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The influence of FDI on sustainable economic development of Ukraine in terms of global digitization

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Abstract. This article is a research study of the role and necessity of digital transformation of Ukrainian economy in the context of digitization of the world economy, which will promote economic growth and increase the international competitiveness of national economy, which in its turn will contribute to the further formation of an attractive investment environment. The modern tendencies of information economy development are disclosed. Changes of the determinants of FDI in the Ukrainian economy in terms of its digital transformation are revealed. It is proved that foreign trade and the globalization index of the country influence on the process of attracting FDI. Much attention in the article is paid to the role of information, development of information sphere, digitization, formation of a new information economy, foreign direct investments, which are necessary for the economic development of the country and affect economic growth in the context of global digitization. The necessity of this study is due to the modern trends of development in the world economy and the digital transformation of the national economy. The role and importance of foreign direct investments in the digital transformation of the national economy has been proved on the basis of a broad analysis of research works of foreign and national specialists, analysis of economic situation in Ukraine and the main macroeconomic indicators identified the role and necessity of transformation processes, macroeconomic indicators of economic development of the country were analyzed, the necessity and requirements for the formation of an attractive investment environment, favorable investment climate and business environment have been identified. Using the econometric model, based on E-Views software, the indicators of GDP, foreign trade, inflation, employment level and the globalization index have been analyzed in the context of their impact on the volume of FDI attraction and their forecasting have been made.

Keywords: digital transformation, globalization, information economy, information technology, foreign direct investments.

1. Introduction

The process of integration of Ukraine into the world community and the European integration vector of development of the national economy presupposes the formation of an attractive investment environment for attracting foreign direct investments (FDI). FDI stimulate economic growth, promote job creation (i.e. reduce unemployment), promote the development and implementation of innovative, digital technologies and provide further economic growth. Innovative and digital technologies will contribute to the formation of national advantages and enable to keep competitive positions on the global arena. The dynamic development of information and communication technologies, the scientific and technological revolution and the processes of globalization determine the role and the necessity of digital transformation of the Ukrainian economy.

The purpose of our research is to identify changes of the determinants of FDI in the national economy in the context of digital transformation as a general trend of further development of the world economy. Based on the goal, the objectives are to research the basic principles of the formation of digital economy and to identify its impact on the process of attracting of FDI into the national economy.

2. Literature Review

Theoretical and applied aspects of issues of digital transformation of economy and digitization were considered in the research works of famous Ukrainian scholars, such as, I.V. Dulska [1], A.O. Dzhusov [2], S.V. Kolyadenko [3], N.P. Meshko [4], et al. The analysis of research works prepared by these authors have shown that they have paid considerable attention to the formation of high-tech development in the context of globalization, to the role and importance of the digital economy at the current stage of development, to the necessity of the introduction of digital technologies, which will promote the realization of synergistic effect and economic growth.

Among foreign scholars, the foundations and development of the digital economy, digital society and global changes in the world are considered in the research works of M. Castells [5], A. Grimes [6], T. Niebel [7], F. Webster [8], et al.

The relationship between FDI and economic prosperity has been considered in many theoretical and empirical studies of different countries and regions of the world. In particular, we note in the research works of Chowdhury A. [9], Eswar S. Prasad, Raghuram G. Rajan [10], Pegkas R. [11], Sunde T [12], Hyungsun S. and Miguel R. [13] and in the author's a study that identified the role and importance of FDI in the digital transformation of Ukraine [14], et al.

Consequently, the digital world economy is of great importance, promoting the creation of new information and communication technologies, new products and shaping new market needs. Investment flows are mostly directed into new digital technologies. For Ukraine, this segment is not sufficiently developed, but it has huge potential and prospects for future development. In addition, FDI more positively influence also on the economic prosperity of the country.

Therefore, the authors of this article prove the actuality and necessity of digital transformation of the Ukrainian economy with the purpose to increase rates of economic growth and national competitiveness on the world level. The role of foreign direct investments in the digital economy and the determinants of attracting foreign direct investments into the national economy are determined. Based on econometric modeling using E-Views program, the impact of macroeconomic factors on FDI attraction is determined.

3. Data and Methodology

XXI century is characterized by new qualitative features of globalization as a new phenomenon in the development of humanity, its economic, civil and political structures. Globalization represents by itself the emergence of a single economic and informational space in a planetary scale. Just globalization today reflects the new reality of the growth of global interdependence, which is mostly due to the new communication technologies. Consequently, the current stage of development of the economies of the countries of the world is characterized by an increase of the role and importance of information and knowledge that has become the dominant factors in the process of formation and use of intellectual capital, which in turn contributes to the creation of new high-tech and scientific products that will ensure the appropriate level of

countries competitiveness on the world markets. The modern era is associated with an era of constant transformation and the transition of society from the outdated entropy-market system to a new highly organized economic system [15]. Such system will require the attraction of additional financing and foreign direct investments, which will inflow to the country's economy in case of creation of attractive and competitive environment.

In order to achieve the setted goal it is necessary to research the current stage of digitization; to reveal the modern trends of information economy development; identify and disclose factors of formation of a new information economy; to prove the role and necessity of FDI in terms of formation of information economy, in particular in Ukraine; using the econometric model and forecasting methods to show the influence of the most significant factors on the attraction of FDI into the economy of Ukraine, and to prove their influence on the formation of digitization of the Ukrainian economy.

Transformation of national economy assumes the transition to an information society, which means that the level of socio-economic development is directly related to access to information resources. Thus, information becomes a means by which corporations prove that consumption is an essential and inevitable element of life [16]. This means that the growth of the role of information and the development of the information sphere has become an important condition for the spread of consumerism (the mass consumption of material goods and the influence of consumers on the producers of products). The modern process of production, distribution and use of knowledge forms is the basis of a new information economy, and the global information network is its infrastructure. The development of communications, the commercialization of knowledge, electronization, and the transformation of knowledge into the product is the basis of the modern stage of digital transformation. So, the digital economy is a new paradigm of world economic development, and in particular in the context of the digital transformation of the national economy.

It should be noted that in developed countries, digitization takes a leading position in the policy of the governments. Just such an active policy of countries helps to stimulate business and their engagement in the processes of digitization; business expansion will require the attraction of private investors, as well as their involvement in the creation of digital platforms. Thus, the digital economy promotes the development of world trade that displays through the speed of turnover and increase of efficiency.

The term «knowledge-based economy» by itself is used to refer to two concepts: first, the information economy is a modern stage in the development of civilization characterized by the primary role of creative labor force and information products; and secondly, the information economy is an economic theory of the information society [17]. The information economy focuses on the following aspects: the study of information asymmetry; economics of information products; economics of information technologies.

The development of information products and information technologies, while ensuring the rights and freedoms of citizens to use these technologies and access to information, are key factors in the effective transition to a new information economy. It should be noted that some countries can turn information technology into an engine of their development, move from an agrarian or industrial base to a new information economy, others may be far behind. Such a process of transition to a new economy is objective and requires the consciousness of society.

Bases for the formation of a new information economy are the following factors, which explain the rapid distribution of information, namely:

- factors directly related with the scale of multinational company's activity: by placing their brunches around the world, these companies cannot operate without communication and information infrastructure which provide their activities. In addition, information networks are vital not only for a particular company, they link to a single whole all the market agents, without which the global market cannot function. Therefore, the international financial networks in the information environment take a leading place;

- the results of information revolution, which were first used by transnational corporations (all the more so, because long-term judgments about the need of information networks contributed to this).

The formation of the information economy takes place against the backdrop of the main challenges of a rapidly changing world. The unique international challenges faced recently by the economies of the world, including the national economy, are significantly different from the problems that were inherent two or three decades ago. The scale and innovation of changes have led to widespread use of the terms «globalization» and «informatization» of society and the economy. Crisis phenomena at the turn of the XX-XXI century indicate on the need to revise the principles of consumption and production from the point of view of sustainable development of society and certain spheres of economy. Thus, the current crisis is a crisis of industrial-market paradigm, ideology, concept, model of development of the world economy, which should be replaced by a new innovation-synergistic information paradigm, on the model of socio-economic development and formation of knowledge-based economy [15]. In such a model of development, the main role is played by highly skilled professionals who are the bearers of intellectual capital, creative and innovative abilities, and are the main drivers in ensuring business competitiveness.

Economic theory has revised its own preconditions and tasks of theoretical knowledge, which is due to the achievements of humanity in the creation and implementation of information and telecommunication technologies. The question about the entrance of world civilization in the post-industrial era was the subject of discussion just in the early 1960's. This was due to the achievements of humanity in the creation and implementation of information and telecommunication technologies. D. Bell [18], U. Beck [19], Castells M. and Himanen P. [20], G. Schiller [21], A. Toffler [22], I. Wallerstein [23] and others stood at the roots of the theory of information and communication technologies. They describe in different ways in their research works the information economy and society, its economic principles, which are based on information and telecommunication technologies. In particular, American Daniel Bell, believed that just now the process of formation of information society is going on [24]. American Herbert Schiller recognizes the fact that today information technologies have a significant impact on economic development, but does not see a fundamentally new phenomenon. It is the phenomenon that reveals a new paradigm of the information economy, which is based on knowledge and information. British Peter Golding and Graham Murdoch have recognized the influence of information on society development and growth in the XXth century, and agree with its axial purpose for events in the world, but argue that information and communication are only the main components of the long-established and well-known capitalism formation [25]. So, such issues in the global information economy are also relevant today.

Consequently, today information is the driving force in the development of society, economy and business. Information affects human activity, the economy of the countries of the world, the surrounding world, becomes a giant, technical, socio-economic,

political and cultural power. At the current stage of business development, the most competitive is that business entity which can produce more information of the best quality, introducing it into all spheres of life, using modern information technologies. In its turn, for Ukraine, the use of up-to-date information, modern technologies will mean attraction of foreign direct investments.

Undoubtedly the leading places in the modern information economy take big companies - transnational corporations. Just these corporations offer innovative products and services that are characterized by global innovation; and are the major source of FDI. The rapid development of such corporations and their expansion today has a significant impact on the economic development of other countries of the world, including Ukraine.

From the second half of the XXth century the movement of capital is taking place at a high rate. During the last fifty years, capital inflows have increased in 133 times (to $ 1.42 trillion in 2017), outflows of foreign direct investment have increased in 104 times (to $ 1.4 trillion in 2017) [26]. The FDI in stock, possible potential, namely the cost of capital share and reserves (including retained earnings) related to the parent company, as well as the net indebtedness of branches of parent companies, also significantly increased over the past thirty-five years: stock inflows have increased almost in 29 times and the stock outflows increased almost in 45 times.

However, it should be noted that from the middle of XXth century, the main volumes of inflow-outflows of foreign capital have just developed countries: they account for about 55% of capital imports, and 72% of capital exports. On the one hand, this is due to the development of the scientific and technological revolution, later with the formation of Western European integration, the liberalization of foreign economic relations, the activities of transnational corporations, the development of international financial markets; on the other hand, the main donors of capital are precisely economically developed countries, exactly in these countries there is the largest number of parent companies, which in its turn are owners of capital.

For Ukraine, the driving forces in ensuring the international competitiveness of the national economy are investments and technologies. The dynamics of FDI attraction is the basis of long-term development of the economy, the basis of the reproduction process, which will contribute to the expansion of high-tech forms of reproduction of fixed capital and the accumulation of highly intellectual capital. One of the driving forces of such fundamental changes in the Ukrainian economy are foreign direct investments. Table 1 shows the total volume of attracted FDI in the economy and the GDP of the country. Statistics shows that the growth in 2008 was due to the deployment of privatization processes; since 2014 there has been a slowdown in economic development and the decrease in volumes of FDI, due to the political and economic situation in the eastern part of the country.

Table 1. FDI and GDP of Ukraine for the years 1999-2018, mln USD

Period	1999	2001	2003	2005	2007	2009	2011	2013	2015	2017	2018
FDI	2810,7	3875	5471,8	9047	21607,3	35723,4	45370	51705,3	38356,8	31606,4	35809,6
GDP	31580,9	39309,6	513315	89239,4	148734	122993	69333	190499	91031	112190	113691

Table 1 presents the statistical data about the FDI inflows and GDP of Ukraine for the period from 1999 to 2018.

Overall, Ukrainian economy is characterized by a low level of attraction of foreign direct investments, which is primarily due to the underdeveloped financial and credit

system, unfavorable investment environment, constant changes in the tax code, and in the context of the crisis, due to the low level of savings of population in the investments. According to the data of European Business Association, the investment attractiveness index of Ukraine at the beginning of 2019 fell to the level of 2016 and amounted 2.85 (out of 5), and is in the negative plane (i.e. below 3.0 points).

At the same time, positive factors should include the stability of the national currency, the liberalization of currency legislation, the reduction of inflation since 2015, and other political factors. The main macroeconomic indicators, foreign trade, inflation and employed population which have the greatest impact on FDI attraction, are given in Table 2 [27].

Table 2. Some indicators of economic development of Ukraine

Period	FT (export and import) million USD	I (inflation), %	Employed population, million people
1997	37516.6	106.4	22.6
1998	32563.7	110.0	21.8
1999	28154.8	122.1	21.0
2000	33334.6	127.8	20.2
2001	36919.3	112.3	19.9
2002	40432.6	101.0	20.1
2003	52077.1	105.0	20.2
2004	69338.5	108.9	20.3
2005	79749.7	113.6	20.7
2006	94929.0	108.2	20.7
2007	124344.7	110.3	20.9
2008	17124.2	121.4	20.9
2009	100444.9	114.9	20.2
2010	129505.3	109.1	19.2
2011	169926.7	104.6	19.2
2012	174378.4	99.8	19.3
2013	161926.7	100.5	19.3
2014	128936.7	124.9	18.1
2015	92687.3	143.3	16.4
2016	90674.6	112.4	16.3
2017	108216.0	113.7	16.2
2018	120713	109.0	16.4

Table 2 presents the statistical data about basic macroeconomic indicators of economic development of Ukraine, which have the greatest influence on attracting FDI.

Presented economic indicators from 2014 due to the political and economic situation in Ukraine deteriorated.

4. Results

Ukraine in the period of the digital transformation of the national economy needs to attract significant volumes of foreign direct investments. At the same time, it is necessary to create the most attractive environment for their attraction and effective use. While making this research study, the statistical database from 1999 to 2018 was used. The results of the authors study made it possible to explain the relationship between the selected variables using the E-Views package. To explain the

relationship between the selected variables, a correlation matrix was constructed (see Table 3).

The statistical data for the analysis in the model include 20 observations (1999-2018). A general view of the FDI model from the main variables chosen by us can be described by the following equation:

$$FDI = f(GDP, FT, I, LM, GI),$$

GDP - GDP of Ukraine, millions USD; FT - foreign trade (the sum of exports and imports of goods and services), millions USD; I - inflation, %; LM - employed population of Ukraine, millions of people; GI - index of globalization of the country.

To explain the relationship between selected variables we construct the correlation matrix (see Table 3).

Table 3. The Matrix of Correlation Coefficients

	FDI	GDP	FT	I	LM	GI
FDI	1	0.1447	0.8395	0.03355	-0.5928	0.9326
GDP	0.1447	1	0.2662	-0.1894	0.05206	0.1483
FT	0.8395	0.2662	1	-0.1301	-0.2014	0.8084
I	0.03355	-0.1894	-0.1301	1	-0.2261	0.1336
LM	-0.5928	0.0520	-0.2014	-0.2261	1	-0.5868

Source: authors development

Table 3 presents a correlation matrix that explains the relationship between selected variables and shows their impact on foreign direct investments. Matrix constructed by us confirms the success of the model.

The indicated correlation coefficient matrix shows a strong correlation between FDI and globalization index of 93%; a strong 84% link between foreign trade and FDI; a significant negative relationship (meaning decreasing the value of a variable leads to an increase in another variable) between FDI and the employed labor force (59%). The result of the correlation between the variables is acceptable, which confirms the success of this model. Results of multivariable regression are presented in Table 4.

Table 4. The Results of Multi-Factor Regression of Foreign Direct Investment

Dependent Variable: FDI
Method: Least Squares
Sample (adjusted): 1999 2018
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	-0.005274	0.014081	-0.374550	0.7136
FT	0.169276	0.065607	2.580136	0.0218
I	-5481.578	14765.23	-0.371249	0.7160
LM	-2750.597	1237.961	-2.221878	0.0433
GI	1360.559	615.5854	2.210187	0.0442
C	-23976.27	54982.43	-0.436071	0.6694

R-squared	0.921305	Mean dependent var	26680.71
Adjusted R-squared	0.893199	S.D. dependent var	18403.89
S.E. of regression	6014.468	Akaike info criterion	20.48505
Sum squared resid	5.06E+08	Schwarz criterion	20.78377
Log likelihood	-198.8505	Hannan-Quinn criter.	20.54336
F-statistic	32.78019	Durbin-Watson stat	1.303515
Prob(F-statistic)	0.000000		

Source: authors' development

Table 4 shows the results of multi-factor regression using the least squares method and different coefficients, which as a whole prove the significance of the equation.

R^2 shows on how much selected variables explain the extent of attracting foreign direct investments in Ukraine (which in turn reflects the attractiveness of the investment environment created by the investment climate). In the model constructed, R^2 = 92.1%, which means that the data of the variables explain the magnitude of the high probability of FDI. A sufficiently strong relationship indicates the correlation coefficient which is 89%; F-statistic = 0.000000, the probability of accepting the null hypothesis, confirms the need to take an alternative hypothesis, which certifies the significance of the equation as a whole.

According to Fisher's F-statistics, all coefficients of regression equation do not equal zero simultaneously. In our equation, foreign trade, employed population and the globalization index are less than 5%, which improves the quality of the equation.

Further, we check the equation for autocorrelation using the Durbin-Watson test. This Durbin-Watson criterion is d = 1.30. From the Durbin-Watson statistics table we determine the significant points d_L and d_U. For the number of observations 20 and 5 variables at the level of significance α = 1% d_L = 0,60 and d_U = 1,74; at 5% significance level d_L = 0.79 and d_U = 1.99. In our case, the value of DW is in the range of significant points (the interval between it is a zone of uncertainty: it means that we can neither reject nor accept the null hypothesis (and we cannot change the position).

Authors built a model tested for heteroskedasticity using the tests of Breusch-Pagan-Godfrey, Harvey, Glejser, ARCH. These tests are quite widely used in practice. With the test of Breusch-Pagan-Godfrey linear dependence of the dispersion of random errors from a set of variables is tested. Regression is not significant, the probability of accepting the null hypothesis is 86.7%, which is higher than 5% and confirms the absence in the model of heteroskedasticity (Table 5).

Table 5. Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.359607	Prob. F(5,14)	0.8676
Obs*R-squared	2.276279	Prob. Chi-Square(5)	0.8097
Scaled explained SS	1.037343	Prob. Chi-Square(5)	0.9595

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Sample: 1999 2018
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.62E+08	3.55E+08	-0.738676	0.4723
GDP	-41.71250	90.97152	-0.458523	0.6536
FT	1.822275	423.8637	0.004299	0.9966
I	83191196	95392500	0.872094	0.3979
LM	5058222.	7997990.	0.632437	0.5373
GI	1480984.	3977062.	0.372381	0.7152

R-squared	0.113814	Mean dependent var	25321675
Adjusted R-squared	-0.202681	S.D. dependent var	35432026
S.E. of regression	38857176	Akaike info criterion	38.03201
Sum squared resid	2.11E+16	Schwarz criterion	38.33073
Log likelihood	-374.3201	Hannan-Quinn criter.	38.09032
F-statistic	0.359607	Durbin-Watson stat	2.240609
Prob(F-statistic)	0.867602		

Source: authors' development
Table 5 shows the results of the Breusch-Pagan-Godfrey test on heteroskedoxicity.

The Harvey test is similar to the Breusch-Pagan-Godfrey test and checks the hypothesis of the constant dispersion of residues, and has an alternative hypothesis

that heteroskedasticity is observed, namely exhibiting exponential dependence. The results of this test show that the probability of accepting the null hypothesis is 23.3%, which is also more than 5% and confirms the absence in the model of heteroskedasticity (Table 6).

Table 6. Heteroskedasticity Test: Harvey

F-statistic	1.565873	Prob. F(5,14)	0.2332
Obs*R-squared	7.173242	Prob. Chi-Square(5)	0.2081
Scaled explained SS	8.775792	Prob. Chi-Square(5)	0.1183

Test Equation:
Dependent Variable: LRESID2
Method: Least Squares
Sample: 1999 2018
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-22.15405	21.50015	-1.030414	0.3203
GDP	-1.00E-05	5.51E-06	-1.815722	0.0909
FT	-9.44E-06	2.57E-05	-0.367913	0.7184
I	5.154377	5.773747	0.892726	0.3871
LM	0.832538	0.484088	1.719807	0.1075
GI	0.259520	0.240716	1.078117	0.2992

R-squared	0.358662	Mean dependent var	15.27587
Adjusted R-squared	0.129613	S.D. dependent var	2.520917
S.E. of regression	2.351878	Akaike info criterion	4.791630
Sum squared resid	77.43860	Schwarz criterion	5.090350
Log likelihood	-41.91630	Hannan-Quinn criter.	4.849943
F-statistic	1.565873	Durbin-Watson stat	1.873201
Prob(F-statistic)	0.233174		

Source: authors' development
Table 6 shows the results of the Harvey test on heteroskedoxicity

The Glejser test analyzes the regression dependence of the deviation modules. The presence of regression significance is at the level of 68%, which is higher than the threshold value of 5-10%, that is, the model has no heteroscedasticity (Table 7). By varying *k* it is possible to construct different regression equations.

Table 7. Heteroskedasticity Test: Glejser

F-statistic	0.629042	Prob. F(5,14)	0.6808
Obs*R-squared	3.668906	Prob. Chi-Square(5)	0.5980
Scaled explained SS	3.158801	Prob. Chi-Square(5)	0.6755

Test Equation:
Dependent Variable: ARESID
Method: Least Squares
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-38050.96	33215.52	-1.145578	0.2712
GDP	-0.006607	0.008506	-0.776651	0.4503
FT	-0.007762	0.039634	-0.195845	0.8475
I	7140.930	8919.845	0.800567	0.4368
LM	890.6465	747.8662	1.190917	0.2535
GI	265.1853	371.8822	0.713090	0.4875

Table 7 (continued)

R-squared	0.183445	Mean dependent var	3742.247
Adjusted R-squared	-0.108181	S.D. dependent var	3451.508

S.E. of regression	3633.409	Akaike info criterion	19.47706
Sum squared resid	1.85E+08	Schwarz criterion	19.77578
Log likelihood	-188.7706	Hannan-Quinn criter.	19.53537
F-statistic	0.629042	Durbin-Watson stat	2.122347
Prob(F-statistic)	0.680775		

Source: authors' development

Table 7 shows the results of the Glejser test on Heteroskedasticity

The ARCH heteroskedasticity test also confirms the acceptance of the null hypothesis at the level of 98.7%, which is more than 5-10%. The results of this test are shown in Table 8.

Table 8. Heteroskedasticity Test: ARCH

F-statistic	0.000248	Prob. F(1,17)	0.9876
Obs*R-squared	0.000277	Prob. Chi-Square(1)	0.9867

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Sample (adjusted): 2000 2018
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22271622	10012325	2.224421	0.0400
RESID^2(-1)	0.003588	0.227892	0.015745	0.9876

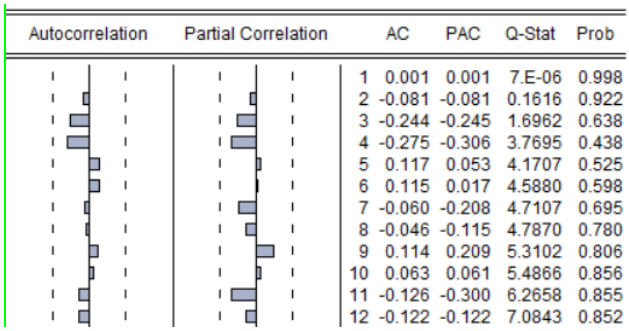
R-squared	0.000015	Mean dependent var	22366966
Adjusted R-squared	-0.058808	S.D. dependent var	33776740
S.E. of regression	34755725	Akaike info criterion	37.66489
Sum squared resid	2.05E+16	Schwarz criterion	37.76430
Log likelihood	-355.8164	Hannan-Quinn criter.	37.68171
F-statistic	0.000248	Durbin-Watson stat	1.833798
Prob(F-statistic)	0.987621		

Source: authors' development

Table 8 shows the results of the ARCH test on heteroskedasticity

Using all the tests for heteroskedasticity, the authors argue for the possibility of a null hypothesis. In all tests for heteroskedasticity, the null hypothesis indicates the absence of heteroskedasticity, that is, an alternative presence. We accepted the null hypothesis because the probability of accepting the hypothesis is much higher than 5% significance level.

Let's check the model for autocorrelation (Fig.1.). The null hypothesis is accepted for the absence of autocorrelation, because at each of the 12 lags the value is significantly more than 5%.



	AC	PAC	Q-Stat	Prob
1	0.001	0.001	7.E-06	0.998
2	-0.081	-0.081	0.1616	0.922
3	-0.244	-0.245	1.6962	0.638
4	-0.275	-0.306	3.7695	0.438
5	0.117	0.053	4.1707	0.525
6	0.115	0.017	4.5880	0.598
7	-0.060	-0.208	4.7107	0.695
8	-0.046	-0.115	4.7870	0.780
9	0.114	0.209	5.3102	0.806
10	0.063	0.061	5.4866	0.856
11	-0.126	-0.300	6.2658	0.855
12	-0.122	-0.122	7.0843	0.852

Fig. 1. Correlogram of Residuals Squared

Source: authors' development

The next step is to test the time series by calculating Jarque-Bera statistics. The graphical characteristics of the variables are shown in Figure 2, which investigates the mean, standard deviation, asymmetry and excess, Jarque-Bera statistics, and the hypothesis probability. To make the decision to accept the null hypothesis, we use an equivalent form of criterion. Based on Fig. 2 level of significance for the Jarque-Bera test is $p = 0.4918$. We compare the threshold value with the threshold value ε=0.05. Since the Jarque-Bera criterion is greater than 5%, the null hypothesis is accepted, which means that the distribution of residues is consistent with the normal distribution and the characteristic property of white noise is fulfilled. It can be argued that the remnants of the model being built are Gaussian white noise.

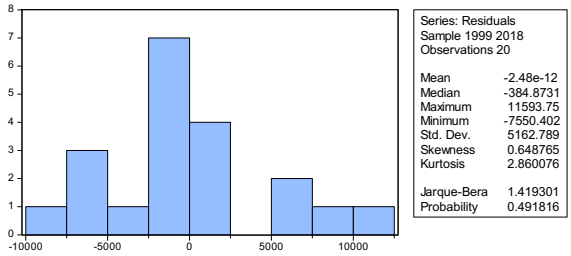


Fig. 2. Descriptive Analysis of Variables

Source: authors' development

We will test the constructed model for explanatory ability. Figure 3 shows how this model clearly displays FDI with the help of variables: the graph where the modeled values (Fitted) fairly accurately represent the actual values (Actual), so the model is completely acceptable by this criterion.

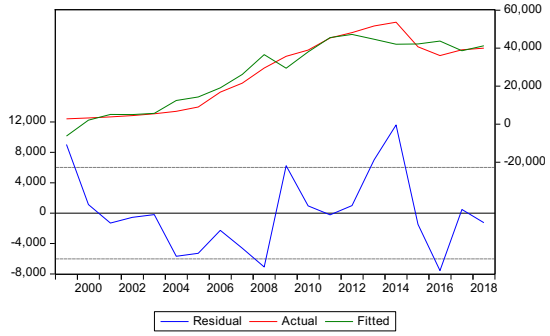


Fig. 3. Explanatory ability of the model

Source: authors' development.

And we test the model on forecast quality. We pay attention on MAPE, which is equal to 34.5, which means acceptable (but not high) accuracy of the forecast (Figure 4).

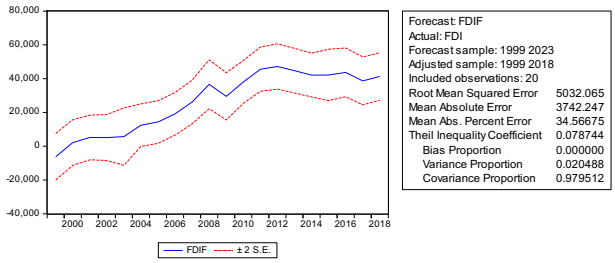


Fig. 4. Forecast of models

Source: authors' development

The general view of the model of dependence of FDI from independent variables in modern terms can be described by the following equation:

Estimation Equation:

$$FDI = C(1)*GDP + C(2)*FT + C(3)*I + C(4)*LM + C(5)*GI + C(6)$$

Substituted Coefficients:

$$FDI = -0.0053*GDP + 0.1693*FT - 5481.5780*I - 2750.5969*LM + 1360.5591*GI - 23976.2688$$

5. Conclusion

The research of this problem made it possible to disclose the essence and irreversibility of the process of formation of information economy and in its context, the increased role of FDI. There is a transformation of national economies, which characterizes the current stage of civilization development, the scales of TNCs activity are increasing, that lead to the growth of FDI movement, and the information acts as a driving force for the development of countries' economies. For the Ukrainian economy, digitization has advantages; in particular with the help of the main subjects of TNCs, the domestic economy will have technologies, innovations and will lead to economic growth. This is possible due to creation a favorable environment and attracting foreign investments that have a positive impact on economic growth.

Directly in this study, authors analyzed the determinants of foreign direct investments that are necessary for the digital transformation of Ukrainian economy. Attraction of foreign investments was considered in the context of improving the investment climate and investment environment, which as a rule are directed on innovative technologies and on the process of creating new products. The formation of an investment attractive national economy will show new opportunities for economic growth.

The authors paid special attention to forecasting of FDI inflows in the national economy, which showed slow growth trends that could be accelerated according to the authors' views by the digital transformation of the country's economy. This will mean more efficient use of intellectual capital; promoting the creation of new high-tech, innovative and scientific products; the creation of digital platforms that will lead to the increase of volumes of trade due to the speed of turnovers The study confirms that foreign direct investments, as a rule, come from transnational companies, which are leading players on the capital market. Their rapid development and expansion at the end of the last century had a significant impact on the economies of other countries as well as on the economy of Ukraine. Thus, in terms of global digitization, the

role of FDI in the economy of Ukraine is crucial, contributing to its economic prosperity.

In order to increase the rates of economic growth, it is necessary first of all to assist the digital transformation of the national economy and the creation of an attractive investment environment, which will create the basis for further increase of FDI volumes.

Research prospects should focus on support of innovative companies and on the readiness to implement innovate, high-tech, competitive products, create and promote digital platforms, primarily for business. At the same time, further steps are studies that disclose such important questions as: how should be supported companies that invest in innovative, high-tech products and what incentives should be provided to them? What legislative support will be realized in the context of the digital transformation of the national economy? What measures should be taken to attract foreign investors and what conditions should be created? What should be the economic policy in terms of global digitization in order to attract the necessary FDI faster?

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Aims and Objectives
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