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Improving the competitiveness of the Finnish route in Russian transit transportation – Case Study: Methanol

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<p>The purpose of this study is to examine the past and current state of the Finnish route in Russian transit transportation, as well as its future expectations compared to the competing routes. More specifically, the research focuses on the transit transportation of methanol. The aim of this study is to map out the strengths and shortcomings of the Finnish transit route in order to improve its competitiveness compared to the competing routes.</p> <p>The definition of transit transportation is the transportation of goods between two countries through the territory of a third, without being purchased, declared or included in the foreign trade statistics of the third state. (Myller, Hannola, 2010: 6). Finland is one of five routes used for Russian transit transportation in the Baltic sea region. However, due to improved conditions in the Baltic ports and their low operating costs as well as Russia's projections on shifting more of the transit traffic towards its own ports, Finland is in danger of losing its competitive edge. Therefore, the competitive aspects should be studied in order for Finland to adapt to the changing scenario and maintain its competitiveness.</p> <p>The research was conducted in two parts. First part of the study is theoretical and is based on earlier studies & research regarding the subject whereas the second part contains a survey sent to the operators within the Finnish route. The survey is qualitative in nature as because of the nature of the field, the number of respondents were so low that it was more sensible to ask more detailed opinions on strengths & weaknesses of the Finnish route, than to poll what the majority feels. The research revealed that since the fall of Soviet Union, Russia has been very dependent on transit transportation as it was left with a very limited port capacity in the Baltic sea. Since then, Finland has been the primary handler of Russian transit transportation, as Finland is responsible for handling roughly 80 percent of Russia's methanol export. On the negative side, the Finnish route is noticeably more expensive than the competing Baltic routes. Therefore, instead of competing with lower unit costs, Finland has relied on safety & reliability, specialization and efficiency to maintain the competitiveness of the route. However, the difference has been steadily decreasing, while the price gap remains, meaning that Finland is losing its competitiveness.</p> <p>As for the future, the Finnish route needs to focus on its pricing levels and the overall efficiency of the whole logistics chain in order to keep the costs at a reasonable level. Furthermore, the transportation and information flow across the border, between Finland and Russia, were seen as the most flawed in the logistics chain and therefore, needs further examination.</p>	
Keywords	Transit, Transportation, Methanol, Finland, Russia

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1 Introduction

Finland has a very active relationship with Russia. The two countries engage in a lot of cooperation in multiple different industries, such as logistics, trade, technology, investments, energy and innovation. As a trading partner, Russia is crucial to Finland. (Lohi, 2014: 7).

The fall of the Soviet Union generated a drastic shift in transportation in the Baltic Sea region. Russia was left with only a fraction of its port capacity, as large portion of its former ports were left in the hands of other countries. Nowadays, Russia has a lot of common border with multiple different nations along the Baltic Sea, but only a limited amount of own port capacity. This complicates Russian export operations as greater part of it is transported through the Eastern shores and the Baltic Sea. The capacity of Russia's own ports in the Baltic Sea is not enough to handle all of the cargo needed and therefore, Russia has to resort to foreign ports in order to fulfil the shortage. Finland is in a geographically favourable location to fulfil these needs. Finland's transportation connections as well as its logistical infrastructure is beneficial to Russian transit transportation. The benefits of this cooperation, for Finland, cannot be belittled either. Transit transportation is a noticeable increase to the traffic of Finnish ports and the direct profits of transit transportation as well as the impact on employment in the port cities, is prominent.

Finland has a good position regarding the handling of Russian transit transportation. However, competition is fierce. The Baltic routes, not to mention Russia's own ports, compete with lower unit costs whereas the Finnish competitiveness is based on specialisation, efficiency, competence & service as well as up to date technology. The competitiveness between the transit routes will only increase, and Finland has to be able to continue to offer a high quality and competitive option for Russian transit transportation.

2 Methodology and Research Question

This study is done through the use of qualitative research methods. The study relies on data obtained from earlier studies regarding the matter as well as a questionnaire sent to the operatives from different areas within the Finnish transit route.

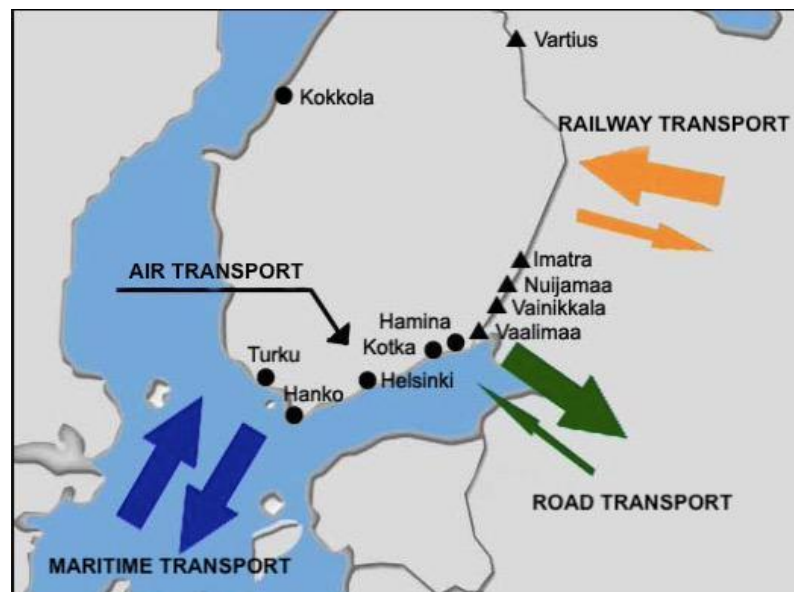
The theoretical side of the study relies mainly on the information gained from multiple earlier studies regarding or related to the transit transportation industry. The matter has been studied relatively extensively in the early 21st century, however, there are fairly limited amount research in the recent years despite noticeable changes. This does bring up the issue of assessing the timeliness of the information, and therefore, the need for a larger amount of data to support the findings. The research data contains studies from various universities as well as information from private companies and governmental institutions. The second part of the thesis comprises of a questionnaire sent to operatives from different areas within the Finnish transit route. Whereas the theoretical part of the study inspected the past and current state of the Finnish route, the questionnaire focused more on the future prospects of the route. Due to the nature of the field, the questionnaire had a limited number of respondents and therefore, represents the views of a limited group. Given the information above as well as the overall nature of the study, a conclusion was reached that the most sensible methodology to conduct the research was qualitative approach.

The purpose of this study is to investigate the strengths and weaknesses of the Finnish route in order to be able to answer the research question of how the competitiveness of the Finnish route in Russian transit transportation could be improved in comparison to the competing routes?

3 Transit Transportation

The definition of transit transportation is the transportation of goods between two countries through the territory of a third, without being purchased by the transit country, declared in the transit country, nor are they included in the foreign trade statistics of the transit country. (Myller, Hannola, 2010: 6) In this case, Finland acts as intermediary for goods going to, or leaving Russia.

Figure 1. Transit transport through Finland (Myller, Hannola, 2010: 14).



Transit transportation through Finland officially started in the 1970's with container transportation from Europe, through Finland and Soviet Union, to Japan and from Japan back to Europe. The route was seen safer and more reliable as the formerly used maritime route between Japan and Europe. Officially, transit transportation between Finland and Russia started in 1976, when Soviet V/O Sojuzvneshtans and Finnish Railroads (VR) concluded on transit transportation agreement. In 1980, V/O Sojuztransit, Soviet company that was founded for handling the goods in transit through Soviet Union, entered into the agreement as well. (Sundberg, Räsänen, Posti, Pöntynen, 2010: 35).

Russia, and especially Northwest Russia, faced a totally new situation with the collapse of the Soviet Union in early 1990's. Former Russian ports in the Baltic, such as Tallinn, Riga, Ventspils, Liepaja and Klapeda were no more under Russian infrastructure, but served the new Estonia, Latvia and Lithuania. This caused a lot of pressure in the transportation system in Northwest Russia, especially as it was the largest macro-region measured by exports and imports with St. Petersburg as the main area of traffic but lacked the capacity to fulfil its needs. (Pekkarinen, 2005: 66). This forced Russia to rely on third countries with their export transportations. After the collapse of the Soviet Union, Finland had a noticeable advantage with Russian transit transportation as the relationship between Russia and the Baltics were fairly tense. Other advantages of Finland were also prior bilateral trade, and therefore, Finnish operators had experience with eastern trade. Furthermore, the Finnish route was seen as reliable, fast and safe. (Kelamaa, Länsmans, 2010: 2).

The Russian economy has grown rapidly in the last few decades. This has enhanced consumption possibilities, which has consequently increased the demand. As domestic in these sectors has been insufficient to fulfil the market demand, and consumers have preferred imported products, this has meant a possibility for Finland to export the demanded articles. (Myller, Hannola, 2010: 23).

3.1 The Baltic motorway

The route to Russia, through the Baltic sea is nicknamed "the Baltic motorway". Within the Baltic motorway, there are several routes, as seen on figure 2. The Baltic motorway is the main route for Russian transit transportation, and it covers roughly 40 percent of Russia's foreign trade. (Sundberg et al., 2010: 28). The Baltic motorway is extremely important route, not only to Russia, but to the transit countries as well. However, the Baltic sea possesses its own set of challenges as well. Due to the shallow water of the Baltic sea as well as the narrowness of the canal between Denmark and Sweden, the largest vessels cannot get to the Baltic sea. (Aho, 2016: 10).

Figure 2. The Baltic motorway (Pekkarinen, 2005: 36).



Usually the big overseas vessels head to other European ports such as Rotterdam in the Netherlands, Antwerp in Belgium or Lübeck in Germany, where the goods are transferred to smaller feeder vessels which, are serving the Baltic ports. (Kilpeläinen, 2004: 11).

3.2 Modes of transit transportation

The different modes of transit transportation are illustrated in figure 1. These are maritime transport, road transport, railway transport and air transport. The most commonly used transport mode over time has been by road. This mode is the most common in both, value measured in euros as well as in thousands of kilograms. The railway transportation mode is the second largest and is followed by maritime transport. (Myller, Hannola, 2010: 28). Air transportation is a mode as well, however, not substantial. Despite this, as the customer is selecting the mode of transportation, the maritime transportation often has good qualifications to be the most affordable option. This is largely due to the fact that maritime transportation can carry substantially larger loads with less energy than the other modes of transport. Also, in a worldwide perspective, roughly 95 percent of goods are transported by water. (Aho, 2016: 10).

Regarding Finland, transit transportation can be divided into four different types of transportation. Firstly, there is transportation that arrives to the Finnish ports by sea, from a third country and leaves for Russia by road or by rail. Secondly, there is the transportation that arrives to the Finnish ports by road or rail and leaves for a third country by sea. Thirdly, transportation that arrives to Finland by the Trans-Siberia, for further processing and then leaves back to Russia. Finally, transportation that, both arrives and leaves Finland by sea. (Märkälä, Jumpponen, 2007: 13). Some transit cargo also arrives to Finland by air and leaves for Russia by road.

3.3 Westbound transit

Westbound transit transportation is a term used to describe the transit transportation heading from east to west. Usually from Russia to Europe or further. Westbound transit contains mainly bulk products and items with a low refinement level. Westbound transit through Finland is mainly rail transport from various production plants in Russia to Finnish ports, from where they are shipped to third countries. (Myller, Hannola, 2010: 9). In 2019, the westbound transit transportation totalled in 8.4 million tonnes of cargo, which comprised of ores & concentrates, fertilizers and chemicals. (Statistics Finland, 2020).

3.4 Eastbound transit

Opposed to the westbound transit, eastbound transit transportation naturally means transit transportation heading from west, such as Europe or America to east, mainly Russia. Eastbound transit usually arrives to Finland by maritime transportation and leaves for Russia by road. Traditionally Finland has been the main route in transportation of valuable goods from EU to Russia. (Myller, Hannola, 2010: 7). In 2019, the eastbound transit comprised mostly out of general cargo & other merchandise, metals and manufactures as well as chemicals. (Statistics Finland, 2020).

3.5 Gateway Position

The importance of Finland to Russia, and its outbound transit transportation, is strong. This is largely due to the fact that Finland has good connections to the two most important as well as biggest cities in Russia, Moscow & St. Petersburg. (Aho, 2016: 9). With transit transportation, a phrase “gateway position” can surface. A gateway position means a country is a natural transit station when it comes to other country’s international transportations. A natural transit station form through good connections and with adequate logistical infrastructure between the markets. Finland has a geographically beneficial place when it comes to Russian transit transportation. The transport connections to Russia are good as well as its logistical infrastructure is beneficial with transit transportation. (Lohi, 2014: 10). Therefore, Finland can be seen as having a gateway position in regard to Russian foreign trade.

During the soviet times, Finland’s gateway position was prominent at times, strongly due to Finland’s rail gauge matching Soviet Union’s, unlike the rest of Europe. However, most of the transit transportation went through Baltic ports. After the collapse of the Soviet Union, Most of Soviet era maritime ports were left to the Baltic countries, and Russia was left with Kaliningrad and ports surrounding St Petersburg. That, with tension between Russia and Baltic countries weakened the attractiveness in using the Baltic ports with Russian foreign transports. (Märkälä, Jumpponen, 2007: 13). This naturally increased the position of other gateway routes, such as Finland. Finland’s strong position based on Finland’s prior experience in dealing with Russia unlike other neighbouring countries. The Finnish route also possessed noticeably faster handling & transportation times as well as, on average, lower excess cost in delivery failures. The Finnish route was seen as reliable, fast and nearly trouble-free. (Märkälä, Jumpponen, 2007: 14).

At the moment, Russian ports in the Baltic have a shortage of terminal capacity, which in turn, raises the costs. This creates a great opportunity for the Finnish ports, as they seem more interesting to potential clients. However, the weakness of the Finnish ports is the pricing, which is much higher than the other routes. Despite the high prices, the Finnish routes strength is in efficiency and the guarantee of fast and reliable supply chain. As the Russian ports overflow their capacity, Finnish ports have traditionally been the most important overflow ports.

According to Aho (2016), transit transportation has had a huge impact especially to Southeast Finland and to the HaminaKotka -harbour, where the transit transportation has concentrated the most due to the convenient location near the Russian border. Transit transportation has grown immensely, and the volumes have doubled in the last few decades.

4 Methanol

Methanol is one of the most widely used chemicals throughout industries as it is chemically simple and easily produced from carbonaceous materials. Methanol is good solvent but very toxic and highly flammable, therefore, it is considered to be a dangerous substance. (Meuronen, 2017: 9). A substance is considered dangerous, if it is highly explosive, flammable, infectious, radioactive, toxic, corrosive or possesses any other properties that are likely to cause damage to people, the environment or to property. (Posti, Häkkinen, Mylläri, 2013: 7). Methanol can enter the human body by inhalation, absorption through the skin or by mouth. Methanol poisoning can result in blindness, organ failure or even death, so it should be handled with care and aware of the risks. (Meuronen, 2017: 9).

Methanol is also one of the most important and useful chemicals. It can be used on various different scenarios, such as a fuel and fuel additive for cars, ships and turbines, as a chemical raw material, as a carrier of hydrogen in fuel cells, in wastewater treatment, as a coolant and antifreeze component or as a solvent. (Meuronen, 2017: 10). According to Customs Finland (2020), the share of chemical industry products in 2019 transit transportation, amounted to 20%, making it the biggest singular product group in Finland's transit transportation. Transportation of chemical products are mainly handled in the port of HaminaKotka, in South-eastern Finland.

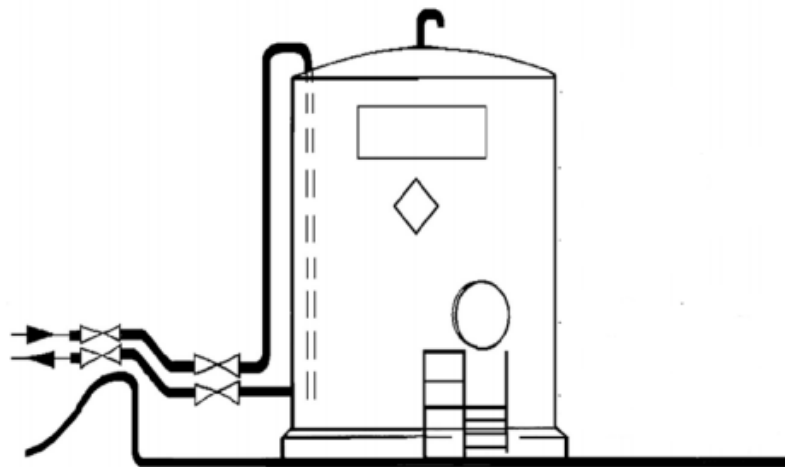
4.1 Transportation and storage of methanol

It is estimated that about 2 000 different chemicals are regularly transported in the seas of the world. Dangerous goods are transported both in bulk and in packaged form. The transportation of packaged goods is especially dangerous, as they are usually

transported on many types and sizes of ships, such as general cargo, container- and ro-ro- ships along with non-hazardous cargo. The same transport unit can also contain several different chemicals that, when mixed, can form a destructive combination of substances. Therefore, there are specific rules and regulations regarding the transportation and storage of dangerous goods. They are intended to ensure the safety of the transportation and storage of dangerous goods and seek to reduce the occurrence of damage in the event of an accident. (Posti et al., 2013: 7).

Methanol is stored in specific containers designed for dangerous chemicals. These containers are carefully built for specific use, as they need to withstand corrosion from both, external and internal factors and the material must not react with its contents. Other structural elements are also built according to extremely specific regulations in order to guarantee safety and structural integrity. (Tukes, 2015: 16-19). Most of Finland's chemical cargo is handled in the port of HaminaKotka, where there is a liquid container capacity of roughly 200 000 cubic metres. (Port of HaminaKotka, 2021).

Figure 3. Chemical container. (Tukes, 2015: 20).



The rules and regulations of transporting dangerous chemicals varies a bit depending on the transportation method. Mostly though, transporting methanol is quite similar to transporting gasoline. Methanol is mostly transported via maritime or by railway. In bulk

maritime transportation, methanol is pumped into sealed cargo holds of tanker ships. Double-hulled vessels are commonly used in this transportation method in order to minimize the chance of an accident. The tanker ships also have certain special provisions, such as cleanliness, methanol leak detection, appropriate firefighting equipment as well as pump, piping, hose and gasket materials suitable for methanol service. Smaller amounts of maritime methanol transportation are usually transported with ro-ro ships using chemical transport trucks. In railway and truck transportation, specially designed tanker cars are used that have specific provisions such as grounding for protection against static discharge as well as pressure relief in order to accommodate thermal expansion during transit and short-term side-lining during switching and temporary holding. (Methanol Institute, 2013: 23-24).

In every transportation, all of the containers must be marked with relevant markers and signs in order to clearly indicate the cargo being transported. The dangerous goods must also be declared according ADR declaration (Dangerous Goods Declaration). Methanol is included in class 3 (flammable liquids), packaging group II (dangerous substance) however, methanol is not classed as not dangerous for the environment. With dangerous goods transportation, a dangerous goods transportation supplement is also included in the costs. It is a compensation to the carrier for the risk he takes during the transport. It covers the cost of ensuring transport safety, such as safety equipment and supplies, staff training costs and maintenance costs. (Logistiikan Maailma, 2020).

5 Finland

Finland's role as Russia's traditional trading partner has changed several times, due to changes in the political relationship between the countries. In the 19th century, the role of Russia was crucial to Finland's exports with shares up to 30-40 percent. After Finland gained independency, the trade dropped momentarily to almost zero but increased again after the Second World War. (Pekkarinen, 2005: 29). Last year, the total amount of cargo handled in the Finnish ports, were 13 million tonnes, and of this amount, roughly 9 million tonnes were transit cargo. This means that roughly 69 percent of the cargo handled in the Finnish ports, is transit transportation. Around 8.4 million tonnes were transit exports and transit imports amounted to roughly 0.6 million tonnes. (Statistics Finland, 2020).

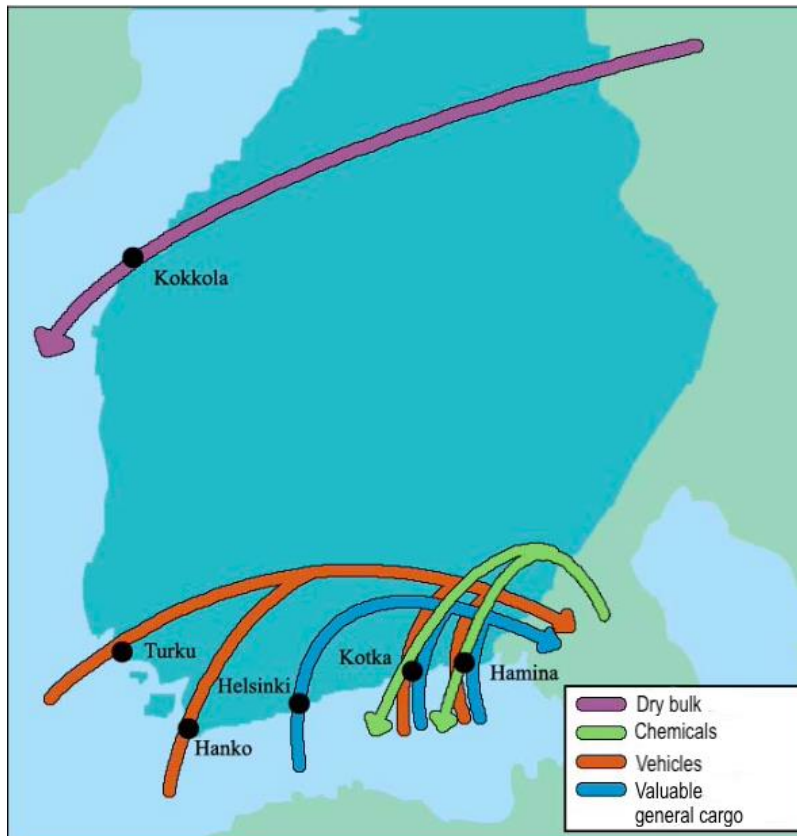
Transit transportation through Finland officially started in the 1970's with container transportation from Europe, through Finland and Soviet Union, to Japan as it was seen as much safer route than the maritime transportation. After the cooperation contract between Finnish Railroads (VR), V/O Sojuzvneshttrans and V/O Sojuztransit, Finland's transit transportation has been growing steadily. Finland's evolution into a transit country has also been affected by Finland's geographical location, same railway gauge with Russia and long interconnection experience between the two countries. (Sundberg et al., 2010: 35).

5.1 Finland's transit routes

Finland's transportation route includes a couple option in regard to what exactly is being transported. Most of the cargo is transported along the southern coast along the E18 (which runs from the Russian border all the way to Turku) to the harbours in the southern coast. However, most of the dry bulk is transported via railway, through central Finland to the port of Kokkola.

As seen on figure 4, the main criteria for selecting the port is the cargo being transported. For example, most of the dry bulk is transported through the port of Kokkola, whereas most of the chemicals and hazardous materials are transported mainly through the port of HaminaKotka. Transit transportation through Finland has a significant importance to Finland and especially to the region of Kymenlaakso, where the port of HaminaKotka is located and where most of Finland's transit cargo is being handled. Besides the income generated by the transportation itself, transit transportation has a significant importance to the employment in the region as well.

Figure 4. Finland's main transit routes. (Posti et al., 2009: 64).



The Finnish transit route is connected to Russia via the so-called northern axis. It is one of five international transportation channels that connects the EU with other close regions. The mainline of the Finnish route consists mainly out of the E18 highway, that runs through Turku, Hanko, Helsinki, Kotka & Hamina to St. Petersburg and further to Moscow. (Sundberg et al., 2010: 39).

Figure 5. E18 through the Southern coast of Finland. (Pekkarinen, 2005: 95).



After arriving to St. Petersburg or Moscow, the cargo continues its journey mainly via the Trans-Siberian railway to the far east. Through these multimodal axis channels, cargo can be easily transported from Russia to the Baltics & Germany. The Finnish ports have a connection through the Baltic motorway to the western European ports and furthermore, to the Southern European ports as well as other continents. (Sundberg et al., 2010: 39).

5.2 Transit ports

Within the Finnish route, there are 5 main ports that are used for transit transportation, the ports of Turku, Hanko, Helsinki, HaminaKotka and Kokkola. Basically, all of Finland's transit transportation is handled within these ports and which port is selected, depends on what is transported.

The port of Kokkola is located in the northern shores of Ostrobothnia. The port is an important link in the trade between east and west by offering fast connection to Russia as well as the other world. The Kokkola port is connected by railway to the region of Murmansk, the Kola peninsula as well as further western Siberian regions. On the other side, a 13-meter-deep waterway leads up to the port enabling the larger vessels an access to the port. (Sundberg et al., 2010: 45). Kokkola's transit transportation consists mainly out of dry bulk, such as iron pellets or enrichments.

The port of Turku is located in the Southwestern coast of Finland, roughly 150 kilometres from Helsinki. The port of Turku is focused mainly to large unit loads. The port of Turku is also the only harbour with a train ferry port. (Sundberg et al., 2010: 48).

The port of Hanko is the most southern port in Finland and is located in the southern coast of Finland, about 130 kilometres from Helsinki. The port has a fast access to central Europe as well as to Russia.

The port of Helsinki is the biggest general port in Finland. The port of Helsinki operates in three different locations, the south harbour, the western harbour and the port of Vuosaari. The south harbour & the western harbour handles mainly passenger traffic and ro-ro traffic that is transported with the passenger vessels. The port of Vuosaari

focuses mainly on container and ro-ro transportation. (Sundberg et al., 2010: 47). In regard to transit transportation, the importance of the port of Helsinki has decreased in the last decade.

The port of HaminaKotka is a combination of two different ports that are located around 30 kilometres and around 60 kilometres from the Russian border. The two ports merged in 2011 in order to enhance the utilisation of capacity and synergy benefits. The port of HaminaKotka is the most eastern port in Finland and therefore it mainly focuses on Russian transit transportation.

5.3 Border stations

The main transit border stations between Finland and Russia, are located in southern Finland. They are Vaalimaa, Vainikkala, Nuijamaa & Imatra, as seen on figure 6. Nowadays, most of the transit transportation through Finland are ores and pellets from Russia, that runs through Vainikkala (Partanen, 2013). It has the largest total cargo amounts and most of the methanol transportation runs through Vainikkala as well. However, with general cargo, Vaalimaa is seen as the primary customs and border crossing between the EU and Russia.

Figure 6. Main transit border stations. (Pekkarinen, 2005: 32).



In regard to transit imports, last year, around 89 percent of the 604 thousand tonnes of transit imports, heading to Russia, were handled in the Vaalimaa border crossing. Nuijamaa border crossing handled 5,9 percent and Imatra 4,8 percent. (Customs Finland, 2020).

5.4 SWOT

SWOT-analysis is a framework used to analyse the competitiveness of the research subject compared to its competitors. The name comes from the words: Strengths, Weaknesses, Opportunities & Threats. In this chapter, these four aspects are used to study the current state of the Finnish route and its competitiveness compared to the competing routes in the Baltic sea.

Strengths:

Finland has a long list of strengths in Russian transit transportation compared to other routes. According to Sundberg et al., (2010), the main strengths of the Finnish route include the functionality of the logistics chain, competitive infrastructure and geographical location with a long common border and long history of cooperation with Russia. The functionality of the logistics chain includes security of supply and fast lead times. Cost awareness is also well acknowledged. The Finnish operators are well aware of how long the cargo takes to travel from the port to the border and how much will it cost. The fast lead times include frequent transport links as well as fast border crossings. The infrastructure of the Finnish route has been praised as well, for the quality of the Finnish ports. Advanced port operations, professional and logistical knowledge and quality icebreaking equipment are what makes the difference in comparison to the competing ports. Especially from the port of HaminaKotka, the distance to the Russian border, and furthermore to St. Petersburg, is extremely short, which is seen positive, not only from transportation aspect, but from ecological point of view as well.

Other strengths of the Finnish route include, excellent storage that offers added value services. However, in the last decade, storage capacity in Russia has increased significantly which, in turn, reduce the amount of cargo storage in Finland. Largely,

Finnish customs operations have also been praised and the political relationship between Finland and Russia is better and more stable than on the competing routes.

Weaknesses:

The biggest weakness by far, for the Finnish route is price competitiveness. The Finnish route is significantly more expensive than the competing routes. However, there must be price competitiveness to some extent as there are traffic, but the threat of cost running too high is real. With valuable cargo, there is a larger variety for pricing, but with transit transportation coming from Russia, even a smaller shift in prices will deprive the Finnish route's price competitiveness. Also, the Finnish customs are viewed by some as a weakness, and it shows in the form of truck queues at the border. However, this can be partially be due to the fact that the Russian train cars, that are used in transit transportation, are hard to find and therefore, the traffic cannot be directed towards railway transportation. (Sundberg et al., 2010: 52).

Finland's location and its coast brings own challenges to maritime transportation as well. Winter conditions and ice breaking pricing structure, as well as the coastal line, which is rugged and shallow. The Baltic sea is also the only way to the Finnish ports and many vessels cannot reach the Finnish ports because of the shallow waters and narrow entryway near Denmark. This means that the larger vessels need to unload in the bigger European ports, where the cargo is then transported to the Baltic seaports with smaller vessels. (Aho, 2016: 10).

Opportunities:

Eastbound transit transportation has been steadily decreasing the last decade. However, it is important for Russia to get its own exports to the world and therefore, the Finnish ports work exceptionally well as an overflow ports for the Russian exports. (Aho, 2016: 46). If the Russian foreign exchange would experience a sudden growth, especially regarding the imports, the container capacity of Russia's own ports would run out rather quickly and the Finnish route could be used as a so called, backup valve. Of course, the global decision makers want to leave space for options and therefore, more than one route will naturally be used. (Sundberg et al., 2010: 52). However, there are multiple

Russian owned export terminals in Southern Finland where cargo is being stored before shipping out to the world. (Aho, 2016: 46). This naturally increases the odds for the Finnish route. Dry bulk transit transportation has been steady largely due to determined investments towards the port as well as the waterway infrastructure and the cargo handling has been improved. With Bulk- transportation, large part of the customer base are large industrial institutions that are easier to manage than in container transportation. (Sundberg et al., 2010: 52). With dry bulk transit transportation, success is largely due to own actions.

The future opportunities of the Finnish transportation have been mainly seen in highly processed and valuable cargo, such as speciality chemicals. Also, train connections with Russia was seen to have great potential. Having and maintaining a competitively priced and fast railway connection to Russia will keep Finland in the competition for the transit routes. (Sundberg et al., 2010: 52). The aim for the Finnish route should be positioned as a reliable link to the markets and for Russia to experience the Finnish route as a part of their logistical network.

Threats:

The biggest threats for the Finnish route and its future are the constant investing, development and favouring of Russia towards its own ports as well as the competitive growth and lower price range of the Baltic routes. With Russia shifting more transportation towards its own ports, the competition keeps increasing on the overflow and with the Baltic routes slowly narrowing the quality service gap between them and the Finnish route, while keeping the much more affordable price ranges, the threat of the Finnish route becoming too expensive is real and should be taken into consideration.

Other threats for the Finnish route include the instability of the Russian economy, Russia's political and furthermore, internal actions, weakening of the relationship between the EU and Russia as well as possible accidents or catastrophes that would affect the transportation within the route.

6 Russian Federation

Russia is the largest country in the world with a territory of around 17 million square kilometres. One third in Europe and two thirds in Asia. The vastness of Russia also depicts the fact that the country is divided into 11 time zones and has 14 different bordering countries, Norway, Finland, Estonia, Latvia, Lithuania, Poland, Belarus, Ukraine, Azerbaijan, Georgia, Kazakhstan, North-Korea, Mongolia & China.

Russia has a population of around 144 million people, which makes it the 9th most populated country in the world. However, most of the population lives in the big cities mainly located in the western Russia. In fact, only about a third of Russia's territory is inhabited. On the other hand, almost 80% of Russia's land mass is in Asia and has excellent natural resources.

6.1 Economy

Russia is a globally important economy and one of the fastest developing as well. The economic growth has been supported by the high world market prices for energy products as well as intensification of domestic consumption, investments and the service sector. As a result of economic growth and increase in wage levels, the purchasing power and consumption of the Russian people have increased. This has had a positive impact on Finland's export and transit transportation as well. According to Kelamaa & Länsmans (2010), most of Russia's exports are oil and natural gas which has led to increasing cash flows into Russia, and therefore, led to increase in the standard of living and prosperity of the population.

Russia has a total of 12 cities with a population of over a million, biggest ones being the capital, Moscow with a population of around 12,6 million people and St. Petersburg near the Finnish border with a population of around 5,5 million people. The Russian regional structure is very capital city centric. Moscow is clearly the biggest centre both, by population as well as by economic activity and concentration of capital. Russia's preliminary transportation infrastructure, that comprises of the railway system spread out in every direction from Moscow. Other cities have formed along the railway lines as city chains. Large cities are located far away from each other and there are very few medium

sized cities in between. Among the capital region, there have formed other similar concentrations of population, industry and capital. This kind of chained and focused regional structure significantly complicates the even and efficient utilisation of the nation's resources. (Sundberg et al., 2010: 14).

According to the World Trade Organization (WTO), in 2019, foreign trade amounted to roughly 49 percent of Russia's GDP. Russia's biggest trading partners were China (17,65%), Germany (8,4%), Italy (3,9%) and Turkey & South Korea both with 3,5%. Finland is currently 13th with a 2,1 percent share.

6.2 Transportation infrastructure

The geographical location, covering the largest area of all the countries in the world, gives Russia an advantage especially in transit traffic. However, the logistical service sector is still underdeveloped. According to Pekkarinen (2005), Russian exports has concentrated mainly on raw materials and bulk products, which has slowed down the evolution of logistics services. The production of more industrialised products affects the need of logistics services in the form of production optimisation and distribution.

Russia has one of the most extensive transportation systems, with railway transportation being the most important aspect. Russia has a total of 149 000 kilometres of railways, from which, roughly 87 000 kilometres are in public use and around 62 000 kilometres belong to certain industries and corporations. Russia also has around 930 000 kilometres of roads useful for transportation with trucks or other motor vehicles. However, the road network is somewhat in poor condition and is unevenly distributed among regions. Maritime transportation has an enormous effect especially on Russia's foreign trade. Russia has a total of 43 maritime ports, which the largest ones are located in the shores of the Baltic Sea, the Barents Sea, the Black Sea and the Sea of Japan. (Sundberg et al., 2010: 14). The Russian transportation system is specialised in lengthy routes and cargo carried by railroads. While the processing industries are located mainly in the European part Russia as well as in Southern Siberia, the raw materials, such as oil, natural gas and metal ores, are mostly found in the Asian part of Russia. According to Pekkarinen (2005), this results in costly transportation as it takes a lot of time to carry the cargo from the source to the destination, and to make the situation even harder, the

climate is extremely severe and the population density very low at the source. This creates a situation where the logistical routes have to be extremely well organised and resistant to the weather. Furthermore, because of the harsh conditions, there are places not reachable by road, but only by railroad.

A common problem in the Russian transportation sector has been the incompatibility of the modes of transport between import and export traffic. According to Märkälä & Jumpponen (2007), Import has mainly comprised of container cargo whereas export traffic has mainly been bulk. Therefore, the requisites of export and import are completely different. In addition to the capacity problems with the ports, the different requisites of export and import is the other main reason why the port of St. Petersburg has been mainly used for exports. Furthermore, the location of the port of St. Petersburg, in the middle of a large city, causes excess traffic, traffic slowdown and restricts the expansion of the port infrastructure.

Like economic development, the development of foreign trade transportation is affected by the growth of the Russian GDP. But so is globalisation, which is shifting the focus of the economy towards Asia. Russia aims to develop its transportation infrastructure, for example, by improving the capacity of Trans-Siberia as well as the north-south traffic. This plan includes large different projects around Moscow region, which is the main transport hub for all modes of transport. Furthermore, new ports are built in Far-East Russia which enables more efficient oil exportation to Asia and America. (Kelamaa, Länsmans, 2010: 16). The Russian transportation volumes will increase in the European side as well which, in short term, plays a more important role regarding the infrastructure projects.

The main problem with the route through Russia's Baltic Sea ports, is the limited capacity of the ports, especially regarding import traffic. In Russian Baltic Sea ports, container traffic is handled only in the ports of St. Petersburg, Ust-Luga and Kaliningrad, which only increases the problem of import transportation capacity within Russia's own ports. According to Posti et al. (2009), the lack of port capacity is the main reason, why other alternative routes are even used for Russia's foreign trade in general.

6.3 Ports

After the collapse of the Soviet Union, almost half of the port capacity were left in the hands of other countries. Due to this, Russia has been dependent on transit transportation via the ports of other countries. (Kelamaa, Lämsmans, 2010: 15). Most of Russia's current ports in the Northwest, are clustered around St. Petersburg, at the end of the Gulf of Finland. The only ports in the Northwest separated from the cluster, are the ports of Murmansk and Kaliningrad. Therefore, Russia's own transportation routes in the Baltic Sea, runs either through St. Petersburg towards inland or from Kaliningrad via Lithuania & Belarus, to Moscow.

Figure 7. Russian ports in the Gulf of Finland (Hernesniemi et al., 2005: 140)



The main problem with Russia's own ports, is the location. Firstly, Kaliningrad is said to be the only Russian port in the Baltic Sea, which is free of ice around the year. The ice-breaking equipment in the Russian ports, are mediocre and outdated, which creates seasonal problems and delays in the traffic. Secondly, the location of the ports near downtown areas can be a problem, for example, the port of St. Petersburg, which is located in the middle of the city. According to Pekkarinen (2005), the high amount of common traffic slows down the connection between the cities. Other problem with the location is that there is little to no room for expansion of the port infrastructure. These problems can be solved by moving the ports further away from cities, but close enough

to maintain good connections to main routes. The port of Ust-Luga is a good example of placing strategy. However, too long distances between the major market and the port, such as in the case of the ports of Kaliningrad and Murmansk, can become a restrictive factor in the use of the ports. Furthermore, according to Märkälä & Jumpponen (2007), the problem with Kaliningrad port is that Kaliningrad does not have a common border with mainland Russia and so, the route has to go through Lithuania, which creates additional customs formalities, making it unfavourable route for transit transportation. Further problems associated with Kaliningrad route, are the depth of the entryway as well as the numerous military areas within the region.

The ports of Northwest Russia also suffer from poor facilities that are in need of reconstruction and modernisation. The quality and service, especially in the oil & chemical terminals are below international standards. However, Russia has invested significantly in to developing its ports in the Baltic Sea. According to Posti et al., (2009), by developing its ports, Russia is striving for self-sufficiency in the port sector and to make its own ports competitors, especially in the Baltic Sea.

7 The Political Relationship Between Finland and Russia

Finland have had an interesting relationship with Russia throughout history. It was under Soviet ruling until 1917, when Finland gained independence. Finland has since fought two wars with the Soviet Union, in 1939 and 1944, and during the Cold War, have had to adapt its policies to suit the Soviet Union, while still remaining officially neutral and keeping good ties with the West. This history has created a situation, where Finland's current relationship differs from those of other Russia's other neighbours in the Baltics and Eastern Europe. Finland aims to continue a friendly relationship with Russia, while remaining 'hard-headed' and realistic. Finland have had relatively good success on the matter as Finland has far more stable relationship with Russia, than the Baltics. However, actions in the recent years have brought tension between Russia and the West, mainly in form of sanctions and uncertainty, which has had an effect on Finland as well, as it tries to maintain good relationships between both sides.

7.1 Sanctions

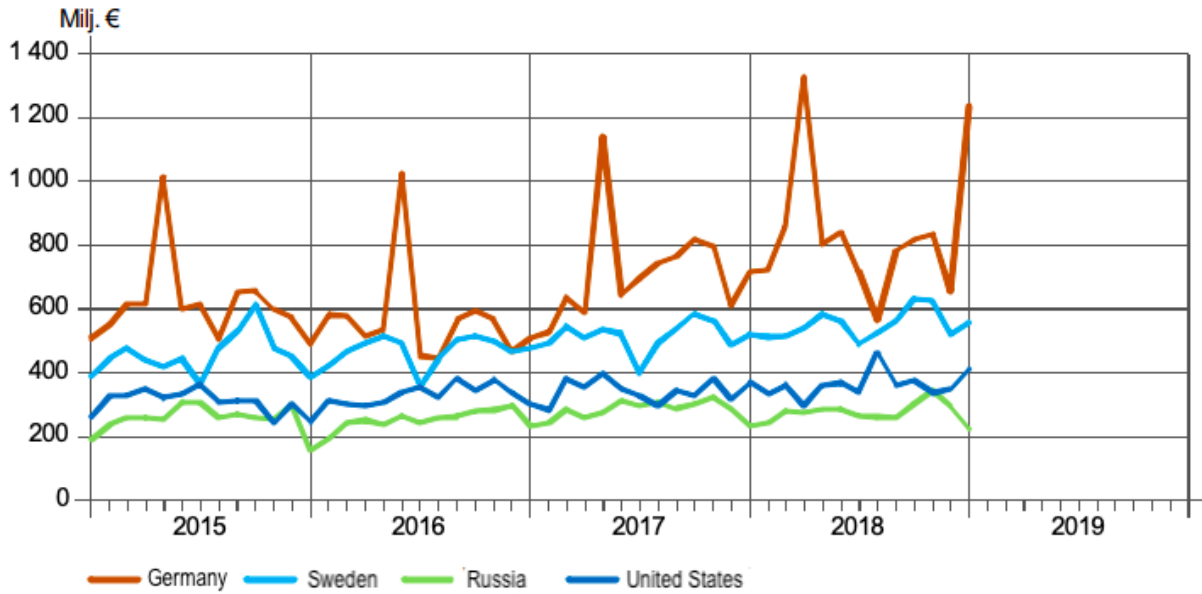
According to the Ministry for Foreign Affairs of Finland (2020), Sanctions are intended to prevent the policies of a particular state or a group of people if they threaten international peace or security. Essentially, sanctions can restrict or suspend commercial cooperation or transport and communications links. These restrictions are intended to put an end to ethically wrong policies. Sanctions are often imposed if a state engages in, for example, the proliferation of weapons of mass destruction, international terrorism or large-scale human rights violations.

In 2014, Russian forces occupied, and later annexed, the Ukrainian region of Crimea, reportedly as a result of Ukraine's new pro-west government shifting closer towards the EU and NATO. The EU felt responsible for improving the situation in Ukraine and therefore, imposed sanctions on Russia. These sanctions include limitations such as financing of certain government owned industries, restricting travel into and through the EU as well as freezing the funds of certain individuals connected to the events in Ukraine. Furthermore, exporting, importing and investing on equipment and technology used for, either creating, acquiring and developing infrastructure in the telecommunications and energy sectors, or the exploitation of oil, gas or minerals, is prohibited. (Lohi, 2014: 17).

As a countermeasure, Russia imposed its own sanctions towards the West. These sanctions targeted mainly the food industry. The importation of meat products, dairy products, vegetables, fruits & nuts, plant-based products as well as fish & seafood was prohibited. These restrictions concerned products from the U.S., Canada, Australia and Norway as well. (Lohi, 2014: 18).

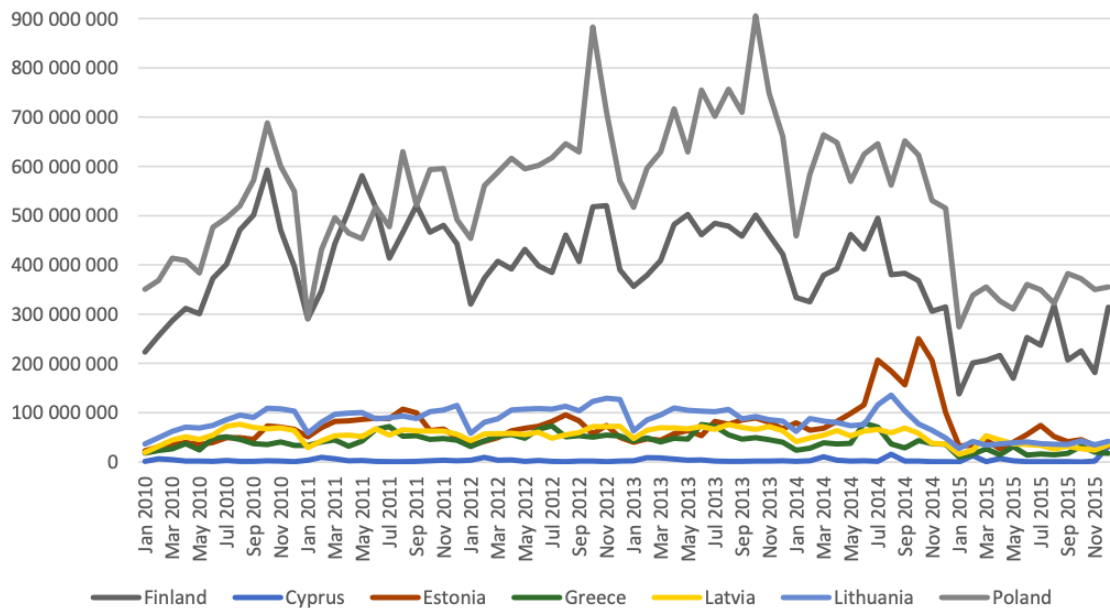
These sanctions affected, not only Russia, but the countries that conduct foreign trade with Russia. Especially exports to Russia were hit by the sanctions. The figure below shows the impact of the sanctions had on exports from EU countries.

Figure 8. EU exports to Russia 2010-2015. (Kovanen, 2017: 12).



As seen on figure 9, the main exporters of the products under the sanctions, Poland, Finland & Estonia, their exports took a severe plunge between the years of 2014 and 2015 as a result and according to Customs Finland (2019), when inspecting Finland’s exports in the following years, Russian exports have regained a slight rise, however, it is nowhere near the figures before the sanctions were put in place.

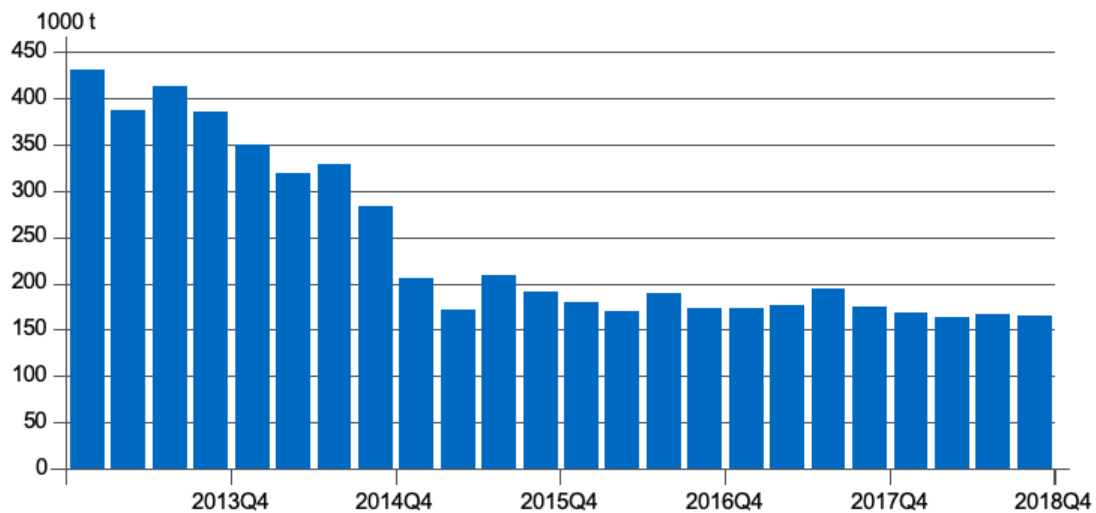
Figure 9. Finland’s main exports 2015-2018. (Customs Finland, 2019).



In regard to transit transportation, the eastbound transit transportation took a dive as well during the year of 2014 as seen on figure 11. According to Customs Finland (2019), Finland's Eastbound transit transportation averaged around 400 thousand tonnes in 2013. During the year of 2014 the volumes plummeted below 200 thousand tonnes, decreasing by over half.

However, there is no evidence on this being direct result of sanctions between the EU and Russia, but have other factors as well, such as Russia's investments and actions aiming to shift more and more of the transit transportation to its own ports.

Figure 10. Finland's eastbound transit 2013-2018. (Customs Finland, 2019).



Furthermore, recent Russian actions brings more worries and uncertainty towards Russia's exports, as the recent events regarding Russia's opposition leader, Alexei Navalny, will most likely bring further sanctions from both sides. The effect of these sanctions remains to be seen.

8 Competition

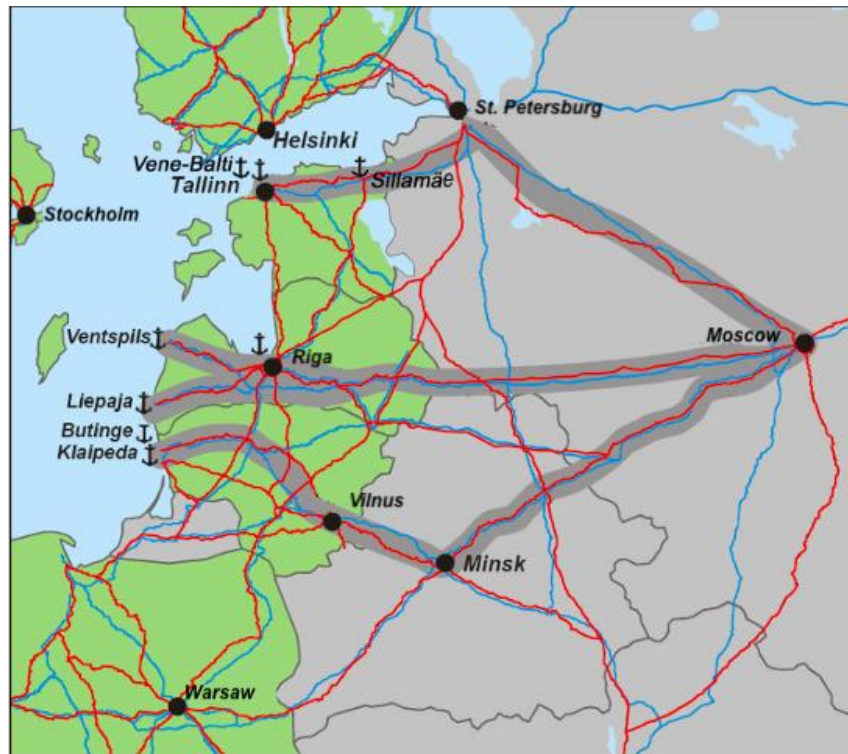
There are several possible routes in the transportation between the EU and Russia. The Baltic motorway is the most important route covering around 40 percent of all Russian foreign trade. The biggest competitors for Finnish ports are the Baltic ports, that possesses some competitive qualities, compared to the Finnish route. The Baltic ports have a favourable geographical location close to Russia. The distance to Europe is also shorter than for the Finnish Route. Other respectable competitor for the Finnish route are direct transports from Russia to Central-Europe. However, this route uses mainly road transportation as different rail gauges during the route would mean swapping trains over and over. This also means that this route cannot transport big and heavy loads for long distances. (Aho, 2016: 22). One also cannot forget about Russia's own routes in the Baltic, through Kaliningrad & St. Petersburg.

The routes that mainly compete for transit transportation between European Union and Russia, are:

- Finnish route
- Estonian route
- Latvian route
- Lithuanian route
- Germany-Poland route
- Russia's own ports
- Trans-Siberian railway

The competitors for Finland, in the Baltics, are the ports that transport mainly container shipments. Estonian, Latvian & Lithuanian ports connect with Russia through good road and railway connections. The Baltic ports are also very efficient. Their Soviet-era infrastructure suites well with the needs of Russia. The entryways for the ports are good, the harbour pools are deep enough, the port operators are competent and fluent in Russian. The ports also have flexible hours and low rate of pay. (Sundberg et al., 2010: 63).

Figure 11. The Baltic routes. (Sundberg et al., 2010: 53).



The transit transportation in the Baltic countries is very similar to each other. They have relatively little own export and therefore, transit transportation is an important part of their logistics. Transit transportation has a significant impact on employment as well. Baltic ports are mainly used in oil transports from Russia to the west, but ports, such as Klaipeda, Riga & Tallinn also transports Russian imports. (Sundberg et al., 2010: 53). The Baltic ports are also used in foreign trade of other countries, such as Belarus, Ukraine and Kazakhstan.

8.1 Estonian route

The Estonian route is comprised of the ports of Tallinn and Sillamäki as well as road and railway connections to Russia. The railway connection run from Tallinn either through Narva and St. Petersburg or through Tartu and Petseri. (Märkälä, Jumpponen, 2007: 39). Estonia's position as a transit country is based on the competitiveness of the logistics companies in Estonia, increasing transit flow between east and west as well as the

ineptitude of Russian ports to handle their own transportation flows. (Sundberg et al., 2010: 53).

The port of Tallinn is the most important port in Estonia. The Tallinn port (As Tallinna Sadam) is actually comprised of five harbours, Muuga, Paldiski, Paljassaari, Saarenmaa and the old port. (Posti et al., 2009: 67). The total amount of annual cargo handled in the Estonian ports were roughly 39 million tonnes in 2019. The Tallinn harbour was responsible for 51% of the total cargo handled (Tallinna Sadam, 2020: 37) and in turn, 51% of said amount was transit transportation. (Tallinna Sadam, 2020: 39).

The port of Sillamäe is the closest European harbour to Russia, as it is only 25 kilometres from the Russian border. The transported cargo in the Sillamäe harbour is mainly liquid bulk. The cargo is mainly oil products and chemicals. (Posti et al., 2009: 68). After Tallinn harbour, Sillamäe harbour is the largest port, as it handled total of 27% of cargo in the Estonian ports. (Tallinna Sadam, 2020: 37). However, exact figures on how much of that is transit transportation, were not found.

The weakness of the Estonian route is the rather weak road network and all the problems regarding it. Estonia has not been able to invest in it as much as its competitors. Compared to Finland, cheap labour is a benefit however, it does not differ compared to other Baltic countries. Russian customers value functionality, competitive cost structure, competitive turnaround and reliability in a route. (Kelamaa, Länsmans, 2010: 32). Main operational constraints in Estonian rail transportation, in turn, are different rail gauges along the rail route, border-crossing operations and delivery time issues. (Hilmola & Henttu, 2015: 78). Estonia needs to be able to offer other benefits than cheap labour as well.

8.2 Latvian route

The Latvian route consists of the ports of Riga, Ventspils and Liepaja as well as railway and road connections to Russia. The railway route from the ports goes either straight to Moscow or via Belarus. Road transportation from the ports can go either to St. Petersburg, Moscow or Kaliningrad. (Märkälä, Jumpponen, 2007: 39). Latvian ports recorded a total amount of 52 892 thousand tonnes of cargo in 2019. From the total

amount, Riga were responsible for roughly 51%, Ventspils for roughly 33% and Liepaja for roughly 12%. (Centrālā Statistikas Pārvalde, 2020: 159).

Latvia's situation is similar to Estonia. Cheap labour offers competitiveness, but weak infrastructure sets limits to the operations. (Kelamaa, Länsmans, 2010: 33). Latvia's economy took a plunge in the early 2000's and took until 2017 to return to pre-crisis levels. This delayed the investments to roads and infrastructure, which in hand, are seen as risk and lowers the reliability of the Latvian route, in the eyes of the Russians.

8.3 Lithuanian route

The Lithuanian route is built from the port of Klaipeda as well as road and railway transportation routes to either Kaliningrad or to Moscow via Vilnius and Minsk. Since Russia and Lithuania do not possess any mutual borders, the route from Lithuania to Russia has to go through either Latvia or Belarus. (Sundberg et al., 2010: 63). Klaipeda harbour reported a total cargo turnover of 47 million tonnes in 2020. (Port of Klaipeda, 2021).

Lithuania is the cheapest transit transportation route when it comes to salaries. The problems are similar to Latvia's. Lithuania can benefit from its cheap labour, however, its bad economy and therefore, its credit rating harms the projects. Through the support of European Union, Lithuania has been able to improve the roads, especially in the border regions. (Kelamaa, Länsmans, 2010: 34). The infrastructure, however, is still not in the best possible shape. Despite the problems, Lithuania has seen a rapid growth in cargo in the last decade. For example, in 2010 the annual cargo turnover were only 31 million tonnes. That means that the Lithuanian port has had a growth of over 51% in the last decade. (Port of Klaipeda, 2021).

8.4 Germany-Poland route

The Germany-Poland route is the most important land transportation route between Europe and Russia. The route offers a direct road and railway connection between the capitals of Germany, Poland, Belarus and Russia. It also creates a natural continuum to

the Trans-Siberian railway. The Germany-Poland land transportation route goes through Berlin, Warsaw and Minsk to Moscow. It reaches from Berlin all the way to Nizhniy Novgorod, connecting Central Europe and Russia together through road and Railway. (Sundberg et al., 2010: 74).

Figure 12. The Germany-Poland route. (Sundberg et al., 2010: 74).



The Benefit of the Germany-Poland route is that it connects the capitals of four countries as well as the surrounding heartlands together with both, road and railway routes. From the western end of the route, Berlin, there's connections to the European heartlands and from the eastern end of the route, Nizhniy Novgorod, there's connection to the important energy sources, industrial concentrations as well as to the Ural, Siberia, Caucasus, Central- and East-Asia. The Germany-Poland route is geographically shortest route between Central-Europe and Russia. The conditions of the roads and railway have been improved through several development programs in the near past. Especially the railway route improvements, that enable high speeds during railway transportation. (Sundberg et al., 2010: 74). In regard to Russian transit transportation, the biggest benefit is land connection between Germany and St. Petersburg. This decreases the need for maritime transportation and therefore, creates competitive advantage to the route. (Kelamaa, Länsmans, 2010: 35).

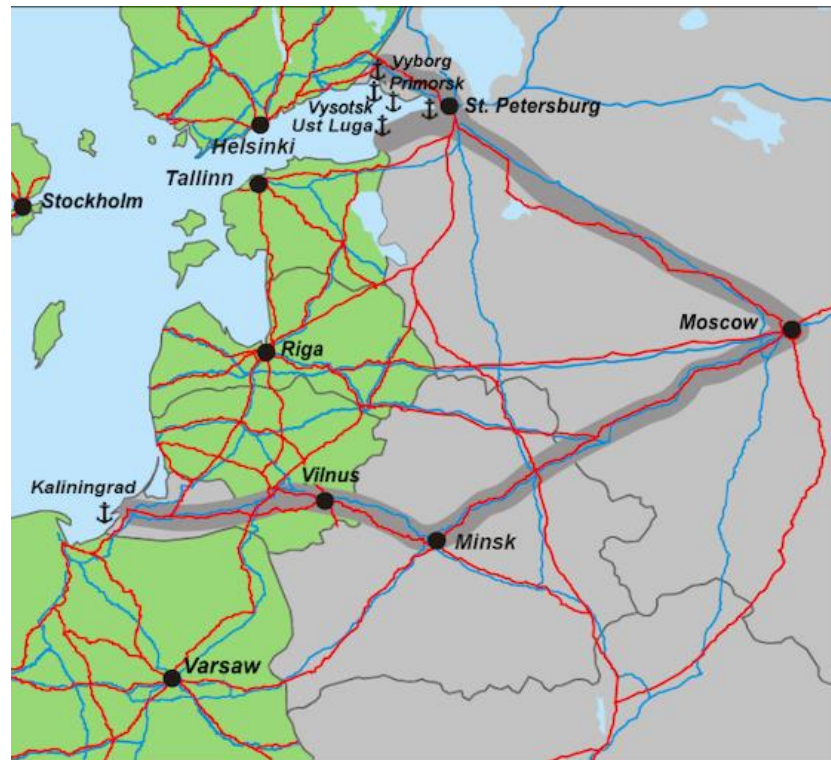
The biggest problem of the Germany-Poland route is the traffic in Poland, that are worst in around Warsaw. The route also has slow and complicated border crossing procedures. In the Poland-Belarus border, the procedures can take up to 48 hours. This means that the delivery time is unpredictable. Other weaknesses of the route include insecurity and weak marketing of the route. (Sundberg et al., 2010: 75). Different rail gauges between Poland and Russia complicate railway transportations. (Kelamaa, Länsmans, 2010: 35).

Most important aspect of the Germany-Poland route's future, is the development of the Baltic sea. If there rise even slight concerns about the state of the Baltic sea and decreasing maritime transportation in the area, the route will be in a favourable position. Furthermore, its benefits include relatively cheap labour and compared to the Baltics, relatively successful economic policy. Although, when using the land transportation route, one has to go through, either the Baltics, politically unstable Belarus or through Ukraine that currently has quite tense relations with Russia. Therefore, there are variables in play that are not controllable by Germany or Poland. (Kelamaa, Länsmans, 2010: 35).

8.5 Russian routes

Transportation through Russia's own ports is not transit transportation. However, it essentially affects the other transit routes. Russia's borders are largely land borders. There are very few entryways to sea, which complicates the country's logistics. During the Soviet era, the situation was significantly better, but with the collapse of the Soviet Union, things change drastically. (Aho, 2016: 20). Regarding the sea transit transportation, the most important ports of Russia are the ports of St. Petersburg, Primorsk, Ust-Luga, Vyborg and Vysotsk, at the end of the Gulf of Finland. There is also the Kaliningrad port, that is located in Kaliningrad, a separate small area of land in the shores of the Baltic sea, between Lithuania and Poland. (Sundberg et al., 2010: 66)

Figure 13. Russia's own routes in the Baltic Sea. (Sundberg et al., 2010: 67).



The port of St. Petersburg is the most important logistic corridor to Russia, from the west. It is focused mainly on container shipments. St. Petersburg harbours main competitive edge is its location inland Russia. This enables fast and flexible customs as well as delivery of the cargo. However, there are some shortcomings between the companies operating in the harbour and the customs which leads to customs clearance taking very long sometimes. Cargo transportation is also slowed down by traffic congestion in the exit routes due to the increasing flow of goods. Other problems of the harbour include the lack of space in the harbour as well as the entry route that is too narrow, limits the size of vessels and is in need of constant dredging. (Sundberg et al., 2010: 68). In 2019, the port of St. Petersburg handled over 6,7 million tonnes of cargo. (Sea port of St. Petersburg, 2020).

The port of Vyborg is located in the city of Vyborg, about 130 kilometres from St. Petersburg and 10 kilometres from the Finnish border. Vyborg harbour is a small general harbour with a yearly capacity around 3 million tonnes. The harbour handles versatile cargo, such as coal, iron materials and chemicals. (Sundberg et al., 2010: 70). The port

of Vyborg handled a total annual cargo of little over 1,2 million tonnes in 2019. (Port of Vyborg, 2020).

The port of Primorsk is located about 60 kilometres south of Vyborg. The harbour is specialised in handling and transportation of crude oil & petroleum products. (Sundberg et al., 2010: 67) Roughly a third of Russian crude oil exports runs through Primorsk. (Transneft Primorsk port, 2019).

The port of Vysotsk is located near Vyborg as well, around 160 kilometres from St. Petersburg. Primarily serving as a coal transport harbour, until Lukoil opened the first oil terminal in Vysotsk, in 2004. From then on, the handling capacity for oil has been evenly added. (Sundberg et al., 2010: 68).

The port of Ust-Luga is located in Luga bay, roughly 110 kilometres west of St. Petersburg. The benefits of Ust-Luga port is that it is a deepwater port, which enables the accommodation of larger vessels. Ust-Luga port was originally just a coal transportation terminal, however, in 2011 a container terminal, operated by Global ports, were opened. This created a new competitor for the ports, and Russia does have plans on expanding the Ust-Luga container terminal and directing more traffic towards Ust-Luga. (Global ports, 2021).

Kaliningrad:

Kaliningrad is a land area in the shores of the Baltic sea, that belongs to Russia. It is located between Lithuania & Poland and does not possess a direct contact with mainland Russia. (Kelamaa, Länsmans, 2010: 36). Aside from St. Petersburg, Kaliningrad is the only other Russian container port in the Baltic sea. However, the location separated from other parts of Russia complicates the transportation traffic between the two. (Sundberg et al., 2010: 69). Kaliningrad port's cargo turnover was 1 968 thousand tonnes in the year 2020. (Kaliningrad Sea Commercial Port, 2021). Kaliningrad's biggest weaknesses are the lack of land connection between the other parts of Russia as well as its heavy military importance. Transportation from Kaliningrad is dependable on other countries officials, as transportation from Kaliningrad has to travel through at least two countries in order to

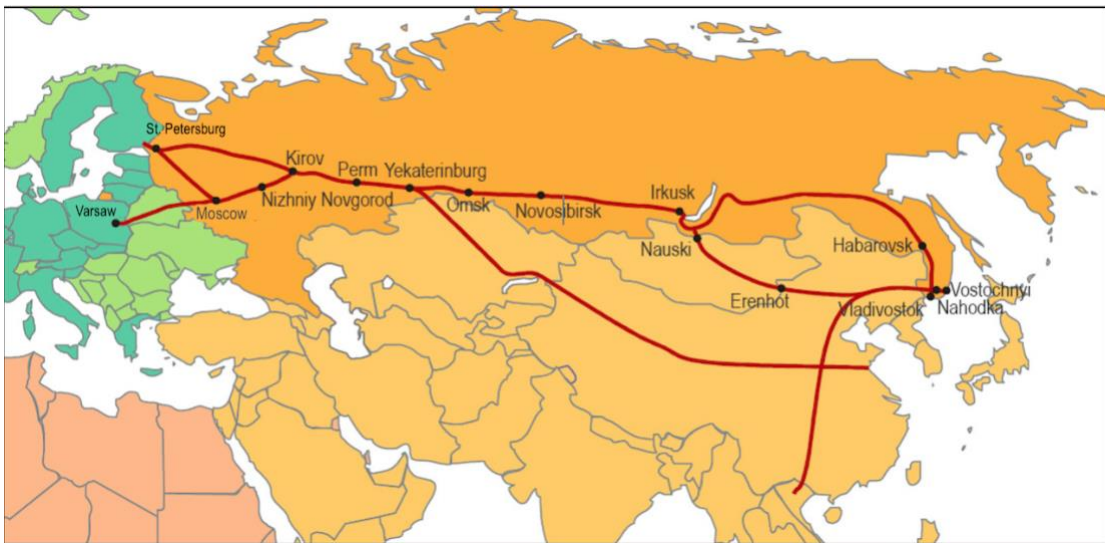
get to Russia. At the moment, in regard to transit transportation, the Kaliningrad port is relatively meaningless. (Kelamaa, Länsmans, 2010: 36).

The main benefit for Russia's own ports, is their beneficial location in regard to Russia's core hubs, raw material occurrences as well as Russia's foreign trade partners in Europe. For certain foreign trade flow of goods there simply is not other suitable transportation route, other than Russia's own ports. Biggest problem for Russia's Baltic sea routes, on the other hand, is the limited capacity. The limited capacity is the main reason, why foreign ports and transit transportation is even used. Furthermore, problems arise through weather and infrastructure of the ports. Located in the bottom of the Gulf of Finland, the icy conditions can last up to 3 months and the ice breaking equipment is severely lacking. Furthermore, the entryways to the ports are not ideal. (Posti et al., 2009: 84).

8.6 Trans-Siberian railway

Trans-Siberian railway (TSR or Transsib) is roughly 9 300 kilometres long railway expanding through Russia, connecting Russia's ports in the east with Europe's transportation networks. The Trans-Siberian railway is the shortest possible route that connects Europe with Asia and the Pacific. In the west, the TSR connects to the rail networks of Poland, Germany, Slovakia and Czech Republic via Belarus, as well as Finland, Sweden and Norway via St. Petersburg. In the south, the TSR is connected to Ukraine, Moldova, Romania as well as other Southeast European countries and in the east, it connects to Kazakhstan, Mongolia, China, Korea and Vietnam. (Sundberg et al., 2010: 75).

Figure 14. Trans-Siberian railway mainline. (Posti et al., 2009: 90).



The TSR serves both, Russia's internal transportations, as well as foreign trade transportations. With the internal transportations, the TSR is the main route, whereas with foreign trade transportations, the TSR is used as an alternate to maritime transportations. (Sundberg et al., 2010: 76).

8.7 Selection criteria

When selecting the route for transit transportation, there's quite a lot of factors that goes into the decision making. These varying factors are summarised in the figure below and should be taken into consideration as well, when exploring ways to improve the competitiveness of a certain route.

Figure 15. Transit route selection criteria

<p><u>Time</u></p> <ul style="list-style-type: none"> • Delivery time • Predictability 	<p><u>Infrastructure</u></p> <ul style="list-style-type: none"> • Transport network • Condition of transport network • Port functionality • Flow of Information
<p><u>Costs</u></p> <ul style="list-style-type: none"> • Overall costs • Customs • Taxes 	<p><u>Equipment</u></p> <ul style="list-style-type: none"> • Condition of transport equipment • Availability of transport equipment • Condition of handling equipment • Availability of handling equipment
<p><u>Services</u></p> <ul style="list-style-type: none"> • Storage possibilities • Added value services • Ease of Purchase • Flexibility 	<p><u>Manpower</u></p> <ul style="list-style-type: none"> • Competence • Availability • Organization
<p><u>Security</u></p> <ul style="list-style-type: none"> • Damage to goods • Disappearance of goods • Theft 	<p><u>Society</u></p> <ul style="list-style-type: none"> • Legislation • Implementation of legislation • International investments
<p><u>Goods</u></p> <ul style="list-style-type: none"> • Quality of Goods • Value of Goods • Quantity of goods 	<p><u>Other factors</u></p> <ul style="list-style-type: none"> • Border crossing • Environmental factors • Marketing

What mainly affects the decision of the route to take, is the goods in transport. If the transported goods are particularly valuable, for example, delivery time is usually important. Delivery time is not only about the time taken on transportation but handling and border crossing also. The predictability of the delivery time can be important as well. On the other hand, for some other goods, costs can be the most important factor. Depends mainly on the goods being transported as well as departure and destination ports. (Sundberg et al., 2010: 84).

9 Survey

As a part of the research, a survey was conducted. It was sent to operators in different areas within transit transportation between Russia and Finland. The aim of the survey was to map out the Finnish route in a SWOT- sort of way. Find out the strengths and weaknesses of the Finnish route compared to the competing routes, and more importantly, what steps are needed to be taken in order to maintain and improve the competitiveness of the Finnish route. The survey was done as a sort of counterweight for the earlier research addressed on the first part of the study, as it reviewed earlier studies and earlier opinions on the state of the Finnish route, whereas the survey addresses the current state as well as future expectations from the operatives themselves. As a line of business, the Finnish methanol transit route is fairly small, with only a few companies operating in the field and so, the amount of answers is fairly limited. The survey was sent to five different companies in the Finnish route, with three of them finally answering the survey. The respondents for the survey were: Eugene Paladiy, trading operator from Metafrax Trading International SA, Riitta Luhtala, managing director from Protocon Oy as well as Panu Vilhunen, general manager from PP Maritime Oy. Therefore, I feel confident that since the respondents have years of experience from different aspects of the route, the answers are comprehensive enough in order to analyse. However, the survey does represent the opinions of limited group and therefore, might need further investigation.

9.1 Strengths

According to the survey, the main strength of the Finnish route has been seen as reliability and safety of the route. Finland has been the main transit route for methanol for over 30 years and nowadays, almost 80% percent of Russian export for methanol is shipped via Finland, however, there are very little recorded missing railcars or stolen cargo. Furthermore, the turnaround time for the railcars are significantly faster than competing routes. This means that the time taken for the railcars to leave the border, arrive to the terminals, unload and possibly reload and head back to the border, is noticeably less than for the competing routes. This is mainly due to Finnish terminals being well equipped to handle the transit cargo: Plenty of railcar unloading places and

storage capacity as well as efficient vessel loading systems. Finland also has the same track gauge with Russia.

In addition, other main strengths of the Finnish route that have been mentioned, are easy accessibility and non-congested ports. As mentioned earlier, especially for methanol, the operating terminals are tailor made. Shore tank capacity is sufficient as well as the number of unloading places for railcars and efficient vessel loading rate. Even though the winter weather conditions are usually harsher than in the Baltic ports, the Finnish ports have excellent maintenance systems that keep the terminals and entryways operational during winters. These all equal up to smooth flow of goods.

9.2 Weaknesses

In regard to the weaknesses of the Finnish route, obviously one pops out immediately, and that is expensiveness. The Finnish route has been more expensive option than the competing routes due to overall higher price levels that drive up the operative costs. According to a respondent, trade unions in Finland are also very strong in dictating the terms and conditions for the operators. For example, unlike in the competing Baltic ports, Sunday work as well as work on public holidays in Finland is so expensive that terminals often charge overtime work fee from either the ship owner or from the trader who has chartered the vessel. This understandably lowers the attractiveness of the Finnish route.

Dividing the weaknesses into parts and examining them separately gives a more detailed look into the chain. The main challenges in the border were mentioned as stoppage of the trains. Sometimes there are unexplained delays at the border due to some sort of formalities. There is also relatively moderate information flow across the border, which partly explains the unexplained delays. According to a respondent from Finnish side, there are also problems with sending the empty railcars back to Russia. According to the respondent, Russia simply doesn't accept empty railcars back and does not give any official information as to why. The scheduled locomotives for picking up the empty units, simply does not appear to the Finnish side of the border.

With the part of railway transportation from the border to the ports, biggest weaknesses of the Finnish route, according to the respondents, are inability of send the entire train at

once. Instead it is divided into at least two parts. This is due to the Russian trains being longer than what could be transported to the terminals. However, according to one respondent, the problem is fading out as because of some improvement projects on the Finnish side, VR (Finnish railroads) have received a permission from Trafi (Finnish transport safety agency) for transportation of longer and heavier trains. Other challenge of the railway transportation was that the Finnish railway route runs through a few larger hubs or stations on its way to the ports, where congestions or repairs may slow down and delay the process.

The challenges and weaknesses of the ports and terminals on the Finnish route were mainly covered above. The challenges are mainly about expensiveness. Port fees and fairway dues are fairly expensive as are operative costs overall, compared to the competing Baltic ports. However, the cost difference has decreased over the years.

9.3 Opportunities

With the opportunities, the survey asked the respondents their opinions on how the Finnish route could strengthen its competitiveness as well as develop its weaknesses to improve its attractiveness and open up new possibilities. According to the respondents, the competitiveness of the Finnish route could be strengthened by improving the weaknesses and shortcomings mentioned. Not only a certain part but improving the efficiency of the whole logistics chain from production plant to the operating terminals. By continuously monitoring the efficiency of the whole logistics chain, it helps with keeping the costs at reasonable level, which is the next point in strengthening the competitiveness, revision of the pricing policy. As mentioned earlier, the most noticeable difference with the Finnish route and the competing Baltic routes, is the price. The Finnish route is clearly more expensive than the Baltic routes, so that is one aspect that definitely needs to be considered, how could the price level be brought down into a more competitive level.

Furthermore, on what is mentioned earlier, time spent at the border should be reduced as well. According to the respondents, it would be preferable to forward trains non-stop to the destination point while drawing up the documents on the way. However, the technicalities of this is far more complicated than it makes it sound. More reasonable

objective is continuous improvement of the whole logistics chain in order to reduce the time. Lastly, adding more flexibility in a sense of redirecting the wagons as needed, possibly splitting a train between two terminals and redirecting a train across Finland from one terminal to another when needed would help the efficiency and flexibility of the Finnish route and by doing so, improve the attractiveness.

9.4 Threats

The main threat to the Finnish route and its feasibility, according to the respondents, is the Russian Ust-Luga terminal, near St. Petersburg. There is an ongoing terminal development project lead by one of the big methanol producers, Eurochem. They are planning to build a new methanol plant close to Ust-Luga port and have been approaching other Russian methanol suppliers to participate in the terminal project as well. However, the Ust-Luga port is rather badly located from a logistics point of view, in a sense that their railways are easily congested and even though that issue could be solved, the terminal would still not have the capacity to handle the whole Russian methanol export volumes, so the respondents are not that worried.

Other threats are mainly political reasons in which, the Russian producers would need to transfer their transports to other terminals, which happened in Estonia in 2007 along with the bronze soldier statue crisis, or present-day trend in Russia to refine methanol further to other chemicals. Lastly, Russian methanol transit business is fully dependent on the world market situation. Demand for methanol seems to be continuously increasing, but if the market collapses for some reason, the Russian producers are the first ones to suffer. The reason for this is the inland location of the Russian methanol plants, whereas the mega plants in the Far-East are all located next to the sea, meaning no need for land transport or storing. Furthermore, the new plants in the Far-East are also located near the gas source, whereas the Russian plants are receiving the raw material gas by pipeline from a distance. Therefore, the extra cost elements make the profitability of the Russian products more vulnerable to a possible world market price collapse.

The final question of the survey asked the respondents their views on the future of the Finnish route in 3-5-year perspective as well as in a 10-year perspective. In 3-5-year perspective, the respondents did not predict any other than normal volume fluctuations according to the world market. With 10-year perspective, the respondents were more cautious with their answers, most of them saying its mainly up to Russia's actions in the near future, which are difficult to predict.

10 Conclusion

The topic for this research was chosen mainly because it was an interesting and current topic. The Russian transit transportation has changed significantly within the last decades and before, Finland has kept its competitiveness through its reputation as reliable and safe, the quality of work as well as the overall functionality of the whole logistics chain, despite being noticeably more expensive than the competing Baltic routes. The transit transportation is also a significant factor in both, Finnish port traffic and employment impact, especially in the port regions, such as Kymenlaakso region, where the port of HaminaKotka is located. However, the difference in the quality of work between the Finnish and the Baltic routes is closing in as the conditions in the Baltic ports keeps improving. Despite this, the price gap between the competing routes still remain. The Finnish route is still noticeably more expensive than the competing Baltic routes. Among this, Russia has made strides towards improving the equipment and the capacities of its own ports in order to direct more transit traffic into its own ports. Considering the information compiled, the topic is a current issue and needed to be taken for further investigation.

The research is largely based on earlier studies done in multiple different universities. The earlier studies are both from multiple professors studying the field as well as former students and their bachelor's and master's thesis. Furthermore, the added data used in the thesis is largely from national and governmental institutions, such as customs Finland. With the survey, the respondents are also operatives from different parts of the Finnish route in Russian transit transportation, and any findings discovered in this research would only benefit them. Therefore, I do not see a reason to question the validity and reliability of the answers. However, since the survey answers represents only a

limited group the subject would require a larger database in order to make conclusive statements. The main challenge faced during the research was the fact that most of the statistics and information is not public. Most of the operatives in the Finnish route are private companies as are most of the ports. Understandably, the companies are not keen on sharing their operational figures with public. Furthermore, as transit transportation is not declared in the transit country, there are hardly any figures found from state institutions, such as Customs Finland, either. Therefore, exact figures and statistics to support the research, are more difficult to find.

10.1 Key findings

The summary of the SWOT of the Finnish route is seen in figure 16. It summarises both, the views of earlier research as well as respondents of the survey to compile a comprehensive view of the Finnish route in Russian transit transportation.

Figure 16. SWOT of the Finnish route

<p><u>Strengths</u></p> <ul style="list-style-type: none"> - Reliability & safety - Competitive infrastructure - Functionality of the logistics chain - Non-congested ports - Sufficient shore tank capacity - Cost awareness - Efficient loading rate - Excellent maintenance system - Turnaround time - Excellent storage 	<p><u>Weaknesses</u></p> <ul style="list-style-type: none"> - Price competitiveness - Queues at the border - Winter conditions - Information flow across the border - Inability to send entire train - Congestions on route - Port fees & fairway dues - Empty railcar returns - Trade unions - Shallow & rugged costal line
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> - Improvement of whole logistics chain, helping to keep costs at reasonable level - Revision of pricing policy - Reducing time at the border - Adding flexibility - Excellent overflow ports for increased traffic - Highly processed & valuable cargo - Train connections to Russia 	<p><u>Threats</u></p> <ul style="list-style-type: none"> - Low price range of competitors - Narrowing quality service gap - Russian Ust-Luga terminal - Instability of Russian economy - Vulnerability to world market situation - Weakened relationship between EU and Russia - Accidents & catastrophes affecting transportation within the route

The Baltic sea and the ports within it, nicknamed “the Baltic motorway” is the main route for Russia’s foreign trade with a roughly 40 percent of the total volume. Within the Baltic motorway, there are essentially five different routes that are used in Russian transit transportation, the Finnish route, the Estonian route, the Latvian route, the Lithuanian route and the Germany-Poland route. The Finnish route is noticeably more expensive than the competing routes, due to overall higher price levels. Because of this, instead of competing with lower unit costs, the Finnish route relies on safety & reliability, specialisation, efficiency, competence as well as up to date technology to maintain its competitiveness. This seems to work especially with methanol as, according to an operative on the field, the Finnish route is the main transit route for Russian methanol as almost 80% of Russian export of methanol is shipped via Finland. This is mainly due to excellent equipment and facilities in the port of HaminaKotka, that are tailor made for methanol transportation. Most of the methanol shipped through Finland is handled in the HaminaKotka port. Therefore, Russian transit transportation also have had a positive impact on employment in the port regions, especially in the Kymenlaakso region, where the port of HaminaKotka is located.

On the negative side, regarding the quality of work, efficiency, specialisation as well as safety & reliability, which the Finnish route has used as their leverage to maintain competitiveness and attractiveness, the difference between the Finnish route and the competing Baltic routes have been steadily decreasing. Meanwhile the price difference has maintained. The Finnish route is still noticeably more expensive than the competing Baltic routes. More worrisome is the fact that Russia has taken actions into improving its own ports in the Baltic sea in the recent years. Russia has invested generously on its own ports in order to improve their working conditions and capacity. Especially the Ust-Luga port needs to be taken into consideration. The ongoing terminal development project is led by one of the big methanol producers, Eurochem, with plans to build a methanol plant near the Ust-Luga port. However, from a logistics point of view, the terminal is not in a suitable location and even if the plans come to reality, the Russian ports would still not have enough capacity to handle the whole volume, so even though the issue has been raised in the earlier studies, current operatives in the Finnish route does not seem to be worried about the idea. Furthermore, things to be considered, are the fact sanctions between Russia and the West. It is not clear whether the sanctions were responsible for the decrease in the transit volumes in 2014, however, it needs to

be considered as an option and a possible threat. Finally, the fact that the Russian methanol transit business is more vulnerable to the world market situation. The distances between the raw materials, methanol plants and ports are significantly longer than with the competing plants in the Far East. Therefore, the extra cost elements make the profitability of the Russian products more vulnerable.

In the future, pricing options should be examined further in order to find a more competitive pricing model, as at the moment, the prices are at a relatively reasonable level, but could run out of control. However, according to an operative on the Finnish route, continuously monitoring the efficiency of the whole logistics chain could help with keeping the costs at a reasonable level. When asked from the operatives of the field, the public opinion was that the weaknesses of the actual transportation from Russia to the Finnish ports, were the inability to send the entire train instead of splitting it as well as the moderate information flow across the border, between Finland and Russia. Finally, when asked about the respondent's visions on the future of the Finnish route, their answers were fairly monotonic, saying that the future depends largely on Russia's actions, which are fairly difficult to predict.

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The Survey Questions

Finland's Role in Russian Transit Transportation

The purpose of this survey is to map out the role of Finland in Russian transit transportation. The aim is to gain more knowledge on the strengths and weaknesses of the Finnish route compared to competing routes in order to improve its competitiveness.

The survey is conducted as a part of my bachelor's thesis titled "Improving the competitiveness of the Finnish route in Russian transit transportation – Case: Methanol"

Participation in this survey is voluntary and you have the right to withdraw at any point during the study.

If you decide not to answer a particular question, please mark it with "-"

Thank you in advance for your participation!

***Required**

Name of your company & job title? (Optional)

Your answer _____

Can your answers be used and possibly quoted in the thesis? *

Yes

No

What do you consider as the main strengths of the Finnish route? *

Your answer _____

How could the strengths be further developed and streamlined? *

Your answer

What do you consider to be the weaknesses of the Finnish route compared to the competing routes? *

Your answer

What are the main challenges faced in transit transportation, when crossing the border between Finland and Russia? *

Your answer

What are the main challenges regarding railway transportation from the border to the ports? *

Your answer

What do you consider to be the strengths and weaknesses of Finnish ports & terminals compared to the competing Baltic ports? *

Your answer

In your opinion, could the development of the weaknesses open up any new possibilities for the Finnish route? *

Your answer

In your opinion, do you see any particular weakness/weaknesses threatening the feasibility of the Finnish route? *

Your answer

With reference to the previous question, do you see any new threats in the foreseeable future? *

Your answer

In your opinion, do you see the transportation traffic transferring to Russia's own ports in the near future? *

Your answer

Do you have any suggestions on how to strengthen the competitiveness of the Finnish route compared to the competing routes? *

Your answer

Do you have any other ideas on how the attractiveness of the Finnish route could be increased? *

Your answer

How do you see the future for the Finnish route in 3-5-year perspective? What about in 10-year perspective? *

Your answer
