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STRUCTURAL INDICATORS TO MONITOR MACROECONOMIC MISBALANCES IN THE INVESTMENT SPHERE OF UKRAINE

The article presents the results of the author's researches on the development of forecasting and analytical tools to detect and prevent for an exposure and warning of potential macroeconomic misbalances in Ukraine taking into account the experience of European Union in the use of the Macroeconomic Imbalance Procedure (MIP).

Attention is focused on the construction and monitoring of structural indicators for the investment sphere, which determine the potential for economic development; substantiated the necessity to adapt the current EU MIP component to assess the investment sphere in Ukrainian realities. The author shows that, taking into account the transitive character of Ukraine's economy, the instrumental assessment of the development trends in its investment sphere trends requires analysis of the structural changes with the use of relevant indicators.

Presented the main results of the analytical assessment of the corresponding changes in the structure of gross accumulation of fixed capital, investments in fixed capital, changes in the structure of foreign direct investments and the volumes of their inflow that have been observed in recent years, and shown that Ukraine in this sense is moving opposite to progressive global trends. Despite the adoption of a number of laws on the strategy of Ukraine's economic development of Ukraine, priorities for the development of this country's productive potential, transition to an innovative path of development, etc., there are still no real progress in the investment sphere.

Emphasized the need to create and implement a national policy aimed at encouraging the expansion of domestic investment opportunities, and reorientation of the interests of foreign investment capital to technological renewal of Ukrainian economy.

Keywords: macroeconomic imbalances, investment sphere, investment potential, structural changes, forecasting and analytical indicators

One of the important components of the Macroeconomic Imbalance Procedure (MIP) is the monitoring of structural indicators for the investment sphere that determine the potential for economic development.

The European MIP for the assessment of the investment sphere includes both auxiliary indicators such as gross accumulation of fixed capital (% of GDP) and the total amount and inflow of foreign direct investments (% of GDP) [1, 2].

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Previous studies on this topic [3] have shown that as Ukraine's economy is undergoing a transformation, it is advisable to supplement the assessment of the investment sector with an analysis of structural changes in these indicators, which makes it possible to more adequately assess not only the risks of emergence of a gap between the need for technological and physical renewal of fixed capital and the actual attraction of investments in this area, but also the potential of innovative economic renewal and the formation of new economic structure.

Today, the main trend of global economic development is the formation of a modern post-industrial model of the economy due to the fundamental redistribution between the primary (agricultural), secondary (industrial) and tertiary (services) sectors, as well as due to changes in the output composition of each of these sectors.

There are also some changes in Ukraine, but are they in line with the world trends?

In recent years, changes in the structure of economic activities in Ukraine indicate that this country's development is moving away from the progressive world trends [4–6]. The study of the main structural indicators of the formation of macroeconomic imbalances in the investment sphere, which primarily include the share of gross accumulation of fixed capital in GDP, as well as the structure of the gross accumulation and its main component – capital investment, showed that, despite the adoption of a number of laws on the strategy of Ukraine's economic development, priorities for the development of this country's productive potential, transition to an innovative path of development, etc., there are still no real progress in the investment sphere (Table 1).

Table 1

Dynamics of structural changes for 2010–2018 *

Indicator	2010	2013	2016	2018
<i>Share of GDP, %%</i>				
Agriculture, forestry and fish industry	14,3	12,3	14,9	22,8
Industry	49,7	30,7	39	34,5
Construction	4,6	16,5	16,3	9,7
Services	31,4	40,5	29,8	33
Gross accumulation of fixed capital	17,5	17,4	15,5	17,2
Machinery and equipment in gross accumulation of fixed capital	35,5	38,1	44,7	44,6
The cost of purchasing machinery, equipment and software for innovation	7,4	5,4	12	2,6**
<i>Share of total capital investment, %%</i>				
Agriculture, forestry and fish industry	6,1	7,4	14,1	11,4
Industry	30,7	39	32,8	34,5
Construction	16,5	16,3	12,4	9,7
<i>Share of total capital investment in industry, %%</i>				
Mining and quarrying	27,6	22,3	19,1	27
Manufacturing industry	54,4	45,8	52,8	50,5
Machinery-producing industry	7,5	7,5	7,8	7,5
Supply of electricity, gas, steam and air conditioning	16,8	30	26,1	20,9

* Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and parts of the anti-terrorist operation zone.

** According to 2017 data

Source: according to the State Statistics Service of Ukraine (<http://www.ukrstat.gov.ua/>).

In the year 2000, which is considered the beginning of the recovery of Ukraine's economy after the transformation crisis of the 1990s, the most important component of GDP was industry, which accounted for almost half of the gross domestic product. However, in 10 years' time the share of industry decreased to 31%, while during this period the most significant increase was recorded in the share of construction – from 12 gross profit to 16.5%. Also, a redistribution in favor of the tertiary sector took place: the share of the services sector increased from 31,4 to 40,5%.

During 2011–2018, the trends of structural changes in the Ukrainian economy changed: the share of the agrarian sector increased sharply – to almost 23%, and the industry sphere is restored while the share of the services sector is reduced.

World trends have the opposite direction: in the last 20 years the share of services in the GDP structure of developed countries has increased to 70–80%.

In Eastern European countries, the transformation of the economy is also in the direction of increasing the tertiary sector, which now accounts for more than 60% of GDP.

On the other hand, the share of industry in the world decreased by 4,7 p.p. during the period – to the level of 29,2%. The share of industry in the "old" industrialized countries, in particular the European Union, is declining at the fastest pace. While in 1991, it was 31%, in 2016 – 24,5%, in the USA – 14,8%.

The structure of Ukrainian industry in terms of technological level is also changing in a trend opposite to global development: high-tech industries in Ukraine are losing their positions, while the share of low-tech industries is increasing. Thus, in 2018, compared to 2001, the share of mechanical engineering in total sales decreased from 10,2 to 6,9%, and the share of mining industry increased from 9,7 to 13% [7].

In addition, in today's economy of Ukraine the phenomenon of hysteresis – the loss of part of the industrial potential due to the fact that the decline in production turned out to be sufficiently stable and long-term – it manifested itself quite clearly for almost a decade in 1991–1999 and in the period 2013–2016.

At the same time, the experts of the Institute for Economics and Forecasting of the National Academy of Sciences of Ukraine substantiated that sustainable economic development can be based only on an ecologically balanced structural and technological restructuring of the production base of the Ukrainian economy, where natural-productive vertical production will be replaced by nature-productive vertical units [8–10].

These structural changes require huge investments aimed at shaping a modern post-industrial model of the economy. That is why the monitoring and forecasting of trends in the development of Ukraine's investment sector are so important to formulate an efficient policy on its high-tech based re-industrialization and speed up the development of the domestic economy on this basis.

The main instrumentarium for this monitoring and assessment of trends in the field of accumulation and use of Ukrainian investment potential is the system of structural indicators, where the indicator of the gross accumulation of fixed capital relative to national GDP plays an important role.

In 2002–2008, a steady upward trend in this indicator was observed in Ukraine, and in 2006–2008, its rate was 23,7%, 26,4% and 25,2% respectively, which even exceeded the reference 23% EU rate for that period.

In 2009, the indicator decreased significantly – to 17,7% and during 2009–2013, it fluctuated around this mark with little volatility. In 2014, the share of gross fixed

capital formation (GFCF) in GDP dropped significantly – to 14%, and a gradual increase in the indicator began in 2016, but its level is still much lower than the reference EU average rate (20%).

It should be noted that, unlike the sustainable economic development of the European Union, during the almost four decades before the start of the global financial crisis of 2008–2009, Ukraine's economic development was unstable during the whole period of independence. None of the macroeconomic indicators showed stable dynamic trends. Therefore, the level of relative indicators is strongly influenced by the difference in the rate of change in the components of these indicators.

For example, the rather fast growth of GFCF indicator (% of GDP) in 2006–2008 was due to the increase in the gross accumulation: their growth rates significantly exceeded the GDP growth rate.

In 2009, both components of the indicator decreased. However, the rate of reduction of GFCF by almost 7 gross profits exceeded GDP decline.

The situation was the same in 2014–2015: the indicator was decreasing as the two components declined, but GFCF was declining more rapidly.

Thus, even in those periods when the Ukrainian economy showed a high level of gross accumulation of fixed capital (% of GDP), it is impossible to speak about the formation of stable positive tendencies and mitigation of the previously formed imbalances.

In addition, as the Ukrainian economy is undergoing a transformation, it is advisable to supplement the assessment of these trends and imbalances with an analysis of changes in the structure of the GFCF and its main component – fixed capital investment, which will allow not only to adequately assess the risks of emergence of a gap between the need for technological and physical renewal of fixed capital and the actual attraction of investments in this area, but also the potential of innovative renewal of the Ukrainian economy and the formation of its new structure.

Thus, if we evaluate the changes in the structure of Ukrainian gross accumulation of fixed capital, we can draw the following conclusions:

- there are no clear trends in the structural changes of the GFCF, which indicates that there is no strategy for using the country's investment potential;
- although the share of machinery and equipment increased from 35,5% in 2010 to 44,6% in 2018, there is no steady increasing trend: the proportion increased by 3–6 p.p. and decreased the following year by 1–2,4 p.p. (Table 2).

In addition, despite the fact that the share of machinery and equipment is quite high in the structure of Ukraine's GFCF, the share of this component in GDP is much lower than in the developed countries. Thus, in terms of Purchasing Power Parity, in Ukraine, the share of machinery and equipment in the GDP structure in 2010–2018 fluctuated around 3%, whereas in Germany this figure was about 6–7%, in Japan – 7–8%, in Poland – 4,3%, and in Belarus – 5,6% [11].

Another important aspect in assessing a country's investment potential is the costs allocation in machinery and equipment. During 2010–2016, only 6–10% of the total costs of machinery and equipment was spent on innovative production upgrades. And in 2017, when machinery and equipment accounted for the highest share of GFCF (47%), only 2,5% was used on innovative equipment upgrades.

Table 2

Changes in the structure of GFCF in 2010–2018*

Indicator	2010	2011	2012	2013	2014	2015	2016	2017	2018
<i>Share in GFCF, %</i>									
Residential build-ings	16,3	12,2	12,4	15,8	19,3	20,5	16,6	15,8	14,2
Other buildings and structures	42,5	44,1	44	41,4	38,8	34,9	33,4	32,3	34
Machines and equipment	35,5	38,9	38,7	38,1	37,2	38,3	44,7	47	44,6
Weapon systems	0,2	0,1	0,3	0,3	0,3	1,7	1,5	1,4	3
Biological re-sources	0,5	0,5	0,6	0,9	0,4	0,9	0,7	0,5	0,6
Intellectual prop-erty	5	4,2	4	3,5	4	3,7	3,1	3	3,6
<i>Change in GFCF share, gross profits</i>									
Residential build-ings		-4,1	0,2	3,4	3,5	1,2	-3,9	-0,8	-1,6
Other buildings and structures		1,6	-0,1	-2,6	-2,6	-3,9	-1,5	-1,1	1,7
Machines and equipment		3,4	-0,2	-0,6	-0,9	1,1	6,4	2,3	-2,4
Weapon systems		-0,1	0,2	0	0	1,4	-0,2	-0,1	1,6
Biological re-sources		0	0,1	0,3	-0,5	0,5	-0,2	-0,2	0,1
Intellectual prop-erty		-0,8	-0,2	-0,5	0,5	-0,3	-0,6	-0,1	0,6

* Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and parts of the anti-terrorist operation zone.

Source: according to the State Statistics Service of Ukraine (<http://www.ukrstat.gov.ua/>).

The dynamics of the investment structure in Ukraine allows us to assess the orientation of the gross accumulation of fixed capital in more detail. Thus, in particular, the actual data for 2010–2018 on attracting fixed capital investment by economic activity show a twofold increase in the share of agriculture in total capital investment – from 6,1% in 2010 to 14,3% in 2017. In 2018, the share of agriculture decreased slightly to 11,4% due to the redistribution of investments for the benefit of industry. Industry during this period also showed an overall increase in the share of capital investment, but unlike the agrarian sector, the dynamics were not stable here: a rather rapid increase in the share of industry in gross fixed capital investment, which occurred during 2010–2014, decreased in 2015–2017 and only in 2018 the share of industry increased again (Table 3).

Table 3

The share of certain economic activities in total volume of capital investments in Ukraine, %

Indicator	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total	100	100	100	100	100	100	100	100	100
Agriculture, for-estry and fishery	6,1	6,8	6,9	7,4	8,6	11,0	14,1	14,3	11,4
Industry	30,7	32,6	33,5	39,0	39,3	32,1	32,8	32,0	34,5
Construction	16,5	13,3	14,9	16,3	16,4	15,9	12,4	11,6	9,7

Continuation of Table 3

Wholesale and retail trade; repair of motor vehicles and motorcycles	10,3	10,0	9,0	8,9	9,4	7,6	8,3	7,5	9,0
Wholesale and retail trade of motor vehicles and motorcycles, their repair	0,8	1,1	0,4	0,4	0,4	0,5	0,5	0,6	0,5
Wholesale trade, except of motor vehicles and motorcycles	6,6	6,2	6,4	6,1	6,0	5,0	5,1	4,9	5,0
Retail trade, except of motor vehicles and motorcycles	2,9	2,7	2,2	2,4	3,0	2,1	2,8	1,9	3,4
Transport, warehousing, postal and courier activities	10,7	10,6	11,9	7,4	7,1	6,8	7,0	8,5	8,7
Temporary accommodation and catering	0,6	0,7	0,8	0,6	0,7	0,5	0,4	0,5	0,5
Temporary accommodation	0,4	0,4	0,6	0,3	0,4	0,3	0,2	0,3	0,3
Food and beverage service activities	0,2	0,2	0,3	0,2	0,3	0,2	0,2	0,2	0,2
Information and Telecommunications	4,8	4,0	3,7	3,9	3,7	8,4	4,4	4,1	5,2
Publishing, broadcasting, television	1,1	1,1	1,0	0,9	0,8	0,8	0,8	0,8	0,8
Telecommunications (electro communication)	3,5	2,7	2,5	2,8	2,6	7,2	3,0	2,8	3,7
Computer programming and other information services	0,2	0,2	0,2	0,3	0,3	0,4	0,6	0,5	0,7
Financial and insurance activities	3,2	2,5	2,7	2,7	2,8	2,4	2,1	1,8	1,8
Real estate transactions	5,5	6,1	4,5	5,4	5,1	4,4	5,5	5,0	4,8
Professional, scientific and technical activities	2,8	4,3	3,3	1,4	1,3	1,5	1,8	1,8	1,9
Activities in the fields of law and accounting, architecture and engineering, technical testing and research	2,3	3,8	2,8	1,1	1,1	1,2	1,4	1,2	1,3
Research and development	0,3	0,3	0,2	0,2	0,2	0,2	0,2	0,2	0,3

End of Table 3

Other professional, scientific and technical activities	0,2	0,3	0,3	0,1	0,1	0,1	0,2	0,3	0,3
Administrative and support service activities	1,6	1,6	1,8	1,6	1,6	2,4	2,8	2,8	2,0
Public administration and defense; compulsory social insurance	4,3	4,7	4,3	3,0	2,6	5,1	6,2	7,3	7,7
Education	1,0	0,9	0,5	0,4	0,4	0,6	0,6	0,8	0,8
Health care and social assistance	1,1	0,9	1,0	0,7	0,6	0,9	1,2	1,5	1,4
Arts, sports, entertainment and recreation	0,5	0,6	1,0	1,0	0,2	0,4	0,3	0,4	0,6
Provision of other services	0,4	0,5	0,2	0,1	0,1	0,1	0,1	0,1	0,1

* Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and parts of the anti-terrorist operation zone.

Source: according to the State Statistics Service of Ukraine (<http://www.ukrstat.gov.ua/>).

The share of capital investment increased in public administration and defense (by 3,4 gross profit), computer programming (tripled up to 0,7%), and information and telecommunications (by 0,4 gross profit).

There is no doubt that changes in the structure of capital investments are due to the dynamics of their involvement in certain types of economic activity. Since 2010, the largest increase in capital investment has been demonstrated by public administration and defense (increase 2,4 times), as well as health care and social assistance (increase 2,3 times). The volume of capital investments was significantly increased by industry (increase 62,6%), agriculture (increase 43,3%), trade (increase 31,3%) and informatics and telecommunications (increase 26,3%). However, the efficiency of capital investment use also differs significantly in these types of activities: industry that increased investments by almost 63% for the last eight years, and reduced the output of goods by 15,8% during this period, health care by almost 4%, trade – by 4% (Table 4).

The degree of depreciation of fixed assets in industry remains the highest among all types of economic activity – almost 70%, the average level in Ukraine is 58%. At the same time in the processing industry, the wear and tear is 76,6%, wood products manufacturing – more than 91%, printing – more than 95%, the production of vehicles – more than 94%.

Another indicator is the narrowing of production capacity, namely the number of large and medium-sized enterprises. For the period 2014–2017, the total number of large and medium-sized enterprises in Ukraine decreased by 1,462 entities².

² Long-term dynamics is misleading as it includes enterprises operating in a temporarily occupied territory

Table 4

Growth rates of individual investment and output indicators in Ukraine over the period 2010–2018*, %

Indicator	Volume of capital investments	Output of goods and services at market prices
Agriculture, forestry and fishery	143,4	129,4
Industry	162,6	84,2
Construction	69,4	80,3
Wholesale and retail trade; repair of motor vehicles and motorcycles	131,3	96,1
Transport, warehousing, postal and courier activities	118,2	111
Information and telecommunications	126,3	140,7
Financial and insurance activities	98,0	84,2
Professional, scientific and technical activities	77,5	121,5
Public administration and defense; compulsory social insurance	243,5	125,2
Education	104,7	89,6
Health care and social assistance	232,8	97,1

* Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and parts of the anti-terrorist operation zone.

Source: according to the State Statistics Service of Ukraine (<http://www.ukrstat.gov.ua/>).

Total number of large enterprises decreased from 497 to 399, while the medium-sized enterprises decreased from 16618 to 15254. In particular, 74 large and 36 medium-sized enterprises ceased to function in industry. Machine-building enterprises suffered the most: the only large enterprise that produced computers, electronic and optical products shut down, 10 enterprises out of 104 medium-sized ones shut down. Fourteen out of 174 medium-sized enterprises manufacturing electrical equipment shut down. And so did 3 large and 27 medium-sized enterprises of general mechanical engineering, and 10 large motor industry enterprises.

The structure of capital investment in industry indicates the orientation of capital investment to those activities that are reorienting to foreign markets. In the mining industry, it is the extraction of ores, in the processing industry – the production of food items whose share in Ukraine's commodity exports is steadily growing (Table 5).

An exception is the supply of electricity, gas, steam and air conditioning. This activity is not export oriented, however, during 2010–2013 the share of attracted capital investments in it steadily increased. Since 2014, the figure has been declining, but remains one of the most significant and indicates the modernization of the industry.

The share of capital investments in those activities that would contribute to the modernization of the entire Ukrainian economy (primarily mechanical engineering) remains practically insufficient at the level of 7,5%.

Table 5

The share of certain economic activities in total volume of capital investments in Ukrainian industry*, %

Indicator	2010	2011	2012	2013	2014	2015	2016	2017	2018
Mining and quarrying	27,6	28,1	24,3	22,2	23,2	21,1	19,1	24,8	27,0
Manufacturing industry	54,4	53,6	46,2	45,8	49,3	52,7	52,8	51,6	50,5
Manufacturing of food, beverages and tobacco products	15,4	15,3	14,5	15,3	15,6	15,5	18,1	13,2	15,1
Textile manufacturing, clothing, leather manufacturing and other materials	0,9	0,7	0,4	0,5	0,7	1,1	1,5	1,3	0,9
Manufacturing of wood, paper products and printing	2,5	4,6	2,5	2,5	2,3	4,6	4,2	4,8	3,8
Manufacture of coke and refined petroleum products	2,6	2,0	1,4	0,7	0,6	0,7	0,6	0,7	0,8
Manufacture of chemicals and chemical products	4,4	3,5	3,8	2,7	2,5	1,9	1,5	2,1	1,4
Manufacture of basic pharmaceutical products and pharmaceuticals	1,0	1,0	0,9	1,1	1,6	1,9	1,4	1,3	1,2
Manufacture of rubber and plastic products, other non-metallic mineral products	6,9	5,4	4,1	4,3	4,6	4,4	5,3	7,3	6,6
Metallurgical production, manufacture of fabricated metal products, except machinery and equipment	12,1	12,4	10,1	11,1	13,7	14,2	12,5	12,4	13,2
Manufacture of computers, electronic and optical products	0,4	0,5	0,5	0,2	0,3	0,5	0,5	0,5	0,5
Manufacture of electrical equipment	1,2	0,8	0,7	1,0	0,7	0,7	1,2	1,0	1,0
Manufacture of machinery and equipment that do not belong to any other group	2,9	2,7	3,0	2,2	2,3	2,2	2,0	2,3	2,0
Manufacture of motor vehicles	3,0	3,1	3,1	3,2	3,0	3,8	2,9	3,3	2,8

End of Table 5

Other types of processing industry, repair and installation of machinery and equipment	1,3	1,4	1,2	0,9	1,1	1,4	1,3	1,3	1,3
Electricity, gas, steam and air conditioning supply	16,8	17,1	27,7	30,0	26,5	24,4	26,1	21,6	20,9
Water supply; sewerage, waste management	1,2	1,3	1,8	2,0	1,0	1,9	1,9	2,0	1,6

* Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and parts of the anti-terrorist operation zone.

Source: according to the State Statistics Service of Ukraine (<http://www.ukrstat.gov.ua>).

A very important aspect of the development of Ukraine's investment sector is the attraction of foreign investment.

The EU experience uses two indicators to assess the dynamics of foreign investment – "*Foreign direct investment, % of GDP*" and "*Foreign direct investment net inflow, % of GDP*".

The highest value of foreign direct investment (FDI) to GDP in Ukraine was recorded in 2015 – 44,7%, in 2017 it decreased to 33,4%, and in 2018 it further dropped to 30,6%.

In the EU countries, the average level of this indicator fluctuates around 45%. However, it should be noted that even in the years when the ratio of FDI to GDP was rather high (in 2014–2018), it was due to the inaccurate use of this indicator for Ukraine.

First of all, this is due to the fact that individual components of indicators for Ukraine, unlike the EU, are defined in different currencies: in national currency (hryvnia) and in US dollars, which necessitates recalculation of GDP into US dollars, for example, when defining direct investment indicators. In this case, the exchange rate can significantly affect the real ratio of indicators, and hence the value of the indicator itself.

The sharp increase of this indicator in 2014–2018 was caused by the dynamics of the exchange rate and, according to international experts, did not correspond to the real ratio of hryvnia to dollar, which caused the distortion of GDP in terms of US dollars and artificially overstated the FDI to GDP ratio. Thus, while in 2014 actual prices, FDI to GDP ratio exceeded 40%, in 2010 prices it was less than 27%. Even more striking (threefold) difference was observed in 2015–2017.

Similar trends are observed in the calculation of another indicator – "*Foreign direct investment net inflow, % of GDP*".

Thus, in 2014, the indicator of "FDI inflow in % of GDP" at comparative prices was 1,2%, and at the actual exchange rate – 1,84%. In 2015, the figures were 1,5 and 4,13%, in 2016 – 1,5 and 4,72%, and in 2017 – 0,5 and 1,67%.

The lack of foreign direct investment is not only a restriction on investment potential, but also a restriction on the access to new production technologies and more efficient business rules and conditions, which are one of the aspects of attracting

foreign investments. Due to this reason, it is advisable to investigate changes in the structure of foreign investment.

Before 2010, the most attractive activity for foreign investors was the Ukrainian industry – it accounted for over 41% of total FDI. The second largest in terms of attracting FDI is the financial sector, accounting for over 25% of total FDI in 2010. Since 2011, the industry began to cease its position largely in favor of trade and real estate operations (Table 6).

Since 2014, Ukraine started to lose foreign investments. From 2013 to 2018, total FDI outflow was over \$ 21 billion. And the biggest net outflow of FDI was in industry – over \$ 7 billion. Among the industrial activities, only the woodworking complex and electricity, gas and heat supply managed to attract additional foreign investment.

The volume of foreign investment in trade, real estate, IT and telecommunications has also increased.

Therefore, it is evident that there is a tendency of the decrease of foreign investors' interest in the modernization of Ukraine's real sector in general and this country's industry in particular.

Table 6

**The structure of foreign direct investment (FDI) in
the Ukrainian economy *, %**

Indicator	2010	2011	2012	2013	2014	2015	2016	2017	2018
Agriculture, forestry and fishery	1,6	1,5	1,4	1,4	1,5	1,4	1,6	1,8	1,7
Industry	41,2	35,9	34,9	32,9	30,5	27,4	25,8	33,4	33,0
Mining and quarrying	12,6	9,5	8,7	9,3	7,7	5,2	4,1	5,5	5,4
Manufacturing industry	28,1	25,7	24,9	22,4	21,6	20,8	20,1	25,3	25,4
Manufacturing of food, beverages and tobacco products	4,4	4,6	5,9	6,0	6,6	6,7	6,7	8,7	8,6
Textile manufacturing, clothing, leather manufacturing and other materials	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,4	0,4
Manufacturing of wood, paper products and printing	1,0	1,0	0,9	1,0	1,1	1,1	1,2	1,7	1,8
Manufacture of coke and refined petroleum products	1,6	1,3	0,8	1,0	0,3	0,5	0,5	0,6	0,8
Manufacture of chemicals and chemical products	1,8	1,8	1,8	2,2	2,1	1,9	1,7	2,2	2,0
Manufacture of basic pharmaceutical products and pharmaceuticals	0,1	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1
Manufacture of rubber and plastic products, other non-metallic mineral products	2,5	2,5	2,7	2,8	2,9	3,0	2,6	3,2	3,3
Metallurgical production, manufacture of fabricated metal products, except machinery and equipment	14,0	11,6	10,0	6,2	5,4	4,2	4,2	5,2	5,2

End of Ttable 6

Metallurgical production, manufacture of fabricated metal products, except machinery and equipment	14,0	11,6	10,0	6,2	5,4	4,2	4,2	5,2	5,2
Mechanical engineering, except repair and installation of machinery and equipment	2,1	2,1	1,8	2,2	2,1	2,2	2,1	2,5	2,5
Manufacture of furniture, other products; repair and installation of machinery and equipment	0,4	0,4	0,5	0,5	0,6	0,8	0,7	0,7	0,8
Electricity, gas, steam and air conditioning supply	0,3	0,4	1,0	1,1	1,0	1,2	1,5	2,4	2,0
Water supply; sewerage, waste management	0,2	0,2	0,2	0,1	0,2	0,2	0,2	0,2	0,2
Construction	2,4	2,4	2,7	2,9	3,2	3,1	2,8	2,9	2,9
Wholesale and retail trade, repair of motor vehicles and motorcycles	10,3	11,1	11,7	12,7	14,8	14,5	13,6	15,7	16,7
Transport, warehousing, postal and courier activities	2,3	2,2	2,8	2,9	3,3	3,0	2,9	3,1	3,1
Information and telecommunications	3,8	4,1	3,6	3,5	4,0	5,8	5,5	1,1	1,1
Financial and insurance activities	25,3	26,8	25,3	22,8	21,6	23,2	26,4	6,6	6,8
Real estate transactions	6,7	7,3	7,5	8,9	9,8	10,7	10,0	11,2	10,9
Professional and scientific activity	2,6	4,3	5,5	7,5	6,5	6,1	6,0	12,0	12,4

* Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and parts of the anti-terrorist operation zone.

Source: according to the State Statistics Service of Ukraine (<http://www.ukrstat.gov.ua/>).

Taking into account everything mentioned above, we can state: the results of the present study of the development dynamics of Ukraine's investment sphere and its structural indicators show that, despite the adoption of a number of laws on the strategy of economic development of Ukraine, priorities for the development of its production potential, transition to an innovative path of development, etc., so far there are no real visible changes. Ukraine's own investment opportunities are extremely limited and the interests of foreign capital are not aimed at technological modernization of the Ukrainian economy and are not encouraged by a relevant state policy. The investment potential of Ukraine is insufficient to adapt the production base to the requirements of the modern technological horizon, which prevents maintaining the necessary balance on the main markets.

It is undoubtedly that today the crucial factor for improving the investment climate in Ukraine is the termination of hostilities in the Donbas region, securing property rights and reducing the level of corruption in the own institutions.

However, no less important than the experience of successful countries, especially the European Union is the state policy of stimulating innovative economic renewal. Among its activities, the most common are:

- tax exemptions of Research & Development (R&D) expenses related to the main activity, and taxation exemption of private investment in R&D;
- preferential mode of depreciation on the introduced equipment;
- reimbursement of part of the cost of innovation in accordance with the state subsidies programs for small innovative firms;
- preferential subsidies to enterprises that are embracing new technologies, in particular for the purpose of energy conservation, etc.

In addition, special attention should be paid to the problems of harmonization of innovation and other policies, including industrial, social, etc., because due to "autonomous" implementation of a policy, the integrity of the system of state management of socio-economic processes is impaired, which causes a decrease in its overall effectiveness.

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СТРУКТУРНІ ІНДИКАТОРИ МОНІТОРИНГУ МАКРОЕКОНОМІЧНИХ ДИСБАЛАНСІВ В ІНВЕСТИЦІЙНІЙ СФЕРІ УКРАЇНИ

Представлено результати досліджень щодо розроблення прогнозно-аналітичного інструментарію для виявлення та упередження потенційних макроекономічних дисбалансів в Україні з урахуванням досвіду Євросоюзу в застосуванні Процедури макроекономічного дисбалансу (Macroeconomic Imbalance Procedure – MIP). Увагу акцентовано на побудові та моніторингу структурних індикаторів інвестиційної сфери, що визначають потенціал економічного розвитку; при цьому обґрунтовано необхідність адаптації застосовуваних ЄС компонент MIP для оцінки інвестиційної сфери до реалій України. Показано, що, зважаючи на трансформаційний характер української економіки, інструментальна оцінка тенденцій розвитку її інвестиційної сфери потребує аналізу структурних змін за допомогою відповідних індикаторів.

Наведено основні результати аналітичної оцінки цих змін у структурі валового нагромадження основного капіталу, інвестицій в основний капітал, змін у структурі прямих іноземних інвестицій та обсягів їх надходження, що спостерігалися протягом останніх років і засвідчили, що Україна в цьому сенсі рухається у бік, протилежний прогресивним світовим трендам. Незважаючи на ухвалення низки законів щодо стратегії розвитку економіки України, пріоритетів розвитку її виробничого потенціалу, переходу на інноваційний шлях розвитку тощо, реальні зрушення в інвестиційній царині поки відсутні.

Підкреслено необхідність формування та упровадження Україною державної політики, спрямованої на стимулювання розширення власних інвестиційних можливостей, переорієнтацію інтересів іноземного інвестиційного капіталу на технологічне оновлення економіки країни.

Публікацію підготовлено за виконання НДР "Макроекономічна збалансованість для забезпечення стійкості державних фінансів та економічного зростання в Україні" (підпрограма "Моніторинг макроекономічних дисбалансів", блок "Розроблення системи індикаторів для моніторингу макроекономічних дисбалансів"), № держреєстрації 0118U100535.

Ключові слова: макроекономічні дисбаланси, інвестиційна сфера, інвестиційний потенціал, структурні зміни, прогнозно-аналітичні індикатори

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СТРУКТУРНЫЕ ИНДИКАТОРЫ МОНИТОРИНГА МАКРОЭКОНОМИЧЕСКИХ ДИСБАЛАНСОВ В ИНВЕСТИЦИОННОЙ СФЕРЕ УКРАИНЫ

Представлены результаты исследований по разработке прогнозно-аналитического инструментария для выявления и предупреждения потенциальных макроэкономических дисбалансов в Украине с учетом опыта Евросоюза относительно применения Процедуры макроэкономического дисбаланса (Macroeconomic Imbalance Procedure – MIP). Внимание акцентировано на построении и мониторинге структурных индикаторов инвестиционной сферы, которые определяют потенциал экономического развития; при этом обоснована необходимость адаптации используемых в ЕС компонентов MIP для оценки инвестиционной сферы к реалиям Украины. Показано, что с учетом трансформационного характера украинской экономики инструментальная оценка тенденций развития ее инвестиционной сферы требует анализа структурных изменений с помощью соответствующих индикаторов.

Проведены основные результаты аналитической оценки тех изменений в структуре валового накопления основного капитала, инвестиций в основной капитал, изменений в структуре прямых иностранных инвестиций и объемах их поступлений, которые имели место на протяжении последних лет и свидетельствуют о том, что Украина в этом плане продвигается в противоположную от прогрессивных мировых трендов сторону. Несмотря на принятие ряда законов относительно стратегии развития экономики Украины, приоритетов развития ее производственного потенциала, перехода на инновационный путь развития и т.д., реальных сдвигов в инвестиционной сфере пока нет.

Подчеркивается необходимость формирования и реализации Украиной государственной политики, направленной на стимулирование расширения государством собственных инвестиционных возможностей, переориентацию интересов иностранного инвестиционного капитала на технологическое обновление экономики страны.

Публикация подготовлена по результатам выполнения НИР "Макроэкономическая сбалансированность для обеспечения устойчивости государственных финансов и экономического роста в Украине" (подпрограмма "Мониторинг макроэкономических дисбалансов", блок "Разработка системы индикаторов для мониторинга макроэкономических дисбалансов»), № госрегистрации 0118U100535.

Ключевые слова: макроэкономические дисбалансы, инвестиционная сфера, инвестиционный потенциал, структурные изменения, прогнозно-аналитические индикаторы