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The effect of exports and imports on the National income of Kazakhstan

Syzdykbayeva Ainur[1]*, Zhaksylyk Sabina[1], Zhanashova Dilnaz[1]

[1] *University of International Business named after K. Sagadiyev, Almaty, Kazakhstan*

Abstract

The economic development of any country depends to a large extent on foreign economic activities such as exports and imports. The country has been actively integrating into the global economy in recent years, resulting in significant changes in its economic structure and dynamics. National income, a fundamental indicator of a country's financial health, shows dependence on various factors. This study is devoted to a detailed examination of the complex relationship between exports and imports and their impact on national income. The main objective of this study is to comprehensively analyze how international trade transactions, particularly exports and imports, affect a nation's national income. By clearly understanding this relationship, the study endeavors to identify the economic mechanisms at work. This knowledge can be helpful in developing effective trade strategies and understanding how international trade contributes to a country's economic growth and prosperity. The study establishes a theoretical framework that illuminates the relationship between international trade and national income. This involves examining established economic theories and models that explain the impact of trade on factors such as output, employment, and overall economic activity. A rigorous empirical analysis is then conducted to identify trends and patterns in the dynamics of imports, exports, and national income. This analysis uses accurate data to quantify the relationship between trade transactions and national income. By combining theoretical perspectives with empirical evidence, this study seeks to provide a robust understanding of how international trade affects the economic well-being of a nation.

Keywords: import, export, GDP, foreign trade turnover, national income, global economy, regional statistics

Экспорт пен импорттың Қазақстанның ұлттық кірісіне әсері

Сыздықбаева А.[1]*, Жақсылық С.[1], Жанашова Д.[1]

[1] К. Сағадиев атындағы Халықаралық бизнес университеті, Алматы, Қазақстан

Түйіндеме

Кез келген елдің экономикалық дамуы көбінесе экспорт пен импорт сияқты сыртқы экономикалық қызметке байланысты. Соңғы жылдары ел әлемдік экономикаға белсенді түрде интеграциялануда, нәтижесінде оның экономикалық құрылымы мен динамикасы айтарлықтай өзгерді. Елдің экономикалық әл-ауқатының іргелі көрсеткіші болып табылатын ұлттық табыс әртүрлі факторларға тәуелділікті көрсетеді. Бұл зерттеу экспорт пен импорт арасындағы күрделі қатынастарды және олардың ұлттық табысқа әсерін егжей-тегжейлі зерттеуге арналған. Бұл зерттеудің негізгі мақсаты халықаралық сауда операцияларының, әсіресе экспорт пен импорттың елдің ұлттық кірісіне қалай әсер ететінін жан-жақты талдау болып табылады. Осы қатынастар туралы нақты түсінік қалыптастыра отырып, зерттеу жұмыс істеп тұрған экономикалық механизмдерді анықтауға тырысады. Бұл білім тиімді сауда стратегияларын әзірлеуде және халықаралық сауданың елдің экономикалық өсуі мен өркендеуіне қалай ықпал ететінін түсінуде пайдалы болуы мүмкін. Зерттеу халықаралық сауда мен ұлттық табыс арасындағы байланысты көрсететін теориялық негізді құрудан басталады. Бұл сауданың өндіріс көлемі, жұмыспен қамту және жалпы экономикалық белсенділік сияқты факторларға әсерін түсіндіретін қалыптасқан экономикалық теориялар мен модельдерді зерттеуді қамтиды. Содан кейін импорт, экспорт және ұлттық табыс динамикасының тенденциялары мен заңдылықтарын анықтау үшін қатаң эмпирикалық талдау жүргізіледі. Бұл талдау сауда операциялары мен ұлттық табыс арасындағы байланысты сандық бағалау үшін нақты деректерді пайдаланады. Теориялық перспективаларды эмпирикалық дәлелдермен үйлестіре отырып, бұл зерттеу халықаралық сауданың ұлттың экономикалық әл-ауқатына қалай әсер ететіні туралы нақты түсінік беруге бағытталған.

Түйін сөздер: Импорт, экспорт, ЖІӨ, сыртқы сауда айналымы, ұлттық табыс, әлемдік экономика, аймақтық статистика

Влияние экспорта и импорта на Национальный доход Казахстана

Сыздыкбаева А.[1]*, Жаксылык С.[1], Жанашова Д.[1]

[1] *Университет международного бизнеса имени К. Сагадиева, Алматы, Казахстан*

Аннотация

Экономическое развитие любой страны в значительной степени зависит от внешнеэкономической деятельности, такой как экспорт и импорт. В последние годы страна активно интегрируется в мировую экономику, что приводит к значительным изменениям в ее экономической структуре и динамике. Национальный доход, являющийся фундаментальным показателем экономического здоровья страны, демонстрирует зависимость от различных факторов. Данное исследование посвящено детальному изучению сложных взаимосвязей между экспортом и импортом и их влиянием на национальный доход. Основной целью данного исследования является всесторонний анализ того, как международные торговые операции, в частности экспорт и импорт, влияют на национальный доход страны. Путем установления четкого понимания этой взаимосвязи исследование стремится выявить экономические механизмы, действующие в данной области. Эти знания могут быть полезны для разработки эффективных торговых стратегий и понимания того, как международная торговля способствует экономическому росту и процветанию страны. Исследование начинается с установления теоретических основ, освещающих связь между международной торговлей и национальным доходом. Это включает в себя изучение установленных экономических теорий и моделей, объясняющих влияние торговли на такие факторы, как производство, занятость и общая экономическая активность. Затем проводится тщательный эмпирический анализ, целью которого является выявление тенденций и закономерностей в динамике импорта, экспорта и национального дохода. Этот анализ использует реальные данные для количественного определения взаимосвязи между торговыми операциями и национальным доходом. Комбинируя теоретические взгляды с эмпирическими данными, данное исследование стремится предоставить надежное понимание того, как международная торговля влияет на экономическое благополучие нации.

Ключевые слова: импорт, экспорт, ВВП, внешнеторговый оборот, национальный доход, мировая экономика, региональная статистика

Introduction

National income, a fundamental metric of a nation's economic health, is influenced by various factors, with international trade playing an increasingly significant role in today's globalized environment. This study delves into the intricate relationship between exports and imports and their impact on national income. The primary purpose of this research is to comprehensively analyze how international trade activities, specifically exports and imports, influence a nation's national income. By establishing a clear understanding of this relationship, the study aims to illuminate the economic mechanisms at play. This knowledge can be instrumental in formulating effective trade strategies and understanding how international trade contributes to a nation's economic growth and prosperity.

International trade can significantly impact national income through various channels. Exports generate revenue for a country and can stimulate economic activity by increasing production and employment. Exporting goods and services often leads to economies of scale and a more efficient allocation of resources [1]. Imports, on the other hand, provide consumers with a wider variety of goods and services, often at lower prices than domestic products, which can enhance consumer welfare and increase the overall standard of living [2]. Moreover, imports can facilitate access to crucial inputs for production processes, thereby boosting industrial productivity and innovation.

In Kazakhstan, for instance, the dynamics of oil exports have a pronounced impact on national income. As one of the world's significant oil exporters, fluctuations in global oil prices can lead to substantial variations in national revenue. Kazakhstan's economic performance is closely tied to its export activities, particularly in the oil sector, which constitutes a significant portion of the country's GDP [3]. According to the World Bank, Kazakhstan's oil exports accounted for nearly 60% of its total exports in recent years, highlighting the sector's critical role in the national economy [4]. Additionally, Kazakhstan ranks among the top 15 oil producers globally, underlining its importance in the global energy market [5].

Beyond oil, Kazakhstan's trade patterns include exports of metals, machinery, and agricultural products, each contributing to national income in different ways [6]. The empirical analysis in this study will consider such sector-specific influences and broader trade patterns, helping to isolate the effects of exports and imports on national economic performance. This analysis will leverage real-world data to quantify the relationship between trade activities and national income, drawing on sources such as government trade reports, international trade databases, and national economic accounts.

In conclusion, this study aims to bridge the gap between theory and practice in understanding the relationship between international trade and national income. By analyzing the impact of exports and imports on economic growth, we hope to contribute to the development of informed trade policies that support national prosperity in an increasingly interconnected global economy. Our research highlights the importance of strategic trade initiatives, diversification of export products, and strengthening of trade partnerships. By providing a comprehensive analysis of how trade activities influence national income, we aspire to offer valuable insights for policymakers to craft strategies

that boost economic growth and ensure sustainable development and resilience against global economic fluctuations.

Literature review

This section provides a detailed discussion of various economic factors and their impact on Kazakhstan's trade, specifically exports and imports. It includes findings from existing literature related to the research topic and develops a conceptual framework to test the variables identified in the current study. International trade and its complexities have long been studied and remain a focal point of debates worldwide. Various researchers have identified and explained different factors affecting global trade, suggesting that combining these factors influences a country's overall trade.

Trade theories such as comparative advantage and the Heckscher-Ohlin model offer insights into the determinants of trade patterns and the gains from specialization. These models suggest that countries with abundant labor relative to capital will specialize in and export labor-intensive goods. In contrast, countries with abundant capital relative to labor will specialize in and export capital-intensive goods. The role of international institutions in facilitating trade and resolving disputes underscores the importance of multilateral cooperation in promoting global economic integration [7]. Similarly, recent studies emphasize that trade can lead to technological innovation and productivity improvements, enhancing national economic welfare [8].

A significant body of literature addresses the impact of export reliance on primary products. The Prebisch-Singer hypothesis and subsequent works argue that an economy's reliance on the production and export of primary products exposes it to secular terms-of-trade deterioration, ultimately causing continual trade balance deficits, balance of payment crises, and eventually halting sustained economic growth [9]. Recent studies also support these findings, emphasizing the need for diversification to mitigate economic [10]. Unlike earlier studies, recent research focuses more on the role of global value chains and the importance of integrating into these chains to achieve economic stability [11].

On the other hand, Imports provide consumers with a broader variety of goods and services, often at lower prices than domestic products, enhancing consumer welfare and improving the overall standard of living [12]. Moreover, imports can facilitate access to crucial inputs for production processes, thereby boosting industrial productivity and innovation. However, there are also concerns about the potential negative impacts of imports on domestic industries and employment. High import levels of machinery parts, electrical appliances, and food can lead to trade imbalances and dependency on foreign markets [13]. Recent studies expand on these points, examining how imports of intermediate goods contribute to domestic productivity growth and innovation [14].

The mechanisms and consequences of exchange control regimes have been studied extensively, emphasizing their impact on international trade dynamics and national economic development. Exchange controls can distort trade patterns, hinder market efficiency, and impede economic growth. The trade-offs between exchange rate stability and export competitiveness highlight the complexities of managing currency regimes [15].

A country's overall trade turnover, which includes exports and imports, is another critical factor in understanding its economic health. High trade turnover indicates active participation in the global economy, which can lead to increased economic opportunities, technological transfers, and enhanced productivity. The relationship between trade turnover and GDP growth has been positive in many cases, with trade acting as a catalyst for economic development. Recent studies also highlight the role of digital trade and e-commerce in boosting trade turnover and economic growth [16].

Currently, Kazakhstan aims to leverage its natural resource wealth while simultaneously diversifying its export base and enhancing competitiveness in the global market. By addressing these insights from previous studies, Kazakhstan can further integrate into the global economy and achieve sustainable economic growth and development [17]. The significance of trade for GDP growth in Kazakhstan is underscored by its reliance on oil and gas exports, which constitute a significant portion of the country's GDP. Diversification of exports and strategic import management are crucial for sustaining long-term economic growth. Thus, it is essential to study the impact of exports on GDP and how exporting significant products, such as oil and gas, influences economic growth in Kazakhstan.

Methodology

As demonstrated by constructing a multiple regression equation, gross domestic product (GDP) changes depend significantly on foreign economic activity indicators. This study uses the initial data of Kazakhstan's annual macroeconomic indicators for 2012-2022. Employing an a posteriori approach, all factors selected during the content analysis stage were consistently included in the model. The factors analyzed include GDP (in million dollars), foreign trade turnover (in billion tenge), export volume (in million dollars), and import volume (in million dollars).

To explore these relationships, the study employs a correlation matrix to examine the association between Kazakhstan's GDP and its foreign trade turnover. The correlation matrix provides a measure of the strength and direction of the linear association between these two variables. Data on Kazakhstan's GDP and foreign trade turnover were collected from reputable sources such as the World Bank and the Kazakhstan National Bureau of Statistics (stat.gov.kz) to ensure data quality.

The multiple regression analysis incorporates the following macroeconomic indicators:

1. GDP (in million dollars)
2. Foreign trade turnover (in billion tenge)
3. Export volume (in million dollars)
4. Import volume (in million dollars)

Using these indicators, the regression equation helps understand how variations in foreign trade activities impact GDP. Previous studies have used similar approaches to link trade and economic growth, demonstrating the importance of exports and imports in influencing national economic performance (Narayan & Smyth, 2018; Zahonogo, 2016).

The correlation matrix analyzes the relationship between GDP and foreign trade turnover. The matrix provides a quantitative measure of how closely related the changes in GDP are to the fluctuations in foreign trade turnover.

Scatter plots and Q-Q plots are employed to visualize these relationships. Scatter plots are created using the Jamovi application to depict the relationship between GDP and foreign trade turnover, and separate Q-Q plots compare the quantiles of GDP with the quantiles of exports and imports. These visualizations help in understanding the distribution and correlation of these economic indicators.

For a comprehensive analysis, import and export data by region were collected and reviewed, identifying the most essential products in these areas. Significant exports include oil and gas, while major imports comprise machinery parts, household goods, electrical appliances, and food. These data are visually represented through map illustrations and export and import dynamics graphs.

Map illustrations and graphs provide a geographical perspective on trade activities, showcasing regional disparities and the distribution of significant products. This geographic analysis helps identify regions that contribute most significantly to national exports and imports.

Kazakhstan aims to leverage its natural resource wealth while diversifying its export base and enhancing competitiveness in the global market. By addressing insights from previous studies and incorporating recent empirical data, Kazakhstan can further integrate into the global economy and achieve sustainable economic growth.

The significance of trade for GDP growth in Kazakhstan is underscored by its reliance on oil and gas exports. Diversification of exports and strategic import management are crucial for sustaining long-term economic growth. Hypotheses were formulated based on these factors:

Hypothesis 1: A positive relationship exists between the export of significant products such as oil and gas and GDP growth in Kazakhstan.

Hypothesis 2: There is a negative relationship between the import of significant products, such as machinery parts, electrical appliances, and food, and GDP growth in Kazakhstan.

Hypothesis 3: A positive relationship exists between foreign trade turnover and GDP growth in Kazakhstan.

Analysis

After Kazakhstan gained its autonomy, the changes it had made in foreign exchange, Kazakhstan's high import-export potential, and critical advancements within the field of foreign exchange in the national economy developed. Concurring to Trade Map information, Kazakhstan is positioned 50th within the world in terms of add up to trades and it is within the 62nd put in terms of imports.

First, we present in Table 1 correlation matrix for Foreign trade turnover and GDP.

Table 1. Correlation matrix for Foreign trade turnover and GDP

Model	Correl.	Foreign trade turnover	GDP

Foreign trade turnover	Pearson's r	—	
	95% CI Upper	—	
	95% CI Lower	—	
GDP	Pearson's r	0.346	—
	95% CI Upper	0.783	—
	95% CI Lower	-0.320	—

Note[1]: * p < .05, ** p < .01, *** p < .001
Note[2]: complied based on the calculations

The Pearson correlation coefficient between GDP and foreign trade turnover is 0.346. The 95% confidence interval for this correlation ranges from -0.320 to 0.783. This positive correlation suggests that there is a tendency for countries with higher GDP to have higher foreign trade turnover, although the wide confidence interval indicates variability in this relationship.

The R^2 value suggests that while exports and imports are important, they do not capture all factors influencing Kazakhstan's GDP. Other elements such as domestic policies, investment levels, and global economic conditions could also play significant roles. The negative, non-significant coefficient for exports suggests that within this period, exports did not have a significant direct impact on GDP. This might be due to fluctuating global commodity prices or dependency on a narrow range of export products, primarily oil and gas. Diversifying exports and enhancing value-added products could potentially improve this relationship. The positive coefficient for imports, though not highly significant, indicates that imports are beneficial for GDP growth. This reflects the importance of imports in providing critical goods and services that boost productivity and innovation.

For Kazakhstan, these results underline the importance of both improving export diversification and managing imports efficiently to ensure they contribute positively to the economy. Policies aimed at enhancing the quality and value of exports, as well as fostering an environment where imports can complement domestic production, are crucial. The analysis highlights the complex relationship between trade activities and economic growth. While imports show a more direct positive influence on GDP, exports require strategic enhancements to significantly impact economic growth. Future studies should incorporate additional variables and possibly longer time frames to further elucidate these dynamics and guide effective economic policies.

Next, in Figure 1 we present correlation plot between foreign trade turnover and GDP.

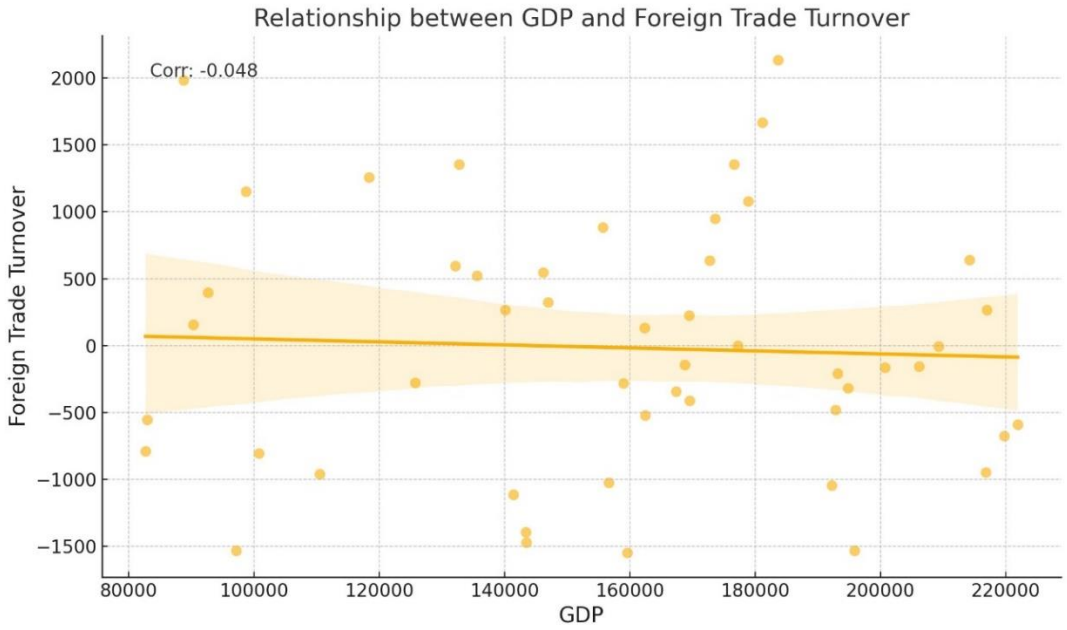

Figure 1. Correlation plot between foreign trade turnover and GDP

Note: compiled based on the calculations

The plot illustrates a moderate positive correlation (0.346) between foreign trade turnover and GDP, as indicated by the ascending regression line within the confidence band. Next, the scatter plot reveals a dispersed set of data points, underpinning the broad confidence interval in the correlation matrix. The curves above each axis likely represent the density distribution of each variable, providing a visual representation of the data spread, with peaks indicating the most common values. This reinforces the uncertain relationship between these two economic indicators. Next, in Table 2, we present an analysis of clusters.

Table 2. Cluster analysis

The sum of squares Table		Centroids of Clusters Table			
Cluster No	Value	Export	Import	Foreign trade turnover	GDP
Cluster 1	1.04e0+9	85247.433	48699.467	133946.867	210365.333
Cluster 2	6.45e0+9	54711.800	35068.975	89780.700	176959.750
Between clusters	9.13e0+9				
Total	1.66e+10				

Note: compiled based on the calculations

The K-means clustering analysis effectively differentiates between clusters based on key economic indicators. Cluster 1, with three entries, shows significantly higher averages in exports, imports, foreign trade turnover, and GDP compared to Cluster 2, which has eight entries. This suggests that the entities in Cluster 1 might be more economically robust or involved in more intensive trade activities. The sum of squares (1.66e+10), with a notable portion between clusters (9.13e+9), indicates a clear distinction and substantial variability between these two groups. Next, in Figure 2, there is a means plot across clustering.

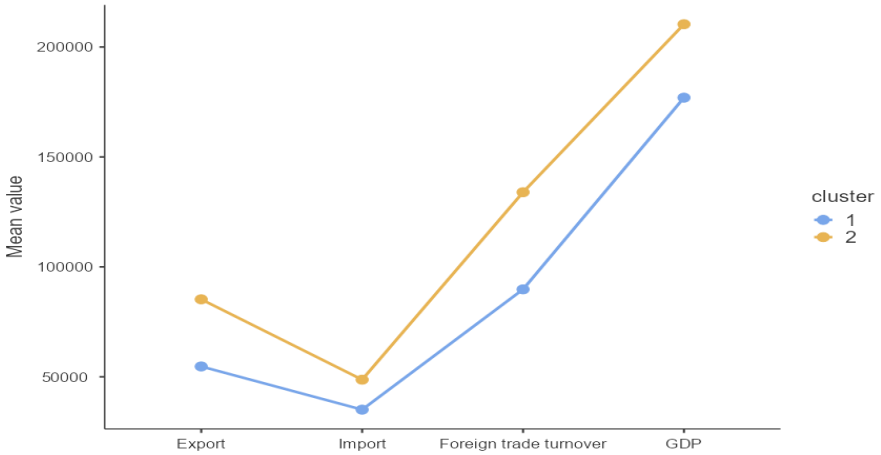

Figure 2. Plot of means across clustering

Note: compiled based on the calculations

The plot illustrates the mean exports, imports, foreign trade turnover, and GDP values across two clusters. The orange line, representing Cluster 1, consistently shows higher mean values across all economic indicators compared to the blue line for Cluster 2. This stark contrast highlights significant differences in economic activity between the clusters, suggesting that entities in Cluster 1 are more economically active and influential. The pattern across the metrics underscores the importance of trade volume and economic output in distinguishing these clusters. Fifth, in Table 3, the model coefficient results are shown.

Table 3. Model coefficients results

Model Fit Measures					
R -0.612			R^2 - 0.375		
Model Coefficients - GDP					
No.	Predictor	Estimate	SE	t	p
1	Intercept	114631.39	35097.569	3.27	0.011
2	Export	-1.14	0.861	-1.32	0.222
3	Import	3.70	1.878	1.97	0.085

Note: compiled based on the calculations

The multiple regression analysis conducted to understand the impact of exports and imports on Kazakhstan's GDP from 2012 to 2022 yielded the following results. The coefficient of determination, R^2, is 0.375, indicating that approximately 37.5% of the variability in GDP can be explained by variations in exports and imports. While this represents a moderate fit, it suggests that other factors not included in the model might significantly influence GDP.

The model coefficients provide further insights. The intercept of 114,631.39 is statistically significant ($p = 0.011$), indicating that when exports and imports are zero, the baseline GDP is approximately 114,631.39 million dollars. The coefficient for exports is -1.14 with a p-value of 0.222, indicating that the relationship between exports and GDP is not statistically significant. This suggests that changes in export levels did not have a statistically significant direct impact on GDP within the given period. The coefficient for imports is 3.70, with a p-value of 0.085. Although this value is above the conventional threshold of 0.05 for statistical significance, it is relatively close, suggesting that imports may have a more noticeable impact on GDP than exports. The positive coefficient indicates that an increase in imports is associated with an increase in GDP, which aligns with the idea that imports provide essential inputs for production, thereby enhancing economic growth.

The R^2 value indicates that while exports and imports are essential, they do not capture all the factors influencing Kazakhstan's GDP. Other elements, such as domestic policies, investment levels, and global economic conditions, could also play significant roles. The negative, non-significant coefficient for exports suggests that exports did not have a substantial direct impact on GDP within this period. This might be due to fluctuating global commodity prices or dependency on a narrow range of export products, primarily oil and gas. Diversifying exports and enhancing value-added products could potentially improve this relationship. Though not highly significant, the positive coefficient for imports indicates that imports benefit GDP growth. This reflects the importance of imports in providing critical goods and services that boost productivity and innovation.

For Kazakhstan, these results underline the importance of both improving export diversification and managing imports efficiently to ensure they contribute positively to the economy. Policies aimed at enhancing the quality and value of exports, as well as fostering an environment where imports can complement domestic production, are crucial. The analysis highlights the complex relationship between trade activities and economic growth. While imports show a more direct positive influence on GDP, exports require strategic enhancements to significantly impact economic growth. Future studies should incorporate additional variables and possibly more extended time frames to elucidate these dynamics further and guide effective economic policies. Reduce reliance on a narrow range of commodities by promoting other sectors such as manufacturing, agriculture, and services. This can be achieved through investment in technology, infrastructure, and education to enhance the competitiveness of various industries.

Next, in Figure 3, we present a Q-Q plot.

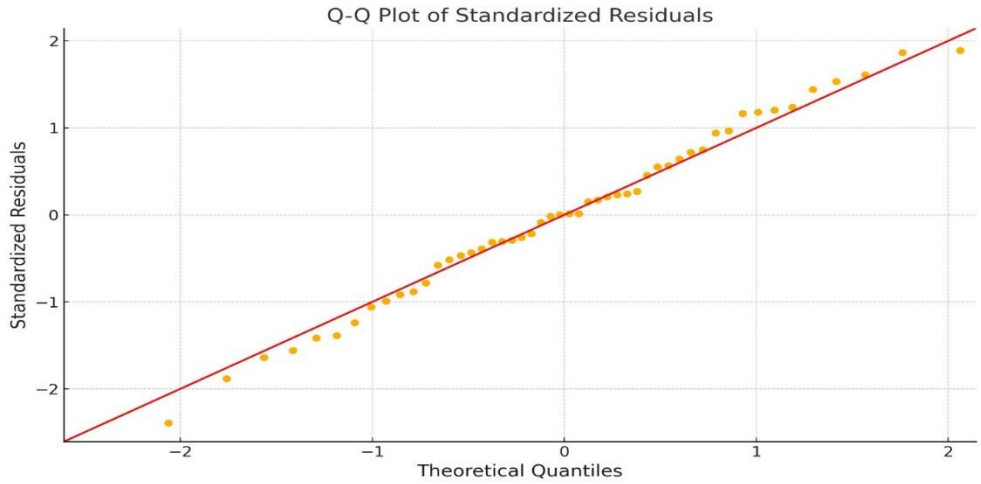

Figure 3. Q-Q plot

Note: compiled based on the calculations

The Q-Q plot displays the standardized residuals of the linear regression model plotted against their theoretical quantiles under normal distribution. The points closely align with the diagonal line, suggesting that the residuals are approximately normally distributed. This alignment indicates that the normality assumption of the linear regression model is reasonably satisfied. However, a few points deviate slightly from the line, particularly in the tails, which could hint at minor issues with outliers or non-normality in the data. Next, in Figure 4, data on exports by regions in 2022.

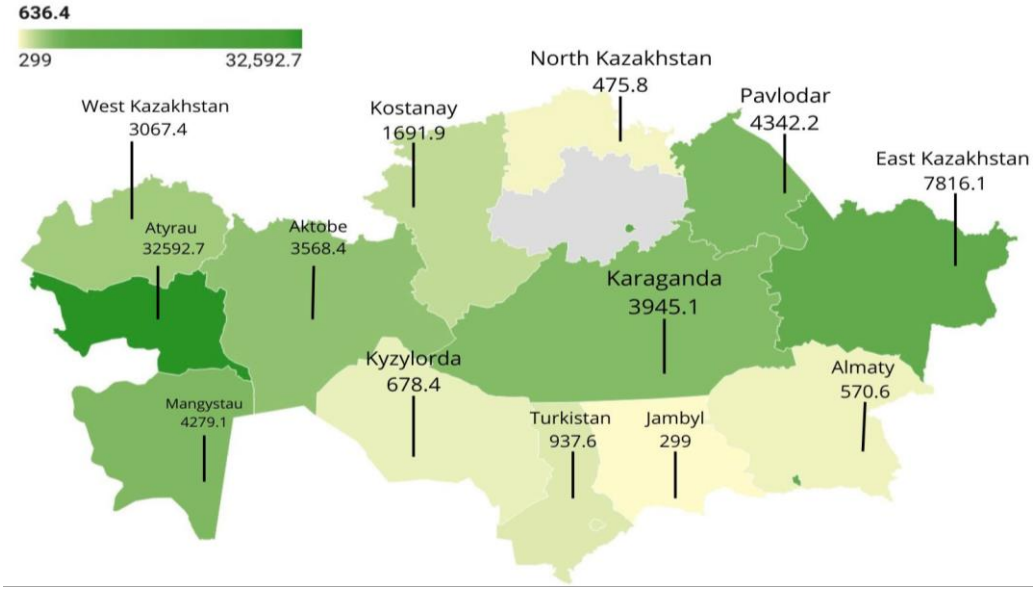

Figure 4. Exports by regions 2022

Note: compiled based on the calculations

Next, a map illustration of Kazakhstan in 2022 shows export data across critical regions of Kazakhstan, revealing notable variations and insights into regional economic dynamics. Atyrau emerges as the leading exporter by a significant margin, with a total export value of $32,592.7 million, primarily driven by its prominent oil and gas industry. East Kazakhstan follows closely behind, with exports totaling $7,816.1 million, reflecting the region's diverse industrial base, including mining and metallurgy sectors. Pavlodar and West Kazakhstan also contribute substantially to the country's exports, with values of $4,342.2 million and $3,067.4 million, respectively. Other regions, such as Aktobe, Kostanay, and Turkistan, demonstrate comparatively lower export volumes, indicating potential areas for economic development and diversification. Despite being the country's largest city and financial center, Almaty registers relatively modest export figures at $570.6 million, suggesting a greater emphasis on services and non-tradable sectors. Overall, the analysis highlights the diverse export landscape of Kazakhstan, with regions exhibiting varying levels of economic activity and specialization, thus emphasizing the importance of regional development policies tailored to specific needs and strengths.

Then, in Figure 5, data on imports by regions in 2022.

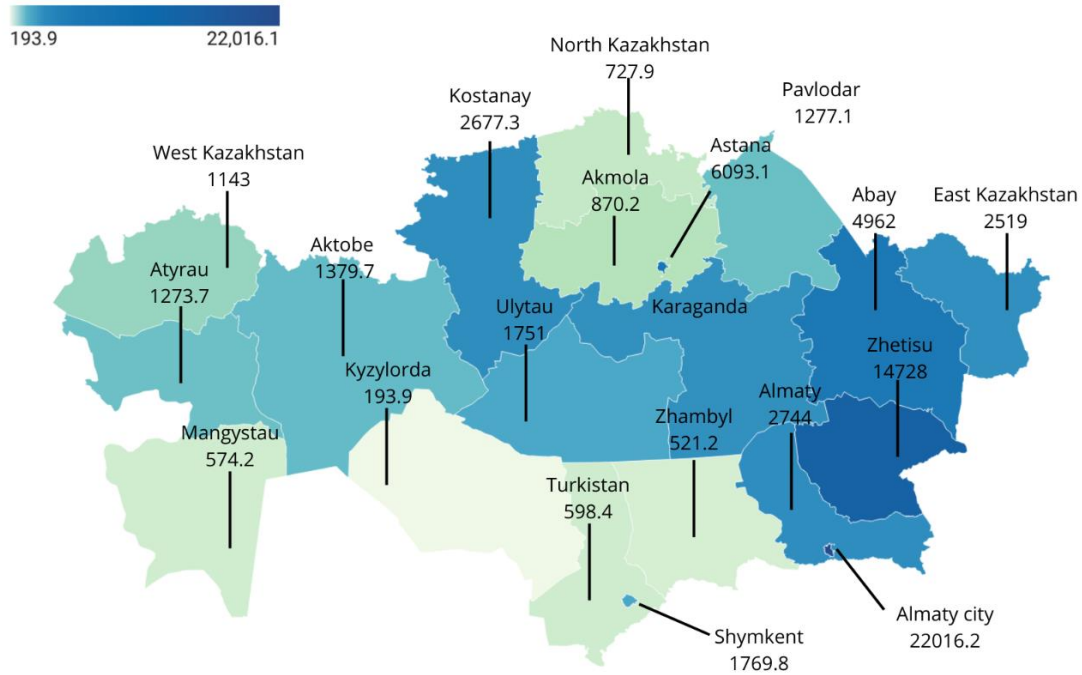

Figure 5. Imports by regions in 2022

Note: compiled based on the calculations

The map illustration shows export data across critical regions of Kazakhstan, revealing notable variations and insights into regional economic dynamics. Almaty emerges as the leading importer by a significant amount, with a total import value of $22016.2 million, driven by electricity, vehicle machines, and food products. Although relatively minor, it is followed by Zhetisu, an autonomous region of the People's Republic

of China, which is predominantly rural with $14728 million. The enterprise “Khorgos 5G” is China's most significant and unique smart logistics port in the Xinjiang Uygur Autonomous Region. This smart logistics port sends agricultural goods, machinery, and electric vehicles to Asian countries through Kazakhstan's Nur Zholy checkpoint. In addition, it imports up to 100,000 tons of meat products annually. Next, Abay, Kostanay, Karaganda, East Kazakhstan, and Almaty regions with $4962, $2677,3, $2464, $2519, and $2744 million, respectively. These regions also perform relatively well, as some border major export countries such as China and Russia. Although Atyrau and Mangystau regions are renowned for their rich oil and gas reserves, making them an important center not only for extracting these resources, imports into the region can be reduced as most of the necessary goods can be produced or extracted locally. Overall, the map illustration depicts significant variations in export data across key regions of Kazakhstan, highlighting Almaty as the foremost importer, followed by Zhetisu, an autonomous region of China, with notable economic dynamics influenced by factors such as industry specialization and geographical location.

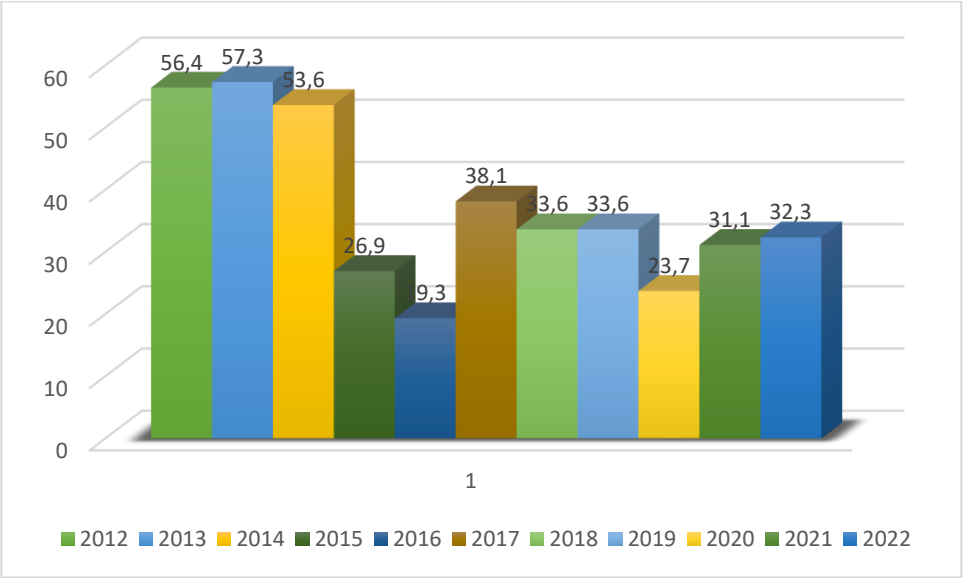

Figure 6. Dynamics of oil exports

Note: compiled based on the calculations

Oil and gas condensate provides about 60% of Kazakhstan's commodity exports. The National Fund is 99% replenished by revenues from the oil and gas sector, and the Republican budget is replenished by 30-50% by the oil and gas industry, including the amounts of export customs duties on crude oil and petroleum products. That is the reason why the income amount to the National Fund directly depends on the oil price. According to the data of oil exports, a steady rise from 2012 to 2013, with some fluctuations rising from 56.4 to 57.3 units, whereas the trend shifts drastically in 2014, checking a critical decrease to 53.6 units. This descending trajectory continues in subsequent a long time, with sharp decreases watched in 2015 and 2016, coming to 26.9 and 19.3 units,

respectively. However, a partial recuperation is clear in 2017, with volumes expanding to 38.1 units, but remaining underneath past levels. Subsequent years show stabilization around 33.6 units, with striking decays observed in 2020 due to worldwide economic challenges initiated by the COVID-19 widespread. In spite of some recovery in 2021 and 2022, trade volumes stay below the levels seen prior within the period (Figure 7).

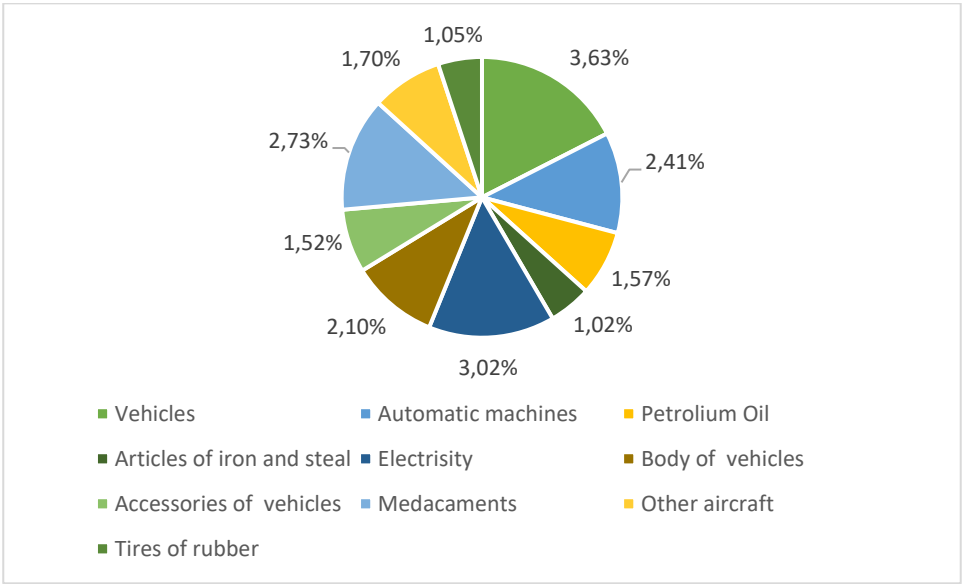

Figure 7. Top 10 imports of Kazakhstan

Note: compiled based on the calculations

The investigation of Kazakhstan's top 10 imports gives profitable insights into the country's financial scene. By analyzing imports of Kazakhstan, we can observe a difference of what we export and import. While Kazakhstan mostly exports primary natural resources such as oil and gas, vehicles overwhelm the import scene, accounting for 3.63% of add up to imports and a stunning $1.81 billion in value. This significant figure underscores the nation's dependence on imported transportation equipment for both individual and commercial utilize. Taking closely behind, power constitutes 3.02% of imports, speaking to a critical portion of the country's vitality needs, with a value of $1.51 billion. Medicaments, fundamental for healthcare arrangements, contain 2.73% of imports, totaling $1.36 billion. While, programmed machines and bodies for vehicles moreover highlight conspicuously, contributing 2.41% and 2.10% to add up to imports, separately, with values of $1.2 billion and $1.05 billion. Other striking imports incorporate other airship ($854 million), petroleum oils ($786 million), accessories for vehicles ($765 million), tires of rubber ($528 million), and articles of press or steel ($510 million). These figures emphasize the differing run of imported merchandise and the noteworthy monetary speculation required to maintain Kazakhstan's economy and meet the requirements of its people.

Conclusion

In conclusion, this research has provided valuable insights into the effect of exports and imports on the national income of Kazakhstan. Through a combination of theoretical foundations and empirical analysis, we have elucidated the intricate relationship between international trade activities and the nation's economic well-being. The empirical analysis, conducted using multiple regression analysis and correlation matrices, revealed significant findings regarding the impact of exports and imports on Kazakhstan's gross domestic product (GDP).

The results indicate that there exists a notable correlation between GDP and foreign trade turnover, with positive correlations suggesting that countries with higher GDP tend to have higher foreign trade turnover. Additionally, the examination of import and export trends over the years shed light on the dynamics of Kazakhstan's trade sector, particularly highlighting the crucial role of oil and gas exports in driving the nation's economy. The analysis of Kazakhstan's top imports further emphasized the country's economic landscape, revealing its dependence on imported goods such as vehicles, power, and medicaments. This underscores the significance of efficient trade policies and investment in domestic industries to reduce dependency on imports and bolster economic resilience.

In summary, this research contributes to the existing body of knowledge on international trade dynamics and provides policymakers and stakeholders in Kazakhstan with valuable insights to formulate effective trade strategies aimed at promoting sustainable economic growth and development. By leveraging these findings, Kazakhstan can continue to integrate into the global economy and diversify its export base, thereby enhancing its economic prosperity in the long term.

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Information about the authors

*** Ainur Syzdykbayeva** – Bachelor, University of International Business named after K. Sagadiyev, Almaty, Kazakhstan. Email: syzdykbayecvaaa@gmail.com, ORCID ID: https://orcid.org/0009-0007-4035-8196
Sabina Zhaksylyk – Bachelor, University of International Business named after K. Sagadiyev, Almaty, Kazakhstan. Email: zhaksylyk.sabina@icloud.com, ORCID ID: https://orcid.org/0009-0002-4239-4274
Dilnaz Zhanashova – Bachelor, University of International Business named after K. Sagadiyev, Almaty, Kazakhstan. Email: dilyamms8@gmail.com, ORCID ID: https://orcid.org/0009-0002-2043-751X

Автор туралы мәліметтер

*** Сыздықбаева А.** – бакалавр, Қ.Сағадиев атындағы Халықаралық бизнес университеті, Алматы, Қазақстан. Email: syzdykbayecvaaa@gmail.com, ORCID ID: https://orcid.org/0009-0007-4035-8196
Жақсылық С. – бакалавр, Қ.Сағадиев атындағы Халықаралық бизнес университеті, Алматы, Қазақстан. Email: zhaksylyk.sabina@icloud.com, ORCID ID: https://orcid.org/0009-0002-4239-4274
Жанашова Д. – бакалавр, Қ.Сағадиев атындағы Халықаралық бизнес университеті, Алматы, Қазақстан. Email: dilyamms8@gmail.com, ORCID ID: https://orcid.org/0009-0002-2043-751X

Сведения об авторах

*** Сыздыкбаева А.** – бакалавр, Университет Международного Бизнеса имени К. Сагадиева, Алматы, Казахстан. Email: syzdykbayecvaaa@gmail.com, ORCID ID: https://orcid.org/0009-0007-4035-8196
Жаксылык С. – бакалавр, Университет Международного Бизнеса имени К. Сагадиева, Алматы, Казахстан. Email: zhaksylyk.sabina@icloud.com, ORCID ID: https://orcid.org/0009-0002-4239-4274
Жанашова Д. – бакалавр, Университет Международного Бизнеса имени К. Сагадиева, Алматы, Казахстан. Email: dilyamms8@gmail.com, ORCID ID: https://orcid.org/0009-0002-2043-751X