

Krystian Pietrzak*

EVALUATION OF SELECTED COMPETITIVENESS FACTORS OF THE FREIGHT RAIL MARKET IN POLAND¹

Abstract

The article presents the results of selected research carried out among freight train operators operating in Poland. The main aim of the article was to identify, evaluate and prioritize the factors which, according to actors participating in research, currently affect the role and place of rail transport on the freight transport market. Moreover, the research covered indication of the factors which, under certain conditions, can positively affect the development of rail freight in the future.

The research results clearly indicated that today the role of rail transport in the market significantly depends on external factors, which are beyond (or of limited) control of market representatives.

Keywords: transport, rail transport, freight transport, competition in transport, transport liberalization

Introduction

The transition from a centrally planned economy towards a free market has brought changes also in the field of transport business activity. It has become noticeable in the transport market that the state interference was significantly limited in favor of market factors; State has limited its market share primarily to taking care for ensuring the safety and development of infrastructure. Rules

* dr Krystian Pietrzak, Wydział Inżynieryjno-Ekonomiczny Transportu, Akademia Morska w Szczecinie, Szczecin, Polska, e-mail: k.pietrzak@am.szczecin.pl

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of running business activity by rail operators evolved as a result of economic changes – e.g. reduction of existing subsidies and artificial movements of cargo flows in favor of the free market and the competitive fight for providing services (both intrasectoral as well as intersectoral).

In recent years the market of transport services in Europe, including Poland, has undergone dynamic changes. The increasing importance in selecting modes of transport plays – next to the price and sometimes the service – quality, flexibility and customization. It becomes extremely important for the freight owner that the transport service is made at the full range, ensuring timely delivery in the door-to-door system. According to practitioners representing the transport market, these are new customer demands, and not only change to the structure of goods on the market, that contribute to the marginalization of railway in freight transport.

Deteriorating infrastructure, low commercial speed, or large railway market volatility, caused a decrease in trust in the railways of customers or forwarders representing them, or preferring car transport.² Limited and unsuited to the requirements of the customer offer of rail carriers also caused further loss of transport market share.³

It is interesting to point out the role of rail transport liberalization. Processes in the functioning of tight national rail markets assumed the overall evolution of the existing rules of functioning. It should be noted that the introduction of intrasectoral competition constituted only an intermediate goal in the EU policy – assuming that rail transport market acting on the basis of free competition will be able to start the market fight against other sectors⁴, including road transport.

Research on competitiveness of freight rail market in Poland

The role and place of individual modes of transport in the competitive market of transport services is determined by a number of factors, among which

² G. Rosa, *Usługi transportowe. Rynek – konkurencja – marketing*, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin 2006, pp. 120–121.

³ J. Engelhardt, *Transport kolejowy*, w: *Uwarunkowania rozwoju systemu transportowego Polski*, Wydawnictwo Instytutu Technologii Eksploatacji, Warszawa–Radom 2007, pp. 157–158.

⁴ K. Pietrzak, *Funkcjonowanie rynku kolejowego transportu towarowego w Polsce w aspekcie jego liberalizacji*, Zeszyty Naukowe Uniwersytetu Szczecińskiego, Problemy Transportu i Logistyki, No. 18, Szczecin 2012, p. 229.

stands out both internal, as well as external conditions. In this article the author focused on trying to identify some factors that affect, or may affect in the future, the place of railway in general freight transport market.

In order to identify, prioritize and evaluate the determinants of competitiveness of rail freight services in Poland the research involved carrying out the survey among rail operators implementing cargo transportation in the country. Due to the nature of the rail market and rules for the collection and development of statistical material by the Office of Rail Transport, the research was divided into two stages.

In the first stage (November 2013), a preliminary determination of the target population was made on the basis of a document published by the Office of Rail Transport “Wykaz licencjonowanych przewoźników kolejowych” [The list of licensed railway operators] (acc. to data of 2013). That document contained a list of all entities possessing the legally required license, where it could affect rail transport of people, rail transport of goods as well as the provision of traction services.

Among the 103 entities on the list, 82 entities with an active license for the carriage of goods (regardless of whether they had the licenses of the other groups) were selected. Questionnaire were sent to this group by post or delivered personally. At this point, it must be noted that the phrase “active” does not guarantee that the entity actually realized transport operations in a given year. Information on the number of operators actually providing transport services in the year are available in the following year, after the Office of Rail Transport verifies their number based on the mandatory reports submitted by railway operators.

In the first stage of research, completed questionnaires were received from 35 entities (all the questionnaires have been completed properly). After information of the Office of Rail Transport in 2014 on detailed data on the number of entities, which actually implemented the freight transport on the basis of a valid license for the carriage of goods in 2013, there was a need to revise the research population, as well as all questionnaires received from railway operators.

After an appropriate adjustment made in 2014 by the Office of Rail Transport, the number of entities, which were actually providing transport services in 2013 was determined as 61. This was the final number of the population for the research carried out among railway operators. In this case, in addition to changing the number of operators providing freight services, there was also a need to verify the received questionnaires. Out of the 35 properly completed questionnaires, 6 were rejected as not meeting the assumptions of the actual implementation of transport

(not just having active licenses in that period). Thus, the final number of properly completed questionnaires was 29 (out of 61 authorized entities). In percentage, the research sample represented approximately 48% of the population. Taking into account the actual participation in rail transport services market in 2013, the entities participating in the research constitute as follows:

- approx. 83% of the market – according to transported cargo weight,
- approx. 82% of the market – taking into account transport performance.

Selected competitiveness factors of the freight rail transport

One of the basic elements of this research was to evaluate the extent to which the various modes of transport are a threat to rail freight. Each competitive mode of transport could be rated by respondents by weight in the range from 0 – for no threat to 3 – for a strong threat. Rating concerned the relationship on a national as well as international level.

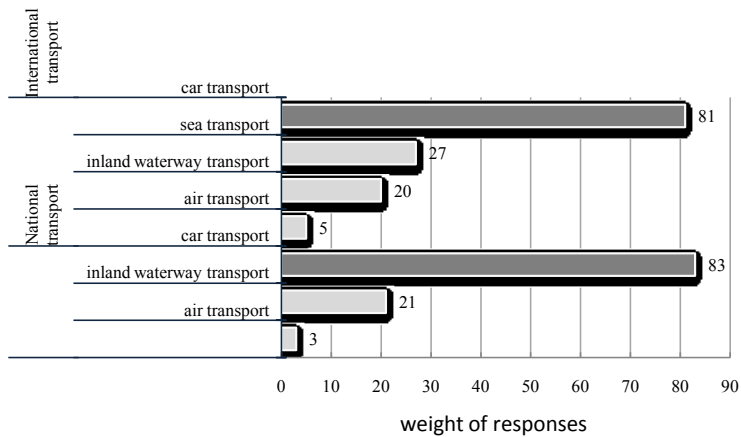


Figure 1. Rating of competitiveness of other modes of transport in relation to rail transport

Source: own study.

The responds clearly indicate that the main competitor to rail transport, both in the case of international as well as national transport, is car transport. On the other hand, according to the respondents the mode of transport, which is not a direct competition for rail freight transport, is air transport. It is mainly due to

the high cost of travel generated by air transport with significantly reduced weight and space capacity, affecting the high unit cost of transportation. These results are consistent with general trends in the market of transport services and are reflected in the statistics for the analysis of the share of individual sectors in the market.

In the next question respondents were asked to indicate factors and the weight of their impact on taking advantage over rail freight transport by other modes of transport. By choosing individual determinants the respondents could rate these factors in a range from 0 – if the factor had no effect on increasing the competitive position of other sectors, to 3 – for the key impact of this factor on the indicated phenomenon. Figure 2 presented the results obtained.

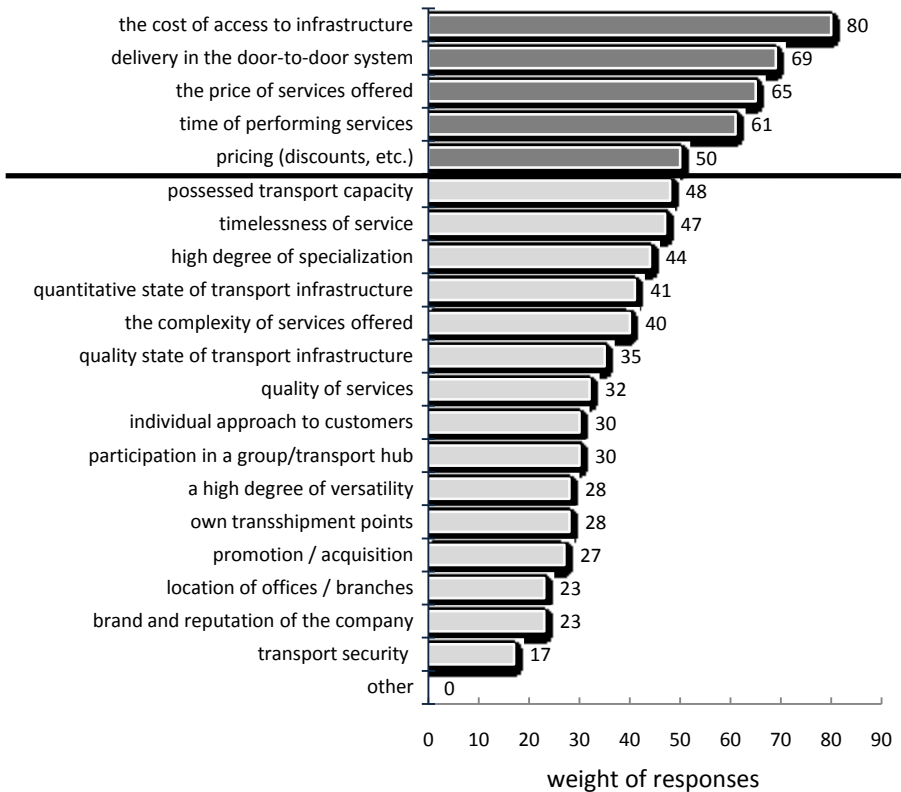


Figure 2. Factors (for the other sectors) affecting the higher competitive position of other modes of transport in relation to rail transport

Source: own study.

Another question was related to an attempt to identify and rate the factors that negatively affect the role of rail transport and its share in the total transport market. Operators could choose from a group of factors indicated by the author. There was also additional space for any other idea proposed by the carriers. In rating respondents used the corresponding weight value from 0 to 3. In this case, 0 meant no impact and 3 meant the key impact of a factor. To complete the research, the author also asked to indicate the factors which may in the future (after making appropriate changes) have a positive impact on the growth of competitiveness of rail transport in relation to other sector. The rules for selecting and rating these factors were the same as in the previous question. The results of the preferences of the respondents (selected factors with the biggest weight) are illustrated in Figure 3.

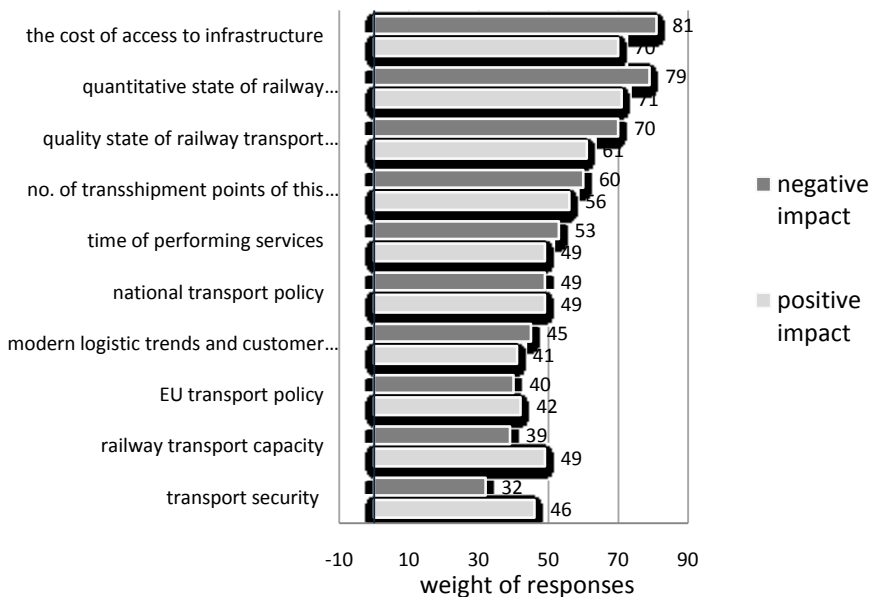


Figure 3. Selected factors affecting negatively (which may have a positive impact in the future) the level of competitiveness of rail transport compared to other modes of transport

Source: own study.

According to respondents, increasing the competitiveness of rail transport in relation to other modes of transport and consequently – increase its share in the transport market for freight transport services – requires taking a number of actions. Actions indicated by respondents are closely related to the results of previous questions. Their hierarchy is indicated in Table 1.

Table 1

Hierarchy of actions constituting a condition of increasing the level of competitiveness of rail transport in relation to other modes of transport

No. in the hierarchy	Criterion required to increase the competitiveness of rail transport in the intersectoral transport market
1.	modernization of railway lines of national importance
2.	reduction of rates of access to railway infrastructure
3.	modernization of other railway lines
4.	change in national transport policy
5.	construction of transshipment points, including the points necessary for the development of intermodal transport
6.	aiming to increase the interoperability of Polish rail transport
7.	introduction of fees for each of the modes of transport also taking into account external costs
8.	construction of new sections of railway lines
9.	change of priorities in determining the rail timetable for the benefit of rail freight transport (for lines designed primarily to handle freight transport)
10.	recognition by the Office of Rail Transport of licenses granted to modes of transport in other EU countries
11.	change in the method of financing the railway infrastructure manager PKP PLK SA (e.g. financing as in the case of the General Directorate for National Roads and Motorways – GDDKiA)

Source: own study.

In addition to answering questions prepared by the author, respondents also had the opportunity to provide their own additional comments and observations on rail freight market. Respondents drew attention to the broad spectrum of issues related to railway infrastructure in Poland. They highlighted that after many years of neglect, the ongoing process of modernization of infrastructure is a factor that will fundamentally determine the future of the railway market. A significant improvement in the technical condition of the network will increase the speed limit, the liquidation of restriction points, which extend the route and increase demand for fuel, as well as improve network capacity. Therefore, these elements

are necessary to increase the competitiveness of railway transport in relation to other branches through e.g.: reduced travel time, minimized delays, and even a reduction in freight rates. Improving network capacity can also contribute to improving the conditions of the offer addressed to the customers, reflected e.g. in a more flexible customization of the train departure times from the point of origin, or increase in the number of trains.

According to the operators participating in the research, an extremely important, and often overlooked problem, is for the infrastructure manager to take care of the development of the rules for modernization, which shall not disturb the travel of trains or disturb it to the minimum extent. Carriers drew attention to the fact that any closing of lines has an adverse effect on their business, which is related to the implementation of the agreements concluded with customers. These agreements provide legal obligations for the parties to provide services in a given time and at a given cost of delivery. Modernization of the network, and therefore often need to choose another, often longer routes, destabilize the time conditions, as well as previously developed costs of service.

Respondents also stressed that the characteristics of rail transport, which today could be used in the conduct of transport in line with the objectives of sustainable development, face many barriers that inhibit or impede effective competition of rail transport in the transport market. Therefore, it becomes important to make efforts to harmonize conditions for the functioning of individual entities and modes of transport; harmonization is in fact an essential element of free competition⁵ in the market. In this respect attention was paid to the necessity of building a multi-criteria system of charging for the use of infrastructure by the various sectors, in which the calculation should take into account primarily external costs generated by these sectors.

Moreover, in addition to the existing lack of harmonization of conditions between modes of transport, there are also problems of a lack of interoperability between the railway markets in individual EU Member States, which significantly reduces the possibility of providing international rail freight transport services.

⁵ E. Załoga, *Kształtowanie jednolitego rynku usług transportowych w Unii Europejskiej*, Zeszyty Naukowe US No. 393, Problemy Transportu i Logistyki, No. 2, Szczecin 2006, pp. 10–11.

Conclusion

The modern market of transport services was mostly shaped by changing needs and preferences of customers. Due to the growing requirements for time, quality, timeliness, accessibility, immediacy and complexity of services provided by the operators in the transport market, the offer of carriers has been gradually changed. As a result, there has been a transformation of the transport market in the form of partial marginalization of services and sectors that were not able to meet the new needs. Due to its specificity and natural barriers (e.g. the limited availability of infrastructure) rail transport lost some market share in favor of more flexible sector – car transport.

Despite the increase in public awareness of issues of environmental threats and the negative impact of transport on the environment, the features of rail transport, such as:⁶ a significant capacity, performance, safety and relatively low impact on the environment, have not so far led to changes in the share of individual sectors of the transport market.

When evaluating current and future role of rail transport on the market of transport services, the respondents indicated and rated e.g.:

- factors determining higher competitiveness of other modes of transport,
- factors limiting the competitiveness of rail transport, and thus its role in shaping the market,
- range of activities to be undertaken as a prerequisite for a broader than currently, use of rail transport in the transport market.

The aggregated research results made it possible to verify the generally accepted in the literature opinion on the fundamental determinants affecting the rail transport services market. In addition to the most commonly indicated in the literature factors, such as price and time, respondents also drew attention to the importance of quality and timeliness of services, quantitative and qualitative state of transport infrastructure and the degree of accessibility to it. Attention was also drawn to the importance of government policy in creating sustainable transport, in particular for a method of calculating the cost of access to transport infrastructure in the various sectors depending e.g. on the degree of negative impact of each of the sectors on the environment.

⁶ A. Mężyk, *Uwarunkowania i efekty reform kolei*, Wydawnictwo Politechniki Radomskiej, Radom 2011, p. 12.

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OCENA WYBRANYCH CZYNNIKÓW KONKURENCYJNOŚCI TOWAROWEGO RYNKU KOLEJOWEGO W POLSCE

Streszczenie

W artykule dokonano prezentacji wybranych rezultatów badań zrealizowanych wśród towarowych operatorów kolejowych wykonujących przewozy na obszarze Polski. Głównym celem artykułu była identyfikacja, ocena i hierarchizacja czynników, które zdaniem podmiotów uczestniczących w badaniach wpływają obecnie na rolę i miejsce transportu kolejowego na towarowym rynku usług transportowych. Ponadto, w ramach badań dokonano również wskazania czynników, które, przy spełnieniu określonych warunków, mogą w sposób pozytywny wpłynąć na rozwój towarowego transportu kolejowego w przyszłości.

Uzyskane wyniki badań wskazały jednoznacznie, iż współczesne miejsce kolei na rynku w znaczny sposób uzależnione jest od czynników zewnętrznych, na które przedstawiciele rynku nie mają wpływu, bądź też wpływ ten jest ograniczony.

Słowa kluczowe: transport, transport kolejowy, transport towarowy, konkurencja w transporcie, liberalizacja transportu