### Kyiv National University of Trade and Economics

The World Economy Department

## FINAL QUALIFYING PAPER (PROJECT) on the topic:

## "REORIENTATION OF GLOBAL LOGISTICS FLOWS IN THE NEW SILK ROAD"

(based on the data of International Chamber of Commerce (ICC Ukraine), Kyiv)

Student of the 2<sup>nd</sup> year, group 2am, specialty 051 "Economics", specialization "International economics"

Strashko O.V.

(student's signature)

Scientific adviser Doctor of Economics, Professor, Head of the Department of World Economy

Manager of the educational program Candidate of Sciences (Economics), Associate professor Duginets G.V.

Kravets K.P.

(signature)

NUTES,

(signature)

Kyiv, 2021

## CONTENTS

INTRODUCTION
PART 1 THEORETICAL ASPECTS OF DEVELOPMENT OF THE "NEW SILK
ROAD"
1.1. Study of global logistic flows in economic theory
1.2. Monitoring international trade flows between Asia and Europe
Conclusions to part 1
PART 2 DEVELOPMENT OF THE "NEW SILK ROAD"
2.1 Assessment of factors affecting international logistics flows between Asia and Europe
2.2. Analysis of the effectiveness of existing logistics flows in terms of creating a "New Silk Road"
Conclusions to part 2
PART 3 THE ROLE OF UKRAINE IN THE "NEW SILK ROAD" PROJECT
3.1 Research of priority directions of development of logistic possibilities of Ukraine
in the context of "New Silk Road"
3.2 Forecast assessment of the proposed measures' consequences
Conclusions to part 3
CONCLUSIONS AND RECOMMENDATIONS
REFERENCES
APPENDICES

#### **INTRODUCTION**

The relevance of the chosen topic is that the conditions of international trade are changing rapidly, relating less on political situation and more on being ready to innovate and meet proper requirements to benefit from global trade flow.

With modern world being connected like never before, trade and exchange of experience have become the uniting power to achieve well-being of the humanity across the globe. The important steps towards this target are made at many levels, from sole entrepreneurs to the government commissions, and only the balance and efficient cooperation could provide the result. Increasing speed of transactions, information flows, simplification of customs procedures and harmonization of law moves a progress of the world economy, building connections at the places and spheres that were never touching before.

The present goal for the world remains building a balance for the humanity to manage the resources and potentials as good as possible, and strong logistics connection is a great way to grow these connections.

**Literature review.** A significant contribution to the development of theoretical and methodological foundations of the study of global logistics were made by the scientific works of the foreign and domestic scientists: Becker W., Brooks D., Harrison A., Ma W., Lukyanova O., Duginets G.V., Ostashko T., Olefir V., and others.

**The object** of study in the final qualification work is process of the global logistics flows development processes.

**The subject** of the research is the theoretical and methodological principles of development of the "New Silk Road".

**Purpose of the paper** of this project is to evaluate the development of global logistics flows of the "New Silk Road" and make recommendations that Ukraine could take to gain benefits from participating in this project.

In order to achieve the defined purpose, it is expedient to perform the following **tasks**:

- to research theoretical fundamentals of global logistics flows;

to analyze the logistics flows between Europe and Asia;

- to overview factors influencing international logistics flows between Asia and Europe;

to evaluate the effectiveness of the existing logistics flows in terms of creating a "New Silk Road";

 to find the priority directions for the development of Ukraine's logistics capabilities in the context of the "New Silk Road";

 to forecast effectiveness of the proposed measures on attendance of Ukraine in the "New Silk Road".

**Research methods.** The following methods were used in the work: method of classification, systematization, analytical, statistical qualitative and quantitative comparison methods, tabular and graphical methods, method of system approach, method of induction, method of scientific abstraction, and generalization for the development of recommendations for the implementation of corporate social responsibility.

The practical significance of the results. The conclusions and proposals formulated and substantiated in the final qualifying paper can be used as a methodological basis for stating the proper list of changes and goals for the establishment of a strong role of Ukraine in the "New Silk Road" program.

**Approbation of the results.** The main provisions of the study, which formed the basis of the final qualifying paper, were published in the collection of scientific articles of students obtaining a master's degree in "International Economics" at the Kyiv National University of Trade and Economics "Modern Relationships in the World Economy" (Kyiv, 2021).

# PART 1 THEORETICAL ASPECTS OF DEVELOPMENT OF THE "NEW SILK ROAD"

#### 1.1. Study of global logistic flows in economic theory

Global logistics has been part of the modern human development process based on certain concepts such as financial, organizational, spatial-geographical, technical, technological, and personnel considerations, as well as factors and drivers of development. Having clarified the content and essential features of these positions, researchers and practitioners can create a methodological basis for research and logistics practices in the new environment.

The transformation of long-established logistics into globalized logistics and the features characteristic of this stage is interdisciplinary and cover several different areas of research, including, most importantly, global research in logistics and philosophy. Any scientific research is largely determined by how effectively the concepts and categories used in the study are applied to the problem. Uncertainty and inaccuracy in the interpretation of the conceptual apparatus can lead to a distorted perception of the nature and cause-and-effect relationships of the studied processes and phenomena and too unreliable research results.

A study of the impact of globalization of the world economy on the modern, globalized market of logistics services was conducted within the framework of the non-profit international association of transport logistics BVL International [7, Oct 10, 2021], a methodology for studying trends in the market of logistics services was developed and a survey of 1757 expert organizations was conducted. The study showed that to gain an advantage in today's market, the supplier must take into account the following factors (e.g., declining importance):

• requirements of customers (manufacturers) for the provision of special (new) services - (22%);

 $\cdot$  timely delivery - (17%);

• environmentally friendly delivery - (13%);

 $\cdot$  delivery time - (12%);

- $\cdot$  change of delivery technology (11%);
- · corporate social responsibility (10%);
- delivery cost (7.5%);
- $\cdot$  quality of logistics services (4.6%);
- flexible delivery schedule (2.9%) [7].

The main factors determining the process of transformation of traditional logistics into globalized, considered the existing obstacles, levels of globalization of logistics operations, as well as identified the objective need, conditions, and organizational and technological content of the formation of an integrated logistics supply chain.

The terms "globalization" and "internationalization", "integration and internationalization" are often used interchangeably. Many authors combine into a single classification structure concepts and phenomena that have different essential features or factors, or driving forces, or obstacles to the globalization of logistics. Sometimes there is a simplistic view of the role and functions of logistics in the structure of social reproduction and the impact of globalization on these positions.

The concept of globalization also has two aspects. On the one hand, globalization is an objective process, the content of which is the growing interconnectedness and interdependence of national economies, national political and social systems, national cultures, as well as the interaction of man and the environment. The basis of globalization is the development of world markets for goods, services, labor, the capital. On the other hand, globalization is an invisible force majeure, which imperatively calls on the subjects entering into relations in the world economic space to realize their interests, adhere to the established common technological, economic, legal, socio-political relations, norms, and requirements.

This essential feature of modern globalization distinguishes between the concepts of "integration", "internationalization" and "globalization". The essence of the integration process is internationalization, transnationalization, and the universalization of economic activity. The concepts of "integration" and "internationalization" are related as general and separate [14].

The internationalization of economic life is manifested in the strengthening of the interdependence of production, the growth of international trade, the movement of capital and labor, the interaction on the most important economic processes in countries, including price dynamics, interest rates, and more. based on the international division of labor and the creation of transnational corporations. The main motives for the internationalization of economic activity are:

• reducing the share of fixed costs in the cost of production by increasing the scale of production;

improvement of the production process;

• interaction with scientific and technical centers, which contributes to the renewal of advanced technologies; - reduction of labor costs;

- availability of raw materials and capital;
- desire to get closer to consumption;

• differences in the legislation of different countries, which create conditions for obtaining various benefits (tax benefits, offshore zones, subsidies, etc.);

prestige.

As a prerequisite for the development of the integration process, internationalization, in turn, is accelerating within the integration associations of countries. Their relationship involves voluntariness, mutual benefit, non-interference in each other's internal affairs. At the turn of the century, the process of regional integration intensified sharply. Today, there are about 20 international integration associations in the world, covering major regions and continents of the globe. Their member countries account for almost 2/3 of world GDP and the bulk of international trade and international capital flows [18].

Globalization is a qualitatively new level of internationalization of world economic relations. This significantly strengthens the interdependence of economies, forms global commodity and financial markets, global information space and logistics networks, increases competition. The global economic space is increasingly attracting multinational companies. In terms of the development of logistics, the global expansion of the geography of its market space, first, includes in the struggle for the client numerous national and regional logistics structures; secondly, it also adds political, legal, civilizational, and cultural positions to the economic factors that affect the efficiency of logistics; third, it increases the likelihood, extent, and variety of business risks.

All this forces the participants of the logistics services market to constantly analyze the situation, determine the strategy of their company and quickly make tactical decisions on issues that arise. It is quite correct to say that the desire to expand the international activities of companies is the desire to grow and survive in a competitive environment. Expanding the role of each factor in the globalization of logistics, various authors give them the properties of the driving force, but at the same time the motives of the real behavior of companies point to other positions:

• the desire for economic growth and increased profits;

• good return on assets, "capitalization" of the experience of logistics operators, optimization of financial costs; - the need to develop new markets to support growth;

• the net effect of regionalization due to reduction of trade duties, easing of trade restrictions, the introduction of uniform standards of transport documentation and general transport and freight system;

• optimization of consumer satisfaction with the company;

• improving the efficiency of companies by deregulating the financial and transport sectors.

Thus, the concepts of factor (as a certain essential circumstance) and driving force (as a motive for the actual action of the company) are identified, which are sometimes used as synonyms in determining their meaning.

For example, it is argued that "the main factor that forces companies to serve the world market" is "the desire for economic growth and increased profits." In the field of science in the development of logistics usually distinguish five stages. The current stage is called the stage of globalization of logistics, being the transition from a global economy to a global one marks a new era in the development of capitalism - its survival and needs through cheap labor, cheap land, and cheap materials and new markets. This, in turn, causes the expansion of goods, makes new demands on logistics services.

Global logistics involves the development of strategies and tactics to create sustainable macrosystems that connect business structures around the world based on the division of labor, agreements, master plans, supported at the interstate level. The emergence of the term "global logistics" reflects the growing trend of the world economy, which is characterized by the transition of a business from its specialization in individual countries and regions to a multi-organized world market economy. The main tasks of global logistics are the formation, management, and optimization of material flow at the level of macro-regional economic structures. At the same time, new theses were added to the above wording of the term "global logistics", which in no way reflect the essence and content of global logistics. The concept of "a set of interrelated functions of material flow management in international trade" does not exhaust the content of logistics as an economic activity and cannot be considered as an essential distinguishing feature of global logistics. It is illogical to say that "global logistics" reflects the growing trend of the world economy, because the term of one particular concept can not a priori reflect the essential features of another concept.

The main tasks of global logistics as the formation and optimization of material flow at the level of macro-regional economic structures and their management, thus reducing the operational sphere of logistics to "macro-regional" and depriving it of the most important feature - globalization.

This allows to define the concept of global logistics as a new stage in the development of logistics, which response to the challenges of globalization in the efficiency of the reproduction process (production, distribution, exchange, consumption) by creating and developing global interstate transport. logistics, distribution, and other macro-logistics systems, an integrated network of regional distribution logistics centers that form the appropriate transport and telecommunications infrastructure, an effective mechanism for controlling logistics flows.

Global logistics as a system of economic relations covers all phases of the process of world social reproduction. The basis of these relations is the relationship of ownership of the means of production. The motive of economic activity is the profit received by the owner. In the context of globalization of the world economy, logistics is the most important means of reducing the cost of all types of resources in the field of production and circulation, and, consequently, to obtain greater profits and ensure the competitiveness of business. The technological essence of global logistics is to reduce operating costs of working time, duration of the production cycle, the delivery time of goods, and, of course, material costs.

Global logistics is becoming an important strategic tool to ensure competitive advantage in the global product market. The scientific and technical essence of global logistics is that it is implemented based on IT management technologies in the production and circulation of goods by optimizing information flows, as well as the timely provision of complete and reliable information to its customers. The socio-political essential feature of global logistics is manifested in the improvement of services, removal of customs, tariff, tax, and other barriers to the flow of goods, services, capital, and labor. This, in turn, contributes to strengthening the stability of inter-civilization and interstate relations, more complete and high-quality satisfaction of consumer demand, the formation of modern human capital competencies of national communities and specific organizations.

From the standpoint of the law of unity and the struggle of opposites, understanding the contradiction as a source of self-movement, a fundamental principle of development of any phenomenon and process, it can be argued that both concepts include the same essential feature - the ability to influence reality. Economic contradictions are significant, natural relations and interactions between opposing parties to an economic phenomenon or process. Since all areas of the reproduction process are interconnected and interdependent, there is also a contradiction between the elements of the system of world economic relations.

At the same time, circumstances (factors) are formed, which are the root cause of the process of development of another related to the previous object. The factor, as a newly created circumstance, encourages the business entity to decide to make changes to its practice. In this regard, this factor can be considered as an information driving force of development.

Factors in the development of logistics (its transformation into a globalized state) are a reflection of significant changes in the external and internal spheres of logistics. The

source of information are factors that have contradictions in the system of economic, organizational, technical, technological, legal, and other relations that are implemented in practice, to eliminate which requires specific actions of the subjects of these relations. The source of self-movement and transformation of logistics into a global system in its most general form is the contradiction between the ability to manage supply chains within the competence of classical (and regionally integrated) logistics and the needs of the globalized world economy in logistics. Thus, the geographical expansion of the logistics sector is due to several external factors. Determinants among them are the growth of world traffic; expansion of IT technologies and means of communication; regionalization; deregulation of the sphere of international relations; concentration of efforts and interaction of political actors at the global level.

The most important internal factor of globalization of logistics is laid in the essential basis of the object of its activity - services. Logistics service as a product has the ability, on the one hand, to provide profit to the supplier, on the other hand, reducing customer costs for all types of business processes integrated into the supply chain (design and production, transportation), sales, services, procurement, distribution, management resources, auxiliary functions. The globalization of world economic relations forms new expectations and requirements for the logistics partners of all components of the reproduction process from sources of raw materials to end-users due to the increased variability of many components that affect the efficiency of their activities and services. countries of trade, customs, transport, financial, political restrictions).

The essence of global logistics as a special activity is to ensure optimal interaction of resources in the complex world market, various national economies and multinational companies to increase their efficiency by creating and using international macrosystems and centers. Transport and telecommunications infrastructure, favorable international legal regimes, customs and tax regulation of logistics flows are main factors influencing logistics globalization.

#### 1.2. Monitoring international trade flows between Asia and Europe

Over the past 10 years, the volume of international trade in goods has risen sharply. Despite the financial crisis of 2009, developing countries as a group have almost doubled the trade in goods since 2009. Although imports grew relatively more than exports to developing countries, the opposite was true in developed countries. The relatively larger increase in imports can be explained by the increase in consumer demand in developing countries.

Asia has become a new engine of global growth: while the United States has grown by an average of 1.6% per year over the past decade, the European Union - by 1.7% and Latin America - by 4.6%, East Asia - by 5 %, 4% and Southeast Asia by 5.9%. As a result, Asia has significantly increased its regional share of world GDP over the past decade compared to other regions of the world. As the economic dynamics of Asian economies are expected to continue, Asia's share of world GDP is projected to reach 29.4% in 2030 (compared with 22.6% in 2004). At the same time, the share of Western Europe and the United States is projected to decline to 25% in 2030 (from 33% and 28.5% in 2004, respectively). In Asia, all countries except Japan are expected to increase their weight in world GDP, and Asian economies, which are growing faster, will account for a much larger share of the projected world economy over the next two decades (from 11% to 22%).

An effective EU trade strategy for Asia, as recently stated in the European Commission's Communication "Trade for All", should update trade policy in the light of new economic realities, such as cross-border supplies or value chains, i.e., the division of goods and services. to adjacent stages of production scattered across international borders (within or between regions). The growth of global value chains (GVCs) has shaped world trade trends over the last decade, and this is especially evident in Asia, where the growth of intra-Asian trade is largely driven by such value chains in the region (hence the term "Factory Asia").

Today, trade ties between the two sides of the Pacific have lost ground (as the share of US-Asian trade fell from 31% to 26% of trade between APEC countries, while intra-

Asian trade rose to 41% and intra-US trade fell to 21%. Asia became the largest trading country as the largest exporter in the region (with 22% of intraregional exports) and the largest importer (with 17% of intraregional imports) and worldwide, given the importance of APEC trade in world trade.

Trade growth has slowed significantly over the past few years, especially for developing countries, and then revived in 2017, when imports and exports grew at the highest rate since 2011 for this group of countries. In 2015 and 2016, growth in both imports and exports was extremely low or in some cases negative in the three largest economies. In 2017, the growth of imports and exports resumed significantly. In 2018, overall growth remained at the level of 2017 in the United States, while in European exports and China, both exports and imports slowed.

Trade corridors between Europe and Asia are expected to continue to grow and grow rapidly due to trade tensions around the world and the need for companies to adopt diversification strategies due to supply shocks caused by the COVID-19 crisis. The Asia-Pacific region is a vital crossroads of global supply chains. Discussions on trade with and within the region over the past few years have been dominated by the effects of the US-China trade war, growing populism, and diversification of supply chains outside China. During this relatively turbulent period, Europe remained identified as Asia's largest and most resilient trading partner, and the potential for trade growth between the two regions is enormous, despite - and possibly even the COVID-19 outbreak [13].

An integral part of this evolution in the recent past has been that global companies, realizing their excessive propensity for China, have worked to relocate and reorganize their supply chains. As wages in China rising and qualifications grow, multinational companies are steadily expanding their operations in emerging markets in other Asian countries as part of their so-called China Plus One strategies. According to a new report by analytical and consulting company Silk Road Associates, in 2019 China quickly lost its share in the global export market. Its share of world exports fell by 4% in the consumer goods sector, and the gap in Southeast Asia widened, as well as in Europe and Latin America.

While not a new phenomenon, these shifts have been accelerated by the US-China trade war, and more recently by the COVID-19 pandemic, which highlighted the need for diversification and sustainability of supply chains. In Asia, this trend is giving way to expanding opportunities for countries in the south and southeast, which may have been overshadowed by China's sharp growth as a powerful producer over the past two decades [13].

Currently, the leading trading partners are Asia and Europe, which receive \$ 1.5 trillion annually, which is ahead of trade on all continents with the United States. The new study, which collects an unprecedented range of bilateral data between pairs of countries, points to economic, social, and political ties between 51 countries in Asia and Europe. As the world views on the US-China trade war, Asia and Europe are working to deepen relations. The two continents have made the relationship between people, business, and institutions a top political priority and are moving rapidly to build and strengthen ties, working hard to achieve the Sustainable Development Goals (SDGs).

A strong ASEM connection is a concept that is characterized by many different components. Given its multidimensionality, it cannot be measured directly or approximated by a single indicator. Thus, the approach used here is to build a structure of relevant indicators that can be combined into composite indicators: a set of several indicators into a single number. Sophisticated indicators are widely used in policymaking, advocacy, and public debate. They make large and complex data sets available, summarizing patterns across multiple indicators and providing an overview of the overall picture.

Complex indicators are easy to interpret and easy to communicate to the public. But only a comprehensive indicator does not tell the whole story. Instead, it serves as an entry point, which encourages the study of basic data. Therefore, this report discusses aggregate columns and indices, as well as individual indicators, to help the reader understand which elements of the country's system contribute to sustainable communication. In particular, a thorough analysis of bilateral relations between countries was conducted to deepen the understanding of the state of connectivity in ASEM. The origins of the Asia-Europe meeting lie in the mutual recognition in both Asia and Europe that relations between the two regions need to be strengthened to reflect the new global context of the 1990s and the prospects of the new century. It currently includes 51 partner countries (30 European and 21 Asian countries) and two institutional partners: the European Union (EU) and the Secretariat of the Association of Southeast Asian Nations (ASEAN), which together represent about 60% of the world's population, 55 % of world trade, 65% of the world economy and 75% of world tourism.

ASEM addresses policy, economic, social, cultural, and educational issues of common interest based on mutual respect and equal partnership. It aims to mediate dialogue, establish a laboratory to develop policy, and manage the relationship between Asia and Europe. The added value of ASEM lies in its flexibility and informal policy discussions. In recent years, communication within ASEM has become a key area of cooperation. At the 10th ASEM Summit, held in Milan on 16-17 October 2014, it was agreed to "continue to explore approaches to improving relations between Europe and Asia in all relevant areas and to explore concrete steps, including the possible establishment of a working group on communication issues. to this end. At the 11th ASEM Summit in Ulaanbaatar, Mongolia, July 15-17, 2016, it was decided "to include communication in all its dimensions, including political, economic, digital, institutional, socio-cultural and interpersonal, in all relevant activities. The summit also decided to set up an ASEM connection search group (APGC) to explore how ASEM could add connectivity benefits. The team prepared a definition of communications for the ASEM context, which was approved by all ASEM partners in November 2017 [13].

There are several ongoing connection initiatives in Europe and Asia. Euro-Asian mapping has recently been conducted to describe existing policies, tools, and projects. The EU's Global Strategy on Foreign and Security Policy proposes to strengthen Europe's relations with Asia, deepen economic diplomacy and expand the EU's role in security in Asia. Communication is an important element among the 10 political priorities of the European Commission. These include, in particular, the Digital Single Market, the Energy Union, the Single Market, trade policy to attract globalization, and the European migration agenda.

The EU's strategy for connecting Europe and Asia aims to strengthen the sustainable link between the two continents. The link can help countries achieve the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), as well as the commitments of the Paris Agreement to combat climate change and adapt to its effects. Connectivity can also provide many opportunities for businesses and citizens. In Southeast Asia, the ASEAN Communications Master Plan, first adopted in 2010 and updated in 2016, aims to improve relations with ASEAN by improving physical, institutional, and interpersonal ties. The plan focuses on five strategic areas: sustainable infrastructure, digital innovation, seamless logistics, regulatory excellence, and human mobility.

The network of the main bilateral FDI flows within ASEM is shown in absolute terms. The United Kingdom is a major player in Europe, receiving FDI from various sources but also investing large sums of money in Asia, particularly India. India is a major recipient of FDI, attracting investment from Europe (France and Germany) and Asia. China is also a major player in FDI, investing heavily in India as well as Pakistan and Kazakhstan. Vietnam is also a major recipient of FDI, particularly from Korea and Japan.

In general, the situation is more ambiguous than with many other indicators considered: FDI seems relatively smooth between Asia and Europe. Indeed, FDI is virtually unrelated, and although about 70% of total ASEM FDI flows come from Asia and Europe, the average investment between Europe and Asia is similar to the average investment in regional groups. Other interesting models are obtained by scaling the FDI flows to the recipient's GDP - this shows the FDI flows that are most significant for the recipient country. Using this intensive approach, Cambodia, Myanmar, and Vietnam are now the main recipients of the FDI investment network. There is also a relatively significant bilateral flow of direct investment from the United Kingdom to Mongolia. This suggests that development in these countries may be more driven by FDI than in other ASEM countries [13].

The main centers of ASEM are two countries: Germany and China. The analysis of the network also shows that the largest trade flows are limited to Europe and Asia, respectively. However, there are significant inter-bloc flows between China and Germany (in both directions), China to the UK, and China to the Netherlands. In this regard, China is considered the main trade analog of Europe, although it should also be noted that the bulk of Chinese exports (two-thirds) go to Asia, not Europe. On the European side, German exports are similar to Chinese exports: most goods (more than three-quarters) come to countries in one regional bloc.

These economic growth trends coincided with structural change and industrialization in developing countries and the rest of the world; According to ADB, between 2000 and 2014, the share of agriculture in GDP declined in almost all regions of the world. At the same time, the share of industry in GDP grew in about half of regional economies between 2000 and 2014, and most services grew. These changes are likely to have profound implications for trade patterns over the next two decades, in particular for the importance of Asia's intra-regional trade and its trade with the rest of the world. In particular, according to some estimates based on the GTAP2 model, the share of developing countries in world exports of all products will almost double, increasing from 33% in 2004 to 55% by 2030, and the share of developing countries in Asia will increase. from 21% to 40% over the same period. China's share alone is expected to grow from 7% to 20% entirely due to high-income countries. Not only exports but also imports will increase, as the share of developing Asian imports will increase from 18% to 29% [13].

This increase in the weight of Asia - and especially China - in world trade and the shift of the center of gravity of domestic trade to Asia - again, in particular to China - was accompanied by the spread of PTA / FTA in Asia in the 2000s to build the way to the future [52].

#### **Conclusions to part 1**

As we can see, the role of China as a trade relations partner has grown over time since the transition from being the world's assembly plant and raw resources extractor to the almighty hub of trading, research and development of Asian region. Having the proper infrastructure to benefit both from export and import plus being open to cargo transportations by all means available, China conquered economical leadership in the region. On the other part of the planet, Europe has become more dependent on resources and market to support the growing supply of high-quality goods that are in big demand in Asian region, and adding the resources limitation – the connection between EU and resource-rich countries of the East can't seem more natural.

It is been more than 30 years the economical blocks were trying to settle a stronger connection using the different approaches, and the one big solution is establishment of the powerful stream of the goods and services exchange, namely the One Belt One Road program, featuring a creation of the New Silk Road as a global logistics flow.

The key feature to provide the good execution of this connection initiative is building new value chains, that do not rely on just the origin of the resource and the amount of added assembly value, being more focused on the final quality, and meeting the international market conditions.

Another big step is taken in flexibility and harmonization of policy discussions, establishment of partnership based of respect and long potential possibilities, which was and party remains problem to be solved. Often the factor social responsibility is neglected, which can be a decision-maker of participating the international trade flow, slowing down the influence of emerging companies on this global scene.

However, trade corridors between Europe and Asia are expected to continue to grow and grow rapidly, driven by trade tensions around the world and the need for companies to adopt diversification strategies due to supply shocks caused by unpredictable factors.

#### PART 2 DEVELOPMENT OF THE "NEW SILK ROAD"

### 2.1 Assessment of factors affecting international logistics flows between Asia and Europe

Trade growth has slowed significantly over the past few years, especially for developing countries. In 2015, growth in China was negative for both imports and exports. Sales growth was positive in 2016, but only slightly for most countries. Moreover, the growth rate of physical volume in developed countries over the past two years is generally ahead of the growth rate of developing countries. With the momentum created by the slowdown in growth in China and other Asian developing countries. Changes in the Chinese economy and related side effects for other major developing countries, including Central Asian countries.

Other factors, namely lower commodity and oil prices, deteriorating trade conditions for many commodities and oil-exporting countries, weakening global demand and investment, geopolitical tensions, and political unrest, have contributed to increased uncertainty and increased risks of deterioration. and deteriorating prospects for trade in goods and transport between Europe and Asia. (See Appendix A)

The slowdown in economic growth in Asia has had a significant impact on the world economy and trade and is likely to remain the dominant external factor. For this reason, the growth of international trade will not be the main driver of increasing Euro-Asian freight traffic and expanding transport links [6].

The most relevant trend from the EU's point of view and for the development of a comprehensive EU foreign trade strategy for Asia is the changing role and weight of Asia in APEC. Over the past 15 years, the center of gravity of trade within APEC has shifted significantly in favor of the Asia-Pacific region to the detriment of the American side. While trade within APEC was fairly balanced in 2000 (1/3 within America, 1/3 within Asia, and 1/3 America-Asia), today trade flows between the two sides of the Pacific have lost ground. The share of trade between the Americas and Asia fell from 31% to 26% in intra-APEC trade, while intra-Asian trade rose to 41% and intra-American trade fell to

21%. The sharp increase in intra-Asian trade flows to the detriment of trade between the countries of the Asia-Pacific region was mainly due to the rapid growth of China's trade with other Asian countries. China became the largest trading country on the continent: the first exporter in the region (with 22% of domestic exports) and the first importer (with 17% of domestic imports). Thus, China has become a central player in APEC (replacing the United States), as well as worldwide, given the importance of APEC trade over world trade. These economic growth trends coincided with structural change and industrialization in Asia and the rest of the developing world; According to ADB, between 2000 and 2014, the share of agriculture in GDP fell in almost all regions of the world. At the same time, between 2000 and 2014, the share of industry in GDP increased in about half of the countries in the region, and the value of services increased in most of them. These changes are likely to have serious implications for trade patterns over the next two decades, in particular the importance of Asia's intra-regional trade and its trade with the rest of the world. In particular, according to some estimates based on the GTAP2 model, the share of developing countries in world exports of all goods will almost double, increasing from 33% in 2004 to 55% by 2030, while the share of developing countries in Asia will increase from 21% to 40% over the same period. China's share is expected to increase from 7% to 20% solely due to high-income countries. Not only exports but also imports will increase, as the share of imports from developing Asia will increase from 18% to 29% [6].

In 2015, the EU was ASEAN's second-largest trading partner. Despite the high share of intra-EU trade, the relationship between regional trading blocs has grown over the last decade. The share of EU intra-regional exports during this period decreased by almost 4 percentage points in favor of exports outside the region. Asia and the Asia-Pacific region have become important EU partners in both trade and investment, accounting for 19.8% of EU exports today. The EU is already China's largest trading partner, and China is the EU's second-largest partner with almost  $\notin$  466.8 billion in bilateral trade in goods in 2015 and 3.6% of EU exports. (See Appendix C)

One of the most common perceptions of economic globalization is that the world economy is becoming increasingly interconnected through trade and investment on different continents. Global trade is becoming more regional, which means that it is mainly expanding within three regional trading blocs - the EU, NAFTA, and APEC - and to a lesser extent between regional blocs. In particular, intraregional exports account for the largest share of total exports to the EU (62.6% in 2014), and this share is even higher in APEC (68.1% in 2014) and to a lesser extent in North America (50.2%) in 2014. Similar trends persist on the part of imports.

Unlike in Europe and North America, regional economic integration in East and Southeast Asia has traditionally been more market-based than institutional, in the sense that formal integration initiatives have been dictated by countries seeking to benefit economically from further deepening regional economic interdependence through trade and investment liberalization. In Europe and North America, economic integration in each region accelerated only after the creation of official regional institutions in the form of the RTS. Until 2000, the region's largest trading countries - China, Japan, and Korea were not members of any RTS / FTA.

Although free trade agreements promote deeper economic and trade integration in the Asia-Pacific region, there is the potential to negatively affect effective regional trade integration by overlapping these agreements in what is called a "noodle cup" in bilateral relations agreement. In addition to bilateral agreements, the number of multilateral agreements in and between East and Southeast Asia has also increased, including five ASEAN + 1 RTAs: ASEAN-China FTA, ASEAN-Japan Comprehensive Economic Partnership Agreement, ASEAN. - FTA of Korea, FTA of ASEAN-Australia and New Zealand, and FTA of ASEAN-India. (See Appendix F)

Although the EU remains Asia's largest trading partner, its position is deteriorating rapidly compared to competing countries both inside and outside the continent. Over the past few years, the EU has gradually lost its position as the largest trading partner of several Asian countries, mainly in favor of China.

The EU's trade approach to China deserves special attention, as it has not yet led to something that could be seen as a coherent strategy. This is particularly worrying because, as discussed above, China's weight as a trading partner in Asia has grown rapidly as a trading partner in Asia. China is now also the EU's second-largest trading partner and, indeed, China's largest partner. Thus, given China's activity in establishing the RTS with a growing number of both developed and developing countries, both in Asia and abroad, the EU urgently needs to develop a foreign trade and investment strategy with China to maintain good bilateral trade relations.

Negotiations on a comprehensive investment agreement between the EU and China were formally launched at the EU-China summit in Beijing in November 2013. The purpose of such agreements is to remove barriers to market access for investors and to provide a high level of protection for investors and investments. in the EU and China markets. It will replace the 26 existing bilateral investment agreements between the 27 individual EU Member States and China with a single comprehensive investment agreement.

First, China's role in global value chains makes it vital for the country to reduce trade costs in these chains, most of which link China to the Asia-Pacific region. Over the past decade, these FTAs have strengthened China's role in regional and global value chains by reducing tariffs, clarifying rules of origin, and simplifying customs procedures. Combined with China's exemption from taxes on imported raw materials and other resources that need to be processed or simply collected into goods for export, together they have played an important role in facilitating trade between China and its trading partners [10].

Second, China's promotion of free trade agreements can be seen as a strategy in the face of the challenges posed by megaregional trade agreements, such as the TTP, which are seen as a competitive path to trade integration in the Asia-Pacific region. China has one of the richest FTA programs in Asia. Existing agreements include FTAs with countries such as Chile, Costa Rica, New Zealand, and Switzerland. Meanwhile, the ongoing FTAs will facilitate China's economic integration with Australia, Japan, the Republic of Korea, Norway, and the Gulf Cooperation Council countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

Further initiatives are underway to liberalize trade and promote investment at the regional level. For example, RCEP includes several countries in the Asia-Pacific region, such as ASEAN, Australia, China, India, Japan, and New Zealand. The fourth round of

RCEP talks took place in Nanning, China, from March 31 to April 4, 2014. Expectations that it would be completed by 2015 did not live up to expectations. In the early 2000s, China's negotiations focused on traditional FTA issues such as goods, services, and investment, including the reduction of tariffs on goods, while the so-called Singapore issues, such as public procurement, competition, and trade facilitation, received little attention.

Now that the momentum of the US-China bilateral investment agreement seems to have faded, Europe can take the lead in negotiations with China. And China has already expressed interest in starting negotiations on a bilateral free trade agreement with the EU. Indeed, both players will benefit greatly from such a free trade agreement.

China and Europe now trade more than 1 billion euros a day. Industrial and consumer goods predominate in EU imports from China, with bilateral trade in services accounting for only one-tenth of total trade in goods. Only 20% of EU exports to China are services. Investment flows show significant untapped potential, especially given the size of the two respective economies. China accounts for only 2-3% of all European investment abroad, while Chinese investment in Europe is growing, but from an even lower base.

A comprehensive investment agreement between the EU and China could use this potential to the benefit of both parties. The first round of negotiations on an investment agreement between the EU and China took place in Beijing on January 21-23, 2014. A comprehensive EU-China investment agreement will provide a simpler, safer, and more predictable legal framework for investors in the long run. The EU sees the investment agreement with China as an important element in promoting closer trade and investment ties between the two economies.

One of the EU's priorities in the negotiations will be to remove barriers for EU investors in the Chinese market. Negotiations begin in the context of ambitious economic reforms recently announced in China. Among them is the decision to further open China's economy to foreign investors to stimulate innovation and competitiveness through more advanced industries and services on the mainland.

# 2.2. Analysis of the effectiveness of existing logistics flows in terms of creating a "New Silk Road"

The Silk Road Economic Belt (SREB) initiative is the main focus of China's national strategy, the One Belt and Road Initiative. At the same time, all countries, potential participants in this project, want to benefit from the transit of goods and passengers, investment in infrastructure construction, increase foreign and mutual trade, improve the quality of service, and more. It is a large-scale, ambitious, long-term project initiated by the Chinese government with the participation of many other countries to facilitate trade and improve logistics to promote global economic development.

The initiative is officially aimed at promoting five areas of cooperation:

- Coordination of development policy,
- Construction of infrastructure and utilities,
- Strengthening commercial ties and investments,
- Development of cooperation in the financial sphere and
- Development of social and cultural exchanges.

The \$ 40 billion Silk Road Fund was set up to fund the One Belt and Road initiative, including infrastructure projects and industrial and financial cooperation. The fund was established as a limited liability company in December 2014 with its founding shareholders, including the State Monetary Administration of China, China Investment Corp., the Export-Import Bank of China, and the China Development Bank. A new multilateral development bank, the Asian Infrastructure Investment Bank (AIIB), has also been established to complement and collaborate with existing multilateral development banks to meet Asia's infrastructure needs [45].

The AIIB was expected to focus on the development of transport infrastructure and logistics, as well as telecommunications and urban development. In terms of transport, the One Belt, One Road initiative was designed to connect Asia, Europe, and Africa with five Silk Road economic belt routes:

- From China to Europe via Central Asia and the Russian Federation;
- From China to the Middle East via Central Asia;

• From China through Southeast Asia, South Asia to the Indian Ocean. (See Appendix K)

The overland route, otherwise known as the Silk Road Economic Belt, will start from Xinjiang to Germany via Central Asia (Kazakhstan), Iran, Iraq, Syria, crossing Turkey and some European countries such as Bulgaria, Romania, the Czech Republic, the Netherlands, and Germany. This initiative will allow transport routes to be mutually smooth, safe, and efficient. If you look at the routes, the largest seaports are strategically located along the belt of the South Ocean Sea Route and highways [45].

China's economic strategy also includes investment in infrastructure and the creation of new communication and trade routes. China's foreign and domestic economic policy priorities are a signal to economic partners that the opening policy will continue. Therefore, the coming years will be important for those who work in the Chinese market and those who want to start in this area of the economy.

SMP is perceived as an integrative initiative. As with other similar economic integration initiatives, the effects of trade creation and development will benefit participating and low-income countries. Another issue of this integration is the case of legal regulation, standardization, and liberalization of rules that ensure the smooth operation of the Route. The European Union is China's largest trading partner with 14.3% of the country's turnover. China is the EU's second-largest trading partner with almost 14% of its trade. The dynamics of the rise of economic relations are impressive. Looking to the future, it can be stated that the EU's position in the international division of labor will largely depend on relations with China. SMP is based on two types of transport: rail and sea. At present, rail transport covers a small part of the trade turnover between China and the EU - only about 3-4%.

Significantly developed maritime transport. This part of the SMP is planned to expand China's relations not only with Europe but also with the Middle East. Both routes should be considered complementary. Sea transport from China to Europe takes about 30-40 days, which is too much for many cargos, and rail transport takes only 11-14 days and is much cheaper than air transport. The European Union is China's most important trading partner, and China is the EU's second-largest partner after the United States.

In recent years, bilateral trade has grown sharply. China is the largest supplier of goods to the EU market. The EU has a significant trade deficit with China. The EU cites global and Asian value chains as the main causes of this phenomenon, but also in part because barriers to market access remain in China. It seems that the structure of mutual trade is also responsible for this. EU imports from China are dominated by industrial and consumer goods: machinery and equipment, footwear and clothing, furniture and lamps, toys. EU exports to China focus on machinery and equipment, vehicles, aircraft, and chemicals. (See Appendix D)

The most important among the most important items of Chinese imports are agricultural products (only 2% are European exports). This is partly due to the distance and mode of transport. Sea transportation takes 30-40 days, air transportation is expensive. Agricultural products from the EU enjoy the high trust and interest of Chinese consumers. Small and medium-sized rail transport can increase the export potential and price competitiveness of EU agricultural products. In particular, countries on the SMP rail route, such as Poland and Lithuania, could benefit from this. China's main trading partners in the EU are Germany, the Netherlands, and the United Kingdom. Given the geographical location of these countries, in their case, we would especially like to develop a railway branch of the SMP, which will allow faster entry into the markets of these countries. On the other hand, Germany is also the largest (and fifth) exporter of EU goods to China, and therefore the acceleration of shipments to China from the point of view of the railway branch of the SMP seems relevant.

To assess the effectiveness of logistics flows in terms of the development of the New Silk Road in a world practice are used:

1. Logistics Efficiency Index (LPI), determined by the methodology of the World Bank. The LPI index is currently the most reliable and consists of 6 indicators that determine the level of development of the transport and logistics complex of the country:

- Efficiency of customs control and border management;
- Infrastructure (quality of trade and transport infrastructure,

• System of international transportations (simplicity of the organization of deliveries at competitive prices);

- Competence and quality of logistics services;
- Ability to track and control cargo;

• Timeliness of delivery conditions. The score for each of these elements is from 1 to 5 points, where 1 is the lowest and 5 is the highest.

2. The Global Enabling Trade Index (ETI) is determined according to the methodology of the World Economic Forum by the expert-analytical method according to 57 indicators of statistical data of international and national organizations, as well as the results of a global survey (22 indicators or 38%). The Global Enabling Trade Index examines four key indicators of the openness of world economies to international trade: access to the domestic market, border management, business climate, transport, and communication infrastructure.

3. Index of Logistics of Developing Countries (EMLI). This is the degree of openness of national economies to international trade (The Enabling Trade Index), which includes the following factors: access to the internal market, administrative management at borders, business climate, transport, and communication infrastructure. Data from these reports and studies cited in the sources were used.

4. The development of the logistics market in the country is directly influenced by the conditions of doing business. For the rating of favorable conditions for doing business, consisting of 10 indicators, the International Trade Indicator was used. The Doing Business study estimates the time and financial costs of organizing and ensuring the export and import of goods, i.e., the time and cost of paperwork; time and cost of border and customs control, both export and import.

Today, Western European countries and developed Asian regions have strong leadership in the level of logistics development. But the logistics systems of developed countries, which are leaders in the LPI ranking, are not an ideal model for copying, because each of them, firstly, is not without its shortcomings, and secondly, focused on the specifics of a particular region.

A common feature of logistics systems in developed countries in Europe, America, Asia Assessment of the impact of factors on the efficiency of economic development of markets - focus on modernization through the introduction of modern information technology and expanding the range of IT services. All of the above should have a positive impact on the factors influencing the logistics efficiency index, which is expected to allow the main Silk Road routes to raise the overall position in the World Bank rankings. The Appendix L shows the average value of the level of logistics development (LPI index) in groups of countries where the main SREB routes pass.

The level of logistics development (according to the LPI index and subindex) in 2016. The leaders among these groups are European countries. (3.5 points) and large regional countries (3.06), the worst indicators of logistics development in Central Asia (2.32) and the Caucasus (2.34). (See Appendix L)

The EU and large countries in the region have higher than the world average LPI, other groups of countries have indicators below the world average. Figure 1 shows the ratings and values of the Logistics Efficiency Index (LPI) of the Silk Road countries or potentially related to the Silk Road. The best averages in Europe, China, India, Saudi Arabia are higher than in the world. The CIS and Caucasus countries lag behind the world average LPI. (See Appendix E).

Despite a certain subjectivity of research on logistics efficiency, there are many major problems in the development of logistics in the Eurasian Economic Union. Among the - lack of investment in infrastructure development, lack of 3PL market, lack of system integrator level 4PL, low level of staff skills, imperfection of customs and other controls at the external border, lack of uniform legal regulation, lack of national statistics on logistics development, weak integration into the Eurasian logistics system.

The analysis of these EMLI sub-indices for 2016-2019 shows the following (Table 2.2). From the main countries China (1st place), India (3rd place), Russia (9th place), and Turkey (11th place) have a high size and dynamics of market development, while Russia has underdeveloped transport communications, weak market compatibility, domestic transport infrastructure, and communications, small and underdeveloped market, low market compatibility underdeveloped countries (about (our study) are not included in the EMLI ranking According to data for 2016, Russia ranked 9th out of 45 developing economies according to the EMLI index, Kazakhstan - 18th place, Ukraine - 27th place. First places in this ranking are occupied by China, the United Arab Emirates,

India, Malaysia, Saudi Arabia, Brazil, and Indonesia. As for 2021 Ukraine takes 26th place, Kazakhstan – 22nd, Russia – 13th, China keeps leader position at 1st position, India continues growth at 2nd, Turkey takes 10th.

*Table 2.2.* 

	General Index/ Country Rating by EMLI index					
Country / year	2016	2017	2018	2019	2020	2021
Ukraine	4.90 (27)	4.71 (27)	4.46 (30)	4.75 (27)	4.77(27)	4.82(26)
Kazakhstan	4.99 (18)	5.07 (16)	5.08 (18)	4.91 (22)	5.03 (21)	5.01 (22)
Russia	6.44 (7)	6.45 (7)	6.57 (7)	5.4 (14)	5.46 (13)	5.4 (13)
China	8.3 (1)	8.11 (1)	8.09 (1)	8.87 (1)	8.9 (1)	8.86(1)
India	6.94 (4)	6.75 (5)	6.66 (3)	7.1 (2)	7.32 (2)	7.33 (2)
Turkey	5.99 (10)	6.0 (10)	5.81 (10)	5.56 (9)	5.54 (10)	5.61 (10)

Dynamics of changes in the level of attractiveness of the logistics market of developing countries according to the EMLI index (2016-2021)

Source: Created by author using data of World Bank and Agility Logistics Management data (<u>https://lpi.worldbank.org/</u>; https://logisticsinsights.agility.com/emerging-markets-logistics-index/overview/)

Thus, among the studied countries, the most attractive logistics markets are China and India. The logistics market of Turkey and Russia is attractive, but it should be noted that its attractiveness has decreased due to the deterioration of the position by 1 and 2 positions, respectively. In general, the following conclusion can be drawn: Turkey and Russia have an attractive logistics market for investment, primarily due to the large size and dynamics of market development. Kazakhstan's logistics market is developing most dynamically and its attractiveness is growing, but the Ukrainian market is showing an improvement in the quality of service.

The best countries in Europe and Asia with high incomes have the best indicators of international trade (ETI): Singapore, the Netherlands, South Africa, Hong Kong, Luxembourg, Sweden, Austria, Germany, Belgium.

The best results according to the ETI index were shown by the countries of the Caucasus and European countries of the CIS (See Appendix G). Deterioration occurred

for all countries except Georgia (up 5 points) and China (up 2 points). The smallest decrease is observed in China (by 2 points), Iran (by 2 points), Moldova (by 3 points), Kazakhstan (by 5 points). The largest deterioration occurred in Kyrgyzstan (by 15) and Armenia (by 14).

To get the best effect, it is necessary to coordinate with neighboring countries on measures to improve performance. Countries in all regions are implementing reforms aimed at improving the business environment, but Europe and Central Asia remain the region with the largest number of countries that have implemented at least one reform, 96% of countries in the region have implemented at least one regulatory reform. In the EAEU countries, access to the electricity supply system is difficult, there are difficulties in obtaining building permits, the loan procedure is complicated, at the same time the liquidation procedure is simplified, there are no difficulties with the contract, it is quite easy to register ownership [18, 49].

Analysis of data on the degree of favorable conditions for doing business according to the reports "Doing Business 2016" (See Appendix G) can be noted that all countries have improved the business environment. In Ukraine, passing the era of rapid digitalization, we have to spend a short time paying taxes, which cannot be said, for example, about Belarus. Ease of protection of investors' rights is an advantage of Ukraine; in Belarus and Russia, this procedure is much more complicated. Also, in Belarus and Ukraine, compared to Russia, the procedure for starting a business is simplified.

The logistics system of large countries at the regional level and the EAEU countries needs to be restructured, further integrated with the systems of more developed countries. A significant increase in the rating of Central Asian countries, including Kazakhstan, in terms of logistics, is possible only based on an integrated approach and the simultaneous development of all major sectors and components of LPI. To improve the key indicators that characterize the sub-indices included in the LPI, it is necessary to create a highly efficient transport and logistics system of the country and ensure its integration into the international transport system [49].

The transport component of GDP should decrease from 8.1% in 2010 to 7.5% by 2020, which means a sharp increase in the efficiency of the transport and logistics system

and an increase in value-added in the economy. The share of service (logistics) services in the total revenue of the transport and logistics complex will increase from 8% to 25% (for comparison, in Europe this figure reaches 50%). Among the CIS countries, LPI transit countries - Kazakhstan, Russia, and Belarus - between Europe and China have the potential to grow international trade. To do this, it is necessary to reduce transport tariffs, fees, and charges in ports, train staff in the best European schools or improve the skills of specialists, introduce modern innovative technologies in logistics, information technology to track and reduce delivery times [18].

A characteristic trend of the world economy is the disappearance of customs borders in connection with the integration of countries into the single economic space, increasing the efficiency of customs operations, as evidenced by improved trade and logistics in Kazakhstan, Russia, Belarus and Kyrgyzstan. Tajikistan after integration into the EEC. Reducing customs barriers is one of the key factors in economic development (improving trade and logistics). It should be noted the tendency to improve the quality of logistics services against the background of increased competition in almost all groups of countries. Despite a certain subjectivity of the study of logistics efficiency, we can identify several main problems in the development of logistics in CIS countries.

Reducing transport barriers and the cost of customs and border controls will lead to an improvement in international trade, which is observed in European countries, where the best conditions for trade are created. The use of public-private partnerships is also important, as evidenced by the international experience of the world's leading countries, which are now the leaders in the LPI rankings. All of them actively support the publicprivate partnership. In this regard, their comprehensive approach to the development of transport services, infrastructure, efficient logistics is also important.

Logistics is developing most intensively in Europe and the main countries of the region. The countries of Central Asia and the Caucasus were less developed. Although these countries have all the conditions for the development of logistics: favorable conditions for doing business, increasing the investment attractiveness of the logistics industry, open logistics market for foreign companies, a high degree of integration into the world economy, competitiveness. economics. In particular, the countries of Central

Asia should attract more investment to improve the quality of transport and logistics infrastructure, reduce customs barriers for goods, improve the quality of services provided, reduce logistics costs. Assessment of the impact of factors on the effectiveness of economic development.

It is necessary to increase the level of personnel qualification, to improve customs and other types of control at the external border; to form normative-legal regulation, to improve statistical accounting of indicators of logistics development at the national level, to develop measures to increase integration into the Eurasian logistics system. It is necessary to create multilevel transport and logistics centers: central, auxiliary, and regional nodes in the countries of the Silk Road. The central node unites the whole system into a single whole. Auxiliary nodes provide the passage of goods between Asia and Europe. The next level of the network consists of the smaller size of numerous terminals in each country and partner countries - other countries of the New Silk Road.

#### **Conclusions to part 2**

Over the past 15 years volume of international merchandise trade has increased dramatically, and the regular one-way exchange between countries can't not only satisfy the economies, but even harm - it causes deficits, price fluctuations and making planning and analysis hard and ineffective. Despite many financial crises, Asian countries as a group have nearly doubled their merchandise trade volumes since the beginning of the XXI century.

Countries of the Asian region have become the main trading partners for the Western world, and the level of trade have got a significant growth, and in the conditions of the modern situation of relatively frequent change of trade policies of the past main partner, the USA (having supporting and welcoming policy of the Obama government, then protectionism and trade war started during the Donald Trump presidency and losing positions on the foreign trade field during the Biden-Harris presidency), it was important tot switch to other partners that are more local and that place less radical changes, and here is where intra-region countries and the EU have grown their interests.

Building more and more export connections and fitting their products to more modern European standards of quality and sustainability (huge example here is expansion of Chinese automobile manufacturers to the European markets, meeting EURO emission and safety standards and benefiting from much lower pricing and RRP).

Preparations of the Asian world go at full speed, developing a diversified strategy, while the EU's approach to Asia requires a coherent trade strategy instead of different and often incompatible courses of action towards individual countries or regions. Moreover, the Chinese strategy is almost completely absent, although China is the most important first trading partner of the EU and major trading power.

For now, having many agreements and plans signed, the main task for all countries is modernizing their infrastructure and logic of providing services supporting trade, as well as updating legal bases to avoid bureaucracy which causes much more problems than the broken trains or unfitted railways, cutting economic efficiency for everyone.

## PART 3 THE ROLE OF UKRAINE IN THE "NEW SILK ROAD" PROJECT

## 3.1 Research of priority directions of development of logistic possibilities of Ukraine in the context of "New Silk Road"

Already 60 countries have signed an agreement on uninterrupted trade with China. Free trade agreements have been signed with 20 countries, for which Beijing will spend \$ 50 billion. Xi Jinping did not specify with which countries China has concluded agreements. Ukraine has also joined this large network of the New Silk Road project, presenting its version of the New Silk Road chain running through its territory.

Today, Ukraine and China are strategic partners, which are enshrined in official documents: the Treaty of Friendship and Cooperation between Ukraine and China; Joint Declaration of Ukraine and the People's Republic of China on further deepening of strategic partnership relations; Program of development of strategic partnership relations between Ukraine and China for 2014-2018.

On January 15, 2016, the first demonstration route of a container train on the route Ukraine-Georgia-Azerbaijan-Kazakhstan-China took place in Illichivsk. The statement came amid so-called transit wars with Russia, which added even more importance to transport and the alternative project in general. The train route started from Illichivsk by ferry to the port of Varna (Bulgaria), then the train went by the Black Sea to Georgia. In total, the train covered a distance of 1040 km by sea. (See Appendix H).

Unfortunately, the expected 11-12 days turned into 16 days. The delays occurred in the Black Sea due to adverse weather conditions, and there was a short stop in Kazakhstan, but due to the human factor, because this route is a test route, and the route was still planned to work. Ukraine is still not so sad in terms of joining this project. The northern and central land routes of the New Silk Road are now on the rise, and the southern is just beginning to develop.

More developed routes are connected by only three large customs zones - China, the Eurasian Economic Union, and the EU - these are only two border crossings on the route of more than nine thousand kilometers, the southern - a little more difficult. Entering Kazakhstan from China to Horgos, this route will then pass-through separate customs offices in Azerbaijan, Georgia, and Turkey before joining the European railway network. Paradoxically, several significant political and economic conflicts (the conflict on the East of Ukraine started in 2014, the new lap of The Nagorno-Karabakh conflict in 2020) have intensified the development of this southern corridor.

EU sanctions against Russia over the Ukrainian conflict have provoked a reactionary embargo from Russia on many EU products, such as meat, agricultural products, and cheese, are not only banned from being imported into Russia but are not even allowed into third countries via Russia. This is a problematic issue now and the main advantage of bypassing Russia is that manufacturers and freight forwarders can circumvent the country's reactionary sanctions and freely deliver their goods to the right markets. The Russian embargo has severely undermined Europe's ability to fully engage the newly established trans-Eurasian rail network, as the products that manufacturers would ship by land to China are largely the same products that are banned in Russia. The Trans-Caspian route bypasses this trade blockade, and the corridor is gaining momentum as Europe increasingly seeks to fill containers with new cargo on the way back from China [18, 19].

Two elements are crucial for China: the EU's geographical proximity and investment potential. Chinese investment in the Ukrainian economy is focused on industry, agriculture, transport, as well as retail and wholesale trade. Cooperation between Ukraine and China is based on the Declaration on Strategic Partnership between these countries, signed in 2011. Chinese companies in Ukraine have united and created the Chinese Trade Association, which is a platform and bridge for the business environment of both countries [34].

Thanks to Ukraine, duty-free delivery of Chinese products to the European Union market is possible. China has expressed a desire to create a free trade zone with Ukraine, but its government has shown no interest. In November 2016, the Chinese ambassador submitted a proposal to the Ukrainian government to "analyze the possibilities" of creating a free trade zone that covers both countries. Due to this, by launching its production in Ukraine, China was able to sell goods in the absorbing and solvent European market. This will be an opportunity for Ukraine to locate plants on its territory for the production of goods intended for the EU market. Existing regulations are facilitated by existing regulations, in particular the DCFTA, which enhances cooperation between Ukraine and China [50].

Also, Chinese companies would like to invest in Ukraine, in particular in agriculture, science, and technology, infrastructure, logistics, finance, electronics, nuclear and environmental energy. China would also like to set up a system in Ukraine that could produce goods destined for EU markets. Therefore, Ukraine will become a kind of "Western flow" for China, through which they will be able to bring their products to EU markets. Economic cooperation between Ukraine and China includes measures in the field of agriculture, industry, energy, construction of bridges and roads (interest of Chinese companies in the implementation of the Kyiv bypass). An economic union with China could be an alternative to the European Union for Ukraine, although, despite the elimination of customs barriers, Ukrainian products will have serious problems conquering the Chinese market [50].

Still, there is the case of \$3 billion that the Chinese government transferred to Ukraine in 2012 to buy grain from the Transnistrian steppes and Ukraine to buy agricultural machinery from Chinese producers was stolen and until now remains a big obstacle for Chinese government to support Ukraine.

Given the very serious problems facing Ukraine, as well as the many pathologies that digest the country's economic and social potential, there is a risk of further loss of external support. Removing existing barriers in the economy can be important. The creation of a free trade area will primarily benefit China's economy. It is important for China that Ukraine has signed a free trade agreement with the EU.

Due to the impoverishment of Ukrainian society and low demand for it, this country is not perceived by China as a recipient of Chinese goods. In particular, Ukraine's attractiveness is influenced by its transit location in the neighborhood with the European Union and the free trade agreement signed with it. The EU is directly interested in modernizing Ukraine at the expense of China. Cooperation in the field of agriculture is also noteworthy; already in 2015, Ukraine overtook the existing US in grain supplies to China.

Ukrainian-Chinese cooperation should be considered in the context of the existing international environment. Ukrainian Railways could develop a railway route north through the territory of Belarus to the port of Klaipeda in Lithuania. In this concept, possible branches to Poland and Slovakia would be only local. Another important area of Ukrainian-Chinese relations is cooperation in the field of armaments. Ukraine has weapons with very great potential, inherited from the USSR, but most companies are struggling with a shortage of cash and new technologies. After 2014, Ukraine increased its exports of military equipment to China to 13% of Chinese military imports, and, processing technical and industrial facilities, is interested in cooperating with China in space.

Although China's presence in Ukraine is largely economic in nature, it may have political implications in the future. Improving infrastructure is especially important for Ukraine. Issues of financing infrastructure projects are discussed within the Commission of Ukraine and China. At the same time, non-transparent customs practices and procedures in Ukraine hinder transit through this country. From this, among other things, China could send goods to the EU via Romania and Bulgaria, given that supplies will take place directly in the EU.

Ukraine is not considered by China as a key partner in the region, on the other hand, at least for geographical reasons, Ukraine is oriented primarily to the West but noticing a significant investor in China who could support the weakening of the Ukrainian economy. In a situation where Ukraine is struggling with growing problems in many key areas that directly threaten its statehood, the Chinese capital, which is part of the New Silk Road project, is of great importance for the country's exit from the crisis. Ukraine needs China at a time when its relations with Russia have weakened and the European Union, once in crisis, cannot provide it with sufficient support. Regarding the importance of China's economic expansion for Ukraine, it should be noted that its further development will take place in the foreseeable future.

As noted, the cooperation involves not only the creation of road infrastructure for the implementation of the New Silk Road. Struggling with many domestic problems, Ukraine is waiting for investment from China to help it rebuild its economy. China is "replacing" other structures, such as the United States or the European Union, that are unable to support Ukraine in a more meaningful way. However, the strengthening of Ukrainian-Chinese cooperation is leading to some significant changes that make it possible to create and maintain new jobs in Ukraine during the crisis, although it is difficult to find sufficient assistance.

Despite some advantages, including a special strategic location and cheap labor, cooperation between Ukraine and China is not dynamic enough. The possibility of promising cooperation is the need to create a variety of infrastructure in the territory between China and Ukraine. Ukraine needs to create jobs, and this will prevent progressive emigration and retain many valuable workers in the country. must take part in the economic reconstruction of the state, which faces numerous problems that threaten the future existence of the state.

The Beijing authorities are aware of Ukraine's strategic position, viewing the country as an important link with Central and Western Europe. This makes bilateral cooperation very promising, and the increase in Chinese influence in Ukraine should be seen as a natural consequence of ongoing cooperation. Supporting Ukrainian statehood is now a serious challenge for the Kyiv authorities. Economic aid coming from China can significantly support the Ukrainian economy by improving the overall situation in a country facing extremely serious problems, both external and internal.

In terms of transport infrastructure, due to its advantageous geographical location, Ukraine is the main transport and transit hub connecting Western and Eastern Europe and can become a major transport hub with a network of railways with a length of 22 thousand km and a length of 170 thousand km. Today, the railway has already connected 35 Chinese cities with 34 European cities with an increase in the frequency of service. In this way, BRI creates new efficiency and flexibility for transport routes and the choice of modes of transport for business. There were also many other possibilities. For example, China Ocean Shipping Company, known as COSCO, has invested in expanding the capacity of the Greek port of Piraeus. Thanks to the additional capacity in the port of Piraeus, cargo can be delivered to/from the Suez Canal in the port, and then by truck by land to European markets. COSCO has also invested in the expansion of the grain terminal of the Odesa seaport.

Over the past 4 years, there has been an intensification of trade and economic cooperation between China and Ukraine. Today, China is one of Ukraine's main trading partners. Total turnover for the first 4 months. In 2018, this is 2.6 billion dollars (8.4%). The share of Ukrainian imports to China is only 0.08%, and Chinese imports to Ukraine are over 12%. In 2017, the share of Chinese investment in Ukraine's economy is only 0.08%, including \$ 18 million - FDI in equity, \$ 20 million - in debt instruments. At the same time, the situation in the market of mergers and acquisitions is more optimistic. In 10 years, Chinese investors have bought the company for \$ 7.5 billion [40].

The structure of Ukrainian exports to China in 2020 was dominated by supplies of: ore, slag and ash; cereals; fats and oils of animal or vegetable origin; ferrous metals; residues and waste from the food industry; boilers, machines; wood and wood products.

The structure of imports of Chinese goods to Ukraine was dominated by supplies of: electric machines; boilers, machines; land vehicles other than rail; plastics, polymeric materials; optical and photographic devices and apparatus; shoes; various chemical products; toys; organic chemical compounds; furniture; ferrous metals; ferrous metal products; rubber, etc. (See Appendix I)

In 2020, according to the State Statistics Service of Ukraine, the trade in services amounted to \$312.9 million. Exports of services from Ukraine to China amounted to \$121.4 million (-36.3%), imports to Ukraine from China – \$191.5 million (-15.6%). The negative balance for Ukraine was \$70 million.

The structure of Ukrainian exports of services to China was dominated by: business services; transport services; repair and maintenance services not included in other categories; travel services; construction services; telecommunications services, computer and information services. In imports of services from China dominates in financial services; transport services; business services; telecommunications services, computer and information services; royalties and other services related to the use of intellectual property; travel services.

According to the National Bank of Ukraine, as of September 30, 2020, \$75.7 million of direct investments from China were attracted to the Ukrainian economy (since the beginning of the year, this figure has decreased by \$ 6.2 million). Mainly Chinese investments are made in:

- Ukrainian industry 43.5%;
- agriculture, forestry and fisheries 12.3%;
- wholesale and retail trade, repair of vehicles 10.2%;
- professional, scientific and technical activities 19.7%;
- real estate transactions 3.6%;
- transport, warehousing, postal and courier activities 3.4%;
- construction 3.4%.

Also, as can be seen from the Balance of foreign trade of Ukraine and China, trade between the countries is constantly growing, but still has a clear tendency to increase imports from China to Ukraine, but from 2020 there is an increase in exports due to national policies to improve production and emergence of greater interest in the Asian market by Ukrainian producers. (See Appendix M)

The IT sector is growing significantly, there are 1,000 IT companies and more than 100 research centers in Ukraine, and exports of IT services in 2017 amounted to \$ 2 billion. According to the Ukrainian Institute of the Future, by 2030 the total need for foreign investment is 275 billion dollars or about \$ 20 billion annually. In particular, \$ 5 billion annually for agriculture, \$ 7.5 billion for infrastructure development, \$ 830 million for electricity, and \$ 2 billion for gas production. Such investments will provide economic growth of 8%. China's fast-growing industries could become a priority for Ukrainian businesses, including e-commerce, tourism, logistics, IT services, education, alternative energy, agriculture, and healthcare.

Therefore, from an economic point of view, it is necessary to take measures:

• The first is to consider joining the Asian Bank for infrastructure projects. This international financial organization is a major investor in One Belt, One Road

infrastructure projects. Without membership, Ukraine will not be able to count on increased investment in infrastructure projects in Ukraine.

• It is also necessary to form clear investment proposals, develop a portfolio of investment projects that will benefit both parties in areas of interest to investors in our country, namely energy, IT, agriculture, and landscaping.

• The most important thing now is the need to agree on the establishment of a free trade zone between Ukraine and China. This will lead to deepening cooperation in various sectors of the economy. And also, to create special economic territories with a preferential tax regime: special industrial, export, and high-tech territories.

• Establishment of agricultural enterprises, mostly enterprises that produce products with high added value - semi-finished or finished products. A typical example is that Ukraine exports food industry waste, sunflower meal and bone meal, which is used in China to produce compound feed. Ready-made feed is more profitable to transport due to on-site production with added value, in addition, it eliminates the shortage of such a product on the Ukrainian market.

• China is actively investing in the energy sector. There are successful projects of Chinese companies in the creation and operation of solar energy, which is experiencing a boom from 2020, there are also ready solutions for the modernization of thermal power plants and energy infrastructure (power lines, substations, introduction of public charging stations for transport, etc.). Ukraine needs such technologies and means for modernization. Here it may be appropriate to work with preferential credit lines.

• Attracting Chinese loans for the modernization of Ukrainian ports, on the example of the Odessa terminal. The second option is to use the concession mechanism to attract Chinese transport companies. Such projects are long-term, but for example, even the deepening of Ukrainian ports in 5-10 years will open many prospects for cooperation not only with the Asian side.

• The flow of tourists from China already generates a significant share of revenues of the global tourism industry. Given the dynamics of growth of international travel of Chinese citizens, this area can be called one of the key for Ukraine in the coming years. The main difficulty is the poor transport links and almost complete lack of

infrastructure for Chinese tourists, including guides, staff, except for international hotel and tour operators, so to get out of the situation at the initial stage can be by inviting Chinese tour operators and hotel operators.

• Tourism and transit issues can be a starting point for cooperation in the reconstruction of Ukrainian airports. There are at least 15 sites in the country in regional centers that could potentially become logistics hubs for Chinese and then European producers. Thus, Ukraine can offer two directions: either Chinese credit resources for the reconstruction of airports and infrastructure, or use concession mechanisms and offer companies from China to create a logistics hub in the country.

### 3.2 Forecast assessment of the proposed measures' consequences

In the previous chapter measures were suggested for the increasing of attendance of Ukraine in the establishment of The New Silk Road, and our country is interested in attracting at least part of these investment billions, including on modernization of infrastructure that will allow to develop transit.

The railways alone, according to the Ministry of Infrastructure, need to be upgraded by about \$ 13 billion, the rolling stock is also worn out (on average by 75-80%), and more than 100,000 new freight cars are needed. worth \$ 3 billion, freight locomotives - more than 2,000 units. \$ 6 billion. Ports need another \$ 2.8-3 billion in investment, and so on.

According to the results of 2020, China ranks the first among all trade partners of Ukraine, in terms of the trade turnover between Ukraine and China amounted to \$15.4 billion, exports of goods from Ukraine to China amounted to \$7.1 billion (+98%), imports of Chinese goods to Ukraine amounted to \$8.3 billion (-9.8%). The negative balance for Ukraine during this period was \$1.26 billion. In order to support the conclusions of the final research paper the PESTLE analysis was conducted to determine the main influencing factors. (See Appendix B)

Apparently, today in the world only China is able to allocate comparable funds for infrastructural modernization of the Far Eastern European country - with benefits for

itself, which may consist in the use of its own technologies and materials in this modernization, and, in the future, in the transformation of this country into regional logistics. hub for its products. And the NSR is part of Beijing's strategy; railways and infrastructure projects in general, implemented with his assistance, serve his economic and political interests. It will be recalled that last summer the Chinese state railway corporation CRRC announced its readiness to invest in the Ukrainian railway sector, including the production of rolling stock. And in March, the leadership of the Chinese National Corporation of Machine Industry and General Contracts expressed the interest of Chinese investors in investing in Ukrainian ports and in general projects related to the NSR.

Not only container trains but also the development of mutual trade, including domestic exports, can increase Beijing's interest. Ukrainian business is not active enough in terms of exports to China. At one of the conferences, we offered companies help and government support to enter the Chinese market. Out of 280 companies, 3 agreed. We sit and wait for partners to come and buy. And you need to move forward on their own. It is difficult and long. But if we do not become active, no one will pay attention to us. Therefore, Ukrainian business needs to understand that a lot depends on us as well.

So far, Ukrainian companies are able to sell to China mainly raw materials and semi-finished products - agricultural, metallurgical, chemical. Thus, in 2015, 40.2% of the value of exports to this country were various ores, 28.2% - grain, another 22.2% - fats and oils, while all types of machinery, equipment and transport - only 4.1% total.

In the opposite direction, a variety of manufactured goods arrive, starting with machine-building (38.5% of imports in 2016). There is every reason to believe that the Chinese are still interested in the Ukrainian market, and the new cargo route will be beneficial to both parties. Moreover, sooner or later the economic crisis in Ukraine will end, and demand for goods from China will grow again. (See Appendix I)

Thus, the Trans-Caspian direction has quite good prospects due to a number of factors, up to the further development of the global economy.

One of the key features of BRI is that it opens up many new alternative trade routes and choice routes for companies doing business between China and the One Belt and One Belt and Road countries. BRI has the potential to make the latter alternative possible:

• The logistic infrastructure is being improved, including the upgrading of existing railways as well as the expanded railways. New tunnels are being built in Kazakhstan to overcome the mountain problem, so initiatives could be implemented in Ukraine which has relatively flat landscape and could concentrate more on the movement itself.

• Vehicle parks need to be improved. Temperature-controlled cars are needed to transport complex and delicate technological products, as travel is associated with travel in places, and Ukraine is a host country for companies that develop vehicles and equipment for logistics systems, such as ICC DTCP (crane). and lifting machines), or DniproVagonmash, which specialize in R&D and remain out of focus worldwide.

• Policy harmonization is also ongoing. For example, goods transported from Chongqing to Germany must pass through countries such as Kazakhstan, Russia, and Belarus, so Ukraine may come in handy. Crossing the border can be expensive and time-consuming, so the Chongqing government strongly supports customs simplification in this regard.

• A factor in accelerating the implementation of projects is training and the creation of educational institutions focused specifically on transportation, logistics and document management. At present, this role is held by higher educational institutions of the economic and trade sphere in the form of educational programs and supplements to basic courses, which often, due to lack of practice, has a moderate effect on increasing the number of specialists in the country. It is important to understand that it is skilled personnel who build the intercontinental logistics flow, and no improvements to the transport system will have the desired effect if traffic is delayed due to slow processing.

A very important factor in the success of cooperation in improving the logistics network and international relations in general is one of the successful models for solving such problems implemented by international law firms in the Chinese legal services market, which can be a basic example of action. These are separate offices in China, created by the combined efforts of one or more international law firms. Such offices are provided with both permanent staff and jobs for employees of the offices of these companies in other parts of the world. The presence of such an office allows employees of various companies participating in projects in China, to stay in the country for the medium term during the active phase of projects, and the work of permanent staff "China Desk" to ensure coordination of overall project work in China and ensure the operation of the office. This ensures the speed and efficiency of decision-making and implementation.

Yet still the most important decision to give a proper start of rise of Ukraine as a member of The New Silk Road is a signing of FTA with China. To analyze this the SWOT analysis was conducted. (See Appendix J)

As a result of an analysis main opportunities (S+O) must be mentioned - trade liberalization, trade-economic relations, symmetric interdependence between both countries, the establishment of a free trade zone, economic growth, reducing the consequences of a pandemic, and decreasing the impact of crises. But the what should be considered most is the main weakness factors (W+T) - Decreasing trade turnover between the two countries, destabilizing of the economic relations in the region, takeover of Ukrainian companies, lowering competitiveness of the companies in Ukraine, aggravating investment climate in Ukraine, introduction of new trade restrictions [13].

A special factor here is political will of Ukrainian government to really improve the investment climate, attract investment in infrastructure, develop the country as an important transport link between West and East - without this, even the most promising projects will remain only on paper.

Still, the mostly positive overview of Ukraine's future in the context of OBOR contradicts the negative assessment by EU officials of the latter's impact on the economic and infrastructural development of Central and Eastern Europe, including Ukraine itself. Because of this, it would seem that the views of Ukrainian politicians on OBOR will now be more optimistic than pessimistic, as evidenced by the relevant quotes from sources related to the Ministry of Infrastructure and the Ministry of Economic Development of Ukraine. The corresponding focus on the effective development of relations with China

on infrastructure and financial projects of the latest continental scale in this regard is more than clear.

However, both the US and the current EU leadership will view OBOR as a dangerous challenge to Western predominance in commercial and infrastructural development in Eurasia, a factor that will make it difficult to combine a pro-Western geopolitical orientation with an overture to China. Thus, Ukrainian politicians and stakeholders in governance can be advised to refine their geopolitical and geoeconomic priorities to avoid any ill-considered steps that could alienate both sides from the aforementioned international partnership (and rivalry), depending on the circumstances.

#### **Conclusions to part 3**

Nowadays Ukraine has a much lower importance in the New Silk Road chain than countries that host main directions like Kazakhstan or Russia, and this really should be accepted as due to all internal and external conditions we can't provide anything sufficient to improve the flow. When Ukraine have tested the route started from our soil it only shows that obsolete principles of cargo relocation and mechanical measures of transportation, adding the difficulties in moving cargo across the borders of the partnering countries.

Nevertheless, the initiative continues its growth, and if changes will be implicated the situation around the role may be changed. Ukraine hosts duty-free delivery of Chinese products to the European Union market is possible. China has expressed a desire to create a free trade zone with Ukraine, and this will give a possibility for an ambiguous amount of investment flow for our country, always having good opportunities while having no budget to get them to reality. The main reason of remaining closed may be referred to low political stability, and after the thorough research of this theme in this paper, the connection to the significant reliable money flow from trade, service and transfer will lead to more thoughtful decision making of the steps on the international arena, as well as in the internal relations.

Having the integration with the EU as a national goal, Ukraine has undiscovered potential to improve the relations with future biggest trade partner of the EU, China, putting the role of our country to a much bigger importance as having rather an integral part than associated member, both benefiting from socio-economic development of all the parts of this complex structure. Ukraine has a good relations with China, and becoming the connection hub between the strongest – we will finally find the greatest way to use our geopolitical location, and fulfill our nations destination, praised for hundreds of years of establishment.

### CONCLUSIONS AND RECOMMENDATIONS

In this research work we have overviewed the processes of transportation of goods and movement of investments along the New Silk Road logistics flow. To perform the analysis properly general information on global logistics flows in economic theory was considered was considered. To give the research a proper basis to work on the monitoring on current international trade flows between Asia and Europe was made, including the overview of the existing agreements, taking present situation caused by the COVID-19 pandemic crisis being a serious influencing factor for the modern logistics.

To get a clear understanding of the subject of the paper the analysis of the history and main targets of the One Belt One Road, the main program of developing logistics routes connecting the continent's major economic forces, which includes the New Silk Road initiative.

Also, as a result to the research paper the effectiveness of improvement measures complex of further successful development was developed and forecasted. The results of the work allowed to formulate the following conclusion and recommendations:

1) Global logistic flows are one of the few powerful forces that drive major changes to the economic situation of the world, connecting R&D, manufacturing, certification and final trade and consumption for the best use of limited resources to achieve economic growth for all participants of the process. At all times the trade is an instrument for building reliable connection between countries and unions, making the performance of this economic interaction crucial. 2) During the analysis of the trade flow between Europe and Asia there was discovered that over 10 years trade have evolved from one-sided process of manufacturing goods in the East at a lowest cost to be sold at the West with the value added much higher than covering shipping, often without reinvestment back into production process, to the bilateral trade, where even a change of roles of the issuer and purchaser takes place. This growth is done mostly from Asian side, seeking for new markets for products that have increased quality and can be sold in amounts to fulfill the demand of whole niches and sectors of economy and national consumption.

3) The New Silk Road logistic flow includes a complex route of mainly land transportation across the continent, connecting logistic hubs and manufacturing centers of countries, but due to political tensions it is expanded for a much higher distance than it is really required, balancing between being less of a weapon on the international arena (unlike the Nord Stream project) and satisfying the needs in it of the participants and partners. Resolving strategical discordances will eventually cause an establishment of the new routes of the initiative, but as to our analysis on the timespan from the start of it – the greatest problem for it that causes problems for Ukraine is Russian aggression and following annexing of Ukrainian territories that would have been used as a shortcut, granting our country an important role of the main transit partner.

4) The biggest problem causing slow development of the New Silk Road initiative is poor execution of service and obsolete material base of transferring countries. The research conducted at the chapter 2.2 of the paper show that bureaucracy, lack of professionalism and cost difference together with not harmonized legal base in transportation slows down the flow of cargo moving from both ends of the route. Also, the road and railway systems of countries are different and requires transshipment of cargo that can cause jamming and slows down the whole process, expanding the due dates of arrival and adding difficulties in planning. For Ukraine this particular problem remains unsolved as the interaction with neighboring EU is known and used much more even by small business while trade with Asia and China in particular is a hard task even for the government despite all attempts to improve it. Another big problem stays in refusal of the FTA with China, that could have leaded the such needed FDI to our economy in the time of the struggle and lack of support in 2013-2018.

5) China has an absolute interest in Ukraine as a trade partner and a gate to the Europe, being capable of large throughput of cargo. They have placed their investments largely via bonds and placing their companies' facilities in Ukraine, modernizing existing infrastructure to increase efficiency of the enterprise. Also, if comparing with EU and considering the will of Ukraine to become part of it, economic improvements take second role after modernizing the economic part of the countries' life, while China is seem to have more interest in using the potential of resources and location, and invests rather directly into industries. A big step will be acknowledgement of Ukrainian business in the means of trade, comanufacturing and development. Nowadays Chinese products take up to 1/3 of our countries' consumption in different spheres of life, so inviting to the start of the business with the East for Ukrainian entrepreneurs will raise the trade balance and introduce our European quality products to their markets. Another big step is resumption of negotiations and Ukraine's accession to the Asian Infrastructure Investment Bank to ensure the staple development of Ukraine-Chinese international economic relations.

6) The next influential change will be enhancing the quality and ease of use of customs and transferring support by logistic companies of Ukraine to raise the mark of Doing Business rate so we could be more attractive for foreign investments. Talking about more practical changes - narrow railway track implementation. One of the problematic places of railway transit from China is the need to replace two pairs of wheels in cars: on the border of China with the countries of the former USSR and back to the "narrow rail" on the border with the EU. It is also necessary to electrify the Ukrainian railway. In particular, in key transit directions. Such projects will be of interest to China both in terms of long-term investments and in terms of eliminating problems in developing the capacity of the China-EU overland railway corridor. Having made these changes, Ukraine can offer its option of participation in the transit of Chinese goods - a route either from the territory of Belarus (branches from Gomel, Luninets, Brest) or directly from the territory of the Russian Federation. Such an initiative will find understanding in the Chinese side and in 2021-22 it will be possible to reach up to 150-200 thousand TEU of transit through

the EU-China transport corridor. This will give at least \$ 70-75 million in profits to Ukrainian Railways for further innovation.

### REFERENCES

- Agility Emerging Markets Logistics Index. 2018. Available at: https://www.agility.com/wpcontent/uploads/2018/03/Agility-Emerging-Markets-Logistics-Index-2018.pdf.
- Aleksandra, U. and Cerenkova, B. (2016). BRI instead of OBOR- China edits the English name of its most ambitious international project. Latvian Institute of International affairs, Retrieved from https://web.archive.org/web/20170206061842/http://liia.lv/en/analysis/bri-insteadof-obor-china-edits-the-english-name-of-its-most-ambitious-international-project-532
- Analysis of Transit Transport in Ukraine; Report of the Ministry of Infrastructure of Ukraine, 2018; A look at Transit Transport in Ukraine-Draft-Final-Report, Access: https://mtu.gov.ua/files/A%20look%20at%20Transit%20Transport%20in%20Ukrai ne-Draft-Final-Report.pdf
- 4. Assessment on Affect of Pooor Infrastructure on Global Logistics, 2020; / www.aiib.org/en/news-events/media-center/working-papers/pdf/Is-Poor-Infrastructure-Affecting-Trade-Liberalization\_July-2020.pdf
- Becker, W.; Dominguez-Torreiro, M.; Neves, A.R.; Tacao Moura, C. J.; Saisana, M., Exploring ASEM Sustainable Connectivity – What brings Asia and Europe together?, 2018, ISBN 978-92-79-96563-0, doi:10.2760/780021, PUBSY JRC112998'.
- Brooks, D. and H. Changchun. 2008. Asian Trade and Global Linkages. ADBI Working Paper 122. Tokyo: Asian Development Bank Institute. Available: http://www.adbi.org/workingpaper/2008/12/04/2761.asian.trade.global.linkages/
- BVL International The Global Supply Chain Network (conducted using network materials), <u>https://www.bvl.de/en/lore</u>
- Cabinet of Ministers of Ukraine. 2018. Order of The Cabinet of Ministers of Ukraine No 430th from 30.05.18. Approval of the National Transport Strategy of Ukraine by 2030. Available at: https://www.kmu.gov.ua/npas/pro-shvalennyanacionalnoyitransportnoyi-strategiyi-ukrayini-na-period-do-2030-roku.

- Chatzky, Andrew, McBride, James. China's massive Belt and Road Initiative. Council on Foreign Relations, 2019. https://www.cfr.org/backgrounder/chinasmassive-belt-and-road-initiative
- 10.Duginets G. Methodology of researching global value chains / G. Duginets // Herald of Kyiv national university of trade and economics. 2016. № 6. C. 17–30.
- 11.Duginets G. Ukraine in free trade zone with the European Union / G. Duginets // Зовнішня торгівля: економіка, фінанси, право. - 2017. - № 1. - С. 32–41. - Режим доступу: http://nbuv.gov.ua/UJRN/uazt 2017 1 5
- 12.EC EU-China 2020 Strategic Agenda for Cooperation / https://eeas.europa.eu/archives/docs/china/docs/joint\_communication\_to\_the\_ european\_parliament\_and\_the\_council\_-

\_elements\_for\_a\_new\_eu\_strategy\_on\_china.pdf

- 13.Global Capitalism Post Pandemic, Race & Class, 62(2) / William Robinson, Ph.D.c/o Department of Sociology University of California, 2020;
- 14.GlobalizationbyBenLutkevich/URL:https://searchcio.techtarget.com/definition/globalization
- 15.Harrison, A. Skipworth, H., Van Hoek, R., Aitken, J. 2019. Logistics Management and Strategy, 6th edition, Pearson Switzerland, Zug, Switzerland, 496.

16.https://www.eurointegration.com.ua/rus/experts/2018/07/2/7083688/

- 17.Ilnytskyy, Denys & Zinchenko, S. (2018). Port Expansion of China Lessons for Ukraine. Chinese Studies. 2018. 36-57. 10.15407/chinesest2018.01.036.
- 18.Informal document WP.5/GE.2, 2015 No 1// Identification of cargo flows on the Euro Asian transport links. Euro Asian Transport Links. Transport flows and non-physical barriers
- 19.Karpenko, Olena & Horbenko, Oleksandra & Vovk, Yuriy & Tson, Oleh. (2017). Research of the structure and trends in the development of the logistics market in Ukraine. Journal of Sustainable Development of Transport and Logistics. 2. 57-66. 10.14254/jsdtl.2017.2-2.5.
- 20.Kusa I., New Silk Road: how the Chinese project can give Ukraine tens of billions of investments / I. Kusa, O. Khomenko, J. Pilipchuk [Electronic resource]. Access mode

- 21.Kyianytsia, Leonid. (2019). The One Belt One Road Initiative as a New Silk Road: The (Potential) Place of Ukraine. Ukrainian Policymaker. 4. 10.29202/up/4/3.
- 22.Lukyanova, O. 2018. World experience and prospects for the development of the transport and logistics system of Ukraine. Economics and Society, 18;
- 23.Ma, W.; Cao, X.; Li, J. Impact of Logistics Development Level on International Trade in China: A Provincial Analysis. Sustainability 2021, 13, 2107. https://doi.org/10.3390/su13042107
- 24.Maçaes, B. (2016). China's Belt and Road: Destination Europe. Carnegie Europe.
  P 4. Retrieved from http://carnegieeurope.eu/2016/11/09/china-sbelt-and-road-destination-europe-pub-65075
- 25.Marijk van der Wende, William C. Kirby, Nian Cai Liu, and Simon Marginson (2020)"China and Europe on the New Silk Road", ISBN: 9780198853022, Oxford Scholarship
- 26.Markus, M. C. (2016). One Belt, One Road: the Chinese Dream and its impact on Europe. Notes Internacionals. CIDOB.
- 27.Matskul V., Kovalyov A., Saiensus M. (2021). Optimization of the cold supply logistics network with an environmental dimension. IOP Conf. Series: Earth and Environmental Science, 628
- 28.Ministry of Infrastructure of Ukraine. A Look at Transit Transport in Ukraine. https://mtu.gov.ua/files/A%20look%20at%20Transit%20Transport%20in%20Ukrai ne-Draft-Final-Report.pdf
- 29.Mykal O. Why China Is Interested in Ukraine. Available at [https://thediplomat.com/2016/03/why-china-is-interested-in-ukraine/
- 30.Nguyen, S. T. and Y. Wu. 2019. Economic Integration and Network Trade: A Comparison of East Asia and the European Union. ADBI Working Paper 1062.
  Tokyo: Asian Development Bank Institute. Available: https://www.adb.org/publications/economic-integration-networktrade-east-asia-european-union
- 31.Ostashko, Tamara & Olefir, Volodymyr & Venger, Vitalii & Boiko, Olena. (2021). A Comparative Analysis of the Trade and Industrial Policies of Ukraine and China in

the Context of the Obor Initiative. Comparative Economic Research. Central and Eastern Europe. 24. 119-136. 10.18778/1508-2008.24.15.

- 32.Overview Belt and Road Initiative Forum 2019". Archived from the original on 17 September 2019. Retrieved 30 January 2020. / http://ww1.beltandroadforum2019.com/
- 33.Petrunenko, Y.V., Malinoshevska, K.I. 2020. Strategy, economic and legal foundations for the development of agro-industrial complex within the conditions ensuring of food security. International Journal of Management, 11(6);
- 34.Pidchosa, O., Dineha O, Export development of Ukrainian agricultural goods to India and China // Conference "INTERESTS of UKRAINE IN ASIA" proceedings. IIR, Kyiv: April 18, 2018
- 35.Pierre A. David "International Logistics: the Management of International Trade Operations" Jun 15, 2017,/ https://www.amazon.com/International-Logistics-Management-Trade-Operations/dp/0989490645/ref=sr\_1\_2?keywords=International+Logistics&qid=16

37028464&s=books&sr=1-2

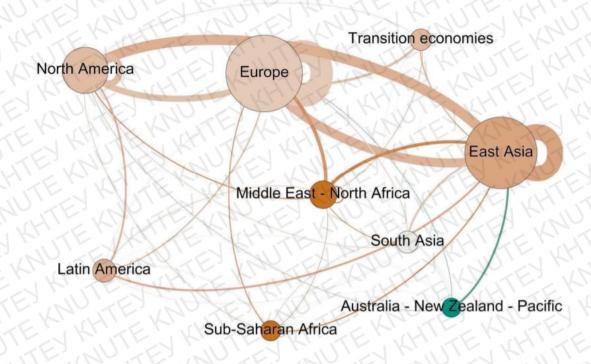
- 36.Qin, G., Tao, F., & Li, L. (2019). A Vehicle Routing Optimization Problem for Cold Chain Logistics Considering Customer Satisfaction and Carbon Emissions. International Journal of Environmental Research and Public Health, 16(4), 576. https://doi.org/10.3390/ijerph16040576
- 37.Rastogi, Cordula, and Jean-François Arvis. 2014. The Eurasian Connection: Supply-Chain Efficiency along the Modern Silk Route through Central Asia. Directions in Development. Washington, DC: World Bank
- 38.Refrindustry (2019) Global cold chain logistics market 2019-2026, https://refrindustry.com/news/market-research/cold-chain-logistics-market-2019-2026
- 39.Tan, S. W. 2017. Digital Trade in Europe and Central Asia. ADBI Working Paper
   751. Tokyo: Asian Development Bank Institute. Available: <u>https://www.adb.org/publications/digital-tradeeurope-and</u>-central-asia

- 40.Trade and Economic Cooperation Report, 26 February 2021 https://china.mfa.gov.ua/en/partnership/economic-cooperation-en/trade-andinvestments
- 41.Transformational processes the development of economic systems in conditions of globalization: scientific bases, mechanisms, prospects: collective monograph / edited by M. Bezpartochnyi, in 2 Vol. / ISMA University. Riga: «Landmark» SIA, 2018. Vol. 1. 348 p.
- 42.Trojan, S. (2018). Current Ukraine-china relations : problems and perspectives. International Reations : Theory and Practical Aspects, 84-93 [in Ukrainian]. https://doi.org/10.31866/2616-745x.1.2018.133418
- 43.UNESCO (n.d). UNESCO Silk Road Project. Retrieved from: http://www.unesco.org/new/en/culture/themes/dialogue/routes-of-dialogue/silk-road
- 44.W. Lam Wo-Lap 'Getting lost in 'One Belt, One Road' https://www.ejinsight.com/eji/article/id/1281194/20160412-getting-lost-one-beltone-road
- 45.Wade Shepard "The Real Role Of The AIIB In China's New Silk Road", Special Article; Forbes Publishing, 2017 / https://www.forbes.com/sites/wadeshepard/2017/07/15/the-real-role-of-the-aiib-in-chinas-new-silk-road/?sh=12704ee67472
- 46. Winkelhaus, S., Grosse, E.H. 2020. Logistics 4.0: a systematic review towards a new logistics system. International Journal of Production Research, 58(1), 18-43.
- 47.World Bank "Belt and Road Initiative".. Archived from the original on 19 February 2019. Retrieved 10 March 2019. /
- 48.Yafei. H. (2015). Connecting the World Through "Belt & Road". China-US Focus, (retrieved from https://www.chinausfocus.com/foreign-policy/the-belt-roadinitiative-offers-new-model-of-cooperation-in-global-governance
- 49.Yavas, V., Ozkan-Ozen, Y.D. 2020. Logistics centers in the new industrial era: a proposed framework for logistics center 4.0. Transportation Research Part E: Logistics and Transportation Review, 135, 101864. Available at: https://doi.org/10.1016/j.tre.2020.101864.

- 50. Ying Wang, Ze Tian, & Shenyue Xia. (2018). Analysis of the Competitiveness and Complementarity of China-Ukraine Trade Cooperation under the Background of «Belt and Road», Proceedings of the 2018 International Conference on Economics, Business, Management and Corporate Social Responsibility (EBMCSR 2018). lin Englishl. DOI: https://doi.org/10.2991/ebmcsr-18.2018.39.
- 51.Ziegler Ch. E. The energy factor in China's foreign policy / Charles E.Ziegler // Seeking changes. The economic development in contemporary China / Ed. by Zhou Yanhui. – Beijing: Central Compilation and Translation Press, 2011. – P. 206-235.
  14. Ukraine – China. Issue 2 (8), 2017.
- 52.Zhang W. China's Free Trade Agreements and Preferential Trade Agreements / Online access / http://www.china.org.cn/business/node\_7233287.htm

## APPENDICES

Appendix A



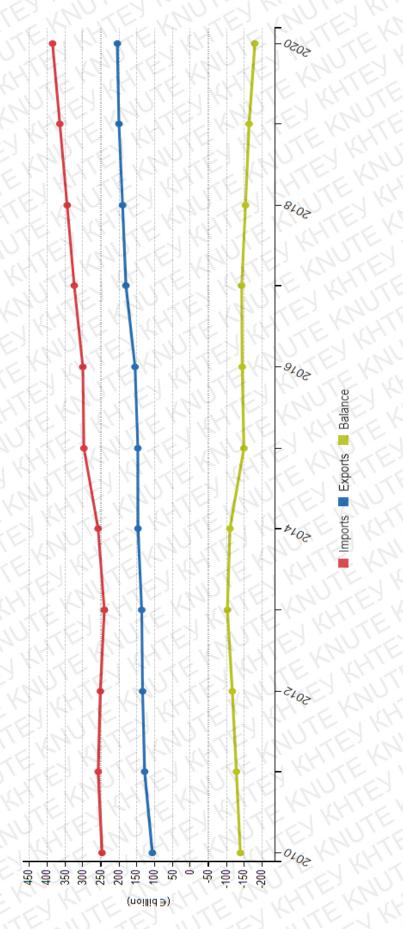
Trade network map showing the main trade links, sourced from UNCTAD, visualization based on COMTRADE data.

# Appendix B

Element	Factor	Impact, Solution
Political	<i>Opportunity</i> : Ukraine is considered by the Chinese leadership as one of the nodes of the global project of the New Silk Road <i>Threats</i> : the chance to seize the available opportunities of the initiative and Chinese interest in the region were lost. A testing freight train on the route Ukraine-China failed due to poor synchronization and poor quality of logistics services.	Allows active participation in the initiative to increase the country's importance as a strategic partner, and with sufficient efficiency to benefit from both the Asian Partnership and the EU. Regular traffic was resumed only in 2020, through the territory of Belarus and Russia, which threatens Ukraine's need for this system as such.
Economic	The People's Republic of China is Ukraine's largest trading partner. The good indicator became possible due to the growth of world prices for the main commodity groups of Ukrainian exports, which consists of more than 80% of four commodity groups. Chinese imports are more diversified.	Increasing dependence on import leads to slumping the Ukrainian manufacturing, still increasing export may turn country just to a resource base. Manufacturing more goods with added value is vital at this point.
Sociological	Ukraine and China are not connected by many things in the social sphere other than the impressions already formed in the industrial eras of both countries.	Both Ukrainians and Chinese sides face dishonesty and non-compliance with contract terms accompanied by long and often biased litigation.
Technological	As a leader in the development and widespread use of new technologies, China has a lot to offer Ukraine, while Ukraine remains at the top of the list of countries of origin of the best specialists in the IT industry and R&D.	For Ukraine, cooperation with China in the development of the logistics complex will give both countries the opportunity to enter new markets.
Legal	For effective international cooperation between Ukraine and China, it is necessary to harmonize the rules of law and regulations on the conduct of foreign economic activity.	The most important thing is to bring all processes and regulators into line with EU and European judicial norms.
Environmental	The reality of today shows that Asia, unfortunately, although rapidly developing eco-technologies, is still often accompanied by extremely high levels of pollution, and their philosophy of economic management for centuries has been built on the principle of ignoring norms and hiding emissions.	This is a serious threat to Ukraine, which is not a polluted country even compared to European leaders. The issue of regulating emissions and pollution is crucial and agreement must be reached in parallel with the main economic ones.

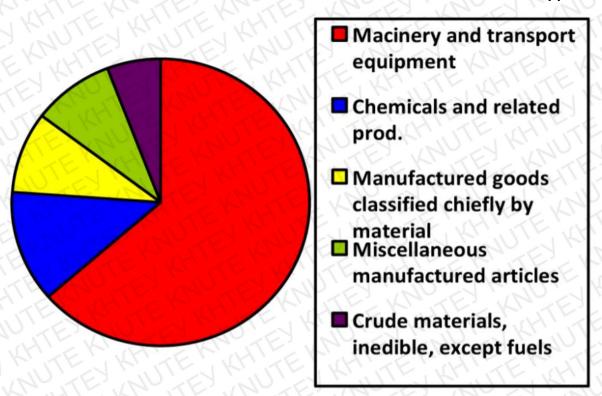
Source: created by author

Appendix C

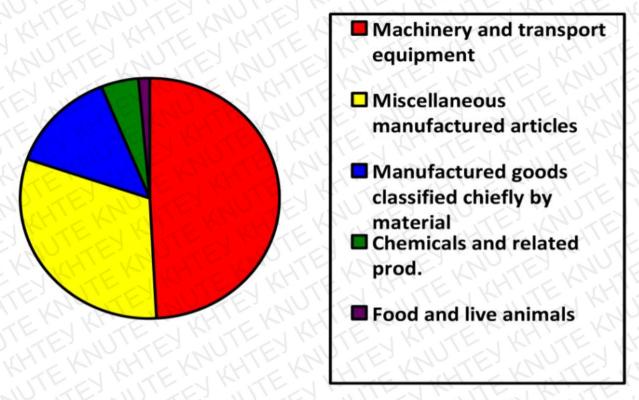


Sourced from Eurostat (online data code: ext\_st\_eu27\_2019sitc and DS-018995).

60

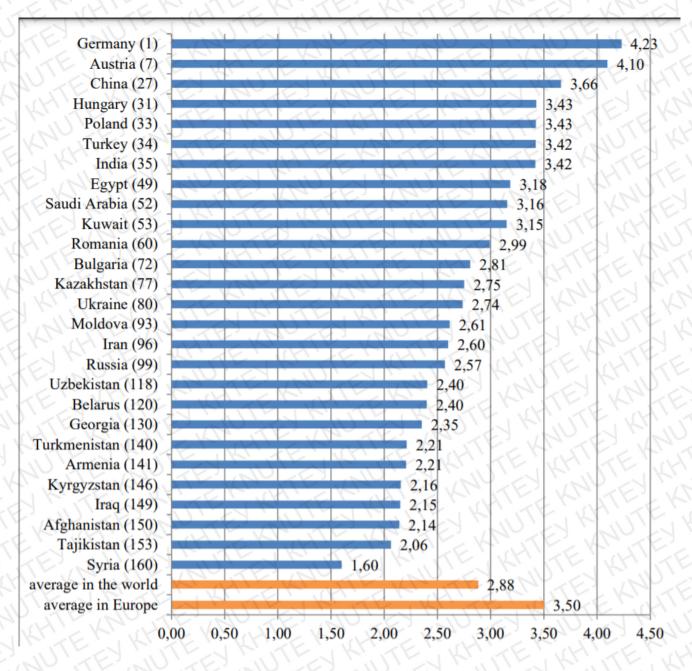


European Union exports to China in 2016, sourced from Report on Phase III of the Euro-Asian Transport Links Project, Geneva, 20-23 February 2018

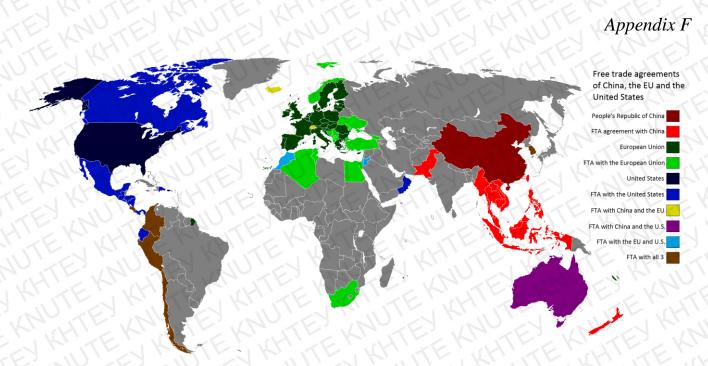


European Union imports to China in 2016, sourced from Report on Phase III of the Euro-Asian Transport Links Project, Geneva, 20-23 February 2018





Rating and evaluation of logistics performance (LPI) in the countries of the Silk Road, based on the World Bank's Logistics Performance Index



Free trade agreements of China, the EU and the United States. Sourced from World Bank Database.

## Appendix G

Export					Import				GDP,
Countries (rank)	time for border and customs control (hours)	Cost of border and customs control (USD)	Time for registrati on of docume nts (hours)	Cost of registra tion of docume nts (USD)	Time for border and customs control (hours)	Cost of border and customs control (USD)	Time of registra tion of docum ents (hours)	Cost of registration of documents (USD)	bln. USD
AN. AN	2.10	L	arge countrie	es of region	nal level	161		14.11	
Iran (170)	101	565	152	143	141	660	270	197	386,1
China (96)	26	522	21	85	92	777	66	171	11383,0
Russia (140)	96	765	25	92	96	1125	43	153	1132,7
Turkey (70)	16	376	5	87	41	655	11	142	751,2
average	59,75	557	50,75	101,75	92,5	804,25	97,5	165,75	3413,3
TE IN	IV TE	The	countries o	f Central A	Asia (CA)	1111	1KL		Th.
Kazakhstan (119)	133	574	128	320	Ezk	0	6	0	116,2
Kyrgyzstan (79)	20	445	21	145	37	512	36	200	5,3
Tajikistan (144)	75	313	66	330	108	223	126	260	6,0
Uzbekistan (165)	112	278	174	292		278	174	292	61,6
average	85	402,5	97,25	271,75	64,5	253,25	85,5	188	47,3
E' NU	1	- 1U/ -	<b>Countries</b> o	f Transcau	icasia		5.1	IV.K	
Azerbaijan (83)	29	214	33	300	30	423	38	200	35,1
Armenia (48)	39	100	2	150	41	100	2	100	9,9
Georgia (54)	14	383	2	35	15	396	2	189	13,5
average	27,33	232,33	12,33	161,67	28,67	306,33	14,00	163,00	19,5
111-61	11.1	L'L	Euro	pean CIS	countries	LAN.	rt'	KH'X	E
Belarus (30)	5	108	4.0	140	$\cup$ 1/	0	4	0	45,9
Moldova (34)	3	76	48	44	4	83	2	41	6,2
Ukraine (115)	26	75	96	292	72	100	168	212	83,6
average	11,33	86,33	49,33	158,67	25,67	61,00	58,00	84,33	45,2
Middle East and North Africa	64	460	77	261	121	555	101	305	ATE
Europe and Central Asia	28	195	27	111	26	202	26	91	NU
OECD	12	150	3	36	×9 V	115	4	26	1.04

Indicators of the Index of doing business in the export-import direction for groups of countries potentially participating in the economic belt of the Silk Road, sourced from «Doing Business 2016» report.

Appendix H



Demonstration route of a container train on the route Ukraine-Georgia-Azerbaijan-Kazakhstan-China, sourced from Ministry of Infrastructure of Ukraine and the Ukrainian Railways

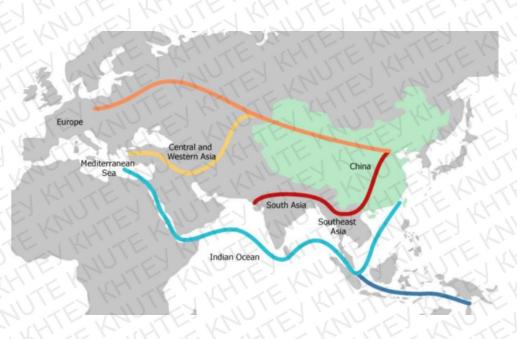
## Appendix I

Ukrainian exp	oorts (Janua 2021)	ry-April	Imports from China (January-April 2021)				
Commodity position	Volume (\$ million)	Dynamics to the same period in 2020	Commodity position	Volume (\$ million)	Dynamics to the same period in 2020		
Ores, slags and ashes	1,061.25	49%	Electric machines	727.76	15%		
Crops	951,811	170%	Nuclear reactors, boilers, machines	561,422	49%		
Fats and oils of animal or vegetable origin	342,259	23%	Means of land transport other than rail	151,289	46%		
Residues and waste from the food industry	222,894	57%	Shoes	131,522	28%		
Nuclear reactors, boilers, machines	78,407	-21%	Various chemical products	123,449	1.70%		

Main categories of goods Exported and Imported between Ukraine and China in 2021, created by author on materials of ICC Ukraine.

N' JI' N' IV KI' T	
Strengths 1. Advantageous geographical position, close proximity to Europe. 2. Ukraine is rich with natural resources. 3. High level of human development and social progress. 4. Scientific and technical potential. 5. Capacious financial, goods and services, investment, technological and other markets. 6. Considerable raw material base	Weaknesses 1. Military conflict in the East of Ukraine. 2. Social, political, and economic instability. 3. Power dependence of the country. 4. Low competitiveness of domestic goods and services. 5. Instability of national currency rate. 6. Complicated epidemiologic situation
Opportunities 1. Partnership extension among countries within One Belt One Road project in ecological, trade, and investment spheres and implementing technologies within Industry 2. Creating an FTA between Ukraine and China. 3. Entering the Chinese market and extending trade- economic partnership in priority industries. 4. Using the experience of overcoming COVID-19 and crisis phenomena provoked by the latter.	Threats 1. Technological asymmetry in the countries' trade: export of raw material from Ukraine and high technology export of PRC. 2. Limited entering the Chinese market by domestic business. 3. Keeping the negative balance in trade with China. 4. High level of tariff protection particularly for agricultural produce. 5. Conflict aggravation with the USA. The possibility of a conflict breakout with other countries. 6. Deterioration of epidemiological situation.

SWOT analysis of Ukrainian-Chinese bilateral trade agreement possibility, created by author



One Belt One Road Initiative Map, sourced from UNCTAD

Appendix K

Аррениіх L	Ap	pendix	L
------------	----	--------	---

Country	Asses sment LPI	Rank LPI	Customs	Infrastruct ure	Internation al shipping	Competenc e in logistics	Trackability of goods	Complian ce with delivery deadlines
European countries	3,50	34	3,27	3,40	3,43	3,51	3,52	3,84
Large regional countries	3,06	64	2,71	3,09	3,06	3,09	3,03	3,40
European CIS countries	2,58	97,6	2,25	2,32	2,61	2,45	2,60	3,24
Countries of Transcaucasia	2,34	132	2,26	2,37	2,38	2,14	2,20	2,66
Countries of Central Asia	2,32	126,8	2,11	2,33	2,34	2,22	2,23	2,65
Average in the world	2,88	F	2,71	2,75	2,87	2,82	2,86	3,27

Level of logistics development (LPI index) in groups of participating countries (including potentially) of the Silk Road economic zone, World Bank data, 2016.

$$LPI \pm \frac{{}^{t} (0.1, N-1)^{s}}{\sqrt{N}}$$

LPI calculation formula where LPI is the indicator of LPI in the country, N - the number of respondents for the country, S - calculated standard error of LPI points countries, t - the value of the Student's criterion (t-distribution).

## Appendix M

Year	Exp	ort	Imj	port	TE KHI TE
CHU CHU	Thsd.USD	in % to previous period	Thsd.USD	in % to previous period	Balance
2016	1832518,9	76,4	4687697,2	124,3	-2855178,2
2017	2039327,6	111,3	5648673,9	120,5	-3609346,3
2018	2200147,4	107,9	7608356	134,7	-5408208,6
2019	3593093,9	163,3	9204805	121	-5611711,1
2020	7099948,1	197,6	8318436,1	90,4	-1218488,0
2021	6126465,8	127,6	7557279,8	130,1	-1430814,0

Table "Balance of foreign trade of Ukraine and China for 2016-2021", created by the author on the basis of data from the State Statistics Service of Ukraine (http://www.ukrstat.gov.ua/)