Analysis and Evaluation of the Impact of Foreign Direct Investment on the Economy of Kazakhstan

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Abstract
Foreign direct investment (FDI) is widely considered as an essential form of capital inflow and a key factor in promoting economic growth in many countries. This is particularly true for developing nations, emerging economies, and countries that are currently in the process of development, as FDI is a major contributor to their economic progress and empowerment. This research paper aims to conduct an empirical analysis of the impact of FDI on the economy of Kazakhstan between 1991 and 2020, specifically on its key economic growth indicators, such as GDP. FDI has recently gained significant attention in Kazakhstan due to its crucial role in the country's economy. The study utilized the causal research method and employed well-known econometric models, namely, linear regression and vector autoregression (VAR), to analyze and evaluate the impact of FDI on the economy of Kazakhstan. The results of the study indicate that FDI and exports have a statistically significant impact on Kazakhstan's GDP, while gross domestic product and exports have a positive impact on FDI.
Keywords: Foreign direct investment, GDP, linear regression, correlation, cointegration, vector autoregression (VAR).
JEL codes: E22, F21

1 Introduction

Many economic science theories describe the impact of foreign direct investment (FDI) on the national economy. Often, existing theories do not contradict each other but only consider investment issues from different positions, emphasizing one or another factor.

The development of foreign trade and processes of multiplicative influence of capital have led to cardinal changes in the structure of production of goods and services involved in world trade and contributed to the acceleration of regional and global integration processes. At the same time, the current negative trend in the world markets and the growth of geopolitical tensions in many regions hurt the global economy in general and Kazakhstan in particular. For example, the risk of imposing secondary sanctions on some domestic companies suspected of involvement in double exports to the Russian economy.

Under these conditions, the development of integration cooperation, the deepening of economic interaction, and the formation of a capacious internal market in Central Asia are of paramount importance. The changing role and strengthening of the positions of Central Asian countries in the Eurasian region in connection with the Russian-Ukrainian war and Russia's economic isolation favor the search and development of new interstate trade and investment ties, too. Central Asian integration is becoming an essential factor in the sustainable development of the countries in the Eurasian region.

Our study focuses on the empirical analysis and assessment of the impact of foreign direct investment (FDI) on the economy of Kazakhstan. FDI is the most crucial element in ensuring sustainable growth of a country's economy, including Kazakhstan. It is generally recognized that they significantly contribute to many countries' economic growth (Coy & Comican, 2014). In essence, FDI is an international investment that allows the investor to exert significant influence over managing an enterprise outside the country of origin (Solomon, 2011).

The paper is structured as follows: firstly, the literature review is performed, the second part presents the data and methodology of the applied model, and the discussion of the results and conclusion are presented in the last parts.

2 Literature review

FDI plays a significant role in stimulating investment activity in the global economy under various circumstances. For instance, global FDI inflows reached $154 billion in 2019 (UNCTAD, 2020). Over the past 25 years, the proportion of developing countries in total FDI inflows has significantly fluctuated, increasing from 15% in 1990 to 46% in 2013 before declining to just over 20% in recent years. It is worth noting, however, that the motives behind these international capital flows remain different from those associated with FDI inflows to developing nations despite the shifts that have occurred in recent decades. For example, pursuing agricultural or mineral resources is now less critical than in the early 1900s. Meanwhile, the current direction of these flows is highly complex and influenced by various factors linked to the competitive environment in which firms operate, their distinct characteristics, and economic conditions in both the home and host countries.

During the early 1990s, the volume of FDI began to increase steadily, prompting an upsurge in economic literature examining its impact on growth outcomes. Generally, FDI can affect growth through a direct or narrow channel and an indirect or broad channel. Through the direct channel, FDI can support and complement capital accumulation by increasing domestic investment in host economies. Conversely, FDI's growth-promoting property

can go beyond mere physical capital accumulation. Accordingly, Farrell (2008) defines FDI as a "package of capital, technology, management, and entrepreneurship" that enables a firm to operate and provide goods and services in a foreign market. Ultimately, FDI can be viewed as a "composite package" consisting of fixed capital, new technology, advanced production techniques, managerial expertise, and innovative skills (Mello, 1999).

The importance of FDI in Kazakhstan's economy cannot be overstated. Despite efforts to liberalize the economy and attract foreign investment since gaining independence, the country still heavily relies on oil and natural resources for more than 70% of total FDI. In 2019, FDI inflows were \$3.1 billion, a slight decrease from the previous year, with the oil industry and metallurgy being the primary sources of investment. Retaining current investors and attracting investment in other sectors remains challenging for the country. The COVID-19 pandemic has also affected new project announcements, causing an 86% decline. However, FDI in Kazakhstan grew by 19% in 2020 due to expansion in construction and trade. The completion of Chevron's project to expand the Tengiz oil field, one of the most significant foreign investments in the country, is expected in 2022.

Kazakhstan has significantly improved its investment climate, which various international organizations have recognized. In addition to the World Bank's Doing Business report, Kazakhstan ranked 25th out of 190 countries in the 2022 Index of Economic Freedom, published by The Heritage Foundation. The country has implemented various reforms to improve its business environment, including simplifying the registration process for new businesses, reducing the time and cost of obtaining permits, and improving access to credit. The government has also established special economic zones and industrial clusters to attract investment in priority sectors such as agriculture, information technology, and tourism. Overall, these efforts have helped to attract FDI to Kazakhstan and promote economic growth.

The purpose of the study is to analyze and evaluate the impact of foreign direct investment on the economy of Kazakhstan. In connection with the purpose, the objectives of this work are: a theoretical review of the existing empirical literature on the relationship between FDI and economic growth; the collection of necessary data for the construction of the econometric model, the construction of econometric models for GDP, FDI and export indicators; Interpretation of the models based on the results obtained.

We have compiled a comprehensive database of GDP, FDI, and export indicators spanning from 1991 to 2020 to conduct an empirical study on the impact of FDI on GDP in Kazakhstan. The sources for data are the statistical databases of the World Bank, the National Bank of Kazakhstan (NBK), and the National Bureau of Statistics of the Agency of Strategic Planning and Reforms of the Republic of Kazakhstan.

The current paper utilizes the endogenous growth theory formulated by Balasubramaniam in 1996 and empirical growth models from existing literature. To examine the impact of FDI on economic growth, the study employs an econometric model that includes a multiple regression model and a vector autoregression (VAR) model to establish causal relationships among the variables. The VAR model, initially introduced by Sims in 1980, is used to conduct more rigorous analyses.

According to Karimi (2009), neoclassical and endogenous growth models approach the issue from different angles and serve as the theoretical foundation for most empirical research examining the correlation between FDI and growth.

Solow's (1956) standard neoclassical growth models propose that FDI can enhance capital stock and promote growth in the host economy by funding capital formation (Brems & Hans, 1970). However, due to the decreasing returns to capital in neoclassical growth models, the impact of FDI on growth is comparable to that of domestic investment. FDI only has a "short-term" effect on growth as countries move towards a new steady state. On the other hand, endogenous growth models suggest that FDI is more effective than domestic investment as it introduces new technologies into the production function of the host economy (Borensztein et al., 1998). This is because the technological spillovers linked with FDI compensate for decreasing returns to capital and ensure long-term economic growth. Additionally, endogenous growth models posit that FDI can contribute to long-term growth by enriching the existing knowledge base in the host economy through workforce training and skills development (Hanson & Slaughter, 2003) and by introducing innovative management practices and organizational structures (De Mello & Jr.Luiz, 1999). Hence, through capital accumulation and knowledge spillovers (Niles, 2003), FDI plays a critical role in the host country's economic growth.

Therefore, from a theoretical perspective, it is reasonable to assume that a positive relationship exists between FDI inflows and economic growth in the host country. Furthermore, studies utilizing country-specific data provide more robust evidence supporting this relationship.

The causal relationship between foreign direct investment and gross domestic product growth can take two directions (Yalta, A). According to the "FDI-led growth hypothesis," FDI in host countries can stimulate growth by increasing the stock of capital, creating new jobs, and spreading technology. Conversely, the "market size hypothesis" suggests that the host country's rapid GDP growth that creates new investment opportunities may also generate increased FDI inflows. Even though it is predictable that FDI increases economic growth in the host country, Zhang (2001) showed that the

extent to which FDI contributes to growth depends on the country's characteristics.

Iamsirararoj and Doucouliagos (2015) conducted a meta-regression analysis and highlighted the positive relationship between growth and FDI, which was higher in individual-country studies than cross-country studies. Mahapatra and Patra (2014) confirmed the significant role of FDI in India's economic growth. The South Asian Association for Regional Cooperation (SAARC) was studied by Saini et al. (2014), Who showed that FDI positively affects real GDP, gross national income, and export growth but negatively affects financial position and trade openness. Similarly, Mahadika et al. (2017) used a vector autoregression model for Indonesia to prove a long-run relationship between GDP, FDI, and exports. Alshamsi et al. (2015) estimated a distributed-lag autoregressive model for the United Arab Emirates and concluded that GDP per capita has a significant positive relationship with FDI. In the case of South Africa, Sunde (2017) found a unidirectional causal relationship between foreign direct investment and economic growth. In contrast, an increase in FDI, according to Granger, causes economic growth in Malaysia. In contrast, Akinlo (2004) found that FDI positively affects growth in Nigeria, but this effect is insignificant after a long lag. Also, Yalta (2013) noted no statistically significant relationship between FDI and economic growth in China. A study on Turkey from 1992-2007 by Temiz and Gokmen (2014) proved no significant relationship between FDI and economic growth in the short and long term. An overview of the research papers, the impact of FDI on economic growth by country, is presented in Table 1.

Table 1. Overview of research papers, the impact of FDI on economic growth by country

Author (-s)	Observed period	Database	Methodology	Study's result
Lee (2013)	1971–2009	19 countries of the G20	Cointegration tests and models with fixed-effects.	FDI stimulates economic growth.
Tekin (2013)	1970–2009	18 less-developed countries.	Granger-causality panel.	Granger-cause GDP FDI in Benin and Togo Granger-cause GDP FDI in Burkina Faso, Gambia, Madagascar, and Malawi
Voytovich, Klimavichen, Pilinken (2019)	1997–2014	11 Central and Eastern European (CEE) countries.	Granger Causality Test and Vector Autoregression (VAR).	Causality, according to Granger, GDP and FDI are interrelated.

Kuzmina et al. (2014)	1895–1914	Russia.	OLS and IV-2SLS regressions.	The higher prevalence of illicit payments and the burden of management organizations, law enforcement, and criminals reduce FDI.
Uddin (2019)	1972–2016	Pakistan.	Multivariate OLS regression and VAR system.	Democracy increases incoming FDI in the short term, while a military government substantially impacts FDI in the long term.
Sârbu & Carp (2015)	2000–2013	Romania.	OLS and Johansen cointegration.	FDI has a positive impact on economic growth
Belascu et al. (2018)	1999–2013	5 CEE countries.	Least squares panel regression.	FDI has a positive impact on economic growth.
Silajdzic and Mehic (2014)	2000–2013	10 Central and Eastern European countries.	OLS with standard errors corrected to the PCSE panel (fixed-effect).	FDI contributes to economic growth.
Notes: Table compiled by the authors based on the literature used				

Regression analysis examined the relationship between FDI, economic growth, and exports, according to Borensztein (1998). The study was conducted in 69 developing countries over a period of two decades. They obtained a positive effect of foreign direct investment on the GDP growth. In the study of Dritsaki (2004), the VAR autoregression model was used to study the relationship between FDI, economic growth, and exports. Balasubramanyam (1996) investigated the role that FDI plays in growth in 46 developing countries with different trade policy regimes from 1970 to 1985. Based on cross-sectional panel data analysis, they found that FDI enhances growth in those countries with foreign-oriented trade policies than in domestic-oriented trade policies.

Based on the review of the above literature, most authors give positive effects on the impact of FDI on the recipient country's economy. The impact of FDI on the CIS economy was studied by Meyer and Klaus (2000); their study included data on Kazakhstan until 1997. Among the domestic scientists, Rakhmatullayeva et al. (2015) investigated the social effects of FDI in regions of Kazakhstan; the author proved that enterprises with foreign capital do not negatively affect the socio-economic development of regions of Kazakhstan.

We can say that foreign direct investment can have serious consequences, as they have different effects in the long term.

3 Methodology and specification of the model

A sample period of 30 years from 1991 to 2020 with an annual time series was chosen for the study. Data was collected from Various sources (World Bank, NBK, and others). This study uses Multiple linear regression analysis for econometric analysis, as more than one regressor is included in this model. Using OLS, we will obtain an estimate of the effect of the regressors on the outcome indicator.

Multiple regression model: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_n X_n + e$, where: Y is the dependent variable, in our case, GDP (million USD); β_0 is the coefficient of Y; β_1, β_2, …, β_n are regressor coefficients; e is a random variable.

Next, to identify causal relationships between foreign direct investment, exports (exports as an additional variable), and economic growth, we used a stepwise procedure: unit root test, cointegration, and Granger causality test within vector autoregression (VAR).

This stage of building a vector autoregression model began by examining the stationarity properties of the series using the Dickey-Fuller (ADF) and Philip-Perron (PP) tests. This test is conducted primarily to avoid false regression, a common problem for most macroeconomic variables whose data formation processes follow a time trend. The ADF test procedure tests the null hypothesis that the variables have a unit root or are nonstationary against the alternative hypothesis that the variables are stationary. A vector autoregression model (VAR) will be constructed to estimate the long- and short-run relationships between FDI and the corresponding explanatory variables.

Both descriptive and quantitative analyses will be used in this paper. Charts such as graphs and tables will aid in descriptive analysis. Unit root tests will be conducted for all variables using the ADF and PP tests to determine their order of integration to eliminate false regression. In addition, the study will use Johansen's cointegration econometric methodology within the VAR to test for the cointegration of variables to obtain both short-term and long-term estimates of the relevant variables. A Granger causality test will also be conducted to determine the direction of causality between model regressors.

All estimates were conducted using the STATA software package.

4 Results and Discussion

GDP, FDI, and export data measured in millions of USD were taken from World Development Indicators (World Bank, 2020). Available annual data from 1991 to 2020 were divided into three periods: 1991-1998, 2000-2008, and 2009-2020. However, our analysis focuses on the third period, after

the 2008 recession, as Kazakhstan's highly ambiguous history of the pre-2015 period reduces its predictive power for the future. The fall of the GDP indicator in 2009 is related to the global financial crisis. There was GDP growth in 2011-2013, still not reached that level. However, in 2014, the decline in oil prices, high inflation, and political sanctions of the United States against Russia created a crisis period for Kazakhstan. The COVID-19 pandemic caused a GDP decline in 2020. All details of the indicators are presented in Figure 1.
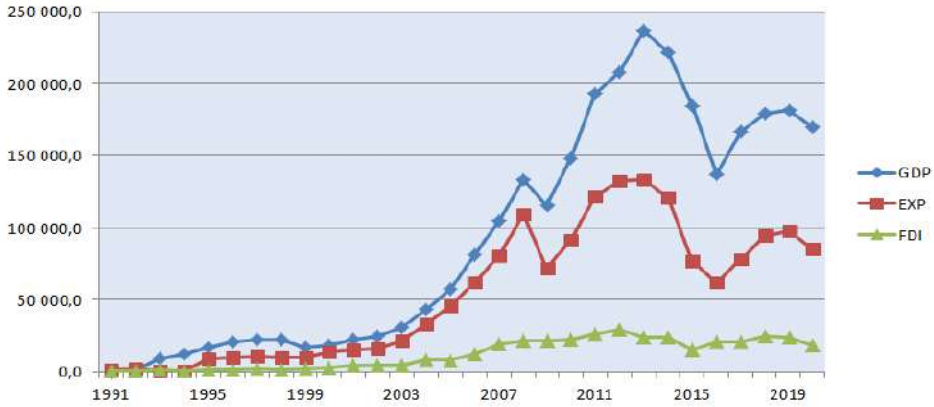

Figure 1 Kazakhstan's GDP, FDI, and export indicators, 1991-2020 (million USD)

Source: compiled by the authors based on data from WB (2020)

Before constructing a multiple regression model, we must analyze the variables' correlations. Figure 2 shows the correlation fields of GDP and FDI and GDP and export of the country. Based on Figure 2, the variables are linearly dependent.
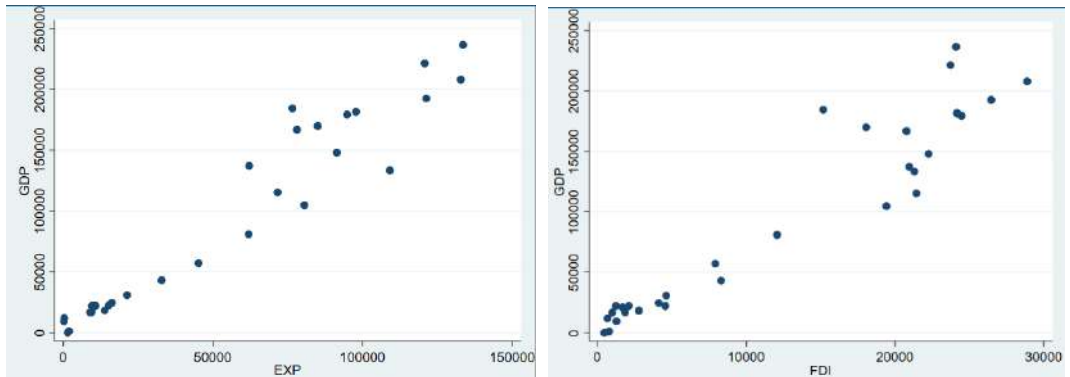

Figure 2 Correlation matrixes in graphical form between GDP and FDI,

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GDP and exports (EXP)
Source: compiled by the authors based on NBK data (2020)

The multiple regression model has the following form: $Y = \beta_0 + \beta_1 LFDI + \beta_2 LEXP + e$, where Y is the indicator of GDP (million USD); β_0 is the coefficient of Y when X is 0; $\beta_1 LFDI$ is the logarithmic value of FDI (million USD); $\beta_2 LEXP$ is an export performance (million USD); e is a random variable. The logarithm calculation was made to reduce the time series variance and, therefore, ensure the stationarity of the time series.

The results of estimating the impact of FDI inflows on Kazakhstan's economy based on a multiple regression model using the STATA package show that FDI and exports explain 78.57% of the variation in GDP ($R^2=0.7857$). However, some data points had high influence but were not excluded as they were not data entry errors. For such a case, robust regression is an excellent strategy to strike a balance between completely excluding unexplained effects and accounting for them equally in the OLS regression. Thus, the regression equation for Kazakhstan's GDP is as follows: *LGDP = 0.755 + 1.087* LFDI + 0.392* LEXP*, where 0.755 is the logarithm of GDP when the other variables are 0. The equation shows that a 1% increase in FDI will increase GDP by 1.087%, other things being equal. The coefficients of FDI are statistically significant at the 5% significance level, which confirms the positive relationship between FDI and economic growth in Kazakhstan.

The next part of the work uses the VAR model to identify the causal relationship between FDI, economic growth, and exports and get reliable results. The causality between the variables is investigated as follows:

$$Y_{1t} = \beta_{01} + \beta_{11}Y_{1t-1} + ... + \beta_{n1}Y_{1t-p} + \alpha_{11}Y_{2t-1} + ... + \alpha_{n1}Y_{2t-p} + X_{11}Y_{3t-1} + ... + X_{n1}Y_{3t-p} + e_t \ (1)$$

$$Y_{2t} = \beta_{02} + \beta_{12}Y_{2t-1} + ... + \beta_{n2}Y_{2t-p} + \alpha_{12}Y_{1t-1} + ... + \alpha_{n2}Y_{1t-p} + X_{12}Y_{3t-1} + ... + X_{n2}Y_{3t-p} + e_t \ (2)$$

$$Y_{3t} = \beta_{03} + \beta_{13}Y_{3t-1} + ... + \beta_{n3}Y_{3t-p} + \alpha_{13}Y_{1t-1} + ... + \alpha_{n3}Y_{1t-p} + X_{13}Y_{2t-1} + ... + X_{n3}Y_{3t-p} + e_t \ (3),$$

where: Y_1 = GDP, Y_2 = FDI, Y_3 = Export, p = log length.

The model is tested on annual data for 1991-2020 using the STATA package. First, the Dickey-Fuller (ADF) test was used to check the stationarity of the data in the VAR model. The first attempt of the ADF test showed non-stationarity of the time series, so new data were introduced in the form of the first differences of this series. The second ADF test already showed the stationarity of the time series. This is confirmed by comparing the values of the ADF statistic with the McInnon critical values, which showed that the absolute values of the ADF statistic are less than the absolute values of McInnon at the 1% significance level, indicating that all data series in the VAR model are stationary.

The second step is determining the optimal lag length in the VAR model to eliminate the autocorrelation problem. For this purpose, it is necessary to analyze the values of the likelihood ratio (LR), the finite prediction error (FPE), and the Akaike (AIC) and Hannan-Quinn (HQIC) information criteria. Using the STATA package, we obtained that lag 4 is optimal, corresponding to the more significant LR value and the smallest FPE, AIC, and HQIC values. According to our analysis, this lag is optimal and used in all steps of the following VAR analysis.

Next, co-integration tests are conducted to determine the presence or absence of similarity in the movement and stability of the relationship between the variables under study. The Johansen cointegration test method was used for this purpose. The values of trace statistics and max-eigen value were found to be less than their critical values at a 5% significance level. In addition, the co-integration test results showed that the probability value is less than the actual level of 5%. Thus, the results of the Johansen test can be interpreted as the variables under study are cointegrated.

Thus, according to several tests conducted earlier, the variables are stationary. Next, we build VAR models to identify the relationship between FDI, exports, and GDP (table 2). The lagged values of time series variables act as regressors.

Table 2 Results of the VAR estimation model

Lags	gapGDP	gapFDI	gapEXP
L.gapGDP		0.225*	1.461***
		(2.14)	(3.35)
L4.gapGDP			-1.834**
			(-3.10)
L4.gapEXP	-1.140*		
	(-2.31)		
L.gapFDI	1.866***		1.010***
	(3.78)		(3.99)
L3.gapFDI	1.248*		
	(2.20)		
_cons	-3465.1	762.4	448.5
	(-1.14)	(1.07)	(0.15)
F- statistics	69.74901	43.09023	20.61568
R-sq	0.7361	0.6328	0.6119
Note: compiled by the authors based on NBK data in the STATA package			

Table 2 shows the statistical information for each variable: GDP, FDI, and exports. The number in the first bracket (()) shows the t-st. From the above estimation result of the VAR model, it can be seen that the economic growth variable (gapGDP) is statistically significantly affected by L.gapFDI, L3.gapFDI, L4.gapEXP, and L4.gapGDP as indicated by statistical values >

2.048 or < of -2.048. In contrast, constant C has no significant effect on GDP. While the significant variable gapFDI is significantly affected only by L.gapGDP and L3.gapEXP, the gapEXP variable is significantly affected by L.gapGDP, L4.gapGDP, and L.gapFDI. In the VAR specifications, not all lags are significant in each equation. Therefore, the next step is to select a significant lag for each model variable so that the regression model is obtained as follows:

$$GDP = -3465.1 - 1.140L4.gapEXP + \textbf{1.866L.gapFDI} + \textbf{1.248L3.gapFDI} \quad (1)$$

$$FDI = 762.4 + \textbf{0.225* L.gapGDP} - 0.0394\ L3.gapEXP \quad (2)$$

$$EXP = 448.5 + 1.461\ L.gapGDP - 1.834\ L4.gapGDP + \textbf{1.010 L.gapFDI} \quad (3)$$

As can be seen from equation (1), the GDP of the current year is positively affected by both changes in FDI in the current year and its value three years ago. In other words, an increase in FDI inflows in the current year would increase the current year's GDP by more than their increase three years earlier. In contrast, an increase in exports four years ago would decrease the current year's GDP. Equation (2) shows the negative effect of exports on the change in FDI and confirms the positive relationship between GDP and FDI: an increase in GDP in the current year favors an increase in FDI inflows in the current year. The interpretation of equation (3) leads to the following conclusions. There is a positive relationship between GDP growth and exports in the current year, although GDP growth four years earlier may have led to decreased exports in the current year. There is also a direct relationship between FDI and exports in the current period: an increase in FDI will lead to an almost equal increase in exports.

Further, the Granger causality test and the Jarque-Bera statistic test were used, too. The first test is an analytical technique to identify a causal relationship between the variables under investigation. The null hypothesis (Ho) indicates that there is no relationship between the variables; the alternative hypothesis (Ha) indicates that there is such a relationship. The results of the Granger causality test in the model showed that the hypothesis Ho is rejected, thereby proving the existence of a causal relationship between economic growth and FDI from 1991 to 2020.

The Jarque-Bera statistic test tests the hypothesis that the residuals of the series under consideration have a normal distribution. According to the results of this test, hypothesis H_0 is not rejected; in this case, the time series obeys the normal distribution law at a 5% significance level.

5 Conclusion

The results of econometric modeling show that FDI and export indicators influence the change in the GDP indicator of Kazakhstan. FDI positively impacts the GDP indicator, so it can be argued that increasing FDI inflows to Kazakhstan can drive the country's economic development.

The paper further investigates the causal relationship between FDI, GDP, and exports in Kazakhstan. Annual data for 1991 – 2020 were used to construct the VAR model. For the modeling, the data were first adjusted for the calculations; GDP and exports were seasonally adjusted. Then, they were used for initial stationarity testing. The ADF results showed that all three time series are stationary for the first difference. This allowed the modeling to continue, and once the time lag was determined, the Johansen cointegration test was performed.

The test showed that there is a long-run relationship between GDP and FDI. The vector autoregression model also confirmed a positive relationship between FDI and GDP and between exports and GDP. This fact indicates that FDI positively impacts Kazakhstan's economy, and exports in an open economy stimulate economic growth. The study conducted by Balasubramanian argues that export-oriented countries can benefit more from FDI. As can be seen from the discussion of the empirical results, Kazakhstan is an export-oriented country, so there is a significant relationship between its economic growth and FDI. Thus, the results of the model show that it is foreign investment and exports that have a significant impact on the GDP indicator in Kazakhstan.

References

Akinlo, A.E. Foreign direct investment and growth in Nigeria-An empirical investigation. J. Policy Model. 2004, 26, 627–639.

Alshamsi,K.H.;RasidbinHussin,M.;Azam,M.Theimpactofinflationand GDPpercapitaonforeigndirect investment: The case of United Arab Emirates. Invest. Manag. Financ. Innov. 2015, 12, 132-141.

Balasubramanyam, V.N., Salisu, M. and Sapsford, D. (1996) "Foreign Direct Investment and Growth in EP and IS Countries". Economic Journal, 106: 92-105.

Belas¸cu, L.; Popovici, O.; Horobe¸t, A. Foreign Direct Investments and Economic Growth in Central and Eastern Europe: A Panel-Based Analysis. In Emerging Issues in the Global Economy; Mărginean,S.C.,Ogrean,C., Orăs,tean, R., Eds.; Springer: Berlin, Germany, 2018.

Borensztein, E., De Gregorio, J., and Lee, J. W., (1998). How does foreign direct investment affect economic growth? Journal of International Economics, 45, 115–135.

Borensztein, E., Gregorio, J.D. and Lee, J.W. (1998). "How Does Foreign Direct Investment Affect Economic Growth"? Journal of International Economics, 4: 115-35.

Brems, and Hans. (1970). A Growth Model of International Direct Investment. The American Economic Review (AER), 60(3), 320 – 31

Coy, A.G. and Comican, H.F. (2014), "Foreign direct investment and economic growth: a time series approach", Global Economy Journal, Vol. 6 No. 1, pp. 7-9.

De Mello, Jr Luiz R. (1999). Foreign Direct Investment-led growth: evidence from time series and panel data", Oxford Economic Papers, 51,133-154

Farrell, R. (2008). Japanese investment in the world economy: A study of strategic themes in the internationalization of Japanese industry. Cheltenham, UK: Edward Elgar.

Hanson, G. H., and M. J. Slaughter (2003). The Role of Multinational Corporations in International Business Cycle Transmission: Skew Lines or Arbitrage Opportunities? University of San Diego, Tuck School of Business at Dartmouth and NBER Доступно по адресу: http://www.uniiel.de/ifw/konfer/kwc/slaughter.pdf Дата обращения 10.05.2021

Iamsiraroj, S.; Doucouliagos, H. Does Growth Attract FDI? Economics 2015, 9, 1–35.

Karimi, Mohammad Sharif and Yusop, Zulkornain (2009). FDI and Economic Growth in Malaysia. Available online at: Доступно по адресу http://mpra.ub.unimuenchen.de/14999/ Дата обращения 10.05.2021

Lee, J.W. The contribution of foreign direct investment to clean energy use, carbon emissions and economic growth. Energ. Policy 2013, 55, 483–489.

Mahadika, I.N.; Kalayci, S.; Altun, N. Relationship between GDP, Foreign Direct Investment and Export Volume: Evidence from Indonesia. Int. J. Trade Econ. Financ. 2017, 8, 51–54.

Mahapatra, R.; Patra, S. Impact of Foreign Direct Investment (FDI) inflow on Gross Domestic Product (GDP) of India—An Empirical study. Int. J. Bus. Manag. Invent. 2014, 3, 12–20.

Mello, L. D. (1999). Foreign direct investment-led growth: evidence from time series and panel data. Oxford Economic Papers, 51(1), 133–151.

Meyer, Klaus. (2000). Foreign Direct Investment in Emerging Economies. International Encyclopedia of the Social & Behavioral Sciences. 10.1016/B978-0-08-097086-8.71046-4.

Niles Russ, K. (2003). The Endogeneity of the Exchange Rate as a Determinant of FDI: A Model of Money, Entry, and Multinational Firms. Mimeo. Johns Hopkins University.

Saini, A.; Madan, P.; Batra, S.K. Impact of FDI inflow on economic growth of SAARC economies. Int. J. Eng. Bus. Enterp. Appl. 2015, 12, 161–166.

Sârbu, M.-R.; Carp, L. The Impact of Foreign Direct Investment on Economic Growth: The Case of Romania. Acta Univ. Danub. Œcon. 2015, 11, 127–137.

Sims, Christopher A. 1980. "Macroeconomics and Reality." Econometrica 48(1): 1–48.

Solomon, E. (2011), "Foreign direct investment, host country factors and economic growth", Ensayos Revista de Economía, Vol. 30 No. 1, pp. 4-7.

Solow R., 1956. A Contribution to the Theory of Economic Growth, Quarterly Journal of Economics, p65-p94

Sunde, T. Foreign direct investment, exports and economic growth: ADRL and causality analysis for South Africa. Res. Int. Bus. Financ. 2017, 41, 434–444.

Temiz, D.; Gokmen, A. FDI inflow as an international business operation by MNCs and economic growth: An empirical study on Turkey. Int. Bus. Rev. 2014, 23, 145–154.

Uddin, M.; Chowdhury, A.; Zafar, S.; Shafique, S.; Liu, J. Institutional determinants of inward FDI: Evidence from Pakistan. Int. Bus. Rev. 2019, 28, 344–358.

UNCTAD (2020). World Investment Report 2020: Investment and New Industrial Policies. United Nations publication. Sales No. E.18.II.D.4. Доступно по адресу https://unctad.org/system/files/official-document/wir2020_overview_ru.pdf Дата обращения 10.05.2021

Yalta, A.Y. Revisiting the FDI-led growth Hypothesis: The case of China. Econ. Model. 2013, 31, 335–343.

Zhang, K.H. Does foreign direct investment promote economic growth? Evidence from East Asia and Latin America. Contemp. Econ. Policy 2001, 19, 175–185.

Voitovich, S.; Klimavichen, A.; Pilinken, V. Svyaz mezhdu ekonomicheskim rostom I PII v stranah CVE. Ekon. Cas. 2019, 67, pp. 264-279.

Kuzmina O., Volchkova N., Zueva T. Pryamye inostrannye investicii I kachestvo upravlenia v Rossii. J. Comp. Econ. 2014, 42, 874-891.

World Bank. https://www.worldbank.org/en/home Date of request 07.05.2021

Rakhmatullayeva D.Zh., Bobkov V.N., Zhatkanbayev E.B. Modeling of the social effect of FDI in the regions of Kazakhstan // Region economy. - 2015. - Vol 2. - pp. 285-300. doi: 10.17059/2015-2-23.

National Bank of Kazakhstan./ https://nationalbank.kz/ Date of request 07.05.2021

Statistical database of the Agency of statistics of the Republic of Kazakhstan. http://www.stat.gov.kz/ Date of request 07.05.2021.