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Dynamics and Development Prospects of Kazakhstan–Azerbaijan Trade Relations in the Context of the Caspian Sea

Hazar Denizi Bağlamında Kazakistan–Azerbaycan Ticari İlişkilerinin Dinamikleri ve Gelişme Perspektifleri

Abstract

This article examines the current state and future prospects of trade relations between Azerbaijan and Kazakhstan within the Caspian Sea region. Using foreign trade turnover data for the period 2005–2023, long-term trends and short-term economic fluctuations are evaluated through the Hodrick–Prescott and Baxter–King filters. The BDS test identifies the existence of non-random patterns and structural dependence in the time series. The results indicate a sustained upward tendency in bilateral trade relations, accompanied by periodic fluctuations shaped by regional and global economic developments. In light of these findings, the study offers several policy recommendations, including the modernization of the Baku and Aktau ports, the simplification of customs procedures, and the expansion of investment and transport-logistics cooperation between the two countries.

Keywords: Kazakhstan, Azerbaijan, trade relations, Caspian Sea, economic dynamics

Öz

Bu makalede, Hazar Denizi bağlamında Azerbaycan ile Kazakistan arasındaki ticari ilişkilerin mevcut durumu ve geleceğe yönelik gelişme perspektifleri ele alınmaktadır. 2005–2023 dönemine ait dış ticaret hacmi verileri kullanılarak uzun dönemli eğilimler ile kısa dönemli ekonomik dalgalanmalar Hodrick–Prescott ve Baxter–King filtreleri aracılığıyla değerlendirilmiştir. BDS testi, zaman serisinde rassal olmayan örüntüler ile yapısal bağımlılıkların varlığını ortaya koymaktadır. Bulgular, iki ülke arasındaki ticari ilişkilerin uzun vadede yükselen bir eğilim izlediğini, buna karşılık bölgesel ve küresel ekonomik gelişmelere bağlı dönemsel dalgalanmaların da devam ettiğini göstermektedir. Elde edilen sonuçlar

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çerçevesinde Bakü ve Aktau limanlarının modernizasyonu, gümrük süreçlerinin kolaylaştırılması ve yatırım ile ulaştırma-lojistik alanlarında iş birliğinin genişletilmesine yönelik çeşitli politika önerileri sunulmaktadır.

Anahtar Kelimeler: *Kazakistan, Azerbaycan, ticari ilişkiler, Hazar Denizi, ekonomik dinamikler*

Introduction

Azerbaijan's economic relations with Central Asian countries, particularly Kazakhstan, have gained increasing importance in recent years (İmanquliyev, 2023). The Caspian Sea serves as a key corridor for diversifying transport and trade routes between the two countries. The modernization of maritime transport, port infrastructure, and logistics capabilities is therefore essential for the expansion of bilateral trade.

Transportation and communication links constitute an important factor in the economic development of the Caspian and Central Asian regions (Vəliyev & Əhmədli, 2016). Due to its geographical location, natural resources, and transport potential, the Caspian Sea region occupies an important place in regional economic processes. Trade relations between Kazakhstan and Azerbaijan are an important component of economic dynamics in the Caspian region. Although the Caspian Sea has traditionally been viewed as an energy and transport corridor, in recent years it has also created new opportunities for economic integration, particularly in trade (Musayev, 2010).

Trade relations between Kazakhstan and Azerbaijan are important for economic cooperation and regional connectivity in the Caspian region and require more effective use of existing potential (Huseynov, 2017). In this framework, the ports of Baku and Aktau play an important role in strengthening bilateral trade relations, particularly within the East–West transport corridor (Süleymanov et al., 2017). In addition, the optimization of logistics infrastructure, the simplification of customs procedures, and the harmonization of legal and trade mechanisms are essential for the further development of trade across the Caspian Sea (Turan, 2010). Kazakhstan and Azerbaijan are linked not only by the energy resources of the Caspian basin but also by transport corridors providing access to external markets via the sea (Özsoy, 2019). Therefore, this study examines the dynamics and development prospects of Kazakhstan–Azerbaijan trade relations in the context of the Caspian Sea through time-series analysis.

Methodology / Empirical Analysis

This study applies time-series methods to examine the dynamics of trade relations between Kazakhstan and Azerbaijan in the context of the Caspian Sea. The Hodrick–Prescott (HP) filter is used to separate the long-term trend from short-term fluctuations, while the Baxter–King filter is employed to identify cyclical movements within a specified time horizon. In addition, the Brock–Dechert–Scheinkman (BDS) test is used to assess whether the trade turnover series follows a purely random pattern or exhibits structural dependence. Together, these methods make it possible to

distinguish long-term direction, cyclical variation, and the underlying statistical structure of the series.

The Hodrick–Prescott (HP) filter was applied to the annual foreign trade turnover data to distinguish long-term trends from short-term fluctuations. The HP filter decomposes the observed time series into two components: a smooth trend component and a cyclical component reflecting temporary deviations around that trend. The smoothness of the trend is determined by the parameter λ (lambda): lower values allow the trend to follow short-term movements more closely, whereas higher values produce a smoother trend by filtering out a larger share of short-run variation. In this study, $\lambda = 100$ was used for annual data because this value provides an appropriate balance between smoothing the long-term trend and preserving meaningful cyclical fluctuations, thereby allowing the underlying direction of trade turnover to be identified without suppressing economically relevant short-term changes.

The trend component obtained through the HP filter indicates the long-term development tendency and demonstrates the main direction of trade relations. The cyclical component reflects the impact of short-term economic fluctuations. Graphs illustrate the changes in trend and cyclical components over time, enabling a clearer understanding of the structure of trade relations. The results obtained from applying the HP filter made it possible to separate the long-term growth trend (trend component) from short-term economic changes (cyclical component) in trade turnover. This approach allows a more precise identification of the main directions of trade relations and the influence of economic fluctuations. In the empirical analysis, the trend component reflects the sustainability and development prospects of long-term economic cooperation. The cyclical component represents the effects of global and regional economic events, such as financial crises or economic restructuring processes, on trade relations.

To examine cyclical movements in greater detail, the Baxter–King filter was applied to the trade turnover series. This filter isolates medium-term cyclical fluctuations by retaining movements within a selected time band and filtering out very short-term noise and long-term trend effects. In this study, the analysis focused on cycles lasting between 2 and 8 years, as this range is suitable for identifying economically meaningful medium-term trade fluctuations. The Brock–Dechert–Scheinkman (BDS) test was applied to examine whether the trade turnover series behaves like an independent and identically distributed random process. In practical terms, this test helps determine whether the series is purely random or whether it contains hidden structure and nonlinear dependence. The test results demonstrated that the Kazakhstan–Azerbaijan trade turnover does not exhibit random walk behavior, meaning the time series possesses a specific structure and dependencies. This finding indicates that economic processes and regional economic relations influence trade dynamics. The application of the BDS test strengthens the reliability and

scientific validity of the study's results, as the presence of a non-random structure suggests that the development of trade relations follows identifiable and analyzable patterns.

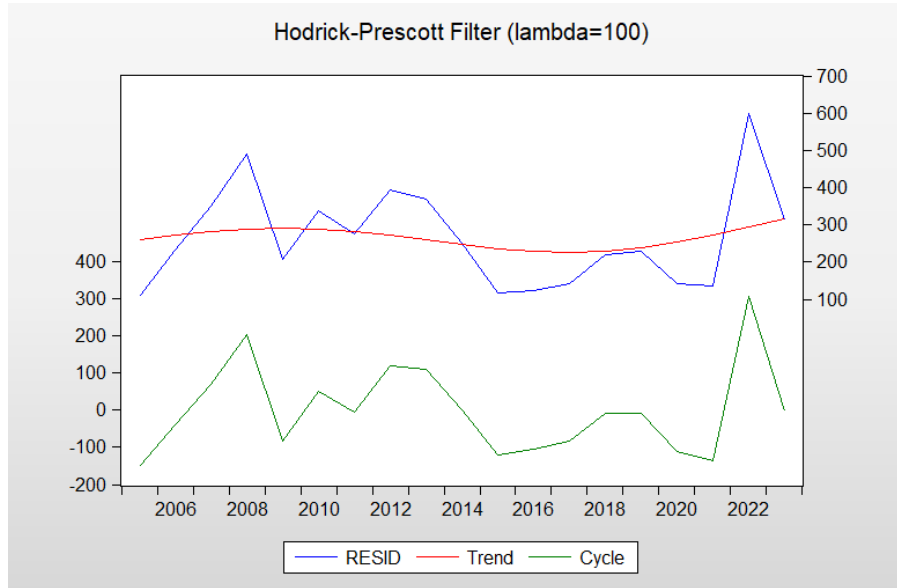
Main Content of the Research

After the dissolution of the Soviet Union, the Caspian Sea became an area of strategic interest for Russia, Iran, Azerbaijan, Kazakhstan, and Turkmenistan. With the collapse of the USSR and the emergence of newly independent states such as Azerbaijan, Kazakhstan, and Turkmenistan, the geopolitical configuration of the region changed significantly, and the number of Caspian littoral states reached five. Since then, each coastal state has advanced approaches to the use of the Caspian Sea that correspond to its own economic and political priorities (Ibraev, 2000). Trade relations between Azerbaijan and Kazakhstan have demonstrated a generally positive trend. The main objectives of bilateral cooperation include expanding the range of export and import goods, increasing trade turnover, promoting mutual investment, and deepening cooperation in transport and logistics (Mahmudov, 2005). According to official statements made during Azerbaijan–Kazakhstan business and trade events held in Baku in April 2023, there were 1,170 companies with Azerbaijani capital operating in Kazakhstan, while more than 150 companies with Kazakh capital operated in Azerbaijan. In addition, during the trade and economic mission held in Baku on April 5, 2023, export contracts worth 55 million US dollars were signed between Kazakh and Azerbaijani business representatives (AZERTAC, 2023a; The Astana Times, 2023). Cooperation between the two countries has also expanded in the oil and transport sectors. According to SOCAR, the transit of Kazakh oil through the Baku–Tbilisi–Ceyhan pipeline began in March 2023 under an arrangement providing for the transportation of 1.5 million tons of oil annually. The first shipment of oil from Kazakhstan's Tengiz field arrived from the port of Aktau to the Sangachal Terminal via the *President Heydar Aliyev* tanker on March 23, 2023, while the following shipment was scheduled via the *Shusha* tanker on March 27, 2023 (AZERTAC, 2023b).

Relations between Azerbaijan and Kazakhstan continue to develop across several sectors, including energy. The roadmap signed between SOCAR and *KazMunayGaz* may support the further expansion of bilateral cooperation in the energy sector. Cooperation in oil refining, transit, and trade has strengthened bilateral economic links between the two countries. The Caspian Sea provides an important route for the transport of oil, petroleum products, and other traded goods, while also supporting regional trade relations. The studies conducted on the basis of the main methodologies and models used in the analysis of trade turnover are presented below. As the first model, the analysis involves the decomposition of long-term trends and cyclical components using the Hodrick–Prescott (HP) filter.

Figure 1
Analysis of the Long-Term Trend and Short-Term Fluctuations of Azerbaijan–Kazakhstan Trade Turnover Using the HP Filter

Note. Author’s calculations based on data from the State Statistical Committee of the Republic of Azerbaijan (Azərbaycan Respublikası Dövlət Statistika Komitəsi, n.d.).



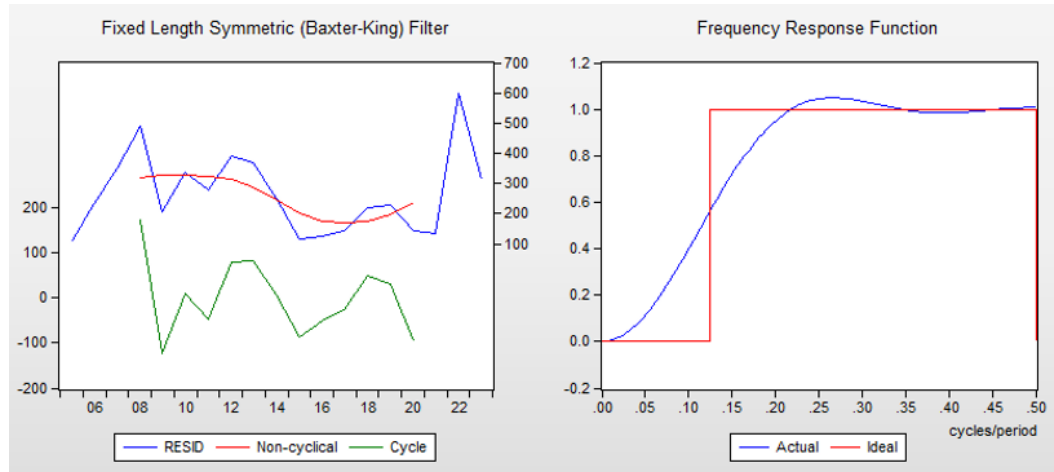
The graph presents the observed Kazakhstan–Azerbaijan trade turnover series for 2005–2023 together with its estimated trend and cyclical components. The observed series reflects the actual movement of trade turnover over time, while the trend component captures the long-term direction of development and the cyclical component reflects short-term deviations around that trend. The trend line generally reflects the principal direction of trade turnover development. It can be observed from the graph that between 2005 and 2015, trade relations exhibited a relatively stable and gradual growth tendency. During the period from 2016 to 2020, a slight decline in the trend is visible, likely reflecting regional and global economic conditions. Since 2021, the long-term trend has resumed an upward trajectory, which may be associated with the revitalization and expansion of trade relations between the two countries. The cyclical component represents short-term economic fluctuations. Significant declines and rises were recorded in 2008 and 2013–2014, likely linked to the effects of international economic crises and regional economic uncertainty during those periods. Between 2016 and 2020, the cyclical component remained at a relatively low level, which can be interpreted as a period of relative stabilization in trade relations. However, in 2021–2022, a substantial increase in the cyclical component is observed, potentially connected to post-pandemic economic recovery and the influence of new trade agreements. Since the original time series is the sum of the trend and cyclical components, its fluctuations are shaped by the combined influence of both components. High volatility in the years 2008 and 2022 is particularly noticeable in the graph. The application of the Hodrick–Prescott filter enabled a clear separation of the long-term development trend and short-term economic fluctuations in trade relations. These results indicate that Azerbaijan–Kazakhstan trade demonstrates both sustainable growth and temporary

fluctuations associated with global and regional economic processes. This analysis underscores the importance of long-term strategies and the necessity of managing short-term risks when assessing the future prospects of bilateral trade relations.

Figure 2

Structural Analysis of Azerbaijan–Kazakhstan Trade Using the Baxter–King Filter

Note. Author's calculations based on data from the State Statistical Committee of the Republic of Azerbaijan (Azərbaycan Respublikası Dövlət Statistika Komitəsi, n.d.).



As a result of applying the Baxter–King filter, the long-term trend component (non-cyclical) and cyclical fluctuations with periods of 2 to 8 years in the Kazakhstan–Azerbaijan trade turnover series were separated. The trend component reflects the main direction of trade development and exhibited a relatively stable and continuous tendency between 2006 and 2022. This represents the long-term baseline trajectory of bilateral trade relations.

The cyclical component, in contrast, reflects short- and medium-term economic fluctuations in trade. Significant oscillations in the cyclical component were observed during 2007–2009, 2012–2014, and 2020–2022, indicating the influence of regional and global economic processes on trade during these periods. Both strengthening and weakening phases of trade relations were identified within these intervals.

The frequency response function was examined to assess whether the filter effectively captures fluctuations within the selected 2–8 year band. In practical terms, this demonstrates whether the filter retains the targeted cyclical movements while excluding shorter- and longer-term variations outside the specified range. The results indicate that the filter adequately isolates the relevant cyclical component of the trade turnover series.

Overall, the application of the Baxter–King filter clarifies the cyclical patterns embedded in the structure of Kazakhstan–Azerbaijan trade relations and contributes to a better understanding of the mechanisms through which the regional economic environment influences trade dynamics. This may play an important role in the formulation of economic policy and trade strategy.

Figure 3

Analysis of the Structure of Azerbaijan–Kazakhstan Foreign Trade Turnover Using the BDS Test

Note. Author’s calculations based on data from the State Statistical Committee of the Republic of Azerbaijan (Azərbaycan Respublikası Dövlət Statistika Komitəsi, n.d.).

BDS Test for RESID
 Date: 07/25/25 Time: 14:14
 Sample: 2005 2023
 Included observations: 19

<u>Dimension</u>	<u>BDS Statistic</u>	<u>Std. Error</u>	<u>z-Statistic</u>	<u>Prob.</u>
2	0.010851	0.018998	0.571146	0.5679
3	-0.090993	0.031606	-2.878982	0.0040
4	-0.105705	0.039463	-2.678594	0.0074
5	-0.094841	0.043210	-2.194912	0.0282
6	-0.038415	0.043871	-0.875633	0.3812

Raw epsilon	202.5620		
Pairs within epsilon	259.0000	V-Statistic	0.717452
Triples within epsilon	3807.000	V-Statistic	0.555037

<u>Dimension</u>	<u>C(m,n)</u>	<u>c(m,n)</u>	<u>C(1,n-(m-1))</u>	<u>c(1,n-(m-1))</u>	<u>c(1,n-(m-1))^k</u>
2	71.00000	0.464052	103.0000	0.673203	0.453202
3	45.00000	0.330882	102.0000	0.750000	0.421875
4	27.00000	0.225000	91.00000	0.758333	0.330705
5	17.00000	0.161905	80.00000	0.761905	0.256746
6	11.00000	0.120879	67.00000	0.736264	0.159294

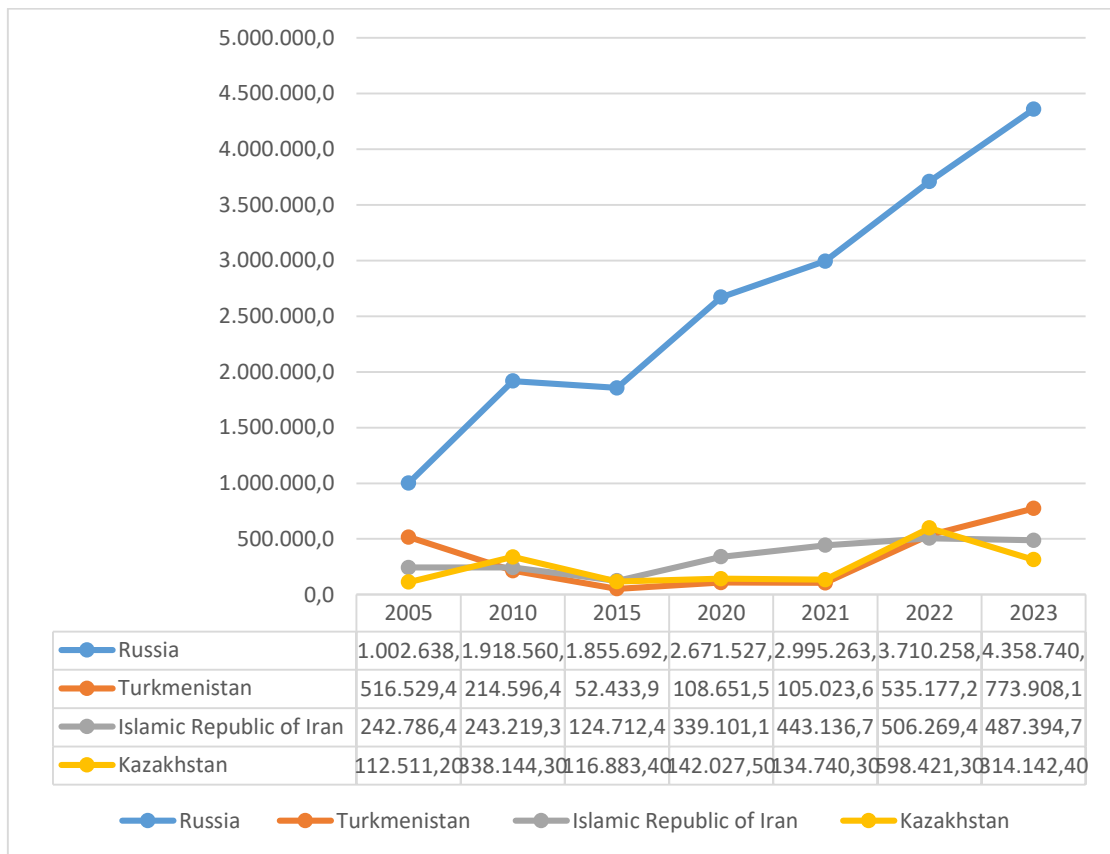
Analysis of BDS Test Results – The BDS test was conducted to examine whether the time series of Kazakhstan–Azerbaijan trade turnover is random or not. The test was performed on 19 observations covering the period from 2005 to 2023. Based on the test results, for the 2- and 6-dimensional analyses, the p-values were 0.5679 and 0.3812, respectively, both exceeding 0.05; therefore, the null hypothesis could not be rejected, indicating that randomness cannot be excluded at these dimensions. However, for dimensions 3, 4, and 5, the p-values were 0.0040, 0.0074, and 0.0282, respectively, all below 0.05, leading to rejection of the null hypothesis. This indicates that, at these dimensions, the time series does not follow a random walk pattern but instead exhibits identifiable structure and dependence. Taken together, these findings suggest that the Kazakhstan–Azerbaijan trade turnover series is not purely random, but follows discernible patterns shaped by underlying economic processes. This indicates that trade relations evolved under the influence of broader regional economic conditions. Raw epsilon, pairs, and triples values relate to the parameters of the test and indicate the scale of the analytical dimensions used in the statistical procedure. The V-statistics (for pairs within epsilon and triples within epsilon) measure different forms of dependence within the test framework, and values above 0.5 may be interpreted as evidence of dependence. In conclusion, the BDS test results indicate the absence of a purely random walk process in trade turnover and demonstrate the presence of nonlinear and multidimensional dependence structures. This, in turn, strengthens the methodological justification

for applying the other models used in the study (HP and Baxter–King filters) and supports the robustness of their results.

General Analysis of the Data

This section analyzes the main trends and dynamics of the foreign trade turnover of the countries located in the Caspian Sea basin, including Kazakhstan and Azerbaijan. Based on statistical indicators collected for the period 2005–2023, the volume, structure, and evolution of trade relations among these countries are examined, and the level of regional economic integration and competitiveness is assessed. This analysis provides the empirical basis for identifying the future prospects for the development of trade relations.

Figure 4
Azerbaijan’s Foreign Trade Turnover With Caspian Basin States, 2005–2023 (U.S. Dollars)
Note. Based on data from the State Statistical Committee of the Republic of Azerbaijan (Azərbaycan Respublikası Dövlət Statistika Komitəsi, n.d.).



Among Azerbaijan’s main trade partners in the Caspian Basin, Russia holds a leading position in terms of trade turnover. From 2005 to 2023, Russia’s trade turnover with Azerbaijan demonstrated steady growth, increasing from 1 billion US dollars to 4.3 billion US dollars. This growth is associated with the expansion of cooperation between the two countries in the energy sector, industrial products, and other fields.

Turkmenistan’s trade turnover with Azerbaijan declined sharply during 2005–2015 but began to gradually recover after 2015. The primary causes of this decline may include regional political

and economic changes, as well as fluctuations in international market prices. The increase in trade turnover with Turkmenistan in 2023 indicates the emergence of new opportunities for economic cooperation.

Trade relations between the Islamic Republic of Iran and Azerbaijan have exhibited a more volatile pattern. Despite a decrease observed between 2005 and 2015, an upward trend became evident after 2015; however, a decline was recorded again in 2023, which may be associated with regional political developments and the effects of international sanctions.

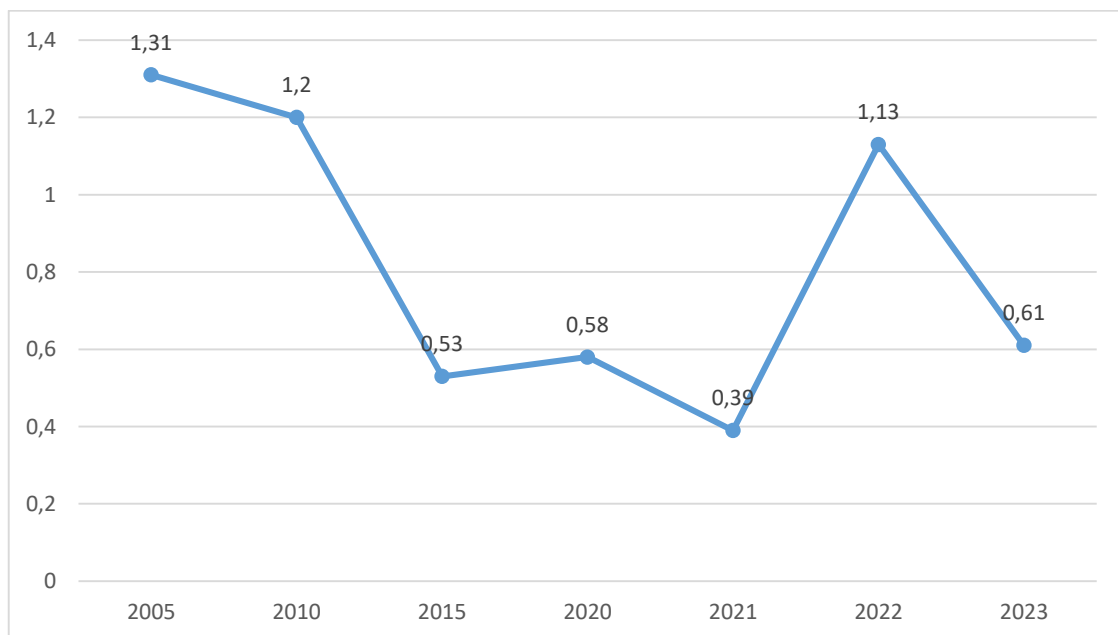
Kazakhstan’s trade turnover with Azerbaijan, although relatively lower compared to other countries, has shown rapid growth since 2020. This reflects the expansion of economic cooperation between the two countries, particularly in the transportation, logistics, and energy sectors. The slight decline in trade turnover with Kazakhstan in 2023 may be temporary in nature and related to prevailing economic conditions.

Overall, this diagram illustrates the dynamic and differentiated development stages of Azerbaijan’s trade relations with the Caspian Basin countries. The predominance of cooperation with Russia is clearly visible, while trade relations with other countries remain more variable and dependent on regional and global political-economic factors. The rapid growth of trade with Kazakhstan in recent years highlights new prospects for bilateral collaboration. The chart below presents the share of Azerbaijan’s foreign trade turnover with Kazakhstan as a percentage of total trade turnover for the period 2005–2023.

Figure 5

The Share of Kazakhstan in Azerbaijan’s Total Foreign Trade Turnover, 2005–2023

Note. Based on data from the State Statistical Committee of the Republic of Azerbaijan (Azərbaycan Respublikası Dövlət Statistika Komitəsi, n.d.).



This indicator reflects how Kazakhstan's share in Azerbaijan's foreign trade has changed over the years and allows for a more precise assessment of the relative importance of economic relations between the two countries. The diagram shows that in 2005 and 2010, Kazakhstan's share was above 1%, whereas in 2015, a significant decline was observed (0.53%). In subsequent years, especially between 2020 and 2022, this indicator remained relatively stable, and in 2022 it increased again, reaching 1.13%. However, in 2023, it declined to 0.61%.

These fluctuations demonstrate that trade relations between the two countries are influenced by regional and global economic processes. The decline observed in 2015 may be associated with global financial pressures and regional economic conditions. The increase in 2022, by contrast, corresponds to the strengthening of trade and investment cooperation between the two countries.

In conclusion, although Kazakhstan's relative share in Azerbaijan's foreign trade has varied over time, it has maintained strategic importance in recent years, and further prospects for the development of bilateral economic relations remain evident.

Discussion

The diagrams obtained from the application of the Hodrick–Prescott (HP) filter illustrate that the long-term trend component reflects the main direction of trade turnover development. Between 2005 and 2015, the trend demonstrates a stable and gradual upward tendency, indicating sustained economic cooperation between the two countries. From 2016 to 2020, a decline in the trend line is observed, which may be associated with challenges arising from regional and global economic conditions. Starting from 2021, the trend resumes its upward movement, indicating a revitalization of trade relations.

The cyclical component represents short-term economic fluctuations. The sharp oscillations observed in 2008 and during 2013–2014 can be linked to international financial disruptions and regional economic uncertainty. The relatively low level of the cyclical component between 2016 and 2020 indicates relative stability in trade relations. In 2021–2022, the increase in cyclical fluctuations corresponds to post-pandemic recovery and the impact of new trade agreements.

Results from the Baxter–King filter clarify the cyclical component representing periodicities of 2 to 8 years. The fluctuations in 2007–2009, 2012–2014, and 2020–2022 visually confirm the impact of regional and global economic events on trade. Meanwhile, the trend component consistently reflects the overall stable direction of development.

During the BDS test, p-values in some embedding dimensions (3, 4, and 5) were found to be below 0.05, indicating that trade turnover is not random but contains identifiable structures and dependencies. This result suggests that trade turnover does not follow a purely random pattern, but instead reflects underlying structural relationships associated with economic processes and regional interaction.

The fluctuations and trends observed in the graphs are consistent with the results of these tests. For instance, the detection of a non-random structure in the BDS test supports the view that the long-term trends and cycles derived from the HP and Baxter–King filters are grounded in observable economic processes.

The study shows that trade relations between Azerbaijan and Kazakhstan display a sustained upward trend over the long term; however, short- and medium-term fluctuations occur due to regional and global economic events. The separation of trend and cyclical components of trade turnover using HP and Baxter–King filters allows for a more precise understanding of these processes.

The BDS test indicates that trade turnover contains structural dependencies and is linked to broader economic processes. This provides a basis for future economic policy and trade strategy formulation, emphasizing the importance of long-term planning together with effective management of short-term risks. In conclusion, Azerbaijan–Kazakhstan trade relations have the potential to expand from the energy sector to transportation, logistics, and other non-oil industries. Strengthening regional cooperation, increasing investment, and enhancing trade competitiveness remain important directions for future development.

Recommendations

Based on the conducted analyses and obtained results, strategic measures and practical recommendations have been formulated for the development of Kazakhstan–Azerbaijan trade relations within the context of the Caspian Sea. These recommendations aim to address existing challenges and support the sustainable expansion of trade relations.

It is recommended to modernize the ports of Baku and Aktau and strengthen maritime–rail connections to increase the volume of cargo transportation across the Caspian Sea. This would enhance the speed and reliability of freight transportation.

The harmonization of customs procedures between the two countries and the implementation of electronic systems at border crossings are essential to facilitate trade turnover and reduce time losses. Protecting the ecological condition of the Caspian Sea and applying sustainable development principles would support the long-term efficiency of trade relations. Research based on the Hodrick–Prescott and Baxter–King filters indicates a long-term positive trend in Kazakhstan–Azerbaijan trade. Therefore, future economic policies may be strengthened through strategic plans that support sustainable trade development. In particular, promoting mutual investments and opening new trade routes remain important priorities. Analysis of the cyclical component shows that international economic crises and regional instability can negatively affect trade. Consequently, risk-management mechanisms in bilateral trade relations and adaptive systems capable of responding promptly to economic shocks would be beneficial. To increase trade

turnover, the modernization of Caspian Sea ports and transit communication infrastructure in line with contemporary requirements, together with the digitalization of customs procedures, should be prioritized. This would improve the speed and efficiency of trade operations. For the development of trade relations, it is necessary to harmonize economic policies, tariffs, and trade procedures at the regional level between Kazakhstan and Azerbaijan. This could also provide a basis for the future establishment of free trade zones within the Caspian region. It is recommended to establish joint education and training programs in transportation, logistics, and trade. This would not only enhance the efficiency of trade operations but also create a basis for the implementation of innovative approaches.

Conclusion

The research findings indicate that trade relations between Azerbaijan and Kazakhstan within the context of the Caspian Sea exhibit a sustained and positive long-term development trend. Time-series analyses conducted using the Hodrick–Prescott and Baxter–King filters demonstrate that trade turnover generally follows a stable and increasing pattern, while also reflecting short-term fluctuations associated with external factors such as global and regional economic crises and the pandemic period. The BDS test confirms that trade turnover is not random, evidencing the existence of structural and economic dependencies.

In the contemporary period, to further expand trade between the two countries, it is important to modernize the infrastructure of the Baku and Aktau ports, enhance the efficiency of cargo transportation, and strengthen maritime–rail connectivity. Additionally, simplifying and digitizing customs procedures and implementing mechanisms at border crossings that reduce time losses can increase the speed and security of trade. From the perspective of regional economic integration and trade sustainability, protecting the ecological status of the Caspian Sea and applying sustainable development principles are also important.

At the same time, promoting mutual investments, harmonizing economic policies, and establishing joint education and training programs can enhance the efficiency of trade operations and further strengthen strategic partnership relations between the two countries. Steps taken in this direction may stimulate the development of trade relations not only in the energy and oil sectors but also in non-oil fields, thereby contributing to regional economic diversification and improving competitiveness. Overall, the analyses and recommendations presented in this article provide a basis for understanding the future development of Kazakhstan–Azerbaijan trade relations. This, in turn, may contribute positively to the economic development of both countries and deepen economic cooperation in the Caspian region.

Author Contributions

The author is solely responsible for the conceptualization, methodology, analysis, and writing of the study.

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