

Ensuring security the movement of foreign direct investment: Ukraine and the EU economic relations

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ABSTRACT

It is well known that an important positive result of attracting foreign direct investment for the country's economy can be the receipt and subsequent distribution of more advanced production and management technologies. That is why the injection of foreign capital is necessary not only for direct financing but also for the general development of the invested country. The purpose of this article is to consider the theoretical, methodological and practical aspects of ensuring the level of security of investment attractiveness of the world's economies in the polystructural space of foreign direct investment and to highlight the aggregated factors of the investment attractiveness index that characterize the investment climate, investment activity and the state of economic development of the country. To determine the synergistic impact of foreign direct investment on the indicator of the country's investment attractiveness the methods of analysis, synthesis, comparison and mental modelling were used. As a result, it was found that the EU countries are one of the largest investors (the share 65-90% of all investments) in the polystructural space of international investment. It was concluded that in the context of deepening cooperation and realizing the unique capabilities of the states in shaping the global investment climate, it is necessary to ensure a high level of employment of the population by creating new jobs, updating the transfer and introducing the latest technologies, solving social problems at the general level; to carry out an investment modernization of the economy to increase the fixed assets of enterprises; to implement a more effective investment policy.

Keywords: Investment infrastructure, National economy, State's development, Economic growth, International investment.

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1. Introduction

The globalization impact and transformation of international investment relations between countries around the world deepen the competition in the foreign investment market and increasingly affect their investment attractiveness. The lack of incentives for the secure economic development of countries and the instability of public investment policy led to poor and inadequate response to international investment challenges. At the same time, government initiatives that depend on international organizations make it possible to unify investment standards and control procedures for compliance with international standards, to provide guarantees to foreign investors, and to establish a legal regime for investment, thus playing an important role in creating the right level of financing for key industries. At the same time, creation of favorable investment climate for investors, attraction of foreign investments, formation of investment infrastructure

and adequate investment mechanisms make it possible to ensure positive economic growth of the development of countries at the expense of foreign direct investment in the long run. In the global structure, foreign direct investment is a means of achieving the goals of the European countries' development strategy and an integral part of the reproduction process of production, which provides for significant shifts in the growth rate of the investment attractiveness of the economy through a formalized perception of the international investment environment.

Fundamental research in the area of investment attractiveness of the national economy, in terms of providing a safe environment for investing the reproduction process of production, made a significant contribution to science, the research was made by such scientists as M.J. Oseia, J. Kim [1], M. Liu et al. [2], A. Dhrifi et al. [3], S. Saidi et al. [4], M.W. Zafar et al. [5], O. Golubeva [6], E.E.O. Opoku, M.K. Boachie [7], A.T.N. Nguyen et al. [8], S. Tiba, F. Belaid [9], Y. Zhaoa et al. [10], J. Chena et al. [11], J. Eyvazov [12]. Among the leading scientists who have researched the issues of forming a secure level of investment attractiveness of the economy of the country the works of such scientists as J. Heavilin, H. Songur [13], R. Mahadevan, Y. Sun [14], F. Fagbemi, T.T. Osinubi [15], R. Ramachandran et al. [16], F.J. Contractor et al. [17], H. Liu et al. [18]. The problems of the impact of foreign direct investment on economic growth were explored by B.A. Blonigen et al. [19], A.V. Kuznetsov [20], Y. Huang et al. [21], L. Slesman et al. [22], K. DeGhetto et al. [23] and others.

Further scientific search leads to the development of new approaches to assessing the investment attractiveness of the world economy in the polystructural space of foreign direct investment, through streamlining their criteria parameters, consistent with the practice of international investment. In the meantime, foreign investment raises the issue of assessing the economic costs and benefits of mergers and acquisitions of investment assets and measures to limit them for reasons of national security, taking into account the potential risks of the international environment.

2. Material and methods

The state's investment policy is implemented on the basis of national interests, limiting risks and costs, determining the impact on the international economic environment and the placement of international investment flows, which are realized on the basis of effective investment of own resources, mobilization of private investment resources, search and attraction of foreign investors, optimization activities (the ratio of national and foreign capital). Changes in investment policies that take place in countries contribute to increasing the level of investment attractiveness of their national economy. At the same time, these changes may manifest themselves as temporary turbulence in a changing world, in which countries are trying to find new landmarks, based on long-term political shifts. Investment regime based on clear rules is widely supported internationally and aimed at ensuring sustainability and openness, can help reduce uncertainty in investment relations and give them greater stability. A methodological approach to assessing the level of investment attractiveness of a country's economy is crucial because it provides the basis for identifying effective regulatory instruments and methods for public investment policy to strengthen and enhance its impact in the global polystructural space of foreign direct investment [24-30].

It should be noted that foreign direct investment (FDI) ensures the rapid growth of international business, activating the multiplier effect of production investments in the material base (as opposed to speculative and volatile portfolio investments, which can be suddenly deduced with negative consequences for the national economy) for socio-economic stability of the country [31-38]. At the same time, competition and stimulation of business development make it possible to accelerate the development of industries, and the proper allocation of investment resources in the production process provides an increase in production of high value-added export products, innovative goods and production technologies focused on quality, consumer, employment and raising the level of income of population, tax base extension [39-45].

In the context of the implementation of investment policy and factors in the field of international investment affecting foreign direct investment (FDI) flows, we have developed a model of investment attractiveness of the economy of the state, the mathematical form of which we propose to consider through the function of optimization [46-50] (Eq. 1):

$$\left[\begin{array}{l} F(X_1, X_2, \dots, X_{n-1}, X_n) \rightarrow \max \\ Y_r \rightarrow \min \\ X_d \rightarrow \min \\ Y(S_1, S_2, \dots, S_{n-1}) \rightarrow \text{optimal} \end{array} \right], \quad (1)$$

where: $F(X_1, X_2, \dots, X_{n-1}, X_n)$ – a function that seeks to ensure a status of the state that can be characterized as investment attractive; Y_r – a function that identifies and strives to minimize the risks of investment attractiveness; X_d – a function that identifies and seeks to minimize threats that reduce investment attractiveness and affect its condition; $Y(S_1, S_2, \dots, S_{n-1}) \rightarrow \text{optimal}$ – a function of optimizing the influence of factors on the state of investment attractiveness.

The quantitative characteristic of the investment attractiveness model can be represented through an integrated index, which is calculated for each country with scores from 0 (lowest attractive status) to 100 (highest attractive status). The index of investment attractiveness is calculated as the geometric mean of the three measuring factors - investment climate, investment activity, economic growth. The equation illustrates the relationship between factors that affect the state of investment attractiveness (Eq. 2):

$$I_{\text{inv. at.}} = \sqrt[3]{I_{\text{inv. cl.}} \times I_{\text{act.}} \times E_s}, \quad (2)$$

where: $I_{\text{inv. at.}}$ – the index of investment attractiveness; $I_{\text{inv. cl.}}$ – investment climate; $I_{\text{act.}}$ – investment activity; E_s – state of economic development.

The investment climate as an integral factor is represented by a set of political, economic, legal, financial, social, cultural conditions for the formation of the appropriate infrastructure, which determines the degree of investment attractiveness of the country's economy (estimated through the rating indexes of countries influencing investment decisions); investment activity is considered as an integral characteristic of the economic development of the country, which is realized through investment potential, taking into account the existing risks (estimated through the level of international investment in the country); the state of economic growth shows an increase in production, GDP, rates of economic growth, an increase in national wealth (estimated through the main macroeconomic indicators of the country's economy) [51-54].

The equation is considered as a set of quantitative and qualitative indicators that affect the volume of foreign direct investment (FDI) in the process of evaluating the indicator of investment attractiveness of the country's economy. The synergistic effect of the impact of foreign direct investment on the country's investment attractiveness indicator can be described by the following function (Eq. 3):

$$SE(FDI) = f(FDI, TRADE, IFE, IC, IS), \quad (3)$$

where: $SE(FDI)$ – a synergistic effect; FDI – foreign direct investment; $TRADE$ – trade liberalization (% of GDP); IFE – an attractive investment environment; IC – investment cooperation; IS – an integrated indicator of investment attractiveness.

For comparison of indicators measured in different quantities (% , conventional units) in order to bring them to dimensionless values, the criteria of their normalization at primary indicators-stimulants and destimulators, as well as at bilateral boundary constraints are proposed. To facilitate the perception of indicators the designation for stimulants is selected – X, for indicators-destimulators – Y, for indicators of mixed type – Z.

Depending on the primary dynamic series and the elimination of a major contradiction in standardizing that implies negative values for the indicators, we advise to adjust the thresholds in each case while moving the critical values and maintaining the existing proportions for adequate rationing [55-62].

1. In the primary indicator-stimulator, the normalization criterion is (Eq. 4):

$$X = \left\{ \begin{array}{l} 0.2 \left(\frac{x_{ij} - x_{critical}}{n_1} \right), ij \leq jx_{ij} \leq x_{critical} \text{ exp} \\ 0.2 \times \frac{x_{ij}}{x_{critical}}, 0 \leq x_{ij} \leq x_{critical} \\ 0.2 + 0.2 \times \frac{(x_{ij} - x_{critical})}{(x_{dangerous} - x_{critical})}, x_{critical} jx_{ij} \leq x_{dangerous} \\ y_{ij} = 0.4 + 0.2 \times \frac{(x_{ij} - x_{dangerous})}{(x_{unsatisfactory} - x_{dangerous})}, x_{danger} jx_{ij} \leq x_{unsatisfactory} \\ 0.6 + 0.2 \times \frac{(x_{ij} - x_{unsatisfactory})}{(x_{satisfactory} - x_{unsatisfactory})}, x_{unsatisfactory} jx_{ij} \leq x_{satisfactory} \\ 0.8 + 0.2 \times \frac{(x_{ij} - x_{satisfactory})}{(x_{optimal} - x_{satisfactory})}, x_{satisfactory} jx_{ij} \leq x_{optimal} \end{array} \right\}, \quad (4)$$

where: x_{ij} – the value of the i -th indicator in period j ; y_{ij} – normalized indicator value x_{ij} ; n_i – the smoothing constant, for each indicator is determined separately by the expert way.

2. In the case of the primary indicator-destimulator, the normalization criterion is (Eq. 5):

$$Y = \left\{ \begin{array}{l} 1, x_{ij} \leq x_{optimal} \\ 0.8 + 0.2 \times \frac{(x_{satisfactory} - x_{ij})}{(x_{satisfactory} - x_{optimal})}, x_{optimal} jx_{ij} \leq x_{satisfactory} \\ y_{ij} = 0.6 + 0.2 \times \frac{(x_{unsatisfactory} - x_{ij})}{(x_{unsatisfactory} - x_{satisfactory})}, x_{satisfactory} jx_{ij} \leq x_{unsatisfactory} \\ 0.4 + 0.2 \times \frac{(x_{danger} - x_{ij})}{(x_{danger} - x_{unsatisfactory})}, x_{unsatisfactory} jx_{ij} \leq x_{danger} \\ 0.2 + 0.2 \times \frac{(x_{critical} - x_{ij})}{(x_{critical} - x_{danger})}, x_{danger} jx_{ij} \leq x_{critical} \\ 0.2 \times \frac{x_{critical}}{x_{ij}}, x_{ij} jx_{critical} \end{array} \right\}, \quad (5)$$

where: x_{ij} – the value of the i -th indicator in period j ; y_{ij} - normalized indicator value x_{ij} .

3. In the case of bilateral marginal restrictions on the primary indicator, formulas (4)-(5) shall be applied simultaneously for normalization [63-67].

Taking into account the principle of correctness, indicators that characterize the macroeconomic, monetary and currency status of the investment attractiveness of the country's economy (Table 1) are highlighted [68-72].

Table 1. Recommended values of investment attractiveness of the economy of the country on the indicators of macroeconomic, monetary-credit and currency status

Indicators-stimulators	X _{critical}	X _{dangerous}	X _{satisfactory}	X _{unsatisfactory}	X _{optimal}	X _{upper is optimal}
The size of the economy of the country, % of GDP of EU member states	1	3	5	6	7	10
GDP growth rate, %	-5	0	2	5	7	10
GDP per capita to average in EU Member States, %	10	35	60	85	110	125
GDP per capita to average in EU Member States (purchasing power parity), %	50	75	80	85	90	100
Gross international reserves of Ukraine, months of imports	3	3.5	4	4.5	5	6
Share of long-term loans in total loans granted (adjusted for exchange rate differences),	25	35	40	45	50	60

%						
Indicators-destimulators	Y _{upper is optimal}	Y _{critical}	Y _{unsatisfactory}	Y _{satisfactory}	Y _{dangerous}	Y _{critical}
The level of shadowing of the economy, % of GDP	10	12	15	18	25	35
Unemployment rate, %	5	6	7	8	9	10
Long-term unemployment rate (over 12 months), % of total unemployed	20	30	35	40	45	50
The level of dollarization of money supply, %	15	18	21	24	27	30
Inflation rate, %	3	4	5	5.5	6	7
Share of foreign currency loans in total loans granted, %	20	25	30	35	40	50
Cash volume, % of GDP	4	5	6	7	8	10
Indicators of mixed type	Z _{critical}	Z _{dangerous}	Z _{optimal}	Z _{upper is optimal}	Z _{satisfactory}	Z _{unsatisfactory}
Balance of goods and services (trade balance of the country), % of GDP	-7	-5	2	3	7	10
Index of changes in the official exchange rate of the national currency to the USD dollar, average for the period, %	90	100	110	115	120	130

Source: developed by the authors.

To assess the level of investment attractiveness of the country's economy, taking into account the criteria for identifying the risks and threats of a safe and dangerous state of the state's development, methods of prognostic extrapolation have been formalized. The basic unit of the risk assessment and forecasting model is the assessment of the value of investment assets (foreign direct investment) (Eq. 6):

$$r_{is} = \frac{V_a}{G}, \quad (6)$$

where: V_a – the value of investment assets (foreign direct investment); G – invested capital.

The importance of investment assets (foreign direct investment) is seen as a process of determining the value of information. If the indicator of cost effectiveness is (Eq. 7):

$$d = \frac{ef}{a}, \quad (7)$$

where: ef – the expected economic effect; a – costs. Then, single risk is measured as (Eq. 8):

$$r_i = p_i \times l_i, \quad (8)$$

where: p_i – probability of realization of the i -th threat in the integrated indicator of investment attractiveness of the economy of the state; l_i – damage to the i -th threat [73-80]. The aggregate risk assessment of the integrated indicator can be summarized as follows (Eq. 9):

$$R = \sum_{i=1}^{\pi} r_i, \quad (9)$$

Provided that the priority group is distinguished as G , where $j = 1, k, k \leq \pi$, W_j will characterize the weight of probable risks by priority groups, and the simple risks will be provided by the following condition (Eq. 10):

$$W_j \geq 0 \text{ and } \sum W_j = 1. \quad (10)$$

The ratio of priorities is their equation (Eq. 11):

$$A = \frac{W_j}{W_k}, \quad (11)$$

In this case, the weight of the group with the lowest priority is calculated as follows (Eq. 12):

$$GW \frac{2}{|k \times (A+1)|_{min}}, \quad (12)$$

then, the weight of the other groups is determined by (Eq. 13):

$$W_j = \frac{W_k \times \frac{1}{|(k-j) \times A + (j-1)|}}{k-1}, \quad (13)$$

The calculation of the weight of free factors for a single risk within one priority group is defined as (Eq. 14):

$$W = \frac{W_j}{GW_{min}}, \quad (14)$$

The potential loss of investment assets (foreign direct investment) is calculated by the formula (Eq. 15):

$$U = p_i \times \lambda \times D, \quad (15)$$

where: p_i – the probability of realization of the i -th risk event; λ – influence of threat on violation of investment attractiveness; D – the value of an investment asset (foreign direct investment) [81-89].

Forecasting the risks of international investment and its impact on the investment attractiveness of assets (foreign direct investment) can be minimized or partially eliminated. Net investments can be measured using the following formula (Eq. 16):

$$\Delta \ni I_{\pi k} \times \frac{v_1 - v_0}{v_0} - k_0 \times \frac{v_1 - v_0}{v_0} = (I_{\pi k} - k_0) \times \frac{v_1 - v_0}{v_0}, \quad (16)$$

where: $I_{\pi k}$ – the amount of foreign investment in a given period, which influences the integrated indicator of investment attractiveness of the country's economy; k_0 – short-term commitments for the period under study; v_1 and v_0 – actual and projected sales volume of investment assets (foreign direct investment).

Thus, the need to enter the economic system of the country on the trajectory of growth allows accelerating its development and improving investment attractiveness. At the same time, the complex of motives for placement of foreign direct investments in the country is conditioned by the desire to use local factors of production for export of investment assets. The result is the signing of international agreements on the safe movement of investment flows from EU countries to developing countries in order to access cheap resources and the securities market [90].

3. Results and discussion

The processes of economic renewal and growth of the economies of the countries of the world are determined by the size and structure of investments, the quality and the speed of their realization. Dynamic characteristics of FDI growth corresponding to the world economic trends are revealed. Investment flows are the most important tools for establishing and maintaining equilibrium in the investment system. Under the projected change of internal and external conditions of the investment environment they ensure the stability of the country's economy, its investment attractiveness, sovereignty, competitiveness and growth capacity.

Foreign direct investment (FDI) is associated with a significant increase in the volume of capital movements and its transformation into one of the determinants of global economic development. At the same time, the nature and clarification of the causes of the international capital movement in its various forms are conditioned by the foreign investment and guarantees against risk, and its effectiveness provides geo-economic dimensions of influence on the economic, regional and social development of the recipients of foreign capital [30]. However, the most impressive FDI growth peaked in GDP in 2007 with an absolute value

58.07 trillion USD equivalent to 3.26% world GDP; the absolute maximum was in 2018 – 85.79 trillion USD, which was equal 2.89% to world GDP (Figure 1) [91-97].

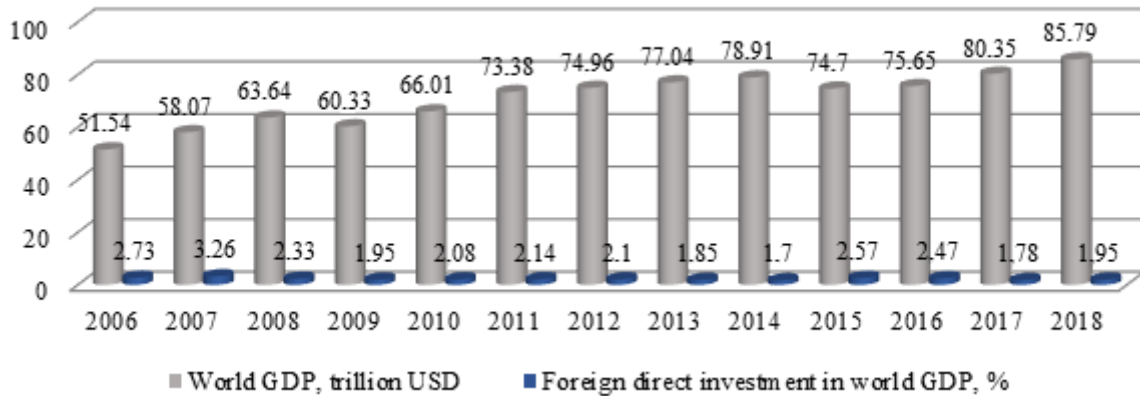


Figure 1. The ratio of world FDI flows to world GDP

Source: developed by the authors according to data [30]

FDI world flows fall in 2009 to 1179.1 billion USD was due to the financial crisis in 2008, reaching 62.3% at the level of 2007. It should be noted that in 2007, the volume of foreign direct investment inflows increased by 35% compared to 2006 and was related with high economic activity of business. Instead, in 2015, foreign direct investment attracted already 1921.3 billion USD, but in the period 2016-2018 there was a dynamic decline in its value by 13.1%, with the unavailability of 2007 (Figure 2).

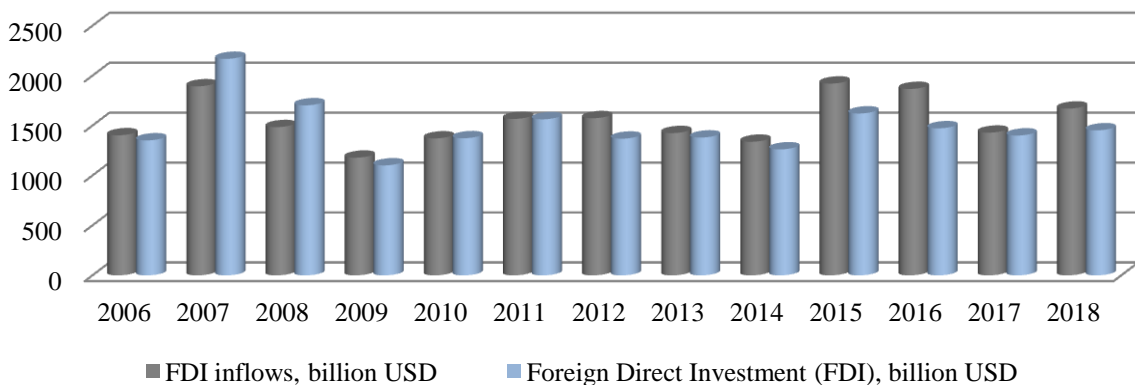


Figure 2. Movement of world foreign direct investment flows, billion USD

Source: developed by the authors according to data [30].

Over the period of the study, the US position as a foreign direct investment recipient country has not changed, while most countries have turned into the largest recipients (43%) and investors (19%) in the world capital flows and outflows. In addition to the USA, the main recipient countries are China, France, India, Germany, the main investors are the USA, Japan, China, Germany, France [98-103]. The increase in foreign direct investment flows is directly related to higher profits and higher stock prices of companies, which exceeded the value of cross-border mergers and acquisitions. As a result of increased profit of companies, reinvested income became a component of imported foreign direct investment (Figure 3).

The increase in FDI was driven by cross-border mergers and acquisitions (M&A), which in 2008 amounted to 7582 investment objects with a total value of 1032.69 billion USD. Such growth was driven by the increase in the value of foreign investments in the stock market, the growth of profit of companies and favorable financing conditions. Mostly mergers and acquisitions were financed with cash or debt. The increase in the

value of net sales by 13% in 2008 against the level of 2007 did not guarantee its increase in 2014-2015 by 67% and 68% [104].

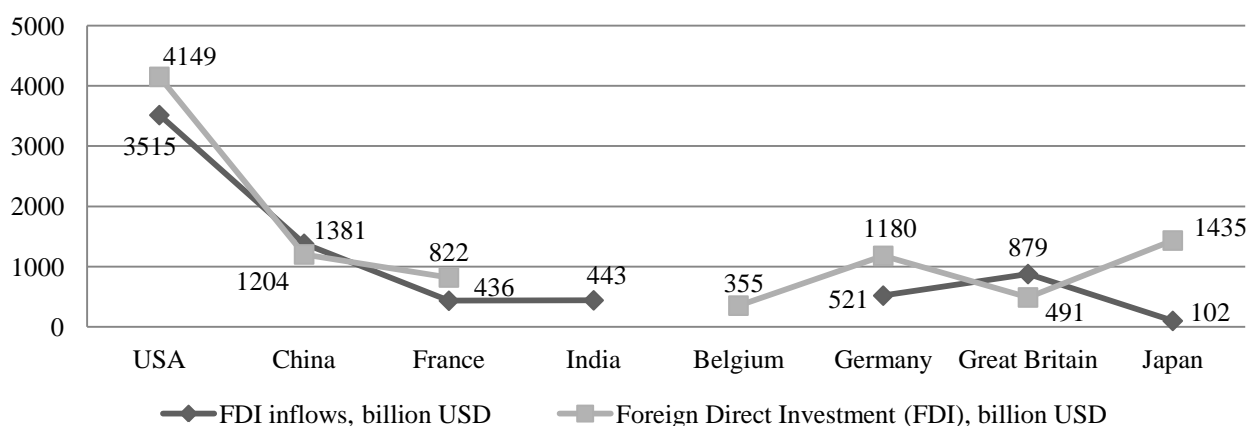


Figure 3. FDI inflows and investments in 2006-2018, billion USD

Source: developed by the authors according to data [30].

The largest amount of mergers and acquisitions took place in 2017 and amounted to 886.91 billion USD; in 2018, its value decreased by 21.8% (Figure 4), but despite such dynamics, it is the cross-border sales of investment objects that will most likely be the driving force for the growth of investment attractiveness of the economy of the countries in the future [105-111].

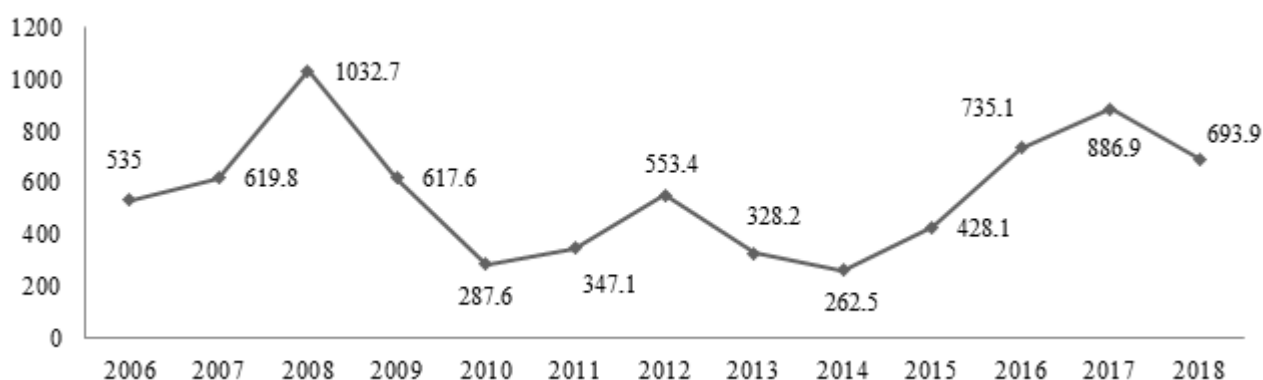


Figure 4. Net sales of cross-border mergers and acquisitions, billion USD

Source: developed by the authors according to data [30].

From a geographical point of view, cross-border sales in Europe increased at a much slower pace in 2010-2012 and 2014-2017. At the same time, the value of cross-border investment in transition countries declined sharply in the dynamic trend under study by 44% and 52% respectively, leaving 6% its share in the total volume of mergers and acquisitions (for comparison, in 2006-2015 it amounted to 19%). The same trend is observed in 2018. The powerful development of transnational companies (TNCs) has a significant impact on the investment attractiveness of the world's economies. Their share in the total volume of export to the world FDI market is 84%. According to the UNO more than 80 thousand of firms in different countries are attributed to global transnationals, but only about 500 of them with annual sales exceeding 1 billion USD (70 (largest TNCs generally have an aggregate annual sales volume of 10 to 125 billion USD), which are the core of the world economic system [112-117].

TNCs account for more than 25% of world GDP in total activities, and TNCs located outside the countries of origin account for 10% of world GDP and one third of world exports. TNCs serve about 2/3 world trade, of

which almost half of the trade takes place within these companies. This means that trade takes place at transfer prices that are determined by the policies of the parent companies. The largest TNCs have budgets that exceed the budgets of some countries in the world. Thus, developed countries occupy a leading position in the overall structure of world FDI (Figure 5).

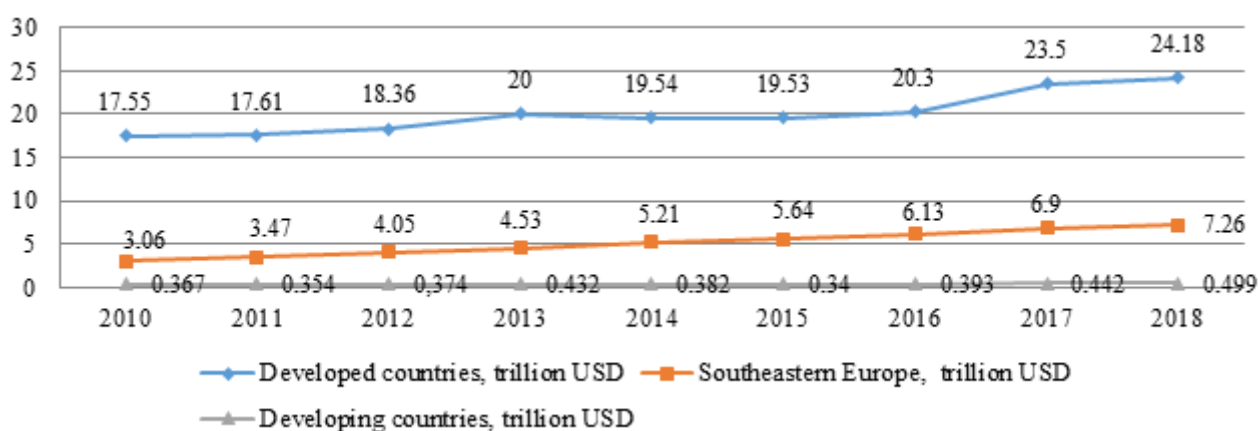


Figure 5. Structure of foreign direct investment by regions of the world countries (external reserves of investment potential), trillion USD

Source: developed by the authors according to data [30].

Overall, the global FDI market over the past five years has continued to be shaped by investment flows from major economic entities such as the G-20, APEC (Asia-Pacific Economic Cooperation), NAFTA, which are exporters of capital, most of the recipients of investment are developing countries. Global FDI declined by 23% to 1.43 trillion USD in 2016-2018. The fall was partly due to a decrease in the value of the volume of cross-border mergers and acquisitions by 22%. It should be noted that foreign direct investment in the country's economy is an important element in the development of foreign economic relations and an indicator of the degree of integration of the country into the world economy. An increase in FDI by 1% leads to an additional increase in income per person by 0.8% [118]. Thus, the investment attractiveness of the Ukrainian economy is characterized by such macroeconomic indicators as economic growth (nominal and real GDP), balance of payments (including exports, imports, international reserves, external debt), the capital market, which is affected by inflation and the labor market (unemployment rate) (Table 2).

Table 2. Indicators of investment attractiveness of the economy of Ukraine for 2012-2018

Indicators	2012	2013	2014	2015	2016	2018	2018
Nominal GDP, billion UAH.	1.405	1.465	1.587	1.989	2.385	2.983	3.428
Real GDP, % change	0.2	0.0	-6.6	-9.8	2.3	2.5	3.5
Consumption, % change	7.4	5.2	-6.2	-9.8	2.3	2.5	3.5
Fixed investment, % change	5.0	-8.4	-24.0	-9.2	2.1	18.1	14.9
Export, % change	-5.6	-8.1	-24.0	-9.2	2.1	18.1	14.9
Imports, % change	3.8	-3.5	-22.1	-17.9	8.4	12.2	14.0
GDP deflator, % change	8.1	3.1	14.8	38.4	17.1	22.0	11.1
Inflation rate (CPI), % change	-0.2	0.5	24.9	43.3	12.4	13.7	9.9
Current account balance, % of GDP	-8.2	-9.2	-3.5	-0.2	-3.8	-3.5	-3.7
External debt, % of GDP	46.6	78.6	97.6	131.5	129.4	104.0	106.3
International reserves, billion USD	24.5	20.4	7.5	13.3	15.5	18.8	20.4
Budget revenues, % of GDP	44.5	43.6	40.3	42.1	38.4	39.2	40.1
Tax revenues, % of GDP	38.9	37.9	35.8	35.5	33.1	34.0	35.4
Budget expenditures, % of GDP	48.9	48.4	44.8	43.2	40.6	41.5	42.6
Current expenditure, % of GDP	45.7	46.2	44.3	41.0	37.4	38.2	39.4
Capital expenditure, % of GDP	2.9	2.0	1.3	2.2	3.1	3.3	3.2

Fiscal balance, % of GDP	-4.4	-4.8	-4.5	-1.2	-2.2	-2.3	-2.5
Government and guaranteed debt, % of GDP	36.6	40.6	70.3	79.7	81.2	72.3	75.1

Source: calculated by the authors according to data [28].

Unfortunately, during 5 years (2014-2018) no significant changes in the volume of attracting foreign direct investment in Ukraine have occurred. During this period, the amount of foreign investment in the country decreased by 14.99 billion US dollars. In 2018 alone, investment inflows compared to 2017 increased by 1.20 billion USD, or by 3.2% (Figure 6).

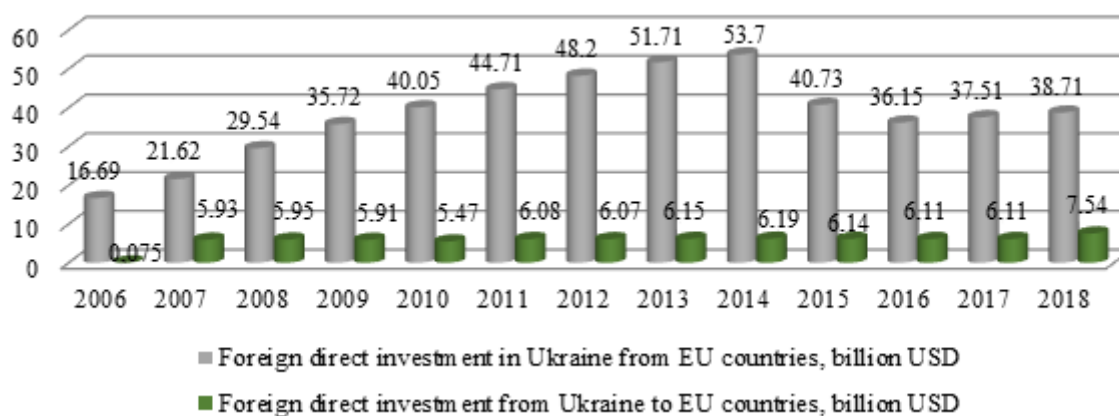


Figure 6. Foreign direct investment movement between Ukraine and EU countries, billion USD

Source: developed by the authors according to data [12; 24; 27]

In 2018, more than 38.71 billion USD was invested in the economy of Ukraine from over 76 countries of the world. The main investor countries include the Netherlands – 33.2%, the Russian Federation – 17.3%, Cyprus – 16.6%, Austria – 7.1%, France – 3.9%, the United Kingdom – 3.4%, Poland – 3.2%. The largest share in the structure of distribution of foreign direct investment by economic sectors in Ukraine is directed to the financial and insurance spheres – 16.38 billion USD (or 42.3%) from their total volume (additional capitalization of banks with foreign capital led to increase of investments from Austria (Raiffeisen Bank Aval JSC) and Hungary (OTP BANK JSC); trade, repair of motor vehicles and motorcycles – 8.09 billion US dollars (20.9%); industry – 5.93 billion USD (15.3%); real estate transactions – 5.46 billion USD (14.1%); information and telecommunications – 1.63 billion USD (4.2%); professional, scientific and technical activities – 1.24 billion USD (3.2%) [24].

Enhanced free trade between Ukraine and EU countries is an effective tool to improve access to powerful investment resources and improve business conditions in the global investment environment. Foreign direct investment potentially generates a wide range of benefits for both sides of the relationship, both for Ukraine and the EU. European investments in the Ukrainian economy allow investors to: reduce transport costs by placing businesses in close proximity to new markets; avoid tariffs (quotas) for goods and services produced on the Ukrainian market; use cheap (skilled) labor; reduce risks through diversification; generate income, both in profits and dividends. At the same time, Ukraine, as a recipient of European investments, benefits by increasing GDP, increasing employment, reducing imports is stimulating the domestic economy [118].

It should be noted that the largest movement of foreign investments from EU countries is directed within their triad (Figure 7). The US and Japan account for about 40% all European investments. European investors are not at risk of investing in countries that are characterized by economic (political) instability. On the contrary, those countries that provide real economic development (relatively low inflation and interest rates, stable currency, respect for intellectual property rights are the USA, Switzerland, Canada, Japan and others) are more interesting for European investors. Thus, the level of FDI inflows in the EU is at 2-4% GDP (Figure 8). The high degree of intensity in the Netherlands is explained by the existence of substantial benefits for the registration of foreign companies, which indicates a certain element of offshoresness.

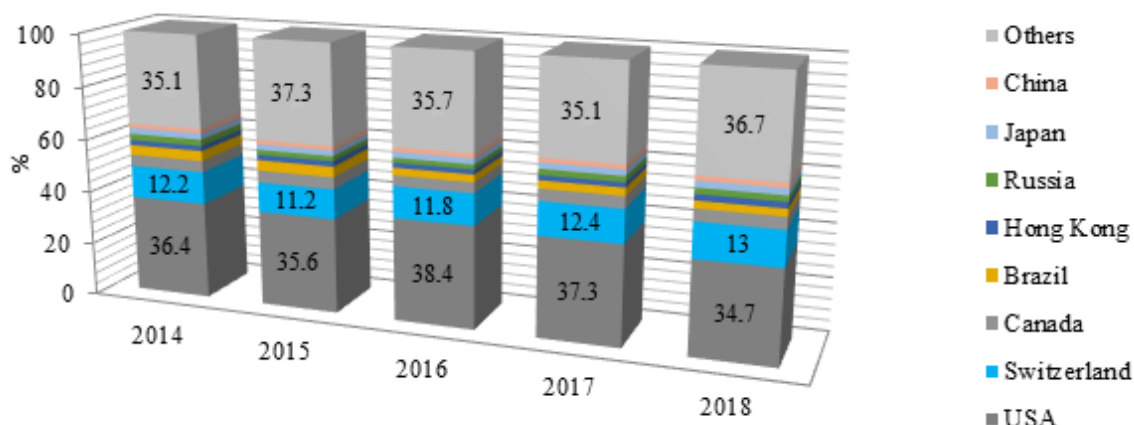


Figure 7. Movement of European foreign direct investment between countries, % to GDP

Source: compiled by authors according to data [25].

The intensity of other EU countries, which are the largest investors in Ukraine, is at an average level. Moreover, in Ukraine the intensity of FDI movement has a degree of globalization of the economy. On the one hand, the Ukrainian economy is more open to attracting FDI, on the other, it is more dependent on investment than the EU-28, since its movement has a significant impact on the country's GDP, productive sector and employment.

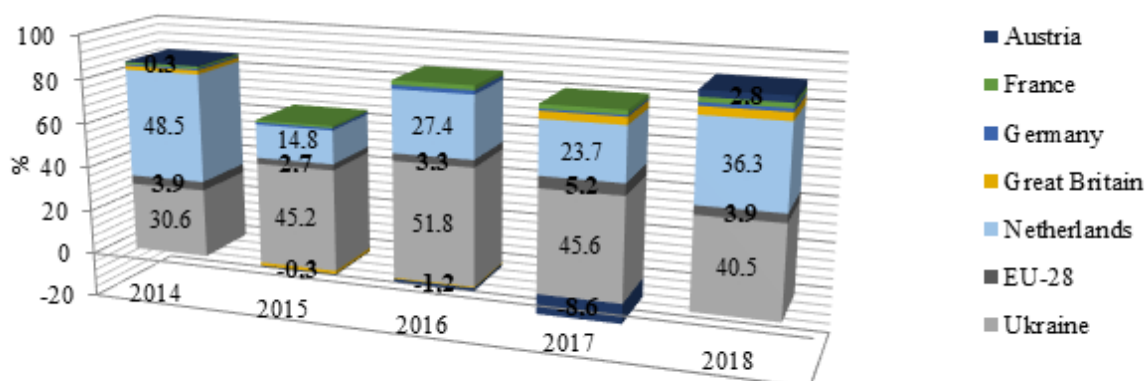


Figure 8. Intensity of foreign direct investment flows in Ukraine and the largest EU investor countries, % of GDP

Note: Flow rate – the average value of foreign direct investment inflows and outflows to GDP.

Source: compiled by authors according to data [25]

At the same time, Ukraine's integration into the European Union allows it to realize its national interests and ensure the economic security of the country. Countering such security is introduced through an indicator of the foreign economic state of the country, which warns of threats against the economic development of the country, taking into account the interests of other entities of foreign economic activity, thus increasing international competitiveness, creating favorable conditions for the development of trade in goods, services, investments. The comparative characteristics of the investment attractiveness indicators of Ukraine and the EU countries are shown in Figure 9-10. The analysis of the data shows that the indicators are low, and this is

not a positive factor, since the economies of the countries require more investment, beyond the current limit of the safe level of their involvement [119].

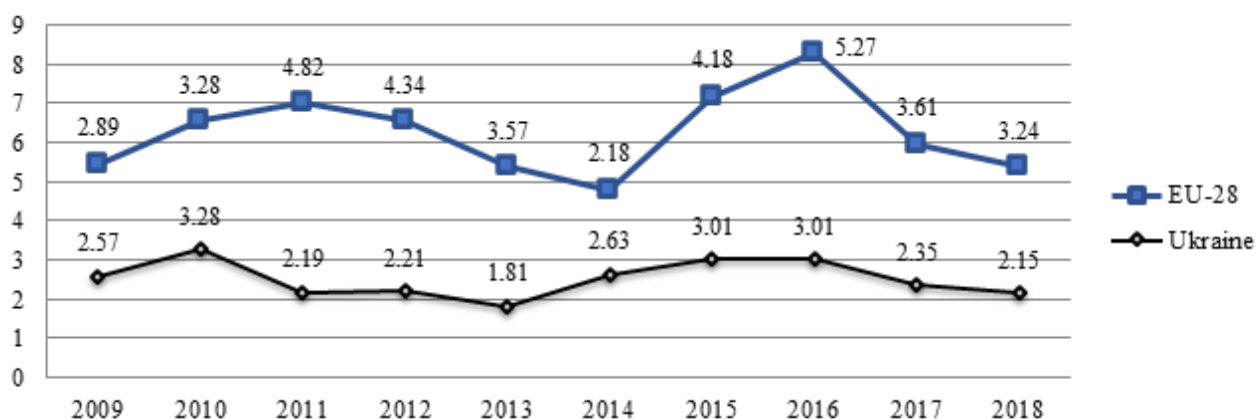


Figure 9. Investment security indicator of Ukraine and EU countries according to the indicator “net FDI inflows in % of GDP”, %

Source: compiled by authors according to data [29].

It must be acknowledged that the amount of government spending on the use of the mechanism of attracting investment resources amounts to more than 0.38 billion US dollars, and the amount of investment resources involved does not meet their minimum needs [25]. We believe that the effectiveness of attracting investment resources to the country depends directly on reducing the impact of international financial institutions on ensuring a stable economic environment and sustainable economic growth, favorable investment infrastructure. At the same time, public-private partnerships for attracting foreign investments should become a vector of priority cooperation.

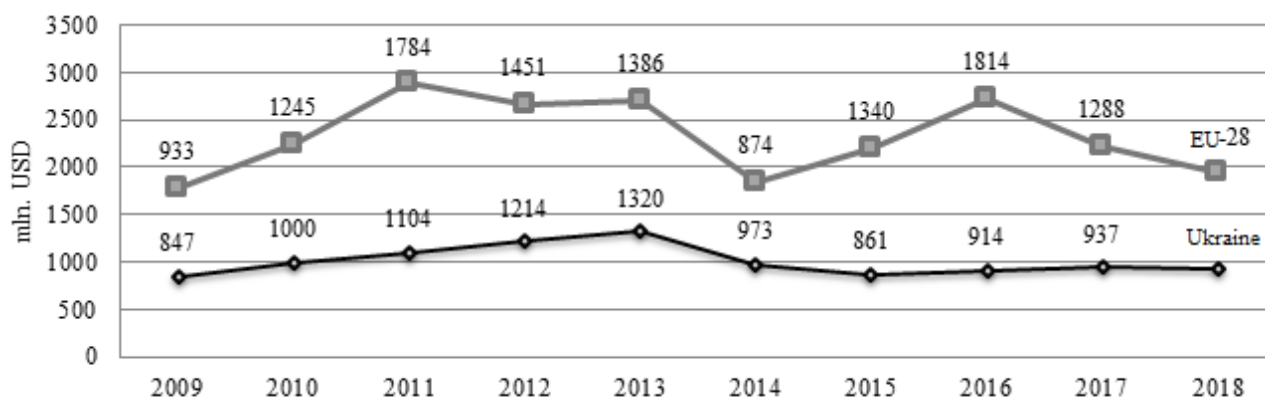


Figure 10. Investment security indicator of Ukraine and the EU countries by indicator “net FDI inflow per capita”, mln. USD

Source: Compiled by authors according to data [29].

The extrapolation forecasting of the change in the polystructural space of foreign direct investment in the countries of the world (Figure 11) and their trajectory in the future are made. This forecasting uses the coefficient of confidence approximation R^2 for the most optimal trend equation, which is divided into three groups: the first one – with the value 0.8-1.0 – the high-quality scenario; second – with value 0.5-0.8 – acceptable quality; the third group – with value 0.0-0.5 – the scenario of poor quality [120].

There are three variants of the forecast. If negative factors influence the global GDP (low growth of the world economy, global financial crises and other global determinants), a pessimistic forecast is possible, which reflects the lower limit of the possible value of the indicator $R^2 = 0.7539$. With the dominance of positive factors (accelerated growth of the world economy, the most favorable investment climate, etc.), an optimistic forecast is possible, which shows the upper bound of the coefficient of determination $R^2 = 0.7669$ (the value of the approximation reliability). The third option is the probable one, which corresponds to the current trends in the development of the world economy and reflects the most optimal scenario with an average indicator $R^2 = 0.5553$.

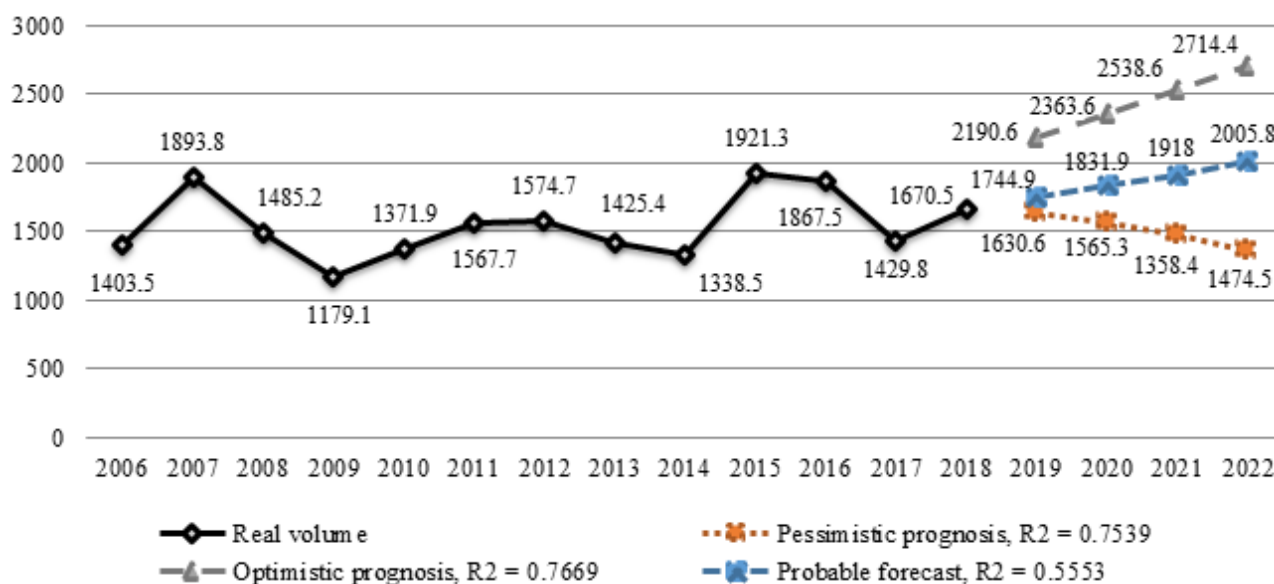


Figure 11. Global FDI growth scenario, billion USD

Source: authors' own calculations

According to the forecast of changes in the polystructural polarization of the world foreign direct investment volume, it is determined that by 2022 its value in the most probable scenario will exceed 2005 billion US dollars; under the optimistic scenario, FDI growth can be reached at 2714 billion USD; in the context of a pessimistic forecast – there will be a slowdown in the global economy, cataclysms and shocks will occur in the global financial market for FDI, there will be a dynamic reduction in the number of mergers and acquisitions, restrictions will be introduced in attractive areas for FDI, and the decline in world FDI may continue until the level of 2010.

4. Conclusion

Thus, the EU countries are one of the largest investors (the share 65-90% of all investments) in the polystructural space of international investment. We believe that European integration of the world countries will allow to secure a safe flow of foreign investments and investment attractiveness for the developing countries on the basis of: creation of consortia and alliances of domestic companies with leading European companies, taking into account the means of economic diplomacy; introduction of modern forms of international joint financing of strategic investment projects (we should note that in Ukraine, during 2016-2018 only 45-48% projects were implemented in the medium-term budgetary period); ensuring the investment needs of the manufacturing sector, taking into account the agricultural sector; increasing interaction and practical cooperation in the context of the EU 2020 Strategy; the introduction of monitoring pricing within transnational companies (TNCs), to prevent tax evasion and the territory of developing countries; formation of a system of mutual protection of investments, minimization of geopolitical, macroeconomic, as well as military threats.

In the context of deepening cooperation and realizing the unique capabilities of the states in shaping the global investment climate, it is necessary to ensure a high level of employment of the population by creating new

jobs, updating the transfer and introducing the latest technologies, solving social problems at the general level; to carry out an investment modernization of the economy to increase the fixed assets of enterprises; to implement a more effective investment policy.

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