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DEVELOPMENT OF FREIGHT RATES IN POLISH ROAD TRANSPORT - CAN POLISH FORWARDERS COMPETE ON PRICE WITH GERMAN FOWARDERS?

This article presents research on the development of freight rates in Polish road transport in the next few years. This is very relevant for competition with German companies, as Polish road carriers possess almost 90% of the "Poland-Germany" and "Germany-Poland" transport market. Discussed are the reasons for and level of cost advantage, as well as factors influencing costs in road freight transport (e.g. wages, depreciation, maintenance, taxes, elimination of border controls with Germany, EU regulations and standards, technology, cabtage, human capital). It is concluded that it can be expected that, leaving highly volatile fuel prices out of consideration, during the next couple of years Polish road carriers are likely to keep their cost advantage compared to their German competitors.

1. INTRODUCTION

This article presents research carried out in 2004 on the development of freight rates in Polish road transport within 2 - 5 years. The research is based on study of literature and statistical data. The research is of importance, as the main advantage of Polish road carriers over their German competition is lower costs, while they stay behind in the field of logistics services.

After discussing the market share of Polish road carriers (Section 2), cost advantages for Polish road carriers (section 3) and factors influencing freight costs (Section 4) are presented. A conclusion is that freight costs, and as a result freight rates (in case of competition), may stabilise or even decrease when not taking into consideration highly volatile fuel prices.

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2. MARKET SHARE OF POLISH ROAD CARRIERS

As is shown in Table 1, transport volumes have increased significantly during the 1990s. This is related to the introduction of a market economy and the increase in trade flows, in particular with countries from the "old" European Union. More than 60% of transport flows from Poland go to Germany (Table 2), thus for Polish road carriers this market is of significant importance. As a consequence, the development of transport costs is of great importance to Polish road carriers, as due to their comparative advantage they serve most of the Polish import and export market. This is shown by data from the Main Statistical Office [GUS, 2002, 2003].

In 2002 about 87% of transport with EU-15, measured in tonnes, was carried out by Polish road carriers. These numbers were 88% for Germany and 87% for the Benelux. However, the data for Central and Eastern European countries may imply that Poland faces strong competition from these countries. Polish firms served 41.8% of transport to the Czech Republic, while the numbers for other countries were: Slovenia 34%, Hungary 65.5%, the Baltic States 25.3%, Russia 44.7%, CEFTA 48.6%. Concerning imports the percentages were: EU-15 76%, Germany 79%, Benelux 80.1%, the Czech Republic 47.3%, Slovenia 22%, Hungary 64.6%, the Baltic States 29.7%, Russia 68.3%, CEFTA 48.2%. The market share of Polish firms in imports and exports (measured in tonnes) increased between 1990 and 2002 from 63.6% to 71.3%.

Table 1. Trends in transport volumes and ton-kilometres in Poland in road transport.

Tabela 1. Trendy w wielkości przewozów i liczbie tonokilometrów w Polsce w transporcie drogowym.

		1990	1992	1994	1996	1998	2000
Road transport	Ton (mln)	945.6	1,121.7	1,060.7	1,091.9	1,077.3	1,083.1
	Ton-kilometres (mld)	30	42	45.4	56.5	69.5	72.8

Source: GUS, different issues.

Źródło: GUS, różne wydania.

Table 2. Proportion of good-traffic between Poland and different countries.

Tabela 2. Odsetek przewozu dóbr w Polsce i innych krajach.

Border	Goods
Poland-Slovakia	8%
Poland-Czech Republic	12%
Poland-Germany	61%
Poland-Russia (Kaliningrad region)	1%
Poland-Lithuania	8%
Poland-Belarus	6%
Poland-Ukraine	5%
Total	100%

Source: www.ue.psm.pl, 2004.

Źródło: www.ue.psm.pl, 2004.

3. COST ADVANTAGE FOR POLISH ROAD CARRIERS

A difficulty in estimating the cost in road transport is the weights of the different components. As is shown in Table 3, estimates differ significantly, which makes identification of trends more difficult. The main share of the costs comes from wages (about 20-30%) and fuels (20-36%). The rest of the costs consist of depreciation (8-27%), administration (4-12%), maintenance (9-21%) and different types of taxes (about 15%).

The main reason for cost advantage of Polish road carriers over German road carriers is lower wages, although they have a cost disadvantage due to higher depreciation (e.g. due to poor road condition) and higher taxes. As is showed in Table 4, it was estimated that Polish road carriers, together with their Czech and Hungarian counterparts, had a 37% cost advantage over "old EU-15" road carriers in 2003. This only differs a few percentage points from estimates from 1994 where the cost advantage was 42% and 30% compared to Dutch and French firms respectively [Otremba, 2004].

Table 3. Estimates of cost structure in transport - share of different factors in total road freight transport costs (per km).
Tabela 3. Szacunkowe obliczenia struktury kosztów w transporcie - udział różnych czynników w całkowitych kosztach transportu drogowego (na 1 km).

Type of cost	EU-15 [Otremba, 2004]	Poland [Otremba, 2004]	Poland [Romanow, 2003]	Poland [German estimate] ¹
Total	100%	100%		100%
Driver's wage	47%	17,5%	24-26% ²	30%
Diesel oil, oils	19%	23,8%	30-36%	20%
Depreciation	12%	27%	8-20%	11.1%
Administration (includes personnel costs)	11%	7,9%	4-8%	12.2
Maintenance, tyres (includes personnel costs)	7%	9,5%	10-21%	8.9%
Taxes, insurance	4%	14,3%	0-3% ³	17.8%

Source: Otremba, 2004; Romanow, 2003; German estimate.
Źródło: Otremba, 2004; Romanow, 2003; obliczenia niemieckie.

Table 4. Cost comparison between Poland, the Czech Republic, Hungary and EU-15.
Tabela 4. Porównanie kosztów pomiędzy Polską, Czechami, Węgrami i UE-15.

Type of cost	EU-15	Poland, Czech Republic, Hungary
Total	100	63
Driver's wage	47	11
Diesel oil, oils	19	15
Depreciation	12	17
Administration (includes personnel costs)	11	5
Maintenance, tyres (includes personnel costs)	7	6
Taxes, insurance	4	9

Source: Otremba's [2004] calculations based on Halcrow, NEI (Phare programme, 1999).
Źródło: obliczenia Otremba [2004] w oparciu o Halcrow, NEI (Program Phare, 1999)

¹ Based on a discussion with German partners on 11 September 2003 at the International School for Logistics and Transport in Wrocław.

² Including mark-up.

³ Without taxes.

4. FACTORS INFLUENCING COSTS IN ROAD FREIGHT TRANSPORT

Wages

It has been estimated that the wage advantage between Poland and Germany was 1:12 at the beginning of the 1990s, and that, according to German estimates, this ratio has declined to 1:3 or 1:4 [Burniewicz, 2004; Otremba, 2004]. However, although the advantage has declined, the difference still covers the higher quality of services provided by German firms [Otremba, 2004].

As the Polish economy grows faster than the German economy, it may be expected that wage differentials decrease in the future. However, the large unemployment in Poland puts a downward pressure on wages. On the other hand, there may be a lack of drivers as a result of the opening of the EU labour market. When Polish drivers start to work in e.g. Germany, they may put a downward pressure on wages there, while lowering supply in Poland, leading to lower wage differentials. A similar argument goes for specialists in logistics.

However, labour productivity in Poland may increase faster than in Germany. Polish labour productivity was about 34% lower with respect to km per truck load in 2001. A reduction of this differences may result from the purchase of modern trucks and the fact that Polish drivers make longer hours [Otremba, 2004]. Between 2001 and 2002 the employment in the transport sector decreased by almost 8%, while transport in tons per worker increased, leading to an increase in labour productivity by 7.7% [Fechner and Szyszka, 2004; GUS, 2003]. Between 1995 and 2002 labour productivity in Poland increased by 10.9% annually, compared to 5.4% in EU-15 [Burniewicz, 2004a].

Otremba [2004] estimates the wage advantage for transport within Germany on 5% for Polish companies. However, he does not take into consideration the fact that employers may pay their drivers some extras on paper, while not doing this in reality. The advantage increases for transport within Western Europe to about 40%, and for east-west and west-east transport to about 65%.

Depreciation, maintenance and tyres

The state of the infrastructure is of great importance for depreciation. For transport within Poland and to other Central and Eastern European countries the question is whether road quality can keep up with increasing traffic flows, and whether ring-roads around cities and motorways are constructed. The speed of investment makes the effect unclear. The same argument goes for maintenance and tyres. The use of more modern trucks is likely to reduce the costs of maintenance and fuel.

Taxes, insurance

It has been argued that the tax burden in the form of different types of taxes for Polish companies increases [Polska Gazeta Transportowa, 2001]. This is related to the excessive fiscalism compared to Germany (e.g. road tax in fuel price) [Rydzkowski and Wojewódzka-Król, 2000]. On the other hand taxes on profit in Poland (19%) are lower than in Germany. The change in other taxes is unclear due to continuing political uncertainty. A positive thing is that, in the opinion of Polish entrepreneurs, professionalism of tax officers improved during the first half of the 1990s, while afterwards it stayed at a similar level. On the other hand, they think that tax law became less clear during the second half of the 1990s. Furthermore, there is a lack of physical and human capital, incompetence, unfriendliness and corruption in public administration, complex and unclear tax laws, a customer unfriendly tax collector and an inefficient judiciary [Platje, 2004]. European integration is likely to have a stabilising effect on laws and regulation, reducing the mentioned problems and related costs in the long run.

Elimination of border controls in EU

The elimination of customs controls with Germany positively influences transport costs. It has been estimated that, together with the elimination of the licenses specific for Poland, a Polish truck may make 130,000 to 150,000 km a year instead of 100,000 km [www.tir.pnet.pl, 2004].

Introduction and enforcement of EU regulations and standards

With the introduction of EU standards, police controls are likely to increase and investment in control equipment takes place. It is very likely that standards will be enforced as, for example, foreign competitors have an interest to monitor this. This leads to an increase in costs in road transport. The introduction of EU standards, especially when transition periods are gone, tends to increase transport costs in the long term [Januszkiewicz, 2004]. In particular for small firms complying to EU standards is likely to be difficult, as a consequence of a lack of human and physical capital [Januszkiewicz, 2004; Platje, 2004].

On the other hand, Poland had been preparing itself for a decade for EU accession. By 2003 about 76% of all regulations included in the *acquis communautaire* were applied (EU-average 94%). With respect to transport, according to European Commission estimates, Poland has for 98% adjusted its legal framework [Januszkiewicz, 2004].

Age and quality of trucks and equipment (technology)

In general, Polish transport companies have more and more modern means of transport that fulfil ecological requirements [Polska Gazeta Transportowa, 2001]. As is shown in Tables 5 and 6, in 2002 about 50% of all trucks were less than 10 years old, 18% is 3-5 years old and 15% less than 2 years old. This may lead to a stabilisation or even decrease of use of fuel [www.ue.psm.pl, 2004].

Table 5. Age of trucks on 31-12-2002 in Poland and selected provinces.
Tabela 5. Wiek ciężarówek na dzień 31.12.2002 w Polsce i wybranych regionach.

	Total	< 2 years	3-5 years	6-10 years	> 10 years
Poland	2 051 831	302 581	367 319	319 473	1 062 458
Lower Silesia	147 585	14 544	30 837	20 874	81 310
Opole	45 708	4 501	7 147	6 701	27 359
Wielkopolska	211 655	35 610	39 223	34 155	102 677
Lubuskie	46 973	4 984	7 070	7 710	27 209

Source: GUS, 2003.
Źródło: GUS, 2003.

Table 6. Age of trucks on 31-12-2002 in Poland and selected provinces, % of total.
Tabela 6. Wiek ciężarówek na dzień 31.12.2002 w Polsce i wybranych regionach jako procent całości.

	Total	< 2 years	3-5 years	6-10 years	> 10 years
Poland	2 051 831	14,7%	17,9%	15,6%	51,8%
Lower Silesia	147 585	9,9%	20,9%	14,1%	55,1%
Opole	45 708	9,8%	15,6%	14,7%	59,9%
Wielkopolska	211 655	16,8%	18,5%	16,1%	48,5%
Lubuskie	46 973	10,6%	15,1%	16,4%	57,9%

Source: Author's own calculation based on GUS, 2003.
Źródło: obliczenia własne autora na podstawie GUS, 2003.

Cabotage

Polish road carriers are allowed to transport a load from Poland to Germany and from Germany to Poland or another EU country. However, "small cabotage", i.e. transport within Germany (e.g. a load from Berlin to Hamburg) is not allowed for foreign road carriers. This restriction will be lifted by 2007 the earliest and by 2009 the latest. This will make a significant cost reduction possible by that time for Polish firms.

Human capital, know how and knowledge

Better training of drivers may lead to a cost reduction, as a good driver may save 5-10% on fuel costs. Many truck drivers were trained on old trucks and on bad roads, where their actions had little influence on fuel use. An increase in training may thus lead to a reduction in transport costs.

5. CONCLUDING REMARKS

Leaving out price fluctuations in fuel, Polish road carriers are cost-competitive on the European market. Costs (compared to the inflation rate, excluding fuel prices), and as a result freight rates (assuming a competitive market), may stabilise or even decrease in the long-run. This, among other things, may be the result of increasing labour productivity, the elimination of border controls, liberalisation of so-called "small cabotage" and the purchase of better trucks and equipment. Although many firms already have adjusted to many EU standards during the last decade, a cost-increasing factor for transport in Poland may be, for example, the enforcement of driver working hours. Currently there are still possibilities to circumvent regulations in Poland, but the introduction of controlling equipment is likely to eliminate these possibilities. Concluding, it can be expected that Polish road carriers also can compete on price with their German competitors in the next couple of years.

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ROZWÓJ STAWEK PRZEWOZOWYCH W POLSKIM TRANSPORCIE DROGOWYM - CZY POLSCY PRZEWOŹNICY MOGĄ PROWADZIĆ KONKURENCJĘ CENOWĄ Z PRZEWOŹNIKAMI Z NIEMIEC?

Artykuł ten przedstawia badania dotyczące rozwoju stawek przewozowych w polskim transporcie drogowym w ciągu kilku kolejnych lat. Ma to ścisły związek z konkurencją ze strony firm niemieckich, ponieważ polscy przewoźnicy posiadają niemal 90% rynku transportowego w kierunkach Polska-Niemcy i Niemcy-Polska. Dyskusji poddano przyczyny oraz poziom przewagi kosztowej, jak również czynniki wpływające na koszty w transporcie drogowym (np. płace, deprecjacja, konserwacja, podatki, likwidacja kontroli granicznej na granicy z Niemcami, przepisy i standardy Unii Europejskiej, technologia, kabotaż, kapitał ludzki). Na podstawie wniosków można oczekiwać, pomijając wysoce niestabilne ceny paliw, że w ciągu kilku następnych lat polscy przewoźnicy drogowi najpewniej utrzymają przewagę kosztową w porównaniu do firm konkurencyjnych z Niemiec.