

China's New Silk Road in a Nordic Perspective: The Origins and Development of the Finland-China Rail Routes

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ABSTRACT

Prior research is scarce concerning transports by Nordic companies along the New Silk Road rail routes between Northern Europe and China. Due to geography, Finland has a favourable location for speedy rail transports to Asia compared to maritime transports. This paper focuses on two rail routes – Kouvola-Xi'an and Helsinki-Hefei – and investigates their origins, development, and use for exports and imports between Finland and China, as well as their extensions both in the Nordics and in Asia. Drawing on source materials from news archives and press releases, it is found that the traffic has increased strongly on one of the connections, whereas the other has faded. We analyze the reasons for this outcome and compare between the cases, and present possible explanations for the differences in operating the routes. We also find that the Finland-China rail routes are mainly used by Finnish exporters and importers, and less so by other Nordic companies, as Scandinavian countries are more easily accessed by sea transport. The different modes of transport differ from each other not only as to cost and time, but also regarding safety, reliability, and ecological impact, and it can be expected that in the future, sustainability will play a more significant role in the companies' transport choices. Yet, railway traffic in Europe-Asia trade still constitutes a very small share of the entire volumes, even though the annual growth is impressive.

Keywords: New Silk Road, Rail transport, Finland, China, Nordics.

1. INTRODUCTION

The Belt and Road Initiative (BRI) was launched by China in late 2013 to develop infrastructure for new and existing trade routes between China and Europe, Asia and the Middle East. It includes the landbound 'Silk Road Economic Belt' connecting China through railway with these regions, and the '21st Century Maritime Silk Road' to develop marine routes from coastal China to the Indian Ocean and the Mediterranean (Griffiths 2017; 2019; Panova et al. 2017; Frankopan 2018; Kettunen 2019; Pomfret 2019; Alvstam 2020). In the recent circumstances of global logistics disruption and in particular the problems in container shipping since 2020, international rail transports have somewhat increased.

This paper takes a Nordic perspective and explores rail transports along the landbound Eurasian Land Bridge routes, called here the 'New Silk Road'. We focus on the routes from Finland to China and investigate the origins and development of these connections and their use for exports and imports between the two countries, as well as their possible extension to other Nordic countries and within Asia. A rail route was opened between Kouvola in Southeast Finland and Xi'an in 2017, as well as another one between Helsinki and Hefei in 2018, with transport times of around 16 days. The Finland-

China connections have been presented as a potential route for Nordic exporting and importing firms doing business with China and broader Asia (Hilmola et al. 2018).

Since prior research on the topic is scarce, our aim is to explore *the development of the rail routes between Finland and China and the impact of geography on Nordics-China transports*. The empirical focus is on the origins, development and current state of the two rail connections, their relevance and prospects. Drawing from news archives and expert interviews, it is found that the traffic has increased strongly on one of the connections, whereas the other has faded. We present possible explanations for the different outcomes and consider the future of rail transports along the New Silk Road.

Rail connections between Europe and China have grown since the early 2000s (Hilmola et al. 2021) and have become even more relevant during the covid-19 pandemic when other transport modes such as air and sea freight have halted. Trade is important for both the European Union (EU) region and China that are two of the biggest traders in the world. They are also significant trade partners to each other: the EU is China's biggest, and China is the EU's biggest extra-regional trading partner. However, their trade relation is affected by tensions and disagreements in trade policies as well as trade disputes. In the European debate, BRI is often seen either as a political and economic threat that the EU should react to, or as a market opportunity that companies should take advantage of. We can expect that railways will reach about 5-7 % of the value in Europe-China cargo traffic by the end of the decade, whereas a higher share seems unattainable.

2. NORDICS-CHINA RAIL CONNECTIONS

The Finnish case is somewhat of an exception when it comes to comparing different transport modes. Sea transport from China to Finnish ports takes much longer compared to the main European ports such as Rotterdam. Also, transports from Dalian in Northeast China take several weeks longer to reach Europe by sea. While the normal container route between Shanghai and Rotterdam nowadays takes 28-34 days depending on the number of port callings along the route, Dalian-Rotterdam takes about 45 days and Dalian-Helsinki about 58 days (Maersk 2022). The difference to railway transit times therefore depends strongly on the location of the departure and target cities, where Finland has locational advantage for rail transport and a disadvantage for sea transport. In rail traffic, the time and cost comparison through Russia and Kazakhstan to and from Finland is further favoured by the fact that Finland uses the same gauge, i.e., rail width of 1520-1524 mm. This requires only one reloading and/or bogie change along the route compared with two reloadings and bogie changes between China and Central Europe. As the other Nordic countries are also located peripherally compared to maritime hubs in Western and Southern Europe, they may have time and cost advantages in rail transport as well. Possible examples are Northern Norway for seafood exports and the Swedish Bothnian Gulf coastline for forestry exports, although to a less extent compared to Finland.

Prior research on rail transports along the New Silk Road by Nordic companies is quite limited but extant studies have explored the rail routes between Kouvola and China. Kouvola's location is good for eastbound traffic, as it is located about 130 kilometres northeast from Helsinki, halfway between Helsinki and the Russian border, and is connected to the board and pulp mills in Eastern Finland. Hilmola & Szekely (2006) studied the choice of transport mode of large Finnish and Swedish firms that trade with China and other Asian countries and found that the volume of railway container transport through Eurasia was likely to increase. Further, compared to the long-standing Trans-Siberian Railway route, the new route through Kazakhstan would provide a shorter lead time, a better catchment area of Chinese consumers, and a supply chain cost advantage (Hilmola et al. 2018). The possibility of using the route for imports to other Nordic countries would be challenging, however, due to the required sea and road links to Sweden, Denmark and Norway, leading to a cost disadvantage (ibid.).

In contrast, there is a lack of research on the rail route from Helsinki to China as well as the recent developments on both routes in the current circumstances of global logistics disruption since 2020. Therefore, this study focuses on the two connections, i.e., from Kouvola and Helsinki, and compares between their opening, development, and outlook. We discuss the different development paths of the

two routes, including the logistics service providers and possible problems in the functioning of the connections, and examine the reasons for the different outcomes.

2.1. Data and Method of the Study

The main data for the study was collected from secondary sources: newspaper articles, professional magazine articles, and logistics providers' webpages and portals, most of which are in Finnish. The material was gathered from the internet using google search engine with keywords, such as "Kiina", "juna", and "kontti". Altogether, 34 news articles and press releases were found relevant and were selected, 32 of which are in Finnish and two in English, with timeframe ranging from 2014 to 2021. This was complemented with four personal interviews conducted in 2020-21 with trade policy officers from the EU and Finland, a Finnish importer, and a logistics scholar, to fill in the gaps and for further explanations.

Information from these sources was examined using the method of qualitative content analysis that is suitable for studying emerging concepts and themes from text data. For content analysis, the material was coded, i.e., statements from the sources were grouped into categories according to key phrases (codes), such as "Opening of the routes", "The development of the connections", and "The Helsinki-Hefei route". This was done manually and it resulted in a document of 16 pages (5,000 words). The statements under each code were arranged, and new codes were created for unexpected but relevant information as the work proceeded. Contradicting information was further analysed to come up with an interpretation of the facts, whereas parallel findings from different sources were considered to strengthen the evidence.

In the empirical section, references to the news sources are marked with '#' preceding the reference to differentiate them from other references. A list of news sources is available from the corresponding author upon request. The interviews are anonymized due to the request of the interviewees and are referred to as "interviewee#1", et cetera.

3. THE KOUVOLA-XI'AN AND HELSINKI-HEFEI ROUTES

3.1. The Origins of the Two Routes

The two railway connections between Finland and China were established almost in parallel during the late 2010s. Although China is Finland's biggest trade partner outside the EU, this was not part of Finland's or EU policy, but based on China's policy to support the routes to Europe (interview#1), as well as local initiatives in Kouvola and Helsinki. The two routes are operated by two different logistics service providers.

The Kouvola-Xi'an connection was developed by the city of Kouvola and its development corporation Kouvola Innovation Oy. The loading and forwarding on the Finnish side are operated by Kouvola Cargo Handling, whereas the transportation along the route was originally operated by its international partner Kazakhstan Railways' freight company KTZ Express (#Kaleva 2017) and since spring 2019, by a Russian-Kazakhstani service provider Logbox (#Tahkokorpi 2019).

The Kouvola connection is financially supported by the city of Kouvola that has invested in the development of railway infrastructure and a new intermodal logistics terminal, the Kouvola Rail Road Terminal (RRT). The RRT project aims to combine different transport modes and is partly funded by the EU. The concept implies that cargo trains as long as 1100 meters can enter the terminal for unloading and reloading. Also, the forwarding company Kouvola Cargo Handling has enlarged its warehouse capacity in the terminal. It was reported that around a hundred logistics companies would have located in the region, employing about 1,700 people (#Kaleva 2017). However, this argument has been contested later; there was no "logistics tsunami" in Kouvola (#Skön 2019b).

In contrast, the Helsinki-Hefei connection was developed and is operated by a private company Nurminen Logistics located in the Helsinki Vuosaari harbour. In 2014, the company signed a letter of

intent for operating the route to China in cooperation with UTLC, a joint venture of the Russian, Kazakhstan and Belarussian state railways. This connection would run from Helsinki to Central China via Kazakhstan and was expected to shorten the transport time from 80 days by sea to 20 days by rail (#Cision 2014; #Hämäläinen 2019). The Vuosaari cargo harbour is connected to Finland's interior by a railroad that was built alongside the harbour in the early 2000s to allow for the transport of products such as pulp from mills in different parts of Finland.

As to the Kouvola-Xi'an connection, the first container train set off in early November 2017, forwarded by Kouvola Cargo Handling. It had 41 containers carrying timber, mechanical engineering products, working clothes and components for shipbuilding. The return trip was planned for late November and was to carry electronics from China to Finland (#Niemi 2017).

In comparison, regular deliveries in the Helsinki-Hefei connection were started in late November 2018 by an incoming container train from China to the Vuosaari terminal. The first outbound train from Helsinki to Hefei departed in early December and was expected to take 14 days. These were not whole-train transportations, but open for any companies to book smaller space in the containers. Nurminen Logistics and their representative in China provided all services, including forwarding, loading and transportation door-to-door (#Leino 2018).

3.2. The Development of the Two Connections

The connection between Kouvola and Xi'an was still active in 2018 when 24 trains departed for Xi'an, as reported by Unytrade's Managing Director (#Skön 2019a, b). Many of the containers were however only one third or one fourth full, and were thus carrying "a lot of air". This was due to the decline in the price of pulp and the deteriorating economic situation in China (#Skön 2019a). In 2019 only five trains set off to China,¹ and no new departures for Xi'an nor return deliveries were reported. The connection faded, and no transportations between Kouvola and China were announced in 2020-2021. According to the Managing Director of Kouvola Cargo Handling, there was a lack of demand for the whole-train deliveries that they were offering. Despite this situation, the city of Kouvola was still investing heavily to build Finland's longest loading platform in the terminal (#Tanskanen & Väisänen 2020). The platform was still to accommodate trains of up to 1100 meters, although the longest trains do not need this capacity yet. The city of Kouvola was expecting the terminal to be ready by 2023 (#Kouvola 2019).

At the same time in Helsinki, the regular rail container service was carried out continuously following the opening of the Hefei connection in 2018, and transport times were shortened to 14 days. Container trains operated by Nurminen Logistics rode to and from China every two weeks; altogether 26 container trains departed for China and returned to Finland both in 2019 and in 2020. Nurminen Logistics was content with the functioning of the route and considered that the deliveries were punctual and reliable (#Calculus 2019). In spring 2020, the trains were sold out as factories in China were re-opened after the Chinese New Year and the first wave of covid-19, and most of the air cargo and some of the sea transport had been stopped at the same time. Demand for railway transport increased significantly, and the trains were fully booked several weeks in advance. Nurminen Logistics increased the length of the trains to almost one kilometre, the maximum length that railway yards can accommodate. Their goal was to have a weekly connection to China, as their customers had asked for additional trains for the route (#Tanskanen & Väisänen 2020).

Originally, both connections were supposedly benefiting from China's active policy to support the use of the railway transport (interview#2). China's financial support may have halved the price paid by European operators on the container train transports, thus enabling profitable transportation (#Skön 2019a). However, China took away this support in 2020 and the freight price was estimated to increase by as much as 60-70 % (interview#3).

In spite of this, Nurminen Logistics continued to expand with a vision to serve customers in other Nordic countries that it had explored as a potential business earlier (#Vali 2019). In autumn 2020, the company announced cooperation with the North Norwegian city Narvik in view of transporting salmon through Finland to China. A new route from Helsinki to Chongqing was opened, but the planned food

transports were cancelled due to bureaucratic problems related to covid-19. At the time, the Russia route was the only option to transport frozen goods; this was not possible through Kazakhstan (interview#1). In spring 2021, Nurminen Logistics opened three more connections from Helsinki to Suzhou, Ningbo and Jinan, and started to operate whole-train transportations to other locations in China for single customers according to demand. The regular connection to Chongqing became very active with weekly departures from Helsinki (#Nurminen Logistics 2021a, b). Still, most of their customers were from Finland except for a few Swedish companies. They also opened a connection from the Finnish Kotka harbour to China with 2-3 monthly departures to both directions (#Nurminen Logistics 2021c), as well as one via Trans-Siberian Railway to Japan and Korea. Earlier, the route from Korea had not been viable compared to maritime transports (interview#4).

To sum up, the situation of the two routes differs strongly from one another. We present below some possible explanations for this situation, based on the available information.

3.3. Reasons for the Different Outcomes

One emerging difficulty for any of the New Silk Road rail transportations has been the ending of China's heavy financial support for the transport costs. This support was originally granted to increase China's trade with Europe following the BRI with subsidies lowering the freight prices close to those in maritime shipping (EUCCC 2020, 37; van Leijen 2019). This has increased the number of railway connections between Europe and China, but has also led to problems and less profitable business.

It appears that the Kouvola route did not sell enough – or much at all – particularly on the Chinese side. This seems to be due to a lack of logistics service providers and international collaborators who would have competence to do business in China. The route was instead operated by a small local company that did not have experience in Chinese logistics operations.

In comparison, the Helsinki-Hefei route is operated by a long-established private logistics service provider that has a wide cooperation network, an established client base, and experience in international business. The company has an agent in China to sell freight to Finland and it is also able to offer regular connections (#Skön 2019a). Further, it has a long experience in deliveries to, from and through Russia. It had opened an office in Moscow in 2014 but sold the subsidiary in 2018 (#SVKK 2018), and currently has offices in St. Petersburg, Shanghai, Latvia and Lithuania.

Another difference between the two actors is related to the locational dimension. The developers of the Kouvola connection are bound to this particular locality, whereas Nurminen Logistics is a more agile operator that can move and operate a network in several locations. In sum, the rationale of the Kouvola-Xi'an connection seems to be based on a regional development policy rather than business as in the Helsinki-Hefei case.

4. CONCLUSIONS

This paper explored two main rail connections between Finland and China, and found that while one has faded, the other has grown with several new extensions since 2019. We observed that aside from few Nordic exceptions, the rail routes are mainly used by Finnish exporters and importers. This is based on the geography of the region: all Scandinavian countries are more easily accessed by sea directly from major sea routes, whereas their connection to Finland-China rail routes is more complex.

Further, when comparing rail transport with maritime transport between the Nordics and China, one important aspect relates to the more exact geographical location of origin and destination in China. All inland locations require a supplementary road transport leg to the main seaport terminals, which adds time and cost and reduces safety and reliability. For example, Hefei is located more than 450 km from Shanghai, which however is still bearable to reach by road considering the total transit time and costs from port to port. Xi'an in Shaanxi Province, on the other hand, has a much more favourable location for rail transport at more than 1200 km from Shanghai and with direct connections to the main east-west rail artery through China. Other examples of Chinese cities with a large concentration of industry, long distance to nearest seaport and shorter railway distance to the Kazakh border are

Chengdu and Chongqing in Sichuan. Also, the industrial belt in Northeast China, between Dalian and Harbin, connects suitably to the Trans-Siberian Railway route, and delivery times from these locations by railway to Helsinki are about five weeks shorter than Dalian-Helsinki by sea.

The different modes of transport differ from each other not only as to cost and time, but also regarding safety, reliability, and ecological sustainability. The firm's choice is seen to lean on various factors extending from the product itself and the consignment to different geographical and societal issues that firms need to consider. It can be expected that in the future, ecological sustainability will play a more significant role in the transport choices, as transportation is one of the main sources of greenhouse gases in logistic systems (Eng-Larsson & Kohn 2012). Yet, it must be noted that railway traffic in Europe-Asia trade still constitutes a very small and insignificant part of the entire volumes, even though the annual growth is quite impressive.

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N.B. A list of news sources quoted in the empirical section is available from the corresponding author upon request.

ENDNOTES

¹ There are contradicting data on the number of trains from Kouvola in 2019: whereas #Tahkokorpi (2019) reports five trains until mid-2019, #Tanskanen & Väisänen (2020) report three for the whole year.