

THE MARKET FOR RAIL FREIGHT SERVICES – CERTAIN SELECTED ASPECTS

Katarzyna Markowska

Silesian University of Technology
Department of Organization and Management
Institute of Management and Administration
Roosevelta Street 26-28, 44-800 Zabrze, Poland
tel.: +48 32 2777417, fax: +48 32 2777361
e-mail: katarzyna.markowska@polsl.pl

Abstract

The Polish market for rail freight services belongs to a group of markets with a relatively high level of liberalization. Strong competition on the Polish freight market, forcing the search for new sources of strategic advantage, is leading to processes of consolidation, merging and acquisition. There are high fees for access to the infrastructure, despite its relatively low quality of performance. Opportunities for rail-related international exchange are not being taken, the geographical location of Poland is not being taken advantage of and the quality of the services provided is low.

An important role in the intensification of rail transport infrastructure is the condition of the railway network. The modernization of these networks by 2011 has improved the condition of the Polish railway infrastructure. The structure of the rail freight market by weight of cargo in Poland, the structure of the Polish freight market, the dynamics of changes in the size of cargo in the years from 2006 to 2011 according to transported mass relative to the size of the cargo in 2004, advantages of rail freight services, problems with the development of the rail freight market are presented in the paper.

Keywords: *liberalization of the rail freight market, infrastructure, commodity market services*

1. Introduction

According to the latest report, the liberalization of the rail freight sector in Poland is in an advanced stage. In 2010, the LIB Index for the rail freight market amounted to 826 points and was among the highest of the EU Member States. Competition within the sector and institutional changes within the industry itself has led to the separation of the infrastructure managers. The technology of freight transport influences the market structure, which requires access to linear and point infrastructure. The market for rail freight services is characterized by the HHI index (Herfindahla-Hirschmann), which in 2012 amounted to – 0.38 in the freight segment. The size of the HHI index indicates the level of competitiveness in the Polish market for the transport of goods. This is due to the dynamic development of the private sector in freight. Strong competition on the Polish freight market is contributing to the search for new sources of strategic advantage, leading to processes of consolidation, mergers and acquisition. These phenomena result in a drop in the index and its relative stability. A worrying phenomenon is the steady decline in the share of rail freight in the modal share split. This is due to [1]:

- high fees for access to the infrastructure,
- opportunities for rail-related international exchanges not being taken,
- opportunities for transit not being taken,
- the low quality of the services provided.

Despite the progress in development of point infrastructure in rail transport on the eastern border (e.g. The Logistic centre in Małaszewicze or Sławków), we are still not a substantial

logistics platform consolidating the Europe – Asia – Europe international trade in goods. Evidence of this is current geo-economical and geo-political initiatives, which intend to create alternative transportation routes bypassing Poland. Transit operations through Poland, which could be a very important mediator in the transport both from west to east and from north to south of Europe, represent (according to data from 2011) only 2.0 % of the total rail freight in Poland in terms of the weight of transported cargo and 5.59 % in terms of transport work.

2. The economic structure of the Polish freight market

After a period of crisis in the years 2010-2011, there was an increase in the volume of cargo transported by 5.9 % and transport work performed by 10.5 %. In 2010, the upward trend was due to increased trade between countries and the large demand for transport in international traffic. In 2011, freight was carried out mainly inside the country. In these years, there has been an increase in freight commodity groups, which were used for infrastructure investment. These include the transport of sand and gravel aggregate. An important role in the intensification of rail transport infrastructure is the condition of the railway network. The modernization of these networks by 2011 has improved the condition of the Polish railway infrastructure. During this period, 40 % of the lines were in good condition, and the remainder required complex comprehensive modernization and ongoing repairs. The quality of the infrastructure depends on its speed and capacity, affecting the quality of services provided by carriers. Services provided by carriers are at a lower level than in most European countries. The low average commercial speed in the Polish railway network not exceeding 25 km/h causes long delivery times to customers and an increase in operating costs of the carriers [5].

Tab. 1. The structure of the rail freight market by weight of cargo in Poland in 2008-2011 [5]

Carrier	Transported Mass [thousands of tons]			
	2008	2009	2010	2011
PKP Group	142217.32	110104.34	127885.80	140550.04
CTL Group	13621.30	16931.80	15929.64	16429.36
DB Schenker Group	92303.15	87560.53	59066.55	49197.86
PUK Kolprem	51.64	269.25	845.78	2533.71
Pol-Mieź Trans	3688.07	4064.92	4575.37	4734.87
Lotos Kolej	5146.40	6044.10	8489.16	10532.30
Transoda	1244.52	1114.23	1304.51	1338.20
Rail Polska	2050.46	2412.63	2692.79	3196.99
Orlen Kol-Trans	605.18	3181.24	2607.07	1699.63
STK	327.31	765.04	1188.78	1466.34
KP Kotlarnia	4303.62	3871.91	3177.64	3558.84
Freightliner PL	1333.15	2043.42	3151.66	58528.35
ITL	0.00	232.42	776.65	2164.32
Remaining	9419.52	4381.03	3778.18	6117.45
Total	276311.5	242976.9	235469.6	249348.3
Carrier	Share of carriers in the market			Change

	[%]				[%]	
	2008	2009	2010	2011	2011/10	2011/08
PKP Group	51.47	45.31	54.31	56.37	9.90	-1.17
CTL Group	4.93	6.97	6.77	6.59	3.14	20.62
DB Schenker Group	33.41	36.04	25.08	19.73	-16.71	-46.70
PUK Kolprem	0.02	0.11	0.36	1.02	199.57	4806.20
Pol-Miedź Trans	1.33	1.67	1.94	1.9	3.49	28.38
Lotos Kolej	1.86	2.49	3.61	4.22	24.07	104.65
Transoda	0.45	0.46	0.55	0.54	2.58	7.54
Rail Polska	0.74	0.99	1.14	1.28	18.72	55.92
Orlen Kol-Trans	0.22	1.33	1.11	0.68	-34.81	180.85
STK	0.12	0.31	0.50	0.59	23.35	348.00
KP Kotlarnia	1.56	1.59	1.35	1.43	12.00	-17.31
Freightliner PL	0.48	0.84	1.34	2.34	84.39	337.19
ITL	0.00	0.10	0.33	0.87	178.67	-
Remaining	3.41	1.80	1.60	2.45	61.92	-35.06
Total	100	100	100	100	5.89	-9.67

3. The structure of the polish freight market

In rail freight, transport the following must be distinguished [3]:

- Mass freight,
- Cargo,
- Intermodal freight,
- Shipment of oversized and exceptionally heavy cargo.

In this classification, hazardous materials to the environment are also covered. The largest share in transport is currently held by the transport of raw materials, including [5]:

- metal ores, coal, mining and quarrying products – 40.2 %
- aggregates, sand and gravel – 18.5 %.

Based on studies conducted in the years 2006-2011 to do with the dynamics and transport of raw materials by transported mass, taking year 2004 as a benchmark, the dynamics of the transport of coal, metal ores, mining and quarrying products, refined products, crude oil and other products are shown below. The data is summarized in Tab. 2.

Tab. 2. The dynamics of changes in the size of cargo in the years from 2006 to 2011 according to transported mass relative to the size of the cargo in 2004 (100 %). Based on [5]

Year	Transported raw material			
	Coal	Metal Ores and mining and quarrying products	Refining products and crude oil	Remaining products
2006	-1.08 %	-0.01 %	+3.85 %	+13.64 %
2007	-5.54 %	+14.70 %	+15.2 %	+15.38 %
2008	-8.94 %	-8.55 %	+0.10 %	+18.8 %
2009	-17.53 %	-25.35 %	+0.70 %	+0.72 %
2010	-31.36 %	-11.78 %	+15.58 %	+7.50 %
2011	-34.13 %	+36.90 %	+7.66 %	-4.08 %

4. Advantages of rail freight services

The benefits of rail freight services in relation to other modes of transport include [2]:

- intra-liberalization leading to the improvement of competitiveness of rail against other transport systems,
- low external costs compared to other modes of transport,
- direct transport between major senders and recipients,
- low requirements with regards to the rolling stock,
- the ability to handle large senders, with their own infrastructure to facilitate loading / unloading,
- measures taken by the EU for freight in two transport corridors; the North – South corridor connecting the Baltic Sea to the Adriatic and the East – West one, connecting Warsaw with Berlin and Amsterdam,
- equipping the senders and recipients with their own infrastructure, facilitating the transportation process,
- an increase in the efficiency of the rail system, as a result of its reconstruction,
- competitiveness in relation to other modes of transport (travel time, safety),
- the ability to carry various loads,
- high capacity,
- a high level of security for the transportation of dangerous goods,
- a high level of adaptation to mass transit.

5. Problems with the development of the rail freight market

Problems with freight rail transport services include [4]:

- Insufficient investment in traction rolling stock and wagons, particularly locomotives, and specialized, multi-system wagons and platforms for the transport of containers,
- a lack of stable funding for the development of rail transport from the state budget,
- low quality of railway infrastructure preventing utilization of the natural advantages of this mode of transport,
- insufficient financial resources for the development of the railway infrastructure,
- a lack of funds for the purchase of modern rolling stock,
- an insufficient number of modern container terminals,
- deterioration of the technical condition of linear and point infrastructure, influencing the poor quality of services offered,
- a lack of adequate regulation and poor relations in the field of transport towards the east,
- a lack of concepts in handling operation in the difficult market segments,
- complex organization of transport, additional steps lengthening transport times and reducing trade speed,
- long delays for freight trains,
- a rather slow speed of adaptation of utilized sets of wagons to modern transport technologies,
- a decrease in the category of transportation of goods by rail, in favour of intermodal transport,
- a lack of specialization of lines for freight,
- an insufficient number of wagons adapted to new technologies of transport,
- an insufficient number of rail connections with logistics centres,
- a lack of IT tools for tracking shipments in transit,
- poor infrastructure interconnections with other modes of transport: sea ports, logistics centres, airports,
- a low share of modern transport technology.

References

- [1] *The White Book of 2013, Time for action – a map of the problems with Polish railways*, the initiative of the Railway Business Forum, Second Edition of The White Book 2010, revised and updated, pp. 78, Warsaw – Krakow 2013.
- [2] *The Master Plan for railway transport in Poland until 2030*, The Ministry of Infrastructure, pp. 15-17, Warsaw 2008.
- [3] Neider, D., Neider, J., *The Shipper's Manual*, Polish Chamber of Shipping and Logistics, Vol. 1, Ch. 11 2002.
- [4] *The White Book of 2013, Time for action – a map of the problems with Polish railways*, the initiative of the Railway Business Forum, Second Edition of The White Book 2010, revised and updated, pp. 82-84, Warsaw – Krakow 2013.
- [5] The Office of Rail, *An Evaluation of the Railway Transport Market and the State of Railway Traffic Safety in 2011*, TOR Publishing House, pp. 38-42 and 55, The Division of Analysis of The Department of Railway Market Regulation of The Railway Transport Office, 2012.

