NORTHERN DIMENSION OF RAIL BALTICA

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Abstract

Transport markets have confronted various changes during the previous decades. As branch positive issue is that volumes have increased steadily, but on the other hand, for society this has placed great pressure to reduce environmental emissions and other costs (like infrastructure and its maintenance). In the near future strict emission regulations will change nature of transport, and this will mostly influence sea and road transport. However, rail transport (along with inland water transport) has been highlighted as an option to facilitate the situation. Main objective of this research was to unfold Finnish and Estonian private sectors' viewpoints towards Rail Baltica transport corridor, which is planned to intersect the Eastern Baltic Sea Region. In order to understand the overall standpoints in Northern part of Rail Baltica, the development process of Russian railway market was briefly examined. Based on the results Rail Baltica transport corridor is seen as important and attractive transport corridor. Both Finnish and Estonian private actors stress that in order to assure the sufficient freight and passenger flows, the corridor should be connected to Russia.

Keywords: Rail Baltica, rail transport, interview study, Estonia, Finland, the Baltic States, Russia.
JEL Classification: L90, L91, L92, O18, R41, R42, R48.

Introduction

Transport markets have confronted various changes during the last decades, and same trend continues in the near future. Increased transport volumes both in sea and inland transport (see e.g. Eurostat, 2011), new sulphur regulations e.g. on the Baltic Sea (see e.g. Det Norske Veritas, 2009), stricter emission regulations and other changes create pressure on the transport market environment. European Union has arranged "20-20-20" targets, which should be met by year 2020 (EU, 2010). Targets include a reduction in greenhouse gas (GHG) emissions of 20 percent below 1990 levels, 20 percent of energy consumption in EU should be originating from renewable resources and 20 percent of reduction in primary energy consumption by improving energy efficiency (EU, 2010). The objectives have been sustained in White Paper 2011, which extends the targets till 2050. Main goals are: No more conventionally-fuelled cars inside EU member state cities, 40 percent use of low carbon fuels in aviation, 40 percent decrease in shipping emissions, and 50 percent shift of medium distance passenger and freight journeys from road to rail or sea transport. These goals should decrease 60 percent of emissions originating from transportation sector in EU by year 2050. Objectives are very strict, and those cannot be achieved without larger structural changes in transportation sector. (White Paper, 2011)

Railway transport is noted as an option to facilitate the situation. Although some areas in Europe have extensive railway network and both freight and passenger transport is functioning rather well, situation is inverse in Eastern Europe. According to Espon (2009), the Baltic States have the lowest possible accessibility by rail. In addition, second hand statistics review shows that railways have not served as integrating element of core Rail Baltica alignment countries (Poland and the Baltic States) during the economic growth period (pre crisis period before year 2009; Hilmola, 2011), on the contrary nearly all countries have developed their railway sectors alone and in isolation. One good example is Estonia, where volume of rail transport imports and exports is very low (exports 910 and imports 940 thousand tonnes in 2010), but east-west transit traffic level is high (23,860 thousand tonnes) (Statistics Estonia, 2012). This explains why road transports (freight and passenger) have grown so enormously during the years in north-south direction. Railways have been left to serve e.g. in the Baltic States sea ports, which are still handling significant amounts of transit cargo (export raw materials) (Statistics Estonia, 2012). Railways concentration on freight have resulted in a situation, where international passenger transport services practically do not exist; it takes more than two days to travel from Helsinki to Berlin preferring railway option (Hilmola, 2011). However, other kinds of examples are also available. Russia belongs to countries which are strongly developing the railway market: Railway reform (OECD, 2004; RZD, 2012a), several long-term plans and changes in the market environment have built a basis for a vital market structure.

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In this research we report findings from structured theme interviews conducted among main private sector actors and future users of Rail Baltica alignment. We own interest in northern dimension of Rail Baltica, meaning weight is on findings from Estonian and Finnish interviews conducted in 2011. The aim of the interviews was to find out private sector opinions towards Rail Baltica. By elaborating the research objective, research questions were developed. The research questions are: Is Rail Baltica an attractive investment? Is it possible to attract such large volumes that would make the investment beneficial? What are the companies' expectations about Rail Baltica? The empirical analysis is comprehended with Russian railway environment analysis in order to build appropriate bigger picture from northern dimension and requirement of possible Rail Baltica investment. This article is structured as follows: In the next chapter we review literature related to current situation in Eastern Europe and Russia. In the following chapter, research methodology and empirical findings are introduced. In the final chapter we conclude our work, and provide avenues for further research.

Literature review

One of the main objectives of EU concerning rail transport is its harmonization in terms of interoperability. EU has set up European Railway Agency (ERA), which aims at providing EU member states and European Commission technical guidance in fields of railway safety and interoperability (ERA, 2012). ERA is also responsible for European Rail Traffic Management System (ERTMS), which intention is to remove technical barriers against the interoperability regarding the train control system. There are many different factors having influence on interoperability of rail transport, in technical side for example width of gauge, electrification and signalling systems. Administrative harmonization concentrates on operating licenses and educational institutions (e.g. providing education for locomotive drivers), while social harmonization includes e.g. working conditions of mobile workers. EU legislation promotes harmonization in all EU member states, and the harmonization aims at enhanced competitiveness of the rail industry. (Directive 2008/57/EC, 2008; ERA, 2012; European Commission, 2010; European Commission, 2012; European Parliament, 2001)

The Baltic States are currently lacking efficient north-south rail transport connection both in freight and passenger transport (European Commission, 2007). Rail Baltica transport corridor is planned to be implemented through all the Baltic States (Estonia, Latvia and Lithuania) connecting also Finland in the north and Poland in the south. From Warsaw, Poland Rail Baltica would connect also Berlin in Germany i.e. Rail Baltica would create railway linkage connecting Baltic Sea Region to Central Europe. Figure 1 illustrates planned Rail Baltica transport corridor (existing and short term, and possible long term alignments).

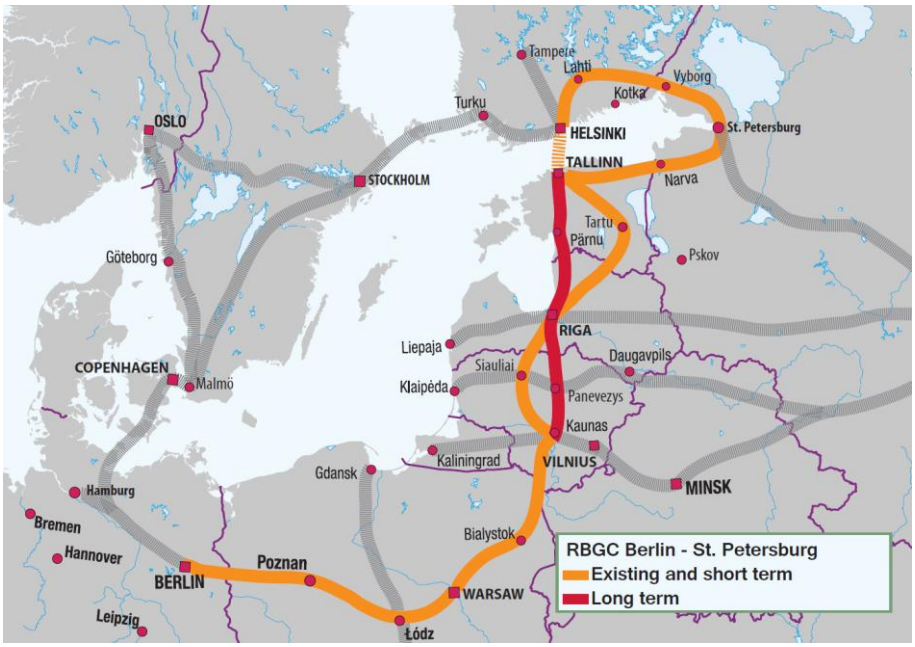

Figure 1. Map of Rail Baltica transport corridor. Source: RBGC (2012)

By investing in Rail Baltica rail transport corridor north-south freight and passenger transport could be improved. Furthermore, the total capacity in this direction would increase heavily. The transport corridor could also connect St. Petersburg, Russia, which would increase possible transport volumes both on passenger and freight side. After all, Russia belongs to world's greatest railway countries, as the annual number of passengers reaches 1.14 billion (in 2009), and in freight sector 85 percent of total freight is transported by rail (excluding pipelines) (Globaltrans, 2012; Rosstat, 2010). In order to have a well-functioning market, the Russian railway sector has confronted several changes during the last decade (see for example Cheviakhova et al., 2004). One of the main revolutions is the three-staged Railway Reform Programme, which started in 2001. First stage in 2001-2002 divided the market into operational and governmental functions. Second phases' (2003-2005) main objective was to establish several subsidiaries, whereas third stage introduced in 2006 concentrated on increasing competition. This part of the reform is still continuing: Russian Railways does not hinder the market entry of new railway undertakings. On the contrary, liberalization is proceeding rather smoothly, as 49.5 percent of Russian freight wagons are privately owned. (Globaltrans, 2012; RZD, 2012a) In year 2011 approximately 1850 companies providing transport services (freight transport, wagon leasing etc.) were operating in the market. Although new market environment started already in 2003 when the volume of leasing contract was less than RUB four billion, the great increase was noted in 2006 when the amount reached RUB 30 billion. (Ushkova, 2007) Although today the main provider of traction services is Russian Railways, further liberalization actions are underway as competition in traction services will be introduced for up to 10 percent of the overall Russian freight rail turnover by 2015. (Globaltrans, 2012) Furthermore, Russia has developed few special programs devoted to railway market's improvement. Federal Target Programme "Russian Transport System Development in 2010-2015" concentrates on constructing new lines and evolves the railway sector. "Development Strategy of the Railway Transport in the Russian Federation till 2030" elaborates the market even further, and strengthens the market environment and structure for future challenges. (Minutes, 2009; Ryshkov, 2010) Based on previous actions Russian Railways is interested in European railway market: In addition to several cooperation projects with Asian countries, RZD has a joint venture with Deutsche Bahn. Trans Eurasia Logistics (TEL) was founded in 2008, and the objective is to sharpen transport volumes by upgrading service quality and generate a unified end-to-end service for freight transportation. (RZD, 2012b)

Research Methodology and Empirical Findings

Eisenhardt (1989) recommends using qualitative case analysis in information gathering, when research provides novel data. In addition, case study research is broadly used in the area of logistics (Häkkinen & Hilmola, 2005). Main methodology of this research work is semi-structured theme interview. Theme interview was introduced by Merton, Fiske and Kendall in their book called "The Focused Interview" in 1956 (Merton *et al*., 1956). Theme interview is a mixture of open and structured interview i.e. attention of the interview is rather on particular themes than individual questions. Same themes are repeated in each interview meeting. Order of the themes can be changed, and it can lead to wider responses from interviewees. Theme interviews have been used commonly in business economics research during the last decades (Hirsjärvi & Hurme, 2010; Koskinen *et al*., 2005). Altogether the questionnaire introduced nine themes, including e.g. company background information. However, this research concentrates on six themes, which are: 1) Decision-making processes and laws, 2) The European Union, 3) The green aspects, 4) Local infrastructure and superstructure, 5) Co-operation with other interest groups, and 6) Opinions and interests towards Rail Baltica. The most important theme for this research is the last one, which focuses on Rail Baltica. Intention was to find out opinions and expectations about Rail Baltica focusing e.g. in demand, technical aspects (e.g. width of gauge and intermodality), frequency, capacity and journey times.

In order to gather an extensive database, interviewees included private sector actors and possible users of Rail Baltica alignment. All interviewed companies were located either in Finland or Estonia, and they represented logistics service providers and clients of freight / passenger transport companies. Altogether were interviewed 15 companies, including seven Finnish and eight Estonian organizations. From Finnish interviewees four companies were logistics service providers and three were clients of freight transport companies. In Estonian side two logistics service providers, four clients of freight transport and two passenger transport operators were interviewed. In order to guarantee the high-level data, all interviewees were logistics managers, CEOs or members of committees. All interviews were conducted during autumn 2011.

According to research results, the Finnish companies have only small influence on transport related decision-making processes. Decision-making is almost always done in political level, especially the final and crucial decisions. Therefore having connections with politicians improve companies' possibilities to effect in decision-making, for example via lobbying. Connections can be even taken to deeper level if politician have roots in the company's home area. Other way of contributing in decision-making is through various associations connecting many companies, which increases the leverage. Difference between Finnish and Estonian decision-making processes is that the actual process is much lighter in Estonia, which is due to lower level of bureaucracy and more positive and company focused attitude of Estonian government. In addition, local governments in Estonia are more open for new companies in their geographical area. Many Estonian interviewees think that doing business is very much welcomed, and companies can focus on business rather than politics. Additionally, Estonian respondents also believe that they have better chance to influence on decision-making than in Finland.

Based on the results the European Union (EU) has had both positive and negative impacts in Finnish and Estonian companies. EU has removed many obstacles such as border crossings inside EU member states. This has substantially facilitated transport organization inside EU. In addition, companies stressed that transporting freight in non-EU member states usually costs more due to tariffs, and usually transporting company needs extra personnel to organize non-EU transportation routes. EU has also helped improving infrastructure in both countries. Effect on infrastructure is much larger in Estonia, where many large scale infrastructural investments are partially funded by EU. Interviewees in both countries also highlighted that harmonizing the rules inside EU member states is important, and it equalizes competition. Main negative side of EU is its role as a regulator. Many EU regulations are irrelevant in Estonian and Finnish transport environment; respondents stated those are based on Central-European countries where road and rail networks are different than in Finland (e.g. roads in Finland are usually wider than in Central or Southern European countries). Driving and resting time regulations focusing on road transport are seen problematic in both case countries. For example, sometimes Estonian truck drivers have to act as security guards for freight in dangerous locations i.e. they cannot rest and they have to continue their journey even more tired than before starting their resting time.

All interviewed companies are aware of the environmental issues originating from transportation sector. Many firms are investing in decreasing environmental impacts (e.g. carbon dioxide emissions) originating from their manufacturing and/or transportation processes. Some of the Finnish interviewees mentioned that their aim is to decrease emissions by 20 percent by year 2020. In addition, some of the interviewed manufacturing companies evaluate environmental impacts of their logistics service providers. Many interviewed logistics service providers maintain their transportation fleet modern to lower fuel consumption. Customers are also well aware of environmental impacts. Currently, western customers pay more attention to environmentally friendly manufacturing and transportation, but in the end the price is still the most decisive factor. Few interviewees also mentioned that some eastern customers are increasing their concern regarding environmental friendliness. Although environmental awareness has increased both in Estonia and Finland, Finnish companies are investing more heavily in decreasing environmental emissions. Many Estonian companies are just now starting to implement their environmental strategies.

According to interviewees in Finland both road and rail infrastructure is in very good condition. Finnish companies do not see any problems in infrastructure of Baltic States either. Some interviewees think that rail network is not in such a good condition than road network, and they believe that maintenance funding is mainly targeted to road sector. The attitude is similar in Estonia, but the overall condition is on lower level than in Finland. Road network in Estonia is on average level, and it is improving with help of EU funding. Rail network in Estonia is in poor condition, but it is improving all the time, but not with same pace as road network. There is only a small amount of congestions in the capital cities of Finland and Estonia (Helsinki and Tallinn) during morning and afternoon peak hours, but interviewees think it is not a problem in either country.

Based on interviewees' viewpoints Rail Baltica is very good and positive project, and it will increase its importance in the future. One main consideration Finnish and Estonian companies have is the sulphur regulation (Det Norske Veritas, 2009), which will become very strict in year 2015 (the sulphur content of any fuel oil used in sea vessels shall not exceed 0.10 percent in the Baltic Sea area). Some interviewees stressed that once the regulation gets more rigorous, Rail Baltica will be very attractive transport solution. In addition, capacity of Via Baltica (the main road transport corridor in north-south direction through the Baltic States) is currently running low. Rail Baltica would be one solution for capacity constraint of Via Baltica.

Furthermore, tightening limitations and regulations in road sector are creating problems, e.g. weight of cargo and regulations regarding driving and resting times. None of the interviewees in Finland or Estonia sees Rail Baltica as a threat for their business. Currently transportation between Finland and Germany is conducted by sea transport. If Rail Baltica would offer fast delivery time and good price level, it could compete with sea transport. Competitiveness of Rail Baltica will also increase, when stricter sulphur emission regulation comes into force. Furthermore, Rail Baltica would be an alternative for short distance air transport. If destination from Finland or Estonia is somewhere in the Baltic States, Poland or Germany, the shortest way would be through Rail Baltica. Some of the interviewed companies have their main market areas near Rail Baltica alignment, and they are very interested in using Rail Baltica line.

Every interviewed logistics service provider suggested the huckepack train as the intermodal solution for Rail Baltica. Huckepack is formed train, which carries whole trucks and semi-trailers (see e.g. Brnjac *et al*., 2007 for more information). For northern transportation logistics this train seems to be attractive solution, because semi-trailers are the main intermodal loading units in European inland transport, whereas containers are used more seldom. One main advantage of huckepack is the ability of faster loading and unloading than container train, providing good basis for intermodal freight transport. Only caveat is that Russia is not currently using nearly at all semi-trailers loaded on rails, but do rely on containers in intermodality solutions (as distances are extremely long). In addition, conventional freight and passenger transport is important for Rail Baltica. Combination of lead time, price level and flexibility is the decisive factor whether choosing rail or some other transport mode. In Estonia freight trains along Rail Baltica are seen as straight competitor for road transport, whereas in Finland the connection is noted as a competitor for sea transport. Price levels along Rail Baltica are assumed to be comparable with other transport modes. According to interviewees, frequency once a day with maximum lead time 24 hours from Tallinn to Berlin would be suitable.

One of the main findings among private sector stakeholders in Finland and Estonia is that Rail Baltica should be connected with Russia. Many interviewees stated that it is not rational to invest in such a large scale investment without connecting it with St. Petersburg, which is situated near cities of Tallinn and Helsinki. Connecting Russia is especially important, because many interviewees believe that without connection there will not be enough transport volume in Rail Baltica transport corridor, and it will not become economically sustainable. However, Estonian companies, which are operating only in domestic level, believe that rail transport will never be an option for them due to small size of the country. It takes at most about four to five hours by road to transport freight anywhere inside Estonia. Due to transhipments between transport modes and waiting times in intermodal terminals, the delivery times would increase. Companies stress that there is certain minimum distance that should be exceeded for intermodal transport to be better solution than unimodal road transport.

Private sector has strong support for Rail Baltica in both Finland and Estonia, but Estonians do have some doubts about the investment's realization. Rail Baltica has been discussed for so long that some Estonians have doubts whether it will ever be invested and constructed. Estonian private sector believes that Rail Baltica would increase the visibility of Estonia in the European and world map. This could increase the amount of tourism in Estonia and other Baltic States as well. However, many interviewees asked: "Who will pay for the Rail Baltica investment?" In addition, importance of co-operation between Rail Baltica countries was stressed in many interview meetings.

Discussion and conclusions

In order to enhance the European transport sector, European Union has set several emission constraints which should be fulfilled before 2020 or 2050 (see for example EU, 2010; White Paper, 2011). As one of the cornerstones to respond the demand has been highlighted more expansive utilization of railway transport. Furthermore, European Union is widely promoting harmonization in all member states, which main intention would be to enhance the competitiveness of rail transport. (ERA, 2012; European Commission, 2010; European Commission, 2012) When assessing the amplitude of rail network, this could be rather easily done in Western and Central Europe where the network is comprehensive, but the Eastern Europe is lacking behind. In order to upgrade the Eastern Baltic Sea Region's rail industry, Rail Baltica has been introduced as an option. Although the results show Rail Baltica is highly hoped for and therefore an attractive investment, Russia's role in assuring the sufficient volumes cannot be diminished. Russia has significantly developed its railway sector during the last decade (see for example Cheviakhova et al., 2004; Globaltrans, 2012; RZD, 2012a) which supports the idea of building a transport corridor to Russia, especially

to Leningrad Oblast and St. Petersburg area. Building a transport link could improve both the freight and passenger sectors –although a lot of freight is transported between the Baltic States and Russia, it is mainly transit traffic from/to harbours. By offering a well-functioning connection to Central Europe the large-scale freight flows could be transferred to rail instead of using the heavily congested Via Baltica road connection.

Research results show that companies are operating under tremendous change period, not least due to increasing environmental demands, cost pressure, year 2009 crisis implications and reforms implemented for example on railway sector. It is evident that Rail Baltica is more than a large-scale investment project, and it should have entirely new approach on the operations to ensure cost competitive, flexible, lead time wise and frequent freight service. Interoperability in terms of gauge width, used intermodal loading units and loading/unloading technology plays significant role. Based on the interviews, dedicated private operators on freight side seem to be preferred option for successful freight operations. Interestingly, Estonia and Finland are lacking of private options (for such large-scale operations), but in Russia railway market has numerous significant actors, not only governmentally owned (or partially owned) companies. Interview findings also stress that companies see Rail Baltica as corridor of integrating Northern and Eastern Europe – linkages should be to Russia and Belarus, but it is also essential to have workable corridor further down from Warsaw. Rail Baltica railway connection is highly hoped for: In order to manage the transition of dynamic transport environment, changes are needed.

As Rail Baltica is a high-scale and large investment project, in order to assure all aspects are covered some further studies are needed. In-depth study concentrating on Russian market, especially Leningrad Oblast would unfold the viewpoints of Russian stakeholders towards the project. This could highlight new standpoints and elaborate the importance of Rail Baltica for Northern Europe.

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