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VALUE ADDED AND FOREIGN DIRECT INVESTMENT IN AFRICAN COUNTRIES: A QUANTITATIVE REGIONAL STRUCTURAL ANALYSIS

Foreign capital in the form of portfolio and direct investments acts as an additional source of funds in the face of limited domestic savings. The degree and nature of its impact on the economy of a country are determined by many factors and are not always unambiguous. In modern economic thought, there has not yet been a single dominant paradigm for studying the causes and consequences of investing foreign capital in the economy of the host country, both at the micro and macro levels, and the search directions are very diverse and sometimes contradictory. In the 1970 s and 1980 s, different constructs and models linking FDI flows and exchange rates, indicators of the inclusion of the recipient country's economy in the world economy, characteristics of the institutional environment in all their diversity, including the quality of elites, began to gain popularity. In the early 2000 s, the theory of internalization and the oligopolistic model of FDI were promulgated, which was an attempt to link together elements of the micro and macro environment, taking into account the imperfections of both global and local markets. And the localization factor, understood as the advantage of location, is beginning to be considered as significant one[1]. However, different researchers interpret it differently. Thus, the concept of the "track effect", or path development theory, is starting to attract more and more interest. The foreign literature emphasizes the versatility of the factors generating this phenomenon[2]. However, the "track effect" is based on a technological component. Equipment, buildings, industrial infrastructure (fixed accumulated capital) and a workforce with a certain level of education, skills and technology (human capital) represent a single system consisting of complementary elements, and it is not so easy to change it quickly and without loss. In SSA countries this dependence on previous stages of development is especially pronounced, and foreign direct investment can play the role of a trigger. Moreover, the regional spread of countries allows us to take into account the geographical component.

In our opinion, one of the indicators of the productive use of factors of production in a particular country can be the volume of added value created in the main sectors

[1] Loschenkova A. N., Zaitsev Yu. K. "The influence of the dynamics of the ruble exchange rate on the inflow of foreign investment" // Journal of the NEA.– No. 4. – (44). 2019.– P. 127–142.

[2] Puffert D. Path Dependence. 2003 // EH. Net Encyclopedia. Ed. by R. Whaples. URL: http://www.eh.net/encyclopedia/contents/puffert.path.dependence.php

of the economy. It can be assumed that industries and sectors with relatively higher productivity will potentially be more attractive to foreign direct investment. In this study, an attempt was made to test this assumption on an array of African countries grouped according to the UNCTAD regional classification: 9 countries represent the North African region, 19 countries – East Africa, 9 countries belong to Central Africa, 5 countries – to South and 17 countries – to West Africa. The location element is thus georeferenced. Despite the diversity of African countries, the analysis of the studied relationship of FDI, measured by net investment inflows (net inflow), and the value added, adjusted to the main sectors of the economy, is possible either at the country level – in this case, we can talk about a phenomenon – or at an aggregate level, suggesting one or another principle of grouping countries. Of course, such an approach will not allow us to see the specifics of the studied relationships in individual countries to conduct a comparative situational analysis. But it will significantly improve the characteristics of the sample and will allow us to test the hypothesis about the significance of the "localized" structure of value added for FDI in the regional context. The on-line UNCTAD electronic database[1] [4] provides all necessary statistical information. We studied such parameters as GDP, total value added (TVA) in absolute and relative terms, as well as its structure by sectors of the economy, FDI (by net inflow) in international dollars. The time series of these indicators cover the period from 1970 to 2021. As the main quantitative methods of data processing ANOVA and regression were used. Additional tests such as the indicator of internal consistency of the characteristics of model of Cronbach 's alpha, the Tukey -Cramer test for a honestly significant difference, the dispersion inflation factor (VIF), etc. The studies showed that in the period of 1970–2021 there was a statistically significant relationship between the GDP indicator and the indicator of net FDI inflow in all the above regions of the African continent. Moreover, the "sensitivity" of GDP to FDI was expectedly higher in the regions of South and West Africa. The lowest value of this parameter is noted in the Central African region: the ratio of GDP growth to FDI growth is only 8.6 versus 31.4 for West Africa. At the same time, the analysis of variance of regionally aggregated data on value added and FDI brought rather contradictory results: when comparing both the net FDI inflow and the total value added (TVA) indicator in relation to African regions, an alternative hypothesis about the significance of the location element was adopted: with $\alpha = 0.05$ for FDI $F = 2.76$ with Fcrit .= 2.41, p-value = 0.028; for TVA, the F-test value was 13.78 (at Fcrit = 2.4). However, an aposteriori analysis in the form of the Tukey -Kramer test showed that the hypothesis of the significance of the location component can only be partially accepted for TVA: 5 out of ten pairwise regional comparisons gave statistically significant differences in the value of the studied

[1] UNCTAD stat. URL: https://unctadstat.unctad.org

indicator. As for FDI, only for one pair (regions of central and southern Africa) the p-value of the Tukey test is equal to the critical one (0.05). This gives reason to reject the previously accepted hypothesis about the significance of the location element for FDI. Nevertheless, further quantitative analysis of the structure of value added with reference to regions revealed some interesting dependencies. Namely, in four of the five African regions examined (except for South Africa), FDI reacts differently to the value added by sectors. For example, the value added created in the industrial sector is a statistically significant variable for all regions. At the same time the size of the VA, created in agriculture, is important in the countries of northern and western Africa, and the degree of sensitivity of FDI on this parameter is higher than for industry. Cronbach's alpha of all regional models takes a value from 0.81 to 0.87, which indicates a high degree of consistency of characteristics. It should be noted that this research did not take into consideration the variety of the countries within the sub-African regions and such important geographical aspect as a landlock. It can play a crucial role for FDA's attraction in the particular countries and sectors of their economy.

References:

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3. UNCTAD stat. URL: https://unctadstat.unctad.org