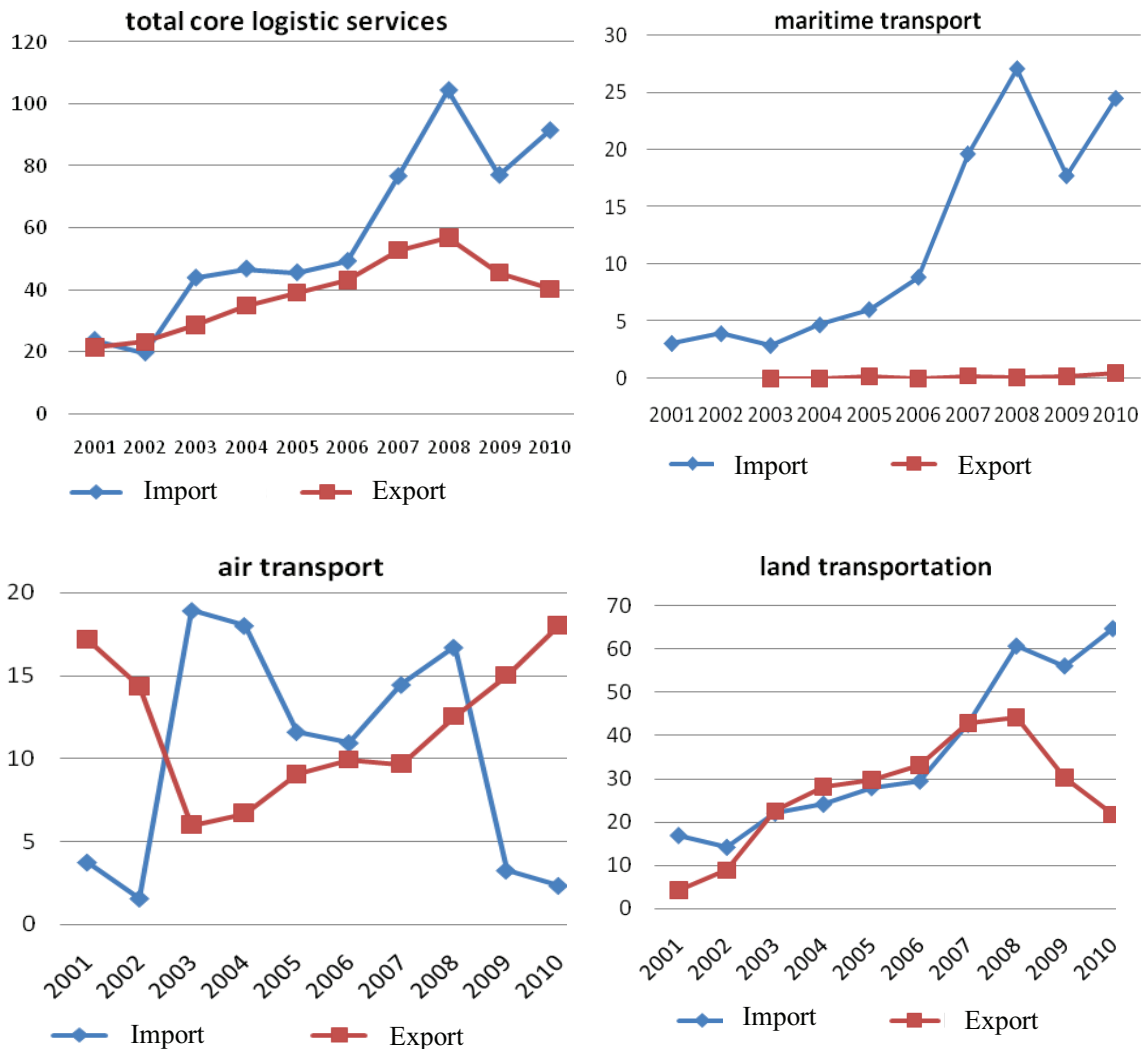


Fig. 2: Republic of Macedonia international trade of core logistic services in different transport modalities in the period 2001-2010, million USD

Source: own presentation based on IMF Balance of payment data for Republic of Macedonia, taken from: [www.imf.com](http://www.imf.com)

Characteristic for the first period is that the share of import of core logistic services in air and maritime transport in total import of core logistic services is rising, but there is a decline of the share of import of core logistic services in land (road and railway) transportation as well. For illustration, our calculation showed that the share of the import of core logistic services in maritime and air transport in the total export of these services has increased from 13,1% and 15,7% in 2001 to 26,6% and 19% in 2008, respectively. On the contrary, the share of import of these services in land transportation in total import of the analyzed services decreased from 71,2% in 2001 to even 55,5% in 2008. Unlike the first period, the calculation made for the last two years indicate slightly reduction of the share of the import of core logistic services in maritime transport to 23% of the total import of core logistic services, and a huge reduction of the share of import of core logistic services in air transport to only 4,2% of the total import of core logistic services. These reductions resulted with increase of the share of import of core logistic

services in land transportation to high 73% in total import of total core logistic services. The obtained results lead to a conclusion that the last two years domestic companies usually arrange foreign logistic operators for organizing delivery of goods in maritime and land freight transportation, but not so much for air transport, that wasn't the case in the first 7-8 years of the last decade.

Analyze of the export of core logistic services in different transport modalities shows that there is no registered export of these services in maritime transport until 2003. According national balance of payment data given in IMF reports, it is easy to notice that foreign subjects demanded domestic logistic operator to arrange delivery or receipt of goods in maritime transport for the first time in the year 2003. Still, export of these services in maritime transport does not have significant share in total export of core logistic services in the last few years and has reached only 0,6% in 2010. On the other hand, similar to the import, share of the export of core logistic services in air transport, has an incredible decline from 80% in 2001 to only 18% in 2008, not so much as a result of decreased export of these services in air transport as much as a result of increased export of these services in land transportation in the analyzed period (see figure 2). The last two years share of the export of core logistic services in air transport has increased to 39% of total export of these services in 2010, as a result of the record level of export of these services in air transport reached in 2010 and even more as a result of about 50% decline of the export of core logistic services in land transportation in 2010 compared to 2008.. That way, the share of the export of these services in land transportation reduced to only 66,5% in total export of core logistic services in 2010.

Now, based on these results, we can conclude that the trend of the export of core logistic services is generally determined by the foreign companies demand for domestic logistic operators to organize delivery of goods in land transportation, as road and railway transport. Also, the decline of the export of core logistic services in air transport in the first period of the decade was replaced with constant growth in the second period of last decade when the demand for domestic operators to organize delivery of goods in air transport has reached the record level in 2010, but that is still not enough to take the primate of the domestic logistic operators in land transportation.

Deficit in core logistic services trade balance is determined from the high deficit in trade with core logistic services in maritime transport and the high deficit in land transportation, especially in the last two years. It implies to a conclusion that foreign companies reduced arrangement of domestic road and railway logistic operators for core logistic services after global economic crisis, probably as a result of overall reduction of economic activities in that period. The only positive influence in core logistic services trade balance in the last few years has the trade of these services in air transport (see figure 2).

### *3.2. Related logistic services in Macedonian balance of payment*

Similar to core logistic services, the export of related logistic services has a constant growth in the period 2001 – 2008, followed with a decline in 2009 and re-growth in 2010. Import of related logistic services, on the other side, has a constant growth until 2008, but the last two years has a decline which is not compatible with general economic trends in this period. It is a result mostly of the constant decline of the import of freight transportation services in land transportation (see figure 3). This situation contributes to elimination of the deficit in related services trade balance, which means that domestic companies have reduced their demand for freight transportation services from foreign logistic operators, while foreign companies arrange more domestic logistic operators for freight transport. This indicates that our transport operators are more competitive on internal freight transport market. Better explanation on positive balance on related logistic services trade can be given if we analyze the export and import of these services in different transport modalities.

When analyzing the share of different transport modalities in total import of related logistic services we can see that the share of maritime transport increased from 4,6% up to 14,7% in the last decade which on the other hand resulted with decline of the share of import of air freight transport services from 6% to 1,5%. Most significant share in the import of related logistic services in the last decade has land freight

transport (road and railway freight transport) that beside minor decline of 5 percentage units in 2010, still has around 84% share. This indicates that domestic companies mostly arrange foreign logistic operators for land freight transportation, and lately for maritime freight transportation. Also, it is notable that only small part of freight transportation is made by air.

The analyze of the share of different transport modalities in total export of related logistic services gives us interesting calculation that even 98-99% of total export with related logistic services falls out on the export of land freight transportation. The rest part or less than 2% share in total export of these services falls out on the export of maritime transportation services, while air freight transport export contributes with only 0,2% in total export of related logistic services. It confirms that foreign companies usually arrange domestic transportation and logistic operators for road and rail freight transportation. Also, interesting finding is that since 2003, maritime freight transportation services are registered in the national balance of payment, besides the fact that Macedonia is a landlocked country that does not have maritime fleet or vessels that sail under Macedonian flag. Export of maritime freight transportation services is provided in a way that our domestic logistic operators rent charter vessels or part of the vessels for maritime transport that further can be used for transportation of foreign goods. That way, part of the income of the export of maritime freight transportation services is used for covering the expenses that comes out from vessels rental.

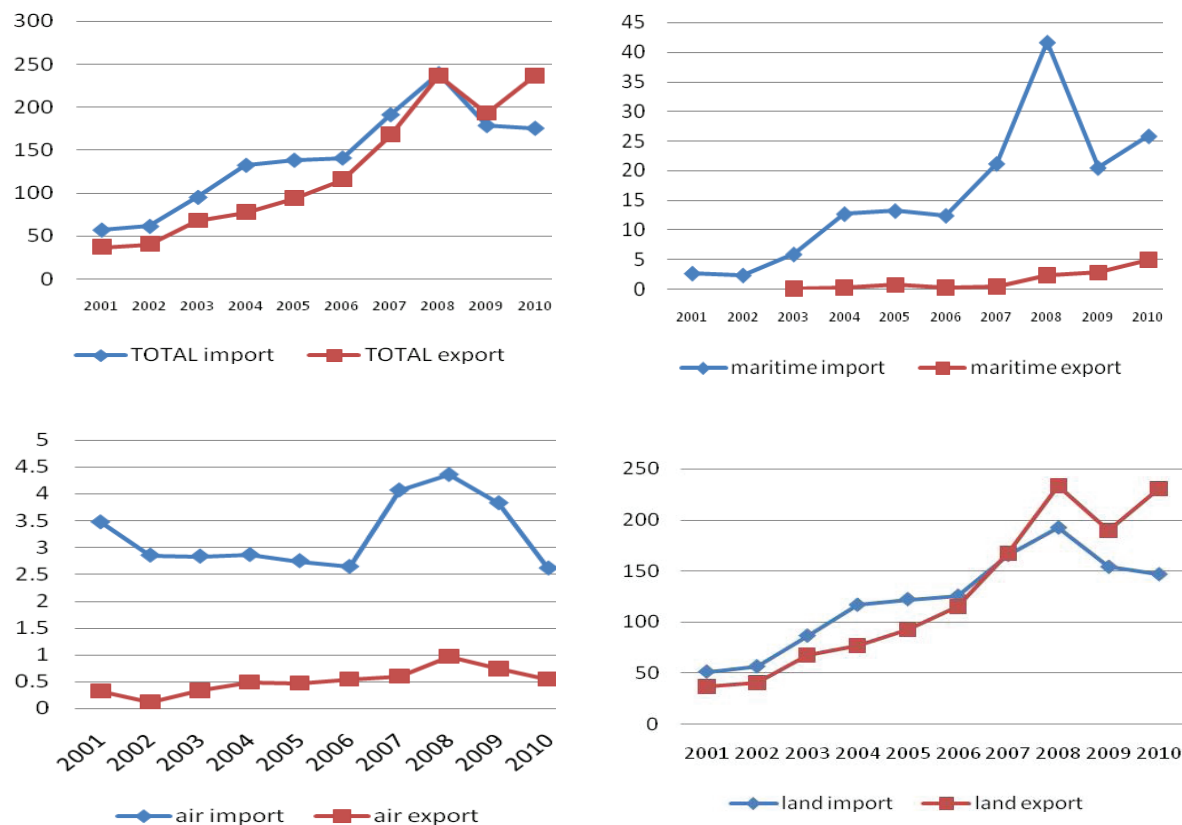


Fig. 3: Republic of Macedonia international trade of core logistic services in different transport modalities in the period 2001-2010, million USD  
 Source: own presentation based on IMF Balance of payment data for Republic of Macedonia, taken from: www.imf.com

Data presented in figure 3 lead us to a conclusion that deficit in related logistic services trade balance until 2008 is a result of the high deficit in maritime and land freight transport services trade balance. But after 2007, deficit in land freight transport services trade balance was replaced with suffice that reached the record level in 2010 as a result of the high level of export in the same year and decline of the import of these services in the last two years. Positive trade balance of land freight transport services resulted with neutralization of the deficit in related logistic services trade balance in 2008. Last two years were also characterized by the reduced deficit in maritime freight transportation as a result of reduced import and positive trend in export of these services, which combined with positive trends in land freight transport services trade additionally contributed towards positive trends and sufficiency in related logistic services trade balance. Certainly, we can confirm that domestic transport operators have improved overall performance as they gained more confident and become more competitive on international freight transportation market.

At the end, our calculation on the share of logistic services export into Macedonian GDP showed that it is increased from 1,7% in 2001 to over 3% in 2008 which also put a stretch on logistic industry importance for Macedonian economy especially in the last few years.

#### **4. Conclusion**

Logistic industry is one of the most important for the world economy development and every national economy must put an effort to improve competitiveness in logistic sector. There are financial and non-financial indicators for the potential and development of this industry. National balance of payment is one of the most significant indicators for analyzing economic potential and the impact on national economy of the logistic sector. To provide correct analyze of the data in the logistic services trade balance as a part of national balance of payment, we need to make a proper identification of the activities that consists logistic services. For that purpose most appropriate is WTO TN/S/W/20 list form which we took all core logistic services and part of related logistic services that concerns freight transportation in different transport modalities as most appropriate and significant for the analyze. We came to interesting conclusions as followed: Constant growth of income and outcome in national balance of payment as a result of trade in logistic services resulted with constant but stabile deficit in logistic services trade balance in the first 8 years of the last decade. The last 2 years are characterized with reduction of the deficit in 2009 and sufficient state of logistic services trade balance in 2010. Our analyze and calculation showed that positive tendencies are caused more by better results of the trade in related logistic services than the trade in core logistic services. Positive balance in trade with related logistic services in the last two years was a result of the growth of the export of road and railway freight transportation services and growth of export of maritime freight transportation services since 2003, as well as reduction of the import of land and maritime transportation services in the last two years of the last decade. It indicates that foreign companies have more confident in domestic transport operators which are also becoming more competitive on international logistic market. That also has a positive influence on overall Macedonian economy expressed with the positive impact on our GDP.

Everything said before is a good sign for the Macedonian logistic industry potential and points to further development of the logistic sector. In order to increase the income provided from logistic industry, a priority must be put on improvement of the competitive environment for domestic logistic operators especially for core logistic services where we still have a space for further improvement, but we also need to keep up with good results in the supply of related logistic services especially in land and maritime transportation. Republic of Macedonia has an opportunity and must to adapt to the needs and request of foreign companies, bearing in mind positive effects of logistic services on national economy, especially in the last 2 years, that confirms the fact for the great potential and the meaning of the logistic industry.



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