Container Port Selection by Freight Forwarders in Central and Eastern Europe Hinterland: the Case of the Czech Republic

Odabir luka za ukrcaj i iskrcaj kontejnera prema prijevoznicima u unutrašnjosti Srednje i Istočne Europe: primjer Republike Češke

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Summary

Containerization and port regionalization strategies have impacted the level of port competition in contestable hinterlands. However, the nature of this competition usually involves a single maritime range and well-defined transport corridors. The European context has underlined a complex dual range competition dynamic particularly involving the Northern Range and the Mediterranean. How these dynamics pan out in Central and Eastern Europe has received much less attention but will impact the growth prospects of ports on both ranges. This research study evaluates the importance of port selection factors by freight forwarders in the landlocked Czech Republic. It is based on a survey of key actors, particularly how specific carriers and ports are selected and which transport chains are used. The importance and stability of the factors are analysed within the framework of four constraint layers – the location layer; the infrastructure layer; the transport layer and the logistics layer. The key factors supporting the dominance of the port of Hamburg with the Czech Republic are discussed in addition with the potential of the North Adriatic Port Range to service this contestable hinterland. Hamburg is characterized with lower inland haulage costs, total shipment costs and the highest inland rail frequency compared to competing ports such as Bremerhaven or Koper. These factors are perceived as the key determinants by freight forwarders. Therefore, evidence underlines that the share of Hamburg is likely to remain unchanged in coming years and that Northern Range ports are dominant to service most of the Central and Eastern European hinterland. The paper supplements the literature with the analysis of primary data from business practitioners regarding port selection strategies by international trade intermediaries and fills the research gap for the region of Central and Eastern Europe.

Sažetak

Strategije kontejnerizacije i regionalizacije luka utjecale su na razinu natjecanja između luka u unutrašnjosti. Međutim, priroda ovoga natjecanja obično uključuje jedno pomorsko područje i točno određene koridore prijevoza. U europskom kontekstu ističe se kompleksno natjecanje na dvama područjima: konkretno, u Sjevernoj Europi i na Mediteranu. Puno manje pozornosti posvećuje se pitanju kako ova dinamika izgleda u Srednjoj i Istočnoj Europi, ali će ona utjecati na mogućnosti razvoja luka u obama područjima. U ovome istraživanju procjenjuje se značenje čimbenika prema kojima prijevoznici biraju luke u unutrašnjosti Republike Češke. Rad se temelji na istraživanju ključnih čimbenika, posebice načina biranja određenih prijevoznika i luka te prijevoznih lanaca koji se koriste. Važnost i stabilnost čimbenika analizira se na četirima utvrđenim razinama – lokacijskoj, infrastrukturnoj, prijevoznoj i logističkoj. Analiziraju se ključni faktori koji potvrđuju dominantan položaj luke Hamburg u Republici Češkoj, kao i potencijal luka u Sjevernom Jadranu za opsluživanje spomenute unutrašnjosti. Hamburg ima manje troškove kopnenog prijevoza, manje ukupne troškove prijevoza i najfrekventnije željezničke veze u usporedbi sa suparničkim lukama Bremerhavenom ili Koprom. Prijevoznici ove čimbenike smatraju ključnim odrednicama. Stoga dokazi upućuju da se udio luke Hamburg vjerojatno neće mijenjati sljedećih godina, a da su luke u sjevernome području dominantne u opsluživanju velikog dijela unutrašnjosti Srednje i Istočne Europe. Rad dopunjuje stručnu literaturu dajući analizu primarnih podataka iz poslovne prakse u vezi sa strategijama odabira luka kojima se koriste međunarodni trgovinski posrednici, a ujedno je i doprinos malobrojnim istraživanjima na području Srednje i Istočne Europe.

1. INTRODUCTION / *Uvod*

Port selection research neglects the importance of landlocked hinterland markets such as Central and Eastern Europe (CEE). Moreover, most port selection research deals with specific cargo sectors or the strategy of carriers. There is a need to further substantiate port selection with empirical evidence from the hinterland, since it represents the origin or destination of cargo. The role of the CEE as a hinterland and a port selection factor remains to be further investigated, particularly through the role of key container shipping market intermediaries, such as local freight forwarders. While substantiating port selection factors by a geographical scope, the research is focused on regional and local aspects of the port selection in CEE with a focus on the Czech Republic.

Regarding the paper organization, Section 2 focuses on a literature review of the major port selection factors, interpreted from the perspective of freight forwarders in the Czech Republic. Section 3 provides the research methodology and the survey design. Section 4 looks at the findings. Section 5 summarizes the results and implications for port management, carriers and multimodal transport operators (MTOs).

2. LITERATURE REVIEW AND CZECH REPUBLIC HINTERLAND OVERVIEW / *Pregled literature i unutrašnjosti Republike Češke*

Port users such as ocean carriers, MTOs, freight forwarders and third-party logistics providers (3PLs) are the key actors behind the potential for a port to expand its traffic [1]. Research conducted on port selection focus mostly on the ocean carriers, MTOs or beneficial cargo owners [2]. Besides, these studies mostly analyse a context where there is a directly accessible maritime range for a market or hinterland [3]. In the case of landlocked hinterlands, freight forwarders and beneficial cargo owners face a different context with additional constraints such as the lack of economies of scale due to smaller volumes, the involvement of a higher number of actors along the transport chain, distant consumption and production centres, and lower competition levels for transport providers [4]. In the landlocked hinterland, cargo beneficiaries such as trading companies or manufacturers (suppliers) rarely

deal directly with the ocean carriers acting as MTOs. Moreover, different decision makers (cargo beneficiaries, freight forwarders and carriers) have different driving forces for port selection [5]. Freight forwarders as the key intermediaries between the cargo beneficiaries and ocean carriers offer door-to-door services while opting for suitable cargo solutions for their services within a port regionalization involving different port clusters [6]. Most freight forwarders select the ocean carriers or the MTO first and then select the port from those called by the ocean carriers afterwards [7]. Empirical evidence on ocean carrier and port selection by freight forwarders is limited [8], [9]. Besides, no geographically scoped research studies include landlocked CEE hinterlands since most have focused on landlocked hinterlands outside Europe [10].

It is argued that freight forwarders are generally the main actors shaping port selection in the landlocked hinterland while in coastal regions it is more the role of ocean carriers or MTOs [11]. Therefore, freight forwarders were selected as the party of interest while elaborating the port selection process in the landlocked Czech Republic. Freight forwarders seek a cost-effective and reliable routing for their customers. The assessment of port selection factors from the perspective of freight forwarders in the Czech Republic is useful in providing empirical evidence and insight on hinterland service strategies by MTOs and rail operators that seek to develop efficient, reliable and high capacity corridors towards maritime gateways [12]. Such a development creates strong interdependency (port regionalization) between seaport terminals and (inland) logistics platforms located in a port hinterland. Moreover, the value of research outcome is to assess the stability and importance of the surveyed port selection factors by the freight forwarders in the landlocked hinterland. Each of the port selection factors can be considered within each of the four layers, each having a different level of temporal stability [13]:

- Fixed location of the ports and their hinterland - the location and the accumulation of economic activities in a landlocked country is highly stable in time;
- Changes and development of intermodal infrastructure, rail

corridors and road networks are more stable compared to;
- Changes in relations between the market players such as carriers and freight forwarders;
- Managerial decisions by freight forwarders (provider and cargo routing selection) are relatively less stable and at the same time more agile compared to the stability of relations between the carriers and freight forwarders.

These layers have different adaptability levels facing market developments such as changes in cargo routing made by freight forwarders while communicating such changes with the services providers (ocean carriers and MTOs). A systematic perspective of the components and their evolving interactions is lacking for the CEE and partially investigated for non-European landlocked hinterlands [14]. The containerized trade of the Czech Republic is on regular basis handled by a limited set of gateway ports; Hamburg, Bremerhaven, Koper and Rotterdam. The ports of Hamburg, Bremerhaven, Rotterdam and Koper are part of two clusters; the North Sea Range and the North Adriatic/Mediterranean. For the illustration of market shares (by Twenty-Foot Equivalent Unit, TEU %) by ports, see Figure 1.

Most port authorities, freight forwarding associations and MTOs provide statistics for the Czech Republic and Slovakia as one market; national statistics are rarely available. Therefore, quantitative data such as port shares (dependent variable) applied in the research study are valid for the Czech Republic and Slovakia.

In terms of containerized cargo, the key origin region for the Czech Republic and Slovakia is the Far East (85 %) with the dominance of China. Regional shares for exports are relatively balanced with 36 % of TEU flows concerning Asian countries and about 25 % North America [15].

The differences between the regional share of imports and exports by individual ports imply different inland transport alternatives and routing by the ocean carriers with different port calls. Due to distances and regulations the only feasible trucking option as an alternative to rail is through Bremerhaven, Koper, and Hamburg, the latter being the best positioned.
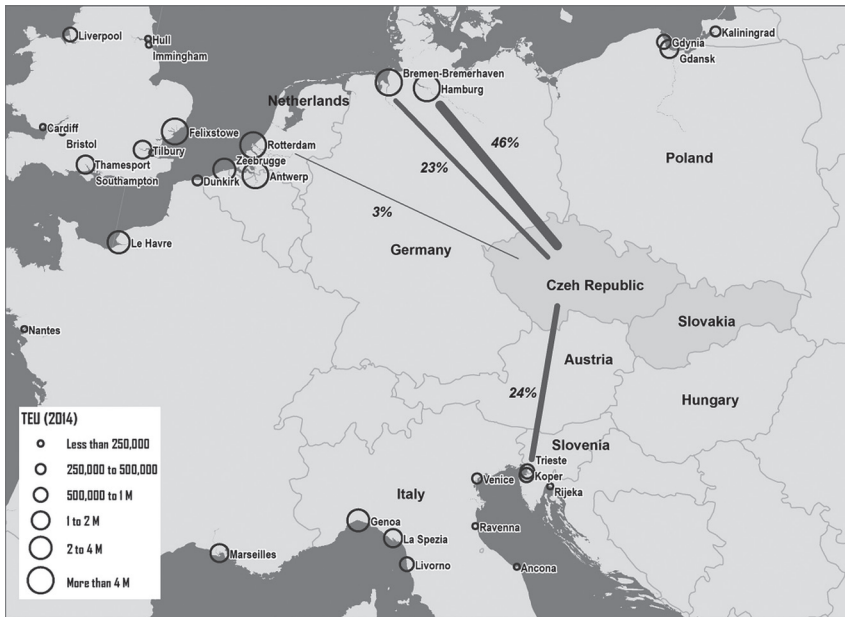
Source: Authors, data based [15], [16], [17], and [18]
Figure 1 Port shares for overseas containerized cargo for the Czech Republic (CR) and Slovakia (SVK)
Slika 1. Udio luka u prekomorskom prijevozu tereta u kontejnerima u Republici Češkoj i Slovačkoj

3. PORT SELECTION FACTORS BY FRIEGHT FORWARDERS IN THE CZECH REPUBLIC / *Čimbenici prema kojima prijevoznici u Republici Češkoj biraju luke*

Global transport and distribution networks are embedded in macro and microeconomic changes. Suppliers, manufacturers, distributors, such as freight forwarders or retailers affect the transport chain and its added value. The focus is on costs, reliability and level of provided service, which are key factors for the door-to-door intermodal services providers [13]. Besides, most transport choice studies by shippers are focusing on modal choice or the carrier selection without addressing the question of choice between competing ports for their contestable hinterland by freight forwarders [19]. However, port selection is one of the key decisions taken by freight forwarders while assessing quality, time and costs of service provided to their customers [20].

Several driving forces and market developments must be considered while assessing port choice factors by freight forwarders in the Czech Republic:

- The recent involvement of COSCO in Piraeus, which is increasing its connectivity with Asia;
- More port calls by ocean carriers concerning Hamburg, Bremerhaven

and Rotterdam affecting door-to-door service schedules;
- Ongoing changes in market shares (and power) by the ocean carriers and MTOs in the market supported by mergers and acquisitions in the rail operators market;
- Trans-Asian railway opportunities for selected freight forwarders (DB Schenker, DHL) and shippers (Hewlett Packard, Samsung, etc.).

Since the above driving forces are recent and yet to be fully supported by empirical evidence, they have not yet played a significant role as port selection factors. However, it is expected that they will shape future port section decisions.

3.1. Methodology / *Metodologija*

The literature on port selection deals with different choice models along with differences in behaviour between carriers and shippers. The role of freight forwarders tends to be neglected in port selection factors within the choice models [21]. To assess their role, a sample of freight forwarders present in the Czech Republic market was surveyed. The port choice factors were divided into two groups, quantitative and qualitative, using recent classification methodologies [22]. Among the factors not considered by the survey are accessibility to post-Panamax ships, port service charges

(pilotage, towage) and port services and infrastructure development evaluation. The main reason is that these factors are considered by maritime shipping companies, but with limited impact on decision making by freight forwarders in inland locations [11]. Besides, the key business activities by the contacted managers include mostly the Far East-Asia – Europe trade lane with limited impact of post-Panamax size limitation factor. Included qualitative factors are usually dependent on subjective perceptions by decision makers such as ocean carriers, freight forwarders and MTOs.

Within the survey, the significance of quantitative factors is based on a Pearson correlation analysis where the dependent variable is TEU share by ports of the Czech Republic and Slovakia and the independent variables are the importance given by the freight forwarders in the questionnaire. Pearson correlation analysis is eligible once the quantitative analysis includes relatively small sample in size where the regression analysis lacks any significant value added [23]. Table 1 provides a grouping of the surveyed port selection factors.

3.2. Survey Process, Design and Data Collection / *Proces i nacrt istraživanja i prikupljanja podataka*

The collection of quantitative factors data was done in cooperation with the Association of Forwarding and Logistics of the Czech Republic (SSL) and Hafen Hamburg Marketing, e.V. while mostly supplemented with secondary data publicly available at the relevant port authorities´ web pages.

All the top 20 freight forwarders by TEU volume for the Czech Republic and Slovakia handled and present in the Czech Republic market were contacted via E-mail in April 2014. The initial E-mail contact was based on the managers´ contact information provided by Association of Forwarding and Logistics of the Czech Republic within regular Maritime Club initiative meetings. All respondents can be considered as highly knowledgeable in the researched field both from the perspective of business experience and company management positions. According to [24] a limited but diverse sample selection of different parties within the industry segment but having distinct roles in companies lead to an increased external validity of the

Table 1 Port Selection Factors and their Characteristics

Tablica 1. Čimbenici odabira luka i njihove značajke

Port Selection Factors Areas (PSFA)	Type (Qualitative – QL, Quantitative – QT)
1. Port hinterland and port location	
1.1. Port infrastructure quality and port development	QL/QT
1.2. Time, distance and intermodal transport pricing	QT
1.3. Intermodal transport frequency level	QL/QT
2. Service providers and port infrastructure	
2.1. Ultra-Large-Container-Vessel (ULCV) accessibility (draft limit)	QT
2.2. Terminal operators and infrastructure quality index	QL/QT
2.3. Port service charges	QT
3. Port liner connectivity (number of liners and port calls)	QL/Q
4. Transport total price	QT
5. Other factors	
5.1. Port efficiency	QL/QT
5.2. Port IT systems	QL
5.3. Port image	QL
6. Partner MTO influence	QL
7. Partner carrier influence	QL

Source: Authors, based on [19], [22]

research and ensures more generalizable research findings.

Regarding the survey structure, in the cover letter, the research motivation was explained. Secondly, the design of the questionnaire was communicated. The questions required the respondents to describe or reflect on their perceptions and experience regarding the research agenda.

A logical approach would be to group freight forwarders present in the market in terms of their revenue, employees, number of leased distribution centres by square meter or by their type of customers. Unfortunately, most of this data is not available, particularly since private enterprises are not willing to share such information with a third party. Therefore, the only quantitative and aggregated data to rank the companies is by TEU volumes originating or destined to the Czech Republic and Slovakia. The freight forwarders included in the survey account for approximately 80 % of all TEU handled through merchant haulage, which represents 55 % of the total TEU volume exported or imported to the Czech Republic and Slovakia. The remaining 45 % concerns carrier haulage (door-to-door service, approximately one third of carrier´s haulage by Maersk Line) provided by ocean carriers acting as MTOs. There are approximately 70 freight forwarders active in container shipping but the remaining 50 out of top 20 companies approached account for less than 20 % of merchant haulage

accounted by the Czech Republic [15].

The survey response rate was 65 % while four out of top 5 (by TEU volume) freight forwarders´ managers responded. This response is considered satisfactory since in similar survey the average survey response rates is between 15 and 20 % [25]. Managers for the branches in Slovakia were not contacted since much of the country's TEU volumes are managed by branches in the Czech Republic. In other words, no key global or regional freight forwarders place their regional headquarter in Slovakia while managing their trade for the Czech Republic. Besides, national freight forwarders, carriers and MTOs branches within the CEE are clustered, leading to management responsibilities that are regionally oriented. Research results were analysed, supported with quantitative

data and statistics provided by national and international industry authorities (port authorities´ annual reports, SSL seminars, rail operators active in the Czech container transport market webpages and management interviews).

One of the potential research biases is represented by the fact that for surveyed factors, different industry language can be used by different companies. Therefore, related questions in different forms were asked to guarantee the consistency of the received information and the comprehension by the respondents. At the same time and for quantitative port selection factors such as average inland transport costs, some data collected from SSL seminars and there present industry (sales) representatives could not have been triangulated with secondary data since the data are sensitive (from the market and competition perspective) and not publicly available unless quoted by the carriers, MTOs and freight forwarders to real business demand by their customers (cargo beneficiary). The value was derived from the responses by at the SSL seminars present managers as its average value2.

The respondent's task was to subjectively classify the given factors (see Table 1) for selecting the cargo routing (port of selection) on the scale from 1 (not an important factor at all) to 10 (key factor for port selection). See Table 2 for results.

A Pearson correlation analysis with the TEU port volumes (shares) as a dependent variable was conducted for each of the quantitative factors provided by the questionnaire results while supplemented with the secondary market data (Port of Hamburg, SSL seminars).

Table 2 Port Selection Factors Questionnaire Results

Tablica 2. Rezultati upitnika o čimbenicima odabira luka

Factors in questionnaire	Areas covered by questionnaire	Average values by questionnaire	Standard deviation (SD)	Value adjusted by SD
Frequency and rail services to port	1.2, 1.3	9.4	0.71	10.0
Low total transport costs	1.2, 4.	9.2	1.29	7.8
Partner MTO connectivity to port	6.	8.1	1.96	4.6
Port liner connectivity	3.	7.8	2.27	3.5
Transit time	1.2, 5.1	7.8	2.27	3.5
Partner carrier calling the port	3., 7.	6.9	3.2	1.0
THC price	4.	6.7	1.66	4.4
Port IT	5.2	5.9	1.94	3.0
Port service quality	1.1, 2.1., 5.	5.7	2.16	2.4
Port Image	5.3	3.9	2.25	1.0

Source: Authors

4. PORT SELECTION FACTORS – OVERALL RESULTS / *Čimbenici odabira luka – ukupni rezultati*

Table 3 summarizes all port selection factors (see Table 1), incorporating the results collected by the questionnaire (Table 2) together with the quantitative factors included in the correlation analysis.

The factors of port infrastructure and port development (1.1.), ULCV access (2.1. draft limit) and port services charges (2.3., pilotage, towage) were analysed through a correlation analysis but not included in the questionnaire. The factors have some importance for port selection by carriers and MTOs but are rarely monitored by freight forwarders, since they show little interests in port management, policies and in-port services for carriers. Therefore, most freight forwarders are not even aware of these factors, which play a significant role for the port selection primarily by the carriers that follow port management policies and strategies [7].

4.1. Weight variance in port selection factors / *Značenje varijacije čimbenika odabira luka*

Regardless the existing (positive or negative) or non-existing/weak correlation between the port volumes and a port selection factor, managers weight the importance of the port selection factor differently. For instance, there is a strong negative correlation between inland rail transit time and the port market share (r=-0.9896), which would imply that transit time would be an important selection factor. Yet, managers do not consider this factor important (with the average value of 3.5). At the same time, inland intermodal transit distance (r=-0.9763) is valued by managers as extremely important (10.0 average) compared to inland transport price (7.8 average, r=-0.9526) despite both (negative value of the correlation index) affecting strongly the port TEU volume share.

4.2. Ongoing dominance by the port of Hamburg / *Trenutačna dominacija luke Hamburg*

Based on the results of the correlation analysis for the port selection factors (Table 3), the share by port of Hamburg is unlikely to decrease in the coming years. Key rail operators such as METRANS do not plan to introduce new rail shuttle

Table 3 Port Selection Factors by Freight Forwarders in the Czech Republic and Analysis of Overall Results

Tablica 3. Čimbenici prema kojima prijevoznici u Republici Češkoj biraju luke i analiza ukupnih rezultata

PSFA	Type	Correlation value	Questionnaire value
1. Port Hinterland and Port Location			
1.1. Port Infrastructure and development	QL/QT	-0.1121	Not included
1.2. Intermodal transport distance	QT	-0.9763	10.0
1.2. Intermodal transport price	QT	-0.9453	7.8
1.2. Intermodal transport time	QT	-0.9896	3.5
1.3. Intermodal transport frequency level	QL	X	10.0
2. Service providers and port infrastructure			
2.1. Ultra-Large-Container-Vessel (ULCV) accessibility (draft limit)	QT	-0.8650	Not included
2.2. Terminal operators / rail infrastructure quality index	QL/QT	-0.8048	1.0
2.3. Port service charges (pilotage, towage)	QT	-0.6161	Not included
3. Port liner connectivity	QT	0.4144	3.5
4. Transport total price	QT	-0.8445	6.1
5. Other factors			
5.1. Port efficiency	QL/QT	Not available	3.5
5.2. Port IT systems	QL		3.0
5.3. Port Image	QL		1.0
6. Partner MTO influence	QL		4.6
7. Partner carrier influence	QL		1.0

Source: Authors

services with the Northern Range since the capacity of the national rail is nearly reached. (SSL seminars). On the other hand, freight forwarders cannot offer significant discounts to ship containers through the port of Koper since the inland rail capacity between Koper and CEE deals with inland infrastructure bottlenecks and there are now no supporting investments plans for Slovenian rail infrastructure.

Moreover, the ports of Koper, Trieste, and Rijeka with the discharge capacity of 12,000 TEU per vessel will not be able to accommodate ULCV with a capacity over 13,000 TEU typically deployed on Far East Asia - Europe routes [26]. Current and forthcoming investment activities by Koper, Trieste or Rijeka include mostly increase in the port container and vehicle storage and stacking capacity. Such an ongoing disadvantage in terms of lower economies of scale limits pricing competition by Mediterranean ports in comparison to Hamburg or Bremerhaven. This is a vicious circle at play where lack of volume does not incite calls by larger ships, which constrains further volume developments to the advantage of Northern Range ports.

The port of Bremerhaven as the only real rival of Hamburg faces less-favourable position in terms of inland

haulage transportation costs given by longer distance to CEE landlocked markets such as the Czech Republic, Slovakia, Austria or Hungary and less rail capacity (and frequency) offered by rail operators.

The competitive potential of Gdansk is limited due to underdeveloped rail capacity (and quality) in Poland. Therefore, the port is expected to have a limited role as a gateway for CEE hinterland outside Poland. The Far East is the most important region for overseas containerized trade and this trade is dominated by Hamburg (Table 4). Regarding the transport cost between the Far East and the Czech Republic (Prague), Hamburg is the gateway with the lowest total shipment cost underlining its leading role as main gateway port based on the cost of inland haulage.

The following section provides a brief discussion about the key research findings framed within the constraints of transport and economic development.

4.3. Logistics constraint layers and research findings discussion / *Razine logističkih ograničenja i rasprava o rezultatima istraživanja*

Most surveyed freight forwarders marked the intermodal transport frequency level as the key port selection factor.

We did not conduct the correlation analysis of the factor since it is qualitative with limited potential to measure the respondents´ subjective perception of sufficient or insufficient inland transport frequency and capacity [27]. The factor is relatively stable in time compared to total transport price charged by truck, rail, ocean carriers or MTOs since it depends mostly on the intermodal infrastructure capacity (and its constraints). The importance of the intermodal transport frequency was not empirically proved by research focused on landlocked hinterlands [10] and its importance was perceived relatively low in other studies focused on sea-accessible markets in the ports´ proximity [21]. Besides, these studies focus on the perspective of ocean carriers as they are key port selection parties in see-accessible hinterland.

Total transport cost factor linked to the cargo routing is relevant to the least stable layer since freight forwarders can change carriers (and contracts) on a short time frame [28], [29]. The surveyed freight forwarders consider this factor relatively important (average score 6.1).

There is strong correlation between the port shares and the selection factors such as intermodal transport time (r=-0.9896) and distance (r=-0.9763) that are included in the most stable (and least agile) layer of port location and hinterland. Since the factors with the highest correlation are contained within the most stable logistics layer, the leading position of the port of Hamburg will unlikely change in coming years.

The factor of total transport cost within the layer of relations between market players is heavily dependent both on the ocean rates changes, terminal handling charges development and the competitive pricing affecting the negotiations and contractual agreements for inland haulage price. Therefore, this factor with lower correlation (r=-0.8445) and less stability in time confers a less important role while affecting the port selection process by the freight forwarders. The least stable factors of partner MTO or carrier (calling ports) having the influence on managerial (sales) decisions to use specific routing and labelled as qualitative (subjective) factors are relatively neglected in the port selection process by the freight forwarders.

5. CONCLUSION AND IMPLICATIONS / *Zaključak i implikacije*

Although this study has been limited and geographically scoped to the port selection perception of freight forwarders in the market of the Czech Republic being small in terms of TEU turnover, the results provide useful empirical evidence both to the services providers such as ocean carriers and MTOs offering inland intermodal services to understand ongoing changes in cargo routing and service providers' strategies. The survey findings and their analysis complement the current state of knowledge about port regionalization, port selection and landlocked hinterlands because it is geographically focused on the hinterland that was not explicitly covered in other landlocked port selection studies or those focused on sea-accessible hinterland with different port selection dynamics and actors.

If intermodal transport services offered by carriers and MTOs are competitively priced with high frequency levels and reliability, which were underlined as key port selection factors by Czech freight forwarders that were sampled, existing inland service configurations for the Czech Republic and CEE landlocked hinterland may change. It is apparent that intermodal service configuration in terms of its frequency (capacity) and reliability in contestable hinterlands, particularly for landlocked countries, can have a substantial impact on port selection by trade intermediaries since freight forwarders are the key actors in setting and managing transport chains. On the long term, the TEU turnover share of Northern Sea Range ports (namely Hamburg) is likely to remain stable mainly because of the well-established customer base as well as its connectivity to Far East Asian markets. This scenario is supported by the survey results underlining the importance of port selection factors perceived by freight forwarders. Moreover, Bremerhaven and Hamburg are better linked to their CEE hinterland in terms of rail and road infrastructure (intermodal transit time, distance and price). Despite shorter transit-time between Far East Asia and Adriatic ports compared to the Northern Sea Range, ports such as Koper will continue to serve a complementary role to CEE hinterland.

The article complements existing research on port selection factors by freight forwarders, particularly since these studies have mainly focused on port users in the immediate hinterland. Inland locations, particularly regions that can be considered landlocked, show a different dynamic where freight forwarders play a key role. Thus, this study underlined that port selection factors is highly influenced by how far within the hinterland the cargo is originating or bound to. While the literature is rightfully underlining that shipping lines play the key role in proximity to ports, this study underlined that in deeper hinterlands, such as the landlocked Czech Republic, freight forwarders play the key role. This underlines that port strategies and policies aiming at establishing inland corridors to improve market share must consider that the key inland actors are a different group of stakeholders than those in proximity.

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