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The role of air transport in handling the Polish foreign trade contra worldwide trends

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Marta Mańkowska***THE ROLE OF AIR TRANSPORT IN HANDLING
THE POLISH FOREIGN TRADE CONTRA
WORLDWIDE TRENDS****Abstract**

Apart from maritime transport, air transport is the main transport branch supporting the international merchandise trade, especially on the long-range distance. Air cargo represents 0,25% to 1% of the weight of all international cargo. At the same time, air freight transport is responsible for approximately 13% to 35% of the total value of global trade and its share is rising.

Compared to the alternative modes of transport, this transport branch has a marginal importance in handling the Polish foreign trade. In terms of weight, air transport is responsible for less than 0,1% of the total volume of the Polish foreign trade in exports and imports (according to the data for 2013). As regards value, its share is increasing to nearly 4%. However, over the past few years there has been a noticeably steady growth in the international air cargo from/to Poland.

This article aims at determining the importance and identifying the development barriers of air transport in handling the Polish foreign trade.

Keywords: air cargo transport, international trade, Polish foreign trade

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Introduction

When it comes to the operation of foreign trade, transport is subject to continuous pressure resulting from the demand for its effectiveness, in particular as regards transport costs, speed, safety, and other factors considered competitiveness-critical.

The literature on the subject (e.g. Neider 2012; Hummels 2007) has shown that, on the average, 23% worth of the world trade eventuates from the trade exchange between countries sharing the land border. This proportion increases to 50% in the case of countries separated from one another by the distance amounting to no less than 3,000 kilometers, whereas for the countries – partners participating in the economic blocks such as e.g. European Union, it can heave to as much as 25–35% (Hummels 2007).

The participation of individual transport modes in servicing the international exchange is diversified and determined by a number of factors. Apart from cost and time, the following factors are considered critical:

- type of freight,
- transport susceptability,
- single shipment quantity and shipper size.

With regard to the long-range, in particular intercontinental or continental, exchange between natural (e.g. water) barrier-separated areas, of significance are maritime and air transports. On the contrary, in servicing small- and medium-distance foreign trade of an integration group partners, land transport, mainly road and rail are preferred. Yet, in countries or regions boasting of high-quality inland waterway infrastructure, inland shipping plays an important role in handling foreign trade (Filina, Kaup 2004: 137–148). Also, land transport in the form of the land-sea and land-air chains, turns out operative on long-haul distances (Kotowska 2014: 15–38). The role of these transport modes is therefore identified primarily with servicing pre- and post-haulage connections.

The prevalence of maritime transport in world trade becomes visible if we consider it in the quantity, cargo flow volume, context constituting approximately 90% of the global trade. The research on the subject demonstrates that, within that context, air cargo represents 0.25% – 1% of all international cargo, while freight transport – 13% to 35% worth of the global trade (Rodrigue 2014; Johnson 2014; Boeing 2014).

Maritime transport is cheap – containership pricing is, on the average, 10 times less expensive per weight unit than air cargo. Yet, this occurs at the expense of longer and less reliable transit times (Boeing 2014). Accordingly, air transport surfaces as the one offering customers the benefits of speed and reliability. It is also characterized by a large spatial range, high punctuality, and transport safety and for this reason, selected for transporting high-value and time-sensitive goods over long distances both in intra- and intercontinental relations. It, however, has its drawbacks, too, when it comes to operating global cargo flows. These drawbacks include: small airplane capacity limiting the amount of carried cargo, shipper-unfriendly spatial distribution of transport network visible in the necessity to use complementary transport modes in the arrival-departure relationship, and high freight rates (Szczeplaniak 2002: 135).

This article aims at demonstrating the sector of air freight traffic in Poland, while determining the significance of identifying barriers to the development of air transport in handling the Polish foreign trade. This analysis has been carried out following the data both of the Central Statistical Office of Poland (CSO) and the Customs Chamber in Warsaw (as in the Statistical Yearbooks of the Maritime Institute in Gdańsk) showing the volume and structure of cargo flows operated by this transport branch. The back-up for this study is a short characteristics of global air freight market including the main trends of its development as in Boeing market data. The time span of this analysis coincides with that set by the availability of the data in question.

1. Air transport in operating cargo flows

World air cargo comprises three main service sectors: scheduled freight, charter freight, and mail. In the scheduled traffic accounting for 88% of world air cargo traffic (Boeing 2014), the goods such as general and express freight are transported in the lower hold of passenger airplanes (in the unit load device – ULD – on containers or on pallets), from multiple senders to multiple recipients. The charter air freight (nonscheduled freight) translates into transporting special or urgent goods that require special handling or supervision from a consignor to a consignee using the specialized cargo airplane. This particular air cargo segment is responsible for about 8% of the entire world air cargo traffic (Boeing 2014).

Generally, the air freight traffic structure is dominated by the goods requiring both quick delivery (at the expense of higher prices) and high frequency such as: mail and other express deliveries, easily perishable goods (PER), temperature-sensitive goods (e.g. medication, flowers, food, fruit and vegetables), high value items (VAL) e.g. jewelry or banknotes (with the declared carriage value of US \$1,000 or more per gross kilogram), dangerous goods (DG) e.g. chemicals, live animals (AVI), for example, aquarium fish, exotic birds, and animals intended for zoos as well as those high-value goods whose transport cost share inherent in their price is not very significant (eg. electronics, specialized scientific equipment, and other hi-tech goods).

The supply level of the international air freight market is highly centred and represented by the airlines affiliated via strategic alliances (SkyTeam, Star Alliance, One World). In the total number of more than 1,000 air carriers operating in the world of (grouped in ICAO), less than 9% are air carriers engaged solely in the carriage of cargo. This results from the fact of a significant part of the air freight traffic being supported by passenger airliners and transported in the luggage compartments of passenger airplanes (approx. 60%), while the international air cargo carried on freighters accounting for approximately 40% share of the market (Johnsson 2014). Consequently, the airport freight handling volume is closely linked to their available amount of long-distance passenger international routes. Therefore, the strong position in air cargo market falls to these airports which offer the rich and extensive long-distance call grid (PWC 2006: 8).

With reference to the group of entities specializing in scheduled air cargo traffic, the air freight integrators such as DHL, FedEx, TNT, and UPS demonstrate as the most important. Each of these integrators has a hub-and-spoke organization of their network with hubs clustered around the world's three major zones of economic activity: North America, Europe and Pacific Asia. The choice of the main consolidation hub is based upon an airport that is well located and has good infrastructure yet does not necessarily service a very large local passenger market (Rodrigue 2014).

Usually, passenger airplanes transport small consignments weighing from a few to up to several hundred kilograms. Contrary to that, larger and heavier shipments are carried on the specialized cargo airplanes (i.e. cargo aircrafts also known as freighters, freight aircrafts, airlifters or cargo jets), mostly with the capacity of 20 to 80 tons. The freighters are operating primarily on busy cargo routes linking Chinese manufacturers with U.S. American and European con-

sumers. In this day and age, however, the fleet of freighters is slowly but surely being supplanted by large passenger airplanes. On the other hand, special heavy load transport airplanes that carry elements of production lines or heavy means of transport weighting up to 250 tons of cargo (Antonov 225) are still in operation. Yet, it should also be emphasized that, in comparison to 2012, and despite the dominant position of regular traffic in the global cargo transport, in 2013 the scheduled freight has grown by 0.5%, while the charter – by 2.9% (Boeing 2014).

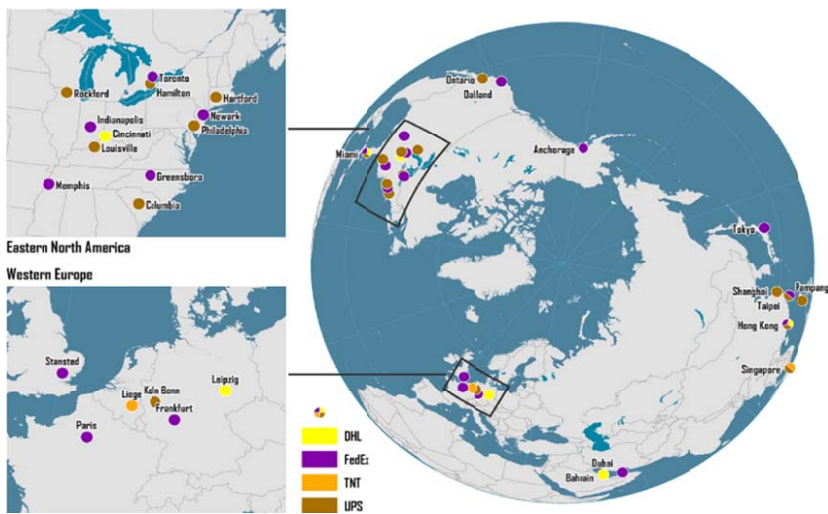


Figure 1. Hubs of the major air freight integrators

Source: Rodrigue 2014.

At present, long-haul routes between Europe and North America as well as between Asia (especially China) and both Europe and North America (routes longer than 4,500 kilometers) turn out to be of high significance in the international air trade. These east-west connections are responsible for nearly 80% of world long-haul air cargo traffic flows. Most of the cargo carried on these routes is transported on large wide-body freighters. The airlines based in Asia, Europe, North America, and the Middle East account for 91% of air cargo traffic in the entire world (Boeing 2014).



Figure 2. Total air cargo traffic carried by freighters in 2014

Source: Boeing 2014.

No wonder, then, that so structured world air transport triggers strong competition on the part both of maritime traffic, and, in recent years, also rail traffic. One example of such a competition is the development of regular rail container traffic on the Europe-Asia routes (across the northern Russia, along the Trans-Siberian route, and also across Kazakhstan). According to the estimates by DB Schenker of March 2015 on the “last mile” transportation, China-obtained goods reach customers in Europe by rail – within 23–25 days, by ship – within 50–55 days, while by aircraft – within 10 days. For many a shipper, the shorter time of air transportation is offset by too much difference in transport costs as compared to the rail traffic. In the standard forty-foot container (FEU) transporting cargo weighing up to 9600 kg, the cost of rail transport is c.a. 8,000 USD/FEU, the cost of maritime transport – 3,000 USD/FEU, while the cost of air transport nears the price of 3.85 USD per kilo – is nearly 37 thousand USD/FEU (wnp.pl 2015).

We might conclude at this point that, due to the global financial crisis, air freight has become too expensive for many shippers. However, after several years of stagnation (especially in the years 2008–2013), the air cargo business is its growth phase again. According to the IATA information, and when measured in freight tonne kilometers (FTKs), the 2014 demand for air cargo has shown the growth by 4.5% as compared to the year 2013. This is a significant acceleration from the 1.4% recorded in the year 2013 (as compared to 2012). The growth has been recorded in all regions, but the vast majority of it, in 2014, occurred in the Asia-Pacific and Middle East regions having respectively contributed 46% and 29% of the expansion in FTKs, whereas the Latin America (IATA 2015) saw the weakest growth then. The 2103 air freight accounted for about 60 billion USD in

sales, that is, roughly one-tenth of the global passenger airline revenue (Johnsson 2014).

Europe (EU) is one of the most important air freight markets in the world accounting for up to 20% of the total air cargo worldwide in terms of FTKs and up to 30% measured in tonnes of goods. About 72.6% of the total air cargo volume is traded between EU member states and countries outside the EU, 23.6% between EU member countries, and only about 3.7% – on national routes. The economic crisis, however, has resulted in a significant reduction of air cargo volume in recent years. This negative impact of the economic crisis is noticeable on the European Union market because, as a mature market, it has a great number of consumers for high value products which tend to use air freight (Babić, Kuljanin, Kalić 2015; Boeing 2014). Nevertheless, the moderate upward trend in the global cargo market, recorded since the late 2013, has also become visible in the European market.

According to the Boeing data, the world air cargo traffic will grow, on average, by 4.7% per year over the next 20 years to eventually reach a total of more than twice the number of revenue tonne-kilometers generated in 2013 (RTKs). The air freight will average 4.8% of the annual growth, while the airmail will proceed slowly and incrementally (1.0% of the annual growth until 2033). All in all, the world air cargo traffic will increase from 207.8 billion RTKs in 2013 to 521.8 billion in 2033. The number of airplanes in the freighter fleet will increase by more than half by the end of the period in question. The Asia–North America and Europe–Asia markets will grow slightly faster than the world average growth rate, by about 5.3% per year (Boeing 2014).

These trends will directly influence the position of Poland's air transport in the Polish foreign trade.

2. Air transport in handling the Polish foreign trade

Analysis of the volume and structure of air transport in the service of the Polish foreign trade

When it comes to handling the Polish foreign trade (PFT), and in comparison to the alternative modes of transport, air traffic is of marginal importance. According to the data of the Polish CSO ("Transport-Activity Results"), the posi-

tion of Poland's air transport as regards handling the Polish foreign trade does not exceed 1% of the total cargo transported in international traffic (by weight).

It needs to be emphasized, however, that CSO data is not fully representative. With regard to air, as well as other modes of, transport, CSO records the freight volume carried in the international system by Polish carriers only (so mainly by PLL LOT) at disposal. The basic information on the volume of air freight from/to Poland in the international communication is presented in Table 1 and Figure 3 below:

Table 1. Basic information about air freight transport to/from Poland in the years 2004–2013

| Years | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|--------|---------|---------|--------|---------|--------|---------|---------|---------|---------|
| Air freight transport in tonnes (thousand) | 24 355 | 28 115 | 29 974 | 35 641 | 36 330 | 28 182 | 33 553 | 37 813 | 33 683 | 30 227 |
| Air freight transport in tonne-kilometres | 91 470 | 104 580 | 107 274 | 95 383 | 102 976 | 83 394 | 111 544 | 126 114 | 120 626 | 116 668 |
| Average distance travelled by 1 tonne of goods, kilometres | 3756 | 3720 | 3579 | 2676 | 2834 | 2959 | 3324 | 3 335 | 3 581 | 3 860 |

Source: own work based on CSO 2004–2013.

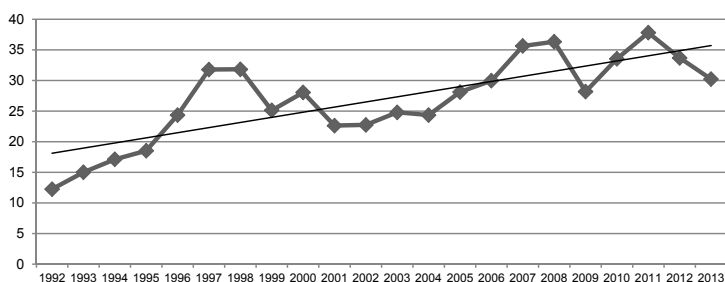


Figure 3. Transportation of freight by air in the international traffic to/from Poland in the years 1992–2013 (thous. tonnes)

Source: own work based on CSO 1992–2013.

Over the past few years a steady increase in air cargo traffic has been recorded, this being despite the periodic declines associated with the crisis occurrences

of the years 2001 and 2008/2009. According to the CSO data, in the 1990 international traffic, Polish air carriers transported approximately 13 thousand tonnes of cargo, while in year 2013 this number rose to amount to as much as 30 thousand tonnes of cargo.

However, according to the data compiled by the Maritime Office in Gdańsk and based on the Customs Chamber in Warsaw statistics (accumulated from the Intrastat declaration), the volume of the international air cargo to/from Poland has exceeded by 3 times the previous CSO estimates. This data also illustrates the value of transport, which clearly increased in the period 2010–2013:

Table 2. Weight and value of the air transport in operating the Polish foreign trade

| Total (export, import) | 2010 | 2011 | 2012 | 2013 |
|------------------------|---------|----------|---------|----------|
| weight in thous. t. | 344,58 | 259,79 | 147,96 | 121,08 |
| value in m USD | 9723,62 | 10207,13 | 11190,8 | 11294,27 |

Source: own work based on: “Maritime Economy Statistics Review” 2010–14.

Based on the data of the Customs Chamber in Warsaw, we can also specify the actual participation of individual transport modes in handling the PFT. In terms of weight, maritime transport has the biggest PFT share (see also: Pluciński 2012: 118–127). Air transport is responsible for less than 0.1% of the total PFT volume, both in exports and imports (according to data for 2013). However, in terms of value, air transport has been on the increase by nearly 4%.

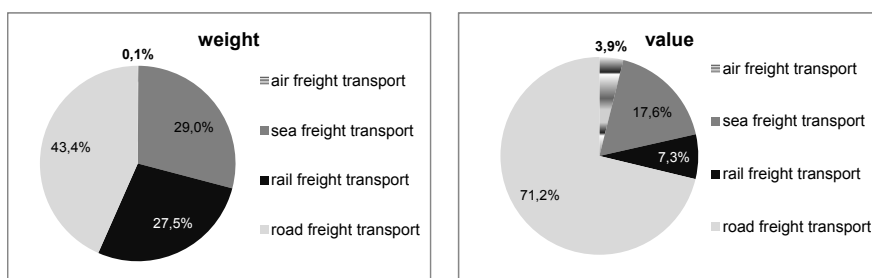


Figure 4. Share of air transport in handling the Polish foreign trade by weight and by value (in m USD)

Source: own work based on “Maritime Economy Statistics Review” 2010–14.

According to the CSO data, the vast majority of PFT air freight is transported via the scheduled traffic. In the years of 2012 and 2013, the latter traffic accounted, respectively, for 87% and 93% of all air freight in the international traffic operated by Polish carriers. In the foreign relations structure of this traffic as performed by the entities registered in Poland (by cargo handling in airports) import relationships prevail, and in absolute numbers at that. However, taking into account the dynamics of shipments in both direction, one can easily see the growing importance of export relationships.

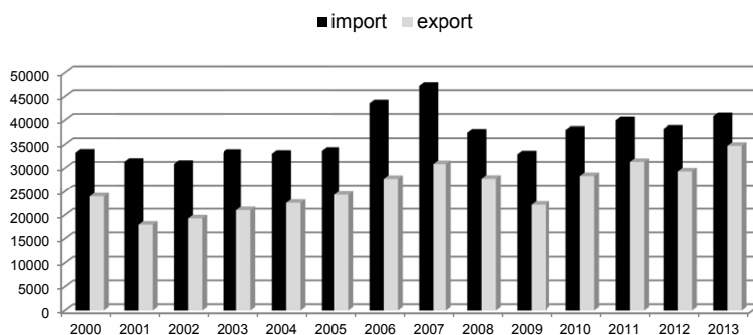


Figure 5. Transshipment of cargo at Polish airports in the international traffic in the years 1995–2010 (in thous. tonnes) according to the directions of traffic

Source: own work based on CSO 2000–2013.

In the period of 2000–2013, the amount of air cargo handled in import relations increased by 23%, while in export relations – by 45%. In the whole period of 2000–2013, the average annual imported air cargo growth rate amounted to 2%, while the air cargo exported from Polish airports – to 4%. Thus, despite the still dominant position air cargo holds with respect to import handling (by weight), the volume of export air cargo has been increasing faster in recent years. This trend has also been confirmed by the data of the Customs Chamber in Warsaw (also in value of cargo).

While comparing the data by GUS and the Custom Chamber in Warsaw on the total volume of cargo transportation by air in PFT in the period of 2010–2013, one can assume that approximately 20% of imports and 40% of exports were carried out by Polish air carriers. The remaining transport was performed by foreign air carriers.

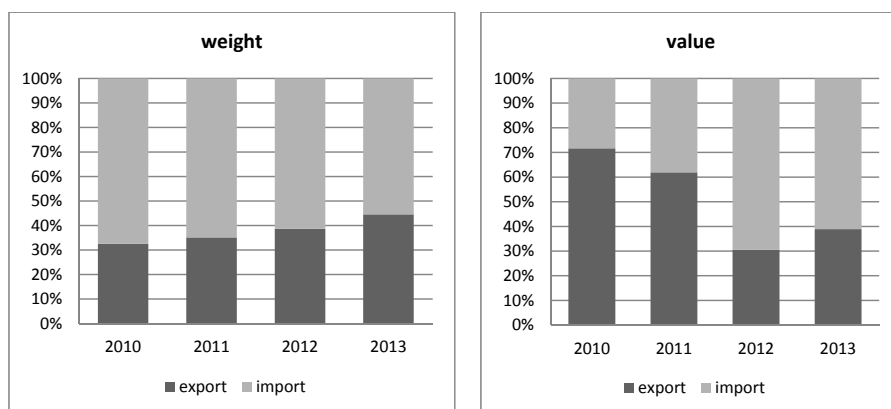


Figure 6. Structure of air cargo in handling the Polish foreign trade in the years 2010–2013 in % by mass and value, according to the directions of traffic

Source: own work based on “Maritime Economy Statistics Review” 2010–14.

Table 3. Comparison of the weight of air cargo in Polish foreign trade according to the CSO data and Custom Chamber

| Source of data (thous. t) | 2010 | | 2011 | | 2012 | | 2013 | |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | export | import | export | import | export | import | export | import |
| CSO | 28 | 38 | 31 | 40 | 29 | 38 | 35 | 41 |
| CA | 247 | 98 | 161 | 99 | 45 | 103 | 47 | 74 |

Source: own work based on “Maritime Economy Statistics Review” 2010–14 and CSO 2010–2013.

Within the commodity structure of Polish air trade, the largest space, understood both in terms of value and weight, is occupied by the electrical and electronic equipment (about 60%) classified in the CN nomenclature as “machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of dry articles”. Another important type of goods transported by air to/from Poland are the “optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof” whose in the said structure amounts to about 12%. Another big groups of air goods are products of the “chemical or allied industries”, mainly pharmaceutical products (7%).

Table 4. Top 10 goods in the Polish foreign trade transported by air (CN Nomenclature) in 2013 by value (in m USD) and mass, with detailed exports and imports

| Specification | Section CN | Import | Export |
|--|---------------|---------|---------|
| By value | | | |
| Machinery and mechanical appliances | Section XVI | 3893,88 | 2759,78 |
| Optical, photographic, cinematographic instruments | Section XVIII | 718,31 | 441,71 |
| Products of the chemical or allied industries | Section VI | 498,07 | 336,53 |
| Base metals and articles thereof | Section XV | 289,40 | 133,21 |
| Transport equipment | Section XVII | 195,28 | 782,55 |
| Pearls, precious or semi-precious stones, articles thereof | Section XIV | 137,34 | 210,55 |
| Miscellaneous manufactured articles | Section XXI | 81,43 | 34,81 |
| Plastics and articles thereof | Section VII | 121,75 | 52,82 |
| Textiles and textile articles | Section XI | 105,12 | 42,86 |
| Prepared foodstuffs | Section IV | 12,73 | 47,24 |
| By weight | | | |
| Machinery and mechanical appliances | Section XVI | 32,97 | 15,64 |
| Base metals and articles of base metal | Section XV | 9,90 | 4,85 |
| Plastics and articles thereof | Section VII | 8,01 | 2,32 |
| Optical, photographic, cinematographic instruments | Section XVIII | 3,73 | 1,43 |
| Textiles and textile articles | Section XI | 5,07 | 0,69 |
| Products of the chemical or allied industries | Section VI | 2,86 | 2,19 |
| Prepared foodstuffs | Section IV | 1,47 | 4,98 |
| Miscellaneous manufactured articles | Section XXI | 1,74 | 1,14 |
| Transport equipment | Section XVII | 1,77 | 2,15 |
| Articles of stone, plaster, cement, asbestos | Section XIII | 1,73 | 1,81 |

Source: own work based on "Maritime Economy Statistics Review" 2010–14.

The growing importance of air transport in the Polish foreign trade has also been reflected in the growth in cargo handling within the major Polish airports such as Warsaw and Katowice, and followed by Gdańsk, Wrocław and Łódź.

In 2014 Polish airports transhipped the total of 129.9 thousand tonnes of cargo (16% more than in 2013), of which number 85% constituted the transshipment of goods "on board" (directly to and from the airport aboard an airplane), 28% – the RFS (Road Feeder Service), and 15% – the mail (Wyszyński 2014). In the geographical structure of air cargo traffic from/to Polish airports, the arrival-departure relationship to/from the main hubs in Europe (Frankfurt, Amsterdam, London, Paris, Hamburg, Munich and Copenhagen, Cologne and Leipzig) and transcontinental direct flights (to Chicago and New York, Shanghai and Chengdu, Dubai) prevails.

Approximately 57% of the air cargo handled in the Polish airports in 2014 (74.2 thousand tonnes of freight) was transported directly by air (“on board”), of which number 72% – via the Warsaw airport. The Warszawa-Okęcie airport transshipment is import-oriented. The largest air cargo carriers operated from/to the Warszawa-Okęcie airport include LOT Polish Airlines, European Air Transport, Emirates Airlines, UPS, TNT Airways. The second most important “air cargo hub” in Poland is the Katowice-Pyrzowice airport having generated 19% of the total “on board” cargo in 2014. The third place in that respect falls to the Gdańsk-Rebiechowo airport whose 2014 share amounted to 7% (Wyszyński 2014).

The “on board” segment has been subject to the systematic upward trend. According to the data of the Civil Aviation Authority of the Republic of Poland (CAA), in the period of 2013/2014, the growth rate of “on board” cargo handling in all Polish airports reached 17.4%. The largest increases were recorded by the following airports: Rzeszów-Jasionka 331.1%, Katowice-Pyrzowice (65.1%), Wrocław-Starachowice (24.6%) and Warszawa-Okęcie (10.9%).

As regards RFS, the second segment of the Polish air cargo international transport, customs clearance is carried out within the Polish airport, and then shipment is transported by road to the main European hubs, mainly in West Europe, only to be subsequently loaded onto the airplane. As the 2014 RFS transported 36.7 thousand tonnes of air cargo, an increase has been noted by 35% in comparison to 2013. The largest RFS share belongs to the Warszawa-Okęcie airport (50%), followed by Łódź (15.5%) and Wrocław (14.5%). Other important regional airports with respect to the RFS are Poznań, Kraków and Katowice, collectively responsible for about 6% of the total RFS air cargo (Wyszyński 2014).

The immense increase in cargo handling at the airport in Rzeszów-Jasionka is particularly remarkable. It is an effect of this airport launching, via the Lufthansa Cargo, regular air cargo connections in 2011. Shipments weighing up to 100 kg have been transported “on board” from Rzeszów to Frankfurt. Heavier consignments are transported by road to the hub airports in Vienna and Frankfurt. The demand for air cargo transport at the airport in Rzeszów-Jasionka has also been generated via the company from the “Aviation Valley”. One example is an American company named Sikorsky regularly sending Blackhawk helicopters by air to Saudi Arabia and Mexico

3. Identification of the factors limiting the development of air cargo in Poland

Although significantly changed (in the direction of a growing share of highly processed goods at the expense of unprocessed bulk goods) in recent years, the Polish foreign trade commodity structure still remains defined by a relatively big share of the commodity groups less susceptible to transport by air such as products of agriculture, forestry, hunting and fishing, mining and quarrying, transport equipment (eg. cars), furniture and heavy machinery. In addition, the geographical structure of Polish foreign trade is dominated by trade relations with EU countries (nearly 90%), in particular with Germany, and road transport (CSO 2014).

The European air cargo market is centered in large western European hub airports. The main international airports in Frankfurt, Amsterdam, London or Paris serve as the main cargo-handling ports connecting Europe and Asia as well as Europe and America (especially the North America). These airports boast of the well-developed infrastructure and free access to road and rail transport.

The Polish air transport market is also dominated by passenger transport, especially low cost. Beyond the few traditional airlines like Lufthansa or LOT Polish Airlines, low cost airlines (LCCs) operating locally providing local coverage generate air traffic the most. According to the adopted business model, LCCs primarily pursue short-range connections and do not support air cargo. As a consequence, the airplane serving international traffic from/to Polish airports are predominantly relatively small and medium-sized passenger airplanes (Oliver Wyman, PwC *et al.* 2010: 39) operating on short and medium routes across Europe, while the majority (approx. 90%) of European air cargo occurs within intercontinental routes (PwC 2006: 8). The availability of wide-body passenger airplanes and specialized freighters in Poland is very limited.

As a result, the Polish air transport market is still characterized by an insufficient number of long-haul air connections (especially intercontinental) and a marginal share of the scheduled all-cargo. The limited choice of connections (in terms of slots and available destinations) discourages large air carriers from organizing their Poland-located activities.

The low participation of air cargo in the Polish foreign trade results from the limited range of Polish airport-designed investment activities. In many a Polish airport, there are few runways with the reinforced surface; a fact limiting the

regular handling of heavy cargo airplane. Only several airports in Poland are able to handle large amounts of cargo and have sufficient infrastructure with appropriate facilities and equipment for storage and processing of goods. In comparison to the world airports with the highest results of handled cargo, the average load capacity of the runway surface within Polish airports does not exceed 52% of the world load capacity (Jawiczuk, Korzeniowski 2010).

Polish airports are also considered relatively expensive as for the European context. The lack of real competition among handling companies operating within Polish airports eventuates in the limited number of operators dictating high service prices, often incompatible with this service's quality. Also, the high cost of renting warehouse space and office is a problem. According to Grzędziński (2010), the cost of renting offices within the Warsaw airport is approximately 3.5 times bigger than in Vienna, and about 3 times bigger than in Prague or Budapest. A significant portion of the cost remains undisclosed, too.

A significant barrier to the development of air cargo in Poland are also formal and legal issues, in particular the bureaucratized and long-term customs procedures. In effect, air transport does not fulfill its basic postulate of being speed- and transportation reliable. The above discussed barriers to the development of air cargo in Poland result in forwarders bypassing the Polish airports and use the neighboring, competitively priced European air hubs in Budapest, Prague or Leipzig from where the shipments are transported by road to customers in Poland.

Summary

Next to maritime transport, air transport has the greatest significance as regards operating the global trading flows, in particular the handling both of high-quality and time-sensitive goods. In Poland the low share of air transport in handling the Polish foreign trade is not only related to the structure of this trade but also has to do with a number of factors (technical, economic or legal) limiting the development of this transport branch. In recent years, however, a growing demand for air cargo transport from/to Poland has been observed. The need for such transport has been voiced by, mainly, new electronics factories, pharmaceuticals, the automotive- and other high-tech industry. In the geographical trade structure the share of non-European countries, in particular China, has been on

the rise. Also, in the Polish air transport market both the new foreign air “all cargo” carriers and large companies belonging to the global logistics network and providing comprehensive services such as DHL, TNT, UPS are developing their activities.

Positive trends have also been visible lately in activities of the Polish air carriers and airports whose investments are increasingly focused on the expansion of their air route networks, airplanes fleets, and air cargo service infrastructure and suprastructure (Katowice, Warszawa, Poznań, Wrocław, Rzeszów). These activities will support the growing interest on the part of carrier- and freight forwarders in building the Polish airport-based network of regular freight connections.

All in all, after the years of crisis air cargo traffic has eventually been on the increase gain. Considering Poland’s economic and technological heave and the consequent improvement of Poles’ consumer powers, also as regards imported products of high value, and in conjunction with appropriate infrastructure of the Polish airports and their service offerings, one can expect a systematic future increase in Poland’s handling foreign trade via air transport as well.

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TRANSPORT LOTNICZY W OBSŁUDZE ŁADUNKÓW POLSKIEGO HANDLU ZAGRANICZNEGO NA TLE TENDENCJI ŚWIATOWYCH

Streszczenie

Transport lotniczy, obok transportu morskiego, jest podstawową gałęzią transportu obsługującą wymianę handlową w ujęciu globalnym. W odniesieniu do masy transportowych ładunków, udział transport lotniczego w obsłudze międzynarodowych

potoków handlowych kształtuje się na niskim poziomie 0,25%–1%, natomiast w ujęciu wartościowym jego udział wzrasta do poziomu 13%–35%.

W polskim handlu zagranicznym transport lotniczy ma marginalne znaczenie w stosunku do alternatywnych gałęzi transportu i odpowiada za mniej niż 0,1% przewozów wykonywanych w relacjach międzynarodowych (w ujęciu masowym). W odniesieniu zaś do wartości transportowych dóbr, udział tej gałęzi transportu wzrasta do poziomu ok. 4%. W ostatnich latach zauważyć można także rosnący popyt na międzynarodowe przewozy lotnicze cargo z/do Polski.

Celem artykułu jest ocena znaczenia i identyfikacja barier rozwoju transportu lotniczego w obsłudze polskiego handlu zagranicznego.

Słowa kluczowe: transport lotniczy ładunków, handel międzynarodowy, polski handel zagraniczny