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**RESEARCH ARTICLE**
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# The Impact of Blockchain Technology on Logistics and Foreign Trade Turnover in Kazakhstan

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## ABSTRACT

The purpose of this study is to analyze the impact of logistical factors on Kazakhstan's foreign trade turnover for the period from 2013 to 2023, with a particular focus on cargo transportation volumes, freight turnover, container traffic, and transit transport volumes. The research employs a comprehensive and robust methodology that includes data collection, regression analysis, and model refinement to ensure the validity and reliability of the results. The regression analysis initially included all collected variables, but the model was refined to address multicollinearity and retain statistically significant predictors. The model initially included all variables, but was later refined to address multicollinearity, retaining only statistically significant predictors. The results of the analysis showed that the volume of transit transport is a significant factor affecting the foreign trade turnover of Kazakhstan. The model demonstrated a positive and statistically significant coefficient for the volume of transit transport (0.004534, p-value = 0.025962), which confirms the hypothesis of its crucial role. Additionally, the potential integration of blockchain technology in logistics processes is explored, suggesting that such advancements could enhance transparency, efficiency, and reliability in managing transit goods. By adopting a comprehensive approach that examines multiple logistics factors simultaneously and leveraging a long-term dataset, this research offers novel insights into the logistics-trade relationship in Kazakhstan.

**KEYWORDS**: Logistics, Transit Transportation, Blockchain Technologies, Economic Growth, Supply Chain Management, Infrastructure Development, Kazakhstan

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## 1. INTRODUCTION

In a rapidly developing global economy, where international trade and logistics play a key role, the application of new technologies is becoming critically important to improve efficiency and competitiveness. One of these technologies is blockchain, which offers unique opportunities to improve the transparency, reliability and security of data in logistics processes. The integration of blockchain into logistics can significantly change the nature of supply chain management, minimize risks and increase the efficiency of operations.

Kazakhstan plays an important role in regional and international logistics due to its strategic geographical location and developed infrastructure network. Considering current global trends, the country is striving to improve its logistics processes to increase foreign trade turnover. In the context of globalization and integration of international markets, improving logistics performance is becoming a priority for Kazakhstan. An essential step in this direction is to study the impact of various logistical factors on the country's foreign trade turnover.

There are studies in the field of logistics and foreign trade on general logistics infrastructure that explore the development of transport corridors and their impact on Kazakhstan's economic growth, while others explore the impact of railway and automobile infrastructure on logistics processes in the country. In addition, there are studies analyzing the impact of specific logistical factors, such as the impact of container transportation on Kazakhstan's foreign trade turnover, as well as the role of transit transportation in shaping Kazakhstan's economic policy. In addition, research was conducted on the introduction of modern technologies, on the use of blockchain technologies in logistics, as well as an analysis of the potential of using digital technologies to improve the efficiency of logistics operations. Unlike previous studies, this study analyzes the impact of several logistical factors at the same time, which allows us to identify their relative importance and interrelationship. The novelty of this study lies in the fact that for the first time the potential impact of the integration of blockchain technologies on logistics processes and foreign trade turnover in Kazakhstan is being investigated, which opens up new prospects for improving supply chain management.

In addition, the relevance of this study is due to several factors. Firstly, Kazakhstan is actively developing its transport corridors and logistics infrastructure, striving to become an important link in international trade routes. In the context of the current economic and political challenges associated with global instability, the COVID-19 pandemic and changes in international trade agreements, the need for effective logistics management is becoming especially important. Secondly, the use of modern technologies such as blockchain opens up new opportunities to increase the efficiency and transparency of logistics operations, which helps reduce risks and increase trust among supply chain participants.

The purpose of this study is to analyze the impact of logistical factors on Kazakhstan's foreign trade turnover for the period from 2013 to 2023. The main attention is paid to such indicators as cargo transportation volumes, cargo turnover, container traffic volume and transit traffic volume. The study is based on the use of data for the specified period and includes regression analysis and model refinement to ensure reliable results. An important aspect is to test the hypothesis of a significant impact of the volume of transit traffic on the foreign trade turnover of Kazakhstan.

This research has significant practical value for economists, politicians and business leaders seeking to optimize economic growth and improve the efficiency of trade in Kazakhstan. The results highlight the importance of logistical factors and the integration of modern technologies to achieve sustainable economic development and competitiveness at the international level.

This study can also serve as a basis for further research aimed at a deeper understanding of the relationship between logistical indicators and economic development. Identifying the key factors and strategies that most effectively improve logistics processes and foreign trade turnover can contribute to more targeted and successful planning of economic policy and infrastructure projects.

## 2. LITERATURE REVIEW

In recent years, the integration of blockchain technologies in logistics has become an increasingly relevant topic in academic research. Blockchain ensures transparency, reliability, and data security, which are crucial for effective supply chain management. Contemporary works focus on various aspects of blockchain application in logistics. Studies such as Rijanto (2021) and Li and Chen. (2023) demonstrated that blockchain can significantly enhance the efficiency of logistics operations by improving cargo traceability and reducing fraud risk. Perboli et al. (2018), Ko et al. (2018), Cole et al.(20219), and Ahluwalia et al. (2020) have shown that blockchain application contributes to reducing operational costs and improving data management in logistics. These studies indicate that integrating blockchain allows for substantial cost reductions in data processing and increases in data accuracy. Ahmad et al. (2021) and Xu and He (2024) focused on the practical applications of blockchain in logistics. They show that blockchain can improve customs clearance processes, reduce administrative costs, and increase trust among logistics chain participants. These studies confirm that blockchain technologies can be particularly beneficial for countries with high volumes of transit transport.

Logistics indicators such as freight volumes, transit transport, and freight turnover are critical determinants of foreign trade. Analyzing various factors affecting logistics is an essential topic in contemporary economic literature. Works like Yeo and Deng (2020) and Sy et al. (2020) demonstrated that improving logistics infrastructure directly contributes to increasing foreign trade volumes. They use regression analysis to determine the significance of these variables and find that optimizing logistics processes through integrating technologies such as blockchain can significantly improve performance and reduce costs. Additionally, studies by Halaszovich et al. (2020) and Li et al. (2022) emphasized that investing in logistics infrastructure and using advanced technologies are crucial for enhancing international competitiveness. Research by Zhong et al. (2019) and Fedorenko et al. (2021) showed that logistics indicators significantly impact economic growth and trade development. They note that improving logistics increases exports and imports, stimulating economic growth.

Integrating blockchain into logistics can enhance the positive impact of logistics indicators on foreign trade. Blockchain enables the creation of more transparent and reliable supply chains, increasing trust among trade partners and reducing transaction costs. Furthermore, integrating blockchain into logistics can support compliance with international trade regulations by providing a transparent and auditable trail of all transactions (Tan et al., 2020; Kodum et al., 2020; Dutta et al., 2022). This is particularly important in regions with complex regulatory environments, where ensuring compliance can be challenging.

With its strategic geographic location and developed infrastructure network, Kazakhstan plays a significant role in regional and international logistics. In the context of growing globalization and integration of global markets, improving logistics processes becomes a priority for the country. Studies such as Raimbekov et al. (2018), Ekici, et al. (2019), Khan et al.(2022) underscored the importance of investing in logistics. In particular Gabdullina et al. (2020) and Madiyarova et al. (2020) in Kazakhstan's logistics infrastructure and adopting modern technologies to enhance international competitiveness. Their works highlight that Kazakhstan has significant

potential for developing transit transport, which can significantly increase foreign trade volumes. Baibossynov et al. (2019) and Raimbekov and Syzdykbayeva (2021) explored the impact of logistics infrastructure on Kazakhstan's economic development. They emphasize that improving transport corridors and logistics hubs can significantly enhance trade efficiency and attract international investments. The authors noted that blockchain implementation can significantly improve supply chain management and increase the transparency of logistics operations.

This study differs from previous works in that it focuses on Kazakhstan and provides a detailed analysis of logistics factors influencing foreign trade turnover, integrating blockchain technologies. It examines indicators such as freight volumes, transit transport, and freight turnover, identifying the most significant for foreign trade. The analysis results allow for formulating specific recommendations for improving logistics infrastructure, identifying weaknesses, and proposing ways to address them. Special attention is given to applying blockchain to enhance the transparency and efficiency of logistics processes, which is crucial for increasing Kazakhstan's international competitiveness and justifying the need for further investments in logistics.

## 3. RESEARCH METHODS

This study aims to analyze the impact of various logistic factors on Kazakhstan's foreign trade turnover from 2013 to 2023. The methodology includes data collection, regression analysis, and model cleaning to ensure robust results. Below is a detailed description of the methodology.

The data used in this study are collected for the period from 2013 to 2023.

*Hypothesis Formulation*

Hypothesis 1: The volume of transit transport significantly impacts the foreign trade turnover of Kazakhstan.

The following variables were included (Table 1).

**TABLE 1. Variables**

| Data Variable | Period | Unit of Meas. |
|---|---|---|
| Total Freight transported by all modes of transport | 2013-2023 | Million tons |
| Total Freight turnover of all modes of transport | 2013-2023 | Million tons |
| Total Freight transported in containers by all modes of transport | 2013-2023 | Million tons |
| Total Volume of transit transportation by mode of transport | 2013-2023 | Million tons |
| Foreign Trade Turnover | 2013-2023 | Million tons |

*Note*: compiled by authors

*Regression Analysis*

To test the formulated hypothesis, an Ordinary Least Squares (OLS) regression analysis was conducted. The dependent variable in this analysis is the foreign trade turnover, and the independent variables initially included all collected data variables. The model was specified as follows (1):

$$\text{Trade Turnover}=\beta 0+\beta 1\times\text{Total Freight Transported}+\beta 2\times\text{Total Freight Turnover}+\beta 3\times\text{Total Freight Containers}+\beta 4\times\text{Total Transit Transport}+\epsilon \quad (1)$$

*Model Cleaning*

After conducting the initial regression analysis, the model was cleaned to improve its robustness and interpretability. The cleaned model included only the total volume of transit transportation as the significant predictor of foreign trade turnover (2):

$$\text{Trade Turnover}=\beta 0+\beta 1\times\text{Transit Transport}+\epsilon \quad (2)$$

The cleaning process involved:

1. Removing Variables with High VIF: To address multicollinearity issues, variables with

high Variance Inflation Factors (VIF) were removed. High VIF values indicate that the variable is highly correlated with other variables in the model, which can distort the results.

2. Retaining Significant Variables: Only variables with statistically significant coefficients (P-value < 0.05) were retained in the final model.

## 4. FINDINGS AND DISCUSSIONS

Kazakhstan, with its strategic geographic location and vast infrastructure network, plays a significant role in regional and international logistics. Understanding the factors that influence the country's foreign trade turnover is crucial for policymakers, economists, and business leaders aiming to optimize economic growth and enhance trade efficiency. This analysis explores the impact of various logistic factors on Kazakhstan's foreign trade turnover from 2013 to 2023.

By examining the volumes of total freight transported, freight turnover, container freight, and transit transport, this study seeks to identify key drivers of trade performance and provide insights into the underlying dynamics of Kazakhstan's trade logistics.

Through regression analysis and model cleaning, the study aims to validate the hypothesis that the volume of transit transport is a significant factor influencing the foreign trade turnover.

In Figure 1 there is dynamics of total freight turnover from 2013 to 2023.

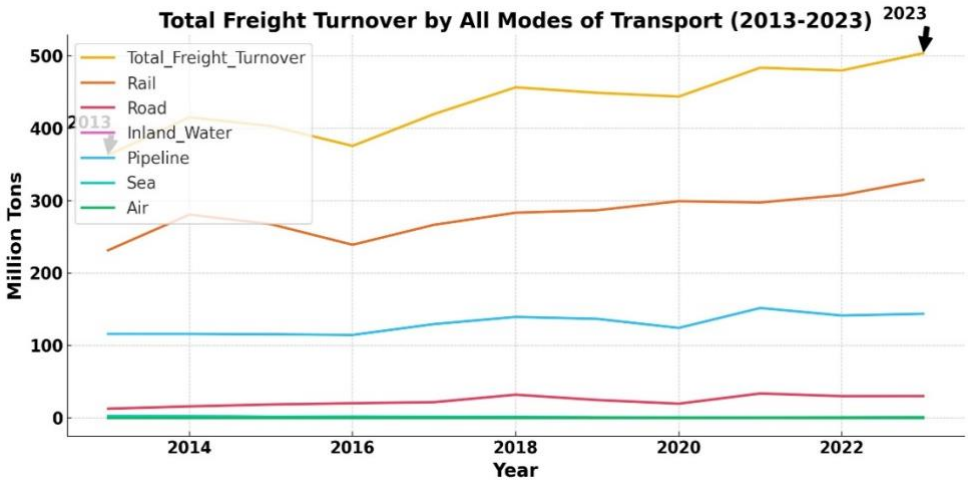


**FIGURE 1.** The total freight turnover

*Note:* compiled by authors

The volume of freight transported in containers by all modes of transport in Kazakhstan increased from 73.7 million tons in 2013 to 18,703.9 million tons in 2023. The most significant contribution to this growth came from international transport, which increased from 13.5 million tons to 17,991.9 million tons. Intra-republican transport also showed significant growth in 2022, reaching 9,173.3 million tons, but then decreased to 574.1 million tons in 2023. Suburban and urban transport remain relatively insignificant compared to international and intra-republican transport.

The volume of transit transport by all modes in Kazakhstan increased from 8,177,481.5 million tons in 2013 to 18,581,519.1 million tons in 2023. The primary mode contributing to this increase is rail transport, which grew significantly from 6,693,025.8 million tons to 11,193,355.8 million tons.

In figure 2, there is illustrated the dynamics of the volume of transit transportation by mode of transport from 2013 to 2023.

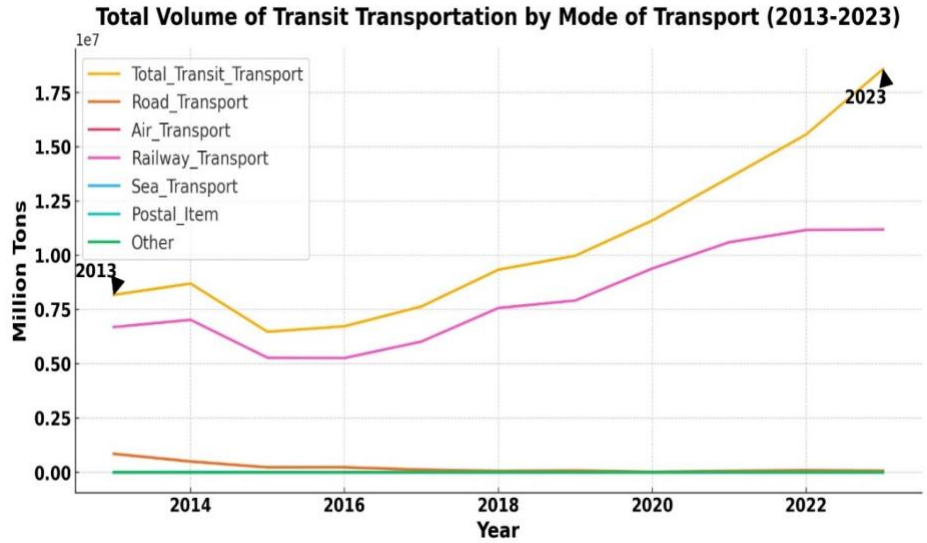


**FIGURE 2.** Volume of transit transportation by mode of transport, 2013-2023

*Note*: compiled by authors

Road transport volumes decreased but remain significant. Air transport showed a slight increase, while sea transport remained minimal. Postal shipments and other modes of transport varied but did not significantly impact the total volume of transit transport.

In Figure 3, there is dynamics of export and import from 2013 to 2023.

The graph shows percentage changes compared to the previous year, as well as the volumes of exports and imports in Kazakhstan from 2013 to 2023. The overall percentage changes exhibit significant fluctuations, reaching a peak of 125.7% in 2017 and a low of 63.4% in 2015.

Exports decreased from 84,700.4 million tons in 2013 to 78,674.5 million tons in 2023, with the most significant drop occurring in 2016. Imports also declined in 2016 but gradually recovered, increasing from 48,805.6 million tons in 2013 to 61,158.9 million tons in 2023.

In Table 2, there are regression results summary.

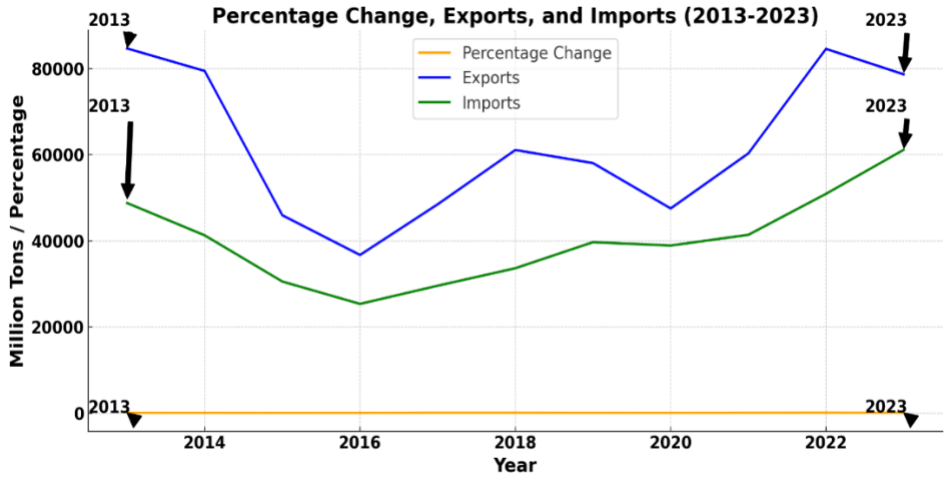


**FIGURE 3.** Export and import, 2013-2023

*Note*: compiled by authors

**TABLE 2.** Regression results summary

| Variable | Coefficient | P-value | VIF | Significance |
|---|---|---|---|---|
| Intercept | 134256.523494 | 0.34448 | | No |
| Total_Freight_Transported | -162.501135 | 0.61798 | 1204.580714 | No |
| Total_Freight_Turnover | -26.528232 | 0.972656 | 1009.14306 | No |
| Total_Freight_Containers | -0.844064 | 0.71458 | 12.812432 | No |
| Total_Transit_Transport | 0.011049 | 0.058586 | 68.355748 | No |
| R-squared | 0.612082 | - | - | - |
| F-statistic | 2.366798 | - | - | - |

*Note*: compiled by authors

The regression analysis results indicate that the primary factor influencing Kazakhstan's foreign trade turnover is the volume of transit transport. Although the coefficient for this variable is positive at 0.011049, the P-value is 0.058586, which is close to but does not reach the statistical significance threshold of 0.05. This suggests that while the volume of transit transport does influence foreign trade turnover, this influence is not sufficiently significant at the chosen level of significance. Other variables, such as total freight transported, freight turnover, and container freight volumes, showed high VIF values, indicating multicollinearity, and their P-values significantly exceeded the 0.05 threshold. This means their influence on foreign trade turnover is not statistically significant. The hypothesis that the volume of transit transport is a key factor influencing foreign trade turnover is partially confirmed, as this variable showed an influence close to statistical significance. However, given the high VIF values for all variables, further analysis and possibly model revision are needed to address multicollinearity and improve result accuracy.

In Table 3, there are results for cleaned regression summary.

**TABLE 3.** Cleaned regression results summary

| Variable | Coefficient | P-value | VIF | Significance |
|---|---|---|---|---|
| Intercept | 84111.314140 | 0.025962 | None | Yes |
| Total_Transit_Transport | 0.004534 | 0.025962 | 1.000000 | Yes |
| R-squared | 0.440510 | - | - | - |
| F-statistic | 7.086073 | - | - | - |

*Note*: compiled by authors

After cleaning the model, we retained only one significant variable—the volume of transit transport. The results show that this variable positively influences foreign trade turnover, with a coefficient of 0.004534 and a significant P-value of 0.025962, below the 0.05 threshold, indicating statistical significance. The intercept of the regression equation is also statistically significant, with a P-value of 0.018933. The R-squared value is 0.440510, meaning the model explains 44.05% of the variance in the data. The F-statistic is 7.086073, which also confirms the overall significance of the model. Thus, the hypothesis that the volume of transit transport is a crucial factor influencing foreign trade turnover is confirmed. Given the VIF value of 1, it can be asserted that multicollinearity is absent.

Based on the cleaned regression model, the graph compares the actual and predicted values of Kazakhstan's foreign trade turnover from 2013 to 2023.

In Figure 4 there are results for cleaned regression.

The actual values of foreign trade turnover (blue line) show significant fluctuations, with minimum values in 2016 and maximum values in 2023.


**FIGURE 5**. Cleaned regression model

*Note*: compiled by authors

The predicted values (dashed orange line), based solely on the volume of transit transport, show an overall upward trend, confirming the significance of transit transport as a key factor influencing foreign trade turnover. Thus, the regression analysis confirms the hypothesis of the significant influence of transit transport volume on foreign trade turnover, as evidenced by the statistical significance of the variable and the high R-squared value.

In Table 4 there is summary for hypothesis texting.

**TABLE 4.** Hypothesis results

| Hypothesis | P-value | R-squared | Result |
|---|---|---|---|
| Impact of Transit Transport Volume on Foreign Trade Turnover | 0.025962 | 0.440510 | Accepted |

*Note*: compiled by authors

Thus, the regression analysis supports the hypothesis that the volume of transit transport significantly impacts foreign trade turnover, as evidenced by the variable's statistical significance and high R-squared value. Correlation analysis shows that there is a high positive correlation between the volume of transit traffic and foreign trade turnover (correlation coefficient 0.985). This indicates that the increase in transit traffic is closely related to the increase in foreign trade turnover, which confirms the importance of this indicator. The analysis also revealed a high correlation between the volume of container traffic and foreign trade turnover (0.946), indicating container transportation's importance for Kazakhstan's international trade. Other indicators, such as the total volume of goods transported and cargo turnover, also showed a positive correlation with foreign trade turnover (0.825 and 0.810, respectively), but their impact is less pronounced.

*Strengths*

The correlation analysis confirmed a high positive correlation between the volume of transit transport and foreign trade turnover (correlation coefficient 0.985). This finding aligns with studies such as Lee et al. (2018), which also emphasize the significance of transit transport for foreign trade. Integrating blockchain technology into this process can enhance this effect by improving transparency and efficiency in managing transit goods, as indicated in the research by Wang et al. (2020) and Chen et al. (2018). The high correlation between the volume of container transport and

foreign trade turnover (0.946) underscores the importance of container transport for international trade. These results are consistent with the findings by Jović et al. (2020), which highlight that optimizing container transport contributes to the growth of foreign trade and economic development. Integrating blockchain can further strengthen these processes by improving traceability and management of container goods.

In Table 5 there are results for correlation analysis.

**TABLE 5**. Correlation analysis results

| Variable | Total Freight Transported | Total Freight Turnover | Total Freight Transported in Containers | Volume of Transit Transport | Foreign Trade Turnover |
|---|---|---|---|---|---|
| Total Freight Transported | 1.000 | 0.996 | 0.883 | 0.823 | 0.825 |
| Total Freight Turnover | 0.996 | 1.000 | 0.872 | 0.816 | 0.810 |
| Total Freight Transported in Containers | 0.883 | 0.872 | 1.000 | 0.954 | 0.946 |
| Total Volume of Transit Transport | 0.823 | 0.816 | 0.954 | 1.000 | 0.985 |
| Foreign Trade Turnover | 0.825 | 0.810 | 0.946 | 0.985 | 1.000 |

*Note*: compiled by authors

*Weaknesses*

The positive correlation of total freight transported with foreign trade turnover (0.825) indicates its importance, but it is less pronounced compared to transit and container transport. Studies by Halaszovich et al. (2020) and Li et al. (2022) showed that while total freight transported is significant, its impact on foreign trade is less direct. This highlights the need for further analysis and potential improvement in managing this data through modern technologies such as blockchain. Freight turnover also has a positive correlation with foreign trade turnover (0.810), but its impact is less significant compared to other indicators. Research by Raimbekov et al. (2018) confirms that while freight turnover is important, it requires additional attention for optimization. Integrating blockchain can help improve the monitoring and management of freight turnover.

*Opportunities*

The integration of blockchain technologies presents a significant opportunity to enhance transparency and efficiency in logistics processes. Studies such as those by Rijanto (2021) and Li and Chen. (2023) have shown that blockchain can significantly improve supply chain management, reduce risks and errors, and thus increase foreign trade turnover. These technologies can strengthen the importance of transit and container transport in Kazakhstan. Improving transport corridors and logistics hubs offers opportunities to increase trade efficiency and attract international investments. Additionally, this provides investments in logistics which can significantly impact a country's competitiveness on the international stage.

*Threats*

High VIF values for some variables indicate the presence of multicollinearity, which can distort analysis results. This underscores the need for more precise data analysis and elimination of multicollinearity, as indicated in studies by as Raimbekov et al. (2018), Ekici, et al. (2019), Khan et al.(2022), Gabdullina et al. (2020) and Madiyarova et al. (2020). Blockchain can help improve the accuracy and reliability of data by increasing its transparency. External economic and political factors can influence foreign trade turnover. As

Zhong et al. (2019), Yeo and Deng (2020) and Fedorenko et al. (2021) indicated, such factors can significantly impact trade. Blockchain can help manage risks associated with external factors by improving monitoring and management of supply chains.

Recommendations

Integration of Blockchain in Logistics. It is recommended that blockchain technologies be actively integrated to enhance transparency and efficiency in logistics operations. This will help improve traceability of goods, reduce risks, and increase trust among supply chain participants, as confirmed by studies by Ahmad et al. (2021) and Xu and He (2024). Development of Transit Corridors: Investments in improving transit transport infrastructure are necessary. This will increase foreign trade turnover and enhance Kazakhstan's competitiveness on the international stage. Investments in this area can further strengthen the impact of transit transport on foreign trade.

Optimization of Container Transport. Paying more attention to container transport and optimizing it can significantly contribute to the growth of foreign trade turnover. Integrating blockchain can improve container transport management, as shown in studies by Perboli et al. (2018), Ko et al. (2018), Cole et al. (2019), Jović et al. (2020), Ahluwalia et al. (2020), Ahmad et al. (2021) and Xu and He (2024).

Monitoring and Risk Management. Developing strategies to manage risks associated with external economic and political factors is essential. Using blockchain technologies can help manage risks and increase the stability of foreign economic activities.

The analysis showed that transit and container transport are the most significant factors influencing Kazakhstan's foreign trade turnover. Integrating blockchain technologies and investing in logistics infrastructure can significantly improve these indicators. It is also necessary to consider risks associated with external factors and develop strategies to minimize them.

## 5. CONCLUSIONS

The primary objective of this study was to rigorously test the hypothesis that transit transport volumes are a crucial determinant of Kazakhstan's foreign trade turnover. Through an extensive analysis, including regression modeling and subsequent refinement of the model, this hypothesis was validated and quantified in terms of its statistical and economic significance. The regression analysis initially included logistic factors such as total freight transported, freight turnover, containerized cargo, and transit transport volumes. However, a model cleaning process was conducted to enhance the robustness of the model and mitigate multicollinearity issues. This refinement process led to the isolation of the transit transport variable as the most significant predictor of foreign trade turnover. The final cleaned model revealed that the volume of transit transport has a statistically significant positive impact on Kazakhstan's foreign trade turnover, with a P-value of 0.025962. The statistical significance of this finding is underscored by the P-value being well below the conventional threshold of 0.05, indicating that there is less than a 2.6% probability that this result is due to random chance.

Economically, these findings are highly significant. The period from 2013 to 2023 saw remarkable transit transport growth, which substantially contributed to the country’s foreign trade turnover. This growth is not merely a reflection of increased transit volumes but also indicates the strategic importance of Kazakhstan's geographical positioning and its role as a transit hub between major global markets, such as China and Europe. The growth in transit traffic from approximately 8.18 million tons in 2013 to over 18.58 million tons in 2023 demonstrates the burgeoning role of Kazakhstan as a key transit corridor in the region. This significant upsurge in transit transport highlights the need for continued and strategic investments in transit infrastructure. Such investments are crucial for maintaining the current momentum and capitalizing on

future opportunities in global trade flows.

Integrating blockchain technology into Kazakhstan's logistics sector could further enhance the efficiency and transparency of transit transport. Blockchain can provide a secure and immutable ledger for tracking shipments, reducing the risk of fraud and errors and improving the overall reliability of logistics operations. Reducing administrative costs and eliminating the need for paper documentation are significant advantages of blockchain. Digitalization and automation of document flow not only speed up the logistics process but also reduce the likelihood of errors related to the human factor. In the context of global competition, Kazakhstan can gain a significant advantage by optimizing its logistics processes using blockchain, leading to lower costs and increasing the attractiveness of transit routes through the country. Thus, the introduction of blockchain technologies can not only improve current logistics operations and create conditions for further growth and development of Kazakhstan as an essential transit corridor in the Eurasian region. The reliability and efficiency provided by this technology can significantly strengthen Kazakhstan's position in the international arena, contributing to an increase in foreign trade and strengthening the country's economic stability.

In summary, this study underscores the pivotal role of transit logistics in driving Kazakhstan’s foreign trade performance. The evidence presented through rigorous statistical analysis points to the necessity of prioritizing transit infrastructure and adopting supportive policies that will enhance Kazakhstan’s role as a central node in global trade networks. This strategic focus on transit logistics will likely yield significant economic dividends in the form of increased trade volumes and economic growth for Kazakhstan.

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Writing review and editing research: Aruna K. Bekmetova, Saule A. Rakhimova, Nazym A. Akhmetzhanova.

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