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***« Participation of Kazakhstan in Regional and Global Chains »***

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**Abstract of «Participation of Kazakhstan in Regional and Global Chains», by  
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With the increase of Global Value Chains (GVCs) and industrial networks, international commerce has become increasingly complicated; trade in GVCs accounts for over 80% of global trade (UNCTAD, 2013). Due to being a relatively small economic player on the global arena, Kazakhstan should actively engage in international trade. Overall, literature on the topic suggests that Kazakhstan holds a lower than average position in GVCs; however, it also outlines the potential for its consolidation in the long-term on condition that proper measures are taken by the government as the main decision maker. The author proposes several factors that influence position of Kazakhstan in GVCs, as well as a more detailed assessment of the advantages and challenges of GVCs of Kazakhstan. Moreover, number of recommendations were provided as a result of analyzing of literature review and responds of interviews. In conclusion, the research suggests recommendations, such as developing of agriculture, manufacturing, logistics and attracting FDIs.

***Keywords—global value chains, forward participation ratio, backward participation ratio, foreign direct investments, logistics, export, import.***

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## Terminology

*Global Value Chains (GVCs)* - international division of production, in which the process of creating a product is broken down into activities that are performed across the borders (Seric & Tong, 2019);

*Backward participation ratio* - the ratio that illustrates foreign contribution to the value of a product for export (Akhtanova & Tamenova, 2019);

*Forward participation ratio* - the ratio that shows how much local production is included in the cost of foreign production (Akhtanova & Tamenova, 2019);

*Foreign Direct Investment (FDI)*- “investment in an enterprise that is resident in a country other than that of the foreign direct investor” (Drahokoupil, 2020);

*Import-substitution industrialization* strategy - “development strategy focusing on promoting domestic production of previously imported goods to foster industrialization” (Bussel, 2018).

## I. INTRODUCTION

With the increase of Global Value Chains (GVCs) and industrial networks, international commerce has become increasingly complicated; trade in GVCs accounts for over 80% of global trade (UNCTAD, 2013). The establishment and extensive distributions of global value chains resulted from the growth of the worldwide division of labor in the context of the formation of the global economy in the later decades of the twentieth century. Global Value Chains are defined as the combination of number of economic actions necessary to the process of production from the planning point to the proceeding the manufacturing and after all to the user. The distribution of different production stages across countries based on their cost efficiency factor of territories is the main idea of GVCs.

Due to being a relatively small economic player on the global arena, Kazakhstan should actively engage in international trade. In fact, Arenas and Izvorski (2020) reported that Kazakhstan is too dependent on natural resources exports such as petroleum oil, natural gas and metals that together make up the lion's share of more than 90% of the country's total export. The focus on natural resources has led to lower development of other trade sectors, thereby negatively affecting the diversification of the country's economy. For instance, 2014 fall in oil prices revealed how vulnerable the country can be to external shocks, thereby confirming the need for more varied sectors of economy to rely on (Anderson et al., 2018). This economic diversification can be carried out via better engagement in Global Value Chains (GVCs). Overall, literature on the topic suggests that Kazakhstan holds a lower-than-average position in GVCs; however, it also outlines the potential for its consolidation in the long-term on condition that proper measures are taken by the government as the main decision maker.

GVCs can be seen as a huge expansion of segmentation of labor that dates back to the days of Adam Smith (Seric & Tong, 2019). The authors presented a famous example that during Smith's times, the manufacturing of a pin was separated into several distinct factory procedures at one enterprise, each carried by a devoted worker. When it comes to production

across GVCs, operations are conducted across nations, rather than being limited to the same location. As a result, it became easier to produce goods far more complex than a pin (Seric & Tong, 2019). As claimed by the authors, cross-border manufacturing has opened up more opportunities through trade and investment liberalization, lower transportation costs, innovations in the fields of information and communications technology and logistics. It means that even a small economy like Kazakhstan can benefit from strengthening its place in GVCs.

These days, GVC is longer and therefore more profitable for upper participants of GVCs. It becomes more complex, therefore only countries standing in upper strands of GVC take more benefits than those in the beginning.

Furthermore, the authors stated that Asian region is more focused on importing transitional goods and manufacturing them to final ones. As an example, the case of Apple iPhones was considered as follows, the selling price of Apple iPhone was US\$ 179 each. And the price included US\$ 172, which were expenditures of imported materials and intermediate goods from other developed countries. That means that China's value added was just US\$ 6.5. China has made significant progress since then in its strivings not to use mostly imported components and not only being assembly point for them (Seric & Tong, 2019).

In line with research of Development Research Group of World Bank (2020) as an example of successfully integrated countries in GVC and that are leading ones also Poland and Vietnam can be considered. For instance, Polish General Motors company started its production in 1994, and now Poland is one of the world's leading car exporting countries. Also, Vietnam's electronics sector developed rapidly in less than a decade, like Poland's car industry. Vietnam is now the world's second largest smartphone exporter, generating 40% of Samsung's global mobile phone goods and employing 35% of its global workforce. Vietnam rarely exported electrical items ten years ago. Above mentioned study also provided the example of Sub-Saharan African countries which are mostly out of GVCs due to transportation issues, language and infrastructural low level of development (World Bank, 2020).



The relevance of the research paper is significant. With regard to society, it is important to move along GVC to increase GDP, therefore increase social and economic welfare (there are still people in Kazakhstan under poverty line), to strengthen position of Kazakhstan on global political arena and to attract more FDI.

Consequently, the factors defining the relevance of this work:

1. Global value chains is a lately developing notion in the transborder economy's framework, whose development has crucially contributed to the higher rate of employment, attract investment flows, and most crucially, a rethinking of trade policy goals. The development and increased impact of GVC in Kazakhstan demonstrates the need for research and analysis.

2. Comparing the results of analysis will help to identify priority areas for Kazakhstan's deepening participation policies, which are currently being developed.

The relevance for academia should also be mentioned because the resources about the movement of Kazakhstan along GVCs are in low numbers, and therefore, the paper aims to fill in the gap. The relevance for student is to deepen the understanding of GVCs and how they can benefit from the knowledge on their career journey.

The purpose of this work is to answer the following **research questions**:

1. Which factors influence Kazakhstan's position in GVCs?
2. What are the practical challenges of participating in GVCs?
3. What should Kazakhstan do in order to deepen its integration into GVCs?

In line with the research questions deeply analyze and critically discuss Kazakhstan's position in Global Value Chains and find out practical ways of strengthening its position among other bordering countries.

To achieve the goal, the following objectives were determined:

- Identify the role of the GVC in development of economy of Kazakhstan;
- Critically analyze the factors affecting the participation of Kazakhstan in GVCs.
- Find out ways to increase the participation of Kazakhstani enterprises in GVCs;

The information base of the study was the materials of World Trade Organization, OECD, World Bank, UNCTAD and findings of international and local researchers.

The content of the master's dissertation will be as follows: in the first chapter - the introduction, the relevance, purpose and objectives of the study are substantiated. The concept and origin of global value chains are also considered. In the second chapter, a comprehensive literary assessment of the country's place in global value chains, identified the advantages, challenges, factors influencing the country's participation in GVCs based on the PESTLE analysis and recommendations for Kazakhstan. The third chapter is devoted to research methodology. The fourth part provides an analysis of the conducted field work in comparison with literature sources.

In conclusion, the author emphasized the key points and offered several recommendations regarding the further development of the national economy of the Republic of Kazakhstan in global value chains.

Hence, the paper will elaborate further on the topic of what factors and challenges affect Kazakhstan's position in GVC and demonstrate ways how to strengthen it.

## II. LITERATURE REVIEW

The following chapter will illustrate the studies relevant to research questions. It is divided into 5 chapters including the nowadays situation, advantages, challenges, PESTLE analysis, and recommendations.

### 2.1. Current situation-Evaluation of Kazakhstan’s position in GVCs

According to World Bank Country profile explanatory notes (2019), the GVC Participation Index assesses how the economy's production and international commerce are linked to global value chains. The indicator is made up of two parts that represent the rising and descending linkages in multinational manufacturing chains. Individual governments engage in global value chains by importing foreign resources for the manufacture of products and services that they export (backward participation in GVC) and exporting domestic resources to partners responsible for later stages of production (forward participation in GVC). As it can be clearly seen from figure 1 Kazakhstan was more engaged to forward participation in GVC.

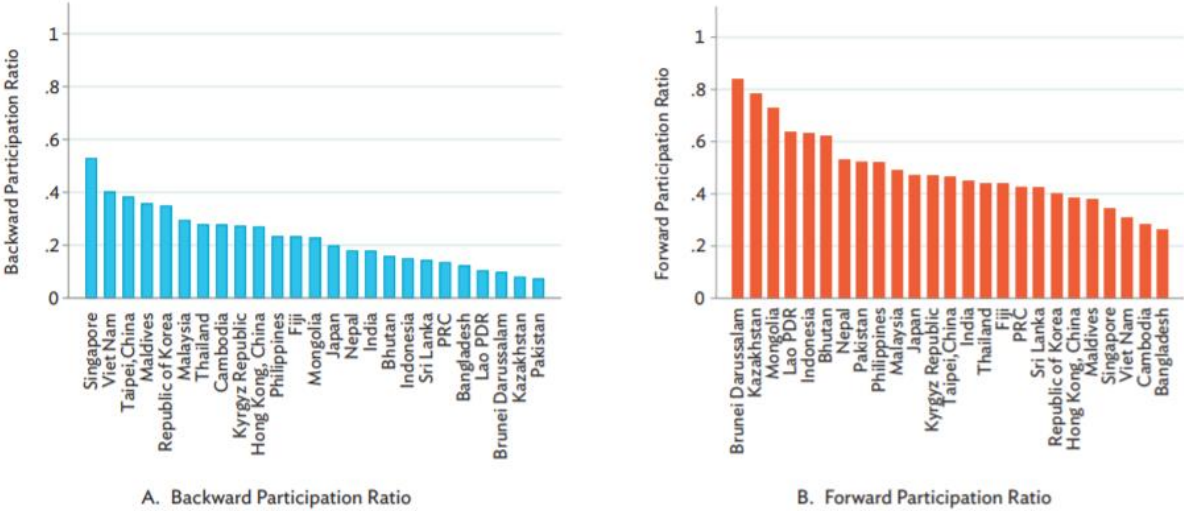
(% share in total gross exports)

	Regional averages				
	Kazakhstan	Asia	Europe	North America	South America
<b>Total GVC participation</b>	<b>53.0</b>	<b>44.4</b>	<b>48.8</b>	<b>37.8</b>	<b>36.5</b>
Forward participation	43.2	20.0	21.2	22.0	23.5
Backward participation	9.7	24.4	27.6	15.8	13.0

**Figure 1.** GVC participation index, 2015 (World Bank, 2019)

The forward engagement of economies in Asia and the Pacific varies significantly as well but tells a slightly different pattern. Panel B of Figure 2 depicts the location in the higher segments of the value chains of economies such as Brunei Darussalam, Kazakhstan, and Mongolia, which are focused on exports mostly consisting of natural raw materials. It results to having the largest forward participation ratios and shows that 70–80 percent of their exports

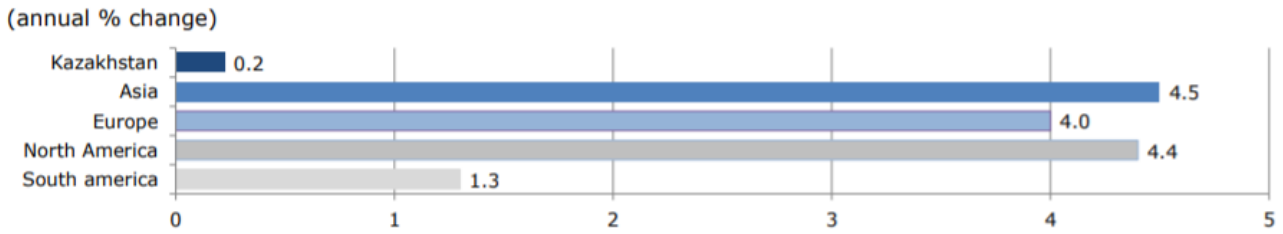
moving into other economies' output, at the same time, Bangladesh and Cambodia have the smallest rates in forward participation because they mostly export textiles, which are usually produced as a final product. (ADB, 2018)



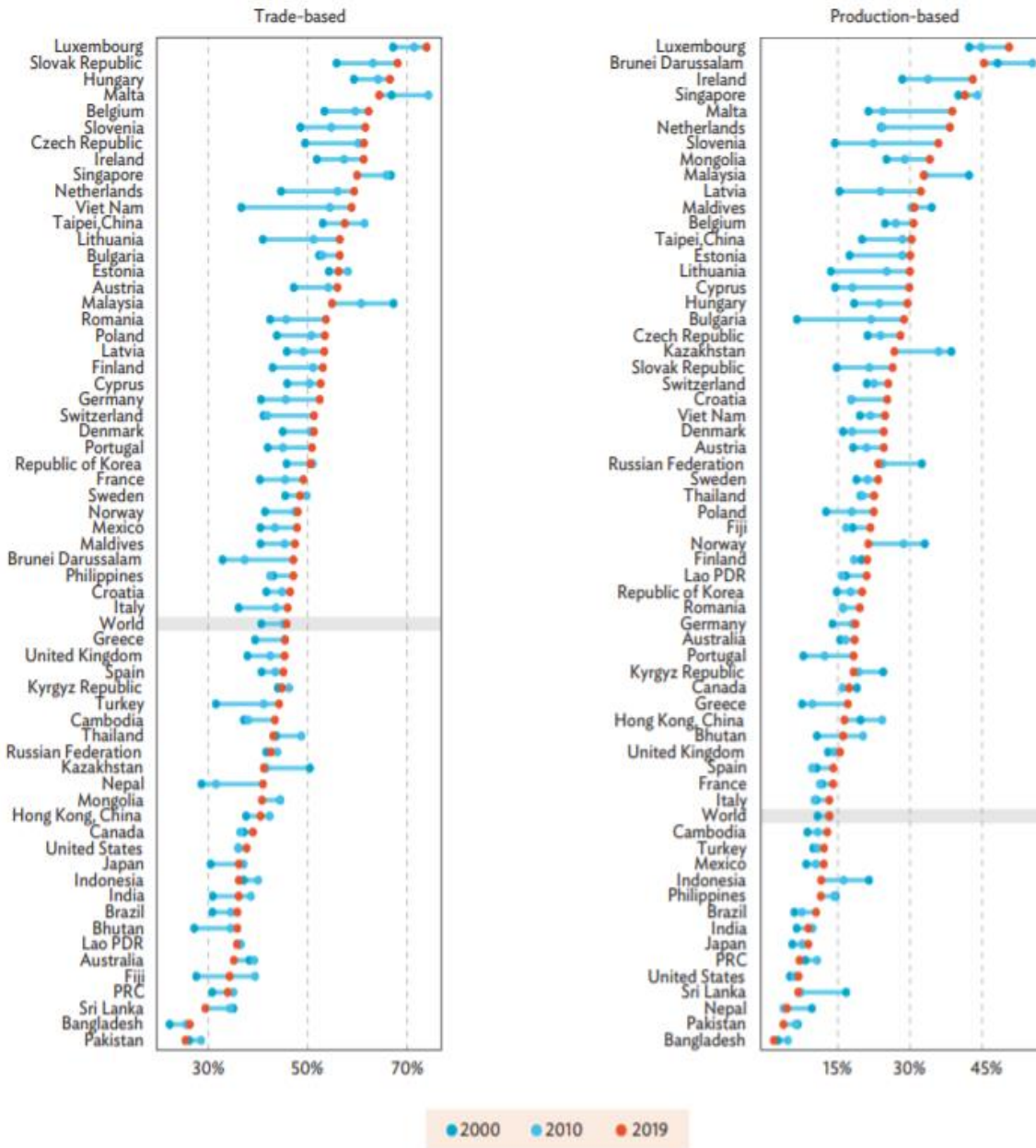
**Figure 2.** Global Value Chain Participation in Asia and the Pacific, 2017 (ADB,2018)

Kazakhstan has extremely low indications of backward involvement (about 6%) because the country's economy is based on exports of natural raw materials. The of exports of Kazakhstan in 2018 include: Petroleum products and crude oil make up 62 percent (\$37 billion); gaseous hydrocarbons - 4.94 percent (\$3.01 billion); ferroalloys- 3.61 percent (\$2.2 billion); radioactive chemical elements - 2.2 percent (\$1.34 billion); and copper ore and concentrate - 1.94 percent (\$1.18 billion). (Akhtanova & Tamenova, 2019).

According to the World Bank recent researches Kazakhstan shows low percentage (0,2 % annually) of evolution of GVCs participation from 2010 to 2018. In contrast Asia and North America demonstrated high indexes- 4,5 and 4,4 per cents respectively (Figure 3).



**Figure 3.** Evolution of Total GVC participation 2010-2018 (World Bank, 2019)



**Figure 4.** Measures of GVC participation in 2000, 2010, 2019 (ADB,2021)

Figure 4 depicts each economy's two (Production-based, trade based) GVC participation percentages in 2000, 2010, and 2019. It is instantly apparent that practically all economies witnessed participation increase from 2000 (dark blue dots) to 2019 (orange dots). However, Kazakhstan's participation rates show declining tendency (approximately twice from 2000 to 2019) in both trade-based and production-based indexes. In contrast the average world trend for changes is opposite and demonstrates the growth in numbers.

Thus, Kazakhstan has more of a forward position in GVC compared to other countries which are backward drivers.

## **2.2 The advantages**

There are several advantages for Kazakhstan in development of its position in GVCs. On the one hand, despite being landlocked, Kazakhstan is located in a relatively advantageous geographic location as a connector between Europe and China. In the future, according to the United Nations Conference on Trade and Development (2020) with China's Belt and Road (New Silk Way) initiative announced in 2013, Kazakhstan will be able to become a transition point between Asia, Europe and the Middle East.

Zhiheng, Guisheng, Baogui (2020) argued that the New Silk Way project, driven by the principles of collaboration, mutual assistance and shared benefits, aims to fulfill the needs of participating countries to develop their own economies. The authors argue that countries like Kazakhstan can integrate more deeply into the international trade market due to absorption of relocated manufacturing techniques and the inflow of new capital. The researchers utilized import and export data from 40 selected countries located along the route from 2010 to 2017 derived from the UN Comtrade database. Zhiheng, Guisheng, Baogui (2020) found out that the New Silk Way project has a noticeable positive effect on the advancement of countries along the routes of GVCs, particularly in the second year of integration, but this influence is lagging and volatile. As a matter of fact, the analysis of the heterogeneity of the New Silk Way countries demonstrated that while there is still a notable positive impact on participating

developing countries like Kazakhstan; the converse is true for the developed countries (Zhiheng et al, 2020). In the past, Kazakhstan would have struggled to go through the full cycle of a product manufacturing; however, with the help of GVCs, the country can get a competitive advantage by participating in one or more stages. Thus, the research above revealed that Kazakhstan yields benefits from the location along the New Silk Way project.

United Nations Conference on Trade and Development (UNCTAD) (2020) researchers also highlighted the potential advantage of Kazakhstan in the field of manufacturing due to big energy resources. UNCTAD (2020) claimed Kazakhstan's electricity sector is comparatively consistent. Indeed, according to the 2013-2014 Enterprise Survey, the monthly average number of power outages was only 0.5, whereas other upper middle-income countries like Kazakhstan accounted for 1.9. What is more, the value that was lost in sales due to power outages was merely 0.4% as contrasted with 0.7% for other upper middle-income countries (World Bank 2014). The authors also commended the efficiency of the local labor force, mentioning Kazakhstan's 20th place out of 138 countries in Global Competitiveness Index of 2016-2017 scoring high for the efficiency of labor market (World Economic Forum, 2017). UNCTAD (2020) representatives believe these advantages can contribute to a strengthening Kazakhstan's position in GVCs in the field of manufacturing. One of the most prominent fields Kazakhstan has been gaining a better position in GVCs is automobile and electronics manufacturing. Conforming to Akhtanova and Tamenova (2019)'s study, the following automobile production sites: Kostanay City's Agromash Holding JSC that produces ZAZ Chance, SsangYong, Iveco cars and a wide range of agricultural machinery; Asia Auto JSC which produces KIA, Chevrolet, Škoda Lada 4x4 cars in Ust-Kamenogorsk City; and Astana Motors which is in charge of the production of KAMAZ and Hyundai commercial vehicles. Hence, manufacturing has proven to be an area where Kazakhstan can show itself a powerful GVCs actor.

Agreeing with the authors above, the government of Kazakhstan plans to pay more attention to reinforcing its position in manufacturing GVCs. As stated in Government of Kazakhstan's (2019) *Decree on the Approval of the State Program of Industrial and Innovative Development for 2020 - 2025*, for the next 5 years, the emphasis in the state industrial policy will be placed on the creation of an export-oriented economy with high added value. The officials (2019) explained that the export orientation is dictated by the need to expand markets for the growing volume of goods and services and integrate into GVCs. Export-oriented industrialization will allow bringing new Kazakhstani goods to foreign markets, including high-tech products. The emphasis will be placed on the manufacturing sector, where the stimulation of exporters of high-tech products and services will be carried out (Government of Kazakhstan, 2019). Thus, the government's ambition is to stimulate export-oriented economy, which in turn, will bring more FDI, and then use the FDI in the manufacturing sector again, thereby strengthening Kazakhstan's place in GVCs of manufacturing.

Selmier II (2018) also showed the prospects of the country in GVCs. As a matter of fact, the researcher argued that the combination of comparatively high per capita income for the region, developed energy industry, and the historical fact that ancient Silk Road went through southern Kazakhstan has promoted the creation of a transport system that includes logistics, air transportation and capital exchange. In accordance with the author, merging into international trade will create and improve facilities that span the "The Four R's" of transport: "Road, Rail, Runway and River / sea". Selmier II (2018) is convinced that the integration can be brought into life through more active planning of industrial projects in Nursultan, Almaty, Khorgos as well as inflow of Chinese investments. So, it is implied that better planning and usage of advantages can yield an even more advantageous position for Kazakhstan particularly in the transportation sector, the integral part of GVCs.

Therefore, the advantages of enhancing Kazakhstan's position in GVC are good geographical location, big energy resources and manufacturing development potential.



## 2.3 Challenges

On the other hand, Akhtanova and Tamenova (2019) suggested that Kazakhstan is currently in a disadvantageous position in GVC. For the research, Akhtanova and Tamenova (2019) used the method of backward and forward participation ratios. The results of the study showed that in 2018, Kazakhstan demonstrated a low backward participation ratio at 6% and high forward participation ratio at 80%. The explanation is the raw materials orientation of the country's economy. Recently, the country has attracted a lot of foreign investments; however, the most of it has been poured into petroleum oil, gas, and mining initiatives. The development in sectors like agriculture and transportation can strengthen Kazakhstan's position, according to the researchers. Therefore, Akhtanova and Tamenova found out that Kazakhstan participates only at the lowest links of GVCs and has a long way to go upward.

Additionally, Arenas and Izvorski (2020), the World Bank researchers, proposed that over the period from 2008 to 2017, Kazakhstan's position in GVCs has weakened. They found out that in comparison with the past, Kazakhstani export uses less foreign resources with notable decrease in terms of exports value-added that went down from 20 to 7% over the period. The survival rates of Kazakhstan exports are low, the products are not complex, and the diversity is limited. Likewise, Arenas and Izvorski (2020) noted that local production has also become less dependent on external demand, going down from 41 to 25% and more reliant on domestic demand over the decade. This means that Kazakhstan has been losing export competitiveness that limited the export opportunities for local firms. Moreover, the researchers revealed that Kazakhstani exporters tend to utilize fewer imported resources than ten years ago, although their use is essential for participation in GVCs. On top of that, since the country entered Eurasian Economic Union, there was a noticeable upraise in tariffs, which also negatively affected Kazakhstan's position in GVCs. In fact, Arenas and Izvorski (2020) calculated that the tariffs for capital goods increased threefold, whereas tariffs for intermediate

goods rose to 16% over the period. Hence, the research indicated that Kazakhstan shows a weakening position in GVCs.

Furthermore, UNCTAD (2020) reported that poor logistics and slow customs control exacerbate Kazakhstan's position in international trade. Particularly, the organization pointed out infrastructural restrictions that remarkably slow down the transportation from and to Kazakhstan. A significant attention was paid to Kazakhstan-Chinese border at Dostyk. As specified by UNCTAD (2020), the entry restriction, which is the longest delay, occurs when train terminals are full and cannot accept more incoming trains. The main limitation is the necessity for transshipment of cargo at the border control that happens due to discrepancy of gauge standards between Kazakh and Chinese railways (UNCTAD, 2020). The long delays that happen due to congestion of transshipment capacities also demonstrates that Kazakhstan has poor capacity of the facilities at the border crossing points. Another problem highlighted by UNCTAD (2020) is in customs service. The process of clearance is still carried out on paper and documents are checked manually from time to time. The research used a great example for the situation. Every truck generally carries a big variety of goods, and there is a high probability that customs declarations for some goods are not drawn up correctly. These errors can lead to a delay because the truck driver needs to contact a forwarder and wait for the errors to be corrected. On this account, unless logistics and customs control are improved, Kazakhstan will keep its weak position in the regional Asian value chains.

To sum up, the main challenges are country's lowest ranks in GVCs, its deteriorating position and poor logistics and customs controls.

#### **2.4. PESTLE analysis of factors influencing GVCs of Kazakhstan**

In order to identify and structure the factors affecting participation of Kazakhstan in Global Value Chains, PESTLE analysis was chosen. Generally, PESTLE analysis is a convenient tool, which is used to analyze the factors that have an impact, in particular case,

on industry. The reason for choosing this tool is categorizing the influencing factors and more easily analyzing them. As for its advantages, it is worth to mention that it is beneficial when:

- Assessing country's political, economic, entrepreneurial, legal and similar risks;
- Researching the ease of integration of new initiatives;
- Analyzing business and industrial possibilities and threats;
- Investigating socio-cultural problems that may arise due to implementation of new initiatives (Bentley University Library, 2022).

The PESTLE analysis considers political, economic, social, technical, legal and environmental factors shortly outlined in Table 1 and detailed in this part of paper.

**Table 1.** PESTLE analysis (created by the author)

<b>Political</b>	<b>Economic</b>	<b>Social</b>	<b>Technological</b>	<b>Legal</b>	<b>Environmental</b>
<ul style="list-style-type: none"> <li>-Russian invasion to Ukraine</li> <li>-Dependence on Russia</li> <li>-Political reforms since 2019</li> <li>-January'22 riots</li> </ul>	<ul style="list-style-type: none"> <li>- Low quality/old of manufacturing facilities (further the GVC) – domestic industrial capacity</li> <li>-Low amount of FDI hinders launching and development of high-tech manufacturing</li> <li>-Factor endowment</li> <li>-Attachment to ruble and dollar</li> <li>-Ineffective economic policies (absence of liberal state policies) to support high level manufacturing</li> <li>-Bribery that hinders building quality manufacturing facilities (Corruption perceptions index 2019-34 points (113th place))</li> </ul>	<ul style="list-style-type: none"> <li>- Low salaries</li> <li>-Absence/low number of professional manufacturers/specialists required to assemble perplex goods</li> <li>-Absence of high-quality technical education and reluctance of people in Kazakhstan pursue education/careers in tech and manufacturing because low perspectivity</li> <li>-Covid-19 pandemic</li> </ul>	<ul style="list-style-type: none"> <li>-Absence of high-quality technologies required further along GVCs</li> <li>-Absence of speed-trains and enough amount of cargo planes between countries</li> <li>-Low number of containers and absence of developed containers hub and infrastructure in general</li> </ul>	<ul style="list-style-type: none"> <li>-Bureaucracy</li> <li>-Customs take too much time</li> <li>- Harsh pandemic regulations</li> </ul>	<ul style="list-style-type: none"> <li>-More transportation hinders Kazakhstan's commitment to UN SDG</li> <li>-Harsh winter conditions in Kazakhstan affects transportation by car/train/planes</li> </ul>

The first category that affects Kazakhstan's position in GVC are political factors both within and outside of the country. These days considering political impacts on GVCs of Kazakhstan is more relevant than ever, due to the vital political alterations of neighboring countries. More precisely recent Russian invasion to Ukraine started on 24 February 2022 significantly affected on Kazakhstan. As protest to Russia, Western corporations are abandoning the country in record numbers, and import transit across its borders is becoming increasingly difficult since the cargo organizations hesitate to do business with Russian ports. The principal route linking Kazakhstan to the rest of the globe goes through the Russian Federation. China is another major route that connects us to the open oceans. However, it is constrained by distance and geopolitical hazards. Such challenges demonstrate the dependence of Kazakhstan on its big neighboring state. Moreover, British MP Margaret Hodge on assembly of Parliament confirmed that "they are expecting to sanction kleptocrats from other jurisdictions such as Kazakhstan who may support Putin's barbaric invasion". (From euronews.com) Simultaneously internal political events affecting the GVCs of Kazakhstan. Such as January 2022 riots in major cities of Kazakhstan that led to the suspending of vital activities of local businesses and limiting of internet connection. Candidate of Economic Sciences Nikita Maslennikov on his interview for FBA "Economy Today" commented that banditry and terrorist attacks have called into question the international reputation of the economy, so Kazakhstan needs to focus on restoring investment attractiveness. (Sikorskiy, 2022) As a matter of fact, since the election, President of Kazakhstan Kassym-Jomart Tokayev started to reform major governmental entities and improve the regulations of number of spheres. For instance, he holds a meeting of the Supreme Council for Reforms on March 3, 2022 and the establishment of new approaches to investment policy was considered. The Investment Policy Concept includes ongoing development of the investment ecosystem, promotion of private sector investment activity growth, and deep integration into global value chains. (Akorda, 2022) So, although political factors have a huge effect on participation of

Kazakhstan in regional and global value chains leading to weakening of the image and international connections, the government hold the situation under control by creating new programs and initiatives.

Talking about economic factors affecting the GVCs of Kazakhstan, firstly, factor endowment and FDI should be mentioned, quantitative analysis of Development Research Group of World Bank (2020) implies that tariffs and FDI flows are significant in determining a country's GVC involvement. Factor endowments, as well as economic stability, proximity to GVC hubs, and domestic industrial capability, are all significant. What is more, other element influencing the GVCs is attachment to ruble and dollar. It's a well-known fact that international trade occurs by using dollar or ruble currencies, so the high exchange rate is disadvantageous for Kazakhstani economy. Ineffective economic policies and bribery in governmental and private business entities (Corruption perceptions index 2021-102th/180 place) hinder building quality manufacturing facilities and supporting high level manufacturing. Liberal state policies also provide faster development and building international connections of enterprises. That being the case, the economic factors are weak tenge rate, not enough FDIs, factor endowment and high bribery rates.

Generally, social factors influencing the GVC of Kazakhstan are all connected with lack of professional labor force. This problem is serious obstacle for further development of manufacturing fields. President Kassym-Jomart Tokayev on Mazhilis session 11th January 2022 also highlighted the importance and stated that priority should be given to technical professions. And new generation of industrial engineers must be raised. Furthermore, main reasons were discussed, such as low salaries in tech and manufacturing, absence of high-quality technical education and reluctance of people in Kazakhstan pursue education/careers in tech and manufacturing because low perspectivity (Akorda,2022). At this point Sultanova (2017) indicated that the lowering of expenses, particularly labor, is a driving factor for major corporations to invest. As a result, the government should control the competitive wage

environment. The workforce's skill level is also vital for attracting investments in the GVC, particularly in high-tech companies. Public policy may provide basic technical education as well as an additional training system that will supply employees with skilled labor skills. On that account, the need of professionals and low wages are the vital social factors affecting the subject.

It is important to underline the high importance of technological development for GVCs participation of country. Vinokurov and Tsukarev (2018) noted that the extent of containerization in Kazakhstan is still quite low in comparison with neighboring Russia, for instance. Vinokurov and Tsukarev (2018) pointed out that there is not even one facility at any station within the country and on the borderline between Kazakhstan and Russia that can provide full-scale container service that includes marshalling, redirection, storage and customs clearance of items. Also, from technological perspective, Kapparov (2019) argued that due to limited access to financing, SMEs are unable to engage in technical development in order to become suppliers to major corporations and compete in foreign markets. That being so, the need of more containerization and technological development are the essential influencing factor.

Furthermore, there are legal factors affecting the involvement of the country in GVCs. As a result of Central Asia's political regulations, which have resulted in the construction of "walls" at the borders, cars registered in one state when crossing the border in another are often forced to unloading and checking at border crossings. Bilateral agreements and coordinated activities are usually occur not enough (Sultanova, 2017). Previous studies have emphasized that even if there are electronic documentation systems in logistics and customs, bureaucracy takes place in related organizations.

Environmental factors which has effect on the GVCs development in Kazakhstan are the following. Firstly, the emphasis on industrial modernization at any cost can distract attention from the goals of sustainable (SDG) industrial growth proposed and preached by the

United Nations, which Kazakhstan is member of. Since GVCs involve the division of production between countries, new trade and production configurations may have an impact on the overall production of emissions, since different countries have different environmental standards. Some countries and their suppliers of intermediate resources may have weaker environmental standards, which may have consequences for emissions-related trade. (UNIDO, 2018). For example, if Kazakhstan has a weaker environmental standard, other countries might be against of the harm that the country may pose to the environment. Secondly, harsh winter conditions in Kazakhstan affects transportation by car/train/planes by limiting the movement to cargos and delays during unsuitable weather conditions. Also, extremely cold winters sometimes lead to the spoiling of goods, which may prevent further movement of goods along GVCs. Hence, different environment standards among GVC players and harsh weather conditions are among the main environmental factors, Kazakh government and local GVC stakeholders need to pay attention to.

To sum up, PESTLE analysis provides the factors influencing the participation of Kazakhstan in GVCs from different perspectives. The research shows that political and economical factors are the most influential.

## **2.5 Recommendations**

The number of authors has given various recommendations for strengthening Kazakhstan's position in GVCs. As an example, Capannelli, Ginting, Taniguchi (2018) agreed that Kazakhstan would become more competitive in international trade, if it paid more attention to the development of agriculture. The researchers outlined the following reasons: first, the country has one of the highest per capita arable land in the world; secondly, Kazakhstan has enough fiscal resources to pour into this industry's improvement, thirdly, it has enough political commitment to expand it. The authors suggested that the integration into GVCs remains to be difficult due to the fact that production and quality control are not fully set and followed, and



the quantities and qualities supplied by the farmers do not match the demands of processors and sellers. A lot of small farm owners have no option but to sell their products in the domestic market and/or depend on monopsonistic trade agreements, where the main buyers control the prices (Capannelli et al., 2018). In order to access high value-added markets for processed livestock products, the authors propose concentrating more efforts on the improvement of value chains for cattle and dairy products. Furthermore, the agricultural sector should become more business-friendly. As stated by the researchers, it can be facilitated by in three ways: 1) by making land markets more flexible to make sure that land is allocated in the most efficient way; 2) offering more reliable and transparent agricultural policies in order to decrease investment risks; and 3) optimizing agricultural management by reducing significant fragmentation and getting rid of unnecessary mandates. Finally, they also suggested the development of bigger enterprises in the industry, since it seems that individual farmers have notably higher technical efficiency in comparison with medium enterprises. In this case, not only Kazakh farming industry lacks economies of scale, but also since regional and GVCs tend to be prevailed by a handful of processors sourcing from big agricultural firms, individual Kazakhstani agricultural enterprises remain at a disadvantageous position.

Moreover, in order to nourish Kazakhstan's position in GVCs, Organization for Economic Co-operation and Development (OECD) (2019) representatives advocated for the expansion of Kazakhstan in the agricultural GVCs. To be more precise, the organization proposed to prioritize “co-operatives”. According to International Co-operative Alliance (ICA), the definition is as follows: “A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise”. Although local government has provided capital to audit unions, still, OECD (2019) representatives recommended to make more efforts in establishment of “secondary and tertiary cooperative organizations.” Unions and co-operative organizations along the agricultural value chain provide the basis for a solid

cooperation in the sector and can encourage such cooperative organizations to prevail along all agricultural value chains, involving processing, wholesale, and retail trade. Indeed, currently, the productivity rate of the agricultural industry in the country is quite low due to high transaction costs and major regional discrepancies of agri-food production (OECD, 2019). An example from research illustrated that while the North of Kazakhstan is dominated by large grain and livestock farms, the South is characterized by small and medium-sized agricultural enterprises. These small enterprises could benefit from co-operatives due to sharing necessary agricultural machinery, higher economies of scale and productivity, along with more interaction with actors in the agricultural value chain. However, some locals seem to be skeptical about the benefits of co-operatives due to bad experiences during the Soviet times, although the international practice proves the effectiveness of the grassroots co-operatives in the long-run (OECD, 2019). Therefore, more education about co-operatives is necessary to yield better results in the future. In the light of this, OECD concluded that once small-sized farms unite into co-operatives, they will not prevail in the local market but can also expand into GVCs more smoothly.

What is more, UNCTAD (2020) researchers propose that a better position in GVCs could be achieved via import-substitution industrialization. Bussel (2018) articulated that import-substitution industrialization is theoretically expected to include three main phases: firstly, local production of simple consumer non-durable products that were previously imported (for instance, agricultural products in Kazakhstan's case); secondly, expanding local production to a wider range of consumer durable goods and more sophisticated manufactured goods; and lastly, exporting industrial goods and long-term industrial diversification of the economy (Bussel, 2018). Kazakhstan has been trying to carry out import-substitution industrialization in the auto manufacturing industry, but it should take into account the case study, featuring Malaysia-made car brand, Proton, that did not manage to compete on the global market (Pomfret & Sourdin, 2014). Pomfret and Sourdin asserted (2014) that in order to

take advantage of GVCs of the manufacturing sector, Kazakhstan needs to establish itself on specific steps such as assembly of parts, rather than following the Malaysian case. FDI is also essential: in order to attract more capital into the manufacturing sector, the country should make it more attractive for investors rather than natural-resources-based projects. This can be achieved through more active trade (for instance, the aforementioned trade of agricultural products) and more business-friendly environment (UNCTAD, 2020). Taking into account the aforementioned examples, the authors prove that Kazakhstan has a potential to integrate into GVCs through manufacturing gate too.

The authors also made recommendations for the development in the field of logistics and infrastructure not only for Kazakhstan but for the Central Asian region in general. The researchers of Asian Development Bank, Paul and Khan (2015) put forward the necessity to build quality road and railway infrastructure as well as more enhanced air transport; nonetheless, they also pointed out that since the country is landlocked Kazakhstan and other Central Asian countries should connect to ocean ports through cross-regional transportation networks and hub. New Silk Way transportation corridors that go along China as well as routes through Pakistan are essential for Central Asia to get access to the ocean. That being said, Kazakhstan should not only transform itself into a transportation corridor, but also become a region for goods and services production, which can be brought upon via the FDI, the authors suggested. Furthermore, as it was mentioned in the challenges about containerization, Vinokurov and Tsukarev (2018) proposed to work more on it for improving logistics. Full-scale containerization would fasten the custom clearance, thereby making Kazakhstan a more attractive actor in GVCs.

As a result of literature analysis, further recommendations should be highlighted: development of agriculture and related cooperatives, import-substitution, improving of logistics infrastructure and customs control.

Second chapter was dedicated to the literature review of the Kazakhstan's participation in GVCs, which was categorized such as the advantages, the challenges, factors affecting the participation of Kazakhstan (PESTLE analysis) and recommendations. In addition, the literature review covers a comprehensive assessment of the country's place in global value chains on the basis of international indices.

### III. METHODOLOGY

The research was based on descriptive qualitative research design. In order to choose the people for the interview non-probability convenience sampling will be used, because the sample was taken from people easy to contact and are willing to participate. Regarding the research method, in-depth/unstructured interview was chosen due to the sector specifics on the topic and the need for the opinions of people who work in connection with the field of global value chains or had research experience connected to the topic. The methodology will be carried out by face-to-face and online interviewing of people because it allows to collect open-ended information and explore the thoughts, feelings and beliefs of the research participants (Dejonckheere & Vaughn, 2019).

Before conducting interviews several types of ethical issues should be taken into consideration. One of them is signing the informed consent of the interviewees so that participants could be confident about anonymity. All participants were informed prior to the interview about the purposes of this project and given the consent forms. The confidentiality of their names was strictly provided.

Also, some statistical data will be considered in order to analyze and critically discuss the position of Kazakhstan in GVCs among other countries. And PESTLE analysis will be used so that structured analyzing of the factors affecting participation of Kazakhstan in Global Value Chains will be presented in appropriate way.

#### **IV. FIELDWORK ANALYSIS**

This section of the research paper is allocated for the analysis of the information gained from interviews with the information received from issue-related secondary sources. The interviews were held online via Zoom. The first respondent is a manager from railway logistics company “TG Impex”, the reason for conducting the interview is that the logistics is an important part of GVCs and the manager can evaluate the situation from professional perspective, provide real examples and give recommendations which will really work. The second respondent is the economist from trading company “Alliance Invest”, who can also highlight the economic aspects due to professional experience and background knowledge. Last but not least, the online interview was carried out with the master’s graduate in economics, who has researched the similar topic and can support the research by theoretical background and recommendations as well. All interviews were carried out in January-February 2022 with prior collection of informed consent. The primary resources or, more precisely, the interview answers will be compared with secondary resources and PESTLE analysis in order to respond to research questions created at the beginning.

##### **RESEARCH QUESTION 1.**

The first research question was intended to investigate which factors influence Kazakhstan’s position in GVC. There are political, economic, social, technological, legal and environmental groups of factors impacting GVCs of Kazakhstan. The first group include political factors, literature review revealed that the main political factor is weak geopolitical position of Kazakhstan. Review of information shows that the invasion of Russia to Ukraine will affects the Kazakhstan. As an example, British MP Margaret Hodge on assembly of Parliament confirmed expectations to sanction Kazakhstan due to possible support of Putin's invasion. The argument of unavoidable effect on Kazakhstan found support from the manager of logistics company, who said that effected by politics dollar-tenge exchange rate therefore

affecting the latter. However, economist said that closed branches of international companies due to political views can improve the development of industries and export amounts by moving branch offices and manufacturing facilities to Kazakhstan, for example moving of one of Big 4 consulting companies McKinsey's office from Moscow to Almaty.

The second group of factors include number of economic factors influencing GVCs in Kazakhstan. And the most important arguments are ineffective economic policies and bribery in governmental and private business entities (Corruption perceptions index 2021-102th/180 place) hinder building quality manufacturing facilities and supporting high level manufacturing. The economist for possible economic factors stated that there is inappropriate provision of government scholarships for starting and developing businesses. Many people participate in scholarship contests and getting money from governmental funds in order to further develop SMEs, however, some of them use money for other purposes. Government's initial idea for such support is attracting people to enhance the economy and exports, but such manipulations stagnate the development.

Discussing the social effects influencing the GVCs of Kazakhstan, the Master's graduate from his past experience of teaching students concluded that number of technicians is much less than students studying humanities in Kazakhstan. The support to that argument was found in literature review as following, 11th January 2022 on Mazhilis session President Kassym-Jomart Tokayev underlined the importance and stated that technical professions should be supported and prioritized. (Akorda,2022) The manager also supported the idea about the need of qualified working class and added that wages should be suitable in context of rising prices.

As it was stated before in literature review, from the previous research of Akhtanova and Tamenova (2019), one of the major industries Kazakhstan has been gaining a better position in GVCs is automobile and electronics manufacturing. With examples of the following

automobile production enterprises: Kostanay City's Agromash Holding JSC, Asia Auto JSC in Ust-Kamenogorsk City; and Astana Motors. Moreover, United Nations Conference on Trade and Development (UNCTAD) (2020) researchers stated the possible advantage of Kazakhstan in the field of manufacturing because of huge energy resources. For a related question of fields that have a perspective to develop by GVCs, all respondents answered that it's well known fact that Kazakhstan is rich with natural resources, so it's better to develop manufacturing of raw materials and export secondary goods for higher prices and production of secondary goods provides domestic demand. Also, logistics manager added that last few years number of exported crops and other agricultural products increased rapidly, so in her opinion it could be better to manufacture them from original state to secondary products and import them for higher prices or import agricultural goods for lower prices from neighboring, for example, Uzbekistan and manufacture them to high-quality secondary goods.

Likewise, the logistics manager from her professional perspective also added that the logistics infrastructure is a key factor influencing the participation in global value chains due to the need of transporting the goods through the roads of the country. Also, she maintained that customs regulations and restrictions impact the effectiveness of logistics.

So, giving a brief statement of the main factors influencing the country's participation in GVCs, the interviewees provided examples of impacting factors, which find support in prior literature review.

## RESEARCH QUESTION 2

The second research question is what the practical challenges of participating in GVCs are. Akhtanova and Tamenova (2019) found out that Kazakhstan participates only at the lowest links of GVCs and has a long way to go upward. The answer of the Master's graduate supported this argument and additionally stated that he researched participation ratios of



many countries (such as Russian Federation, Kyrgyzstan etc.) and by comparing it with Kazakhstan concluded that post-Soviet neighboring countries all have the same problems of high forward participation ratio.

The manager of logistics company “TG Impex” shared the problems of logistics she and her colleagues are facing every day. For example, weak electronic documentation system of railway cargo transportation provided by JCS NC “Kazakhstan Temir Zholy”, which always lags and processes the documents not immediately. Also, lack of automatization and human factor lead to the erroneous debiting of money from the account and a long process of a claim refund. Thus, from logistics perspective, one of the important challenges is weak IT support of processes.

On top of that, in line with reviewed literature, since the country entered Eurasian Economic Union, there was a noticeable upraise in tariffs, which also negatively affected Kazakhstan’s position in GVCs. In fact, Arenas and Izvorski (2020) calculated that the tariffs for capital goods increased threefold, whereas tariffs for intermediate goods rose to 16% over the period. At this point, the respond of economist from trading company confirms this statement with the fact that the amount of taxes is also increased due to the entering EEC. Furthermore, the logistics manager pointed that every year (sometimes every quarter) the tariffs for transportation via railways increasing, for example after 3rd quarter of 2020 costs of transportation of some positions increased for 13-15 per cents.

Further talking about logistics challenges, UNCTAD (2020) reported that poor logistics’ infrastructure and slow customs control exacerbate Kazakhstan’s position in international trade. Particularly, the fullness of train terminals due to number of restrictions and discrepancy of gauge standards between Kazakh and Chinese railways (UNCTAD, 2020). The logistics manager responded that not only Dostyk, also Altynkol as frontier station with China has the same problems. In high- seasons the JSC NC “KTZ” announce the restrictions for directing the

wagon on related railway branches until the capacity is unloaded. The economist also suggested that her working company delivers part of goods by railways, and in some cases, delays occur due to unexpected conditions such as high workload of stations and railway transportation restrictions.

At the same time with information from literature review, economist of trading company underlined that the recent global problem- COVID-19 pandemic restrictions was the biggest challenge for last 3 years. Not only the stopping or limiting of organization's activities, sickness of labor but closing of borders and lockdowns decreased the exports/imports flow and critically damaged economy itself.

To sum up the research question about practical challenges, it should be clearly understood that there are a lot of challenges mentioned both in literature review and answers of respondents. The respondents during the interview shared with the practical problems that arose during their working activities and as it can be seen some points were closely related with information from previous studies.

### RESEARCH QUESTION 3

The third and the most vital research question is dedicated to knowing what Kazakhstan should do in order to deepen its integration into GVCs. Capannelli, Ginting, Taniguchi (2018) agreed that Kazakhstan would become more competitive in international trade by the development of agriculture and OECD (2019) representatives recommended to make more efforts in establishment of "secondary and tertiary cooperative organizations" in agriculture. Furthermore, the authors suggest the improvements in production and quality controls of agricultural commodities. The Master's graduate proposed the idea to subsidize more efficiently in agricultural initiatives in order to support business people and provide more clear

regulations so that involved people could raise the knowledge and understanding in sphere and in funding opportunities.

Furthermore, the agricultural sector should become more business-friendly. Economist suggests that government and funds should provide financial support to start-ups, such as Atameken fund, Astana Hub and NURIS's (Nazarbayev University risk-taking inspiration synergy) support of high-potential projects and business ideas. Government from its side may provide simplified business-launch processes and tax payment systems. Also, the economist highlighted that there are still many pitfalls and obstacles for entrepreneurs these days.

For similar interview question, Master's graduate underlined that there is a need to educate more specialists in manufacturing and agricultural majors, so that there will be qualified labor force and idea generators for future development projects related to improving industries. He suggests that government and industry representatives should attract school graduates by engaging them into current projects by special practices and programs. However, he added that development of agriculture will lead to increasing of forward participation ratio in GVCs, which is high already. And highlighted that the growth in backward participation of Kazakhstan is better for economy of the country.

In 2018 Bussel stated about enlarging domestic manufacturing and extending the diversity of durable commodities and more complex consumer goods, which will bring long-term industrial diversification of the economy. The economist agreed that Kazakhstan is still a state which proactively needs to vary its economic sectors despite previous initiatives. He added that Kazakhstan confronts a barrier of diversification and accomplishing more sustainable development.

Additionally, attracting FDIs was the second major point of respondent -Master's graduate in economics, which was mentioned in literature review as well. He also highlighted

that government tries to provide warm business environment for attracting more investments from other states. However, political instability spoils the image of country for potential investors. So, government should develop further the good image of the country, like excellent preparation for EXPO-2022 in Dubai, provided the increase of attractiveness of state for FDIs. The UNCTAD (2020) researchers discussed the recommendations mentioned in literature review about the importance of attracting of FDIs as well.

Many authors also made recommendations for the development in the field of logistics and infrastructure (Paul and Khan, 2015). Similar recommendations were also heard from logistics manager, precisely, she recommends attract owner companies to renew the wagon park to new and more modern ones, this should be occurred in line with the infrastructural reforms in railway sphere. Also, more branches of railways should be built in order to decrease load of the railway tracks. Implementing of new technologies in a wider range and automatization in logistics will provide more efficiency in delivering of goods.

Hence, the recommendations discussed both by researchers and respondents it is clearly understood that mostly the development of Kazakhstan's participation in GVCs depends on governmental policies and activities. Development of high potential fields, logistics, infrastructure and international connections occurs with right strategy and support of governmental entities.

To sum up, the interviews of respondents provide the practical proofs and insights that either meet or refute the literature reviewed. The first research question covers the factors affecting the participation of Kazakhstan in GVCs. As well as, second one demonstrates the practical challenges and third question was dedicated to find out the recommendations for further development.

## V. CONCLUSION

To sum up, Kazakhstan continues to be at the early phase of inclusion into GVCs. Its position can be considered lower than average; however, there is still opportunities for improvement and further development.

On the one hand, even if being landlocked, the country is situated in a relatively advantageous geographic location as a connector between Europe and China. This can come in handy for Kazakhstan, especially with regard to the Chinese-government-led New Silk Way project that runs through the country. What is more, Kazakhstan is rich for big energy resources and has high prospects for further development in GVCs. On the other hand, the disadvantages outweigh advantages, thereby putting Kazakhstan in a weak position in GVCs. One of them is the country's low backward participation ratio due to predominance of the natural resources' exports such as oil and gas. Additionally, although Kazakhstan participates in automobile GVCs; still, the industry lacks necessary FDI, the most of which goes to natural-resources-based projects. Besides, research showed that export from Kazakhstan uses less foreign imports with a notable decrease in terms of exports value-added that went down from 20 to 7% over the decade. Another big problem is poor quality of logistics infrastructure. The entry restrictions, fullness of terminals, lack of systematic approach for customs control and necessity for transshipment of cargo at the border control are on the list of issues the country needs to solve for improving its position in GVCs.

To tackle the issues, the research also analyzed the recommendations of how to strengthen Kazakhstan's position in GVCs by analyzing together the literature review and interview results. Research results encourage the country to put more focus on agriculture, for instance, by making the industry more business-friendly, making land markets more flexible, building co-operatives and attracting people to be occupied in field of agriculture. However, that point was contradicted by one of the respondents due to the fact that developing

agriculture will lead to increase of forward participation ratio which is on higher already, and highlighted that Kazakhstan needs to be more engaged in backward linkages. Other parts provided the necessity of developing the manufacturing industry by attracting more FDI into the manufacturing projects and using import-substitution industrialization. It means that there is the need to establish manufacturing enterprises, which will participate on higher levels of production of complex consumer goods. In addition, it was argued for the necessity of development in the field of transportation, logistics, higher education and, of course, governmental initiatives, which are the most vital development-driving activities. By taking into account the fieldwork analysis, it can be argued that although Kazakhstan has a weak position in GVCs, given that the country will follow the recommendations mentioned above, it can take a stronger position in the long-run. Participation in the GVC will facilitate the transition of the country's economy from the supply of natural resources and raw materials to the production of goods and services with high added value.

As a result of done work the objectives, which were identified at the beginning of research are fully completed: the role of the GVC in development of economy of Kazakhstan was find out, and factors affecting the country's participation in GVCs and practical ways to increase it were also analyzed and presented. Moreover, it should be highlighted that the research's information base was the materials with high credibility of World Trade Organization, OECD, World Bank, UNCTAD and findings of international and local researchers. And the interviewees participated in research were all competent in their fields and provided necessary information for analysis.

The theme has wide range for further development and research due to the fact that Kazakhstan is comparatively young country with lack of necessary academic resources and studies regarding the field of GVCs and has number of issues to investigate and solve. Correspondingly, other researchers could use this paper for their investigations and develop the theme more.

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## VII. APPENDICES

### 1. Interview questions:

- 1) To what extent Kazakhstan is integrated to Global economy?
- 2) How participation in GVCs influence national economy?
- 3) What is the competitive advantage of Kazakhstan in GVCs?
- 4) Which factor influences the Kazakhstan's position the most? (Ex: political, economic, social, technological, legal, environmental).
- 5) Research shows that Kazakhstan is mainly regarded as an exporter of raw materials, not producer of secondary goods, how can it become reversed?
- 6) Which sector should be developed in integration in GVCs? And why?
- 7) From your professional perspective, what are the practical challenges Kazakhstan is facing in GVCs?
- 8) How do you think Kazakhstan can strengthen its position in GVCs?
- 9) Which threats can occur for Kazakhstan in GVCs?
- 10) Have you heard any governmental initiatives for developing Kazakhstan's participation in GVCs?