

The role of the Kazakhstan Stock Exchange in the economic development of Kazakhstan

Lyudmila E. Kan¹, Tairova Dilnaz^{2*}, Torgayeva Adina², Andas Dariga²

¹ “Turan” University, Almaty, Kazakhstan

² K.Sagadiyev University of International Business, Almaty, Kazakhstan

Abstract

This article delves into the pivotal role of stock exchanges in spurring economic growth, focusing on their capacity to mobilize capital for businesses, foster investment and job creation, and enhance the efficiency of financial markets. Emphasizing the Kazakhstan Stock Exchange (KASE), this research illuminates its instrumental function in the economic advancement of Kazakhstan. By comparing data from prominent global stock markets, including the New York Stock Exchange, the analysis underscores KASE's potential to catalyze economic diversification and growth. Concentrating on the period between 2018 and 2022, this study scrutinizes the exchange's influence on crucial macroeconomic parameters such as GDP, inflation, and unemployment rates. Employing both a correlation matrix and linear regression analysis, the investigation evaluates the interplay between these economic indicators and stock market capitalization. The findings reveal a pronounced positive correlation between market capitalization and the inflation rate, indicating a substantial effect of the stock market on inflationary trends. Conversely, the relationships between market capitalization and both GDP and unemployment appeared minimal and statistically non-significant. These insights underscore the stock exchange's vital role in inflation management, albeit raising questions about its direct influence on GDP augmentation and unemployment mitigation. This examination underscores the critical significance of the Kazakhstan Stock Exchange in bolstering Kazakhstan's economic health, particularly regarding inflation control. The paper suggests that future research, possibly incorporating an expanded dataset or alternative analytical methodologies, could shed further light on these dynamics.

Keywords: stock exchange, economic development, capital, investments, inflation, unemployment

Қазақстанның экономикалық дамуындағы Қазақстан қор биржасының рөлі

Қан Л.Е.¹, Таирова Д.^{2*}, Торгаева А.², Андас Д.²

¹ «Туран» университеті, Алматы, Қазақстан

² Қ.Сағадиев атындағы Халықаралық бизнес университеті, Алматы, Қазақстан

Түйін

Бұл мақалада қор биржаларының бизнес үшін капиталды жұмылдыру, инвестициялар мен жұмыс орындарын құруға ықпал ету, сондай-ақ қаржы нарықтарының тиімділігін арттыру қабілетіне баса назар аударып, экономикалық өсуді ынталандырудағы рөлі қарастырылады. Қазақстандық қор биржасына (KASE) және оның Қазақстанның экономикалық дамуындағы басты рөліне ерекше назар аударылады. Нью-Йорк қор биржасын қоса алғанда, жетекші әлемдік қор нарықтарынан алынған деректерді салыстыра отырып, талдау KASE-тің экономикалық әртүрлілік пен өсуге ықпал ету әлеуетін көрсетеді. 2018-2022 жылдар аралығындағы талдау негізінде зерттеу Биржаның ЖІӨ, инфляция және жұмыссыздық деңгейі сияқты негізгі макроэкономикалық көрсеткіштерге әсерін бағалайды. Корреляциялық матрица мен сызықтық регрессиялық талдауды қолдана отырып, зерттеу осы экономикалық көрсеткіштер мен нарықтық капиталдандыру арасындағы байланысты бағалайды. Нәтижелер нарықтық капиталдандыру мен инфляция деңгейі арасындағы айқын оң корреляцияны көрсетеді, бұл қор нарығының инфляциялық тенденцияларға айтарлықтай әсерін көрсетеді. Сонымен қатар, нарықтық капиталдандыру мен ЖІӨ мен жұмыссыздық деңгейі арасындағы байланыс минималды және статистикалық тұрғыдан маңызды емес болып шықты. Нәтижелер қор биржасының инфляцияны басқарудағы маңызды рөлін көрсетеді, бірақ оның ЖІӨ-нің өсуіне және жұмыссыздықтың төмендеуіне тікелей әсері туралы сұрақтар туғызады. Бұл талдау қазақстандық қор биржасының Қазақстанның экономикалық әл-ауқаты үшін, әсіресе инфляцияны бақылау тұрғысынан маңызды маңыздылығын көрсетеді. Мақалада болашақ зерттеулер, мүмкін кеңейтілген деректер жиынтығын немесе балама аналитикалық әдістемелерді қолдана отырып, осы динамиктерге қосымша жарық түсіруі мүмкін екендігі айтылады.

Кілттік сөздері: қор биржасы, экономикалық даму, капитал, инвестициялар, инфляция, жұмыссыздық

Роль казахстанской фондовой биржи в экономическом развитии Казахстана

Кан Л.Е.¹, Таирова Д.^{2*}, Торгаева А.², Андас Д.²

¹ Университет «Туран», Алматы, Казахстан

² Университет Международного Бизнеса им. К. Сагадиева, Алматы, Казахстан

Аннотация

В данной статье рассматривается роль фондовых бирж в стимулировании экономического роста, подчеркивая их способность мобилизовать капитал для бизнеса, способствовать созданию инвестиций и рабочих мест, а также повышать эффективность финансовых рынков. Особое внимание уделяется Казахстанской фондовой бирже (KASE) и ее ключевой роли в экономическом развитии Казахстана. Сравнивая данные с ведущих мировых фондовых рынков, включая Нью-Йоркскую фондовую биржу, анализ подчеркивает потенциал KASE способствовать экономическому разнообразию и росту. На основе анализа за период с 2018 по 2022, исследование оценивает влияние биржи на ключевые макроэкономические показатели, такие как ВВП, инфляция и уровень безработицы. Используя корреляционную матрицу и линейный регрессионный анализ, исследование оценивает взаимосвязь между этими экономическими индикаторами и капитализацией рынка. Результаты показывают выраженную положительную корреляцию между капитализацией рынка и уровнем инфляции, что указывает на значительное воздействие фондового рынка на инфляционные тенденции. В то же время связь между капитализацией рынка и как ВВП, так и уровнем безработицы оказалась минимальной и статистически незначимой. Полученные выводы подчеркивают важную роль фондовой биржи в управлении инфляцией, однако поднимают вопросы относительно ее прямого влияния на увеличение ВВП и сокращение безработицы. Данный анализ подчеркивает критическую значимость Казахстанской фондовой биржи для экономического благосостояния Казахстана, особенно с точки зрения контроля инфляции. В статье предлагается, что будущие исследования, возможно, с использованием расширенного набора данных или альтернативных аналитических методологий, могут пролить дополнительный свет на эти динамики.

Ключевые слова: фондовая биржа, экономическое развитие, капитал, инвестиции, инфляция, безработица

Introduction

The stock exchange is an essential tool for the development of any country's economy, as it provides access to capital for companies, promotes investment and job creation, and promotes the development of financial markets. In recent years, stock exchanges have become especially relevant in light of the rapid development of technology, world trade, and globalization. The relevance of the development of stock exchanges in the modern world is analyzed, where they play an essential role in attracting investment, providing access to capital, and increasing the efficiency of financial markets [1]. In the context of Kazakhstan, the stock exchange becomes a vital tool for achieving the country's economic goals, such as sustainable growth and diversification. The study also draws attention to the connection between stock exchanges and Kazakhstan, identifying their interaction and impact on the country's economy [2].

The Kazakhstan Stock Exchange plays an important role in attracting investment, developing financial instruments, and increasing market transparency. It also helps improve the business environment and make the country more attractive to foreign investors. However, the development of the stock market in Kazakhstan faces several problems, such as insufficient liquidity, limited availability of financial instruments and insufficient market transparency. To solve these problems, regulatory reforms must be carried out, market infrastructure must be improved, and the financial literacy of market participants must be increased. In Kazakhstan, the National Stock Exchange of Kazakhstan (KASE) provides opportunities for companies to attract investments and investors to invest funds. However, despite the potential for development, the Kazakh stock market faces several problems, such as low liquidity of securities, insufficient transparency, and insufficient investor confidence.

An example of the successful functioning of a stock exchange is the United States, where the New York Stock Exchange (NYSE) is one of the largest and most influential in the world. Also, Japan, Germany, Great Britain, Hong Kong, and other countries have developed stock markets that play a significant economic role. Kazakhstan is classified as a small open economy, which means that its economy is open to external factors such as world prices for goods and services, changes in global trade and financial markets.[3] However, due to limited diversity in exports, especially in the context of the dominance of petroleum products and other natural resources, as well as heavy dependence on imports, the Kazakh economy remains vulnerable to such external factors.

In response to these challenges, the National Bank of Kazakhstan introduced an inflation-targeting regime in 2015, abandoning a fixed exchange rate and moving to a free-floating exchange rate policy. The central bank began to use monetary policy to manage the economy actively, including interest rates and credit availability [4]. However, despite efforts to improve the transmission mechanism, the lack of diversification of the economy and the continued heavy dependence on imports keep the exchange rate as an essential factor for analyzing and managing the economy.

In countries with a developed financial sector, in addition to the banking sector, central banks can also use the stock market as an additional channel to influence the economy. This approach, called "asset prices", includes changes in the prices of various assets, such as stocks and real estate. Using the stock market allows central banks to

influence the investment decisions of companies and individual investors, which can affect overall economic activity.

The purpose of this research is to study the current state of the stock market of Kazakhstan and identify key factors that affect the development of the stock market of Kazakhstan. Current is focused on the impact of global trends on the development of the stock exchange in Kazakhstan.

Literature review

The influence of the stock exchange is a highly interrelated phenomenon among investors and companies in the Kazakh economy. It provides an opportunity for companies to attract investment by placing their shares on the market and for investors the opportunity to invest in various financial instruments. The country's political situation has a significant impact on the stock exchange area. Policy instability can directly affect prices and market fluctuations, which can lead to changes in stocks and other government financial instruments. The scientific community is interested in several factors influencing the country's stock exchange.

Exploring financial markets, particularly the impact of the stock exchange in Kazakhstan, uncovers a complex relationship between companies and investors. This environment allows corporations to raise funds by issuing shares and offers investors options to allocate their resources across various financial instruments. The nation's political climate plays a critical role in shaping the stock exchange, as shifts in policy stability can directly influence market dynamics, affecting the value of stocks and various governmental financial instruments. Researchers are keenly interested in understanding the diverse elements that drive the performance and behavior of Kazakhstan's financial markets.

In early studies, focused on the investigation of the connection between money and the labor force. Thus, W. Petty introduced the labor theory of value, emphasizing production as the economic core [5]. He argued that money's value derives from the labor required for gold production, concluding that its purchasing power depends on the actual gold content, not its nominal value or circulation amount. This approach significantly advanced understanding the relationship between labor, money, and commodity pricing, marking Petty's notable contribution to economic theory [6].

D. Hume devoted significant attention to the circulation of money, observing the correlation between an increased supply of metallic money and a subsequent gradual rise in the prices of various goods until they matched the expansion of the money supply [7]. This perspective positioned the purchasing power of money and prices as variables dependent on the quantity of money in circulation. Consequently, Hume laid the groundwork for the quantitative theory of money, a concept that permeated throughout the classical school of economic thought [8].

Ricardo embarked on an analytical examination of the principles of diminishing returns on capital and the economics of rent. Subsequently, Mill contributed modifications to this discourse within the mid-19th century framework, positing that monetary inflation is not an inevitable consequence of increased money supply,

contingent upon a simultaneous decrease in the velocity of money or a proportional augmentation in national production levels.

Marx, diverging from the quantitative theory's interpretation of the "price revolution," attributed the alterations in price structures not to a mere influx of gold but to the acquisition of relatively undervalued metals through colonial expropriation and other non-traditional means. The collective insights of Ricardo, Mill, and Marx thus advance the scholarly understanding of economic phenomena, interweaving considerations of capital return dynamics, monetary supply implications, and the historical socio-economic context in explaining the intricacies of economic systems.

In the modern context of financial markets and exchange sectors, a multitude of factors play a crucial role in attracting investments and creating new jobs. J. Akerlof, J. Stiglitz, and other scientists, starting from the phenomenon of imperfect competition, came to the conclusion that inflation can be considered a consequence of the confrontation in the labor market of entrepreneurs and employees (the theory of cost inflation) if wages rise above a certain level convenient for the business sector and costs are increasing, businesses are trying to compensate for them by raising prices. Chen et al. collaboration with corporations holds a beneficial position, contributing to economic development [9]. Research in this area covers essential aspects such as corporate social responsibility, which, beyond contributing to an improved quality of life, stimulates business development and economic activity among urban populations [10]. Significant attention is also given to the impact of global market trends, including changes in the world stock market, currency exchange rates, and commodity prices, on the activities of the Kazakhstan stock exchange [11]. Moreover, P.V. Callaur approves that the active participation of companies in the stock market fosters financial transparency and accountability, thereby strengthening the financial system's stability. These studies provide a deep understanding of the mechanisms affecting the financial and exchange sectors.

Therefore, the following factors play a crucial role in the development of financial markets: the capitalization of the stock exchange and its impact on some indicators – GDP, unemployment, and inflation.

Methodology

This research endeavor is poised to delve deeply into the intricate dynamics surrounding the influence wielded by the Kazakhstan Stock Exchange on the economic development trajectory of the nation. The methodological framework underpinning this inquiry is structured across several pivotal stages, meticulously designed to ensure a comprehensive exploration of the research objective.

To commence, an elaborate correlation matrix will be meticulously constructed, meticulously examining the interplay between stock exchange capitalization and key macroeconomic indicators, notably encompassing Gross Domestic Product (GDP), the unemployment rate, and inflation. This meticulous analysis will meticulously scrutinize the correlation relationships between stock exchange capitalization and each macroeconomic indicator separately, thereby illuminating the nuanced dynamics at play.

Subsequent to this preliminary stage, a rigorous linear regression analysis will be meticulously undertaken, rigorously testing the hypothesis pertaining to the influence exerted by Kazakhstan Stock Exchange capitalization on various economic indicators. This multifaceted analysis will meticulously consider all conceivable permutations: the correlation between stock exchange capitalization and GDP, the unemployment rate, and inflation, respectively. A nuanced estimation of the degree of influence wielded by stock exchange capitalization on each macroeconomic indicator will be meticulously derived through the meticulous application of linear regression techniques, thereby affording invaluable insights into the underlying dynamics.

Upon completing this meticulous analytical phase, comprehensive conclusions will be drawn, meticulously elucidating the significance of the Kazakhstan Stock Exchange's role in driving the economic development agenda within the nation. This meticulously derived understanding will serve to illuminate the extent to which stock exchange capitalization can function as a reliable barometer of the country's economic health whilst concurrently unraveling the underlying factors that exert the most pronounced influence on this intricate process.

In summation, this structured research endeavor is poised to offer a profound understanding of the complex interplay between the Kazakhstan Stock Exchange and the nation's economic trajectory, thereby fostering a nuanced comprehension of the underlying dynamics at play. Through the execution of each stage outlined within the methodological framework, this research endeavor is positioned to furnish invaluable insights into the multifaceted relationship between stock exchange dynamics and economic development imperatives within Kazakhstan.

In Figure 1, the schematic demonstration of the research design is presented.

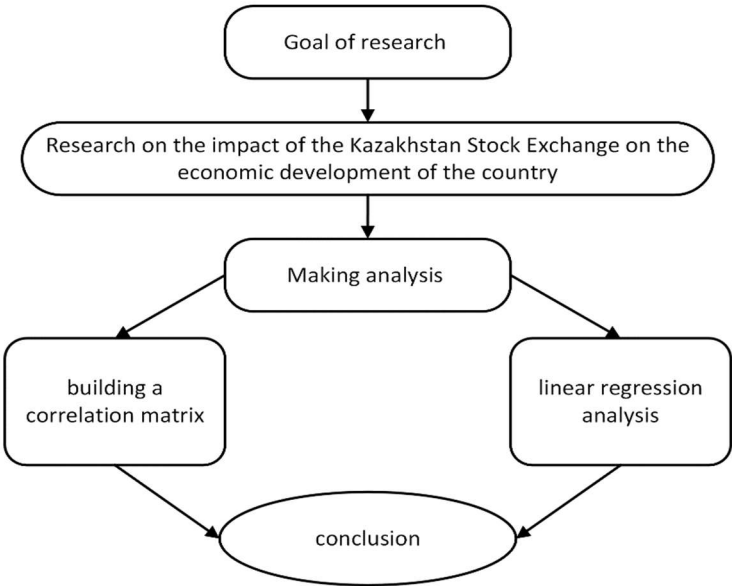


Figure 1 - Research design

Note: compiled by authors

This scheme outlines the methodology for investigating the impact of the Kazakhstan Stock Exchange on the country's economic development. The research begins with defining the objective and then proceeds to construct a correlation matrix to analyze the relationship between the exchange's capitalization and macroeconomic indicators such as GDP, unemployment rate, and inflation. Following this, a linear regression analysis is conducted to test the hypothesis regarding the influence of the exchange's capitalization on economic indicators. All possible combinations of the exchange's capitalization with GDP, unemployment rate, and inflation are considered.

Finally, based on the correlation matrix analysis and linear regression results, conclusions are drawn regarding the influence of the Kazakhstan Stock Exchange on the country's economic development.

Analysis

After a detailed study of available literature sources, as well as clarification of the research methodology, the role of the Kazakhstan Stock Exchange (KASE) in the economic development of the country in the period from 2018 to 2022 was analyzed.

The analysis approach is based on the use of a correlation matrix and linear regression, which will allow us to study and evaluate in more detail the impact of activity on the stock exchange on economic growth indicators.

First of all, macroeconomic indicators such as GDP, inflation, and unemployment were taken for analysis. Also, data on the capitalization of KASE for five years were taken, which will help build a correlation matrix and linear regression to assess the role of the exchange in the development of the economy of Kazakhstan (see Table 1).

Table 1 – correlation analysis of capitalization and Real GDP

Model	Corr.	capitalization	Real GDP %
Capitalization	Pearson's r	—	
	df	—	
	p-value	—	
Real GDP %	Pearson's r	0.111	—
	df	3	—
	p-value	0.859	—

Note: compiled by authors

The results provided are from a statistical analysis examining the relationship between market capitalization and actual GDP growth percentage using Pearson's correlation coefficient (Pearson's r). This analysis aims to determine if there's a linear correlation between these two variables, where market capitalization refers to the total market value of a company's outstanding shares, and authentic GDP % reflects the percentage change in the actual gross domestic product.

The Pearson correlation coefficient between market capitalization and authentic GDP % is 0.111. This value ranges from -1 to 1, where 1 indicates a perfect positive linear relationship, -1 indicates a perfect negative linear relationship, and 0 indicates no

linear relationship. A coefficient of 0.111 suggests a very weak positive linear relationship between market capitalization and real GDP %.

The degrees of freedom for this analysis are 3. In the context of Pearson's correlation, degrees of freedom typically equal $N - 2$, where N is the number of observations. This suggests that were 5 observations used in this analysis (since $df=3=N-2$, therefore $N=5$).

The p-value associated with this correlation is 0.859. The p-value indicates the probability of observing a correlation as strong as the observed one under the null hypothesis that there is no actual correlation between the variables. A commonly used threshold for statistical significance is 0.05. Since the p-value of 0.859 is much higher than this threshold, there is insufficient evidence to reject the null hypothesis. In simpler terms, there is no statistically significant evidence to suggest that there is a linear correlation between market capitalization and actual GDP growth percentage based on this analysis. Next, in Table 2, we started evaluating the relationship between the unemployment rate and the exchange's capitalization.

Table 2 – correlation analysis of capitalization and Unemployment rate

Model	Corr.	Capitalization	Unemployment rate%
Capitalization	Pearson's r	—	
	df	—	
	p-value	—	
Unemployment Rate %	Pearson's r	-0.107	—
	df	3	—
	p-value	0.864	—

Note: compiled by authors

The results display the statistical analysis investigating the relationship between market capitalization and the unemployment rate percentage using Pearson's correlation coefficient (Pearson's r). This method assesses the strength and direction of a linear relationship between these two variables, where market capitalization represents the total market value of a company's outstanding shares, and the unemployment rate % signifies the percentage of the labor force that is jobless and seeking employment.

The Pearson correlation coefficient between market capitalization and unemployment rate % is -0.107. This coefficient suggests a very weak negative linear relationship between market capitalization and the unemployment rate. The analysis has 3 degrees of freedom. In Pearson's correlation context, the degrees of freedom are typically calculated as $N - 2$, where N represents the number of paired observations. Therefore, a df of 3 indicates that there were five observations in total (since $df=3=N-2$, thus $N=5$).

The p-value associated with this correlation is 0.864, which states there is no actual correlation between the variables. A p-value threshold for declaring statistical significance is often set at 0.05. With a p-value of 0.864, far above this threshold, the evidence is insufficient to reject the null hypothesis, indicating no statistically significant

linear correlation between market capitalization and unemployment rate % based on this dataset.

Pearson's r value of -0.107 coupled with a high p-value of 0.864 indicates no significant linear relationship between market capitalization and the unemployment rate in the analyzed sample. The findings suggest that within this specific dataset, fluctuations in market capitalization are not linearly correlated with changes in the unemployment rate. The lack of a significant linear correlation does not negate the possibility of a non-linear relationship or the influence of other variables not considered in this analysis. Further investigation with a larger sample size or through different statistical methods might yield additional insights. Now, it is time to analyze the relationship between capitalization and inflation (see Table 3).

Table 3 – correlation analysis of capitalization and Unemployment rate

Predictors	Corr.	Capitalization	Inflation%
Capitalization	Pearson's r	—	
	df	—	
	p-value	—	
Inflation, %	Pearson's r	0.984	—
	df	3	—
	p-value	0.002	—

Note: compiled by authors

This statistical analysis explores the relationship between market capitalization and inflation rate percentage using Pearson's correlation coefficient (Pearson's r). This measure quantifies the degree and direction of a linear relationship between two variables. In this context, market capitalization refers to the total market value of a company's outstanding shares. At the same time, the inflation rate % indicates the percentage increase in the price level of goods and services over a period, reflecting the rate at which the general level of prices for goods and services is rising, and, subsequently, purchasing power is falling.

The Pearson correlation coefficient between market capitalization and inflation rate % is 0.984. This coefficient suggests a very strong positive linear relationship between market capitalization and inflation rate.

The degrees of freedom for this analysis are 3, indicating that the total number of paired observations used in the study is 5 (since $df=3=N-2$, thus $N=5$).

The p-value associated with this correlation is 0.002. A conventional threshold for statistical significance is 0.05. Since the observed p-value of 0.002 is significantly below this threshold, there is strong evidence to reject the null hypothesis, suggesting that the observed correlation between market capitalization and inflation rate is statistically significant.

The analysis, indicated by a Pearson's r value of 0.984 and a p-value of 0.002, demonstrates a statistically significant strong positive linear relationship between market

capitalization and the inflation rate within the sample analyzed. This finding implies that as market capitalization increases, there is a correspondingly strong tendency for the inflation rate to also increase, based on the data provided. This significant correlation highlights the potential impact of market capitalization movements on inflationary trends, suggesting an area for further investigation and consideration in economic policy and investment strategy development. Next, in Table 4, the linear regression was made for all combinations for justification of the results.

Table 4 – linear regression of three combinations of indicators

Combination	R	R ²
1	0.111	0.0122
2	0.111	0.0122
3	0.984	0.969

Note: compiled by authors

In the first combination, where R is 0.111, and R² is 0.0122, there appears to be a weak linear relationship between the variables, with only 1.22% of the variance in the dependent variable being explained by the independent variable(s).

The second combination, with R as 0.111 and R² as 0.0122 (likely a typographical error with the extra decimal point), still indicates a weak relationship, with an even smaller proportion of variance explained.

In contrast, the third combination presents a notably stronger relationship, with R at 0.984 and R² at 0.969. Here, the capitalization of the KASE appears highly correlated with the inflation, possibly suggesting a close relationship between the KASE capitalization and the economic factor.

In summary, while the capitalization of the KASE shows a weak relationship with other factors in the first two combinations, the third combination demonstrates a strong association, indicating a potentially significant influence of the KASE capitalization on the corresponding economic variable.

At the conclusion of the analysis, it is necessary to emphasize several key points. Firstly, an analysis of the role of the Kazakhstan Stock Exchange (KASE) in the country's economic development from 2018 to 2022 allowed us to assess the impact of its activities on key macroeconomic indicators such as GDP, inflation, and unemployment.

Secondly, the use of a correlation matrix and linear regression allowed us to identify close links between the capitalization of the stock exchange and the inflation rate. The results of our research indicate that changes in the capitalization of the exchange have a significant impact on the inflation rate in Kazakhstan's economy.

The third important conclusion is that although there is some correlation between the capitalization of the stock exchange and other indicators such as GDP and unemployment, this relationship turns out to be less significant and not as significant as in the case of inflation.

Thus, the analysis confirms the critical role of the Kazakhstan Stock Exchange in the country's economic development, especially in the context of inflation.

Conclusions

The analysis leads to the following conclusions of this article on the stock exchange in Kazakhstan. It is pertinent to emphasize that the stock market constitutes a significant component of the country's economic system, playing a crucial role in shaping and advancing its financial infrastructure and facilitating capital mobilization for investment.

The introduction, enriched with an analysis of stock exchanges in various countries, enables the identification of diverse organizational and regulatory approaches employed in global securities markets. The literature review, encompassing works by eminent researchers, provides a context for understanding financial markets' historical and theoretical underpinnings.

The analysis of data from the Kazakhstan Stock Exchange (KASE) utilizing correlation analysis allows for a deeper understanding of the current state and dynamics of the stock market in the country, identifying key factors influencing its development and forecasting its prospects.

In essence, this article not only presents an analysis of the stock exchange in Kazakhstan but also aims to underscore the significance of the stock market for the country's economy and identify potential avenues for enhancing its operations and development.

REFERENCES

1. Claessens S., Klingebiel D., Schmukler S. L. The future of stock exchanges in emerging economies: evolution and prospects //Brookings-Wharton Papers on Financial Services. – 2002. – T. 2002. – №. 1. – C. 167-212. <https://doi.org/10.1353/pfs.2002.0007>
2. Kassenova, G., Nurgalieva, G., Pukala, R., Agatayeva, A., & Syrlybayeva, N. Evaluation of the effectiveness of the use of instruments to attract savings in Kazakhstan (for example, “BCC Invest” JSC) //E3S Web of Conferences. – EDP Sciences, 2020. – T. 159. – C. 04014. <https://doi.org/10.1051/e3sconf/202015904014>
3. Jensen J., Tarr D. G. The impact of Kazakhstan's accession to the World Trade Organization: a quantitative assessment. – World Bank Publications, 2007. – T. 4142.
4. Ybrayev Z. The prospect of inflation targeting in Kazakhstan //Available at SSRN 2854943. – 2016.
5. McGovern M. William Petty: An Unlikely Influence of Karl Marx //Student Economic Review.
6. Ullmer J. H. The scientific Method of sir William Petty //Erasmus Journal for Philosophy and Economics. – 2011. – T. 4. – №. 2. – C. 1-19. <https://doi.org/10.23941/ejpe.v4i2.78>
7. Paganelli M. P. Hume and endogenous money //Eastern Economic Journal. – 2006. – T. 32. – №. 3. – C. 533-547
8. Gatch L. To redeem metal with paper: David Hume's philosophy of money //Hume Studies. – 1996. – T. 22. – №. 1. – C. 169-191. <https://doi.org/10.1353/hms.2011.0102>

9. Chen L. et al. Supply chain collaboration for sustainability: A literature review and future research agenda //International journal of production economics. – 2017. – Т. 194. – С. 73-87. <https://doi.org/10.1016/j.ijpe.2017.04.005>

10. Wirba A. V. Corporate social responsibility (CSR): The role of government in promoting CSR //Journal of the Knowledge Economy. – 2023. – С. 1-27. <https://doi.org/10.1007/s13132-023-01185-0>

11. Gnahe F. E. Do macroeconomic variables impact stock market returns? Evidence from Kazakhstan //Global Journal of Business, Economics and Management: Current Issues. – 2021. – Т. 11. – №. 3. – С. 255-274. <https://doi.org/10.18844/gjbem.v11i3.5620>

Information about the authors

Lyudmila E. Kan – "Turan" University, Almaty, Kazakhstan. Email: 21220835@turan-edu.kz, ORCID ID: <https://orcid.org/0000-0002-5673-8106>

***Dilnaz Tairova** – Bachelor's degree, K.Sagadiev University of International Business, Almaty, Kazakhstan. Email: dilnazuib@mail.ru, ORCID ID: <https://orcid.org/0009-0006-3987-5893>

Adina Torgaeva – Bachelor's degree, K.Sagadiev University of International Business, Almaty, Kazakhstan. Email: adinatorgaeva@gmail.com, ORCID ID: <https://orcid.org/0009-0000-3448-6940>

Dariga Andas – Bachelor's Degree, K.Sagadiev University Of International Business, Almaty, Kazakhstan. Email: andasdariga19@gmail.com, ORCID ID: <https://orcid.org/0009-0005-9314-1316>

Авторлар туралы мәліметтер

Кан Л.Е. – Докторант, «Туран», Алматы, Қазақстан. Email: 21220835@turan-edu.kz, ORCID ID: <https://orcid.org/0000-0002-5673-8106>

***Тайрова Д.** – бакалавр, Халықаралық бизнес университеті.Қ. Сағадиева, Алматы, Қазақстан. Email: dilnazuib@mail.ru, ORCID ID: <https://orcid.org/0009-0006-3987-5893>

Торгаева А. – бакалавр, Халықаралық бизнес университеті.Қ. Сағадиева, Алматы, Қазақстан. Email: adinatorgaeva@gmail.com, ORCID ID: <https://orcid.org/0009-0000-3448-6940>

Андас Д. – бакалавр, Халықаралық бизнес университеті.Қ. Сағадиева, Алматы, Қазақстан. Email: andasdariga19@gmail.com, ORCID ID: <https://orcid.org/0009-0005-9314-1316>

Сведения об авторах

Кан Л.Е. – Докторант, Университет «Туран», Алматы, Казахстан. Email: 21220835@turan-edu.kz, ORCID ID: <https://orcid.org/0000-0002-5673-8106>

***Таирова Д.** – бакалавр, Университет Международного Бизнеса им.К.Сагадиева, Алматы, Казахстан. Email: dilnazuib@mail.ru, ORCID ID: <https://orcid.org/0009-0006-3987-5893>

Торгаева А. – бакалавр, Университет Международного Бизнеса им.К.Сагадиева, Алматы, Казахстан. Email: adinatorgaeva@gmail.com, ORCID ID: <https://orcid.org/0009-0000-3448-6940>

Андас Д. – бакалавр, Университет Международного Бизнеса Им.К.Сагадиева, Алматы, Казахстан. Email: adinatorgaeva@gmail.com, ORCID ID: <https://orcid.org/0009-0000-3448-6940>