The Middle Corridor is an Opportunity to Increase Trade Potential of Uzbekistan and Prosperous Route to Enter World Market Before its Accession to the World Trade Organization

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Abstract: This paper examines the Middle Corridor's impact on Uzbekistan's trade potential, emphasizing the route's relevance for the country's economic integration and growth. The Middle Corridor, an integral part of China's Belt and Road Initiative, offers Uzbekistan—an isolated, double-landlocked nation—a vital link to European and global markets, particularly in light of shifting geopolitical dynamics. Utilizing a gravity model and analyzing trade flow data, the study investigates how infrastructure improvements along this route can boost trade volume. Key findings suggest that reducing travel time and enhancing logistics infrastructure could significantly increase Uzbekistan's exports, fostering economic opportunities and advancing its path toward WTO accession.

Key words: Middle Corridor, CARs, SCs, logistics infrastructure, Uzbekistan.

Introduction

The Middle Corridor or another words the Trans Caspian International Transportation Route (TITR) is one of the stream of the Belt and Road Initiative (the BRI) proposed by the president of PRC Xi Jinping to re-establish the ancient Silk Road connecting China with Europe through the Mediterranean in 2013.Since then followers of this initiative has reached to 149 countries around the world as it creates great opportunities for not only China but other countries to actively participate in global markets, to connect world supply chains quickly, to enhance economic diversification, to attract foreign direct investment, to reduce poverty, and improve their economy. Trade has long been played a crucial role in the development of countries' economy. In this regard, it is certain that in order the trade to be safe and sustainable there need to be well established routes enabling goods and people to move freely. The Middle Corridor (MC) is such above mentioned trade route that passes through Central Asian Republics (CARs), South Caucasus countries, Turkiye to the Europe starting from PRC (Peoples Republic of China). Moreover, reconstructing this trade corridor is not only beneficial for Chinese side, but also other countries that links via this corridor as well, especially for Uzbekistan which is double landlocked country within Central Asia.

Uzbekistan would heavily dependent on the routes passing through Russia to Europe by Eurasian Land Bridge to export and import goods (International Trade Administration, 2023). After the war outbreaks in the Ukraine, lots of countries put sanctions on Russia and thus countries have been actively using from MC-a new alternative route bypassing Northern Kazakhstan, Russia. This trade route, without doubt, brings world markets closer to Uzbekistan and increases demand to produce more for both local entrepreneurs and investors to do export on a high volume. Even though this corridor is one of the nearest and will open untapped potential to increase Uzbekistan's Gross Domestic Product (GDP), there need to be allocated funding to reconstruct or renovate transportation routes for twenty-foot equivalent units (TEU), railroads, ports are of the most important in order exporters can sell their product in a short period of time without any delays. According to the World Bank (2020) data, infrastructure is estimated to reduce Uzbekistan's shipment time by 15 percent, the largest share among other BRI countries. It is certain that, decreasing shipment time inversely related with export growth and this, as for estimations, raise Uzbek export about 13and 15 percent (World Bank,2020,

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Ahmed, K 2020). This phenomenon can make it easy for Uzbekistan to freely trade with world countries with more opener and cheaper transport costs, and it will be preliminary steps to join the WTO (World Trade Organization).

Although the TITR project brings more economic benefits, there are some concerning issues, the most of which is increasing Chinese influence in the region (Nina Miholjcic, 2018). According to customs data in 2023, China's trade with CARs reached \$89.4 billion(Chu Daye, 2024). Moreover, collaboration is needed to improve infrastructure of the roads, railway, and ports to service cargo ships. After the war between Russia and the Ukraine, cargo shipments along the Middle Corridor reached to 3.2 million tons in 2022 (F. K. Chang, 2023). According to Chang the volume of it is anticipated to reach 10 million tones after the completion of the Marmary railway under the Bosporus strait. Even though volume of goods shipped by the Caspian Sea has swelled, there are still challenges like outdated infrastructures, limited ports(Zhekenov,D 2020) that hinder traffic goods causing more stoppage times, which in turn damages the goods. Lastly, there should be conducted negotiations between Azerbaijan and Armenia and any disagreements should be settled diplomatically.

The key objective of this research is to analyze how trade routes can impact on trade potential of BRI member countries especially for CARs. In this regard following questions are investigated in this paper.

- 1. How Middle Corridor impacts on the trade potential of Uzbekistan;
- 2. What are the causes that pause stronger integration in the region and solutions for those?
- 3. How can infrastructure effect on trade development?

The importance of the Middle Corridor is highly appreciated in CARs as they have located in inland far from sea especially, Uzbekistan. As a country of reach in natural resources and one the most populated country in the region, Uzbekistan has always attracted foreign investors and has a potential to modernize its economic sectors. Uzbekistan's economy is emerging and trying to diversify its export range of goods and services in recent years. However, as a result of transporting goods through railway using Eurasian Land Bridge to the markets of Europe would raise the cost of the goods sold much, thereby; Uzbek products would not be desirable for their cost, causing trade deficit.

This research paper is significant as it analyses Middle Corridor's relevance in the region, creating opportunity for Uzbekistan's trade to spur and connected it with WTO future membership of Uzbekistan. Although Uzbekistan's bilateral trade and diversification of export types are increasing, transportation related problems are a must to be solved problem. Moreover, this paper is important as it clarifies how infrastructure developments in transportation raise export volume, making convenient environment for investors and, in short this will start dramatic changes in the region. The Middle Corridor serves as both one of the safest and nearest route, neglecting two of its counterparts, that pass upper and lower borders of the Caspian Sea; Russia and Iran by order and it creates favorable opportunities to reach new markets especially for land locked CARs, whose trade are somehow by border countries.

Structure of this paper is as follows; section 2 is literature, in section 3 methodology including theoretical and empirical framework, section 5 is result and discussion and lastly section 6 is conclusion and policy recommendations.

Literature review.

There has been conducted several studies on the topic of Middle Corridor's potential in Central Asian and South Caucasus countries (Miholjcic, N, 2018, Ahmed, K et al,2020, Aydın, M.et al,2023). CARs suffer from landlockedness problem and this is the reason of why countries export potential is heavily dependent on natural resources (R.Pomfred,2021) and having comparative advantage in agricultural sector, while Azerbaijan's economy is heavily dependent on oil products. Interconnected and the nearest trade corridor to European markets can increase trade volume in CARs, and also Azerbaijan can be a transit hub in the Caspian Sea.

However, there is not strong interconnection between countries using Middle Corridor and recommended to develop regional trade zone, expanding the volume of the Middle Corridor, and combine industrial development in the regions of the Central Asia and Caucasus region. (Kenderdine and Bucsky, 2021). On her research GulmiraBodaubayeva (2023) has mentioned some problems including low level of consistency in the legal framework of transportation process and digitalization of the information systems between Kazakh and Uzbek borders. The author used mixed strategy method to analyze the main constrains for the development logistics system. Another author AkramZiynali (2024) who is an Ambassador Extraordinary and Plenipotentiary of the Republic of Azerbaijan to the People's Republic of China mentioned China-Azerbaijan cooperation in terms of logistics and mentioned about, Digital Silk Way" project that encompasses the establishment of digital corridor of telecommunications between two continents. Digitalization of the systems in logistic sector creates a transparent environment and will spur the speed of data transferring. Investing in logistics generates employment opportunities and facilitates cross border commerce, which is crucial for economic cooperation (Hans-Christen Brauweiler et.al, 2023). Moreover, technologies like blockchain, Alcan develop logistic management and enhance supply chain securely (Asian Development Bank ,2022). In addition to the World Bank (2023), digitalized technologies that align with international sustainability goals are crucial for smooth cargo transfers.

The Middle Corridor is the nearest trade route between China and Europe (12 days). Its alternatives New Eurasian and Trans-Siberian Land Bridge require 19 days of travel, while through sea it takes about 30 days. Nevertheless, this route has not been finished completely and there need to be strong administrative and political challenges to be tackled. (Felix K. Chang,2023). If all the arising problems fulfilled, this route can be central trade route bypassing two of the potential routes above written. The war between Russia and the Ukraine has improved the value of Middle Corridor as it goes through relatively peace territories. As a result of Russia's embargo on gas, the EU has experienced difficulties. The EU side is trying to shift sustainable energy and increase its trade partners. Through Middle Corridor the EU will connect to energy reach countries supply chain like Azerbaijan and can be able to invest in recourse rich countries like Uzbekistan as well. To establish sustainable trade there need to be disputes settled between Armenia and Azerbaijan. To achieve peace in South Caucasus, the EU proposes peace building measures based on its familiar and prosperous experience with resolving conflicts in the Union. (A. Baymarov.et.all,2023).

According to researchers, (DeSoyres, F at al, 2020) common transport infrastructure enhances welfare of the countries, and yet, it creates challenges for countries since infrastructure of the roads, railroads stay costly for developing countries. De Soyres, (2020) wrote a research paper about Common Transport Infrastructure using Gravity Model, Computable general equilibrium analysis, analyzing BRI to increase trade growth of the country's GDP. He used a quantitative model of International trade based on Caliendo and Parro (2015) adding two more variables, alteration in trade costs due to the reduction in shipping time. Moreover, another significant research has been done by Simpson Z (2024) on the topic of macro logistics connectivity in emerging economies; in the case of Uzbekistan. He established Uzbekistan Freight Flow Model (UFFM) and logistics cost model since there is less information about Uzbekistan in sources or literatures. He used data triangulation method to gather relevant information about trade flow of Uzbek goods both exported and imported.

Above mentioned researchers have significantly contributed to the literature giving recommendation and measuring the significance of this prosperous initiative. However, there is still a gap existing on how Uzbekistan can enhance its export potential by using this corridor, what are arising problems that pauses transport logistics development in Uzbekistan. Except from the research Simpson (2024) did to construct logistic cost and freight flow model of Uzbekistan, this research paper aims to explore how infrastructure development in Uzbekistan can accelerate trade growth. Having been given solutions to those mentioned problems, this research paper can further contribute to research field.

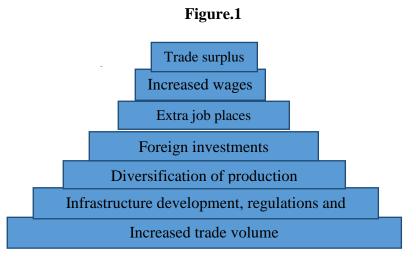
3. Methodology.

3.1. Theoretical framework.

Gravity model is one of the common methods that many scientists apply on their work to conduct research about international trade Puertas et al (2014), Nguyen and Tongzon (2010). The Gravity Model was first introduced in 1954 by Walter Isard.Countries around the world tend to do more export or import as for their location according to Gravity Model of Trade. It is logically true that it's quite beneficial to tradeoff between neighbors than to trade thousands of miles long country. For example, Uzbekistan's main trade partner is China Russia and Kazakhstan orderly and this is because they are located near to Uzbekistan. The distance is a number one obstacle for countries to trade even if there have proper corridors.

Moreover, in this paper it is stated that infrastructure development impact on trade potential and in turn overall welfare of Uzbekistan. On this point, endogenous growth theory matches for this paper. This theory is about economic growth is primarily the result of inner factors than outer ones. That main, Middle Corridor's relevance belongs to how Uzbekistan and member countries using this corridor have improved their internal infrastructures. The endogenous growth theory focuses on long term economic growth of the country, while holding the notion that long term growth of the economy is dependent on the policies made. As Middle Corridor unifies countries, there should be friendly negotiations between countries through which sustainable trade route develops (figure1). Endogenous growth theory was established in 1980, alternative to neoclassical theory.

In this paper Middle Corridor countries are taken to assess its impact on trade growth including Uzbekistan. It is quite applicable in terms of using gravity model analyses since neighbor countries of Uzbekistan have the same historical background, similar language, indicator and experiences of using from the corridor. In terms of language, it has been common in post USSR countries, which are now links through Middle Corridor, to use from Russian language in borders. Furthermore, World Bank has been revealing logistic performance indicator (LPI) of countries since 2007 and gives a rank for countries based on six segments, all of which are measured from one to five. This indicator plays very important role as the aim of this paper is to analyze transportation infrastructure role on enhancing trade potential of countries in Middle Corridor, including Uzbekistan.



Conceptual framework.

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1.3.Empirical framework.

Following liner regression model is used:

$A_{ijg} = exp(\beta_0 + \beta_1 Gistime_{ij} + \beta_2 Tariff_{ij} + \beta_3 PTA depthij + Gravity_{ij}) + \mu_{ijg}$

In the regression_{ijg} is the subcomponents of the hs6 product from country i to country g. dependent variable A_{ijg} denotes mutual export of product g from country i to j.

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Table 1.Describtion of sources and data								
Data	Definition	Sources						
GIStime	Geographic Information	System CEPII BACI						
A _{ijg}	Bilateral export content of countries	CEPII BACI						
PTAdepth	Preferential trade agreements between partneres	WTO						
Gravity	Sharing same language	CEPIIGEODEP						
	Common currency, colony							

Results and discussion.

In the research it is measured trade flow of hs6 products of total 5,022 between Uzbekistan Cars, South Caucasus countries and Turkiye in 2022. In the research OLS and PMML Poisson pseudo maximum likelihood model is used. The latter is chosen to control zero trade flows. According to the results there is a negative relationship between exports and trading time. In the PMML results show that a day of increase on trade times can decrease exports by 5.1 percent, 100*(-0.00126)*24. There has been written many literatures about these two negative relationship so far and one of them are Freud and Fahm(2010).

PTA depth reveals that adding one provision for agreements between Uzbekistan South Caucasus, Turkiye and CARs can raise trade by 1.8 percent. Similarly, Orefice and Rocha(2014) found that deeper trade agreements can increase trade 2 times, and more recent paper by Mulabdic and Ruta (2017) found that deeper trade agreements between neighbor countries at around 12.5 percent.

Effects of time on trade values

	OLS	PPML			
	(1)	(2)			
GIS time	-0.00232***	-0.00216***			
	(0.000186)	(0.000152)			
Ln(tariff+1)	-1.314***	-1.770***			
	(0.375)	(0.284)			
PTA depth	0.02207***	0.0194***			
	0.00280	0.00211			
Observations	231	283			
Rsquared	0.618	0.499			

Note: Standard errors in parentheses are clustered by exporter-importer pair.

***p<0.01,**p<0.05,*p<0.1

As for tariffs, a one percent drop in tariff rate will reduce exports by 1.7 percent. A similar result was revealed in the paper of de Soyres in 2019 that tariff reduction in countries decreased export at 2 percent level.

Correlation between variables

	А	В	С	D	Е	F	G	Н
A.In (export)	1							
B.GIStime	-0.15	1						
C.Ln(Tariff+1)	-0.04	0.19	1					
D.PTA	0.17	-0.51	-0.21	1				
E.Contiguity.	0.25	-0.29	-0.7	0.19	1			
F.Common language	0.08	0.14	-0.08	0.02	0.15	1		
G. Colony	0.12	-0.13	-0.03	0.05	0.26	0.01	1	
H.Common currency	0.06	-0.06	-0.03	0.01	0.17	0.14	-0.01	1

5. Conclusion and policy recommendation

Overall, Middle Corridor is a prosperous route for not only developed countries but also it is a sustainable way for landlocked CERs and yet, the nearest way for China and CARs to reach European markets. Geopolitical changes in world policy have raisen Middle Corridor's reputation since 2022, and countries around this route are trying to enhance their transportation logistics systems. In Central Asia as they are all landlocked there are lots of opportunities for business, and this potential route can develop regions countries foreign direct investment ratio.

In the paper it is analyzed that improvement of Uzbekistan logistics sector is the main step to pay attention and through this enhancement Uzbekistan's export can be raised. Travel time of goods exported and imported is important since through this country can increase or decrease their trade volume. In order to reduce travel times of the of the goods transported infrastructure in international translogistics sector of the countries is important. In the research it is measured that increasing travel times could decrease exports up to 5.1 percent.

In the research OLS and PMML models are used. Data collection has been one of the challenging during research, since in many sources data about Central Asian countries are not transparent. It is taken Uzbekistan's export of hs6 products to CARs, SCs and Turkiye in 2022. PMML model showed that tariffs one percent decrease in tariffs could decrease exports by 1.7 percent. Moreover, as middle Corridor is a interconnected trade route countries have sign up deeper trade agreements and increase PTA. It is found in the paper that increasing agreements can increase Uzbekistan,CARs,SCs Turkiye can increase trade of countries by up to 1.8 percent.

Government of Uzbekistan has been recently trying to join to the WTO and preparing all the documentations for these processes. In this regard, Middle route is bright opportunity for Uzbekistan to participate in world markets. The first and foremost mission is investing more in railways, roads for trucks to be reconstructed in Uzbekistan. Opening SPE of foreign countries can enhance doing business in Uzbekistan. Moreover, integrating customs with digitalized software can boost travel volume by decreasing time of border checks. Lastly, peaceful trade negotiations of countries in the region can further enhance this corridor's sustainability.

However, it's been hard to gather data about Uzbekistan and Central Asian countries about trade. Statistics committee of Uzbekistan must reveal and create open access for the data about trade of Uzbekistan. This can make future researchers work pretty easier that wants to explore of the analyses of trade of Uzbekistan.

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