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Warehousing and support activities for transportation in Central and Eastern Europe – regional disproportions and development perspectives

INTRODUCTION

The significant part of products costs constitute logistics costs, both direct and indirect ones, caused by unreliability and inefficiency of supply chains [3, p. 25]. It is estimated that these costs including costs of transportation and warehousing constitute currently about 10-15% of the cost of finished products which consumers are provided with. It is therefore not surprising that the role and importance of logistics in the economic processes is constantly growing. At the moment its share in Europe reaches nearly 14% of GDP. Moreover, the dynamics growth of this branch has recently been higher than the dynamics growth of economies of the EU Member States. The development of the discussed branch undoubtedly contributes to stronger competition. Despite the fact that on the European market operate a few enterprises being the world leaders still this branch is characterized by low concentration – the market share of 20 largest companies is only 33%.

On the logistics market in Europe some trends can be observed, which are not uncommonly inconsistent and in opposition to each other. On the one hand, organization of logistics becomes centralized in European and regional distribution centers, on the other hand, due to saturation taking place on the European roads, decentralization appears, which allows to react fast to customers' requirements making use of local warehouses or buffer storages. What is becoming more and more popular it is outsourcing of logistics activities within which shippers purchase various logistics services from external service providers. Over the last few years the cooperation between shippers and providers became more long-term in its nature and was connected with a high level of integration within organizational and IT structures.

The aim of this elaboration is to depict the European policy in the field of logistics expressed in communications of the European Commission, resolutions of the European Parliament and opinions of the European Economic and Social Committee, but also the article in an attempt to present the differences between some regions of Central and Eastern Europe with regard to warehousing and support activities for transportation and furthermore, the perspectives of branch development in the light of analyses conducted by international consulting companies.

1 EUROPEAN LOGISTICS POLICY

According to M. Mindur the reasons for creating European logistics policy can be divided into four groups: the impact of logistics on competitiveness of the economy, integration within the European Union, higher requirements of final consumers, liberalization of transport and postal services [5, p. 304]. Undoubtedly the influence of logistics on economy competitiveness (the first group) is of particular significance. The deepening process of globalization of the economy causes that logistics and its costs become more and more important, therefore business entities try to get competitive advantage thanks to that. Advanced and integrated logistics solutions lead to optimizing operations in the area of transport and thereby to ensuring growth in Europe and its higher competitiveness on a global scale. Communications of the European Commission, resolutions of the European Parliament and opinions of the European Economic and Social Committee give evidence of

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establishing the EU policy with regard to logistics. In the further part of this article the selected provisions of the aforementioned documents have been elaborated.

The need of complex glance and an all-embracing approach to the logistics branch was stressed in the White Paper concerning the European transport policy published in 2011. In the document the Commission's strategy and initiatives were presented. It was assumed that restoring the balance between modes of transport can be the solution to the problem connected with congestion on certain routes and in some transport corridors in the EU [1]. After a few years it appeared that this approach is no longer sufficient to achieve the fundamental objectives. In the mid-term review of the White Paper conducted in 2006 the previous assumptions were maintained and overall objectives remained the same, but a principle of co-modality was introduced, which means efficient use of different modes of transport on their own or integrated multimodally within the European transport system in order to meet the demands of sustainable utilization of resources [16]. In accordance with the principle the cooperation between different modes of transport should be ensured wherever it is possible and where each mode's own potential, efficiency and specific qualities can be used to its advantage, however, it may require the suitable technical, practical and economic conditions. The key importance for eliminating disproportions in the development of particular modes of transport in the logistics system, which resulted in congestion on transport routes, is striving for ensuring regulated competition between different modes of transport and coordination of their development in order to obtain adequate intermodality. Another issue of great importance is to establish cooperation between different means of transport where competing with one another is possible and which allows to take full advantage of efficiency and specific qualities of particular modes of transport. It is essential to adopt a comprehensive approach that makes it feasible to increase international competitiveness of the European transport and propose the solutions that help remove the bottlenecks and eliminate the weak links in the logistics chain.

The European Parliament and the European Economic and Social Committee took part in the discussion concerning the establishment of European logistics policy [7,8,10]. These institutions indicated that a strategic plan for the promotion of logistics as a growth factor and competitiveness should be a starting point. The tasks for public authorities and transport sector should be clearly defined and stated within the frames of this plan. The action plan ought to concern all the branches of transport and take into consideration the economy, transport policy, public interest and regional factors.

In the legislative sphere the most crucial document concerning directly the logistics branch is the Communication of the European Commission from 2006 in which it was stated that transport forms integral part of the logistics supply chain. The Commission's approach concentrated on logistics in the freight transport and embraced all modes of transport [4]. Development of logistics of freight transport is above all connected with business activity. Nevertheless, the Institutions of the European Union and the governments of particular EU Member States are to play an important role which should translate into creating suitable conditions for logistics development. Such an approach focuses on improvement of innovation in the field of logistics and consequently leads to competitiveness improvement. On the basis of public consultations the Commission in the consecutive Communication proposed the actions in the following areas: advanced information and communication technologies (ICT), training in the field of logistics, improving the efficiency and sustainability of freight transport, optimal use of infrastructure and loading standards [9]. In this Communication it was simultaneously underlined that the policy with regard to logistics should be developed and pursued at all levels of governance since there is an increasing need for a coherent EU approach to a branch of logistics which will ensure reinforced cooperation and coordination between the different dimensions of transport policy and will become the most important factor taken into consideration in decision-making.

2 REGIONAL DISPROPORTIONS OF WAREHOUSING AND SUPPORT ACTIVITIES FOR TRANSPORTATION

The European Commission in the Communication released in 2006 concluded that it was really difficult to get a reliable picture of logistics market in Europe due to the insufficient relevant statistical data [4, p. 4]. There has been a few years since that time and nowadays there is open access to the database with statistical information on warehousing and support activities for transportation which is provided by Eurostat (symbol H52)³, nevertheless it is still quite difficult to present and estimate the logistics branch in Europe unambiguously, especially in certain regions. The difficulties to a large extent stem from the fact that the situation of the discussed branch seems to be different when described making use of absolute measures and relative measures. Moreover, some divergences appear while taking into account various aspects, such as the number of economic entities or the number of people employed there. In this elaboration the authors have made an attempt to depict the differences in development of the logistics branch between particular regions of Central and Eastern Europe in spite of the mentioned above difficulties.

The analysis embraced 53 regions (level NTS-2) from the 'newer' EU Member States: Bulgaria (BG), the Czech Republic (CZ), Estonia (EE), Latvia (LV), Poland (PL), Romania (RO), Slovakia (SK), Slovenia (SI) and Hungary (HU)⁴. The statistical data used in the paper to conduct the analysis were downloaded from the Eurostat database and show the situation which took place in 2011 with regard to the number of businesses run in the field of warehousing and support activities for transportation and the number of people employed in these economic entities⁵. Taking into account the need to present the differences between particular regions, first of all the analysis concentrated on outermost regions, that is five regions with the highest number of business entities and employees and five regions with the lowest number of businesses operating in the discussed the branch and the lowest number of workers employed. In the further part of the paper the diversity of all 53 regions was presented and described making use of certain tools used in descriptive statistics.

Taking into consideration the absolute number of business entities conducting economic activities in the area of warehousing and support activities for transportation it can be stated that the best developed regions of Central and Eastern Europe are: Latvia (LV), Közép-Magyarország (HU), Mazowsze (PL), Západošlovensko (SK) and Prague (CZ), and in contrast there are the worst developed regions: Severozapaden (BG), Sud-Vest Oltenia (RO), Opolskie Region (PL), Sud-Muntenia (RO) and SeverenTsentralen (BG) – Fig. 1 (the average number of business entities for all the regions is 601).

³ http://epp.eurostat.ec.europa.eu/portal/page/portal/european_business/data/database [date of access: 07.07.2014].

⁴ Two matters must be signalized here. First of all, Estonia and Latvia due to their size are treated by Eurostat as the regions (NTS-2). Therefore the data being the basis for the analysis will concern *de facto* not the regions, but the whole countries. Secondly, because of the lack of adequate statistical data for Lithuania, it was not possible to take this country into account.

⁵ Unfortunately the data come from 2011 and latest data are not available in the Eurostat database. Moreover, in the authors' opinion, in the mentioned above database, there is the essential information missing concerning revenues obtained by 'firms H52'.

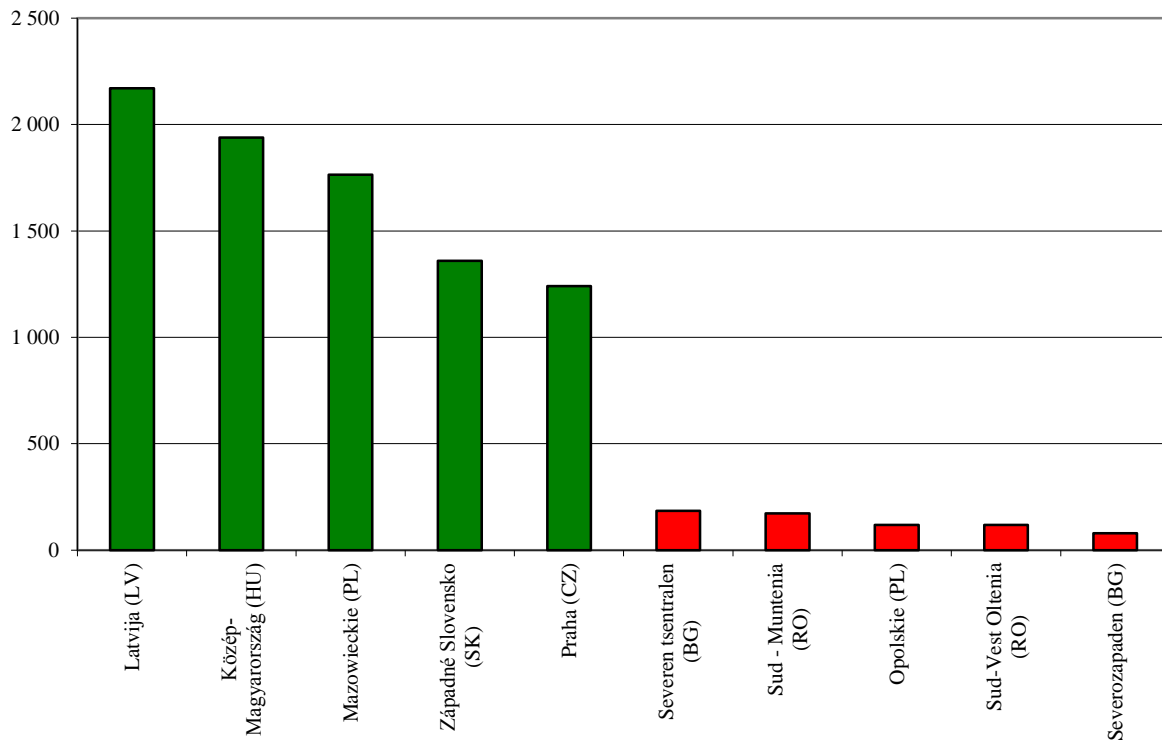


Fig. 1. Regions of Central and Eastern Europe with the highest and the lowest number of business entities conducting economic activities in the scope of warehousing and support activities for transportation. Source: Own elaboration on the basis of Eurostat data (2011).

However, taking into consideration the relative number of business entities operating in the discussed branch, namely, the share of 'firms H52' as the percentage of the general number of businesses, it can be noticed that the predominant regions are: Latvia (LV), Estonia (EE), Sud-Est (RO), Pomorze Zachodnie (PL) and Severoiztochen (BG) and at the bottom there are: Nord-Est (RO), Severozapaden (BG), Opolszczyzna (PL), Sud-Muntenia (RO) and Sud-Vest Oltenia (RO) – Fig. 2 (the average share of business entities for all the regions is 0,68%).

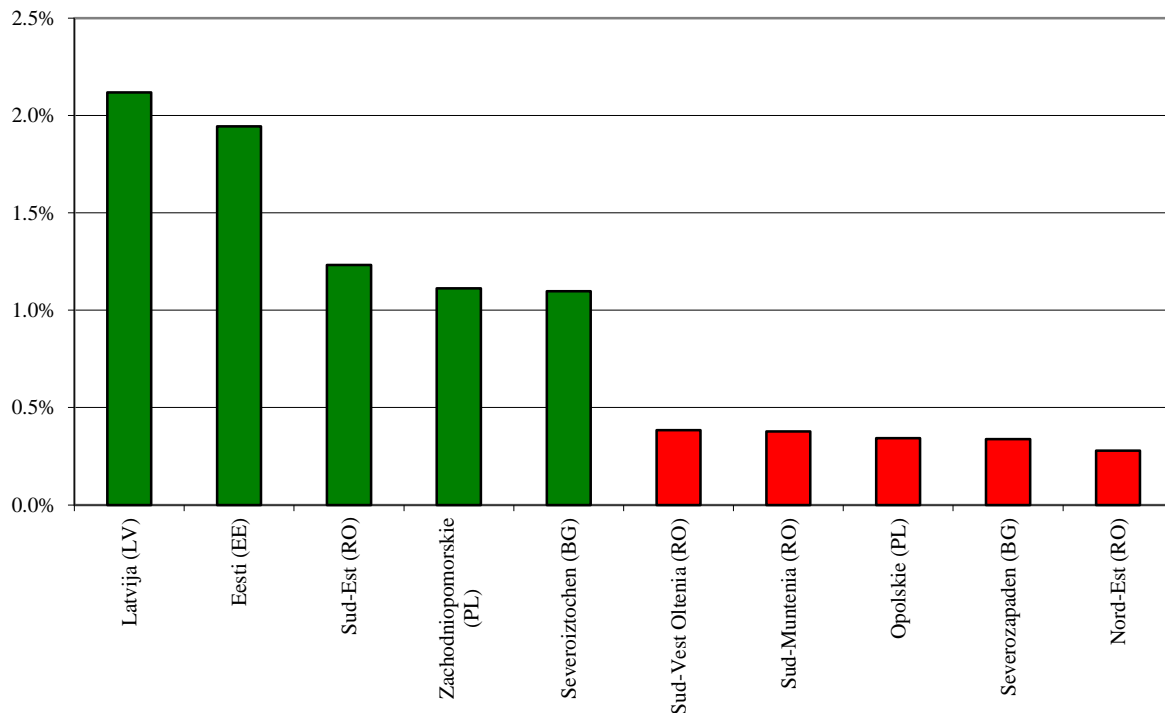


Fig. 2.Regions of Central and Eastern Europe with the highest and the lowest share of business entities conducting economic activities in the area of warehousing and support activities for transportation as the percentage of the general number of business entities. Source: Own elaboration on the basis of Eurostat data (2011).

It should be stressed here that businesses which were described above are very diversified as concerns the number of employed people – the average number of employees in one company ranged from 3 to 41. Therefore paying attention only to the absolute or relative numbers of ‘firms H52’ seems to be totally inadequate to estimate the branch development. That is why in the further part of the elaboration the number of people employed in such companies (‘firms H52’) was analyzed.

Having regard to the absolute number of people employed in the companies conducting business activities in the field of warehousing and support activities for transportation the conclusions can be drawn that the most ‘logistics’ regions of Central and Eastern Europe are: Mazowsze (PL), Közép-Magyarország (HU), Bratislavskýkraj(SK) and Sud-Est (RO) whereas the least ones – five Polish voivodeship (regions): Opolskie, Świętokrzyskie, Podlaskie, Warmińsko-Mazurskie and LubuskieRegions – Fig. 3 (the average number of the employed for all the regions is 7400 people).

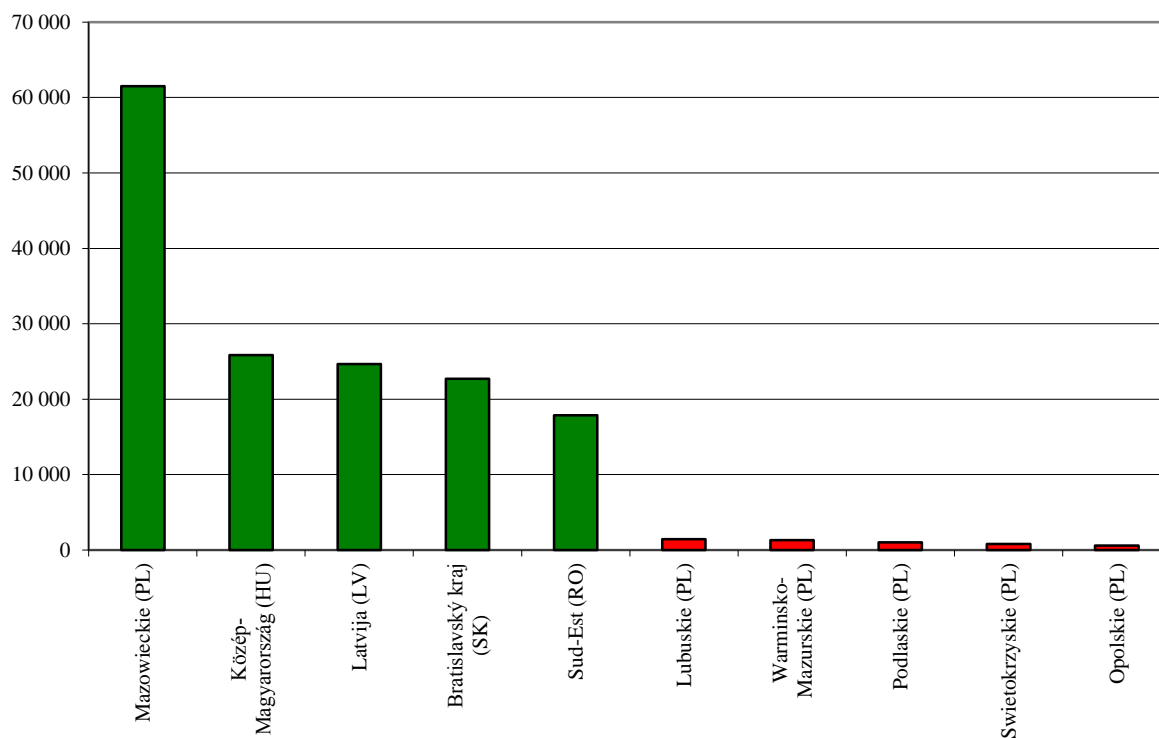


Fig. 3. Regions of Central and Eastern Europe with the highest and the lowest number of people employed in business entities operating in the field of warehousing and support activities for transportation. Source: Own elaboration on the basis of Eurostat data (2011).

However, taking into account the relative number of people employed in economic entities conducting business activities in the discussed field, that is the share of the employed in 'firms H52' as the percentage of the general number of people employed in any companies, it can be stated that employment in the logistics sector is the highest in the following regions: Bratislavský kraj (SK), Latvia (LV), Sud-Est (RO), Mazowsze (PL) and Estonia (EE) and on the other hand, the lowest in four Polish voivodeship (regions): Opolskie, Świętokrzyskie, Podkarpackie and Warmińsko-Mazurskie Regions, but also in the Czech Region called Severovýchod – Fig. 4 (the average share of the employed for all the regions is 1,57%).

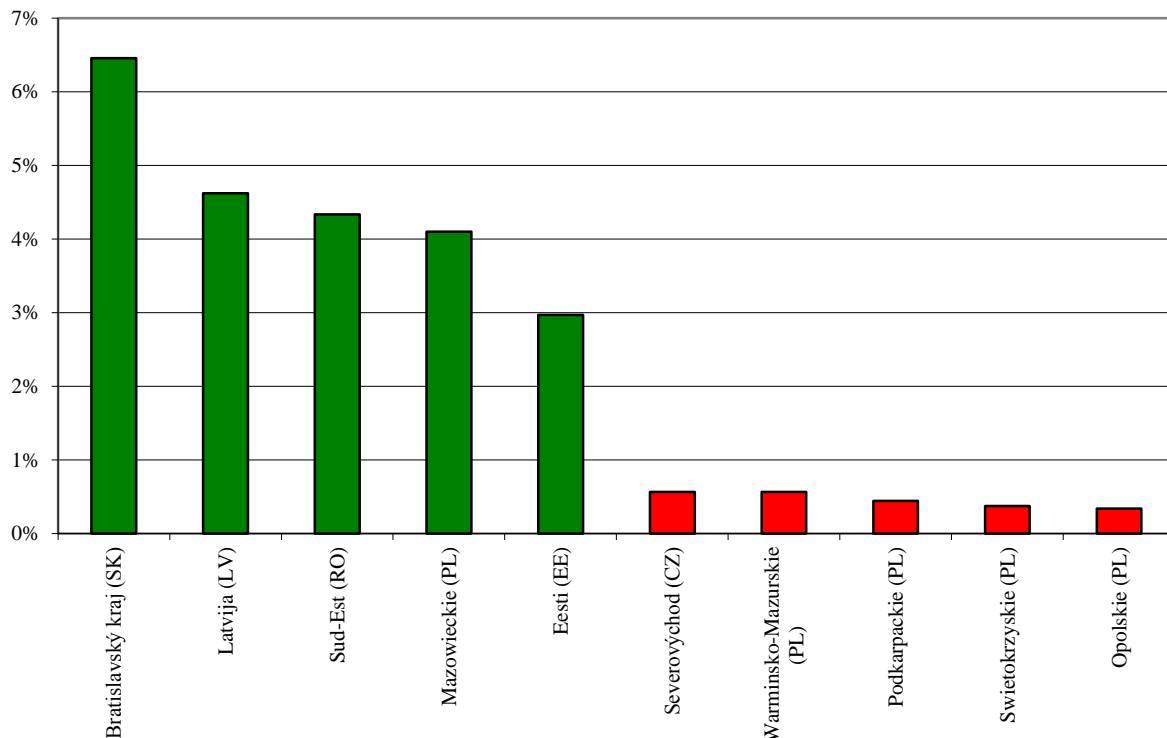


Fig. 4. The regions of Central and Eastern Europe with the highest and the lowest share of the employed in the companies conducting business activities in the field of warehousing and support activities for transportation as the percentage of the general number of people employed in any business entities. Source: Own elaboration on the basis of Eurostat data (2011).

While analyzing the above figures it can be noticed that not always the same regions appear in the outermost groups. Therefore it means that the assessment of the logistics branch development differs to some extent depending both on the used variable (the number of economic entities or the number of the employed) and the characteristic of this variable (absolute value or relative value). Thereby in order to establish quite unambiguous diagnosis concerning development of the discussed branch some basic statistical tools, in particular mean and standard deviation, were used. The values of these measures calculated on the basis of the data for all 53 regions embraced by the analysis allowed to standardize four described so far aspects that is: the absolute and the relative number of 'firms H52' and the absolute and the relative number of people employed in such companies ('firms H52')⁶. As a result this operation enabled to calculate the sums of the standardized values of four aspects for each region and then they were put in a descending order from the region with the highest sum of the standardized values to the region with the lowest sum. The last step taken was to assign regions to six groups (from A to F) on the basis of the values of arithmetic mean and standard deviation. In group A there are the regions where the logistics branch is best developed and in contrast there are the regions from groups E and F where the discussed branch does not play any important role. The results of grouping were presented in table 1.

⁶Standardization was accomplished through the determination of the differences between the value of a particular variable (aspect) for a certain region and the average value of this variable (aspect) for all the regions and then the obtained difference was divided by standard deviation.

Tab. 1. Classification of regions in Central and Eastern Europe with regard to development of warehousing and support activities for transportation

Group	Level of development	Groupsize	Regions
A	very high	6	Latvia (LV), Mazowieckie (PL), Bratislavský kraj (SK), Eesti (EE), Közép-Magyarország (HU), Sud-Est (RO)
B	high	6	Pomorskie (PL), Zachodniopomorskie (PL), Západošľovensko (SK), ZahodnaSlovenija (SI), Prague (CZ), Severoiztochen (BG)
C	higher medium	7	Bucuresti - Ilfov (RO), Yugoizapaden (BG), Šľaskie (PL), Wielkopolskie (PL), Nyugat-Dunántúl (HU), Észak-Alföld (HU), StredníCechy (CZ)
D	lower medium	14	StrednéSlovensko (SK), Dél-Alföld (HU), Kujawsko-Pomorskie (PL), Łódzkie (PL), Severentsentralen (BG), Jihozápad (CZ), Małopolskie (PL), Dolnošľaskie (PL), Jihovýchod (CZ), Dél-Dunántúl (HU), Közép-Dunántúl (HU), Vest (RO), Észak-Magyarország (HU), Lubelskie (PL)
E	low	19	Lubuskie (PL), VzhodnaSlovenija (SI), Nord-Vest (RO), Yugoiztochen (BG), Moravskoslezsko (CZ), Severozápad (CZ), VýchodnéSlovensko (SK), Sud-VestOltenia (RO), Centru (RO), Severovýchod (CZ), Yuzhentsentralen (BG), StredníMorava (CZ), Podlaskie (PL), Podkarpackie (PL), Warmińsko-Mazurskie (PL), Świętokrzyskie (PL), Severozapaden (BG), Sud-Muntenia (RO), Nord-Est (RO)
F	very low	1	Opolskie (PL)

Source: Own elaboration on the basis of Eurostat data (2011).

The results of the conducted analysis indicate that warehousing and support activities for transportation are usually best developed in the regions where there are the capital cities of particular countries located, especially the capitals of Estonia, Latvia, Poland, Slovakia and Hungary. Moreover, the described sector is quite well developed in the wealthier regions of Slovakia and Slovenia and in Bulgarian, Polish and Romanian regions with access to the sea, thus the regions with the seaports. It must be underlined here that the level of the branch development is positively correlated (statistically significant) with the economic development level of regions measured by GDP per capita against purchasing power parity⁷. It is also worth paying attention to the fact that the average income of people employed in the logistics companies ('firms H52') are usually from a few to dozen or so per cent higher than the average salary in all the economic entities.

3 DEVELOPMENT PERSPECTIVES OF WAREHOUSING AND SUPPORT ACTIVITIES FOR TRANSPORTATION

The logistics market is undergoing constant changes which are caused by many factors. Undoubtedly the change in approach of companies to supply management, but also production and distribution of goods should be considered as the most important one. The moment the economy changed from the seller's market into the consumer market alongside the attitude of consumers and producers changed. Currently, not only do goods and their price or quality matter, but also the way and time within they are delivered [17, p. 1382]. Simultaneously the situation in the discussed branch is intertwined with the condition of the world economy. The systematic branch increase observed in consecutive years was stopped in 2008 due to the global economic crisis [6, p. 241]. At the moment the situation is returning to normal – the logistics branch is recovering and the economic indicators growth has been reported. The results of analyses conducted and projections made by international consulting companies indicate that the development perspectives of the discussed branch are very good. In particular it concerns the countries and regions of Central and Eastern Europe which can benefit from neighboring Germany, the country which is a flywheel of European economy. In the

⁷Pearson's correlation coefficient takes value 0,475, which means that higher level of regions economic development is accompanied by higher level of logistics branch development and vice versa.

further part of this elaboration the results of the analyses carried out by two companies providing commercial real estate services, namely Cushman & Wakefield [14] and CBRE [12] were presented.

In 2013 the interest of investors in logistics and warehousing real estate market increased by half which means that this sector has the highest growth rate in comparison with the previous year. It happened due to the wider acceptance of the segment which so far has been perceived as a niche one, increasing investments in real estate and the expected improvement of economic activity in Europe. Last year only in Central Europe itself (Poland, the Czech Republic, Slovakia, Hungary and Romania) modern industrial, logistics and warehouse space covering in total 690 thousand m² was built⁸. Simultaneously 2013 was a peak year in respect of rented storage space in this part of Europe – the volume of transactions amounted to nearly 4 million square meters⁹. It is predicted that the interest in logistics and warehousing real estate market will remain at the similar level in the next few years. Central and Eastern Europe became a very attractive location for the main logistics premises due to better road infrastructure and it resulted in better communication with Western Europe, the dynamic development of trade, access to skilled and relatively cheap labor and suitable conditions to set up or relocate production plants from Western Europe.

The reports of leading consulting companies indicate that Central and Eastern Europe possesses a significant economic potential and purchase power which makes it increasingly attractive for investors. Therefore it can be assumed that this part of Europe will achieve substantial profits thanks to the development of the logistics branch. A powerful driver of this branch development are – and probably still will be – trading companies, and in particular these ones which operate online being involved in e-commerce¹⁰. The fact that customers do not want to wait too long for goods ordered online causes that competitive advantage in trade more and more depends on availability of products. That is why companies trading online contract out suitable services to logistics firms using thereby specialized logistics centers located near consumers in order to shorten the delivery time and keep it as short as possible. The consequence of a growing demand for logistics services and warehousing is the progressive centralization of operations which is reflected in concentration of logistics activities in larger logistics premises. It results in an increasing demand for large warehouses (XXL)¹¹. The logistics branch is more and more specialized and differentiated – the rules of using warehouses change and lessees more often expect that opportunities to install sophisticated technologies and specialized equipment will be created for them.

From among countries of Central and Eastern Europe development perspectives of the elaborated branch are especially favorable for Poland that is perceived by many global companies as a perfect location for logistics centers. It is estimated that 75% of lessees of warehouse premises in Poland are planning to extend the rented floor space in two years. Moreover, the competitiveness of Polish market makes big international companies more willing to place their major logistics centers precisely in Poland [11].

CONCLUSIONS

In most medium and highly developed countries the importance of the logistics branch has been growing. In the states of Central and Eastern Europe this process is extremely noticeable and explicit. Due to the emergence of logistics and warehousing services a new sphere of operation was established, which generates substantial revenues both for the owners of 'firms H52' and people who

⁸The value of investment accounted for more than €330 mln and allowed to create 3,7 thousand new work places. It is estimated that at the end of 2013 the storage space in five countries of Central Europe covered altogether 17 mln m² (8 mln m² in Poland, 5 mln m² in the Czech Republic, 1 mln m² in Slovakia, 2 mln m² in Hungary and 1 mln m² in Romania).

⁹To compare – in 2012 more than 2,8 mln m² of storage space was rented in Central Europe and one year earlier 3,2 mln m². Ten years ago a yearly volume of rental transactions amounted to 0,5 mln m². The biggest lessee in this part of Europe is the company called DHL which in only three countries that is the Czech Republic, Slovakia and Hungary rents 674 thousand m² of storage space. The cost of renting ranges from 3,5 to 3,7 EUR/m²/month, depending on location attractiveness and empty properties. The rate of uninhabited buildings has remained stable at the level of about 10% for a few years.

¹⁰Companies involved in light production (textile and clothing industry, food industry, etc.) are more and more interested in renting space in logistics parks.

¹¹In 2013 the demand for large warehouses increased significantly. The key advantages of such XXL warehouses is the centralization of activities and goods inspection.

are employed there. Moreover, the customers of these companies take advantage of their operations since they are able to rationalize their activities in the field of logistics, which were previously completed on their own, and simultaneously very often they can lower the real cost [2, p. 306].

Increasing online sale in the Internet undoubtedly fosters the development of the logistics branch. The improvement of logistics systems, which is to shorten the time delivery and increase reliability, focuses on eliminating the main barrier in the Internet trade – consumers' anxiety about the delivery. In the years to come it can be expected that the competition in the discussed branch may be increasing. It is also predicted that the systems of package delivery will continuously develop what will require more concentrated and dense logistics networks and warehouses with high capacity located near major urban centers.

In the field of logistics Poland is becoming a leader of Central and Eastern Europe. On the one hand, Poland has better and better road network and on the other – it is a very big, perspective and absorptive market. The ongoing specialization, thanks to which more companies decide to yield control of logistics processes to specialized firms, leads to growth of rented space in the logistics centers in Poland. Moreover, stability and predictability of conducted business directly translates into bigger interest of investors in Poland as a trustworthy and reliable market.

Abstract

In the article an attempt to present the differences between some regions of Central and Eastern Europe with regard to warehousing and support activities for transportation has been made and furthermore, the perspectives of development in this branch have been depicted. The results of the analysis based on the data provided by Eurostat (NACE code – H, division 52) indicate that warehousing and support activities for transportation are usually best developed in the regions where there are the capital cities of particular countries located, especially the capitals of Estonia, Latvia, Poland, Slovakia and Hungary. Moreover, the described sector is quite well developed in the wealthier regions of Slovakia and Slovenia and in Bulgarian, Polish and Romanian regions with access to the sea. Simultaneously, on the basis of analyses conducted by international consulting companies it can be stated that the development perspectives of the branch in Central and Eastern Europe, and particularly in Poland, are very good.

Magazynowanie i działalność usługowa wspomagająca transport w Europie Środkowo-Wschodniej – dysproporcje regionalne i perspektywy rozwoju

Streszczenie

W artykule podjęto próbę zaprezentowania różnic w zakresie magazynowania i działalności usługowej wspomagającej transport między regionami Europy Środkowo-Wschodniej, a także przedstawiono perspektywy rozwoju branży. Rezultaty analizy, w której oparto się na danych Eurostatu (sekcja H dział 52) wskazują, że magazynowanie i działalność usługowa wspomagająca transport jest z reguły najlepiej rozwinięta w regionach, w których funkcjonują stolice państw, a w szczególności stolice: Estonii, Łotwy, Polski, Słowacji i Węgier. Ponadto, omawiana branża jest dość dobrze rozwinięta w zamożniejszych regionach Słowacji i Słowenii, a także w bułgarskich, polskich i rumuńskich regionach mających dostęp do morza. Jednocześnie na podstawie analiz przeprowadzonych przez międzynarodowe firmy doradcze można stwierdzić, że perspektywy rozwoju branży w Europie Środkowo-Wschodniej, a w szczególności w Polsce, są bardzo dobre.

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