Economics

Poland on the New Silk Road

Current state and perspectives

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Introduction

Adjusting intermodal point and line infrastructure to new market challenges is necessitated by the changes which take place on international commodity markets, the growing trade, global technological progress, the extension of global supply chains and a gradual increase in the demand for maritime and rail transport. On the other hand, in the face of the economic slowdown, the People's Republic of China (PRC) is constantly looking for new economic ventures, striving to compete with other market participants of global supply chains.

The reactivation of the concept of the old Silk Road (SR), the so-called New Silk Road (NSR) or the Belt and Road Initiative (BRI), formerly also known as the One Belt, One Road (OBOR), is aimed at generating additional value in the logistics network. The BRI, an initiative attempting to create the shortest land connection between China and Western Europe, is to provide better transport and trade opportunities inside China (internal relations) and with its business partners (external relations), mainly from Central and Eastern Europe (CEE), Africa and Pacific Asia. In such a way, the NSR should contribute to the improvement of capital flows between those countries as well as to the internationalisation of Chinese enterprises.

The network of connections, proposed as a necessary part of the BRI, considers the Republic of Poland (RP) to be a key country for the creation of the route. The convenient location of Poland in the centre of Europe predisposes it to be an active participant in the initiative and a transhipment hub for the BRI, which represents an opportunity for the country to both intensify trade with China and further develop Polish rail and maritime supply chains, thus bolstering Poland's competitive position and continuously increasing the number of containers imported by land and sea.

The proposed book provides an overview of China's relations with Poland in the context of the NSR. It provides an attempt to describe the impact which the BRI has on the land and maritime supply chains in Poland. In addition, it endeavours to answer questions about the opportunities and threats resulting from Poland's participation in the initiative as well as to assess its further development prospects. To this end, the publication analyses various documents and publications or press releases on mutual Sino-Polish relations, particularly data published in numerous industry reports, national development strategies until 2030 or the European

Union (EU) as well as local projects and statistics. It seems that the information collected can represent a valuable supplement to the existing research gap, as the issues described in the book have rarely been discussed by researchers of the Sino-Polish relations.

An analysis of both Polish and foreign literature in the field of logistics, transport, economics and management made it possible to accomplish a theoretical and empirical study comprising five chapters. Chapter one is devoted to the general concept of the BRI, providing a short history of the idea, its main assumptions and goals as well as sources of investment project financing. Chapter two concentrates on the Sino-Polish economic and political relations and defines Poland's role in the co-creation of the NSR. The European transport system and its impact on Poland's participation in the BRI are outlined in the following chapter. This chapter also provides a description of rail and sea infrastructure in Poland as well as Poland's investment strategies concerning the Trans-European Transport Network (TEN-T). Chapter four, in turn, is devoted to the impact of the NSR on the Polish logistics chains, especially rail and maritime logistics chains. The purpose of the fifth and the last chapter is to explore the possible impact of the BRI on the Polish economy and evaluate the future of the initiative in Poland. To this end, the Authors performed the scenario analysis on the basis of the PEST and SWOT analysis of the factors influencing the further development of the Chinese concept.

Chapter 1
The Chinese Belt and Road Initiative

1.1. The Belt and Road Initiative as a global concept

The dynamics of changes in global trade and the desire to invest in foreign markets have prompted the Chinese government to create a strategy of international expansion. Consequently, the Belt and Road Initiative has become an important element of the new Chinese global order, sometimes referred to as the Silk Global Order (SGO) (Sulmicki, 2018). The Going Global Plan (also known as the Go Out Policy) was inaugurated in 1999 and its main goal was to motivate Chinese enterprises to invest abroad. The first phase of the plan, i.e. Going Global 1.0, was launched in 2001 with the admission of the PRC to the World Trade Organisation (WTO). It was developed during the so-called Hu-Wen New Administration, which refers to the years of the leadership of President Hu Jintao and Prime Minister Wen Jiabao (2002–2012). That period can be perceived as an attempt to ramp up the global image of the PRC by devising various soft-power strategies, such as China's peaceful rise (2003) and China's peaceful development (2004) in order to create a harmonious world, all of which are deeply rooted in the principles of Confucianism. The strategies were supposed to stand in opposition to American hegemony and to alleviate global concerns related to the intensification of China's actions on the international arena (Walkowski, 2017). The main purpose of the first phase of global expansion was to (Luo, 2018):

- gain control over the natural resources;
- take over complete value chains and attempt to recreate their mechanisms in China;
- become majority shareholders in foreign enterprises;
- search for local political support.

The use of business models borrowed from foreign companies was difficult for Chinese investors. The inhibition of global demand and the internal problems of the PRC, related mainly to corruption, turned out to be disadvantageous. The remedy for the problems encountered during the first phase of the strategy was to

constitute the initiative's entry into the Going Global 2.0 phase promoted by the Xi Jinping government. It is supposed to stimulate the restructuring of the Chinese economy by stimulating the demand outside of China, for instance, among Member States of the Organisation for Economic Cooperation and Development (OECD). Numerous projects related to the Chinese industry, such as Made in China 2025, also aim to promote an economy based on building a technological advantage and fostering innovation (China Policy, 2017).

The speech delivered by President Xi Jingping at the University of Nebybayev in Kazakhstan (2013) was an announcement of intensive work on new strategies of China's global expansion. Its main focus was the tightening of Sino-Kazakh relations and maintaining good diplomatic relations with Central Asian countries. The proposal of creating a land connection between the countries of Southeast Asia, China and Europe, known as the Silk Road Economic Belt (SREB), was a practical expression of the PRC's willingness to cooperate on an international level. The proposed route was supposed to start in Xian and go west via Urumqui and Khorgas in the Xingjiang province as well as through Bishkek and Samarkand in Central Asia. Continuing through Turkmenistan to northern Iran and Turkey, it should connect Tehran with Ankara and Istanbul, from where it was to proceed northeast via Bulgaria, Romania, Moldova and Ukraine to Moscow, turning there sharply to the west, going through Belarus and Poland to Germany (Duisburg) and the Netherlands (Rotterdam). Then it should run via Antwerp (Belgium) and France through Switzerland to Venice (Fasslabend, 2015).

The same year, during the speech given at the Indonesian Parliament, the PRC President expressed the desire to create the 21st Century Maritime Silk Road (MSR) that would link China with the Member States of the Association of Southeast Asian Nations (ASEAN) as well as the countries of South Asia, Africa and Europe. More precisely, it was to connect ports in the east of the PRC with Jakarta (Indonesia), Kuala Lumpur (Malaysia), Kolkata (India), Colombo (Sri Lanka), Nairobi (Kenya), Athens (Greece) and Venice (Italy) (figure 1). The Pacific should retain its position of centrality as the MSR primarily designates connections between Chinese and other Asian ports as well as overall connections between China and other continents (Nobis, 2017).

Yet, it should be borne in mind that the final course of the NSR will depend upon the Chinese strategic plan and will be the result of the efforts of the countries that are potential beneficiaries of the route. The implementation of both plans (i.e. SREB and MSR) is envisaged to take three to four decades. It should significantly reduce transportation time to a maximum of 18 days on the 12,000 km long route between the road from Chinese Yiwu to Spanish Madrid. At the same time, the President announced the establishment of the Asian Infrastructure Investment Bank (AIIB), an international financial institution supporting regional connections and economic integration of countries which are the members of the initiative (Cheng *et al.*, 2018).

Figure 1. The New Silk Road and the 21st Century Maritime Silk Road (Fasslabend, 2015).

In general, the BRI focuses on developing the connections of the following nature (Jakimowicz, 2017):

- China and Europe by a railway line running through Central Asia and Russia;
- China with the Middle East by a railway line running through Central Asia;
- China with Southeast Asia, South Asia and the Indian Ocean;
- China with Europe through the South China Sea and the Indian Ocean;
- China with the southern Pacific Ocean through the South China Sea.

Chinese plans assume that six international corridors will be built on these five routes (table 1; figure 2).

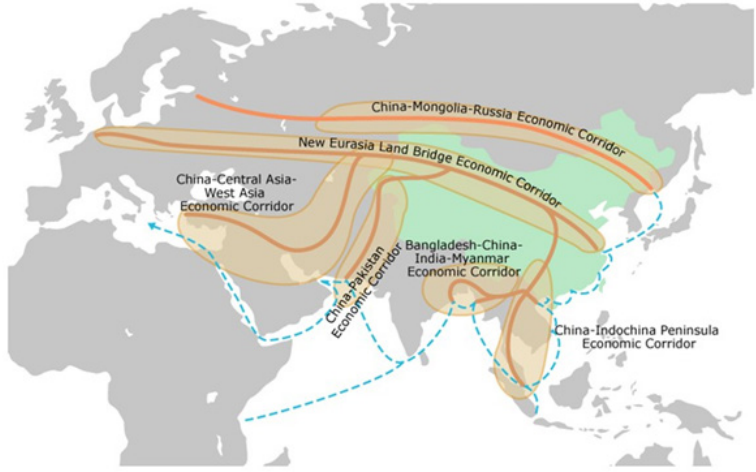


Figure 2. Six economic corridors spanning Asia, Europe and Africa (HKTDC Research, 2019).

Table 1. The land economic corridors of the NSR (OBOREurope, 2018).

Full/ Short name	Track	Aim of the connection
The New Eurasian Land Bridge, also known as *The Second Eurasian Continental Bridge/* NELB	China–Kazakhstan–Russia–Belarus–Poland–Germany–the Netherlands Including railway connections: Chongquing–Duisburg; Chengdu–Łódź; Yivu–Madrid; Wuhan–Lyon.	• increasing the frequency of rail transport between China and Europe; • boosting the competitiveness of road and rail transport in comparison to maritime goods movement; • simplification of customs procedures.
China–Mongolia–Russia Economic Corridor/ CMREC	China–Mongolia–Russia	• establishing permanent trade connections between China and Mongolia due to the modernisation of transportation and telecommunication infrastructure and the power grid; • putting Mongolia in the role of a hub for communication between China and Russia.
China–Central and West Asia Economic Corridor/ CCWAEC	China–Kazakhstan–Kyrgyzstan–Uzbekistan–Turkmenistan–Iran–Turkey	• creating a connection network that will enable China to trade with Central Asian countries.
China–Indochina Peninsula Economic Corridor/ CICPEC	China–Vietnam–Laos–Thailand–Cambodia–Myanmar (Burma)	• strengthening the cooperation between the countries of the Mekong Sub-region Group (MSG); • modernising the network of connections between the countries included in the route of the corridor; • trade support between China and the ASEAN.
China–Pakistan Economic Corridor/ CPEC	China–Pakistan	• connecting the city of Kashgar (the Xinjiang province) with the Pakistani port city of Gwadar; • constructing motorways, railway lines and fibre-optic communication networks between China and Pakistan; • establishing an international airport in Gwadar; • creating special economic zones.
Bangladesh–China–India–Myanmar Economic Corridor/ BCIMEC	China–Myanmar (Burma)–India–Bangladesh	• improving connections between China and the economic centres of the Bay of Bengal; • increasing the number of interregional trade exchanges; • reduction of non-tariff barriers.

From the perspective of the CEE countries, the NELB is of key importance and, as its name suggests, it would play the role of a bridge connecting European countries with the PRC, especially the Netherlands, Germany, Poland, Belarus, Russia, Kazakhstan and China. The willingness for the further development of 16+1 (later 17+1) initiative and subsequently the BRI contributed to the creation of two documents essential for the NELB, namely Budapest Guidelines for Cooperation Between China and Central and Eastern European Countries and Sofia Guidelines for Cooperation between China and Central and Eastern European Countries. The development of the economic corridor is dependent on the implementation of several projects, such as the modernisation of the Budapest–Belgrade railway line linking Serbia with the port of Piraeus (Kościelny, 2018) as well as on signing a series of agreements facilitating international trade, the most important of which is a three-year swap agreement between China and Hungary (valued at approx. USD 1.6 billion) and a contract of the same type concluded between China and Albania (worth approx. USD 324.8 million) (Szczudlik-Tatar, 2013b). It should also be highlighted that one of the main goals of the NELB development is the modernisation of the railway infrastructure connecting China with Europe, including rail connections such as Łódź–Chengdu, Duisburg–Chongquing, Madrid–Yiwu and Lyon–Wuhan, which will increase the frequency of transport, and hence accelerate the trade between the countries included in the initiative (OBOReurope, 2018).

The purpose of developing the CMREC is to create permanent trade connections between China, Mongolia and Russia, with a particular focus on the China–Mongolia route. This would improve the quality of transport infrastructure as well as energy networks and telecommunications between these countries. An important event for the future of the route was the meeting of Presidents Xi Jingping, Khaltmaagiin Battulgi and Vladimir Putin, organised in the Chinese city of Qingdao in 2018. It resulted in the signing of The Programme of China–Mongolia–Russia Economic Corridor, which provides for the construction of infrastructure enabling uninterrupted transport between the countries in question (Wieczorkiewicz, 2018). This would allow Mongolia to be perceived as an important communication hub on the China–Russia road. An example of the implementation of the provisions contained in the programme is the construction of the Tongjiang–Nizhneleninskoye railway bridge and ongoing works on the Heihe–Blagoveshchensk bridge (both infrastructure facilities are located on the Amur River). From the point of view of the route development, it may also be beneficial to approve the high-speed rail project between Moscow and the city of Kazan, which would eventually be extended to Beijing (Kościelny, 2019).

The CCWAEC consists of China, Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan, Iran and Turkey. Signing bilateral agreements on international road transport between China and Kazakhstan, Uzbekistan and Turkey as well as multilateral China–Kazakhstan–Kyrgyzstan, China–Kazakhstan–Russia,

China–Kyrgyzstan–Uzbekistan agreements may turn out to be important for its development (*The Belt and Road Initiative...*, 2019).

The CICPEC runs through China, Vietnam, Laos, Thailand, Cambodia and Myanmar. Strengthening the cooperation between the MSG countries and revitalising the network of connections between them should be considered to be the general objective of corridor development. The development of the corridor is manifested in the completion of the Kunming–Bangkok expressway, thanks to which the city of Kunming became a transport hub of the Yunnan province of China (Shenggao, 2018). There is an ongoing work on the cooperation of China and Laos to create a new economic corridor (Xianhua News Agency, 2019). Priority was placed on activities related to the adaptation of the Thai Eastern Transport Corridor to the needs of the BRI. The efforts of the Thai government are focused on developing its eastern provinces which would form the leading economic zone of the ASEAN (Dunseith, 2018). The initiative works in favour of the trade between China and the abovementioned organisation.

Running through China and Pakistan, the CPEC is based on the creation of transport infrastructure and cooperation of industrial parks with the port in Gwadar. Projects related to the launch of the Multan–Sukkur road connection (Peshawar–Karachi motorway) as well as the Havelian–Thakot section (Karakorumska motorway) were fulfilled. An important element of the works on the development of the corridor is the Pakistan Port Quasim Power Project, which resulted in building a coal power plant with a total capacity of 1,320 MW, corresponding to 10 percent of the current energy generation capacity of Pakistan (Jabri, 2019). Chinese experts characterise CPEC as an effort to increase Pakistan's economic resilience as well as a way to reduce China's dependence on petroleum passing from the Middle East to China through the Malacca Strait (Zimmerman, 2015).

Finally, the BCIMEC running through China, Myanmar, India and Bangladesh is being constructed as part of the cooperation of numerous working groups so as to stimulate joint infrastructural development, communication and cooperation in industrial parks. The development of the corridor is supported by the China–Myanmar Joint Economic Corridor Committee (CMJECC). The Member States have signed an agreement regarding the construction of the corridor and also conducted a feasibility study of the Muse–Mandalay railway (Lwin, 2019). Yet, as this ambitious corridor has made no progress over the past years, it seems to have been replaced by the concept of the China–Myanmar Economic Corridor (CMEC) announced in late 2017. It could become the main trade corridor of southwestern inland China with the Indian Ocean, thereby serving to bypass the security-risk of the Strait of Malacca for China's MSR (Chan, 2019).

The concept of the BRI can be perceived as a combination of two distinct but mutually reinforcing ideas. Its name is a direct reference to the SR, a historical trade route connecting China with the countries of the Middle East and Europe

(MEE) (MFAPRC, 2015). The "road" included in the name refers to the sea connections operating under the initiative, while the "belt" alludes to the land network connecting China with the European countries. The BRI can be seen as complementary to the 16+1 (later 17+1, see paragraph 1.2) plan presented by the PRC government in 2012 based on China's cooperation with eleven Member States of the EU and five Balkan states. The concept of the BRI includes countries having 75 percent of global energy reserves. If maritime transport is also taken into consideration, with the inclusion of the African coast, its centre of gravity is located in Middle Asia (Colarizi, 2015).

All in all, the NSR is to connect 133 countries with over 60 percent of the global population, whose share in global GDP reaches approximately 35 percent[1]. A number of motorways, railways and seaports, power and telecommunications facilities as well as healthcare facilities and education centres will be built under the auspices of the project. As maintained by the Chinese government, more than 100 countries and international organisations have expressed a positive opinion about the initiative, and more than 40 have already signed relevant cooperation agreements. Around USD 900 billion has already been allocated to the project while the implementation of the entire concept will have consumed over USD 22.6 trillion by 2030 according to the Asian Development Bank (ADB) (Cieślik, 2017).

Yet, at present, the NSR is still under construction: some of its parts have already been completed, some are still being developed, while others are only in the planning stage. The concept contains several basic and several intermediate versions of the NSR route while individual variants are not exclusive. Moreover, the concept itself keeps evolving. The new initiatives which have been announced lately include the Digital Silk Road (DSR), i.e. the global network of fibre-optic cables, international trunk passageways, mobile structures and standards like 5G networks (Demiryol, 2019). In 2018, in turn, Chinese leaders presented plans for the so-called Polar Silk Road (PSR), one of the blue economic passages which is to connect China with Europe through the Arctic Ocean. China's interest in the Arctic seems to be driven by potential energy, commercial, and geopolitical benefits. First, the region boasts roughly 13 percent of the world's undiscovered crude oil and 30 percent of undiscovered natural gas. Second, the commercial attraction of the Arctic routes consists in reduced shipping times that would mean lower fuel costs and emissions. Third, the ability to transit through Arctic waters may provide an alternative trade lane that circumvents the maritime choke point at the Strait of Malacca as well as pirate-infested waters, such as the Red Sea and the Indian Ocean (Nakano, 2018).

1 There are officially 65 countries participating in the BRI together with China. Yet, seven of them (Bhutan, India, Israel, Jordan, Palestine, Syria and Turkmenistan) still have to officially confirm their participation in the initiative by signing a bilateral agreement. Moreover, 75 other countries subsequently confirmed their participation in the project through the signature of BRI cooperation documents with the PRC (Kohli *et al.*, 2019).

1.2. A short history of the 17+1 idea

There are many possible explanations why the government of China has decided to pursue new global initiatives. The willingness to achieve new connections between the economic growth and political stability has often been emphasised as well as a chance to maintain stable expansion in short and medium term. The Chinese economy is in a model changing phase, which implies the transition from low value export model to a model that is founded upon high value export and domestic consumption. The security of energy supplies as well as opening to new market opportunities can be perceived as a necessity on a path to reach new goals and safely go through the time of the transition.

Seeking new international solutions has resulted in creating a new platform of interaction, known as the 16+1 idea. The name is an outcome of a gathering held in 2012, when the government of the PRC presented a plan based on collaboration with eleven EU Member States (Bulgaria, Croatia, the Czech Republic, Estonia, Lithuania, Latvia, Poland, Romania, Slovakia, Slovenia, Hungary) and five Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, Macedonia, Serbia). The cooperation of those 16 countries with China was to be a part of activities contributing to the implementation of the Go Global Plan based on the development of the Chinese global expansion strategy. During the first 16+1 Summit, held in 2012 in Warsaw, the former Prime Minister of China, Wen Jiabao, presented a plan of cooperation for the CEE countries based on 12 steps of mutual collaboration relating to infrastructure investments, transportation, finance, tourism, culture and science (table 2).

Table 2. Provisions of Wen Jiabao's 12-step plan (China-CEEC, 2015).

Cooperation areas	Provisions
Investments	• the creation of a secretariat in the Chinese Ministry of Foreign Affairs, ensuring cooperation between China and the CEE countries; • the establishment of a PRC-CEEC investment plan based on the creation of a USD 500 million cooperation fund; • the plan of sending the so-called Chinese trade and investment missions to the CEE countries so as to contribute to the increase in the value of trade; • the creation of one economic and technological zone dealing with cooperation with China for each Member State of the 16+1 initiative.
Transportation	• the establishment of an expert committee dealing with the construction of transport infrastructure adequate for maintaining the liquidity of trade between China and the CEE countries (mainly road network and railway).

Table 2 (cont.)

Cooperation areas	Provisions
Finance	• broadly understood financial cooperation with the CEE countries; • establishment of a credit line (in the amount of USD 10 billion) for the improvement of infrastructure, the development of new technologies and environmental solutions.
Tourism	• the creation of an agreement to support and promote tourism between the PRC and the CEE countries.
Culture and science	• establishment of an organisation facilitating cultural cooperation between China and the CEE countries; • the introduction of scholarships funded by the Chinese government; • support for the Confucius institutes and initiatives contributing to scientific exchange between China and the CEE countries; • the plan for organising a forum for young leaders in 2013 to promote mutual understanding and friendship.

The 16+1 has been described as a mechanism coordinated by the Ministry of Foreign Affairs of the PRC which should facilitate the cooperation between China and 16 CEE Member States. The new format can be perceived as a new approach to cooperation on a regional level between China, Africa, East Asia, Latin America and the Middle East. Some common features for the cooperation include (EP, 2018):

- having roots in the principles of inclusive, consensus-based decision-making;
- the normative basis of voluntarism and the willingness to achieve win–win results;
- the permission to shift the places of dialogue between the members of the cooperation, for which multilateralism is seen as a chance for further enhancement of international ties;
- a loose pattern for the expansion of institutionalisation and the mechanisms of coordination;
- a set of China centred agenda;
- Chinese tools of financing having no strings attached.

The meetings of the 16+1 group were organised regularly at yearly intervals. Until 2016 they took place in Warsaw (Poland) in 2012, Bucharest (Romania) in 2013, Belgrade (Serbia) in 2014, Suzhou (China) in 2015 and Riga (Latvia) in 2016. They resulted in the signing of many international agreements, the most important of which include (Górski, 2017):

- the establishment of the Permanent Secretariat for Investment with its headquarters in Warsaw (2014);
- intensification of activities related to the cooperation of the Baltic Sea ports (2016);
- creating an investment fund for the cooperation of the PRC with the countries of CEE (2016);

- establishing cooperation between the authorities of the Hunan Province (China) and the Polish Investment Agency – PAI (2017).

The summit held in 2013 in Bucharest, Romania, did not bring any significant changes to the principles of cooperation between the Member States of the 16+1. Its most important finding should be the signing of a Sino-Serbo-Hungarian agreement on the modernisation of the railway line connecting Budapest and Belgrade. Yet, in the run-up to the Belgrade summit, several agreements facilitating international trade between Member States were also signed, including (Górski, 2017):

- a swap currency agreement between the PRC, Hungary and Albania;
- documents related to the peaceful use of nuclear energy between the PRC, the Czech Republic and Romania;
- separate cooperation agreements on quality control between the PRC, Hungary, Latvia, Serbia and Macedonia.

During the 2016 summit in Riga, Latvia, the Riga Declaration was signed. The leaders of 17 countries reaffirmed their support for cooperation covering the ports of the Baltic, the Adriatic, and the Black Sea (BABS) and along inland waterways, proposed by Prime Minister Li Keqiang a year earlier at a previous summit. The leaders pointed out that cooperation between the ports of the three seas will give greater opportunities for practical cooperation, promoting sustainable development in the long term, and thus will contribute to greater synergy between the BRI, further development of the CEE strategy and the EU TEN-Ts (Jakimowicz, 2017).

The following summit was held in Budapest, Hungary, in 2017, and resulted in the creation of another strategic document known as the Budapest Guidelines for Cooperation between China and Central and Eastern European Countries. Poland, among others, signed an agreement concerning strategic cooperation between the Polish Investment and Trade Agency (PITA) and the Government of the Hunan Province (Trojan, 2017).

The subsequent summit took place in Sofia, Bulgaria, in 2018, just eight months after the previous event. It was noted that during the summit the willingness to collaborate with the EU was visible. It resulted in signing over 20 documents and opening the China–CEE agricultural demonstration zone for the trade of agricultural commodities. Its main aim was to deepen the cooperation between China and the CEE countries in the field of sustainable agriculture and revitalisation of rural areas, so as to meet the new technological needs (*China, CEEC pledge…*, 2019).

The year 2019 brought major changes in the 16+1 initiative. The 9th summit took place in Dubrovnik, Croatia, and was a momentous event. The intensity of the cooperation between China and the CEE countries resulted in the expansion of countries willing to take part in the initiative. Due to the inclusion of Greece, the initiative is currently known as the 17+1 plan (Kavalski, 2019).

Apart from frequent meetings on a high level scale the main point of interest of the cooperation is socialisation, which should be understood as the people-to-people contact. During the years 2012–2017, there were as many as 233 official

meetings, from which 47 were held between January and November 2017. Those events were of particular significance and highlighted the symbolic power of China. Furthermore, the people-to-people contact was based on various forms of exchange, such as the organisation of think-tank symposiums (Vangeli, 2018).

One of the major achievements of the 17+1 initiative to date is the purchase of the Tirana airport by the Chinese and the construction of a bridge located in Serbia. Chinese investments in the Balkan region are much easier than in other parts of the Europe due to the fact that the EU legislation is not in force there (Jakubowski, 2017). The initiative, however, is criticised by some Member States and tends to be a cause of internal conflict. The main objection is that the platform is an "empty shell" and lacks clearly defined goals as well as methods of achieving them. The 17+1 initiative has a fragmented nature while Chinese actions may be perceived as rather random and haphazard. On the other hand, the CEE countries need to develop a well-embedded diplomatic language, which should serve as a bridge to maintain good bilateral relations with the PRC with regard to EU regulations. It has to be noted that the level of engagement of the CEE countries is shaped by the decisions of individual members concerning the need to adjust to the Chinese agenda, too (Karásková *et al.*, 2020).

1.3. The main assumptions and goals of the undertaking

From the very beginning the concept formerly known as the One Belt, One Road (OBOR) has been a complementary idea for the 17+1 cooperation plan between China and the CEE countries. Already in 2013, Chinese President Xi Jingping expressed a desire to recreate in modern times the historical Silk Route, a network of connections between China and the Old Continent as well as countries of the Middle East. Due to controversies regarding the name, especially considering the word "one", the name of the initiative was later changed to the Belt and Road Initiative (BRI).

The idea presented by Xi Jinping in 2013 is an ambitious vision of creating international trade routes based on a network of intermodal connections between China and the countries of Central Asia and Europe. At the same time, the concept can be perceived as a form of a dialogue between China and other countries, serving to weaken the negative impression created by China's expansive economic policy and assertive foreign policy. Its implementation allows China to increase its influence in Southeast Asia and is a balance for the predominance of Russia and the US influence in these regions (Kaczmarski, 2015).

In general, the main assumptions of the NSR initiative include (Łopacińska, 2017):

- an increase in the number of the PRC's investments and countries included in the concept;
- underpinning international trade;
- giving support to infrastructure investments;
- boosting the efficiency of road transportation, both in terms of transport time and costs.

As for the Chinese long-term cooperation with Europe, the implementation of the BRI was divided into several stages. The first phase was introduced on the China-CEE summit in Warsaw in 2012. As it was organised after the 2009 European debt crisis, it was perceived as an opportunity for the Chinese policymakers to invest on the CEEC markets. The cooperation at that time was to be based on mutual "rediscovery", "economic interests" and "traditional friendship". The second phase focused on further comprehensive development of the relations between China and the CEE countries, which would build solid foundations for a balanced and sustainable development of the cooperation. The phase commenced with the summit held in Bucharest in 2013 and indicated not only the willingness to maintain relations between China and CEE countries but also between China and Europe in general. The third phase directly referred to the BRI. The Belgrade Summit gave rise to the construction of the "China-Europe Land-Sea Express Passage" and, from then on, the BRI was perceived as a remarkable driving force for future cooperation with the PRC. The fourth phase, in turn, emphasised the need to maintain and further develop the cooperation between the European countries and China under the BRI as well as the 17+1 cooperation (Zuokui, 2017).

The inclusion of China in The Convention on International Transport of Goods Under Cover of TIR Carnets (TIR – Transport International Routier), a multilateral treaty streamlining the administration of road connections in international road transport, may significantly contribute to the further development of the NSR. Accepting the convention has already allowed for the free movement of goods between Russia and China without transhipment on the Russian-Chinese border. As part of the door-to-door trade connections, it has also become possible to move goods 3 and 1.5 times faster than by sea or rail, respectively. Importantly, benefits are clearly visible in relation to trade between Poland and China. For example, opening the border crossing in Khorgos (Kazakhstan) in September 2018, allowed to deliver goods using the China–Kazakhstan–Russia–Belarus–Poland connection in 13 days.

Despite being present in political and academic discussions, the BRI concept remains ambiguous and unclear. Over the years, it has become a collective term referring to the PRC government's initiatives related to China's international expansion and economic cooperation with other countries. The vision of the NSR development, published by the Chinese government in 2015, defines the project as related to (MFAPRC, 2015):

- cooperation of China, Central Asia, Russia and Europe (the Baltic States); connecting China with the Persian Gulf;
- developing international transport corridors thanks to the effective use of road connections and industrial parks as cooperation platforms;
- the unification of construction plans for new infrastructure facilities, development of a system of technical standards to ensure smooth cooperation during the transport of goods;
- establishing a coordination mechanism for long-distance transportation of goods, including customs clearance, simplifying the reloading process and other elements of the multimodal transport;
- standardisation of transport rules to facilitate international shipment of goods.

On the other hand, it is also perceived as a flexible form of global dialogue, a broad vision of China's cooperation with other countries and an attempt to enhance the image of the PRC on the international stage. This is all of greater importance taking into account the fact that the concept was initiated in times of difficult relations between China and the neighbouring countries, which resulted from (Grieger, 2016):

- freezing most of the diplomatic activity with Japan due to territorial disputes regarding the three islands of Senkaku/Diaoyu located in the East China Sea (2012) and their inclusion in the Chinese Air Defence Identification Zone (2013);
- strained bilateral relations with the Philippines and Vietnam, which are Member States of the ASEAN, in connection with the dispute regarding the acquisition of resources in the South China Sea. Alleged illegal fishing in the Scarborough Shoal area led to a conflict between the Philippines and China, resulting in the islands being taken over by the PRC. As a consequence, the government of the Philippines, following The United Nations Convention on the Law of the Sea, undermined the scope of Chinese territorial claims under the so-called "nine-dash line".

As shown above, participation in the BRI implies the necessity of international cooperation. The objectives of the initiative are based on five cooperation priorities (MFAPRC, 2015):

1) policy coordination, including the promotion of activities for the development of cooperation and communication mechanisms;
2) promotion of undistorted trade through the promotion of economic integration at the regional level and reduction of trade and investment barriers;
3) creating interpersonal bonds due to the organisation of academic and cultural exchanges as well as promoting international dialogue and media cooperation;
4) financial integration regarding the creation of financial institutions and coordination of the monetary policy;

5) enhancing communication by creating appropriate infrastructure and developing a common system of technical standards.

As for the last point, according to the announcement of Oleg Belozerov, the President of Russian Railways, the development of cooperation between countries concerning container transport on the route from China to Europe will require a series of standardisation activities to ensure a smooth flow of goods and information within the supply chain.

Standardisation is the process of developing and implementing technical standards or establishing uniform standards that facilitate communication between entities performing a variety of activities. The development of common standards, as defined in the Polish Language Dictionary:

- allows to determine the characteristics desired by the recipients;
- has an impact on improving the quality of goods;
- facilitates their grading and marketing.

Standardisation of logistics processes becomes essential in relation to international intermodal transport having a direct impact on their efficiency and being a factor integrating the supply chain. The development and use of international standards is an activity promoted by the WTO. Three non-governmental organisations are involved in the development of international standards, namely the International Organisation for Standardisation (ISO), the International Electrotechnical Commission (IEC) and the International Telecommunication Union (ITU). Each Member State of the EU has an individual standardisation unit which is obliged to participate in the work of the ISO organisation. Standards are adopted through voting in which each ISO member has one vote. The Standardisation Administration of China (SAC) is, in turn, the national organisational unit of the PRC (DIN, 2017).

A good example of the standardisation activity already undertaken by the participants of the BRI may be the signing of a multilateral rail agreement between Russian Railways (Russia), Belarusian Railways (Belarus), Deutsche Bahn AG (Germany), National Company Kazakstan Temyr Zoly (Kazakhstan), Ulaanbaatar Railway (Mongolia) and Polish State Railways SA. The main aim of the agreement is to bolster the organisation of container transport between China and Europe. The parties to the agreement have developed a long-term strategy assuming:

- intensification of the activities related to the adjustment of infrastructure to the requirements of international rail transport;
- intensification of activities related to the organisation of international transport;
- development of new technological solutions aimed at reducing the time of transport.

Particular attention was paid to ensuring the competitiveness of rates of goods transported by container trains under the local legislation of individual members and to taking measures to standardise the quality of services provided.

In addition, emphasis was laid on the need to create new transport and logistics solutions to facilitate the provision of cross-border services, especially in relation to e-commerce, postal items and transport of products in refrigerated containers as this type of railway contract may be relevant to the development of the CMEC.

Moreover, the development of the NSR in terms of investment and monitoring companies actively involved in the concept should be accompanied by the creation of a synthetic indicator enabling the assessment of the initiative. A press release from China Exchanges Services Company Ltd. (CESC), a joint venture created through the cooperation of Hong Kong, Shanghai and Shenzhen stock exchanges, indicates that the development of this type of metre is necessary for the correct evaluation of progress in the collaboration between countries participating in the creation of the BRI as well as for connecting entrepreneurs interested in taking part in the initiative with those who already participate in it (Shepard, 2017). For the purposes of macro-analyses related to the assessment of the investment potential of countries operating under the BRI, the real estate company Knight Frank has launched the Belt and Road Index (BARI). To calculate it, it was necessary to specify six categories relating to the economic potential of a given country, its demographics, infrastructural development, institutional efficiency, market accessibility and natural disaster resilience. The values within each category have been normalised to achieve comparability of results and allow for their contextualisation. Weights were also assigned to individual categories, referring to the potential impact of a given category on investment decisions. The list of countries included in the analysis was based on the official Belt and Road website with 66 countries. The inability to collect complete data on Palestine and Syria resulted in their exclusion from the BARI analyses[2] (KFR, 2017).

Finally, the desire to implement the BRI concept forces the PRC government to consider a number of reforms that could contribute to the undisturbed development of the idea. Corruption is one of the main problems regarding trade with China. Data released in 2011 show that giving bribes is a common practice when exporting Chinese goods abroad. Unification of international anti-corruption programmes is to serve the introduction of ISO 37001 and ISO 19600. The first one is a standard for anti-corruption and anti-bribery compliance, while the other refers to management systems compliance. During the Second Belt and Road Forum (2019), Xi Jingping emphasised the need of taking actions in order to build a corruption-free environment for international cooperation.

The need of change is also visible in the issue of legal conditions related to the protection of intellectual property, which is often ignored by entrepreneurs who want to enter the Chinese market or establish cooperation with companies operating in the PRC. Companies deciding on this type of cooperation should

2 Interestingly, the assessment of the markets of the countries participating in the survey shows that Poland is in the top twenty countries with the largest investment potential (17th position).

analyse the types of intellectual property owned by the enterprise with respect to trademarks, copyrights, instructions and databases (Ryszkowska, 2015). Despite the Chinese government's successive implementation of the provisions and respect for protocols regarding the need to register trademarks and their protection, 70 percent of European countries cooperating with the PRC have experienced their violations (Pyffel, 2013).

1.4. Sources of financing the investment projects under the Belt and Road Initiative

The development of the idea of the NSR must be supported by institutions financing international investments implemented under the concept. The BRI involves not only individual funds of Member States, but also numerous bilateral funds. It should be noted that each of the Member States of the initiative is obliged to commit its own capital to ensure full development of the idea, which is associated with supporting activities for the local industry as well as supporting its own business interests.

As part of the BRI, several units have been created constituting potential financial security for the countries participating in the initiative. The activities of the Asian Infrastructure Investment Bank (AIIB) established in 2016 are aimed at supporting regional development and economic cooperation of the countries included in the concept. The support offered by the institution would refer, in particular, to (MF, 2019):

- infrastructural investments and investments that promote ecological solutions or achieving broadly understood development goals;
- development of cross-border connection network, especially international, by means of road, rail and sea as well as cooperation with regard to energy and telecommunications;
- the use of private investors capital and promotion of modern solutions that could contribute to financing infrastructure investments from private capital.

The Bank's main shareholders are China (30.34%), India (8.52%), Russia (6.66%), Germany (4.57%) and South Korea (3.81%), while the BRICS countries (Brazil, Russia, India, China, South African countries) are both the largest shareholders (49.36%) and have the largest number of votes (43.29%) (Kalwasiński, 2017). By 2018, the AIIB helped fund 28 projects in 13 countries involved in the BRI. The total value of promoted investments is over USD 5 billion. In 2017, the President of the World Bank Group (WBG), Jim Yong Kim, and the President of AIIB, Jin Liqun, signed a memorandum regarding the principles of cooperation between

institutions and the need to exchange knowledge to ensure good cooperation. The agreement set out a general framework for the cooperation regarding, *inter alia*, financing the development, the exchange of employees, and analytical as well as sectorial work in regional and national terms (WB, 2017).

Another institution that supports the development of the BRI is the Asian Development Bank (ADB), which was launched in 1966 thanks to the commitment of the Japanese government. Its main tasks include providing technical and financial assistance to Asian developing countries and preventing poverty. The ADB estimates that the demand for infrastructure development in Asia-Pacific countries will be USD 1.5 trillion per year by 2030 (Curran, 2018). The ADB plays a similar role as the WB, but its operation is strongly associated with Japanese ideology due to its close institutional link with the Japanese Ministry of Finance. The Japanese government is responsible, among others, for fund management and recruitment of the ADB CEOs (Dent, 2008).

The establishment of the New Development Bank (NDB) was initiated by BRICS leaders who were in favour of creating an institution to finance long-term infrastructure investments and promoting the concept of sustainable development. The institution was founded in 2014, and began to function actively a year later. All United Nations (UN) Member States can be included in the NDB, however, BRICS countries must retain a majority of votes (55%). The initial capital of the NDB, whose registered office is in Shanghai, is USD 100 million divided into one million shares with a value of USD 100,000 each. To date, the institution has approved 30 projects with a total value of USD eight billion, including nine projects for investments located in the PRC. The next plans are to approve another 20–25, for which the total value of granted loans will be from USD 7.5 to 8 billion. The Bank displays a strong tendency to finance projects related to protection of the natural environment against pollution. Financing includes, among others, water treatment plants and technologies related to Renewable Energy Sources (RES), i.e. elements significant for the development of the NSR concept (Silk Road Briefing, 2019).

The idea of creating the European Bank for Reconstruction and Development (EBRD) emerged in 1989, while the Bank began functioning in 1990. Those were the years of dynamic international political, economic and social changes. The EBRD's main goal was to support the open economy and economic transformation, with particular emphasis on the transition of the CEE countries from communism to capitalism (Bronstone, 1999). Today, the institution's main goal involves promoting environmental activities, recognised by the EBRD as one of the pillars of well-functioning and modern economies. The Bank's shareholders comprise 67 countries, the EU and the European Investment Bank (EIB). During the Belt and Road Forum held in 2017 in Tbilisi, the EBRD Vice President of Banking, Allain Pilloux, stressed the importance of the BRI as a multi-faceted concept. He also commented on the need for individual Member States to contribute to the initiative, since it is impossible to develop the idea of the BRI without access

to natural resources or a mutual desire to facilitate cross-border trade flows (Martikian, 2017).

It is important not to forget about Chinese institutions. For example, the China Development Bank (CDB) had supported 400-plus projects in 37 countries along the BRI by the end of December 2015. The projects covered cooperation in the field of, for instance, energy resources or construction of technical facilities. During the same period, the China EXIM Bank (CEB) had supported 1,000-plus projects in 49 countries along the NSR which included roads, railways, electricity, ports, communications, etc. Another 212 BRI-related projects were financed in the form of non-concessionary loans by the Industrial and Commercial Bank of China (ICBC). Similar loans could be obtained by the interested parties in the Bank of China (BOC). Finally, the Agricultural Development Bank of China (ADBOC) and the China Construction Bank (CCB) are supporting both Chinese companies and the Silk Road Fund (SRF), while as early as in July 2015 the China Export and Credit Insurance Corporation (SINOSURE) signed a cooperation agreement on the BRI with the ICBC, focusing on supporting projects in the regions along the NSR (OECD, 2018).

In 2013 the Xinhua News Agency published information about plans to launch the Silk Road Gold Fund (SRGF), i.e. the "golden" investment fund. The SRGF began trading gold on the Shanghai Gold Exchange in 2015. Incorporating 60 countries into the fund enabled the acquisition of approximately USD 16 billion. Together, these countries are responsible for more than half of global gold production and 80 percent of total consumption of the all mined gold. The purpose of the fund is to facilitate the purchase of gold by the central banks of the Member States. It also aims to actively expand investment and financing cooperation opportunities by adopting medium- to long-term equity investment, and supplementing it with loans and fund investments in collaboration with domestic and foreign investors. The SRGF focuses mainly on three aspects: building a multiparty cooperation platform, innovating *renminbi* products, and developing green finance (Yang, 2019).

Ultimately, at the end of 2014, the Chinese government announced the establishment of a 40 billion USD Silk Road Fund (SRF), as strong incentives to promote the BRI included, from the very beginning, the development of trans-European trade infrastructure that may serve to strengthen poorer countries located in the southwest and west of China as well as the stimulation of global trade (Bo, 2018). China's production may also gain from the implementation of the initiative. The excess capacity of it, mainly in the field of steel production and earthmoving machinery, can be sold to recipients along the NSR. This would allow the Chinese manufacturing industry to introduce higher-grade industrial goods into its portfolio (Bruce-Lockhart, 2017).

1.5. The global response to the Chinese concept

In 2015, The Ufa Declaration by the Heads of Member States of the Shanghai Cooperation Organization, (Shanghai Cooperation Organisation – SCO, created at that time by the governments of Russia, the PRC, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan) supported the strengthening of international relations within the framework of the NSR. The issue of the BRI was also raised during the G20 Summit held in 2016 in the Chinese city of Hangzhou. Member States opted for the creation of the Global Infrastructure Connectivity Alliance (GICA), which aims to "strengthen the cooperation and synergies between existing and future global infrastructure programmes and trade facilitation programmes (…)" (Burke, 2017). The same year, the UN General Assembly adopted the Resolution A/71/9 supporting the integration of countries and the implementation of projects under the NSR. The initiative gained wide support and was recognised as a "common interest" of 193 Member States (Hajduk, 2016).

Then, the issue of the BRI was raised in the UN Security Council Resolution 2344 (2017), which mainly refers to the UN assistance mission in Afghanistan. Regional cooperation was also presented as a means of promoting security and socio-economic development in order to build a common future. The Council recognised the BRI as beneficial to international economic cooperation, facilitating regional connectivity as well as trade and transit. The concept would be developed by integrating the policies of the UN Member States that would contribute to the creation of joint development projects and trade agreements (*Chinese landmark concept…*, 2017). The involvement of the UN in the BRI also concerns environmental issues. The ultimate goal in this case is to ensure that the investments made under the project will contribute to the implementation of the Sustainable Development Agenda. The UN also strives to encourage participants of the NSR to make investments in environmental protection (Blanchard and Flint, 2017).

In 2018, in turn, the Special Declaration on the Belt and Road Initiative was adopted during the Forum of China and the Community of Latin American and Caribbean States. In the same year, the Declaration of Action on China-Arab States Belt and Road Cooperation was adopted during the 8th Ministerial Meeting of the China-Arab States Cooperation Forum held in Beijing. Moreover, the Beijing Declaration - Toward an Even Stronger China-Africa Community with a Shared Future and a plan of cooperation between China and Africa in the years 2019–2021 were established during the Forum on China Africa Cooperation (FOCAC) Summit in Beijing in 2018 (China-Africa Forum, 2018; Li, 2018).

Finally, in 2019 the NSR concept was supported by Italy, which was the first country of the G7 group that decided to officially join the initiative. Italy and China exhibit a similar economic structure based on promoting the small and medium-sized enterprises (SME) sector and production in unique sectors. The memorandum

signed by Italian Prime Minister Luigi Di Maio and Xi Jingping refers to the conditions of 29 bilateral agreements. It is estimated that the government of China is planning to invest around three billion USD into the Italian financial, energy and agriculture sectors, thanks to which Italian enterprises will receive broadly understood access to the Chinese market. This, in turn, may prove particularly profitable for construction, energy and engineering companies (Mazzini, 2019).

The regional cooperation between CEE countries and China, in turn, may prove to be difficult due to the diversity of the regions in terms of language, religion, culture, customs and traditions, the size of the economy and self-identity. Moreover, some of the 17+1 countries are part of the EU, which implies the necessity to obey its regulations and laws. The enthusiasm regarding the development of the BRI in Europe has been clearly visible, though, due to a variety of reasons, such as politics, economy and security, which can be linked with trade in Europe, connections with Eurasia and energy routes in the Indo-Pacific region. The BRI connects around 35 Chinese cities with 34 European cities thanks to trade and transport cooperation. Furthermore, most of the new Chinese investments are located in Europe in sectors such as energy, real estate and telecommunications. With regards to economy and security, the impact of the BRI in Europe is clearly visible in three main categories (Mohan, 2018):

- the unity of the EU;
- the impact on security in Europe;
- competition in the areas of trade, investments and market accessibility, both in Europe and Asia.

In addition, there has been a certain expansion of cooperation between Russia and China in terms of the BRI. The bilateral relations have reached a higher level due to the fact that the two countries share a wide range of common goals, such as promoting economic growth and improving the livelihood of the society in order to rejuvenate the nation. In 2015, for instance, the two countries signed a declaration of cooperation, concerning both the construction of the SREB and the Eurasian Economic Union (EEU). What is more, the countries cooperate in sectors such as nuclear energy, aerospace and infrastructure. The two-way trade is developing thanks to shared interest in agriculture, e-commerce, finance and high-tech innovations. The cultural exchange between China and Russia was also promoted by the organisation of such events as (Qi, 2019):

- the China-Russia Youth Friendly Exchanges Year (2014–2015);
- the China-Russia Media Exchange Year (2015–2016);
- Years of China-Russia Local Cooperation and Exchange (2018–2019).

Still, Russia is also noted for the willingness to avoid collisions of interest with China as well as the protection of its national interests and sovereignty. The government does not want to offer the Russian territory and resources for Chinese investments and projects. Thus, shared Sino-Russian projects should be described as joint-ventures, preferably controlled by the Russians. Moreover, the government

does not want to incur too much the Chinese debt (Haentle *et al.*, 2019). The symbolic answer of Russia to the BRI is the Greater Eurasian Partnership (GEP), which has two main economic goals. While the first one is to connect Russia and the BRI, the second consists in joining it with India, Iran and the countries of Southeast Asia (Köstem, 2019).

India has turned down the invitation to the Belt and Road Forum in 2017 since the country views the initiative as lacking transparency and keeping the burden of debt. Chinese willingness to develop the China-Pakistan Economic Corridor running through the territory of Kashmir has been one of the biggest objections of the New Delhi government due to the fact of violating both the territorial integrity and sovereignty of India. Furthermore, there have been various signs that the BRI is viewed by India as a Chinese way to expand the strategic advantages of the region and have a growing presence in its neighbourhood. New Delhi sees a chance for development in other Asian projects, such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), which would allow to maintain a connection and the development of infrastructure with neighbouring countries debt (Haentle *et al.*, 2019).

The government of the USA has also been concerned about the way of implementing the BRI. The US is not a part of the initiative and decided to launch the so-called Blue Dot Network, which aims to promote the development of infrastructure in Asia. It has been promoted as both transparent and financially sustainable (Ma, 2019). Washington has underlined the negative aspects of the BRI while leaving the positives unsaid. The main alarming signs about the development of the undertaking include (Haentle *et al.*, 2019):

- the possibility of corruption while implementing new solutions;
- the deficiency of sustainability measures;
- the encouragement of projects that are poor in quality and badly managed.

On the whole, apart from all the advantages of the BRI, there is also a couple of major shortcomings. Criticism often applies to the Chinese relations with countries like Mongolia, Cambodia, Pakistan or Djibouti, for which the engagement in the BRI can result in a steadily increasing debt. On the other hand, poorer and smaller countries can benefit from being a part of such an undertaking. A good example of this is Malaysia, which was able to get a 30 percent discount for the implementation of the East Coast Rail link project. Furthermore, another obstacle may appear when the host countries try to take over Chinese investment or when some countries decide to stop or cancel the development of a project or a plan. Chinese foreign policy is based on non-interference, however it is hard to predict its reaction to cancelling costly long-term projects. What is more, the initiative may have a negative impact on the internal integrity both in the EU and in Europe in general. The geographical location of the CEE countries can be perceived as a gate, thanks to which the PRC may have a better access to the EU.

Chapter 2
The New Silk Road and the Sino-Polish relations

For over a dozen years, the Republic of Poland (RP) has been striving to maintain good relations with the PRC, recognising political dialogue as a basic condition for further strengthening of the economic cooperation between the two countries. In 2013, when the NSR became the most important issue in the foreign policy of China, Poland immediately decided to participate in the new Chinese undertaking. Importantly, due to its location in the centre of Europe, the RP can be seen as a key element of the NSR.

2.1. The Sino-Polish political relations after 1989

Lack of mutual interest was a characteristic feature of the relations between Poland and China after 1989. Dynamic internal transformations within the countries are the main reasons for the negligence of the correctness of Sino-Polish diplomatic ties. The beginning of the 1990s witnessed further weakening of contacts between the two countries. The political dialogue was renewed in 1991 due to mutual visits of the Ministers of Foreign Affairs, Krzysztof Skubiszewski and Qian Qichen. An exchange of visits between Polish and Chinese Prime Ministers (Henryk Goszewski and Zou Jiahua) took place in 1993, resulting in an agreement on the long-term appearance of economic and trade relations between the countries (Embassy of the RP, 2018). The Joint Communique of the People's Republic of China and the Republic of Poland (1997) was signed during the visit of the Polish President Aleksander Kwaśniewski to China in 1997. It was the first visit of the head of the Polish state in the PRC in over 38 years. Another high-level bilateral meeting was held in 2004 and resulted in the publication of the Common Statement between the Republic of Poland and the People's Republic of China signed by Aleksander Kwaśniewski and Hu Jintao. Both of those documents constituted a general record

of the framework and the principles for the development of relations between the PRC and the RP.

The visit of Dalai Lama in Poland in 2008 was deeply disapproved of by the Chinese government due to the tension between China and Tibet. The event did not, however, deteriorate relations between the countries. A real breakthrough in the Sino-Polish relations seemed to be, however, the EXPO 2010 exhibition with the Polish Pavilion placed in a central, well-exposed part of the exhibition square (Tuszyński, 2014). Further steps were taken in the following years to improve Sino-Polish relations. For example, the visit of President Bronisław Komorowski in Beijing (2011) was crowned with signing the joint statement of the Republic of Poland and the People's Republic of China regarding the establishment of strategic partnership relations. The agreement was established so as to raise the rank of relations between the two countries in the most important spheres of interstate relations (*Sino-Polish Strategic…*, 2011). It bears similarity to the document signed in 2004, though there is a clear difference in the language used to create the statement. It emphasised the improvement of relations between the two states. The main principle of mutual cooperation was to be non-interference into each other's internal affairs as well as equality and mutual respect of the chosen path of development. Poland was seen as a long-term ally of China in the EU. The comparison of the document with previous statements reveals that further cooperation can be considered more mature, based on solid and well-defined foundations (Stec, 2013).

As time passed, it became clear that it is important for both Poland and China to improve their relations and establish cooperation between the two countries. In 2012, the Chinese Prime Minister Wen Jiabao paid a visit to Poland, where he met with Prime Minister Donald Tusk, President Bronisław Komorowski and the Marshals of the Sejm and the Senate. The visit resulted in opening the Poland-Central Europe-China Economic Forum and signing a number of contracts, the most notable of which were (Stec, 2013):

- the memorandum on the promotion of the exchange and cooperation of the SME;
- the intergovernmental agreement on the cooperation in the field of infrastructure;
- the protocol on the cultural cooperation between the ministries of culture of both countries for the years 2012–2015.

Since 2012, the Chinese strategy of world expansion has contributed to maintaining correct interstate relations between China and the CEE countries, including Poland. That year the cooperation of 16 countries of the CEE with China was inaugurated in the 16+1 format. Poland was included in the plan. Simultaneously, the Go China programme was launched as an initiative of the Polish Ministry of Economy which supports Poland's economic cooperation with the PRC. Yet, since the 2015 elections the United Right, Polish right-wing

conservative alliance, has been in power and it oriented its foreign policy in favour of the US and fell into conflict with the EU. As a result, Poland has become a less attractive partner for the Chinese, who are an active competitor of the USA and seek approval from the EU.

Furthermore, even though the level of mutual relations between Poland and the PRC was elevated to a comprehensive strategic partnership in 2016 and the 6th Round of Dialogue on Bilateral Relations and Cooperation Mechanisms between the two countries took place in March 2019, the Polish government has developed no political strategy towards the PRC in recent times (Lasoń, 2018). This is reflected in the text of the Polish Foreign Policy Strategy for 2017–2021 where it was merely stated that Poland should seek cooperation with non-European partners, especially the PRC, while the partnership should be based on the implementation of various infrastructure projects, including those which are part of the BRI (MSZ, 2016). At the same time, the weakening of interstate relations in 2017 reduced the involvement of Polish regional authorities in establishing economic cooperation with Chinese partners. For example, since 2016 the subsequent Poland-China Regions Forum could not be organised, which is partly due to the failure of the authorities of both countries to agree on the programme and participants of the forum whose subsequent edition should take place in China (Kamiński *et al.*, 2019).

Chinese foreign policy is based on business foundations since its ultimate goal is the maximisation of profit. Exports remain the main source of the PRC's income (31% of the GDP in 2011). Production, however, relies on the large scale imports of raw materials that ensure smooth flow of goods. This, in turn, results in intensification of China's activity in Africa. The need of constant development is another key element of Chinese economy as it is part of the policy of harmonious society. Thus, Chinese authorities strive to avoid the economy's slowdown at all costs since it may cause unrest in the society. For all the above reasons, the foreign policy of the PRC as well as its political, cultural and military activities should be analysed from the business point of view (Stec, 2013).

2.2. The Sino-Polish economic relations at the beginning of the 21st century

China is the biggest trade partner of Poland in Asia. However, Poland has continued to generate a high negative trade balance with the PRC for years as it is still a country where imports of goods from China greatly exceed exports. For example, in 2016, China had 12.08 percent share in Polish imports and only

0.92 percent in exports. Compared to the exchange carried out a decade ago, both Polish exports to the PRC and imports from it have almost doubled (Cieślik, 2017). In 2017, in turn, the increasing trade deficit with China amounted to USD 14,528.6 million (figure 3).

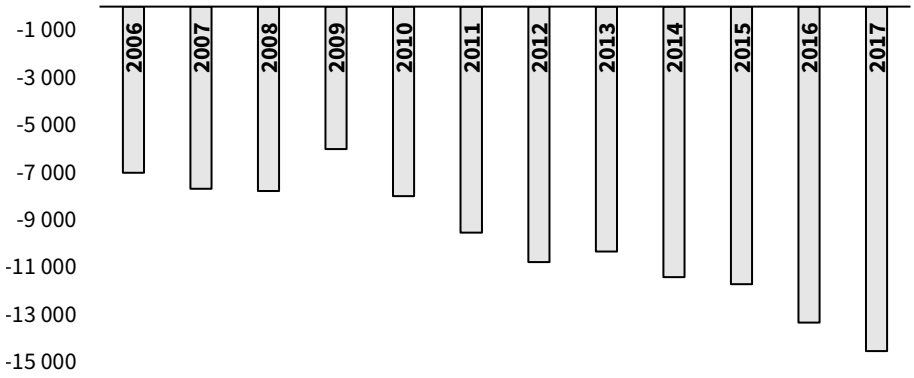


Figure 3. Poland's negative trade balance with China in 2006–2017 (thousands of USD) (Authors).

The deficit is structural in character. Chinese products are competitive on the Polish market, mainly in terms of cost and price. There is also a noticeable imbalance in the development of new technologies and innovations between China and Poland. At the same time, the structure of Polish imports from China has remained almost unchanged with the dominance of telecommunications equipment and automatic data processing machines. Polish exports to China, in turn, are still dominated by unprocessed goods, especially copper, which is the main export product (Choroś-Mrozowska, 2019).

As China and the EU form the second-largest economic cooperation in the world (Wronka, 2017), a negative trade balance with the PRC is also a problem of most EU Member States. The group of countries with relatively balanced trade with the PRC includes Germany, Finland and Ireland (table 3). In fact, the majority of the CEE countries have been dealing with the trade deficit with China for many years. Although the trade deficit with this partner shrank in countries such as Hungary, Latvia, the Czech Republic, Romania, Bulgaria and Croatia between 2011 and 2014, it was on an increase in the remaining 10 countries. Still, the year 2016 was marked by a further rise in the value of commercial exchange between the CEE countries and the PRC as well as in Chinese investment in CE. The value of trade increased by four percent in the first three quarters of 2016 as compared to 2015, Chinese investments shot up by almost 90 percent, and accumulated bilateral investments reached the level of USD seven billion, and a number of important investments were completed (Jakimowicz, 2017).

Table 3. Trade balance between China and EU-28 countries in 2016 (USD million) (Eurostat, 2017).

EU-28 Member State	Import	Export	Trade balance	EU-28 Member State	Import	Export	Trade balance
Germany	77,717	85,479	7,762	Denmark	6,223	4,224	–1,999
Finland	215	30	844	Slovakia	3,487	1,263	–2,223
Ireland	3,091	3,376	284	Sweden	7,912	5,385	–2,527
Malta	205	49	–157	Greece	3,205	364	–2,840
Latvia	447	135	–312	Romania	382	682	–3,137
Estonia	713	186	–526	Hungary	5,892	1,578	–4,313
Cyprus	605	48	–557	Belgium	16,149	7,690	–8,459
Croatia	662	85	–576	Czech Republic	10,683	1,925	–876
Lithuania	787	137	–650	France	29,413	17,764	–11,648
Bulgaria	1,150	483	–667	Poland	1,562	191	–1,371
Slovenia	1,466	512	–955	Spain	22,105	547	–16,632
Luxembourg	1,260	248	–1,012	Italy	30,283	12,297	–17,986
Portugal	2,019	750	–1,269	Great Britain	59,091	18,073	–41,018

Polish companies show interest in expansion to the Chinese market. As many as 2,144 companies registered in Poland decided to export their products to China in 2013. Sales of goods to the PRC constituted only one percent of the total value of domestic exports, though. Despite this relatively low level, the volume of export from Poland to the PRC more than doubled between 2007 and 2013. Moreover, it was much higher than the volume of export to other Asian countries, such as Japan, Korea, Taiwan or Hong Kong. In 2017, the commercial exchange between China and Poland was the highest in history. Its value exceeded USD three billion (Kalwasiński 2018). According to the information by the PITA, Chinese companies are willing to start projects in Poland with a total value of approximately USD 180 million. These are enterprises related to the household appliances, electronics and food industries (Walewska, 2017).

From the point of view of Polish exporters, there is one particularly important recent tendency which consists in the growing interest of Chinese consumers in imported food and which may be a result of concerns about the quality of local products. Over the years, the PRC has witnessed various incidents related to food safety violations. Examples include the contamination of powdered milk with melamine (2008), the disposal of 15 thousand dead livestock in the Huangpu River, which is the main source of drinking water for the Shanghai region (2013), or the sale of expired food in fast food establishments (2014). As it turns out, the trade of imported food products in the PRC increased more than fourfold between 2005 and 2014, from USD 7.8 to 38 billion (CWGP-PRC, 2015). One of the first Polish companies that benefited from increased Chinese interest in foreign food

is the Regional Dairy Cooperative in Łowicz. In 2015, during an economic forum in Shanghai, the company signed a contract with the government of the PRC to supply the Chinese market with four million litres of milk. Ultimately, the company is planning to strengthen its presence with China, which is dictated by the high demand for Polish dairy products (Jajor, 2015). The Sino-Polish agreement on the phytosanitary and veterinary requirements during the export of food to the PRC was signed in 2016. Zhi Shiuping, the former Director of the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ), emphasised that this was a breakthrough event that "opened the door" for further cooperation between countries.

Chinese investors, in turn, have been extremely active in recent years in terms of foreign direct investments (FDI). The improvement of the relations between the PRC and Poland resulted in the opening of new ways of cooperation between the two countries. One of the first significant acquisitions was the purchase of a (previously privatised) shock absorber factory located in the Podkarpackie province by BejingWest Industries (Gorczyca, 2009). Although the acquisition of the company took place before the advent of the NSR, it shows that Poland had been an object of interest of Chinese investors long before the new initiative was launched.

In 2017, the Chinese company China Security&Fire expressed interest in taking over the largest Polish security company Konsalnet, operating in the market since 1994 and being one of the first domestic security agencies. Gradual expansion of the company's offer of services resulted in transforming it into a joint-stock company in 1998, while in 2009, the Société Générale Asset Management investment fund (now Value4Capital Eastern Europe LP) became its majority shareholder. Despite the consent issued by the Office of Competition and Consumer Protection – OCCP (the company's turnover exceeds USD 55 million), Chinese entrepreneurs withdrew from the purchase. According to information provided by *Puls Biznesu*, the decision could have been caused by financial problems of the Chinese company (it recorded a 20-percent drop in profits in 2016 despite a significant increase in revenues), thus blocking the transaction by the Chinese government (Kołodziej, 2017).

The Chinese also show interest in companies operating in the food industry. WH Group, a company listed on the Hong Kong Stock Exchange and engaged in meat processing and food production, decided to buy four plants belonging to the Pini Group, including a slaughterhouse located in Kutno (the Łódź province). A similar situation occurred when the Chinese investors resolved to take over the state-owned company Appol, the largest Polish producer of apple concentrate (the Lesser Poland province). The company Zhonglu Fruit Juice Co., Ltd. intended to take it over for the sum of about USD 19 million. The willingness to pay such a high price for the company is related to its growing profits in 2016 and the high global demand for apple concentrate (Szczepańska, 2017).

Furthermore, Chinese enterprises are involved in the implementation of strategic electricity investments in Poland. It results from the fact that they are

interested in energy technologies, biotechnology, new information technologies, highly processed goods industry, nanotechnology as well as alternative energy sources and new propulsion technologies, as in the China's 12th Five Year Plan these sectors have been identified as a priority in striving to stimulate the country's economic growth and development (Łopacińska, 2017). Thus, from 2013 to 2015, Chinese companies won as many as six competitions organised by the transmission system operator (Polskie Sieci Energetyczne, PSE), five of which were won by Pinggao Group and one by Sinohydro Corporation. The investments amount to approximately USD 200 million in total. As a result, Pinggao, a subsidiary of the State Grid Corporation of China, the Chinese equivalent of the PSE, plays a significant role in the implementation of projects necessary to maintain energy security in Poland. The company is, *inter alia*, responsible for (Elżbieciak, 2017; PSE, 2018):

- constructing the 400kV Żydowo Kierzkowo–Słupsk line and the 400/110 kV Żydowo Kierzkowo station, thus enabling the connection of the RES to the power grid and ensuring continuity of supply in the Żydowo junction;
- performing the contract related to the improvement of energy security of the Warsaw agglomeration, i.e. the construction of the 220/110 kV Praga station and the introduction of the 220 kV Miłosna–Mory line;
- improving the operation of the transmission system in north-western Poland through the construction of the 220 kV Pomorzany line and the reconstruction of the Krajnik–Glinki power line.

The expansion of the transformer station located in the village of Widełka (the Kolbuszowa district) has been entrusted to Shanghai Electric Power Construction, a subsidiary of the Power Construction Corporation of China, which is involved in the construction of power plants and transmission networks (Sudak, 2017). In turn, another Chinese company, Sinohydro Corporation Ltd., is involved, among other things, in the project of building the 400 kV Chełm–Lublin power line. Additionally, the company aims to carry out the investment related to the construction of a fragment of the Warsaw Metro (the company lost the tender but it appealed against that decision).

A clear and dynamic growth in the importance of air traffic has been also observed in recent decades. This may be connected with progressive globalisation as well as noticeable technological and economic development. Forecasts show that the number of passengers served in Poland may increase to about 60 million by 2030, which makes it necessary to gradually expand the existing aviation infrastructure. The construction of a new facility, such as the Central Communication Port (CCP), may be a good way to remedy the situation. The plan for its construction is based on the idea of creating an intermodal transportation hub that combines air and rail transport. Taking into consideration the infrastructural upgrades, one of the key investments for the CCP project is a passenger-freight railway junction linking Asia and Europe. Access to the airport would be provided thanks to the proximity

of the A2 motorway and rail (including a fast connection between Warsaw and Łódź). The airport would be located in Stanisławów, 40 km west of Warsaw, and named after "Solidarity", which is considered an important part of Polish history. The project involves the construction of a route connecting the CCP with the freight transport network that would help to facilitate access to major European trade centres. The extension of the dual gauge railway track would support the plan to locate the main logistics centre in the centre of Poland, forming a base for companies in the TFL industry. Such an action could strengthen the country's position on the international arena and bridge the development gap between Poland and the countries of Western Europe (WEI, 2017).

The subject was raised during Prime Minister Szydło's visit to Beijing in April 2017. The CCP would contribute to the acquisition of investors, including Chinese entrepreneurs. The implementation of the project would also facilitate:

- the construction of a central airport that would be integrated with a cross-border railway station, servicing the connection of the agglomeration railway joining Warsaw and Łódź;
- the construction of railway sections connecting the airport with the east-west and north-south railway network. Emphasis would be placed on the geometry that would enable the stability of the connections;
- establishment of an exhibition centre for CE located within a short distance from the airport;
- support for the initiative related to the construction of the economic zone and logistics and reloading centre in the vicinity of Łódź. This would be the main European hub for cooperation on the China–Europe route.

A special act came into force in 2018, facilitating the construction of the CCP. It defines a set of rules which apply to the preparation, financing and the building process of the investment. Furthermore, it provides a description of the terms and conditions of the locating process, regarding land reservation, issuing of the location decisions and purchasing real estate through voluntary negotiations. The Polish government commissioned a special CCP company (which is to be dissolved after completing this investment) to implement the investment. What is more, the project can be considered a public objective and a public purpose investment in the understanding of the regulations on property management as well as the regulations on spatial planning and land development. This implies the possibility of expropriation of the owners of the land that is earmarked for the project. Importantly, the location of the CCP gives the possibility to create a new city which could be built in the vicinity. It would include not only business parks, but also congress and conference centres, office and administrative facilities or campuses. As a result, it could lead to the beginning of an important merger of the agglomerations of Łódź and Warsaw (*Centralny Port...*, 2020).

Regrettably, the existing Sino-Polish cooperation in the field of transport infrastructure has so far proved to be unsuccessful. The Chinese consortium

Covec, responsible for the construction of two sections of the A2 motorway between Warsaw and Łódź, failed to meet its obligations and stopped all works related to the implementation of the investment in 2011. The continuation of the work was to be connected with the renegotiation of the contract concluded with the General Directorate for National Roads and Motorways (GDNRM) and would mean an increase in the overall cost of the project. The managing board of the General Directorate for National Roads and Motorways decided to terminate the contract and demanded approximately USD 35 million contractual penalties for the breach of the conditions of the agreement, of which USD 3.5 million was paid immediately, while the payment of the remaining part was successively blocked by the BOC and the Export-Import Bank of China. The dispute concerning the payment lasted for four years, whereas the final settlement was reached in 2017, following the visit of the Polish Prime Minister Beata Szydło at the international Belt and Road Forum held in Beijing (Frączyk, 2017).

Even though the Sino-Polish cooperation connected with the construction of infrastructure has proved unsuccessful, Chinese companies are still involved in infrastructure projects in Poland. In 2018, the tender for the design and construction of the 13-kilometre section of the northern bypass of Kraków was won by the Sino-Polish consortium of Stecol Corporation and Polbud-Pomorze. The investment is to be completed in under four years and is expected to cost about USD 0.35 billion (Dolecki, 2018). Stecol Corporation is also involved in the design and construction of the DK47 on the Rdzawka–Nowy Targ section, which is part of the so-called Zakopianka Route (Wójtowicz, 2018).

2.3. Poland as a key element of the New Silk Road

The favourable geographical location of Poland makes it essential for the development of the BRI concept. During the International Forum of the New Silk Road held in Warsaw in 2016, the PRC's President, Xi Jingping, stressed that economic and commercial cooperation between China and Poland are a priority due to the fact that the two countries are located at the two opposite ends of the Eurasian bridge. In the statement, particular emphasis was placed on the fact of the intersection of the SR and Amber Road[3] in Poland and the inclusion of the country on the China Railway Express route. At the same time, China expressed its willingness to cooperate with Poland in sectors such as energy, infrastructure, transport and logistics, communications as well as aviation (Jingping, 2016).

In practice, political destabilisation in the Middle East (the so-called Arab Spring) and insecure internal situation in Ukraine mean that the route running

3 The New Amber Route (NAR) is a network of high-speed railways that would connect Southern Europe with the North, starting from Piraeus and reaching the BABS region.

through Kazakhstan, Belarus and Poland (NELB) remains the safest land connection between China and Europe from the PRC's point of view. Therefore, the BRI cannot be implemented without taking Poland into account, which gives hope that not only more transport corridors from east to west but also those connecting the north and the south of Europe will intersect on its territory. This vision gives grounds for the inference regarding the emergence of multiple benefits resulting from Poland's participation in the Chinese global plan. In that sense, the construction of the NSR can be perceived as an opportunity for the development of Poland and the expansion of its influence on a global scale (Winiecki, 2017).

The fact that China is a major trading partner of Poland, especially considering the import of goods, is also of significant importance. Goods which are often imported from the PRC include textile products, footwear, electronic equipment and household appliances as well as advertising gadgets, interior and garden furnishings or printing equipment (CSO, 2017). Approximately 90 percent of those products are delivered exclusively to satisfy the demand of Polish consumers, while the remainder is transported to other EU countries. As it was mentioned earlier, from the perspective of Polish exporters, a particularly important tendency can be observed recently, namely growing interest of Chinese consumers in imported food. The trade of imported food products in the PRC more than quadrupled from 2005 to 2014 (CWGP-PRC, 2015). The latest reports of the PITA state that particularly Polish healthy foods (apples[4], juices, mineral water, confectionery and dairy products), cosmetics, jewellery, furniture as well as medical devices and parts of motor vehicles stand a good chance of succeeding in China (*Polskie firmy…*, 2018).

Another argument in favour of locating the main European logistics centres servicing goods transported along the NSR in Poland is the fact that the most important economic corridors for international rail transport, covered by the European Agreement on Main International Railway Lines (AGC) as well as those which are mentioned in the Agreement on Important International Combined Transport Lines (AGTC), pass through the territory of the RP, which is also part of two out of the nine corridors of the TEN-T[5], i.e. the Baltic–Adriatic corridor and the North Sea–Baltic Sea corridor (Bartosiewicz and Szterlik, 2018).

4 It is worth noticing, though, that the Polish and the Chinese economies are more competitive than complementary in many respects. As regards apples, the PRC is the world's largest producer of this fruit, and imports from Poland are only to supplement the demand of the Chinese market. Still, among the CEE countries, Poland, beside Hungary and Bulgaria, is one of the most significant partners of China in the agro-food sector (Jakimowicz, 2017).

5 The TEN-T is a network of transport corridors created thanks to the cooperation of the EU Member States. It comprises roads, railway lines, inland waterways, inland and maritime ports, airports and railroad terminals throughout the 28 countries. It can be divided into the comprehensive and the core network. The first one is a multi-modal network of relatively high density that provides all European regions with accessibility that supports their further economic, social and territorial development, while the latter consists of those elements of the comprehensive network that are of strategic importance for the implementation of the TEN-T objectives (Bartosiewicz and Szterlik, 2019a).

2.3.1. Łódź as an important point on the Polish section of the New Silk Road

At the beginning of 2019, five large railway operators in Poland handled the transhipment of goods between the RP and China: Zhengzhou International Hub (ZIH) with its connection to Warsaw; Hatrans Logistics, servicing the Łódź–Chengdu route; Fast East Land Bridge (FELB), specialising in container transport to Małaszewicze and Warsaw; an international forwarding company Symlog, whose trains stop in Poznań, Łódź, Warsaw and Małaszewicze; PKP Cargo, the first logistic operator in Poland and second in Europe that provides the connection from Zhengzhou to Małaszewicze (*Operatorzy połączeń kolejowych…,* 2019). The most important points on the Polish section of the NSR include Małaszewicze, Warsaw, Łódź and Poznań (figure 4), but it is Łódź and Małaszewicze that are key intermodal terminals for Chinese containers. Soon, another terminal in Sławków may be opened where up to a 1,000 trains can be handled annually. In November 2018, the PKP LHS signed an agreement with the Chinese on the transport of containers on the Chengdu–Sławków route. Shortly after that, freight rates and time of container rail transport on the route were agreed upon in Baku on 15-17 January 2019, during the meeting of the committee managing the corridor of the Trans-Caspian International Transport Route (TITR) (*Inicjatywa Pasa i Szlaku,* 2019).

Figure 4. The course of the NSR through Poland (*Intermodal Train from China*, 2019).

When in 2013 the Chinese first presented the concept of building the NSR, one important point on the Polish section of the route was Łódź, Poland's fourth largest city in terms of the area and the third biggest one in terms of population. It is located in the heart of Poland (the geographical centre of the country is located 23 km northeast) and, at the same time, in the very centre of Europe. The development of logistics and production centres is facilitated by the geographical

location of the region and the possibility of quick transport of goods in any direction (17 of all 44 urban centres in the Łódź region are located in the international road transport networks). The convenient location of Łódź is emphasised by Chinese entrepreneurs who underline that the city has an easy access to German, Czech, French, Russian and Ukrainian markets (table 4).

Table 4. Rail delivery to Łódź from selected European and Polish cities (Hatrans YHV, 2013).

Place of loading	Delivery to Łódź
Any city in Poland	+1 day
Any city in the Czech Republic	+1-2 days
Pardubice (the Czech Republic)	+1 day
Brno (the Czech Republic)	+ 1 day
Moscow (Russia)	+2-3 days
St. Petersburg (Russia)	+2-3 days
Rotterdam (the Netherlands)	+1-2 days
Any city in France	+2-3 days

Furthermore, the region is intersected by two international freight corridors (the Baltic–Adriatic Corridor and the North Sea–Baltic Sea Corridor) as well as four national transport routes according to the European AGTC agreement (Bartosiewicz and Szterlik, 2019a). In the Łódź province the following railway freight transport lines are included in the TEN-T core network: line No. 1 (Warsaw–Skierniewice–Koluszki), line No. 4 (Warsaw–Mszczonów–Opoczno–Zawiercie), line No. 14 (Koluszki–Łódź–Zduńska Wola) and line No. 131 (Tczew–Bydgoszcz–Inowrocław–Zduńska Wola–Tarnowskie Góry). The railway freight line No. 25 (Łódź–Opoczno–Skarżysko Kamienna–Tarnobrzeg–Mielec–Dębica) is included into the TEN-T comprehensive network (Wiśniewski, 2014).

Łódź has been striving for the attention of the Chinese for many years. The Marshal of the Province, Witold Stępień, and the President of the City, Hanna Zdanowska, have been to China many times. At the same time, from 2013 the company Hatrans Logistics has been developing a direct railway freight connection with Chengdu, one of the first under the NSR. The route in question has been used since April 26, 2013, covering almost 10,000 km and running through Kazakhstan, Russia and Belarus. Trains travelling from China reach the Łódź Olechów cargo station after 12-14 days (Hatrans YHV, 2013). Thus, the Łódź–Chengdu route is the fastest and most frequently used direct freight service from China to Europe. The time of transport is even three times shorter than in the case of sea transport (which usually takes 35-42 days) while the freight cost is four to eight times lower (Chengdu Hatrans YHF, 2013; *Silk Road* …, 2016). In today's competitive business climate, linking these two regions and broadening their trade opportunities was a real milestone. The Łódź–Chengdu railway service reduces the need for

double handling and freight times while enabling more frequent revenue streams (*Chengdu Western China's…*, 2018).

The high costs of air and sea transport prompted Hatrans to start a rail connection with China, especially as since 2007 the company has been importing Chinese production components for the newly established Dell factories in Olechów. A customs union between Belarus, Russia and Kazakhstan played an important role in the whole undertaking: the time of travelling by train was shortened from 21 to 15 days. The first train set off from Chengdu in December 2012. It transported Chinese electronics and textiles to the Łódź Olechów cargo station. This was followed by a three-month break during which the regularity of the connection was worked out and the transport time was shortened to 14 days. The number of trains which arrived in Łódź was 42 in 2013, 100 in 2014, 460 in 2015 and 960 in 2016. According to the data for 2017, 1,000 trains came from China to the capital of the Łódź province that year (Czubiński, 2017c).

The trains returned empty to China for the first two years. However, in 2015 the first train left Łódź loaded with 41 carriages full of Polish car parts, chemical products and high-quality food products (apples, beer, juices, mineral water, confectionery and dairy) (CSO, 2017). Polish exporters are counting on the abolition of the Chinese embargo on Polish pork that was imposed in February 2014 by the Chinese authorities after the African swine fever (ASF) virus had been detected in Poland. The logistics operator of Łódź–Chengdu rail connection ensures that solutions for transporting meat in independent refrigerated containers have been already prepared[6].

Although trains leaving Łódź are mainly loaded with Polish goods, they also carry European products. As a result, Łódź has become a transhipment European port in trade relations with China. What is more, projects were initiated to further increase the amount of exported goods, such as the construction of a modern PCC Intermodal Terminal in Kutno (table 5). The terminal plays the role of a temporary storage facility, being located 75 km from Łódź in the immediate vicinity of logistics and distribution centres as well as warehouses for general cargo and refrigerated goods. It lies next to the E20 railway line connecting Berlin and Warsaw and further Moscow, near the main north-south railway line (E65/131) as well as national roads and motorways, including: A1, A2, DK1, DK60, DK92. The terminal is also located in the Baltic–Adriatic transport corridor (PCC Intermodal, 2018). In the Łódź province there are also four smaller intermodal terminals that additionally help to handle and distribute goods arriving to Poland via the Łódź–Chengdu railway connection (table 5). It is worth mentioning that there are still two more terminals in the region, in Krzewie near Kutno and in Piotrków Trybunalski, both out of use at present, with no operators.

6 In view of the ASF virus spreading in 2019 throughout the country, it seems unlikely that the Chinese government will abolish the 2014 embargo.

Table 5. Intermodal terminals in the Łódź province (ORT, 2019).

	PCC Kutno Terminal	**Łódź Chojny Container Terminal**	**Radomsko Container Terminal**	**Radomsko Erontrans Container Terminal**	**Stryków Erontrans Container Terminal**
General information					
National road/ motorway	DK1/ DK60/ DK92/ A1/ A2	DK1/ DK14/ A1	DK1/ DK91	DK1/ DK42/ DK91	DK1/ DK14/ A1/ A2
Distance from a national road/ motorway [km]	22/ 4/ 1/ 3/ 40	3/ 0.7/ 10	0.5	5/ 1/ 1	5/ 2/ 5/ 5
Number/name of a rail line	E20/ 131	Łódź Chojny	Radomsko	1	15
Distance from a rail line [km]	0/ 70	0	0	0	0
Infrastructure and equipment					
Total area [ha]	11	2.14	6.41	1.2	1.6
Maximum annual handling capacity [TEU]	250,000	70,000	80,000	10,000	16,000
Storage area [TEU]	4,000	2,000	2,500	2,000	2,000
Lifting and handling equipment	5 x RS* 1 x EH* 1 x TT*	3 x Kalmar DRF	3 x Kalmar DRF	2 x RS*	2 x RS*
Rail infrastructure					
Number of industrial spurs	1	1	1	1	1
Number and length of railway trucks [m]	4 x 700	1 x 600	1 x 600	1 x 320	1 x 320
Number of container cranes	2	0	0	0	0
Length of trucks for standard-gauge railway in total [m]	3,500	600	1,800	370	320

* RS – Reach-Stacker; EH – Empty Handler; TT – Terminal Tractor.

2.3.2. Małaszewicze, a key border crossing for the Belt and Road Initiative

Positive changes in Łódź and its region are overshadowed by the fact that the poor capacity of the border crossing Brest–Terespol–Małaszewicze impedes further development of rail freight between Poland and China. It is the main border crossing between Poland and Belarus, and more importantly, the border between rail systems of 1,435 mm and 1,520 mm as well as electrification systems of 3 kV Hz and 25 kV 50 Hz (Maciążek, 2017). For example, over 4.3 million tons of cargo passed through the Terespol–Brest railway crossing in 2015, which accounted for 73 percent of traffic on the Belarusian border. However, approximately 60 percent of all transhipment work carried out in Małaszewicze belonged to the PKP Cargo Group, of which only 13 percent were containers (Malinowski, 2016).

Małaszewicze is located at the crossroads of the railway (E20) and road (E30) main lines, close to the national borders of three countries: 120 km to the border crossing with Ukraine, 5 km to the border crossing with Belarus and 1,050 km to Moscow. The number of trains handled by the terminal continues to increase year to year. In 2018, it handled 2.2 thousand trains as compared to only 17 trains in 2011. In 2018, more than 98 percent of containers transhipped by Małaszewicze went from or to China (*Polskie porty…*, 2019). Currently, Małaszewicze transhipps 4,000 TEU per month (about 12 pairs of trains per day, or 2,825 trains per year). The terminal, however, is said to be capable of handling at least another two or three trains per day. It is expected that after the ongoing modernisation works scheduled for the end of 2020, the dry port in Małaszewicze will be able to handle 3,285 trains a year, whereas according to the PKP Cargo announcement as of August 2018 its capacity will increase fourfold by 2026 (*Warsewicz: Terminal…*, 2019). Moreover, during the Rail Freight Summit 2019, which took place on 15-16 May in Gdańsk, Jakub Kapturzak, Rail Director at the Polish Ministry of Infrastructure, presented six main railway projects to be implemented in the vicinity of the Polish-Belarusian border (figure 5). The most important of them is the new bridge over the Bug River which should be completed by 2025 (Zasiadko, 2019). Five other infrastructure projects include mainly track extensions or renewals at three locations (*Biała Podlaska…*, 2018):

- the extension of the Kobylany station in 2019–2023;
- the construction of nine tracks at Terespol broad-gauge station in 2018–2023;
- the construction of 10 tracks at Biała Podlaska Towarowa station in 2018–2020.

Yet, even if the capacity of the Małaszewicze terminal increases to 15 million TEU, the further development of the NSR in Poland could be inhibited as China intends to double the transport of goods through the corridor every two years. The Chinese government assumes that 5,000 trains will come to the EU in 2020.

Figure 5. Railway investment projects near Małaszewicze (Zasiadko, 2019).

Table 6. Intermodal terminals in Łódź and Małaszewicze (ORT, 2019).

Name of terminal	Spedcont Łódź	PKP Cargo CL Małaszewicze
General information		
National road/motorway	713/A1	E30
Distance from a national road/motorway [km]	6/5	3
Number/name of a rail line	C-E65/1	E20
Distance from a rail line [km]	1	3
Infrastructure and equipment		
Total area [ha]	9.2	14.06
Maximum annual handling capacity [TEU]	80,000	223,380
Storage area [TEU]	6,000	1,872
Lifting and handling equipment	4 x RS* 2 x RMG cranes* 1 x EH*	2 x RS* 3 x RMG cranes* 1 x RTG crane*
Rail infrastructure		
Number of industrial spurs	1	1
Number and length of railway tracks [m]	2 x 400	4 x 441.5 4 x 436.5
Number of container cranes	2	3
Length of tracks for standard-gauge railway in total [m]	1,400	2,194
Length of tracks for broad-gauge railway in total [m]	n/d	2,440

* RS – Reach-Stacker; EH – Empty Handler; RMG – Rail Mounted Gantry crane; RTG – Rubber Tyred Gantry crane.

2.4. Poland's role in the co-creation of the New Silk Road in scientific literature

Although the BRI is widely discussed in articles and research papers worldwide, there are only a few publications concerning Sino-Polish relations under the NSR. Most of them are written by Polish researchers interested in the problem in question. Some of them discuss the Sino-Polish relations, the concept of the NSR included (Pyffel, 2013; 2016), while others describe the BRI in general (Bartosiak, 2016; Bochra, 2015; Kaczmarski, 2015; Misiągiewicz and Misiągiewicz, 2016; Nazarko *et al.*, 2016; Pawłowska, 2017; Szczudlik-Tatar, 2013a) or deal with the public, political discourse over the OBOR in Poland (e.g. Lubina, 2017). The last group is divided in two camps. While some observers argue that the BRI is primarily about economic development, others see it as a grand strategy of a great power with hegemonic aspirations.

There is also a group of researchers who discuss the BRI and its possible impact on global markets and logistics chains (Krukowska, 2016; Łopacińska, 2017; Motowidlak and Kujawa, 2018; Witkowski and Kurzątek, 2018) or the PRC's cooperation with the CEE countries in the context of the NSR (Góralczyk, 2017; Górski, 2016; Jakimowicz, 2017; Szczudlik-Tatar, 2013b).

Other researchers focus on more detailed aspects of the phenomenon. For example, China's foreign policy, including the BRI, is thoroughly analysed in research papers and reports by Justyna Szczudlik-Tatar, a China Analyst in the Polish Institute of International Affairs (2015, 2016), while Poland's participation in the NSR as well as China's engagement with the 16+1 format (G16+1) are the main point of interest of Jędrzej Górski (2017), Anastas Vangeli (2017) or Aleksandra Bartosiewicz and Paulina Szterlik (2018). Jerzy Wronka (2017), in turn, focuses on intermodal transport development within the NSR.

Only a few researchers discuss the BRI from the Polish perspective (Bujak, 2018; Choroś-Mrozowska, 2019; Cieślik, 2017). With a few exceptions (Larçon, 2017b; Nežerenko and Koppel, 2017; Scott, 2018), it is also difficult to find comprehensive studies on the impact of rail transport from China to Europe on the economic situation of the Baltic Sea Region (BSR). Moreover, the Polish national and subnational dimension has so far been almost completely omitted in the academic literature on the EU-China relations. It seems that Poland is only mentioned in some analytical publications and media reports both in Europe (Niu, 2016; Pyffel, 2015; Shepard, 2016; Tiezzi, 2016) and in China (Xinhuanet, 2017) yet without any further academic elaboration on the topic.

Zbigniew Bentyn (2016) wrote about Poland perceived as a regional logistic hub serving the development of the northern corridor of the NSR. Olga Nežerenko and Ott Koppel (2017), on the other hand, analysed the opportunities of the OBOR for the development of the Baltic Sea macro-region as a single transport cluster.

Aleksandra Bartosiewicz and Paulina Szterlik (2019a, 2019b) as well as Tomasz Kamiński (2019), in turn, described how Łódź and its region benefit from the cooperation with China.

It also seems that, with the exception of two analytical reports, virtually none of the previous publications on the Sino-Polish relations in the context of the NSR described this issue in a wider sense. Nonetheless, the report by the China-Poland Economic Cooperation Centre (CWGP-PRC, 2015) was presented almost five years ago, in 2015, while the report by the Asia Research Centre (Iwanek and Pietrewicz, 2017) lacks up-to-date information on the Chinese initiative. Thus, the proposed study seems to be a valuable proposal for the existing research gap.

Chapter 3
The European transport system and its impact on Poland's participation in the Belt and Road Initiative

3.1. The European Union transport policy

Transportation is an important element of European integration, and efficient as well as effective cross-border transport is key to ensuring the efficiency of the European single market, creating new jobs and stimulating economic growth in the EU. The implementation of the latest EU policy on transport infrastructure is intended to enable the creation of a powerful TEN-T network by 2050, linking the East and the West, contributing to economic growth and competitiveness as well as being part of the concept of the NELB. Community actions which support the development of infrastructure also serve the purpose of reducing differences in the state of infrastructural management of various countries, eliminating bottlenecks in transport systems, supplementing the transportation network with missing links and shaping the environment-friendly structure of the European transport system (Klimek, 2013).

An important issue for European transportation is the problem of its sustainability. An analysis of literature allows to define sustainable development as a kind of development of civilisation that can be achieved in the future, is desirable, socially and ecologically acceptable as well as economically effective. The implementation of the concept is a long term process, which can be directly linked to the wellbeing of future generations. The necessity to recognise the concept of sustainable development as an interdisciplinary idea is indisputable. A conceptual analysis makes it possible to determine various types of its perception. The idea can be seen as an ethical paradox since sustainable development can be described as a feature of a given process, which theoretically can be changed or improved whenever an appropriate need arises. On the other hand, every action of that kind involves environmental interference and, in consequence, depletion of natural resources.

Transportation, as we know it, cannot be sustainable due to reasons such as (Mosaberpanah, Khales, 2013):

- a certain required amount of petroleum, which is limited in nature;
- a large number of casualties and injuries caused by the everyday transportation of goods and people;
- the continuity of the process of urban sprawl;
- the negative environmental footprint of transportation;
- traffic congestion;
- noise pollution and the deterioration of infrastructure due to the proximity of various types of roads.

Europe's transport system is a constantly developing net of connections which allows to connect people all around the continent and which is accompanied by the constant willingness to reduce travel times. In general, transport accounts for approximately 25 percent of overall greenhouse gas (GHG) emissions in Europe, which are planned to be reduced by 90 percent until 2050. Road transport is still the most popular mode of transport in the EU and is responsible for the majority of GHG emissions in the region. The move towards achieving greater sustainability in terms of transportation means providing its users with alternatives which are accessible, affordable, healthier and cleaner than their predecessors (EC, 2019b). The EU developed the Sustainable Development Strategy (SDS) in 2001. Sustainable transport was one of the six main policy areas. The main objectives included (Psafaris, 2016):

- the reduction of negative side-effects of transportation and decoupling an indicator of transport growth from the GDP;
- stimulating a shift in transportation by promoting road to rail initiatives as well as water and public transport of passengers.

In 2001, the Gothenburg Council directly addressed the development of the TEN-T network, suggesting the adoption of revised guidelines of its functioning in terms of prioritising appropriate infrastructure investments for railways, inland waterways, shortsea shipping, intermodal operations and effective interconnections. The Brussels EC revised the SDS in 2006 and determined its four main pillars, including (Göteborg European Council, 2001):

- economic prosperity;
- social equity and cohesion;
- environmental protection;
- global governance.

The overall objective was to ensure that transportation systems would be able to meet the needs of the society and to minimise their negative impacts on the economy, society and environment. The Freight Transport Agenda (2007), in turn, introduced the concept of "green corridors", which reflect the idea of integrated transportation complimentary to other ways of transporting goods such as shortsea shipping, inland waterway transport and road transport. "Green corridors" can be

perceived as environmentally friendly intermodal logistics solutions. The Greening Transport Inventory document (2008) contains a list of measures which aim to reduce the negative impacts of transportation regarding fields such as: climate change, pollution, noise pollution, congestion and accidents (Psafaris, 2016).

Since 2011, the basic objective adopted by the EU has been to establish a complete and integrated TEN-T network that will cover all Member States and regions and provide a basis for the sustainable development of all modes of transport so as to maximise the added value of Europe's networks (Lipińska-Słota, 2014). The same year, it was decided that TEN-T should be developed in a two-tier approach, covering two layers: the core network to be created by 2030, and the complementary comprehensive network, which is to be completed by 2050 (Bartosiewicz and Szterlik, 2019a).

At the same time, the Commission established a new fund for 2014–2020, the Connecting Europe Facility (CEF) by Regulation of the European Parliament and of the Council No. 1316/2013. With the establishment of this instrument, it was assumed that it would support the preparation and implementation of projects of common interest in the trans-European networks in the sectors of energy, transport and telecommunications and that it would contribute to achieving the following objectives (Dyr *et al.*, 2015):

- smart and sustainable development conducive to the creation of modern and highly efficient trans-European networks and thus benefiting the entire EU in terms of competitiveness as well as economic, social and territorial cohesion within the single market;
- target levels by 2020 in the form of a 20 percent reduction in GHG emissions, an increase in energy efficiency by 20 percent as well as an increase in the share of energy from the RES by up to 20 percent.

The multiannual financial framework for 2014–2020 is, in turn, subordinated to the Europe 2020 Strategy, which sets out the following specific objectives in the field of the European transport policy:

- reducing the share of road transportation in the freight transport market in favour of rail or water transport;
- completing the fast European rail network by 2050 and maintaining a dense railway network in all EU Member States;
- creating appropriate information services and fully functional EU-wide multimodal TEN-T core network by 2030, and achieving high quality and bandwidth of this network by 2050;
- connecting all the airports belonging to the core network with the railway network, including mainly high-speed railways, by 2050;
- connecting all major seaports with rail freight transport and, if possible, an inland waterway system by means of good infrastructure.

The Regulation 1315/2013 also defined the concept of the core network corridors, covering all Member States and the entire area of the EU after its extension.

The concept of a transport corridor includes a series of international transport infrastructure along which there are at least two different transportation roads (routes) with appropriate technical and operational parameters, with transport nodes located on them, such as intermodal terminals, seaports and inland ports, logistics centres, etc. (Engelhardt, 2014). It was agreed that such corridors would cover three modes of transport and pass through at least three Member States and two cross-border sections. It was also assumed that they should, if possible, have access to a seaport and take into account rail freight corridors established in accordance with the Regulation of the European Parliament and of the Council of 22 September 2010 on a European rail network for competitive freight and the European ERTMS implementation plan (European Rail Traffic Management System) set forth in the Commission Decision 2009/561/EC of 22 July 2009. At the same time, it was established that the core transport network will include (Klimek, 2013):

- 94 major European ports with rail and road connections;
- 38 key airports with rail connections to major cities;
- 15,000 km of railway lines adapted to high speed;
- 35 cross-border projects to remove bottlenecks.

Furthermore, the core network will be based on nine major transport corridors, two of which connect north of Europe with the areas located in the south, three in the east-west direction and four in an oblique configuration (table 7; figure 6).

Table 7. Transport corridors of the TEN-T core network (EC, 2019a).

Name of the corridor	Course
Baltic Sea–Adriatic Sea Corridor	Austria, the Czech Republic, Italy, Poland, Slovakia, Slovenia
North Sea–Baltic Sea Corridor	Belgium, Estonia, Finland, Germany, Latvia, Lithuania, the Netherlands, Poland
Mediterranean Corridor	Croatia, France, Hungary, Italy, Slovenia, Spain
East Mediterranean Corridor	Austria, Bulgaria, the Czech Republic, Germany, Greece (including Cyprus), Hungary, Romania
Scandinavian–Mediterranean Corridor	Austria, Denmark, Finland, Germany, Italy (including Sicily), Malta, Sweden
Ren–Alps Corridor	Belgium, Germany, Italy, the Netherlands, Switzerland
Atlantic Corridor	France, Germany, Portugal, Spain
North Sea–Mediterranean Sea Corridor	Belgium, France, Great Britain, Ireland, Luxembourg, the Netherlands
Ren–Danube Corridor	Austria, the Czech Republic, France, Germany, Hungary, Romania, Slovakia

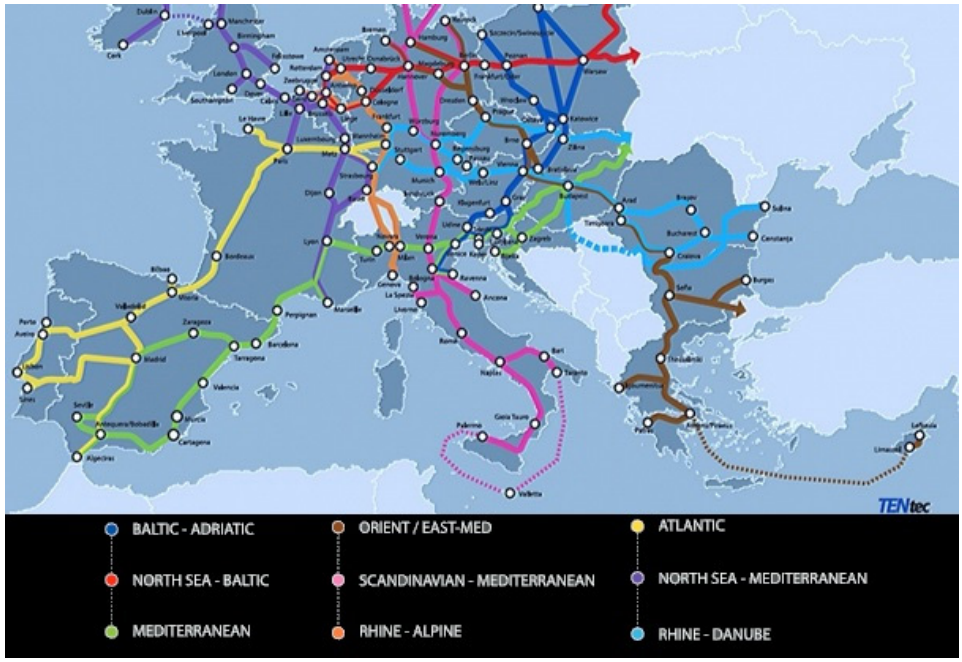


Figure 6. TEN-T core network corridors (EC, 2013).

3.2. Poland in the European Union transport system

Poland is affected by lines of importance for international rail transport covered by the AGC or the AGTC and two of the nine corridors of the TEN-T: the Baltic Sea–Adriatic Sea Corridor and the North Sea–Baltic Sea Corridor (figure 7). It is also worth noticing that the Amber Rail Freight Corridor (ARFC), also referred to as the RFC11, has been running through Poland since the beginning of 2019 as well. Its development will be important from the point of view of rail transport of goods between Warsaw and the Polish-Belarusian border, the area of Kraków and Katowice as well as foreign logistic centres located in Slovakia, Hungary and Slovenia. Plans to develop the Amber Corridor initiative estimate that by 2026 the target route for transporting Polish goods to the south will be the Podłęże–Szczyrzyc–Tymbark/Mszana Dolna rail link, leading to the Muszyna–Plavec railway border crossing. From the point of view of the Sino-Polish relations, this route is important with regard to the distribution of goods to the countries of the 17+1 group. The corridor includes ports located in Southeast Europe (Piraeus, Bar, Kopra), which allow to cut the shipping time of goods from China by several days. This is associated with a significant reduction in the sea distance to be covered,

which is about 8,000 km shorter in comparison to the route leading to the ports of Northern Europe (Commission Implementing Decision, 2017).

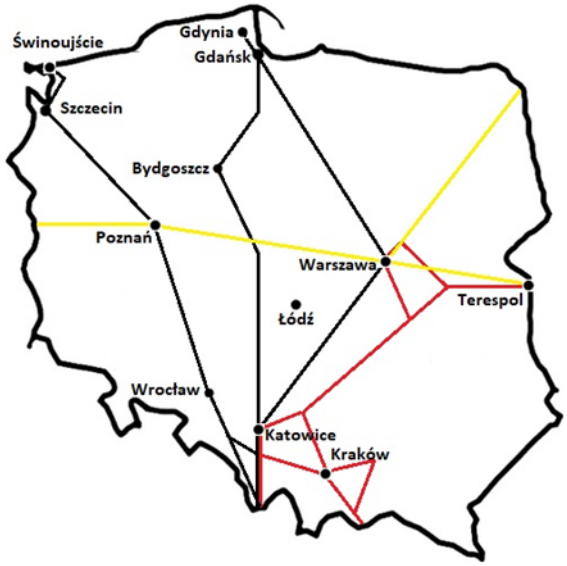


Figure 7. The route of the Baltic–Adriatic corridor (black), the North Sea–Baltic Sea corridor (yellow) and the Amber Corridor (red) through Poland (Authors).

Actions to create a common transport corridor between the BSR[1] (Świnoujście, Szczecin, Gdynia, Gdańsk) and the northern Adriatic ports (Koper, Trieste, Venice, Ravenna) come from 2014. Finally, the corridor has the following course (figure 8) (Urbanyi-Popiołek, 2014):

- Gdynia–Gdańsk–Katowice/Sławków;
- Gdańsk–Warsaw–Katowice;
- Katowice–Brno–Ostrava–Vienna;
- Szczecin/Świnoujście–Wrocław–Poznań–Ostrava;
- Katowice–Żylina–Bratislava–Vienna;
- Vienna–Graz–Villach–Udine–Trieste;
- Udine–Venice–Padua–Bologna–Ravenna;
- Graz–Maribor–Ljubljana–Koper/Trieste.

1 The BSR is one of the most active logistics areas in the CEE. The trade exchange of the countries in this region is characterised by a high share of mutual turnover, however, this applies primarily to ro-ro and ferry shipping. A characteristic feature of Baltic container shipping is the transport of goods coming from the outside or directed outside the region. The development of trade with regard to cargo containers in intercontinental relations influenced the model of organisation of liner shipping, based on servicing a reduced number of base ports in which the load mass is concentrated, and which are connected with smaller terminals with feeder services located in the zone of gravity (Urbanyi-Popiołek, 2013).

Figure 8. Alignment of the Baltic–Adriatic core network corridor (EC, 2018a).

The corridor runs through Poland on the axis of the A1 motorway and on the E65 and CE – 65 railway lines, and additionally takes the course of the E59 railway line and some sections of expressways.

In turn, the transport corridor Baltic Sea–North Sea runs along the axis of the E75 railway line and the Via Baltica as well as the axis of the A2 motorway and the E20 and CE-20 railway lines (Engelhardt, 2014). Its general course is as follows (figure 9) (Massel, 2016):

- Helsinki–Tallinn–Riga;
- Ventspils–Riga;
- Riga–Kaunas;
- Klaipeda–Vilnius–Kaunas;
- Kaunas–Warsaw;
- The border of Belarus–Warsaw–Poznań–Frankfurt/Oder–Berlin–Hamburg;
- Berlin–Magdeburg–Braunschweig Hannover;
- Hannover–Bremen–Bremerhaven/Wilhelmshaven;

- Hannover Osnabruck–Hengelo–Almelo–Deventer–Utrecht;
- Utrecht–Amsterdam;
- Utrecht–Rotterdam–Antwerp;
- Hannover–Cologne–Antwerp.

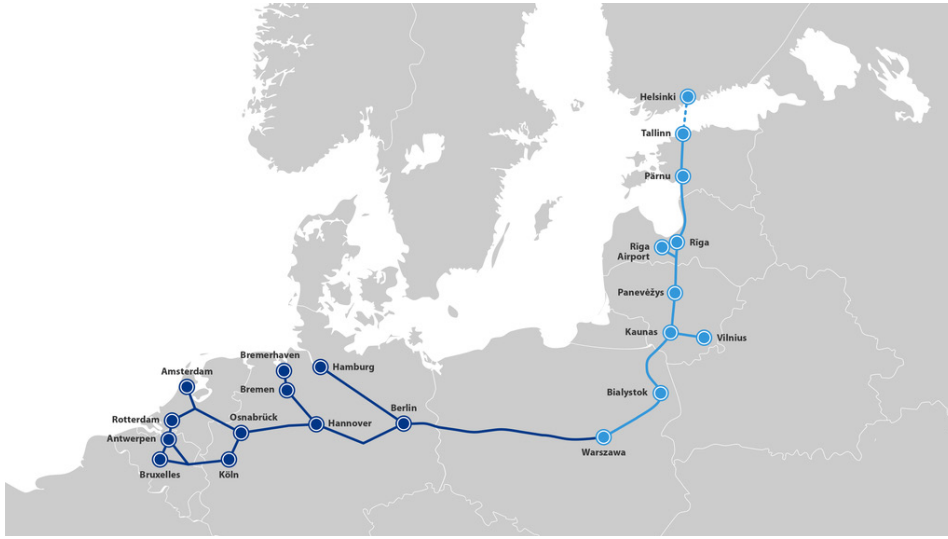


Figure 9. Rail Baltica as part of the North Sea–Baltic core network corridor (RB Rail AS, 2017).

Both corridors must be considered not only in the context of the TEN-T but also from the point of view of the development of global transport routes. The BSR countries[2] serve the role of a hub for land connections to the eastern and northern markets of China, Russia, Asia and other countries, while the North Sea and Adriatic ports allow to reach both North and South America and the rest of the world's commercial network by water. The development of transport corridors is naturally influenced by trends in the European transport market, such as the rapid development of transport of unit loads (containers), the development of transport in the ro-ro system, the need to develop multimodal transport and shortsea shipping as well as the growing congestion on European roads, encouraging the implementation of the *from road to sea* idea (Bursztyński, 2011).

2 Eight Member States of the EU and Russia are part of the BSR. It is assumed that the region consists of the Scandinavian countries (Denmark, Finland, Norway, Sweden), Northern Germany (Mecklenburg, East Pomerania, Schleswig-Holstein and Hamburg), Poland, the Baltic countries (Lithuania, Latvia, Estonia) and Northern Russia (Kaliningrad and Leningrad Oblast) (*Baltic Sea Region*..., 2011). Due to shipping connections with the largest ocean ports and developed land transport corridors, the BSR maritime transport system, including ports operating in the region, can be seen as an important part of the European transport system. Baltic ports are intermediaries in the trade not only between the BSR countries but also with the EU single market and the Far and Middle East (Grzybowski, 2012).

Due to the fact that the Polish transport system is part of the European network for which TEN-T sets investment priorities, the National Development Strategy 2020 indicates targets which need to be implemented in the national dimension as they will strengthen the functional links of Polish cities with better-developed areas of the EU. One of the main projects is to increase the competitiveness of Polish regions by 2020 (and later by 2030), which may be considered a significant advancement in the process of creating high-quality transport links. An important role in the development activities for freight transport is played by the European Commission's (EC) proposals presented in the White Paper of Transport of 2011, where it is postulated that freight transport for which the travel distance exceeds 300 km should be gradually transferred from road to other means of transport, including rail or water transport. To be more precise, the White Paper envisages a reduction of freight transport on roads by 30 percent by 2030, and until 2050 – by 50 percent.

3.2.1. Rail and sea infrastructure in Poland

If an impact on the country's economic development is taken into account, transport infrastructure should be assessed in terms of its technical condition and level of accessibility (MTBiGM, 2012). As it turns out, there is still a need in Poland to create a coherent and efficiently functioning transport system integrated with both European and global systems.

Poland's transport accessibility is determined by the saturation of the country's area with transport infrastructure as well as by the functioning system of transport services. The higher the transport accessibility, the more places can be reached safely, cheaply and efficiently. On an international scale, the concept of potential accessibility of the area is of the greatest importance. It can be described as a concept related to the theory of gravity and potential. According to that definition, regions with a larger population located in the middle of the area and well communicated with other regions are the most accessible. The international potential transport accessibility of Polish regions was determined as a result of the analyses included in the ESPON research project (2018). Although it has improved in the last decade, it is still poorer than in Western European countries. In general, the southern parts of Poland have a much denser rail network than the northern ones. In addition, investments in rail infrastructure in the former Prussian and Austrian partitions (i.e. the western part of the country) exceeded similar investments in the Russian partitions (in the east of Poland).

In the case of sea transport, satisfactory transport accessibility of Poland stems from the transhipment role of Polish seaports, handling foreign trade of countries with no access to the sea. However, transport accessibility is much worse for rail transport. Considering railway accessibility of Polish regions to the "core of

Europe", once again the eastern but also partly northern parts of the country are characterised by the highest peripherality, while the largest accessibility is typical of regions adjacent to the German and Czech borders. Despite an extensive spatial layout of Polish railways, metropolises are poorly connected with each other as a result of infrastructural and rolling stock restrictions, the most important of which are (MTBiGM, 2012):

- the high percentage of tracks laid on wooden sleepers which in large part exceeded the nominal period of exploitation;
- non-adjustment of track systems at stations to current needs;
- poor technical condition of turnouts as well as of engineering and traffic control facilities;
- lack of safe driving control systems which would allow trains to travel at a speed of over 160 km/h;
- the low number of rail crossings equipped with active security (approx. 20%);
- insufficient number of multi-level intersections with roads;
- limited capacity on certain sections of the existing railway network.

The problem of limited capacity is most often associated with an inefficient track system, while on lines with poor infrastructure it stems mainly from the low permissible speed that impedes efficient train traffic. In 2017, the average speed of freight trains was 25.1 km/h, and 29.9 km/h in the case of intermodal transport. The low value of this speed is the basic factor hampering the ability of Polish railway to compete effectively with road transport in the field of container transport. Therefore, the condition of railway lines important for railway undertakings in terms of speed, axle load and train length seems to be of paramount importance for the further development of rail freight transport in Poland. It is equally important to modernise and reconstruct tracks both at seaport stations and in the region of Upper Silesia which are currently the main bottlenecks for freight movement (Piotrowski, 2016).

Although clear progress in reducing specific energy consumption and CO_2 emissions is one of the strengths of transport development in Poland, the analysis of economic, social and environmental transport operations points out that both passenger and cargo transport is provided in conditions of greater congestion of transport routes with the excessive use of lorries in the freight transport. Moreover, the specifics of the railway market show that bulk goods transport will still dominate in Poland in the near future, though intermodal transport is the most dynamically developing segment, especially in the context of trends in the global economy, the creation of the Chinese NSR and the forecasted decline in the share of coal used in the overall energy production. The increase in the number of goods shipped via intermodal transport indeed indicates its growing importance for industrial development (Motowidlak and Kujawa, 2018).

According to the definition adopted by the United Nations Economic Commission for Europe (UNECE), the European Conference of Ministers of Transport (ECMT)

and the OECD, an intermodal terminal is a place equipped with handling devices for storing intermodal loading units. In a wider sense, an intermodal terminal is a place with low access costs for all users, occupying a large area of land and used to move onto containers various modes of transport (Raben, 2016).

As statistics of the Office of Rail Transport show (ORT, 2018b), the average density of intermodal terminals per country is much lower in Poland than in the countries with the largest share of intermodal transport in the railway market (i.e. the Netherlands, Belgium, Germany). In 2017, in Poland there were 30 active intermodal terminals (figure 10), six of which were maritime terminals in Gdańsk, Gdynia, Szczecin and Świnoujście, and other 24 were land terminals operating in a rail–road relation (Brzeg Dolny, Kąty Wrocławskie, Siechnice, Poznań Gądki, Poznań Kobylnica, Poznań Garbary, Swarzędz, Łódź Olechów, Łódź Chojny, Kutno Krzewie, Stryków, Radomsko 1, Radomsko 2, Warszawa Główna Towarowa, Warszawa Praga, Pruszków, Małaszewicze, Medyka, Nałęczów, Dąbrowa Górnicza, Sławków Południowy, Gliwice Port, Gliwice Sośnica, Włosienica).

Figure 10. Intermodal terminals in Poland in 2017 (SP, 2018).

The leaders in terms of the number of owned terminals included the PKP Cargo Group, the PCC Intermodal and the Loconi Intermodal. The Silesia province and the regions with the largest agglomerations (Poznań, Warsaw, Wrocław, Łódź and the Tricity) as well as the region between Upper Silesia and Łódź, have the best access to the terminals. On the other hand, north-eastern Poland, Central

Pomerania, the Kuyavian-Pomeranian province, south-western Poland including Żary and Żagań as well as five large cities of over 100,000 residents (Bydgoszcz, Toruń, Białystok, Olsztyn and Koszalin) have the smallest number of intermodal terminals located in their vicinity (Bocheński, 2017).

In order to improve access to terminals whose operation determines the development of intermodal transport, it is necessary to support the construction of terminals in areas with poor access to this type of infrastructure. Analyses of the directions and cargo flow rate throughout the country indicate that the existing network of intermodal terminals should be increased to include approximately 20 new terminals and 6–8 regional logistic centres. There should be an increase in the number of specialised rolling stock units (especially wagons for semi-trailers, wagons with rotating frames, low-floor wagons or platforms for various types of containers) (MTBiGM, 2012). This is all the more important considering that the dissemination and efficiency of intermodal transport largely affect the efficient functioning of system logistic solutions within the integrated transport system.

According to the Act adopted on December 20, 1996, on seaports and marinas, there are four seaports of primary importance for the national economy of Poland, namely those in Gdańsk, Gdynia, Szczecin and Świnoujście[3]. In 2017, Poland occupied the high 5th position in the ranking of major BSR ports according to the amount of TEU transhipped, just after Russia, Sweden, Finland and Denmark. At the same time, the Port of Gdańsk was the 6th among the biggest BRI ports in the ranking of turnovers of individual ports in 2017, in which ports of Szczecin and Świnoujście got the 9th and the Port of Gdynia the 14th position (*Baltic Container Yearbook…*, 2018; *Baltic port market…*, 2018). Yet, already in 2019, Poland was the country with the biggest number of TEU transhipped (figure 11) while the Port of Gdańsk was the one of two container ports of the BSR ranked among top 15 container ports in Europe (figure 12). It was included in the abovementioned ranking thanks to an increase of 6.4 percent between 2018 and 2019, after year-on-year growth rates that amounted to over 23 percent in 2018 and 21 percent in 2017. It also recorded an impressive leap in its position in the long-term ranking, progressing from the 63rd place in 2007 to the 15th position in 2019. Thus, although Gdańsk is still second in the ranking of the largest container ports in the Baltic Sea, thanks to the current pace of development, it is close to overtaking the long-time leader, St. Petersburg. Similarly, the port in Gdynia is noted for achieving good results. In 2018, nearly 804,000 TEU were transhipped at the Gdynia port, where the amount of the cargo transhipped increased further by 2.2 percent in 2019.

3 Initially, the ports in Szczecin and Świnoujście operated under one name DB Port Szczecin-Świnoujście. However, at the beginning of 2008, PTK Holding SA from Zabrze (later DB Schenker Rail Polska SA) and Odratrans SA from Wrocław (later OT Logistics SA) acquired the shares of Port Handlowy Świnoujście from the Port of Szczecin and Świnoujście SA Ports Authority. In September 2012, OT Logistics SA bought back shares from DB Schenker Rail Polska SA and took over the port's controlling stake. The company has officially changed its name to OT Port Świnoujście Sp. z o.o. in April 2015 (*Historia Spółki*, 2019).

At the same time, transhipments in the Port of Szczecin-Świnoujście have been steadily decreasing as they dropped by 3.3 percent last year[4] (table 8) (*Record-breaking results…*, 2018; Gozdowski, 2020).

Table 8. Total container throughput in Polish ports in 2009–2019 (TEU) (Authors).

	Gdańsk	Gdynia	Szczecin-Świnoujście
2009	240,623	378,340	52,809
2010	511,876	485,255	56,503
2011	685,643	616,441	55,098
2012	928,905	676,349	52,179
2013	1,177,623	729,607	62,307
2014	1,212,054	849,123	78,439
2015	1,091,202	684,796	87,784
2016	1,299,373	642,195	90,869
2017	1,580,508	710,698	93,579
2018	1,948,974	803,871	81,451
2019	2,073,215	897,125	76,143

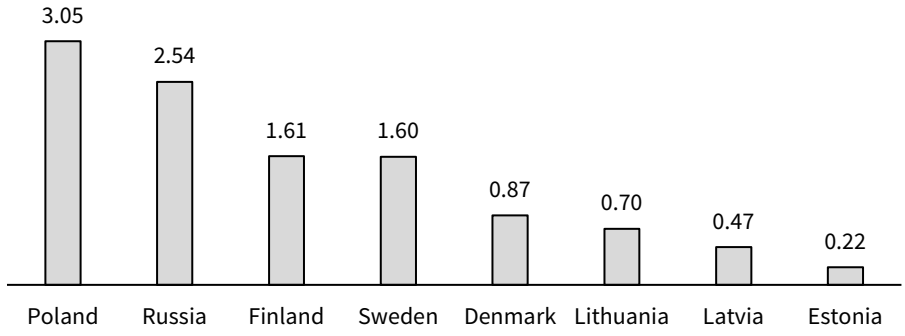


Figure 11. Containers transhipped in Baltic terminals in 2019 (million TEU) (Gozdowski, 2020).

New investments are needed to maintain the growth of total container throughput in Polish seaports, though. There are various ways of boosting the development of ports in Gdańsk, Gdynia, Szczecin and Świnoujście, one of which is the development of deep-water port infrastructure. More effective competition with road transport for loads transported on European routes is also of great importance for the BSR.

4 Interestingly, transhipments in Szczecin and Gdańsk were at a similar level until 2003 (approx. 20 thousand TEU), and Gdynia had the largest container transhipment of all Polish ports in 2006 (Kotowska, Pluciński, 2010).

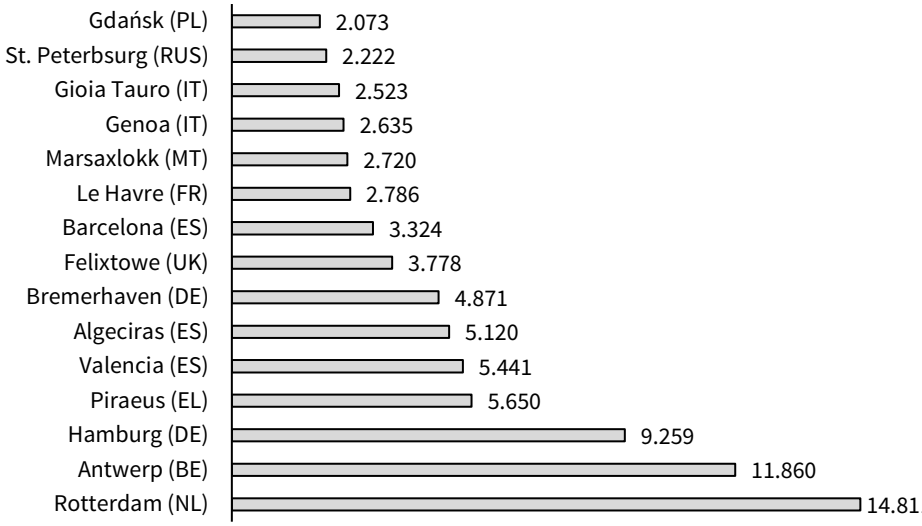


Figure 12. Top 15 container ports in Europe in 2019 (thousand TEU) (Gozdowski, 2020).

As the port in Gdańsk is a transport hub for 40 percent of goods coming from trade between Poland and the PRC (Larçon, 2017a), it is good news for the further development of the Sino-Polish relations that in 2018 DCT Gdańsk launched a new T2B project that assumes retrofitting the T2 berth with two additional STS cranes and five electric RTG cranes as well as enlarging storage yards and introducing complete automation of the gate complex for lorries that arrive in accordance with previous booking in the e-Brama appointment system. Investments in rail connections are another important development point. The existing railway tracks will be extended to 750 m, and the rail siding is to be extended from four to six tracks. The modernisation of the siding also envisages the purchase of fully electrified ARMG cranes as well as launching an OCR (Optical Character Recognition) camera system for registering trains and containers. Thanks to the scheduled investments, the terminal's rail capacity is to be increased by 50 percent (Bartosiewicz, 2019).

As far as the Port of Gdynia is concerned, the most important investments include those development projects that provided for the UE co-financing in the 2014–2020 budget perspective, namely:

- deepening the approach fairway and internal waters as well as reconstructing quay areas;
- redeveloping the railway access to the western part of Gdynia Port;
- constructing port infrastructure for sanitary sewage collection.

Finally, if a deep-water container terminal located east of the gas port is constructed in Świnoujście, the competitive position of the Szczecin-Świnoujście port may be also strengthened. It is estimated that up to 150 big container ships and

around 250 smaller vessels may call at the port annually, while the port's reloading capacity will amount to 1.5 million TEU. At present, however, it is uncertain whether the investment proposed for the years 2025–2027 will be implemented (*Koncepcja terminalu*, 2018).

Container terminals located in Polish seaports naturally fit into the Baltic Sea–Adriatic Sea Corridor. Due to their location, they constitute the opening infrastructure of the corridor. The most important assets of Polish seaports include their multi-functionality and versatility in the implementation of the transport function. In turn, their relative peripherality in relation to the main shipping routes results from the peripherality of the Baltic Sea itself, related to, *inter alia*, the natural limitation in the form of the depth of the Danish straits (figure 13).

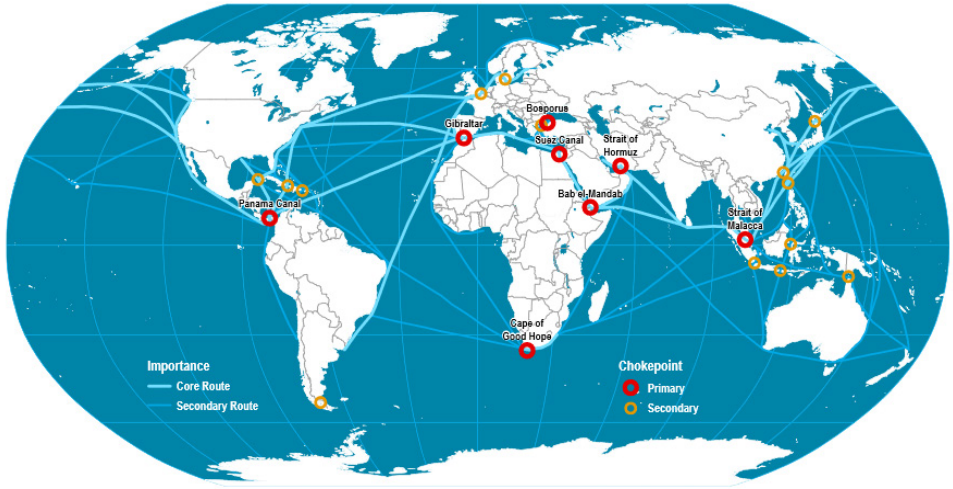


Figure 13. Main maritime shipping routes (2019).

The access infrastructure to the port from the land side includes mainly road and rail networks, inland waterways and infrastructure connecting the internal network of the port area (Rydzkowski and Wojewódzka-Król, 2010). A well-developed access infrastructure to the port ensures fast and cheap connections between a given port and its facilities and in this way it affects the time of cargo handling in the land–sea connections and total transport costs. The port with access to a dense network of efficient land connections with the gravitational market wins the battle for cargo with a port providing services of similar quality but deprived of such connections (Koźlak, 2009).

It turns out, however, that an insufficient development of infrastructure at the land side increases congestion in ports, which, in turn, generates cargo downtime costs, affecting the entire logistics chain (Bozarth and Handfield, 2007). Therefore, it is essential for the further development of Polish seaports to improve the state of infrastructure of national railway lines included in the international transport

routes of the TEN-T, AGTC, AGC and RFC (Rail Freight Corridor) networks, especially those forming the E59 and C-E59 railway corridors (Międzylesie–Wrocław–Kostrzyn–Szczecin/Świnoujście) as well as E65 and C-E65 (Gdynia/Gdańsk–Inowrocław–Zduńska Wola–Tarnowskie Góry–Pszczyna), railway line No. 201 Nowa Wieś Wielka–Gdynia Port together with the sections of railway lines connecting port areas to these networks (PKP, 2015; Urbanyi-Popiołek, 2014).

3.2.2. Poland's investment strategies concerning the Trans-European Transport Network

Although the corridors of the TEN-T core network should cover all of the transportation modes and their connections as well as relevant traffic and information management systems (Raben, 2016), the development of the railway network and seaport investments should become the key element in the creation of a modern EU transport system. Furthermore, seaports should become important logistic centres, connected with inland waterway transport and rail transport (Dyr *et al.*, 2015). Finally, the analysis of the plans related to the expansion of the NSR allows to conclude that the Chinese side sees investments in infrastructure elements supporting logistic processes as one of the main tools for the construction of the BRI.

As it turns out, Poland needs to intensify the activities that would increase the capacity of its transport systems. The bulk of the planned investments should be earmarked for the railway network as it is necessary to eliminate bottlenecks, especially with regard to railway lines in cross-border traffic, and to adapt them to technical requirements (track gauge, electrification degree, line capacity, maximum permissible speed, etc.) set out in the TEN-T Regulation (EC, 2013). It is even more important considering that in terms of the total length of the railway network, Poland ranks third in Europe with 11,868 km of railway traction[5].

As a consequence, the Polish railway infrastructure is currently undergoing an extensive modernisation. Efforts were made as early as in 2009 to modernise the TEN-T network and improve its efficiency. Nine corridors were introduced for the core transport network, covering three modes of transport, connecting three countries and two cross-border sections. The planned investments will have been implemented by 2023 and will cost nearly USD 16.5 billion. The funds will be allocated mainly to the modernisation of the traction, creation of transhipment

5 According to art. 2 of the Regulation 913/2010 of the European Parliament and the Council of 22 September 2010, the rail freight corridor includes railway lines connecting two or more terminals located on the main route as well as round trips and connecting sections. The task of such corridors is to increase the competitiveness of international rail freight transport thanks to organisational improvements and better cooperation between infrastructure managers (Wronka, 2010).

points, railway stations and purchase of new rolling stocks by domestic carriers (Motowidlak and Kujawa, 2018).

The vast majority of investments in railway infrastructure in Poland is financed from Poland's own resources (i.e. the state budget, treasury bonds, the so-called Railway Fund and the revenues of the PKP PLK SA) as well as from the EU funds. Poland has adapted long-term transport development strategies. The 2020 Transport Development Strategy (2012) assumes the creation of an integrated transport system based on investment and modernisation works in two sub-periods. In the first one (2011–2020), it is necessary to focus on catching up on infrastructure in terms of increasing transport accessibility and, until then, to organise the basic infrastructure of an integrated transport system. In the second period (2021–2030), the focus should be on increasing the level of saturation of the country's individual regions with infrastructure and creating an integrated, self-financed transport system. Yet, due to the fact that almost half of all planned projects could not be completed by the end of 2015, time for their implementation was extended by another five years.

Table 9. Basic railway projects connected to the freight corridors (PKP, 2015).

Project	Years of implementation
Perimeter line in Warsaw (sections: Warszawa Gołąbki/Warszawa Zachodnia–Warszawa Gdańska)	2015–2018
Railway line No. 93 on the Trzebinia–Oświęcim–Czechowice Dziedzice section	2016–2020
E20 railway line on the Warszawa–Poznań section; other works: the Sochaczew–Swarzędz section	2016–2020
E30 railway line on the Kędzierzyn Koźle–Opole Zachodnie section	2016–2020
E75 line on the Sadowne–Białystok section; other works: the Warszawa Rembertów–Sadowne section (the Mazovian province)	2017–2018
C-E65 railway line on the Chorzów Batory–Tarnowskie Góry–Karsznice–Inowrocław–Bydgoszcz–Maksymilianowo section	2017–2020
Railway lines No. 132, 138, 147, 161, 180, 654, 655, 657, 658, 699 on the Gliwice–Bytom–Chorzów Stary–Mysłowice Brzezinka–Oświęcim and Dorota–Mysłowice Brzezinka section	2017–2020
Railway line No. 146 on the Wyczerpy–Chorzew Siemkowice section	2017–2020
Railway line No. 1 on the Częstochowa–Zawiercie section	2017–2020
Alternative transport route Bydgoszcz–Tricity, covering lines 201 and 203, the phases 1 and 2 of the investment with the addition of the electrification	2017–2020
Improvement of the capacity of the E20 railway line on the Warszawa–Kutno section, phase 1: the railway line No. 3 on the Warszawa–border of the LCS Łowicz section	2017–2020

Table 9 (cont.)

Project	Years of implementation
Railway lines No. 14, 811 on the Łódź Kaliska–Zduńska Wola–Ostrów Wlkp. section, phase 1: Łódź Kaliska–Zduńska Wola	2017–2020
Basic passenger routes (E30 and E65) in the area of Silesia, phase 1: line E65 on the Będzin–Katowice–Tychy–Czechowice Dziedzice–Zebrzydowice section	2017–2023
E75 line on the Sadowne–Białystok section; other works: the Warszawa Rembertów–Sadowne section (the Podlasie province)	2018–2020
Railway line No. 6 on the Białystok–Sokółka–Kuźnica Białostocka section (the Polish border)	2018–2021
C-E59 railway line on the Wrocław Brochów/Grabiszyn–Głogów–Zielona Góra–Rzepin–Szczecin Podjuchy section	2018–2022

In railway transport, the priority will be given to the modernisation and revitalisation of railway lines, aimed at further improvement of their technical parameters, including primarily (MTBiGM, 2012):

- constant modernisation and revitalisation of the existing railway line network so that the major part of the network will be in good condition in 2030 (i.e. requiring only maintenance) and will be able to operate trains with the technical speed of at least 100 km/h on the TEN-T network;
- modernisation and construction of terminals adapted to servicing railways for intermodal container transport;
- taking a decision on the possible construction of a high-speed rail system supplemented by the so-called "Y" by 2020;
- developing an infrastructure of systems aimed at improving the management of passenger and freight transport;
- gradual implementation of the ERTMS on the most important railway routes;
- modernisation of infrastructure of railway stations and stops;
- replacement of obsolete locomotives and wagons with modern rolling stock, corresponding with the specifics of individual market segments;
- revitalisation and extension of railway lines in the functional areas of cities;
- undertaking actions aimed at better integration of rail and road transport.

In turn, the main goal of the development of the largest Polish seaports by 2020 should be to improve their competitiveness, with particular emphasis on the southern Baltic market. Among the specific objectives, the following should be mentioned (MGMiŻŚ, 2017):

- developing port infrastructure and access to ports from the landside and sea, including the quality of railway infrastructure and development of intermodal terminals;

- developing deep-water infrastructure and increasing the transhipment potential of existing seaports;
- modernisation and deepening of waterways in accordance with new technologies of navigation marking;
- creating compatible conditions at the interface between seawater and inland waters in order to extend water transport routes through better use of inland waterways as access from the land;
- diversifying the service offer and adapting it to market needs;
- increasing the Polish commercial fleet, especially in the field of specialist vessels;
- contribution of ports to increase the country's energy security;
- increased importance of ports in the Polish economy, port regions and communes.

Chapter 4
The impact of the New Silk Road on the rail and maritime logistics chains in Poland

4.1. The transport system as an element of supply chain competitiveness

According to Andrzej S. Grzelakowski (2018), the transport system can be defined as

> (...) an orderly determined, in its functional and spatial as well as production and technical dimension, system of interconnected networks of economic, organisational, technical and technological relations as well as legal and institutional transport subsystems, operating on the basis of the existing technical infrastructure specific to this sector of network industries.

Such a system allows more efficient execution of commercial transactions, more effective cooperation of the business network and proper customer service.

The supply chain, in turn, includes all activities that are related to the flow and transformation of products and information, from the moment of delivery of the right raw material, through all phases of shaping it, to its delivery to the final recipient. It provides a certain sequence of activities that are carried out by producers to meet the needs of consumers of a specific market (Institute of Logistics, 1998). The supply chain is similarly defined by Cecil Bozarth and Robert B. Handfield (2007), who described it as a group of enterprises performing joint activities necessary to meet the demand for specific products in all its production stages, i.e. from raw material sourcing, through production and distribution, to handing the product to the final recipient. These activities may include development, production, sales, service, supply, distribution, resource management and supporting activities. The supply chain may also be seen as a kind of organisation network (Christopher, 2000), process (Witkowski, 2010) or structure (Waściński, 2014).

The ongoing globalisation has created a new dimension of competitiveness, using the systematic approach to logistics and transport. Due to the globalisation processes, many regions of the world are connected into one jointly operating area of trade, functioning thanks to cooperation within increasingly complex global supply chains. In this way, transport infrastructure which strongly influences the efficient service of concentrated transport streams becomes an important factor for increasing the competitiveness of the economy (Motowidlak and Kujawa, 2018).

Actions taken by the EU seek to provide flexibility to its transport systems as to cope with increasing competition in emerging transport markets. The priority should be the transition to competitive and resource-efficient freight transport, especially as in June 2017 the EC confirmed the commitment of the EU and its Member States to the quick and full implementation of the provisions of the Paris Agreement (COM(2017) 648, 2017). Once more great importance is given to the issues of sustainable development and protection of the natural environment. Since transport has an enormous impact on GHG emissions and air pollution, the transition to energy-saving and low-carbon transport of goods is supported by individual initiatives presented, among others, in the Strategy for the Energy Union (COM(2015) 80, 2015), the Strategy for Low-Emission Mobility (COM(2016) 501, 2016), the Communication 'Europe on the Move' (COM(2017) 283, 2017) or the Directive on Combined Transport (COM(2017) 648, 2017). These documents recommend increasing the competitiveness of cross-border intermodal transport (in particular combined transport) as compared with motor freight transport (Motowidlak and Kujawa, 2018).

China, in turn, is facing the economic slowdown, hence it keeps looking for new economic ventures and possibilities to compete within the entire global supply chains. In such a way, the NSR is to be a source of additional value in the logistics network. As part of the BRI, providing better transport and trade opportunities in internal relations (inside China) and external relations with the economic environment (mainly European, Asian and African) is to contribute to the improvement of cash flows between numerous countries and to enable the internationalisation of Chinese enterprises. Once again, a properly organised supply chain, with the transport system as its fundamental element, seems to be one of the key factors of the competitive advantage.

4.2. The development and importance of land–sea supply chains in container transport

As Andrzej S. Grzelakowski states (2019):

> (...) the global economy can be perceived (...) as a certain mega-system of the operating global supply chains and networks as well as logistics supply chains and networks linking the centres of

production and consumption dispersed in the global area. The supply chains and networks cover within their scope all types of markets operating on a global scale. At the same time, they order all types of flows within these markets, optimising them as per time and cost. In turn, these flows are linked in the physical sense and integrated by transport chains anchored in the system of transport and logistics infrastructure.

The quality of global logistics area functioning within the supply chains and networks is conditioned by numerous factors. According to the results of the study conducted by the WB, two of the most frequently indicated barriers to the increase in effectiveness of the global logistics area include the infrastructure as well as the quality of transport and logistics services. Figure 14 presents the direct and indirect costs of transport and logistics in the export relation of the global supply chain.

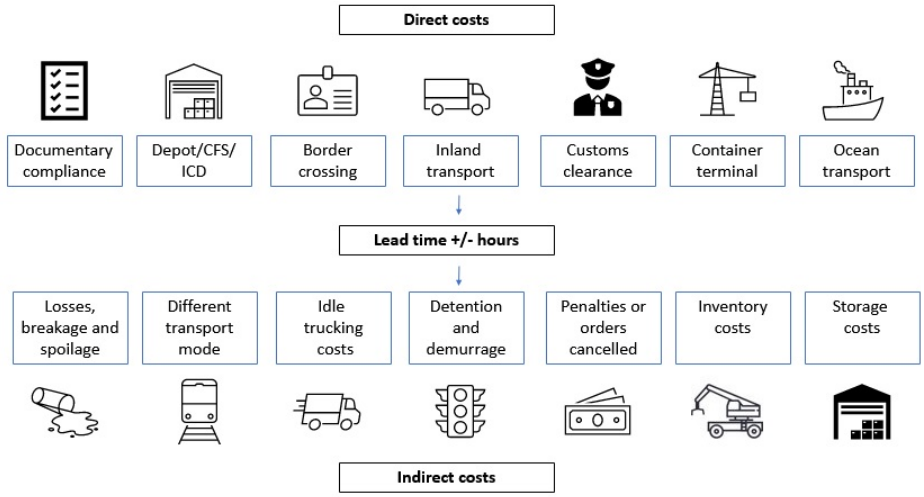


Figure 14. Direct and indirect transport and logistics costs in the global land–sea supply chain (Authors based on Grzelakowski, 2019).

Yet, intensive growth of international trade of goods in the second half of the 20th century forced a new, intermodal concept of transport organisation that would allow for the optimisation of transport and logistics processes in supply chains. An important role in this process is played by point infrastructure, which consists of (Stokłosa *et al.,* 2014):

- container terminals, including the elements of seaport container base;
- land terminals (road and rail), located near railway stations with regular freight trains running between them.

A container terminal plays an important role in the global supply chain and provides a platform between sea and land transports. Nowadays, the container

terminal business is dominated by a few global container terminal operators. The Port of Singapore Authority (PSA) is the world's largest terminal operator when equity-based throughput is taken into account, even if Hutchison Port Holdings (HPH), Dubai Ports World (DPW) and A.P. Moller Group (APM) have relatively more terminals in their portfolio (*Largest Global...*, 2017). At the same time, with the globalisation and institutional reforms, the participation of the private sector brings both capital and know-how, and is expected to lead to efficiency gains from combining construction, maintenance and operations arrangements. The creation of port corporations has brought opportunities for operators based in one country to get involved in the container terminal operations in other countries (Lee and Meng, 2015). However, the development of a globally consistent transport and logistics area failed to reach the level of growth indispensable for the current stage of globalisation process, thus forcing the operators of global supply chains and networks to take actions to eliminate or reduce the existing transport and logistics barriers that limit the efficiency and effectiveness of the global trade service (Grzelakowski, 2019).

There are four basic factors which determine the role of intermodal terminals in the land and maritime transportation chain (Notteboom, 2009):

- the location of the terminal in relation to the major economic centres;
- the degree of development of linear and point transport infrastructure connecting the terminal with the main economic centres;
- the organisation of transport services between the terminal and technical facilities;
- the organisation of transport chains and their integration in logistics chains.

The factors that enforce the adaptation of line infrastructure to new market challenges include changes on international commodity markets, growing trade, global technological progress, the extension of global supply chains or an increase in demand for maritime and rail transport (resulting partially from the gradual implementation of the BRI). These factors also deepen the role and functions of economic intermodal links in land and sea supply chains. At the same time, digitalisation proves to be the main challenge for global container operators since the global logistics market is still dispersed. In addition, if digitalisation is to be introduced into main logistic processes, such processes should be further standardised and process costs within the global logistics supply chains should be significantly reduced.

The standardisation of logistic processes, which is a factor integrating the supply chain, becomes pivotal in relation to international intermodal transport, while well-developed transport infrastructure strengthens the social, economic and spatial cohesion of the country. The role of infrastructure is highlighted in the White Paper (2011), which explicitly emphasises that the uneven development in individual regions of the EU needs to be harmonised in the context of the vision of sustainable transport and integration within multimodal transport networks.

Still, it is necessary to implement long-term and costly investments in order to allow for further development of intermodal transport of containers. Such investments should concentrate on marine, rail and road transport infrastructure. Improving

the infrastructure efficiency of all transport modes, in a corridor approach, means creating favourable conditions for the development of international intermodal land and sea–land transport chains, hence seaports are those links of land and maritime supply chains that should undertake activities aimed at transregional cooperation. Such cooperation would facilitate the creation of new logistic links and directing streams of cargo into new sea–land transport corridors (Grzybowski, 2013a). Cargo ports are perceived to be the most important component in improving the efficiency of ocean transport logistics. Pushed by globalisation, ports are evolving from being traditional sea–land interfaces to providers of complete logistics networks, as more and more services are offered on the premises of the ports (Neise, 2018).

The improving economic situation in Poland is accompanied by the growing demand for maritime transport. As a result, the demand for rail intermodal transport to sea terminals is also on the increase. Another important factor that shapes the EU's, and Poland's, land and sea transport chains is the recent tendency to build larger oceanic vessels, which, given the limited number of hubs, makes it necessary to create large reloading centres and feeder networks operating in the hub and spoke system (UNCTAD, 2018). Moreover, one factor that can change the layout of land–sea transport chains in the EU Member States with access to the sea is a policy related to reducing the sulphur content in ship fuel. At the same time, in the opinion of the EC, the expected increase in shipping costs may result in shifting part of the transports carried in the North–South relations towards transport chains with a significantly lower share of maritime transport.

For all these reasons, it seems that the development of strategic seaports of the Member States is an important element of the development of intermodal transport within the framework of the TEN-T core network corridors which are an inherent element of the European trade (White Paper, 2011). These corridors are specialised in the transportation of the main cargo masses that are subsequently divided into smaller batches addressed to end users. Taking this into consideration, interdependencies between the seaport and land-based transport systems are extremely important for the operation of the land–sea transport chains (Kotowska, 2014). The flows of cargo arriving in Poland along the BRI in the East–West direction are also of utter importance in this case.

4.3. The Belt and Road Initiative in the rail and maritime transportation

Just under four percent of all goods imported from China reach Europe through rail connections. The main reason for this is the poor condition of the railway infrastructure, the Trans-Siberian Railway (TSR) included, which hinders transport and extends the delivery time (Witkowski and Kurzątek, 2018).

The TSR, also known as the Great Siberian Road, is currently the world's longest railway line. The distance between its two extreme points (Moscow and Vladivostok) is 9,288 km, of which 1,777.0 km (19.1 percent of its length) runs across Europe, while Asia has 7,511.2 km, which represents 80.9 percent of its total length. It takes six days and six hours to cover the entire route. Nowadays, the TSR is a two-track, fully electrified railway line equipped with modern communications and traffic control systems as well as advanced technology of commercial checkpoints that are equipped with modern devices monitoring the load status. The maximum transport capacity of the TSR is 100 million tons of gross freight weight per year. About 80 trains travel it on a daily basis.

The TSR is a natural extension of transport corridor No. II (Berlin–Warsaw–Minsk– Moscow–Nizhny Novgorod). In addition, it is an extremely important international connection, linking railway stations located in China, North Korea and Mongolia as well as enabling the connection of Russian and Finnish seaports with Far East ports, such as Vladivostok, Nakhodka, Vostochny and Khasan. The TSR covers three main lines starting at the Yaroslavl Railway Station in Moscow (figure 15). The longest of them, the Trans-Siberian Line, leads through Nizhny Novgorod, Omsk, Krasnoyarsk and Irkutsk to Vladivostok. The Trans-Manchurian line coincides with the Trans-Siberian Line in the town of Tatarskaya, and then heads towards China. The Trans-Mongolian Line also leads to Beijing, but via Ulaanbaatar (Lipińska-Słota, 2016).

Figure 15. Trans-Siberian Rail Routes (Trailblazer, 2019).

It comes as no surprise that the TSR plays an important role under the BRI as it links Europe and Russia with the northern parts of China (the so-called Northern

Corridor) as well as allows to transport goods within China itself. Nevertheless, so as to further facilitate the flow of goods and make the PRC independent of the TSR, and thus Russia, the concept of the so-called Central Corridor is currently being developed. The route of this corridor is to go through Kazakhstan, from where it will run to the North towards Uzbekistan and Turkmenistan as well as to the West to Iran, Turkey and then to Europe (Łopacińska, 2017).

As for China itself, there are 16 main rail corridors, consisting of eight lines running from the North to the South and as many running from the East to the West, connecting 81 large cities. The current division of the main lines was established in January 2001, when about 3,980 km of lines had not been finished. At that time, the existing main lines accounted for 43 percent of the total railway lines. The last main vertical line was completed in 2009, whereas the last horizontal line – in 2010. Yet, in 2016, the Chinese government adopted a plan for further investment in the development of the rail transport sector. In accordance with it, 150,000 km of rail is expected to be under use by the end of 2020 and another 25,000 km are to be built by 2025. Ultimately, the Chinese government plans to reach 200,000 km of railway networks by the end of 2030, of which 45,000 km are to be networks adapted to support high-speed railways (Motowidlak and Kujawa, 2018).

So far, six rail connections have been operating as a part of the BRI. Although some of them were launched earlier than the idea of the NSR (figure 16), they were quickly incorporated by the initiative because of their importance. The abovementioned routes include connections between (Motowidlak and Kujawa, 2018):

- the Chinese city of Changqing and the German city of Duisburg (operating since 2011);
- the Chinese city of Wuhan and the Czech capital, Prague (launched in October 2012);
- the Chinese city of Zhengzhou and the German city of Hamburg (in use since July 2013);
- the Chinese Chengdu and Łódź (since October 2013);
- the Chinese city of Suzhou with Warsaw (since October 2013);
- the Chinese city of Changsha and the German city of Duisburg (launched in November 2014).

Figure 16. Rail connections operating under the BRI (Yang, 2014).

On the other hand, seven of the ten largest seaports in the world are located in China while the NSR sea trail begins in the province of Guandong (former Kanton), located in the southeast of the country. In its provisions it should lead to the coasts of Southeast Asia, then through the Strait of Malacca (connecting the Andaman Sea with the South China Sea and separating the Malay Peninsula from the island of Sumatra). The trail leads from Sri Lanka to the eastern coast of Africa (the so-called Horn of Africa, or the Somali Peninsula), and from there to the Suez Canal, through which the transported goods will reach the waters of the Mediterranean Sea, before reaching both Southern (rail) and Northern Europe (seaport) (Witkowski and Kurzątek, 2018).

Moreover, the construction of high-speed rail, connecting two European capitals, Belgrade (Serbia) and Budapest (Hungary), should be implemented so as to reduce the time of deliveries by sea. The relevant contract was signed in 2015, during one of the 16+1 summits. The Chinese side is also actively involved in the construction of seaports in Hambantota and Colombo in Sri Lanka as well as in the Egyptian city of Suez (the Suez Canal). The PRC is also negotiating with Kazakhstan the right to import and export goods via the Chinese port of Lianyungang. The Chinese government also seeks to quickly conclude negotiations with Malaysia in order to limit the number of customs bottlenecks and to intensify trade between the two countries. In addition, both countries wish to increase investment in the Port of Malacca, which is to become the largest seaport in Southeast Asia by 2025 (Motowidlak and Kujawa, 2018).

All in all, the combination of sea and land (rail) routes accomplished so far provides the countries participating in the NSR with two basic options to reach Europe. The first involves the use of Greek ports in Piraeus and Thessaloniki, and then moving towards the northern part of the continent through Macedonia, Serbia and Hungary (figure 17). The second option is related to the use of two ports of the Adriatic Sea – Bar (Macedonia) and Koper (Slovenia).

Figure 17. Land Sea Express Route (Bhadrakumar, 2019).

4.4. The impact of the New Silk Road on the Polish logistics chains

4.4.1. The impact of the Belt and Road Initiative on land supply chains

The Polish freight market is steadily growing. According to the ORT, almost 250 million tons of goods were transported through the territory of the RP in 2018, while a year earlier it was less than 240 million tons, and in 2016 – about 222 million tons. In the years to come, it is expected that this growth will accelerate due to the development of the NSR (*Polskie porty…*, 2019). In 2017, railway carriers transported a record number of 1,667.3 thousand TEU. This represented an increase of 16.1 percent in comparison with 2016 (ORT, 2018). The development of Polish ports and the BRI also contribute to the growth of transport in the BABS region. In 2018, almost two million TEU were transhipped in Gdańsk and nearly 804 thousand TEU in Gdynia. Importantly, goods from these two ports are often further transported by rail, as the process of moving transport from ships to rail has already begun (Kaczmarczyk, 2019).

Since the announcement of the White Paper in 2011, the role of rail transport has been gradually increasing. The White Paper assumes that 30 percent of road transport of goods at distances greater than 300 km will be transferred to other means of transport (e.g. rail or water transport) by 2030 (and, respectively, 50 percent by 2050). Regrettably, the quality parameters of railway lines in Poland did not meet the requirements of market operators in 2013. The permissible speed of freight trains on nearly 50 percent of all lines was lower than in most European countries and a significant part of tracks and turnouts was highly degraded. The authors of the White Paper of Infrastructure of 2013 pointed out that over four percent of infrastructure was in a very bad condition at the time (Faryna and Osiński, 2013).

Although the modernisation and infrastructure investments made in recent years as well as those proposed by the PKP PLK for the near future have already contributed to the improvement of intermodal transport in Poland (table 10), the controllers of the Supreme Chamber of Control (SCC) reported in 2017 that almost half (approx. 9,000 km) of railway lines still needed repair or comprehensive modernisation, while the technical condition of almost 83 percent of railway bridges and viaducts was alarming (*(Nie)bezpieczna kolej…*, 2018). This proves that it is necessary for the PKP PLK to develop and implement another programme of repairs and modernisation of railway lines in poor technical condition and to make efforts to provide financial resources for the modernisation of Polish rolling stock in the EU 2021–2027 budget perspective.

Table 10. Port and rail investments of the PKP PLK in the years 2017–2024 (PKP, 2017).

Project	Years
Works on the railway line No. 146, the Wyczerpy–Chorzew Siemkowice section	2017–2019
Works on the railway line E20, the Warszawa–Poznań section: other works, the Sochaczew–Swarzędz section*	2017–2020
Works on the line E75, the Sadowne–Czyżew section: other works, the Warszawa Rembertów–Sadowne section	2017–2020
Works on the line E75, the Czyżew–Białystok section	2017–2021
Improvement of rail access to the seaport in Gdańsk	2018–2020
Improvement of rail access to the seaport in Gdynia	2018–2020
Works on the railway line No. 1, the Częstochowa–Zawiercie section	2018–2020
Works on the railway lines No. 14, 811, the Łódź Kaliska–Zduńska Wola–Ostrów Wlkp. section, phase 1: Łódź Kaliska–Zduńska Wola	2018–2020
Works on the railway line No. 93, the Trzebinia–Oświęcim–Czechowice Dziedzice section	2018–2021
Improvement of rail access to the seaports in Szczecin and Świnoujście	2019–2020
Improvement of the capacity of the railway line E20, the Warszawa–Kutno section, phase 1: works on the railway line No. 3, the Warszawa–LCS Łowicz border section*	2019–2020
Works on the railway line No. 6, the Białystok–Sokółka–Kuźnica Białostocka (national border) section	2019–2021
Works on the railway lines No. 132, 138, 147, 161, 180, 654, 655, 657, 658, 699, the Gliwice–Bytom–Chorzów Stary–Mysłowice Brzezinka–Oświęcim and Dorota–Mysłowice Brzezinka section	2020–2022
Works on an alternative transport route Bydgoszcz–Tricity	2020–2022
Works on the railway line C-E59, the Wrocław Brochów/Grabiszyn–Głogów section	2022–2023
Works on the railway line C-E65, he Chorzów Batory–Tarnowskie Góry– Karsznice–Inowrocław–Bydgoszcz–Maksymilianowo section	2020–2024

* Investments in line with the SREB in Poland.

According to the Chinese State Railways (CRC), the number of freight trains from China to Europe increased by 73 percent in 2018 as compared to 2017. The China–Europe–China route was responsible for transporting up to 370,000 TEU, of which 73 percent went to the members of the Commonwealth of Independent States (CIS) – Russia, Kazakhstan and Belarus. On the one hand, the Russians want to increase the transit of Chinese goods to the EU through the main Trans-Siberian Corridor (China–Moscow–Warsaw–Duisburg), but on the other, they perceive Poland as the "bottleneck" of the BRI which makes the TSR unprofitable. There are several reasons for this: lack of trust in Eastern contractors on the part of European entrepreneurs, lack of a common system of electronic exchange of

shipping documentation, inadequate infrastructure in Poland and an increasingly congested Małaszewicze–Terespol border crossing.

Currently, approximately 4,000 TEU per month (i.e. 12 pairs of trains per day) are transhipped in Małaszewicze, which means that the terminal is unable to receive all the cargo from China. Since the estimates indicate that trains will transport one million TEU from China to Europe in 2030, which is five times more than in 2017, the PKP Cargo together with the PKP PLK launched infrastructure investments in Małaszewicze, announcing that the capacity of this largest dry port in Europe will increase fourfold by 2026 (i.e. to 40–50 pairs of trains a day) (Lysionok, 2019). Moreover, should the planned development of the NSR be taken into account, it turns out that the PKP Cargo plans to make numerous multilateral and bilateral cooperation agreements with partners from countries lying on the route. The PKP LHS has already signed two letters of intent concerning the plans to develop intermodal transport between the EU, Caucasus and Asia. In addition, the company joined the Coordinating Committee of the TITR, the southern corridor of the NSR, in October 2016 (Skrzydło, 2018).

Importantly, the cooperation of the city authorities with the Chinese representatives has changed the capital of the Łódź region into a large European transhipment centre. Over the past six years, Łódź and the surrounding area have undergone numerous changes. New multimodal terminals have been constructed and the old ones have been expanded. The Pekaes group that manages the Spedcont terminal decided to invest in the Łódź hub by creating new storage yards with a total area of 104,000 m^2, extending the existing tracks and investing in the third container crane (Kapczyńska, 2017). For the time being, Spedcont is building a 13-hectare hub. The company completed the first stage of the expansion of the transhipment terminal in Łódź and the second stage was scheduled for April 2018. In 2018, it purchased 20 trailers, increasing their fleet from 100 to 120, as well as a third container crane. It received two trolleys for container handling and was implementing a system and devices facilitating the reloading of goods (Kapczyńska, 2018).

At the same time, the process of railway infrastructure modernisation began. On September 15, 2015 the Polish Council of Ministers adopted the National Railway Programme until 2023 (NRP) that defines investment tasks for railway infrastructure managed by the PKP PLK. The main objective of the NRP includes strengthening the role of rail transport in the integrated transport system of the country by creating a coherent and modern railway network (Engelhardt, 2013).

It is important for the Łódź region that the NRP includes many modernisation projects, the implementation of which should significantly contribute to the improvement of rail freight transport in Łódź and its surroundings. The most important ones include modernising the Central Rail Line on the railway line No. 4, streamlining the Łódź Railway Junction (TEN-T) on the Łódź Widzew–Łódź Fabryczna and Łódź Fabryczna–Łódź Kaliska/Łódź Żabieniec sections,

building integrated multimodal nodes and constructing/reconstructing railway stations in the Łódź province, completing the construction of the eastern viaduct of the Łódź Kaliska station or increasing the availability of the E20 and C-E20 buses by improving the technical condition of adjacent railway lines. In addition, the Development Strategy of the Łódź Province until 2020 and the Spatial Development Plan of the Łódź Province assume the development of both external/internal railway connections of strategic importance and environmentally friendly transport of goods, intermodal nodes included. According to the programme, existing container stations should be transformed into intermodal terminals and new terminals should be built, while transport and communication connections between transhipment stations, logistics centres, cargo airports and economic zones should be modernised. Finally, the Territorial Contract for the Łódź Province specifies main and conditional projects for rail transport that should be realised in the Łódź region. The most important of them are, once again, streamlining of the Łódź Railway Junction (TEN-T) on the Łódź Fabryczna–Łódź Kaliska/Łódź Żabieniec section and improving the capacity of the railway line E20 on the Warszawa–Kutno section, works on the railway line E20 (Warszawa–Poznań) or works on the railway line No. 18 (Kutno–Toruń Główny). It should be noticed that the last of the analysed documents mentions the construction of a logistics and reloading base and an industrial park for the Łódź–Chengdu (Olechów) railway connection as one of the conditional projects. It also envisages some investment projects for the multimodal port Zduńska Wola–Karsznice, especially the construction/reconstruction of the road and utility infrastructure (Bartosiewicz and Szterlik, 2019b).

Some of the abovementioned projects have already been started (e.g. works on the railway line E20 on the Warszawa–Kutno and Warszawa–Poznań sections or works on the railway line No. 18 on the Kutno–Toruń Główny section). Some of the projects were initiated in 2019 (e.g. project entitled Modernisation of 14 engineering objects along with the reconstruction of technological roads along the route Idzikowice–Opoczno Płd., works related to the construction of the underground railway line Łódź Fabryczna–Łódź Kaliska/Łódź Żabieniec). As late as in the mid-2019 a contract was signed on the termination of the construction of the eastern viaduct at the Łódź Kaliska station. In July 2019, in turn, the Marshal of the Łódź province, Grzegorz Schreiber, met with the representatives of the largest PKP companies and local government officials from Zduńska Wola. During the meeting preliminary decisions were taken regarding the construction of the road and rail port near Zduńska Wola (*Jest decyzja*…, 2019).

Moreover, Łódź is still developing. A new industrial district is being created in Olechów, near the Spedcont terminal, 4 km from the A1 motorway exit, 17 km from the Łódź airport and only 30 km from the Łódź Północ junction (the intersection of the A1 and A2 motorways) (*Są tereny…*, 2017). In 2018, the BSH Company completed the construction of a new logistics centre with an area of 79,000 m^2 with

two railway sidings that will be connected to the Łódź–Olechów railway station. The entire section is to be 2.5 km long and trains of up to 600 m will soon depart from the newly-constructed siding. According to the investor's announcement, approximately 30 percent of cargo will be carried by rail (Czubiński, 2017b). The facility was built on the territory of Poland's largest distribution centre, the Central European Logistics Hub, managed by Panattoni Europe. Apart from the BSH hall, other logistics centres that are part of the Panattoni logistics hub will also open in the near future. They will be occupied by such companies as Media Expert, Whirlpool, Smyk or Compin. Soon, Panattoni Europe intends to buy nearby parcels to get access to one million m^2 of available space. Until 2023, up to 7,000 new jobs are to be created in the complex (Janocha, 2018; Jaroń, 2018). The infrastructure necessary for the operation of both the distribution centre and the city is also being created in cooperation with the municipality. New investments were undertaken not only in Łódź but also in the Łódź region in 2018. In April, one of the four parts of the 130,000 km^2 logistics centre Zalando was built in Głuchów. The new warehouse was to be put to use in autumn 2019 (*Zalando & Goodman…*, 2018).

4.4.2. The impact of the Belt and Road Initiative on maritime supply chains

Despite the dynamic development of rail transport, the vast majority of Chinese goods is still transported by sea. Although the alternative transport corridor, the NSR, imposed the reduction of sea transport to the BSR, especially in terms of the number of containers transported by feeder services, this has not affected the shrinkage of the entire market, mainly due to the annual increase in the volume of cargo handled by this region. Taking into account the course of the NSR route, it can be assumed that streams of cargo transported by Poland by rail will be directed mainly to Central and Western Europe, while Northern Europe and Scandinavia will still favour maritime transport. In addition, because goods from China to Polish ports are then transported to other CE countries, one of the pillars of the PKP Cargo's strategy for 2019–2023 is the development of its business in the Three Seas Initiative (TSI) region (located between the BABS), including the BSR. This creates an opportunity for Poland to become a hub for freight transport in both regions, especially that by 2023 the PKP Cargo intends to be the leader of rail freight transport on the EU section of the NSR (*Warsewicz: Terminal…*, 2019).

It should be noticed that the changes in the Polish transport infrastructure have already been positively influenced by both Poland's accession to the EU in 2004 and the implementation of the Community transport policy assumptions of 2011 to national development strategies until 2020 (and until 2030). A decade ago Polish seaports handled 30 percent less freight volume than today. In the years 2005–2015, the volume of cargo transhipped at the Port of Gdańsk increased by

60 percent, which allowed the port to climb to the 7th place among the Baltic Sea ports (Raben, 2016), and later on, in 2017, be included in the list of the 100 best container ports worldwide prepared by the *Container Management* magazine as well as the list of the 100 largest container ports in the world according to the Lloyds List ranking. The port in Gdynia also achieves good results. In 2017, it was ranked 3rd in the list of the 10 best Baltic container ports and 14th among the largest BSR ports (*Record-breaking results…*, 2018). Further development of the infrastructure of Polish seaports improves their competitiveness and strengthens Poland's position on the international transport and economic map.

Two Polish Baltic container terminals are among those which benefitted the most from Poland's cooperation with China: the Deepwater Container Terminal Gdańsk (DCT Gdańsk) and the Baltic Container Terminal Gdynia (BCT Gdynia) (table 11). These are currently the only deep-sea terminals in the BSR, to which ships from the Far East, including China, sail directly. While the BCT Gdynia terminal played a very important role in clearing routes for container sea transport in Poland, the volume of transhipments carried out in its area is characterised by moderate dynamics, and the volume of transhipped cargo oscillates around a certain, constant level. This state, especially in recent years, is undoubtedly influenced by a competition from the DCT Gdańsk, which has taken over a significant part of containerised cargo transported through the Polish BSR ports (Zamachowski and Rokicki, 2016). Despite this, the BCT's activities have recently been focused on the development of the suprastructure. The Gdynia terminal purchased, among others, two RMG cranes for handling train depots and two new STS cranes (Lewiński and Sterniński, 2017).

The possibility of a direct connection to Asia significantly contributed to the development of the terminal in Gdańsk. Since 2012 special, dedicated railway connections, have been established, which are DCT–Kąty Wrocławskie served by *Maersk Amber Express* and DCT–Sławków served by *Maersk Baltic Express*. What is more, an extensive railway siding was commissioned and a second deep-water quay (the so-called T2 terminal) was built, which is equipped with five largest and most modern STS cranes in the BSR, enabling the handling of vessels with a capacity of over 22,000 TEU. Thanks to the investments made, the annual transhipment potential of the DCT Gdańsk doubled from 1.5 to 3 million TEU and the Gdańsk terminal began cooperation with the OCEAN Alliance, gaining another direct connection from the Far East.

Importantly, the terminal in Gdańsk is still developing. In 2018, the DCT proposed a new investment programme, the T2B project, which includes retrofitting the T2 quay with two additional STS cranes and five electric RTG cranes. It is also planned to increase the storage yards and complete automation of the gate complex for trucks that arrive in accordance with the previous reservation in the e-Gate notification system. Investments in rail connections are another important development point. The existing railway tracks will be extended to

750 m, and then the railway siding will be extended from four to six tracks. The modernisation of the siding is also supported by the purchase of fully electrified ARMG cranes as well as the launch of the OCR (Optical Character Reader) camera system for registering trains and containers. Owing to the investments in question, the terminal's rail capacities will increase by 50 percent (Bartosiewicz, 2019).

Table 11. Intermodal terminals in Gdynia and Gdańsk (ORT, 2019).

Name of terminal	BCT Gdynia	DCT Gdańsk
General information		
National road/motorway	A1, S6, Kwiatkowski viaduct	Sucharski route
Distance from a national road/motorway [km]	4	2
Number/name of a rail line	201, 228	226
Distance from a rail line [km]	0	2
Infrastructure and equipment		
Total area [ha]	66.2	74
Maximum annual handling capacity [TEU]	1,200,000	3,000,000
Storage area [TEU]	20,000	55,000
Lifting and handling equipment (main)	6 x STS 2 x RMG 18 x RTG 3 x RS 30 x TT	11 x STS 35 x RTG
Rail infrastructure		
Number of industrial spurs	11	1
Number and length of railway tracks [m]	3 x 675 2 x 300	4 x 618
Number of container cranes	2	2
Length of tracks for standard-gauge railway in total [m]	2,752	2,500
Length of tracks for broad-gauge railway in total [m]	n/a	n/a
Sea infrastructure		
Quay length [m]	800	1,300
Quay depth [m]	13.5	17
Number of ships serviced	5	2

* STS – Ship to Shore crane; RMG – Rail Mounted Gantry crane; RTG – Rubber Tyred Gantry crane; RS – Reach-Stacker; EH – Empty Handler; TT – Terminal Tractor

Chapter 5
The main determinants of further development of the New Silk Road

Although the NSR has gained immense popularity in recent years, the initiative is more of a declarative nature as it lacks specificity and displays a tendency to include almost all foreign Chinese investments. Moreover, according to the authors of the report on the NSR perspectives (Iwanek and Pietrewicz, 2017), rhetoric wins over practice when it comes to the core of the BRI nature, while new infrastructure is being built on a scale comparable to the one promised only in Pakistan. It is also important to bear in mind that China is not co-financing infrastructure investments in various countries, but is giving billions of dollars in the form of different loans.

On the other hand, the paper by the WBG (2019) states that:

- the BRI increases trade flows among participating countries by up to 4.1 percent;
- these effects would be on average three times as large if trade reforms complemented the upgrading in transport infrastructure;
- larger trade gains refer to products that use time sensitive inputs and countries that are highly exposed to the new infrastructure and integrated in global value chains.

Thus, taking into account all the above, the main determinants of further development of the initiative will be discussed in the following paragraphs. They will be described in line with the PEST analysis assumptions, which will be presented later in the chapter.

5.1. The political factors

The NSR project should be understood, above all, as an attempt to build a new economic order based on a network of value chains that are created in line with the PRC's interests. Generally speaking, it seems that the most important among the

Chinese geopolitical aims of the BRI are (Lattemann *et al.*, 2018):

- the implementation of an alternative continental route for trade and energy imports;
- the reduction of the dependency on maritime routes crossing the Malacca Strait and the South China Sea;
- securing peace and enhancing the security buffer zone between Xinjiang western province and Central Asia;
- preventing the Chinese western provinces from threats of instability related to Islamist terrorism.

Moreover, western analyses of the NSR have tended to fall into two camps. One emphasises the economic and domestic political motives for it, while the other takes the initiative as further evidence of an assertive Chinese posture toward marginalising the US in Asia, consolidating China's regional hegemony and weakening America's global position. It should be remembered that the US disapproval of the initiative was demonstrated by, for instance, not joining the ABII, which was to constitute a kind of counterweight to the International Monetary Fund (IMF) and the WB, i.e. two institutions often focused on the realisation of the interests of the USA. At this point it should be also stressed that Europe is now becoming the object of rivalry between China and the US with the Transatlantic Trade and Investment Partnership (TTIP), disapproved of by President Donald Trump. The partnership was intended to create the world's largest free trade area, including the elimination of regulatory barriers and the common recognition of standards in order to reduce replacement costs (Pawłowska, 2017).

Beijing is also focused on using the project to further develop the partnership with Russia, especially as the Sino-Russian energy ties have blossomed and the two countries have entered a comprehensive strategic partnership. In May 2014, at the Shanghai summit, leaders of both countries declared their readiness to talk about synchronising two projects: the Russian Eurasian Economic Union (EEC) and the Chinese NSR. During the following summit in 2015, a declaration of cooperation was adopted regarding both initiatives, while on June 25, 2016, when in China, President Vladimir Putin proposed a new vision of economic cooperation to the President of the PRC, namely the so-called Great Eurasian Partnership also known as the Great Eurasia Project (Kaczmarski and Rodkiewicz, 2016). Thus, Russia's official reactions were largely mild as China offered Russia a substantial piece of its domestic energy market, although it was entering Russia's traditional sphere of geopolitical influence and deepening its economic presence in Central Asia. Another key reason for this is that Moscow is also currently too dependent on China in the context of the EU sanctions and Russia's declining access to international capital markets. Yet, recent voices of harsh criticism from Moscow show that the Beijing–Moscow relationship is beginning to crumble and the conflict of interests of these two countries is becoming increasingly apparent. The lack of specific goals or deadlines of the BRI is the main problem recently noticed by the Russian side (Witkowski and Kurzątek, 2018).

As regards the BRI, another important participant of the initiative is Turkey, which is considered the gateway to the Middle East, Central Asia and North Africa in terms of land, sea and air transportation. Up to now, several agreements have been signed by China and Turkey within the NSR, concerning the development of railway infrastructure, the use of ports and the creation of motorway connections. The Chinese project is of paramount importance for this country as it provides Turkey with a chance to strengthen its economic, social and political relations with the PRC and Middle Asian countries as well as to find alternative alliances to those with the EU and the US, especially after the July 15, 2016 military *coup d'état* attempt when the US supported the Kurdish forces (Akçay, 2017).

On the other hand, the Chinese project has some important risks in terms of applicability. For example India, the second largest shareholder in the AIIB and a partner with China in the BRICS NDB, has been quite wary of China's regional ambitions from the very beginning of the initiative. Many in Delhi fear that the development of the BRI, and especially the CPEC, will come at their expense. Thus India has already announced plans to establish its own fund with the view of developing infrastructure and increasing trade in South Asia. It also boycotted the Belt and Road Forum in Beijing on May 15, 2017, because of concerns about the Sino-Pakistan economic corridor and the Kashmir issue (Zimmerman, 2015). The initiative may also fail due to instability in countries like Pakistan and Afghanistan, hostility between Iran and Saudi Arabia and disagreements between Israel and the Arab states. Especially Iran has been a real regional power since 2010 and it would not like to reduce its influence in the Middle East to please China. Nevertheless, Iran's active engagement in the BRI can further enhance its regional role (Osiewicz, 2018). Still, as Chinese experts expect that in the years to come China's trade and investment in the Middle East will be bigger than US economic engagement, Beijing, with the BRI, can foster a more genuinely balanced distribution of geopolitical influence in the Persian Gulf (Leverett and Bingbing, 2017).

Finally, the EU and its Member States are not united in their attitudes toward the NSR, as it may potentially impact areas including the EU's eastern neighbourhood, the Mediterranean, the Horn of Africa, and the Middle East/the Gulf, which are essential to the EU. What is more, the growing dominance of Chinese investments in the Old Continent forces the EU to establish mechanisms to strengthen the security system and European regulations concerning Chinese projects. It is also evident that Beijing is trying to exert political pressure on the EU Member States and influence their decisions. Therefore, the EU members should conduct a common foreign policy towards the PRC in order to prevent China from dividing Europe (Ciesielska-Klikowska, 2018). Despite all this, though, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia were amongst the first EU countries to participate in the project. Moreover, after the acquisition of the Piraeus port by the COSCO company in August 2016, Greek and Chinese foreign ministers signed a memorandum of understanding (MoU) as late as August 27, 2018, regarding cooperation within

the BRI. Austria, Malta and Portugal joined the initiative in the same year, while Italy, Cyprus and Luxemburg did so in 2019 (Kohli *et al.*, 2019).

In Poland, the political discourse on the BRI can also be divided into two strands: enthusiasts who see the project as a great geopolitical and economic chance, and critics who argue that it threatens Polish security.

NSR enthusiasts believe that thanks to the concept China will shift the locus of geopolitical power away from the West and deep into Eurasia. As for consequences for Poland, the BRI should help to overcome structural obstacles that the CEE faces in the current EU-dependent development. Moreover, stronger ties with Western China will create an opportunity for increasing the volume of trade and the share of Polish export in it, including agriculture products (Lubina, 2017). The Sino-Polish cooperation under the BRI could also result in benefits in the sphere of energy, such as providing sources for nuclear power, building new blocks in the Ostrołęka Power Station and in the Północ Power Plant as well as cooperating in joint exploitation of shale gas. This is supplemented by a potential Chinese share in constructing the CCP between Warsaw and Łódź (Jakóbik, 2016).

For the NSR opponents, in turn, the BRI is mostly a geopolitical rather than economic initiative since a limited number of companies, such as electronic corporations, can benefit from the cooperation with China. The critics perceive the initiative as an attempt on the part of the PRC to resolve domestic problems via international means. They also argue that the NSR infrastructure contracts are needed for Beijing due to the slowdown of economy and thus will be of no benefit for Poland. It is proven, according to them, by the fact that despite increasing diplomatic activity, the Sino-Polish cooperation has not borne any fruit yet. Despite some local level investments in Stalowa Wola, Kraśnik, Kutno, Opole, Chełm or Mława, most plans for the Chinese to become the strategic investor in Polish projects (such as the CCP, Polish energy plants, coal industry, atom energy, railway infrastructure) have not materialised so far. Moreover, despite its declarations, the Law and Justice government has failed to develop significantly the economic relations with China (Lubina, 2017).

5.2. The economic and social factors

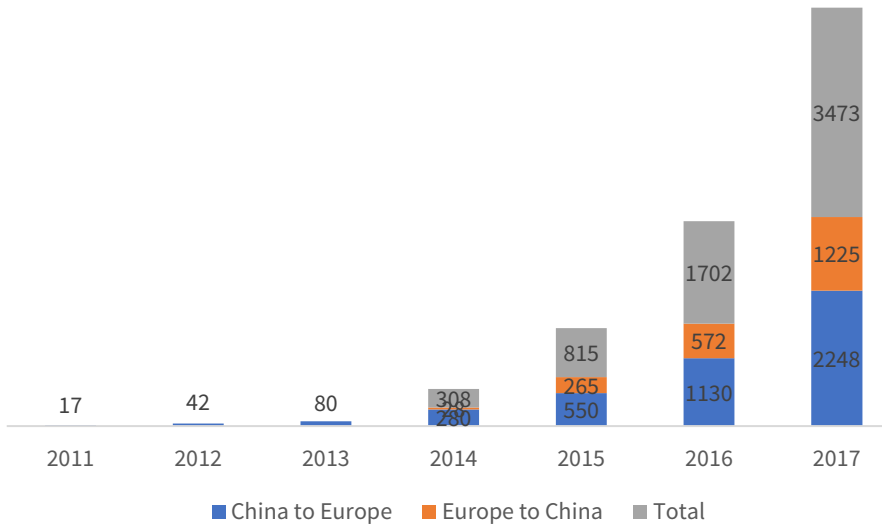
Advocates of the NSR see it as a way to cultivate new export sectors and markets for Chinese goods (China has fairly large market shares and capacity surpluses in such sectors as steel or cement) as well as new foreign venues for Chinese capital investments and FDI. The project is also aimed at diversifying energy purchases and keeping the Chinese economy on a healthier course. Mercantilist energy policies are even said to have been deployed to alleviate the risks from reliance on global supply chains and to control larger segments of them. The BRI also strives to eliminate China's dependence to maritime transportation and to increase

China's already significant presence in European markets thus supporting ongoing internationalisation of the renminbi (RMB) and dedollarisation of international commerce. At the same time, the NSR is said to be one of the answers to China's internal economic problems, such as social inequalities, the backwardness of the western provinces, insufficient internal demand and, its consequent excessive dependence on the world economy and the danger of the so-called middle income traps (Nazarko *et al.*, 2016).

Other economic goals of the BRI include (Silin *et al.*, 2017):

- diversifying China's land export routes and decreasing China's dependence on the USA as its most important trading partner;
- levelling the pace of economic development of the country's regions;
- reducing pressure on the Chinese labour market, which suffers from the slowdown of the national economy.

As mentioned earlier, according to the CRC, the number of freight trains from China to Europe increased by 73 percent in 2018 as compared to 2017. The volume of cargo flows on the China–Europe–China route amounted to 370,000 TEU during that period, of which 73 percent went to Russia, Kazakhstan and Belarus (CIS countries). If the same TEU to trains ratio was maintained in subsequent years, according to the Chinese forecasts, for approximately 10 years, trains would transport one million TEU along the NSR (*Grupa PKP Cargo…*, 2019). This is still a long way from the Asia–Europe total container trade throughput of 22 million TEU (15–17 million TEU between China and Europe), but the increase rate is rather impressive (figure 18).



* 2017 – estimates.

Figure 18. Number of containerised freight trains between Europe and China (2011–2017*) (Jakóbowski *et al.*, 2018).

Currently, the Russians are trying to increase the transit of Chinese goods to the EU through the main Trans-Siberian corridor which runs on the China–Moscow–Warsaw–Duisburg route. Yet, they perceive Poland as a 'bottleneck' that makes the corridor unprofitable. It seems that it is important to change procedures which slow down border crossing, such as border control, and create some facilities in the form of economic zones or tax incentives that would attract investors to invest capital along the logistics corridor. Another hurdle is the conflict in Ukraine, which makes some of the routes inaccessible (Pawłowska, 2017).

As for sea transport, according to the Baltic Transport Outlook 2030 (EC, 2011) maritime transport within the BSR is expected to surge by 30 percent between 2010 and 2030, mainly in relation to Polish ports. Maritime transportation will grow due to economic growth and globalisation, increased demand for this kind of transport, the growing emphasis on efficient and environmentally friendly transport and technological developments, which will allow to introduce new solutions in shipbuilding. The largest increase is expected, again, in the field of container transport (by 140%). These estimates are supported by statistical data from recent years. In the years 2000–2016, the volume of containers used in world trade almost tripled. Moreover, the level of approximately 180 million TEU in 2016 as compared to 2007 is almost 50 percent bigger. Since the beginning of the 21st century, the dynamics of this type of transport is positive, with the exception of 2009, and its value has been fluctuating around 5 percent year-to-year for the past several years. In 2015, the main sea routes (Trans-Pacific, Europe–Asia, Trans-Atlantic) were responsible for transporting approximately 52.5 million TEU, 21.7 million of which were Asia–Europe–Asia container transports. A year prior, all container ports in the world recorded container turnover at the level of 684.4 million TEU (an increase of 5.1% year-to-year) (MGMiŻŚ, 2017). Global container throughput is projected to reach approximately 863 million TEU by 2021, the majority of which will come from the Asia-Pacific region (figure 19) (Wagner, 2018).

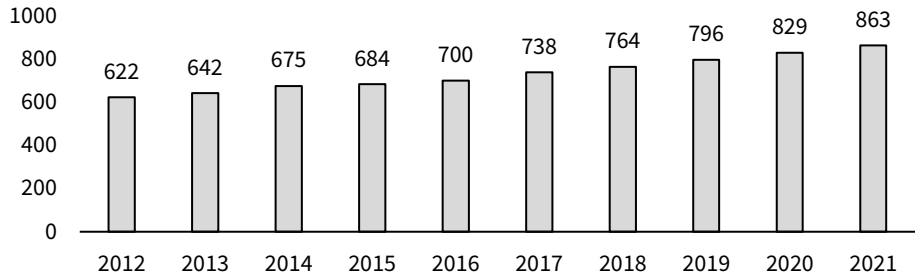


Figure 19. Container throughput worldwide from 2012 to 2021 (million TEU) (Wagner, 2018).

On the other hand, one should bear in mind that the potential of Chinese and European sea ports is more and more limited and growing sea transport results

in congestion and delays in sea ports. In 2017, congestion in container terminals along the whole Chinese coast resulted in delays in handling container ships of three days on average, and even up to ten days in the case of some terminals. This once again proves that there is a need for investments in alternative transport routes, mainly land ones (Wronka, 2017).

5.2.1. The forecasts for the development of rail terminals in Poland

As it was mentioned above, the year 2017 was very beneficial for the railways. All transport parameters sky-rocketed and railway carriers transported a record number of 1,677.3 thousand TEU. This represented an increase of 16.1 percent in comparison to 2016. According to the PKP Cargo, the Polish freight market is still growing. As the ORT claims, this growth is expected to accelerate in connection with further development of the NSR in the years to come. What is more, according to the NRP adopted on September 15, 2015, the role of rail transport in the integrated transport system of the country will be strengthened by creating a coherent and modern railway line network (Bartosiewicz and Szterlik, 2019a).

Almost 1,000 trains arrived in Łódź under the NSR from China in 2017. Thanks to the participation in the BRI, the Łódź region could benefit from its geographical position and seize the opportunity for its further development. The authorities of Łódź are hoping that cooperation with the PRC would transform the city into a large transhipment centre that will play a pivotal role on the economic map of both Europe and the world. It is all the more possible as one regards that Chinese entrepreneurs are willing to increase rail deliveries to Łódź by as much as 100 percent. They are also interested in the construction of both the so-called buffer warehouses, where large quantities of goods regularly delivered by trains would be stored, and halls, where equipment imported in parts from China could be assembled. If a European Logistics Centre worth more than a quarter-million USD was created in Olechów, it would ensure higher tax revenues for the city and approximately 2,000–3,000 new jobs (Darda, 2017). Consequently, the University of Łódź and the Łódź University of Technology would attract more students of logistics who would stay in the region offering them the opportunity to gain lucrative and prospective jobs. On the other hand, thanks to well-paid jobs and stable professional lives graduates would contribute to the development of the city where they would fuel the local trade and services market.

For railway transport from China through Poland, the terminal in Małaszewicze, located 5 km from the border with Belarus, is also of key importance as it served 2.2 thousand trains in 2018. Even though the flow of goods is not high, Małaszewicze is unable to meet the current needs of the transportation from the PRC. The estimates indicate that trains will transport one million TEU from China to Europe in 2030, which is five times more than in 2017. For this reason, the PKP Cargo, together

with the PKP PLK, have begun relevant infrastructure investments, announcing that the capacity of the largest dry port in Europe will increase four times by 2026 (to 40–50 pairs of trains per day) (Lysionok, 2019). At the same time, at the turn of October and November 2018 the PKP Cargo announced the acquisition of nearly USD 80 million of the EU funding for three large investments which are part of the NSR traffic increase project. The company intends to buy multi-system locomotives and wagons for intermodal transport, purchase appropriate intermodal platforms as well as to further develop the intermodal terminal in Małaszewicze. This investment is particularly important when one takes into account that only 20 percent of Chinese goods are transhipped in Małaszewicze, while the remaining 80 percent goes to Europe via other countries, e.g. Lithuania (Burda, 2018). The tender for the construction works as part of the terminal expansion was officially announced in April 2019. It includes reconstruction of the storage yard, reloading yard and tracks, construction of a parking lot for trucks, a power grid as well as a water supply and sanitary sewage system. The completion of works is scheduled for the end of November 2020 (*PKP Cargo inwestuje…*, 2019).

However, as it was mentioned earlier, the PRC wants to double the shipment of goods every two years. The Chinese government assumes that 5,000 trains will come to the EU in 2020. After the completion of the ongoing renovation works, i.e. by the end of 2020, the dry port in Małaszewicze will be able to handle 3,285 trains. This means that until then Małaszewicze will not be able to handle all of them. For this reason, the concept of incorporating the Biała Podlaska–Terespol line into the NSR has recently emerged, where the first modernisation works are to be completed by August 2020 (*Biała Podlaska…*, 2018).

5.2.2. The forecasts for the development of sea terminals in Poland

The low level of containerisation in Poland, together with the ongoing transformation of the Polish economy towards increasing the share of processed goods, and observed changes on the market of containerised sea transport, gives a chance for the further dynamic development of transhipment of semi-general cargo in the largest Polish ports. Forecasts predict that transhipments in seaports in Poland will be characterised by a gradual increase until 2030, with the highest dynamics being demonstrated in the field of reloading containerised goods. The share of trade will increase not only with regard to Asian countries but also African and South American states. The container reloading forecast for Polish seaports assumed that from 2.2 to 3.1 million TEU would be handled in 2020. Thanks to the possibility of using direct shipping services, Polish producers have a chance to export expansion on the Chinese market and other Southeast Asian markets. Strengthening economic relations between the RP and non-European countries will contribute to increased cargo turnover in Polish seaports, especially

due to the fact that one of the attributes of shipping is its ability to transport large loads over long distances, which should be treated as its predisposition to handle intercontinental trade (MGMiŻŚ, 2017).

The NSR can also be perceived as an alternative to the BSR transport. It seems, however, that although this corridor forced the reduction of sea transport to the BSR, especially in terms of the number of containers transported by feeder services, this has not affected the shrinkage of the entire market, mainly due to the annual increase in the volumes handled by the analysed region. This situation may change in about 10 years at the earliest if the Chinese government implements its assumptions and increases (i.e. to a million TEU) the number of containers transported by trains on the NSR route by 100 percent.

It is not without significance that the NSR has rather limited capacity. In 2017, the capacity of the TSR was estimated at about 1.5–1.8 million TEU, which in practice gives less than one million TEU, or one eighth of the annual growth in container transport worldwide (Czermański, 2017). A possible reduction in transport by one million TEU may be severe for the BSR ports, but taking into account the course of the NSR, it can be assumed that streams of cargo transported by Poland by rail will be directed mainly to Central and Western Europe, while Northern Europe and Scandinavia will still use sea transport.

As it turns out, freight rates are also very important in this case. For example, in May 2018, the price of transporting a 40'RH container (a high-cube refrigerated container with a length of 40-ft) from Łódź to Gdańsk was about USD 524 (taking an empty container from Gdańsk), and the transport from Łódź to Hamburg would cost approximately USD 1,490 (while taking an empty container in the port of Hamburg). Direct calls to Gdańsk and Gdynia also guarantee faster transit times and deliveries in oceanic transport, thanks to which exporters eliminate the risk of delays resulting from transhipments in ports of north-western Europe (Szyszka, 2018). It should be remembered, however, that container transport by sea lasts about five weeks, while railway transport on the Łódź–Chengdu route takes less than 14 days (Sárvári and Szeidovitz, 2016).

At the moment, competition from the NSR may also bring some tangible, positive effects in the form of increasing the quality of services offered by ship owners operating in the TSI region, improving the capacity of transport corridors existing in Poland, or eliminating bottlenecks in the BSR transport system. In turn, more modern rolling stock, infrastructure investments and improvement of capacity on rail routes may contribute to transferring part of car transport to rail, which may lead to the implementation of environmental guidelines of the White Paper and reduction of GHG emissions. In this context, the significance of the environmental impacts triggered by the BRI should not be underestimated[1].

1 It should be noticed that the BRI concentrates its efforts on two sectors which rank among those with the highest environmental impact: the transportation sector and the construction industry (e.g. the cement segment). Motorised transport is responsible for 23 percent of

5.2.3. The social factors and their place in the Belt and Road Initiative

China is proposing a holistic implementation of the BRI, covering a number of broad aspects that will be important for achieving the 2030 sustainable development goals. Aspects of this much broader approach include social factors related to such issues as (Xi, 2017):

- a multi-tiered mechanism for cultural and people-to-people exchanges;
- co-operation platforms and channels as well as think tank networks and partnerships in educational, cultural, sports and health sectors;
- strengthened exchanges between parliaments, political parties and non-governmental organisations;
- protection of the rights of women, youths and people with disabilities;
- strengthened international counter-corruption co-operation so that the Belt and Road will maintain high ethical standards.

One mutual benefit is the guarantee for successful implementation of the BRI strategy while people-to-people bonds represent the social foundation. Countries along the NSR have different national conditions, religious beliefs, geopolitics as well as public opinions. Cases of political turmoil and huge disparities among areas and classes should be given proper attention. Thus, the implementation of the concept could not be carried out without establishing in-depth people-to-people bonds. As disparity of social development among different countries and regions still exists and there is still the gap between the poor and the rich, governing the countries along the routes is difficult and challenging. Such problems need to be tackled by the common development system built up along with the BRI (Liu, 2018).

As for China itself, the western provinces of the PRC, including the Xinjiang Uygur autonomous region of Xinjiang, and Gansu, Tibet or Qinghai are very poor and represent a source of tensions with various ethnic groups. Thus one of the goals of the BRI is to promote growth in China's west and the north-eastern provinces in order to reduce economic and social inequality. Taking into account the social issues, the Chinese government, under the auspices of the BRI, also aims to implement a comprehensive strategy of building a moderately prosperous society in all respects, deepening reform, advancing the law-based governance of China, and strengthening Party self-conduct (OECD, 2018).

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global energy related CO_2 emissions, while the cement industry has a share of 6 percent in worldwide emissions. Both sectors also contribute substantially to the deterioration of a considerable number of environmental indicators (soil degradation, loss of biodiversity and of cultivable or natural areas, massive water and air pollution, overuse of natural resources, etc.) (Solmecke, 2016). This is part of the recently propagated concept of the so-called Green Silk Road (GSR).

5.3. The technological (infrastructural) factors

Although sea transport will probably remain the dominant form of freight transport in the foreseeable future, the concept of a land bridge connecting various markets by rail offers a wide range of new economic incentives and infrastructural investments. The NSR is usually depicted as a project for the construction of new logistics infrastructure, such as new rail connections, new logistics centres, new intermodal terminals in ports, etc. Indeed, the dynamic development of transport corridors forces investments in these infrastructure elements that support logistics processes. An analysis of the plans of the NSR expansion leads to the conclusion that the Chinese side sees infrastructure investment as one of the main tools to build its international position. Investments were the main topic of the speech of President Xi Jinping during the opening ceremony of the International Forum and the Belt Route held in Beijing on 14-15 May, 2017. It is estimated that, starting from 2017, the BRI investment projects will add over USD one trillion of outward funding for foreign infrastructure over the 10-year period (OECD, 2018).

Yet, as there is no official list of BRI projects, it is extremely difficult to identify which investments are part of the initiative. In a study of the six economic corridors, it is estimated that there were at least 173 major Chinese-funded and BRI-affiliated projects initiated in 2013–2017 in these corridors alone (the ambitious Gwadar Port project in Pakistan included). Moreover, the majority of the BRI-related infrastructure activity so far seems to have focused on the CPEC (CFR, 2019).

Nonetheless, Poland is in the group of countries that may be affected by potential economic projects implemented by China. Their implementation should lead to the modernisation of transport and transmission infrastructure, thus increasing Poland's importance both in Europe and in the world. It may be rather disappointing to see the investments made so far which seem rather modest as compared to the great expectations of the Polish side and the previous announcements of the Chinese partner. This can be accounted for by the fact that the implementation of the BRI, the concept which appeared only six years earlier, could not have been implemented to a greater extent yet.

As infrastructural factors play an important role in the process of building strong bilateral links between the RP and the PRC, Poland still needs to create a cohesive and efficiently functioning transport system integrated with the European and global systems. Transport accessibility remains poor for rail transport, especially for the eastern and partly also northern parts of the country. As metropolises are poorly connected with each other, numerous infrastructural and rolling stock deficiencies should be eliminated. It seem of uttermost importance to ensure modernisation and reconstruction of tracks laid on wooden sleepers, investments in rail crossings equipped with active security as well as in multi-level intersections with roads. It is equally important to increase the amount of specialised rolling stock as well as the number of new terminals and regional logistic centres. Moreover, the insufficient

development of landside infrastructure increases congestion in ports. Therefore, it is also of key importance to improve the state of infrastructure of national railway lines included in the international communication routes. In the near future, the transport of empty containers to China should be eliminated, especially as Chinese partners have to pay additional USD 2,000 for transporting every empty container (*Małaszewicze bramą…*, 2018).

Sea and land logistics networks are created by port and logistic operators investing in logistics centres, land handling terminals and intermodal connections as well as by ship owners developing linear connections between ports and regions best equipped with logistics infrastructure (Grzybowski, 2013b). As it turns out, infrastructure investments in Polish seaports which are of uttermost importance for the national economy attract the largest ship owners. For two alliances, Ocean Alliance and 2M Alliance, Gdańsk has become one of the key ports in Northern Europe, supporting two direct services on the Asia–Europe–Asia route. Since 2018, the Gdynia port also operates two oceanic connections. At the same time, it is expected that some of the containers currently transhipped in the ports of Western Europe and transported to Poland by feeders will go to Polish container terminals through large container vessels operating in regular oceanic transport. The consequence of this will be the growing importance of the so-called transhipments in Polish container terminals.

5.4. The future of the New Silk Road in Poland. Possible scenarios

In the final section of the book the Authors present the results of their own research on possible development paths of the Belt and Road Initiative. To this end, factors that determine the future of the BRI in Poland are described with the PEST method, having in mind the aforementioned deliberations. Subsequently, the SWOT analysis is used to determine groups of positive factors (strengths, opportunities) and groups of negative factors (weaknesses, threats) that influence the further development of the NSR. Finally, four scenarios are elaborated to describe the possible future of the studied problem on the basis of the key factors of the PEST method.

5.4.1. The PEST and SWOT analysis of factors influencing the development of the New Silk Road

A PEST analysis is a strategic business tool used to discover, evaluate, organise and track macro-economic factors which can impact on business now and in the future. The framework examines opportunities and threats due to Political,

Economic, Social as well as Technological forces. Political factors describe to what degree the government intervenes in the economy. They include areas such as tax policy, labour law, trade restrictions and political stability. Economic factors can relate to economic growth, interest rates or exchange rates. They have a major impact on how enterprises operate and make decisions. Social factors include culture, health consciousness, population rate, age distribution and importance of safety. Trends in social factors affect the demand for products and how enterprises operate. Technological factors cover technological aspects such as R&D activity, technology incentives and the rate of technological change. They can determine barriers to entry or minimum efficient production level and influence outsourcing decisions. Outputs from such an analysis inform strategic planning processes and contribute to market research (Nazarko and Kuźmicz, 2017).

In the method, ideas related to four PEST factors were first brainstormed and then grouped and rated depending on the level of impact which they have on the problem. To this end, the below template was used (table 12) and adapted to the issue in question (figure 20).

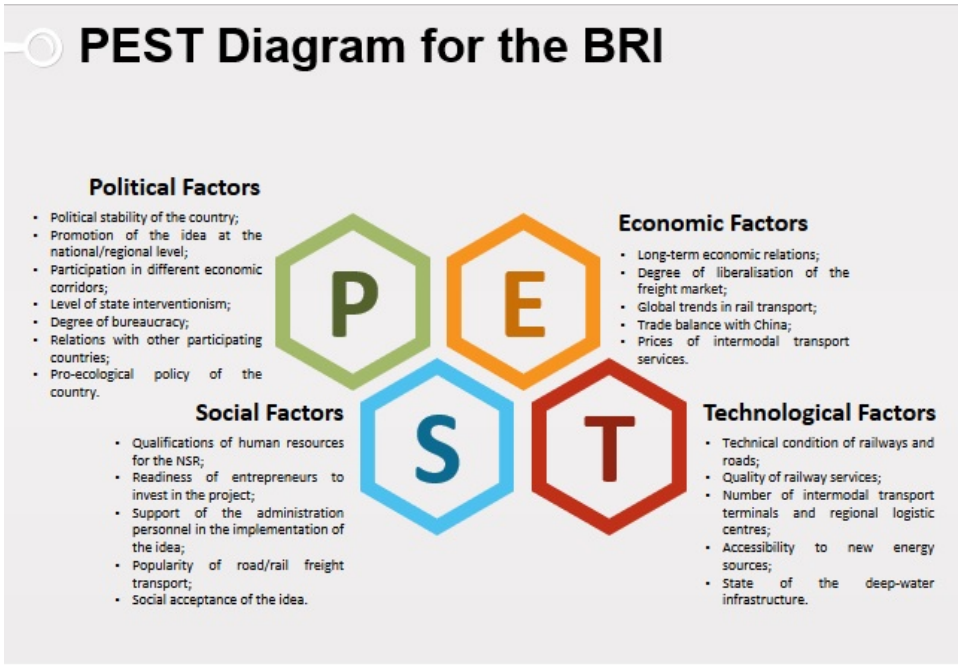

Figure 20. PEST Diagram for the BRI (Authors).

Table 12. Sample PEST analysis template (Authors).

Political **Political or politically motivated factors that could impact the problem:** Government policy, political stability or instability, bureaucracy, corruption, competition regulation, foreign trade policy, tax policy, trade restrictions, etc. **Possible questions to ask:** • What government policies or political groups could be beneficial or detrimental to final success?; • Is the political environment stable or likely to change?	Economic **Overall economic forces that could impact on the final success**: Economic trends, growth rates, seasonal factors, international trade, unemployment rates, taxation, inflation, interest rates, monetary policies, etc. **Possible questions to ask**: • What economic factors will affect the analysed problem?; • How does the performance of the economy affect the problem at the moment?
Social **Social attitudes, behaviours and trends that impact on the problem:** Attitudes and shared beliefs about money, customer service, imports, religion, cultural taboos, health, work, leisure, the environment, population growth and demographics, immigration/emigration, family size/structure, lifestyle trends, etc. **Possible questions to ask:** • How do customer's beliefs and values influence their habits?; • How do cultural trends and human behaviour play a role in the business?	Technological **Technology that can affect the way one makes, distributes and markets products and services:** Technology and communications infrastructure, competitor technology and development, emerging technologies, automation, research and innovation, technology incentives, etc. **Possible questions to ask:** • What technological advancements and innovations are available or on the horizon?; • How will technology impact on the problem?

In the context of the previous considerations and the presented PEST diagram, it is possible to outline favourable factors as well as possible barriers that may be encountered by the developing rail freight transport in Poland with reference to the BRI. The table below presents the results of the SWOT analysis carried out by the Authors regarding determinants and barriers of the NSR development in Poland (table 13).

Table 13. Railway freight transport within the NSR in Poland. The SWOT analysis (Authors).

Strengths	Weaknesses	Opportunities	Threats
Long-term economic Sino-Polish relations	Technical condition of Polish railways not relevant to the requirements of the AGTC	Upward trend in rail transport	The growing negative balance of foreign trade with China

Table 13 (cont.)

Strengths	Weaknesses	Opportunities	Threats
The inclusion of Poland in the NSR economic corridors	Differences in the rail gauge between Poland and Belarus	Forecasted increase in intermodal freight services	Lack of comprehensive legal regulations in the field of combined transport
Baltic Sea–Adriatic Sea Corridor	Lack of a uniform and comprehensive information system in land and sea–land intermodal transport chains	Environmental nature of intermodal freight services	The non-competitive price of intermodal transport in relation to road transport
North Sea–Baltic Sea Corridor	Bottlenecks in urban nodes, poor capacity of routes	Implementation of the environmental recommendations of the White Paper to national transport development strategies	Popularity of road freight transport
Rail/road terminals in Łódź, Poznań and Warsaw	Not enough intermodal transport terminals and regional logistic centres in large urban agglomerations	Infrastructure investments in Łódź, Poznań and Warsaw	Ineffective cooperation of railway carriers with combined transport operators, logistic centres, etc.
Highly liberalised freight market	Poor quality of railway services	Poor inland waterway network and low capacity of Polish roads	Expansion of deep-water infrastructure and the increase of seaport transhipment potential
Low level of state interventionism	Low accessibility to new energy sources	Promotion of the idea at the regional level	Political instability in Poland
Good relations with other participating countries	Excessive bureaucracy	Readiness of entrepreneurs to invest in the project	Lack of support of the administration personnel

5.4.2. The environmental scenario analysis and its implementation into the Belt and Road Initiative

Environmental scenario analysis was designed to examine the impacts of possible future events on the system performance by taking into account several alternative outcomes, i.e. scenarios, and to present different options for future development paths resulting in varying outcomes and corresponding implications. The probability of occurrence and possible impact of a scenario should be considered

in tandem to develop a strategic plan based on scenario analysis results. The major aim is to analyse the results of the more extreme outcomes (with high probability and/or more severe impacts) and to determine the investment strategy (Balaman, 2018).

The macro and micro environmental factors which have a significant impact on further development of the container transport under the NSR were identified in the environmental scenario analysis carried out in the study. Individual factors were assessed according to three possible situations (trend growth, stabilisation or recession). Each factor was defined by evaluating its validity in a 1–5 scale (5 – very strong impact, 4 – strong impact, 3 – medium impact, 2 – low impact, 1 – very low impact) which is the average rating of the opinions of experts together with indication of the negative (-) or positive (+) impact (with a given probability varying from 0 to 1) on the further development of the BRI. The sum of probabilities for all possibilities (growth, stagnation, decline) is 1. Then, the average influence and average probability were calculated for each trend (table 14). Taking into account these results, four scenarios were developed (tables 15–18) (Sładkowski, 2018):

- optimistic – based on the trends of the factors of the individual spheres which have the most positive influence on the project;
- pessimistic – based on the trends of the factors of the individual spheres which have the biggest negative impact on the project;
- most likely – consisting of trends that are most likely to occur, regardless of their potential positive or negative impact;
- surprising – based on the trends whose probability of occurrence is the smallest and independent of the potential positive or negative influence.

Table 14. Factors influencing further development of the container transport under the NSR (Authors).

Factor	Trend	Influence	Probability
Accessibility to new energy sources	↑ ↔ ↓	+3 +1 +0	0.57 0.10 0.33
Comprehensive legal regulations in the field of combined transport	↑ ↔ ↓	+3.5 +1.5 +0.5	0.17 0.50 0.33
Cooperation of railway carriers with combined transport operators, logistic centres, etc.	↑ ↔ ↓	+3.5 +1 +0.5	0.09 0.51 0.40
Degree of bureaucracy	↑ ↔ ↓	–2.5 +0.5 +1	0.20 0.67 0.13
Degree of liberalisation of the freight market	↑ ↔ ↓	+3 +1.5 0	0.15 0.70 0.15

Table 14 (cont.)

Factor	Trend	Influence	Probability
Implementation of the environmental recommendations of the White Paper to national transport development strategies	↑ ↔ ↓	+2.5 +0.5 −1	0.59 0.30 0.11
Level of state interventionism	↑ ↔ ↓	−2 −1 −1	0.13 0.77 0.10
Long-term economic Sino-Polish relations	↑ ↔ ↓	+3.5 +3 −1	0.56 0.33 0.11
Negative trade balance with China	↑ ↔ ↓	−3 −2.5 0	0.78 0.12 0.10
Number of intermodal transport terminals and regional logistic centres	↑ ↔ ↓	+4 +3.5 +0.5	0.35 0.44 0.21
Political stability in Poland	↑ ↔ ↓	+3 +2 +1.5	0.23 0.40 0.37
Popularity of road freight transport	↑ ↔ ↓	−4 −3 +0.5	0.67 0.27 0.06
Price of intermodal transport in relation to road transport	↑ ↔ ↓	+1.5 +2 +3.5	0.45 0.32 0.23
Promotion of the idea at the regional level	↑ ↔ ↓	+3.5 +2.5 +0.5	0.55 0.36 0.09
Quality of railway services	↑ ↔ ↓	0 −2.5 −3	0.33 0.20 0.47
Readiness of entrepreneurs to invest in the project	↑ ↔ ↓	+4 +2 +1	0.28 0.21 0.51
Relations with other participating countries	↑ ↔ ↓	+4 +1.5 −0.5	0.35 0.46 0.19
Seaport transhipment potential	↑ ↔ ↓	+1 +2 +2.5	0.77 0.10 0.13
Support of the administration personnel	↑ ↔ ↓	+4 +0.5 −1	0.17 0.43 0.40

Table 14 (cont.)

Factor	Trend	Influence	Probability
Technical condition of railways	↑	+4.5	0.22
	↔	+1	0.14
	↓	+0.5	0.64
Trends in intermodal freight services	↑	+3.5	0.41
	↔	+2	0.36
	↓	–3	0.23
Trends in rail transport	↑	+1.5	0.70
	↔	+3	0.15
	↓	–3	0.15

The optimistic scenario indicates which undertakings may have the greatest positive impact on the future development of the NSR in Poland (table 15) while the pessimistic scenario emphasises these factors that could have the greatest destructive impact on the problem in question (table 16).

Table 15. The optimistic environmental scenario for the further development of the BRI in Poland (Authors).

Factor	Influence
Political	
Comprehensive legal regulations in the field of combined transport	+3.5
Degree of bureaucracy	+1
Implementation of the environmental recommendations of the White Paper to national transport development strategies	+2.5
Level of state interventionism	-1
Political stability in Poland	+3
Promotion of the idea at the regional level	+3.5
Relations with other participating countries	+4
Economic	
Degree of liberalisation of the freight market	+3
Long-term economic Sino-Polish relations	+3.5
Negative trade balance with China	0
Price of intermodal transport in relation to road transport	+3.5
Trends in intermodal freight services	+3.5
Trends in rail transport	+3
Social	
Cooperation of railway carriers with combined transport operators, logistic centres, etc.	+3.5

Table 15 (cont.)

Factor	Influence
Popularity of road freight transport	+0.5
Readiness of entrepreneurs to invest in the project	+4
Support of the administration personnel	+4
Technological	
Accessibility to new energy sources	+3
Number of intermodal transport terminals and regional logistic centres	+4
Quality of railway services	0
Seaport transhipment potential	+2.5
Technical condition of railways	+4.5

Table 16. The pessimistic environmental scenario for the further development of the BRI in Poland (Authors).

Factor	Influence
Political	
Comprehensive legal regulations in the field of combined transport	+0.5
Degree of bureaucracy	-2.5
Implementation of the environmental recommendations of the White Paper to national transport development strategies	-1
Level of state interventionism	-2
Political stability in Poland	+1.5
Promotion of the idea at the regional level	+0.5
Relations with other participating countries	-0.5
Economic	
Degree of liberalisation of the freight market	0
Long-term economic Sino-Polish relations	-1
Negative trade balance with China	-3
Price of intermodal transport in relation to road transport	+1.5
Trends in intermodal freight services	-3
Trends in rail transport	-3
Social	
Cooperation of railway carriers with combined transport operators, logistic centres, etc.	+0.5
Popularity of road freight transport	-4
Readiness of entrepreneurs to invest in the project	+1
Support of the administration personnel	-1

Table 16 (cont.)

Factor	Influence
Technological	
Accessibility to new energy sources	0
Number of intermodal transport terminals and regional logistic centres	+0.5
Quality of railway services	-3
Seaport transhipment potential	+1
Technical condition of railways	+0.5

It may be concluded that the bigger the spread between positive and negative impact of the factor in the scenario, the stronger the dependence of the problem analysed on the environment in this area. The biggest gaps (from +3,5 to -3 and from +3 to -3) are observed in the economic sphere when trends in intermodal freight services and in rail transport are taken into account. Further development of the NSR in Poland may be also sensitive to such factors as: the price of intermodal transport in relation to road transport (economic), readiness of entrepreneurs to invest in the project (social), support of the administration personnel (social), popularity of road freight transport (social) and technical condition of railways (technological).

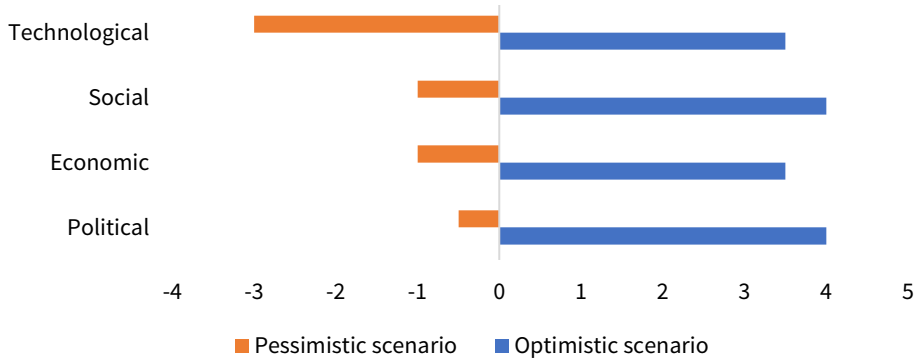

Figure 21. The average spread of the analysed environment spheres in the optimistic and pessimistic scenario (Authors).

Figure 21 presents the average spread between optimistic and pessimistic scenarios in political, economic, social and technological spheres. The greater the spread between the scenarios on an axis, the stronger the dependence of the analysed issue on the problem in these spheres. Results show that on average the further development of rail container transport under the BRI is most dependent on the environment in the technological sphere.

The third scenario is the most probable one, based on trends that are most likely to occur (table 17). According to the results of the study, in the case of the further

development of the BRI in Poland, the following trends for described factors should be classified as the most probable:

- political sphere: stabilisation of the level of state interventionism;
- economic sphere: growth in the negative trade balance with the PRC;
- social sphere: growth in the popularity of road freight transport;
- technological sphere: growth in the seaport transhipment potential.

Table 17. The most likely environmental scenario for the further development of the BRI in Poland (Authors).

Factor	Probability	Influence
Political		
Comprehensive legal regulations in the field of combined transport	0.50	+1.5
Degree of bureaucracy	0.67	+0.5
Implementation of the environmental recommendations of the White Paper to national transport development strategies	0.59	+2.5
Level of state interventionism	0.77	-1
Political stability in Poland	0.40	+2
Promotion of the idea at the regional level	0.55	+3.5
Relations with other participating countries	0.46	+1.5
Economic		
Degree of liberalisation of the freight market	0.70	+1.5
Long-term economic Sino-Polish relations	0.56	+3.5
Negative trade balance with China	0.78	-3
Price of intermodal transport in relation to road transport	0.45	+1.5
Trends in intermodal freight services	0.41	+3.5
Trends in rail transport	0.70	+1.5
Social		
Cooperation of railway carriers with combined transport operators, logistic centres, etc.	0.51	+1
Popularity of road freight transport	0.67	-4
Readiness of entrepreneurs to invest in the project	0.51	+1
Support of the administration personnel	0.43	+0.5
Technological		
Accessibility to new energy sources	0.57	+3
Number of intermodal transport terminals and regional logistic centres	0.44	+3.5
Quality of railway services	0.47	-3

Table 17 (cont.)

Factor	Probability	Influence
Seaport transhipment potential	0.77	+1
Technical condition of railways	0.64	+0.5

An analysis of the least likely scenario, also referred to as a surprise scenario, can be treated as the first warning signal for further examination of some issue. A surprise scenario includes those trends that, regardless of the potential force of positive or negative influence, are least likely to occur. The study shows that among the most surprising trends of the discussed factors are: the lesser extent to which the idea will be promoted at the regional level and greater state interventionism in Poland (political), lower negative trade balance with China as well as the deterioration of the long-term economic relations with the PRC (economic), the decline in the popularity of the road freight transport and better cooperation of railway carriers with combined transport operators, logistic centres, etc. (social), the unchanged access to new energy sources as well as unchanged seaport transhipment potential (technological) (table 18).

Table 18. The least likely environmental scenario for the further development of the BRI in Poland (Authors).

Factor	Probability	Influence
Political		
Comprehensive legal regulations in the field of combined transport	0.17	+3.5
Degree of bureaucracy	0.13	+1
Implementation of the environmental recommendations of the White Paper to national transport development strategies	0.11	-1
Level of state interventionism	0.10	-1
Political stability in Poland	0.23	+3
Promotion of the idea at the regional level	0.09	+0.5
Relations with other participating countries	0.19	-0.5
Economic		
Degree of liberalisation of the freight market	0.15	+1.5
Long-term economic Sino-Polish relations	0.11	-1
Negative trade balance with China	0.10	0
Price of intermodal transport in relation to road transport	0.23	+3.5
Trends in intermodal freight services	0.23	-3
Trends in rail transport	0.15	0

Table 18 (cont.)

Factor	Probability	Influence
Social		
Cooperation of railway carriers with combined transport operators, logistic centres, etc.	0.09	+3.5
Popularity of road freight transport	0.06	+0.5
Readiness of entrepreneurs to invest in the project	0.21	+2
Support of the administration personnel	0.17	+4
Technological		
Accessibility to new energy sources	0.10	+1
Number of intermodal transport terminals and regional logistic centres	0.21	+0.5
Quality of railway services	0.20	-2.5
Seaport transhipment potential	0.10	+2
Technical condition of railways	0.14	+1

Figure 22 presents the average spread between the most and the least likely scenarios in the political, economic, social and technological spheres. Once again, the greater the spread between the scenarios on the axis, the stronger the dependence of the analysed problem in these spheres. The biggest gap may be observed in the social sphere, which indicates that on average further development of rail container transport under the BRI is most vulnerable to the factors belonging to this group. At the same time, generally speaking, both scenarios envisage no negative effects in as many as three spheres, namely political, economic and technological, while it is most probable that negative influence will be triggered by factors from the social sphere only.

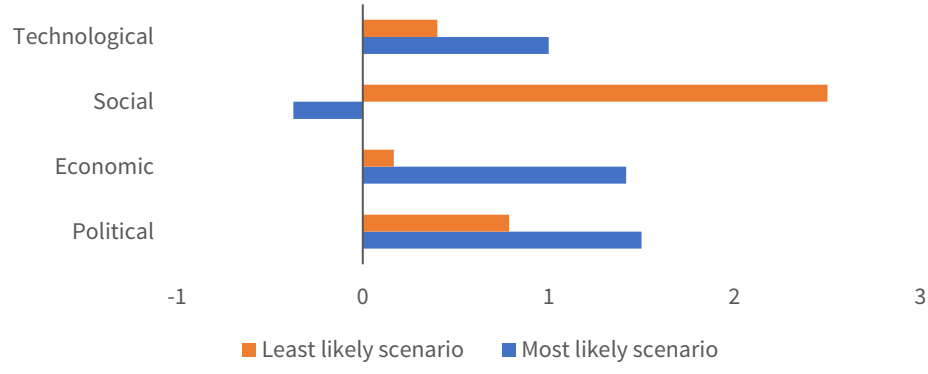

Figure 22. The average spread of the analysed environment spheres in the most and the least probable scenarios (Authors).

5.4.3. Final remarks

The revitalisation plan of the SR is an opportunity to establish a long-term economic cooperation between the RP and the PRC. The favourable geopolitical position of Poland and the presence of four major European transport corridors on its territory may be the key arguments for locating its main European logistics centre in its area.

The NSR is also an opportunity for the dynamic development of the Polish rail and maritime supply chains. However, it is necessary to ensure further investment in intermodal transhipment centres (e.g. in Łódź and Małaszewicze) and railway infrastructure along the main transport corridors running through the country (Baltic–Adriatic corridor, North Sea–Baltic Sea corridor and Amber Corridor). In the context of the latter, the Polish government should participate actively in the design of the final course of the TEN-T North Sea–Baltic Sea corridor network, as Gdańsk was omitted from the work plans for this corridor updated in 2016 (EC, 2018b).

In addition, it seems essential that the Polish government be more active in maintaining good strategic relations with the Chinese partner. Presently, the Polish government has developed no political strategy towards the PRC even though in 2016 the level of mutual relations between Poland and China was raised to a comprehensive strategic partnership and in March 2019 the 6th Round of Dialogue on Bilateral Relations and Cooperation Mechanisms between the two countries took place[2] (Lasoń, 2018). It remains unclear whether the Polish administration has already relinquished the idea of actively supporting SREB-related projects. The main problem seems to be the lack of unified strategy towards the Sino-Polish relations. While in 2015 President Andrzej Duda enthusiastically discussed the prospects for the development of the SREB's hub in Poland, the former Minister of National Defence, Antoni Macierewicz, seemed to have been prejudiced against the Chinese project from the very beginning. A good example of his attitude concerning the BRI is the unexpected and badly adopted decision of the state authorities from 2016 to suspend the tender for the sale of a plot

2 To be more precise, on April 27, 2016, the former Ministry of Foreign Affairs provided preliminary information on the Sino-Polish relations regarding Witold Waszczykowski's visit to Chengdu, where he met, among others, China's Vice President Li Yuanchao. Interest was expressed in building roads, airports, high-speed railways and modernising sea ports in Poland. The leaders discussed possible cooperation on the construction of a nuclear power plant as well as the creation of technology parks, industrial and investment zones for the Chinese. The need to create infrastructure projects along the so-called Międzymorze route was also indicated, i.e. the Via Carpatia – a project of a motorway and high-speed rail lines connecting the south of Europe with the Baltic Sea. In June 2016, in turn, during Xi Jinping's visit to Poland, many intergovernmental agreements were signed regarding infrastructure investments, the NSR included. In addition, the agreements concerned trade exchange as well as scientific and cultural cooperation (Pawłowska, 2017).

for the construction of a transhipment terminal in Łódź, as a result of which the dynamics of contacts of the entire Łódź province with partners from China suffered greatly[3]. Thus the further development of the BRI may be negatively affected by the deterioration of the Sino-Polish relations, especially as there are no up-to-date solutions reinforcing the implementation of the Chinese concept in the so-called Morawiecki plan of 2016, also known as the Action plan for responsible development of Poland. In fact, the plan only perfunctorily mentions the AIIB and the endeavours of Polish companies to invest in the Chinese market, while it remains silent with regard to the BRI and the SREB.

In the worst case scenario, the transport of Chinese containers to Western Europe may even bypass Poland without further investments in Polish terminals and the limited capacity of the TSR. As it turns out, already 34 European cities from 12 countries had rail connections with China in 2017. Despite the convenient location of Małaszewicze, there are still alternative routes. Goods from China are also reloaded in Košice (Slovakia), while recently there have been frequent mentions of the southern route, running through Kazakhstan, the Caspian Sea, Azerbaijan and Georgia further to the West, via the Balkans or Ukraine. The Greek port in Piraeus may also be taken into consideration. Moreover, already in the second half of 2017, the Russians launched the Łódź–Chernyakhovsk connection (the Kaliningrad Oblast) from where containers are reloaded into wagons with broad-gauge tracks and sent back through Lithuania, Belarus, Russia and Kazakhstan to China (Kublik, 2017).

The Russians also direct a significant part of railway cargo from China to the West through the ports in Ust-Luga and Kaliningrad, from where they continue their journey to Germany, bypassing Poland. The project of Russian Railways concerning the construction of a broad-gauge railway line to Vienna that will bypass Poland from the south is also gaining in popularity. In addition, one cannot exclude a greater involvement of such Baltic ports as Riga (Latvia) or Klaipeda (Lithuania) in the NSR concept in the years to come (Kaczmarczyk, 2019). Hungary also wants to take part in the initiative, planning over USD 10 billion infrastructure investments in the next five years. The Hungarian Minister of Foreign Affairs and Trade, Péter Szijjártó, has recently announced construction and modernisation of approximately 900 km of expressways, construction of a new bridge over the Danube in Komárom on the Hungarian–Slovak border and electrification of a railway line leading from Hungary to Slovenia (Koper) as well as modernisation of the Budapest–Belgrade railway line. The Hungarians hope that these investments would make it possible for goods transported by sea to Greece and Slovenia to reach Hungary and later on – Western Europe (Jurczak, 2018).

3 Unofficially it is said that Antoni Macierewicz considered the NSR as a threat and that is probably why he contributed to the annulment of the tender in question. According to Hatrans, such unjustified fears may squander the company's four-year efforts to contribute to the economic development of Łódź and its region (Bartosiewicz and Szterlik, 2019a).

Moreover, if freight trains from China cover 7,000 km to Poland in eight days, but they travel through Poland for another four days, the RP will not be a convenient partner for the PRC any more (Bujak, 2018). This means that it is necessary for the PKP PLK to develop and implement another programme aimed at repairing and modernising those railway lines that are in poor technical condition and, at the same time, to take efforts to provide financial resources for the modernisation of the Polish rolling stock in the EU perspective for 2021–2027. Unfortunately, despite the fact that almost 60 percent of Polish rail networks are electrified[4] and that numerous modernisation and infrastructure investments have been made by the company in recent years, the report of the SCC on the security of Polish railways in 2017 shows that almost half (about 9,000 km) railway lines still require repair or comprehensive modernisation, and the technical condition of almost 83 percent of railway bridges or viaducts is rather alarming.

On the other hand, the Polish Council of Ministers adopted the NRP, which defines investment tasks, including railway infrastructure managed by the PKP PLK. Its main objective is to strengthen the role of railway transport in the integrated transport system of the country by creating a coherent and modern railway line network. What is more, the PKP Cargo intends to become the leader of rail freight transport on the EU section of the NSR by 2023. There are plans to continue investments in intermodal transport and extension of the existing infrastructure in Poland. Further investments are to provide the PKP Cargo with access to other markets. A good example of this may be the acquisition of 80 percent of shares in the Slovenian company Primol-Rail (*Grupa PKP Cargo…*, 2019).

Thus, at the moment, China is still interested in increasing the transport of goods to the EU by the optimal route from China to Europe, i.e. through the Małaszewicze station. It is also counting on broader cooperation with the PKP Cargo. This is confirmed by the memorandum that the authorities of the Chinese city of Zhengzhou in the Henan province signed with the representatives of the Polish Railways PKP Cargo. The signatories of the document undertook to promote cooperation in the field of international logistics and supply chains as part of the China–EU regional policy. Further agreements on specific areas of cooperation between Zhengzhou and the PKP Cargo are also to be signed in the near future (*Z Chin, przez Małaszewicze…*, 2018).

At this point it should be also noted, though, that there are voices of harsh criticism as regards the BRI concept. For instance, the authors of the already mentioned report by the Asia Research Centre (Iwanek and Pietrewicz, 2017) argue that:

- Poland will not benefit from being a transit country between China and Europe, although it should seek Chinese support for infrastructure projects, such as new transhipment centres, etc., that would promote Polish exports;

4 The length of electrified railway networks is an important indicator which enables the assessment of the state of the railway infrastructure in the country. Poland has the fourth longest electrified traction in Europe (Motowidlak and Kujawa, 2018).

- dumping of Chinese goods is unfavourable to Poland while EU mechanisms provide a useful protection against this type of unfair competition;
- Poland should try to secure its companies which offer innovative solutions against being taken over by Chinese capital;
- Warsaw should prepare appropriate legal, marketing and infrastructure solutions (e.g. special economic zones or industrial parks) to attract Chinese greenfield investments.

Conclusion

There is almost no doubt that the BRI is, in fact, an essential element of China's grand strategy that will shape not only its foreign policy for many years to come but it will also seriously affect the global system. Successful cooperation implemented under the initiative requires good coordination and cooperation on the part of all its participants, though. And here lies one of the greatest challenges of the implementation of the project, namely cultural differences between business partners from various parts of the world. Such differences tend to be accompanied by social reluctance further fuelled by the use of dumping by the Chinese, which weakens the position of local companies trying to compete with the PRC's entrepreneurs. An additional factor that may distort competition in the future stems from the presence of Chinese state conglomerates in other countries, the fact that may lead to the oligopolisation of the global market. This arouses fears which have been ungrounded so far[1] that Chinese investors will liquidate acquired companies and transfer assets of strategic importance from other countries to China.

In addition, through expansion and implementation of such an ambitious project as the BRI, the PRC will probably face a particularly high risk associated with the involvement in cost-intensive investments with a low return rate as well as a risk of diplomatic repercussions as a result of investing in uncertain areas. The implementation of the concept may also lead to long-term negative effects related, in particular, to excessive use of natural resources or an increase in infrastructure and technological inequalities between individual countries. Moreover, the small number of delegates from Western countries during the Belt and Road Forum that took place in 2017 in Beijing reflects the deepening distrust as regards the Chinese concept.

For opponents of the NSR, the BRI is mostly a geopolitical rather than economic initiative that should be perceived as the PRC's attempt to resolve domestic problems (e.g. social inequalities, the backwardness of the western provinces, insufficient internal demand, etc.) via international means. Some sceptics even

1 The analysis of the cooperation of Chinese companies with foreign entities to date suggests that Chinese investors are more inclined to increase the volume of production and employment in the acquired companies, thus striving to use their experience, technology and prestige, rather than focus on the liquidation of acquired businesses (Łopacińska, 2017).

take the initiative as further evidence of an assertive Chinese posture aimed at marginalising the US in Asia, consolidating China's regional hegemony and weakening America's global position. Such distrust, in turn, causes problems with the implementation of individual projects under the NSR. Some investments are delayed or suspended, sometimes due to security problems (e.g. terrorism in Pakistan and the Middle East countries).

On the other hand, advocates of the NSR see it as a way to cultivate new export sectors and markets for Chinese goods as well as new foreign venues for Chinese FDI. Thus, according to the BRI enthusiasts, the implementation of the Chinese initiative may lead to significant economic growth of its participants. The Chinese market is extremely absorbent for products which are recognised as luxury goods[2]. An important feature of this market is also its size. China is currently the most populated country in the world, with population exceeding 1.5 billion people. At the same time, another economic benefit of implementing the initiative consists in strengthening trade contacts with Chinese entities to a significant extent.

As for consequences for Poland, according to Polish researchers of the topic, the BRI should help to overcome structural obstacles that the CEE faces in the current EU-dependent development. Furthermore, stronger ties with Western China will create an opportunity to increase the volume of trade and the share of Polish export in it, including agriculture products. The Sino-Polish cooperation under the BRI could also result in benefits in the sphere of energy as well as collaboration in joint exploitation of shale gas. This is supplemented by a potential Chinese share in building the CCP between Warsaw and Łódź.

In the opinion of the Authors of the proposed study, the NSR represents an opportunity for a more dynamic development of rail and maritime supply chains in Poland. However, it is still necessary to invest in intermodal transhipment centres (e.g. in Łódź and Małaszewicze) and railway infrastructure along the main transport corridors running through the country (the Baltic–Adriatic corridor, the North Sea–Baltic Sea corridor and the Amber Corridor). As for the corridors, the Polish government should participate actively in the design of the final course of the TEN-T North Sea–Baltic Sea corridor network, as Gdańsk was omitted from the work plans for this corridor following the 2016 update.

The transit of containers from Asia may bypass Poland if there is no further investments in Polish terminals. Despite the convenient location of Małaszewicze, there are still alternative routes. Goods from China are also reloaded in Košice (Slovakia), while more and more attention has been paid recently to the southern route running through Kazakhstan, the Caspian Sea, Azerbaijan and Georgia further to the West, via the Balkans or Ukraine. The Greek port in Piraeus should be taken into consideration as well. Moreover, already in the second half of 2017,

2 Here another problem occurs. Most CEE countries, including Poland, do not have globally known brands that could successfully compete on the Chinese market and thus would probably vanish in a vast number of more recognisable brands (Pyffel, 2016).

the Russians launched the Łódź–Chernyakhovsk connection (the Kaliningrad Oblast) from where containers are reloaded into wagons with broad-gauge tracks and sent back through Lithuania, Belarus, Russia and Kazakhstan to China.

Further development of the BRI may also be negatively affected by the deterioration of the Sino-Polish relations. This may be exemplified by the unexpected and badly adopted decision of the state authorities from 2016 to suspend the tender for the sale of a plot for the construction of a transhipment terminal in Łódź, as a result of which the dynamics of contacts of the entire Łódź province with partners from China suffered greatly.

Moreover, the results of the environmental scenario analysis carried out by the Authors indicate that further development of the NSR in Poland may be sensitive to such factors as: trends in intermodal freight services and rail transport, the price of intermodal transport in relation to road transport (economic sphere), readiness of entrepreneurs to invest in the project, support of the administration personnel, popularity of road freight transport (social sphere) and technical condition of railways (technological sphere). At the same time, the most probable trends in the analysed problem include stabilisation of the level of state interventionism (political sphere), growth in the negative trade balance with the PRC (economic sphere), increase in the popularity of road freight transport (social sphere) and growth in the seaport transhipment potential (technological sphere). The least probable trends, in turn, are: the lesser extent to which the idea will be promoted at the regional level and greater state interventionism in Poland (political), lower negative trade balance with China as well as deterioration of the long-term economic relations with the PRC (economic), the decline in the popularity of road freight transport and better cooperation of railway carriers with combined transport operators, logistic centres, etc. (social), the unchanged access to new energy sources as well as unchanged seaport transhipment potential (technological).

All in all, it may be disappointing to see the investments made so far which seem rather modest as compared to the great expectations of the Polish side and the previous announcements of the Chinese partner. When it comes to the core of the BRI nature, rhetoric wins over practice while new infrastructure is being built on a scale comparable to the one promised only in Pakistan. Hence experts from the Asia Research Centre argue that Poland will fail to benefit from being a transit country between China and Europe, adding that dumping of Chinese goods is unfavourable to Poland and Warsaw should secure its companies which offer innovative solutions against being taken over by Chinese capital. Thus, for the time being, almost seven years after the implementation of the BRI concept, it is still difficult to evaluate its impact both on China and other participating countries, including Poland.

List of acronyms

ADB	Asian Development Bank
ADBOC	Agricultural Development Bank of China
AGC	Agreement on Main International Railway Lines
AGTC	Agreement on Important International Combined Transport Lines
AIIB	Asian Infrastructure Investment Bank
ARFC	Amber Rail Freight Corridor
ASEAN	Association of Southeast Asian Nations
ASF	African Swine Fever
AQSIQ	General Inspectorate of Quality Supervision, Inspection and Quarantine
BABS	Baltic, Adriatic, Black Sea
BARI	Belt and Road Index
BCIM	Bangladesh–China–India–Myanmar
BCT	Baltic Container Terminal Gdynia
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BOC	Bank of China
BRI	Belt and Road Initiative
CAREC	Central Asia Regional Economic Cooperation Programme
CASC	Central Asia and the South Caucasus
CCB	China Construction Bank
CCP	Central Communication Port
CCWAEC	China–Central and West Asia Economic Corridor
CDB	China Development Bank
CE	Central Europe
CEB	China EXIM Bank
CEE	Central and Eastern Europe
CEF	Connecting Europe Facility
CEO	Chief Executive Officer
CESC	Exchanges Services Company Ltd
CICPEC	China–Indochina Peninsula Economic Corridor
CIS	Commonwealth of Independent States
CMEC	China–Myanmar Economic Corridor
CMJECC	China–Myanmar Joint Economic Corridor Committee
CMREC	China–Mongolia–Russia Economic Corridor
CPEC	China–Pakistan Economic Corridor
CRC	Chinese State Railways
DCT	Deepwater Container Terminal Gdańsk
DSR	Digital Silk Road
EADB	Eurasian Development Bank
EBRD	European Bank for Reconstruction and Development

EC	European Commission
ECMT	European Conference of Ministers of Transport
EEC	Eurasian Economic Union
EH	Empty Handler
EIB	European Investment Bank
ERMTS	European Rail Traffic Management System
EU	European Union
FDI	Foreign Direct Investments
FELB	Fast East Land Bridge
FOCAC	Forum on China Africa Cooperation
G16+1	Group of 16 plus 1
G7	Group of 7
GDP	Gross Domestic Product
GDNRM	General Directorate for National Roads and Motorways
GEP	Greater Eurasian Partnership
GHG	Greenhouse Gas
GICA	Global Infrastructure Connectivity Alliance
GSR	Green Silk Road
ICBC	Commercial Bank of China
IEC	International Electro-technical Commission
ISO	International Organisation for Standardisation
ITU	International Telecommunication Union
LLC	Limited Liability Company
MEE	Middle East and Europe
MoU	Memorandum of Understanding
MSG	Mekong Sub-region Group
MSR	21st Century Maritime Silk Road
NDB	New Development Bank
NELB	New Eurasian Land Bridge
NRP	National Railway Programme
NSR	New Silk Road
OBOR	One Belt, One Road
OCR	Optical Character Reader
OCCP	Office of Competition and Consumer Protection
OECD	Organisation for Economic Cooperation and Development
ORT	Office of Rail Transport
PAI	Polish Investment Agency
PITA	Polish Investment and Trade Agency
PKP	Polskie Koleje Państwowe
PLK	Polskie Linie Kolejowe
PPA	Polish Press Agency
PRC	People's Republic of China
PSE	Polskie Sieci Energetyczne
PSR	Polar Silk Road
RES	Renewable Energy Sources
RFC	Rail Freight Corridor
RMB	PRC renminbi
RMG	Rail Mounted Gantry crane
RP	Republic of Poland
RS	Reach-Stacker

RTG	Rubber Tyred Gantry crane
SAC	Standardisation Administration of China
SCC	Supreme Chamber of Control
SCO	Shanghai Cooperation Organisation
SGO	Silk Global Order
SINOSURE	China Export and Credit Insurance Corporation
SME	Small and Medium-sized Enterprises
SR	Silk Road
SREB	Silk Road Economic Corridor
SRF	Silk Road Fund
SRGF	Silk Road Gold Fund
STS	Ship to Shore gantry crane
TEN-T	Trans-European Transport Network
TEU	Twenty-foot Equivalent Unit
TFL	Transport Forwarding Logistics
TIR	Transport International Routier
TITR	Trans-Caspian International Transport Route
TSI	Three Seas Initiative
TSR	Trans-Siberian Railway
TT	Terminal Tractor
UN	United Nations
UNECE	United Nations Economic Commission for Europe
US	United States
USA	United States of America
USD	United States Dollar
WBG	World Bank Group
WTO	World Trade Organisation
ZIH	Zhengzhou International Hub

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References

Akçay N. (2017), *Turkey-China Relatıons Within the Concept of the New Silk Road Project*, "Aralik", vol. 1, issue 3, p. 73–96.

Balaman S.Y. (2018), *Decision-Making for Biomass-Based Production Chains. The Basic Concepts and Methodologies,* Academic Press, Cambridge.

Baltic Container Yearbook 2017/2018 (2018), "Baltic Transport Journal", No. 4, p. 1–184.

Baltic port market in 2017 (2018), "Baltic Transport Journal", No. 2, p. 25–35.

Baltic Sea Region – Investor's Guide (2011), BaltMet Promo, Helsinki.

Baniya S., Rocha N., Ruta M. (2019), *Trade Effects of the New Silk Road: A Gravity Analysis*, World Bank Group, Washington.

Bartosiak J. (2016), *Polska na Jedwabnym Szlaku*, "Internetowy Miesięcznik Idei", No. 6(72), p. 1–9.

Bartosiewicz A. (2019), *DCT Gdańsk – history, development and operation of the largest and most modern maritime container terminal in Poland*, "Studia Maritima", vol. 32, p. 259–274.

Bartosiewicz A., Szterlik P. (2019a), *Łódź's benefits from the One Belt One Road initiative*, "International Journal of Logistics Research and Applications", vol. 22, issue 1, p. 47–63.

Bartosiewicz A., Szterlik P. (2019b), *Łódź na Nowym Jedwabnym Szlaku. Analiza przypadku*, "Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach", No. 385, p. 94–109.

Bartosiewicz A., Szterlik P. (2018), *Nowy Jedwabny Szlak a relacje polsko-chińskie*, "Ekonomia XXI wieku", No. 4(20), p. 7–21.

Bentyn Z. (2016), *Poland as a Regional Logistic Hub Serving the Development of Northern Corridor of the New Silk Route*, "Journal of Management, Marketing and Logistics", vol. 3, p. 135–144.

Bhadrakumar M.K. (2019), *China's Belt And Road Is Increasingly Popular*, https://orientalreview.org/2019/05/21/chinas-belt-and-road-is-increasingly-popular/ (accessed: 10.12.2019).

Biała Podlaska: Nowy Jedwabny Szlak rośnie jak na drożdżach (2018), https://www.radio.lublin.pl/news/biala-podlaska-nowy-jedwabny-szlak-rosnie-jak-na-drozdzach (accessed: 10.05.2019).

Blanchard J-M.F., Flint C. (2017), *The Geopolitics of China's Maritime Silk Road Initiative*, "Geopolitics", vol. 22, issue 2, p. 223–245.

Bo X. (2018), *Xinjiang to Invest 70 billion USD in Infrastructure in 2018*, http://www.xinhuanet.com/english/2018-01/05/c_136874801.htm (accessed: 31.04.2018).

Bocheński T. (2018), *Rozmieszczenie i charakterystyka terminali kontenerowych w Polsce oraz propozycje lokalizacji nowych obiektów*, "Problemy Transportu i Logistyki", No. 41, p. 17–27.

Bochra M. (2015), *One Belt, One Road*, "Baltic Transport Journal", vol. 4, p. 60–62.

Bozarth C.B., Handfield R.H. (2007), *Kompletny podręcznik logistyki i zarządzania dostawami,* Wydawnictwo Helion, Gliwice.

Bronstone A. (1999), *The European Bank for Reconstruction and Development – The building of a bank for East Central Europe*, Manchester University Press, Manchester.

Bruce-Lockhart A. (2017), *China's $900 Billion New Silk Road. What You Need to Know*, https://www.weforum.org/agenda/2017/06/china-new-silk-road-explainer/ (accessed: 2.05.2018).

Bujak S. (2018), *Polska nie wykorzystuje szansy, jaką daje Nowy Jedwabny Szlak*, "Podlasiak", No. 11, p. 12–13.

Bulis A., Skapars R. (2014), *Development of "New Silk Road" Northern Branch through Seaport of Riga in Latvia*, "Procedia – Social and Behavioral Sciences", vol. 150, p. 1222–1229.

Burda E. (2018), *Tylko 20 proc. towarów z Chin przechodzi przez Małaszewicze. Omijają nasz kraj*, https://www.dziennikwschodni.pl/biala-podlaska/tylko-20-proc-towarow-z-chin-przechodzi-przez-malaszewicze,n,1000219209.html (accessed: 15.05.2019).

Burke M. (2017), *One Belt, One Road: China's Push Toward Global Infrastructure Connectivity*, https://www.linkedin.com/pulse/one-belt-road-chinas-push-toward-global-connectivity-michael-s-burke (accessed: 22.05.2019).

Bursztyński A. (2011), *Dostępność komunikacyjna portów Gdańska i Gdyni w aspekcie rozbudowy sieci drogowej zaplecza portowego*, "Logistyka", No. 5, p. 1009–1018.

Centralny Port Komunikacyjny. Budowa lotniska ma ruszyć w 2023 roku. Kiedy pierwsze loty z CPK? (2020), https://www.muratorplus.pl/inwestycje/inwestycje-publiczne/centralny-port-komunikacyjny-w-baranowie-aa-3CSs-FUEU-iZqN.html (accessed: 20.06.2020).

CFR (Council on Foreign Relations) (2019), *Annual Report*, CFR, New York.

Chan M.H.T. (2019), *The Belt and Road Initiative – the New Silk Road: a research agenda*, "Journal of Contemporary East Asia Studies", vol. 7, issue 2, p. 104–123.

Cheng Y., Song L., Huang L. (Eds) (2018), *The Belt & Road Initiative in the Global Arena. Chinese and European Perspectives*, Palgrave, Singapore.

Chengdu Hatrans YHF (2013), *"New Vision of Silk Road" China-Europe International AIR-TRAIN from Chengdu/China to Poland/Europe*, Chengdu Hatrans YHV, Łódź.

Chengdu Western China's railway hub (2018), http://www.investinchengdu.com/chengdu-western-chinas-railway-hub.html (accessed: 9.08.2018).

China, CEEC pledge to deepen cooperation in agricultural technologies (2019), http://www.ehangzhou.gov.cn/2019-05/21/c_268789.htm (accessed: 19.06.2020).

China-Africa Forum (2018), *Beijing Declaration - Toward an Even Stronger China-Africa Community with a Shared Future*, https://focacsummit.mfa.gov.cn/eng/hyqk_1/t1594324.htm (accessed: 28.05.2019).

China-CEEC (2015), *China's Twelve Measures for Promoting Friendly Cooperation with Central and Eastern European Countries*, http://www.china-ceec.org/eng/zdogjhz_1/t1410595.htm (accessed: 30.04.2018).

China Policy (2017), *China Going Global – between ambition and capacity,* China Policy, Beijing.

Chinese landmark concept put into UN Security Council resolutions (2017), https://eng.yidaiyilu.gov.cn/qwyw/rdxw/9704.htm (accessed: 23.05.2019).

Choroś-Mrozowska D. (2019), *The Chinese Belt and Road Initiative from the Polish Perspective*, "Comparative Economic Research. Central and Eastern Europe", vol. 22, No. 2, p. 38–53.

Christopher M. (2000), *Logistyka i zarządzanie łańcuchem dostaw*, Wydawnictwo Polskiego Centrum Doradztwa Logistycznego, Warszawa.

Ciesielska-Klikowska J. (2018), *Chinese Belt and Road Initiative – the perspective of the Federal Republic of Germany*, "Rocznik Integracji Europejskiej", No. 12, p. 95–111.

Cieślik E. (2017), *The New Silk Road: Seeking Opportunities for Polish Exports in the Chinese Market*, "Scientific Journal Warsaw University of Life Sciences – SGGW. Problems of World Agriculture", vol. 17, No. 4, p. 31–40.

Colarizi A. (2015), *China and Kyrgyzstan: So Near, Yet So Far*, https://thediplomat.com/2015/08/china-and-kyrgyzstan-so-near-yet-so-far/ (accessed: 16.05.2019).

Commission Decision (EU) 2009/561/EC of 22 July 2009 amending Decision 2006/679/EC as regards the implementation of the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European conventional rail system (notified under document number C(2009) 5607).

Commission Implementing Decision (EU) 2017/177 of 31 January 2017 on the compliance with Article 5 of Regulation (EU) No. 913/2010 of the European Parliament and of the Council of the joint proposal to establish the 'Amber' rail freight corridor (notified under document C(2017) 141).

Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions Europe on the move. An agenda for a socially fair transition towards clean, competitive and connected mobility for all (notified under document number COM(2017) 283 final).

Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions. A European Strategy for Low-Emission Mobility (notified under document number COM(2016) 501 final).

Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee, the Committee of the Regions and the European Investment Bank. A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy (notified under document number COM(2015) 80 final).

CSO (Central Statistical Office) (2017), *Yearbook of Foreign Trade Statistics of Poland 2017,* Central Statistical Office, Warsaw.

Curran E. (2018), *Quick take: The AIIB China's World Bank*, https://www.bloomberg.com/quicktake/chinas-world-bank (accessed: 26.05.2019).

CWGP-PRC (Centrum Współpracy Gospodarczej Polska-Chiny) (2015), *Jak ugryźć Państwo Środka? Sektor spożywczy w Chinach*, CWGP-PRC, Warszawa.

Czermański E. (2017), *Baltic Shipping development trends in maritime special planning aspect*, "Studia i Materiały Instytutu Transportu i Handlu Morskiego", No. 14, p. 48–64.

Czerpak E. (2018), *Poland in the top 20 most attractive locations for China*, http://english.eurobuildcee.com/?page=komentarz&id=91 (accessed: 8.08.2018).

Czubiński R. (2017a), *Łódź: Nowa bocznica na Olechowie. Pierwsza od lat,* https://www.rynek-kolejowy.pl/wiadomosci/lodz-nowa-bocznica-na-olechowie-pierwsza-od-lat-81962.html (accessed: 21.01.2019).

Czubiński R. (2017b), *Łódź: Przetarg na Pryncypalną wstrzymany. Co z chińskim terminalem?*, http://www.rynek-kolejowy.pl/wiadomosci/lodz-przetarg-na-pryncypalna-wstrzymany-co-z-chinskim-terminalem-79739.html (accessed: 15.04.2018).

Czubiński R. (2017c), *Nowy Jedwabny Szlak: Łódzkie w awangardzie,* http://www.rynek-kolejowy.pl/wiadomosci/nowy-jedwabny-szlak-lodzkie-w-awangardzie-80983.html (accessed: 18.03.2018).

Czy Łódź straciła pozycję na Nowym Jedwabnym Szlaku, czy też może ją umacnia? (2018), https://www.tulodz.pl/wiadomosci,czy-lodz-stracila-pozycje-na-nowym-jedwabnym-szlaku-czy-tez-moze-ja-umacnia,wia5-3273-11354.html (accessed: 26.01.2019).

Dadabaev T. (2018), *"Silk Road" as Foreign Policy Discourse: The Construction of Chinese, Japanese and Korean Engagement Strategies in Central Asia*, "Journal of Eurasian Studies", vol. 9, issue 1, p. 30–41.

Darda M. (2017), *Europejskie Centrum Logistyczne za 1 mld w Łodzi?*, https://uml.lodz.pl/aktualnosci/artykul/nie-dla-lodzi-europejskie-centrum-logistyczne-id15926/2017/10/19/ (accessed: 10.04.2018).

Demiryol T. (2019), *Political Economy of Connectivity: China's Belt and Road Initiative*, "RAIS Conference Proceedings", p. 168–180.

Dent C. (2008), *The Asian Development Bank and Developmental Regionalism in East Asia*, "Third World Quarterly", vol. 4, p. 767–786.

DIN (Deutsches Institut für Normung) (2017), *China's Standarization Reform*, DIN, Berlin.

Dolecki L. (2018), *Oferty na problematyczny odcinek obwodnicy Koszalina poza budżetem*, https://www.rynekinfrastruktury.pl/wiadomosci/drogi/oferty-na-problematyczny-odcinek-obwodnicy-koszalina-poza-budzetem-65173.html (accessed: 30.05.2019).

Dunseith B. (2018), *Thailand's Eastern Economic Corridor – What You Need to Know*, https://www.aseanbriefing.com/news/2018/06/29/thailand-eastern-economic-corridor.html (accessed: 16.05.2019).

Dyr. T., Kniaź K. (2010), *Scenariusze stanów otoczenia na rynku przewozów autobusowych w Polsce*, "Autobusy", No. 5, p. 20–25.

Dyr T., Pomykała A., Raczyński J. (2015), *Finansowanie rozwoju sieci TEN-T z instrumentu 'Łącząc Europę'*, "Technika Transportu Szynowego", No. 4, p. 43–46.

EC (European Commission) (2019a), *Infrastructure - TEN-T - Connecting Europe – Mobility and Transport - European Commission*, https://ec.europa.eu/transport/themes/infrastructure_en (accessed: 8.05.2019).

EC (European Commission) (2019b), *Sustainable mobility – The European Green Deal*, https://ec.europa.eu/commission/presscorner/detail/en/fs_19_6726 (accessed: 20.06.2020).

EC (European Commission) (2018a), *Baltic–Adriatic Third Work Plan of the European Coordinator Kurt Bodewig*, European Commission, Brussels.

EC (European Commission) (2018b), *North Sea–Baltic Third Work Plan of the European Coordinator Catherine Trautmann*, European Commission, Brussels.

EC (European Commission) (2013), *TEN-T Core Network Corridors*, European Commission, Copenhagen.

EC (European Commission) (2011), *Baltic Transport Outlook 2030. Strategic Network Analysis*, European Commission, Copenhagen.

Elżbieciak T. (2017), *Pinggao Group wykonawcą inwestycji PSE związanej z blokiem w EC Żerań*, https://www.wnp.pl/budownictwo/pinggao-group-wykonawca-inwestycji-pse-zwiazanej-z-blokiem-w-ec-zeran,309160.html (accessed: 11.12.2019).

Embassy of the RP (Embassy of the Republic of Poland in Beirut) (2019), *History of the Bilateral Relations*, http://www.msz.gov.pl/en/p/bejrut_lb_a_en/bilateral_cooperation/history/ (accessed: 14.05.2018).

Engelhardt J. (2014), *Możliwości rozwoju transportu towarowego w korytarzu zachodnim*, "Technika Transportu Szynowego", No. 1–2, p. 23–27.

Engelhardt J. (2013), *Polityka państwa w zakresie transportu intermodalnego w Polsce*, "Zeszyty Naukowe Uniwersytetu Szczecińskiego. Problemy Transportu i Logistyki", No. 778(22), p. 64–67.

EP (European Parliament) (2018), *China, the 16+1 format and the EU*, European Parliament, Brussels.

ESPON (2018), *Comparative Analysis of Territorial Governance and Spatial Planning Systems in Europe (COMPASS)*, PAN Project.

EUROPE 2020, *A strategy for smart, sustainable and inclusive growth (COM/2010/2020 final)*.

Eurostat (2017), *Trade EU28 China (Except Hong Kong)*, http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Trade_EU28_China_(except_Hong_Kong)_update.xlsx (accessed: 14.05.2018).

Eurostat (2019), *Top-20 container ports in 2008–2017 – on the basis of volume of containers handled in (1000 TEUs)*, https://ec.europa.eu/eurostat/statistics-explained/index.pvh (accessed: 10.01.2019).

Faryna P., Osiński J. (2013), *Infrastruktura kolejowa,* in: A. Furgalski, L. Malinowski (Eds), *Biała Księga Infrastruktury*, Inicjatywa dla Infrastruktury, Warszawa.

Fasslabend W. (2015), *The Silk Road: a political marketing concept for world dominance*, "European View", vol. 14, p. 293–302.

Frączyk J. (2017), *Ugoda z Covec po blamażu na A2. Po sześciu latach sporu GDDKiA podpisała porozumienie*, https://www.money.pl/gospodarka/wiadomosci/artykul/covec-autostrada-a2-gddkia,82,0,2342994.html (accessed: 19.05.2018).

Fronczek M. (2013), *Charakter wymiany handlowej Polski z Niemcami, Rosją i Chinami*, "Biznes międzynarodowy w gospodarce globalnej", No. 32, p. 84–96.

Gołembska E. (2009), *Logistyka w gospodarce światowej*, C.H. Beck, Warszawa.
Gorczyca E. (2009), *Chińczycy inwestują na Podkarpaciu. Kupili fabrykę amortyzatorów w Krośnie*, http://www.nowiny24.pl/wiadomosci/krosno/art/6061871,chinczycy-inwestuja-na-podkarpaciu-kupili-fabryke-amortyzatorow-w-krosnie,id,t.html (accessed: 5.05.2018).
Göteborg European Council (2001), *Presidency Conclusions*, Göteborg European Council, Goteborg.
Gozdowski P. (2020), *Przeładunki kontenerów: Polska - nr 1 na Bałtyku, Gdańsk - nr 15 w Europie w 2019 r.*, https://www.portalmorski.pl/porty-logistyka/44513-mgmizs-rekord-przeladunkow-kontenerow-w-polskich-portach (accessed: 8.06.2020).
Góralczyk B. (2017), *China's Interests in Central and Eastern Europe: Enter the Dragon*, "European View", vol. 16, p. 153–162.
Górski, J. (2017), *Central and Eastern Europe, Group 16+1 and One Belt One Road: The Case of 2016 Sino-Polish Comprehensive Strategic Partnership*, "Transnational Dispute Management", vol. 14, issue 1, p. 1–37.
Górski, J. (2016), *PRC's Cooperation with Central and Eastern European Countries in the Context of the One Belt One Road Initiative. The Case of 2016 Comprehensive Strategic Partnership between the PRC and Poland*, "Working Paper of the Chinese University of Hong Kong", No. 19, p. 1–100.
Grabski B. (2017), *Odpowiedź na interpelację nr 11113 w sprawie przetargu Agencji Mienia Wojskowego na sprzedaż działki pod terminal kontenerowy w Łodzi*, Warszawa 28.04.2017.
Grieger G. (2016), *One Belt, One Road (OBOR): China's regional integration initiative*, "European Parliamentary Research Service", p. 1–12.
Grupa PKP Cargo przejmuje 80 proc. udziałów w słoweńskiej spółce Primol-Rail, https://www.rynek-kolejowy.pl/mobile/ekspansja-grupy-pkp-cargo-przejmuje-80-proc-udzialow-w-slowenskiej-spolce-primolrail-89732.html (accessed: 13.05.2019).
Grzelakowski A.S. (2019), *Global Container Shipping Market Development and Its Impact on Mega Logistics System*, "TransNav the International Journal on Marine Navigation and Safety of Sea Transportation", vol. 13, No. 3, p. 529–535.
Grzelakowski A.S. (2018), *Przestrzeń transportowa UE jako komponent europejskiej przestrzeni logistycznej. Wymogi jej rozwoju w aspekcie tworzenia ułatwień handlu i wzrostu konkurencyjności Europy*, "Zeszyt Naukowy. Studia i Prace Kolegium Zarzadzania i Finansów", No. 166, p. 39–58.
Grzybowski M. (2013a), *Bałt–Orient – nowy korytarz transportowy w Europie Środkowej*, "Logistyka", No. 6, p. 182–191.
Grzybowski M. (2013b), *Wspólna strategia portów polskich i północnego Adriatyku. Ogólna koncepcja*, "Problemy Transportu i Logistyki", No. 21, p. 35–46.
Grzybowski M. (2012), *Warunki rozwoju sieci logistycznych w regionie Morza Bałtyckiego*, "Logistyka", No. 5, p. 433–442.
Haenle P., Trenin D., Gabuev D., Valášek T., Baruah D., Yujun F., Bin M. (2019), *How Are Various Countries Responding to China's Belt and Road Initiative?*, https://carnegietsinghua.org/2019/04/25/how-are-various-countries-responding-to-china-s-belt-and-road-initiative-pub-79002 (accessed: 20.06.2020).
Hajduk K. (2016), *ONZ: Nowy Jedwabny Szlak bardzo dobrym pomysłem*, http://www.polska-azja.pl/onz-nowy-jedwabny-szlak-bardzo-dobrym-pomyslem/ (accessed: 22.05.2019).
Hämmerling M., Wierzbicki M., Franczak D. (2013), *Wykorzystanie metod foresight w analizie możliwości rozwoju różnorodnych technologii przepławek dla ryb*, "Acta Scientiarum Polonorum", vol. 12, p. 29–40.
Hatrans YHV (2013), *New Silk Road. Fastest Connection China-Europe-China*, Hatrans YHV, Łódź.
Historia Spółki OT Port Świnoujście (2019), http://www.otport.swinoujscie.pl/pl/historia.html (accessed: 12.03.2019).

HKTDC Research (2019), *The Belt and Road Initiative,* http://china-trade-research.hktdc.com/business-news/article/One-Belt-One-Road/The-Belt-and-Road-Initiative/obor/en/1/1X000000/1X0A36B7.htm (accessed: 7.12.2019).

Huang Y. (2016), *Understanding China's Belt & Road Initiative: Motivation, Framework and Assessment*, "China Economy Review", vol. 40, p. 314–321.

Inicjatywa Pasa i Szlaku (2019), https://www.shiphub.pl/inicjatywa-pasa-i-szlaku/ (accessed: 15.05.2019).

Instituite of Logistics (1998), *Member's Dictionary*, Institute of Logistics and Transport, Corby.

Intermodal Train from China (2019), https://symlog.eu/en/intermodal-train-from-china/ (accessed: 15.05.2019).

Iwanek K., Pietrewicz O. (Eds) (2017), *Chiński projekt „Nowego Jedwabnego Szlaku". Retoryka a rzeczywistość*, Ośrodek Badań Azji, Centrum Badań nad Bezpieczeństwem Akademii Sztuki Wojennej, Warszawa.

Jabri P. (2019), *Port Qasim power plant's cumulative energy output exceeds 7.5bn kWh*, https://www.brecorder.com/2019/01/14/465771/port-qasim-power-plants-cumulative-energy-output-exceeds-7-5bn-kwh/ (accessed: 16.05.2019).

Jajor M. (2015), *Łowickie mleko w Chinach*, https://www.topagrar.pl/articles/aktualnosci-branzowe-bydlo/lowickie-mleko-w-chinach/ (accessed: 18.05.2019).

Jakimowicz R. (2017), *Nowy Jedwabny Szlak a wzrost pozycji krajów Europy ŚrodkowoWschodniej wobec Rosji i Chin*, "Nowa Polityka Wschodnia", vol. 1, issue 12, p. 27–46.

Jakóbik W. (2016), *3 obszary, w których Chiny mogą wesprzeć polską energetykę*, http://biznesalert.pl/jakobik-3-obszary-w-ktorych-chiny-moga-wesprzec-polska-energetyke/ (accessed: 6.12.2019).

Jakóbowski J., Popławski K., Kaczmarski M. (2018), *Kolejowy Jedwabny Szlak. Połączenia kolejowe UE–Chiny: Uwarunkowania, aktorzy, interesy*, Ośrodek Studiów Wschodnich, Warszawa.

Jakubowski A. (2017), *P. Pendrakowska: Refleksje o szczycie 16+1 w Budapeszcie,* http://www.polska-azja.pl/p-pendrakowska-refleksje-o-szczycie-161-w-budapeszcie/#_ftnref2 (accessed: 18.06.2020).

Janocha A. (2018), *Powstaje Central European Logistic Hub - Nowa Dzielnica Przemysłowa w Łodzi*, https://uml.lodz.pl/aktualnosci/artykul/powstaje-central-european-logistic-hub-nowa-dzielnica-przemyslowa-w-lodzi-id23605/2018/10/10/ (accessed: 27.01.2019).

Jaroń M. (2018), *Inwestycje w Łodzi. Gigantyczne centrum logistyczne BSH oficjalnie otwarte*, http://lodz.wyborcza.pl/lodz/7,35136,23230664,inwestycje-w-lodzi-gigantyczne-centrum-logistyczne-bsh-oficjalnie.html (accessed: 27.01.2019).

Jedwabny Szlak ominie Polskę? W tle rosyjskie i niemieckie firmy (2018), https://dorzeczy.pl/kraj/64425/Jedwabny-Szlak-ominie-Polske-W-tle-rosyjskie-i-niemieckie-firmy.html (accessed: 27.01.2019).

Jest decyzja o budowie portu multimodalnego pod Łodzią (2019), https://www.portalsamorzadowy.pl/wydarzenia-lokalne/jest-decyzja-o-budowie-portu-multimodalnego-pod-lodzia,128451.html (accessed: 7.07.2019).

Jingping X. (2016), *Full Text of Chinese President's Signed Article on Polish Newspaper*, http://www.xinhuanet.com/english/2016-06/17/c_135445947.htm (accessed: 2.05. 2018).

Jurczak M. (2018), *Nowy Jedwabny Szlak może uczynić z Polski hub Europy, ale są też inni chętni,* https://trans.info/pl/nowy-jedwabny-szlak-uczyni-z-polski-hub-104562# (accessed: 13.05.2019).

Kaczmarczyk M. (2019), *PKP Cargo wjeżdża na Nowy Jedwabny Szlak możliwości*, https://www.forbes.pl/transport-i-logistyka/pkp-cargo-i-nowy-jedwabny-szlak/pe8cgfp (accessed: 15.05.2019).

Kaczmarczyk M. (2017), *Nowy Jedwabny Szlak. Macierewicz widzi w chińskim projekcie spisek*, http://www.newsweek.pl/polska/duda-sciska-sie-z-xi-i-wspiera-nowy-jedwabny-szlak-macierewicz-widzi-spisek,artykuly,405078,1.html (accessed: 25.04.2018).

Kaczmarski M. (2015), *The New Silk Road: a Versatile Instrument in China's Policy*, "OSW Commentary", vol. 161, p. 1–9.

Kaczmarski M., Rodkiewicz W. (2016), *Rosyjska Wielka Eurazja wobec chińskiego Nowego Jedwabnego Szlaku: adaptacja zamiast konkurencji,* "Komentarze OSW", No. 219, p. 1–7.

Kalwasiński M. (2018), *Eksport z Polski do Chin najwyższy w historii*, https://www.bankier.pl/wiadomosc/Eksport-z-Polski-do-Chin-najwyzszy-w-historii-7568470.html (accessed: 31.04.2018).

Kalwasiński M. (2017), *Azjatycki Bank Inwestycji Infrastrukturalnych – geneza i cele*, "Ekonomia XXI Wieku", No. 13, p. 23–39.

Kamiński T. (2019), *What are the factors behind the successful EU–China cooperation on the subnational level? Case study of the Lodzkie region in Poland*, "Asia Europe Journal", vol. 17, p. 227–242.

Kamiński T., Skorupska A., Szczudlik J. (2019), *Regionalny wymiar stosunków UE z Chinami*, Raport PISM.

Kapczyńska K. (2018), *Łódź na Jedwabnym i Bursztynowym Szlaku*, https://www.pb.pl/lodz-na-jedwabnym-i-bursztynowym-szlaku-905899 (accessed: 20.04.2018).

Kapczyńska K. (2017), *Chiński smok stawia na Łódź*, https://www.pb.pl/chinski-smok-stawia-na-lodz-860320 (accessed: 14.04.2018).

Karásková I., Bachulska A., Szunomár A., Vladisavljev S. (Eds) (2020), *Empty shell no more: China's growing footprint in Central and Eastern Europe*, Association for International Affairs, Prague.

Karolewska H. (2017), *Nie dla Łodzi europejskie centrum logistyczne?*, https://uml.lodz.pl/aktualnosci/artykul/nie-dla-lodzi-europejskie-centrum-logistyczne-id15926/2017/10/19/ (accessed: 9.09.2018).

Kavalski E. (2019), *China's "16+1" Is Dead? Long Live the "17+1"*, https://thediplomat.com/2019/03/chinas-161-is-dead-long-live-the-171/ (accessed: 19.06.2020).

KFR (Knight Frank Research) (2018), *New Frontiers. Prospects for Real Estate along the Belt and Road Initiative,* Knight Frank Research, Singapore.

Klimek H. (2013), *Nowa koncepcja transeuropejskiej sieci transportowej*, "Studia i Materiały Instytutu Transportu i Handlu Morskiego", No. 10, p. 11–34.

Kohli H.S., Linn J.F., Zucker L.M. (Eds) (2019), *China's Belt and Road Initiative: Potential Transformation of Central Asia and the South Caucasus*, SAGE, New Dehli.

Kołodziej A. (2017), *Chińczycy zrezygnowali z przejęcia Konsalnetu. Transakcje niespodziewanie zablokował komunistyczny rząd*, https://www.money.pl/gospodarka/wiadomosci/artykul/konsalnet-china-security--fire-rezygnuje-z,80,0,2340944.html (accessed: 4.05.2018).

Koncepcja terminalu kontenerowego w Świnoujściu gotowa (2018), https://www.gospodarkamorska.pl/Porty,Transport/koncepcja-terminalu-kontenerowego-w-swinoujsciu-gotowa.html (accessed: 13.03.2019).

Köstem S. (2019), *Kennan Cable No. 40: Russia's Search for a Greater Eurasia: Origins, Promises, and Prospects*, https://www.wilsoncenter.org/publication/kennan-cable-no-40-russias-search-for-greater-eurasia-origins-promises-and-prospects (accessed: 20.06.2020).

Kościelny T. (2019), *Budowa linii Moskwa–Kazań: Rosja ma jednak wątpliwości*, https://www.rynek-kolejowy.pl/mobile/budowa-linii-moskwa--kazan-rosja-ma-jednak-watpliwosci-90166.html (accessed: 17.05.2019).

Kościelny T. (2018), *Nowoczesne połączenie Belgrad-Budapeszt coraz bliżej*, https://www.rynek-kolejowy.pl/wiadomosci/nowoczesne-polaczenie-belgrad--budapeszt-coraz-blizej-87894.html (accessed: 18.05.2019).

Kotowska I. (2014), *Rola portu w kreowaniu lądowo-morskich łańcuchów transportowych – studium przypadku Terminalu Promowego Świnoujście*, "Logistyka", No. 4, p. 543–550.

Kotowska I., Pluciński M. (2010), *Stan obecny i perspektywy rozwoju funkcji transportowej polskich portów morskich na tle pozostałych portów południowego Bałtyku*, "Zeszyty Naukowe Uniwersytetu Szczecińskiego. Problemy Transportu i Logistyki", No. 565 (8), p. 185–199.

Koźlak A. (2009), *Dostępność portów morskich od strony zaplecza jako czynnik ich konkurencyjności*, "Logistyka", No. 6, p. 1–17.

Krukowska M. (2016), *China's 'one belt, one road' strategy and its implications for the global world order*, "International Business and Global Economy", vol. 35, issue 1, p. 157–168.

Kublik A. (2017), *Transporty kolejowe z Polski do Chin ruszyły przez Kaliningrad. Rosyjska konkurencja dla terminalu w Małaszewiczach*, http://wyborcza.pl/7,155287,22425670,transporty-kolejowe-z-polski-do-chin-ruszyly-przez-kaliningrad.html (accessed: 13.05.2019).

Larçon J.-P. (2017a), *The economic impact of China on the Baltic Sea region. Some recommendations for policy-makers*, "BSR Policy Briefing", No. 5, p. 1–19.

Larçon J.-P. (Ed.) (2017b), *The New Silk Road. China Meets Europe in the Baltic Sea Region. A Business Perspective*, World Scientific, New Jersey.

Largest Global Container Terminal Operators by Equity-Based Throughput, 2017 (2018), https://porteconomicsmanagement.org/?page_id=778 (accessed: 17.06.2020).

Lasoń M. (2018), *Miejsce Chińskiej Republiki Ludowej w polityce zagranicznej Polski w drugiej dekadzie XXI wieku*, "Krakowskie Studia Międzynarodowe", No. 2, p. 37–50.

Lattemann Ch., Alon I., Zhang W. (2018), *Final Reflections*, in: W. Zhang, I. Alon, Ch. Lattemann (Eds), *China's Belt and Road Initiative. Changing the Rules of Globalisation*, Palgrave Macmillan, Cham.

Lee Ch.-Y., Meng Q. (Eds) (2015), *Handbook of Ocean Container Transport Logistics: Making Global Supply Chains Effective*, Springer, Cham.

Leverett F., Bingbing W. (2017), *The New Silk Road and China's Evolving Grand Strategy*, "The China Journal", No. 77, p. 110–132.

Lewiński A., Sterniński R. (2017), *Czynniki determinujące znaczenie i pozycję rynkową wiodących terminali kontenerowych w Polsce w latach 2007–2016*, "Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie", vol. 35, No. 3, p. 13–25.

Li T. (2018), *Beijing declaration, action plan adopted at FOCAC summit*, http://www.xinhuanet.com/english/2018-09/05/c_137444719_5.htm (accessed: 11.12.2019).

Lipińska-Słota A. (2016), *Kolej Transsyberyjska w turystce Rosji*, "Autobusy", No. 6, p. 1721–1724.

Lipińska-Słota A. (2014), *Korytarze transportowe w nowej polityce transportowej Unii Europejskiej*, "Logistyka", No. 4, p. 2107–2113.

Liu W. (Ed.) (2018), *China's Belt and Road Initiatives: Economic Geography Reformation,* Springer, Singapore.

Lubina M. (2017), *From Geopolitical Chance to Security Threat: Polish Public Political Discourse on the One Belt One Road Initiative*, "Polish Political Science Yearbook", vol. 46, p. 221–238.

Luo G. (2018), *Are Chinese enterprises going global responsibly?*, http://csr-asia.com/newsletter-are-chinese-enterprises-going-global-responsibly (accessed: 15.05.2019).

Lwin N. (2019), *China-Backed Muse-Mandalay Railway to Cost $9 Billion*, https://www.irrawaddy.com/news/burma/china-backed-muse-mandalay-railway-cost-9-billion.html (accessed: 22.05.2019).

Lysionok A. (2019), *Kierunek – Małaszewicze*, https://www.log24.pl/artykuly/kierunek-malaszewicze,9750 (accessed: 15.05.2019).

Łopacińska K. (2017), *One Belt One Road jako wyraz globalnej ekspansji Chin*, "Marketing i Zarządzanie", No. 1(47), p. 29–38.

Łódzka SSE zawarła porozumienie z węzłem kolejowym w Chengdu (2017), https://www.bankier.pl/wiadomosc/Lodzka-SSE-zawarla-porozumienie-z-wezlem-kolejowym-w-Chengdu-4010195.html (accessed: 26.01.2019).

Ma A. (2019), *The US is scrambling to invest more in Asia to counter China's 'Belt and Road' mega-project. Here's what China's plan to connect the world through infrastructure is like*, https://www.businessinsider.com/what-is-belt-and-road-china-infrastructure-project-2018-1?IR=T (accessed: 20.06.2020).

Maciążek F. (2017), *Komunikacja kolejowa między Polską a Białorusią*, "Technika Transportu Szynowego", No. 10, p. 22–40.

Main maritime shipping routes (2019), https://transportgeography.org/?page_id=2067 (accessed: 10.12.2019).

Malinowski Ł. (2016), *Małaszewicze: Chińska brama do Europy*, https://www.rynek-kolejowy.pl/wiadomosci/malaszewicze-chinska-brama-do-europy-zdjecia-77073.html (accessed: 13.05.2019).

Małaszewicze bramą do Europy (2018), https://www.pb.pl/malaszewicze-brama-do-europy-939425 (accessed: 15.05.2019).

Martikian L. (2017), *EBRD sees important role for its countries in Belt and Road Initiative*, https://www.ebrd.com/news/2017/ebrd-sees-important-role-for-its-countries-in-belt-and-road-initiative.html (accessed: 28.05.2019).

Massel A. (2016), *Rozwój sieci TEN-T w Polsce*, "Technika Transportu Szynowego", No. 9, p. 30–37.

Mazzini M. (2019), *Włochy dogadują się z Chinami. Co to znaczy dla Europy?*, https://www.polityka.pl/tygodnikpolityka/swiat/1787158,1,wlochy-dogaduja-sie-z-chinami-co-to-znaczy-dla-europy.read (accessed: 23.05.2019).

MGMiŻŚ (Ministerstwo Gospodarki Morskiej i Żeglugi Śródlądowej) (2017), *Program rozwoju polskich portów morskich do roku 2020 (z perspektywą do 2030 roku),* MGMiŻŚ, Warszawa.

Mierzejewski D. (2017), *Between central and local interdependence: dimensions of Poland's relations with China*, in: W. Song (Ed.), *China's Relations with Central and Eastern Europe. From 'Old Comrades' to New Partners*, Routledge, Abingdon.

MIiB (Ministerstwo Infrastruktury i Budownictwa) (2015), *Krajowy Program Kolejowy do 2023 roku*, Ministerstwo Infrastruktury i Budownictwa, Warszawa.

MF (Ministerstwo Finansów) (2019), *Azjatycki Bank Inwestycji infrastrukturalnych*, https://www.gov.pl/web/finanse/azjatycki-bank-inwestycji-infrastrukturalnych-miedzynarodowe-instytucje-finansowe (accessed: 27.05.2019).

MFAPRC (Ministry of Foreign Affairs of the People's Republic of China) (2015), *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*, http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1249618.shtml (accessed: 2.05.2018).

Misiągiewicz J., Misiągiewicz M. (2016), *China's «One Belt, One Road» Initiative – the Perspective of the European Union*, "Annales Universitatis Mariae Curie-Skłodowska Lublin – Polonia", No. 23, p. 33–42.

Mosberpanah M., Khales S. (2013), *The Role of Transportation in Sustainable Development*, "American Society of Civil Engineers", No. 9, p. 441–448.

Motowidlak U., Kujawa M. (2018), *Transport towarów w projekcie One Belt and One Road jako komponent globalnego łańcucha dostaw,* Wydawnictwo Uniwersytetu Łódzkiego, Łódź.

MSZ (Ministerstwo Spraw Zagranicznych) (2016), *Polish Foreign Policy Strategy 2017–2021*, MSZ, Warsaw.

MTBiGM (Ministerstwo Transportu, Budownictwa i Gospodarki Morskiej) (2012), *Strategia Rozwoju Transportu do 2020 roku (z perspektywą do 2030 roku),* MTBiGM, Warszawa.

Na obrzeżach Łodzi powstanie gigantyczny hub logistyczny. Poczta Polska w natarciu (2018), https://www.tulodz.pl/wiadomosci,na-obrzezach-lodzi-powstanie-gigantyczny-hub-logistyczny-poczta-polska-w-natarciu-wideo,wia5-3273-8016.html (accessed: 27.01.2019).

Nakano J. (2018), *China Launches the Polar Silk Road*, https://www.csis.org/analysis/china-launches-polar-silk-road (accessed: 7.12.2019).

Nazarko J., Kuźmicz K. (2017), *Introduction to the STEEPVL Analysis of the New Silk Road Initiative*, "Procedia Engineering", vol. 182, p. 497–503.

Nazarko J., Kuźmicz K., Czerewacz K. (2016), *Wskoczyć do jedwabnego pociągu*, "Transport Manager", No. 2, p. 42–47.

Neise R. (Ed.) (2018), *Container Logistics: The Role of the Container in the Supply Chain*, Kogan Page, London.

Nežerenko O., Koppel O. (2017), *The Baltic Sea Macro-Regional Transport Cluster as an Element of the Silk Road Economic Belt*, "Croatian International Relations Review", vol. 23, p. 77–95.

(Nie)bezpieczna kolej. NIK informuje: nie jest dobrze (2018), https://portalkomunalny.pl/niebezpieczna-kolej-nik-informuje-nie-jest-dobrze-370692/ (accessed: 10.05.2019).

Niu H. (2016), *Poland's role as China's gateway to Europe*, http://english.cri.cn/12394/2016/06/20/4083s931409.htm (accessed: 9.12.2019).

Nobis A. (2017), *The New Silk Road, Old Concepts of Globalisation, and New Questions*, "Cultural Studies", vol. 1, p. 203–213.

Notteboom T. (2009), *Economic analysis of the European seaport system,* ITMMA Report.

OBOReurope (One Belt One Road Europe) (2018), *The New Silk Road Corridors*, http://www.oboreurope.com/en/beltandroad/one-belt/ (accessed: 2.05.2018).

OECD (Organisation for Economic Cooperation and Development) (2018), *China's Belt and Road Initiative in the global trade, investment and finance landscape*, OECD, Paris.

Operatorzy połączeń kolejowych na trasie Chiny-Polska (2019), https://www.shiphub.pl/transport-kolejowy-operatorzy-polaczen/ (accessed: 15.05.2019).

ORT (Office of Rail Transport) (2019), *Intermodal terminals*, https://www.utk.gov.pl/ (accessed: 24.04.2018).

ORT (Office of Rail Transport) (2018a), *Container Terminal Spedcont Łódź*, https://www.utk.gov.pl/pl/dostep-do-infrastruktur/dostep-do-infrastruktur/mapa-obiektow-infrastru/terminale-intermodalne/12967,Terminal-Kontenerowy-Spedcont-Lodz.html (accessed: 23.04.2018).

ORT (Office of Rail Transport) (2018b), *Przewozy intermodalne w 2017 roku. Podsumowanie Prezesa UTK*, ORT, Warszawa.

ORT (Office of Rail Transport) (2016), *Analiza rynku kolejowych przewozów intermodalnych,* ORT, Warszawa.

ORT (Office of Rail Transport) (2012), *Analiza rynku kolejowych przewozów intermodalnych,* ORT, Warszawa.

Osiewicz P. (2018), *The Belt and Road Initiative (BRI): Implications for Iran-China Relations,* "Przegląd Strategiczny", issue 11, p. 221–232.

Pawłowska O. (2017), *Nowy Jedwabny Szlak*, "Deal", No. 22, p. 50–54.

Pawłowski Ł. (2017), *Poczta Polska zawarła porozumienie z China Post*, https://www.bankier.pl/wiadomosc/Poczta-Polska-zawarla-porozumienie-z-China-Post-4011499.html (accessed: 27.01.2019).

PCC Intermodal (2018), *PCC Kutno Terminal*, http://www.pccintermodal.pl/terminal-kutno/ (accessed: 24.04.2018).

Piotrowski J. (2016), *Analiza odcinków sieci kolejowej o ograniczonej przepustowości*, PKP, Warszawa.

PKP (PKP Polskie Linie Kolejowe S.A.) (2017), *Prezentacja PKP PLK S.A,* PKP, Nadarzyn.

PKP (PKP Polskie Linie Kolejowe S.A.) (2015), *Aktualne i planowane na najbliższe lata inwestycje infrastrukturalne PKP PLK S.A. służące rozwojowi transportu intermodalnego*, PKP, Warszawa.

PKP Cargo inwestuje w rozwój Nowego Jedwabnego Szlaku (2019), http://300gospodarka.pl/news/2019/04/16/pkp-cargo-inwestuje-w-rozwoj-nowego-jedwabnego-szlaku/ (accessed: 15.05.2019).

Polskie firmy zyskały sprzymierzeńca na Nowym Jedwabnym Szlaku (2018), https://www.tvp.info/40084233/polskie-firmy-zyskaly-sprzymierzenca-na-nowym-jedwabnym-szlaku (accessed: 26.01.2019).

Polskie porty i Małaszewicze są kluczowe dla przewozów intermodalnych Nowym Jedwabnym Szlakiem (2019), https://strefabiznesu.pl/polskie-porty-i-malaszewicze-sa-kluczowe-dla-przewozow-intermodalnych-nowym-jedwabnym-szlakiem/ar/c3-14042379 (accessed: 13.05.2019).

Proposal for a Directive of the European Parliament and of the Council amending Directive 92/106/EEC on the establishment of common rules for certain types of combined transport of goods between Member States (notified under document number COM(2017) 648).

Psaraftis H. (Ed.) (2016), *Green Transportation Logistics - The Quest for Win-Win Solutions*, Springer, Cham.

PSE (Polskie Sieci Energetyczne) (2018), *Lista prowadzonych inwestycji,* https://www.pse.pl/obszary-dzialalnosci/inwestycje-infrastrukturalne/aktualnie-prowadzone-inwestycje (accessed: 12.12.2019).

Pyffel R. (2016), *Chińska perspektywa międzymorza*, "Teologia Polityczna co Tydzień", No. 10, https://teologiapolityczna.pl/teologia-polityczna-co-tydzien-nr-10-projekt-intermarium/ (accessed: 8.12.2019).

Pyffel R. (2015), *Polska–Chiny: siedem asymetrii*, https://www.obserwatorfinansowy.pl/tematyka/makroekonomia/polska-chiny-siedem-asymetrii/ (accessed: 9.12.2019).

Pyffel R. (2013), *Biznes w Chinach. Jak osiągnąć sukces?*, Centrum Współpracy Gospodarczej Polska-Chiny oraz PAIiIZ, Warszawa.

Qi R. (2019), *BRI has bolstered China-Russia relations*, https://www.chinadaily.com.cn/a/201904/22/WS5cbd237aa3104842260b7792.html (accessed: 20.06.2020).

Raben D. (2016), *Rozbudowa infrastruktury polskich portów morskich jako warunek rozwoju przewozów intermodalnych w ramach korytarzy sieci bazowej TEN-T*, "Problemy Transportu i Logistyki", No. 34, p. 177–184.

RB of Łódź (Regional Board of Łódź) (2016), *Regionalny plan transportowy województwa łódzkiego spełniający kryteria warunkowe ex ante dla celu tematycznego 7 do RPO WŁ na lata 2014–2020*, RB of Łódź, Łódź.

RB Rail AS (2017), *Rail Baltica as Part of the North Sea-Baltic Core Network Corridor*, https://en.wikipedia.org/wiki/Rail_Baltica (accessed: 10.12.2019).

Record-breaking results of Top 10 Baltic container ports in 2017 (2018), Port Monitor, Gdynia.

Regulation (EU) No. 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight.

Regulation (EU) No. 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No. 661/2010/EU.

Regulation (EU) No. 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No. 913/2010 and repealing Regulations (EC) No. 680/2007 and (EC) No. 67/2010.

Resolution (UN) NOS/RES/2344 adopted by the Security Council at its 7902nd meeting, on 17 March 2017.

Rulski M. (2017), *O Nowym Jedwabnym Szlaku rozmawiamy z Tomaszem Grzelakiem Prezesem Zarządu firmy Hatrans*, https://www.tulodz.com/wiadomosci,o-nowym-jedwabnym-szlaku-rozmawiamy-z-tomaszem-grzelakiem-prezesem-zarzadu-firmy-hatrans,wia5-3266-739.html (accessed: 30.03.2018).

Rutkiewicz P. (2018a), *Chińczycy zainwestują w Łodzi? Zainteresowania nie tracą*, http://lodz.wyborcza.pl/lodz/7,35136,23930946,inwestycje-w-lodzi-z-chinskim-kapitalem-chinczycy-nie-traca.html?disableRedirects=true (accessed: 26.01.2019).

Rutkiewicz P. (2018b), *Łódzkie przedsiębiorstwa walczą o chiński rynek. Sukces misji gospodarczej*, http://lodz.wyborcza.pl/lodz/7,35136,23203600,lodzkie-przedsiebiorstwa-walcza-o-chinski-rynek-sukces-misji.html (accessed: 26.01.2019).

Rydzkowski W., Wojewódzka-Król K. (2010), *Transport. Problemy transportu w rozszerzonej UE*, PWN, Warszawa.

Ryszkowska M. (2015), *Ochrona praw własności intelektualnej w Chinach*, https://china.trade.gov.pl/pl/abc-biznesu/ochrona-wlasnosci-intelektualnej/161156,ochrona-praw-wlasnosci-intelektualnej-w-chinach.html (accessed: 20.05.2019).

Są tereny, można budować w Łodzi centrum logistyczne (2017), https://www.nakolei.pl/sa-tereny-mozna-budowac-lodzi-centrum-logistyczne/ (accessed: 27.01.2019).

Sárvári B., Szeidovitz A. (2016), *The Political Economics of the New Silk Road*, "Baltic Journal of European Studies", vol. 6, issue 1, p. 3–27.

Scott D. (2018), *China and the Baltic States: strategic challenges and security dilemmas for Lithuania, Latvia and Estonia*, "Journal on Baltic Security", vol. 4, issue 1, p. 25–37.

Shenggao Y. (2018), *Infrastructure connecting region to countries throughout southern Asia*, http://www.chinadaily.com.cn/cndy/2018-06/13/content_36378593.htm (accessed: 28.05.2019).

Shepard W. (2017), *The First Belt And Road Stock Index Is On The Way*, https://www.forbes.com/sites/wadeshepard/2017/06/29/the-first-belt-and-road-stock-index-is-on-the-way/2/# (accessed: 5.02.2019).

Shepard W. (2016), *Why The China-Europe 'Silk Road' Rail Network Is Growing Fast,* https://www.forbes.com/sites/wadeshepard/2016/01/28/why-china-europe-silk-road-rail-transport-is-growing-fast/ (accessed: 9.12.2019).

Silk Road Briefing (2019), *BRICS New Development Bank on Course to Lend US$40 Billion in Green Infrastructure Projects*, https://www.silkroadbriefing.com/news/2019/03/08/brics-new-development-bank-course-lend-40-billion-green-infrastructure-projects/ (accessed: 27.05.2019).

Silk Road to expand reach via Chengdu-Europe Express Rail (2016), http://www.chinadaily.com.cn/regional/2016-11/17/content_27407904.htm (accessed: 9.08.2018).

Silin Y., Kapustina L., Trevisan I., Drevalev A. (2017), *China's economic interests in the "One Belt, One Road" initiative*, "SHS Web of Conferences", vol. 39, p. 1–10.

Sino-Polish Strategic Partnership (2011), http://www.prezydent.pl/archiwum-bronislawa-komorowskiego/aktualnosci/wizyty-zagraniczne/art,140,polsko-chinskie-partnerstwo-strategiczne.html (accessed: 30.04.2018).

Skorupska A. (2017), *Paradyplomacja Polska-Chiny. Współpraca polskich województw z chińskimi prowincjami*, "Sprawy Międzynarodowe", No. 2, p. 131–140.

Skrzydło J. (2018), *Odpowiedź na interpelację nr 9193 w sprawie projektu Nowego Jedwabnego Szlaku z Chin do Polski*, Warszawa 18.07.2018.

Sładkowski A. (2018), *Transport Systems and Delivery of Cargo on East–West Routes*, Springer, Cham.

SO in Łódź (Statistical Office in Łódź) (2018), *Łódź in Figures 2017*, SO in Łódź, Łódź.

SO in Łódź (Statistical Office in Łódź) (2016), *Statistics of Łódź*, SO in Łódź, Łódź.

Solmecke U. (2016), *Multinational Enterprises and the 'One Belt, One Road' Initiative: Sustainable Development and Innovation in a Post-Crisis Global Environment*, "The Copenhagen Journal of Asian Studies", vol. 34, issue 2, p. 9–27.

SP (Statistics Poland) (2018), *Transport intermodalny w Polsce w 2017 r.,* Statistics Poland, Warszawa.

Spedcont (2019), *Możliwości techniczne terminalu kontenerowego*, http://www.spedcont.pl/oferta.html (accessed: 27.01.2019).

Stec G. (2013), *"Tradycyjna przyjaźń polsko-chińska" czy „niezłe perspektywy"? – stosunki polsko-chińskie od 1989 r.*, "Poliarchia", No. 1, p. 75–86.

Stokłosa J., Cisowski T., Erd A. (2014), *Terminale przeładunkowe jako elementy infrastruktury sprzyjające rozwojowi łańcuchów transportu intermodalnego*, "Logistyka", No. 3, p. 5991–5999.

Sudak I. (2017), *Wielka ekspansja Chin w przemyśle. Szykuje się transfer technologii na niespotykaną skalę*, https://wyborcza.pl/7,155287,21526245,wielka-ekspansja-chin-w-przemysle-szykuje-sie-transfer-technologii.html (accessed: 22.09.2019).

Sulmicki J. (2018), *Chiny światowym hegemonem w nowym ładzie globalnym*, „KNUV", vol. 4, issue 58, p. 110–124.

Szczepańska M. (2017), *Chińczycy przejmują polskie jabłka*, https://www.pb.pl/chinczycy-przejmuja-polskie-jablka-901342 (accessed: 4.05.2018).

Szczudlik-Tatar J. (2016), *Poland on the Silk Road in Central Europe: To Become a Hub of Hubs?*, in: F-P. van der Putten, J. Seaman, M. Huotari, A. Ekman, M. Otero-Iglesias (Eds), *Europe and China's New Silk Roads*, ETNC Report.

Szczudlik-Tatar J. (2015), *Poland–China Relations: Forging a Strategic Partnership?*, in: M. Huotari, M. Otero-Iglesias, J. Seaman, A. Ekman (Eds), *Mapping Europe–China Relations. A Bottom-Up Approach,* ETNC Report.

Szczudlik-Tatar J. (2013a), *China's New Silk Road Diplomacy*, "PISM Policy Paper", vol. 34, p. 1–8.

Szczudlik-Tatar J. (2013b), *Chińska ofensywa w Europie Środkowej i Wschodniej: realizacja strategii 12 punktów*, "PISM Policy Paper", vol. 34, p. 9–13.

Szyszka A. (2018), *Bezpośrednie kontenerowe serwisy dalekowschodnie z Gdańska szansą dla rozwoju eksportu polskich produktów spożywczych,* "Studia i Materiały Instytutu Transportu i Handlu Morskiego", No. 15, p. 1–14.

Terminal Spedcont w Łodzi przygotowuje się na rekordową liczbę pociągów z Chin (2018), https://logistyka.wnp.pl/terminal-spedcont-w-lodzi-przygotowuje-sie-na-rekrodowa-liczbe-pociagow-z-chin,333979_1_0_0.html (accessed: 26.01.2019).

The Belt and Road Initiative Progress, Contribution and Prospects (2019), https://eng.yidaiyilu.gov.cn/zchj/qwfb/86739.htm (accessed: 19.05.2019).

The Joint Communique of the People's Republic of China and the Republic of Poland (1997), http://pl.china-embassy.org/pol/zbgx/t129135.htm (accessed: 24.04.2018).

The Port of Gdansk among the best 100 container ports in the world (2019), http://www.polandatsea.com/the-port-of-gdansk-among-the-best-100-container-ports-in-the-world/ (accessed: 10.01.2019).

Tiezzi S.T. (2016), *China's Xi Brings 'Belt and Road' to Serbia, Poland*, http://thediplomat.com/2016/06/chinas-xi-brings-belt-and-road-to-serbia-poland/ (accessed: 9.12.2019).

Trailblazer (2019), *Trans-Siberian Handbook- 10th edition of the guide to the world's longest railway journey*, https://trailblazer-guides.com/book/trans-siberian-handbook (accessed: 10.12.2019).

Trojan M. (2017), *Szczyt państw 16+1 w Budapeszcie. Polska nie przystępuje do funduszu Chiny-Europa Środkowa*, https://kresy.pl/wydarzenia/szczyt-panstw-161-budapeszcie-polska-przystepuje-funduszu-chiny-europa-srodkowa/ (accessed: 18.06.2020).

Tuszyński R. (2014), *Stosunki polsko-chińskie*, "INFOS. Biuro Analiz Sejmowych", No. 15, p. 1–4.

Tysiąc pociągów z Chin do Łodzi, tysiące pieczątek na jeden pociąg (2018), https://www.tulodz.com/wiadomosci,tysiac-pociagow-z-chin-do-lodzi-tysiace-pieczatek-na-jeden-pociag,wia5-3273-6963.html (accessed: 22.03.2018).

UNCTAD (United Nations Conference on Trade and Development) (2018), *Review of Maritime Transport*, UNCTAD, New York–Geneva.

Urbanyi-Popiołek I. (2014), *Uwarunkowania rozwoju terminali promowych w polskich portach jako elementu infrastruktury Korytarza Bałtyk–Adriatyk*, "Problemy Transportu i Logistyki", No. 27, p. 195–208.

Urbanyi-Popiołek I. (2013), *Żegluga bliskiego zasięgu na Morzu Bałtyckim a projekty sieci TEN-T, implikacje dla polskiego rynku żeglugi promowej*, "Problemy Transportu i Logistyki", No. 21, p. 213–226.

Ustawa z dnia 20 grudnia 1996 r. o portach i przystaniach morskich, Dz.U. 1997 nr 9 poz. 44.

Vangeli A. (2018), *Global China and Symbolic Power: The Case of 16+1 cooperation*, "Journal of Contemporary China", vol. 27, p. 674–687.

Vangeli A. (2017), *China's Engagement with the Sixteen Countries of Central, East and Southeast Europe under the Belt and Road Initiative*, "China & World Economy", vol. 25, p. 101–124.

Wagner I. (2018), *Container throughput worldwide from 2012 to 2021 (in million TEUs)*, https://www.statista.com/statistics/913398/container-throughput-worldwide/ (accessed: 11.12.2019).

Walewska D. (2017), *Projekt Centralnego Portu Komunikacyjnego leci do Chin*, http://www.rp.pl/Transport/305099864-Projekt-Centralnego-Portu-Komunikacyjnego-leci-do-Chin.html (accessed: 2.05.2018).

Walkowski M. (2017), *Chiński model rozwoju społeczno-gospodarczego i jego potencjalna adaptacja w Europie*, "Przegląd Strategiczny", No. 10, p. 335–365.

Walków M. (2019), *Budowa CPK to pieniądze wyrzucone w błoto czy impuls dla gospodarki?*, https://businessinsider.com.pl/firmy/strategie/budowa-cpk-ile-kosztuje-nowe-lotnisko-korzysci-dla-gospodarki/6dbb9gr (accessed: 14.02.2019).

Warsewicz: Terminal w Małaszewiczach zwiększy przepustowość do 3285 pociągów (2019), https://www.rynek-kolejowy.pl/wiadomosci/nowy-jedwabny-szlak--szansa-dla-kolejowych-przewozow-towarow-w-polsce-91468.html (accessed: 8.05.2019).

Waściński T. (2014), *Procesy logistyczne w zarządzaniu łańcuchem dostaw*, "Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego w Siedlcach", No. 103, p. 25–38.

WB (World Bank) (2017), *World Bank and AIIB Sign Cooperation Framework,* http://www.worldbank.org/en/news/press-release/2017/04/23/world-bank-and-aiib-sign-cooperation-framework (accessed: 26.05.2019).

WBG (World Bank Group) (2019), *Belt and Road Economics. Opportunities and Risks of Transport Corridors*, WBG, Washington.

WEI (Warsaw Enterprise Institiute) (2017), *Centralny Port Komunikacyjny–historyczna szansa odbudowy polskiej podmiotowości w Europie*, WEI, Warszawa.

White Paper. Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system (COM/2011/0144 final).

Wieczorkiewicz J. (2018), *Szczyt Chiny-Rosja-Mongolia w Qingdao*, http://www.polska-azja.pl/j-wieczorek-szczyt-chiny-rosja-mongolia-w-qingdao/ (accessed: 17.05.2019).

Winiecki J. (2017), *Czy Polska znajdzie się na nowym jedwabnym szlaku?*, https://www.polityka.pl/tygodnikpolityka/swiat/1705704,1,czy-polska-znajdzie-sie-na-nowym-jedwabnym-szlaku.read (accessed: 12.05.2018).

Wiśniewski S. (2014), *Spójność sieci transportowych województwa łódzkiego w świetle analiz grafowych*, "Transport Miejski i Regionalny", No. 9, p. 22–28.

Witkowski J. (2010), *Zarządzanie łańcuchem dostaw. Koncepcje, procedury, doświadczenia*, Polskie Wydawnictwo Ekonomiczne, Warszawa.

Witkowski K., Kurzątek E. (2018), *Nowy Jedwabny Szlak w kontekście tworzenia globalnej strategii logistycznej*, "Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu", No. 505, p. 341–355.

Wojewódzka-Król K., Rolbiecki R. (2010), *Infrastruktura Transportu*, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk.

Wójtowicz P. (2018), *Wybrano najkorzystniejszą ofertę na wykonanie drogi Rdzawka–Nowy Targ*, https://inzynieria.com/drogi/wiadomosci/52994,wybrano-najkorzystniejsza-oferte-na-wykonanie-drogi-rdzawkanowy-targ (accessed: 25.05.2019).

Wronka J. (2010), *Korytarze transportowe w świetle nowych koncepcji Komisji Europejskiej*, "Zeszyty Naukowe Uniwersytetu Szczecińskiego", No. 589, p. 241–250.

Wronka J. (2017), *Intermodal transport development within the New Silk Road*, "Ekonomiczne Problemy Usług", No. 3, p. 107–118.

Xi J. (2017), *Work Together to Build the Silk Road Economic Belt and The 21st Century Maritime Silk Road*, Opening speech, The Belt and Road Forum for International Cooperation.

Xianhua News Agency (2019), *China, Laos to promote cooperation on economic corridor, other projects*, https://eng.yidaiyilu.gov.cn/qwyw/rdxw/80292.htm (accessed: 17.05.2019).

Xinhuanet (2017), *Poland, a gate to Europe in Belt and Road Initiative,* http://news.xinhuanet.com/english/2017-05/12/c_136277691.htm (accessed: 9.12.2019).

Yang J. (2014), *Silk Road subsidies undermine rail link*, https://www.scmp.com/business/economy/article/1657286/silk-road-subsidies-undermine-rail-link (accessed: 10.12.2019).

Yang L. (2019), *Funding the new Silk Road*, https://www.centralbanking.com/central-banks/economics/4129821/funding-the-new-silk-road (accessed: 5.12.2019).

Z Chin, przez Małaszewicze, do Europy (2018), https://www.portalmorski.pl/porty-logistyka/40153-z-chin-przez-malaszewicze-do-europy (accessed: 13.05.2019).

Zalando & Goodman świętują zawieszenie wiechy w podłódzkim Głuchowie (gm. Tuszyn) (2018), https://www.tulodz.pl/wiadomosci,zalando-goodman-swietuja-zawieszenie-wiechy-w-podlodzkim-gluchowie-gm-tuszyn-wideo-foto,wia5-3273-7942.html (accessed: 27.01.2019).

Zamachowski P., Rokicki T. (2016), *Rozwój kontenerowych przeładunków morskich w Polsce (na przykładzie DCT Gdańsk i BCT w Gdyni)*, "Ekonomika i Organizacja Logistyki", No. 1(4), p. 91–100.

Zasiadko M. (2019), *Poland improves rail infrastructure near Małaszewicze*, https://www.railfreight.com/specials/2019/05/21/poland-improves-rail-infrastructure-near-malaszewicze/?gdpr=accept (accessed: 10.12.2019).

Zimmerman T. (2015), *The New Silk Roads: China, the U.S., and the Future of Central Asia*, New York University, New York.

Zuokui L. (2017), *Europe and the "Belt and Road" Initiative: Responses and Risk*, https://sha.static.vipsite.cn/media/thinktank/attachments/c14d2943ffc8950d981e8343081a1782.pdf (accessed: 20.06.2020).