



DETERMINANTS OF FDI IN TANZANIA BASED ON GRAVITY MODEL RESULTS

Marcin Salamaga

Krakow University of Economics, Poland

e-mail: salamaga@uek.krakow.pl

ORCID: 0000-0003-0225-6651

Corresponding author

Raphael Erineus Haule

Irma Hilft Tansania (NGO), Tanzania

e-mail: raphael.haule@gmail.com

ORCID: 0009-0000-2405-524X

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Abstract

Research background: Foreign direct investment (FDI) is an important factor supporting the development of Tanzania's economy. Foreign capital in Tanzania is crucial primarily for the development of transport, telecommunications and energy infrastructure. The factors attracting foreign investors and the factors limiting the inflow of capital are not fully recognized, and research in this area requires updating.

Purpose: Identification of factors favoring the inflow of FDI to Tanzania and factors that hinder this inflow.

Research methodology: Gravity model for FDI in Tanzania estimated for panel data using FE and RE estimators.

Results: Tanzania's GDP and imports stimulate the inflow of FDI, while exports and the distance between the host country and source country limit the inflow of FDI. The common border, common language and historical colonial ties between Tanzania and the investor countries did not significantly affect FDI in this country.

Novelty: Updating research showing the impact of macroeconomic variables on the inflow of FDI to Tanzania using the gravity model, formulating current recommendations for decision-makers responsible for the country's economic development.

Keywords: FDI, gravity trade model, export, Tanzania

JEL classification: C33, F1, F21, Q17

Introduction

Foreign direct investment is an important factor supporting the development of Tanzania's economy. According to World Bank data, the share of inward FDI stocks in Tanzania was stable at approximately 23% of GDP in 2000–2021, while the share of inward FDI flows in GDP showed an increasing trend from 1.4% in 2020 to 1.9% in 2022. Foreign capital in Tanzania is crucial primarily for the development of this country's infrastructure, especially in the energy, transport and telecommunications sectors. The FDI is also a carrier of technology, knowledge, innovation and support local entrepreneurship. Tanzania's labor market and the state budget also have significant benefits from FDI. Thanks to foreign capital, new jobs are created, and enterprises with foreign capital, as well as local companies cooperating with them, generate an increase in tax revenues.

Foreign investors invest their capital in the form of FDI primarily in the industrial sector (mining and quarrying, manufacturing), information and communication sector, and also in agriculture (Tanzania Investment Report, 2023). Tanzania attracts investors with its strategic location with access to the sea and a key seaport in East Africa in Dar es Salaam, a large sales market, relatively cheap labor, and an abundance of mineral resources. The country is attractive to investors also thanks to relative political stability (which is not the norm in this region) and the possibility of taking advantage of a number of incentives created by the Tanzanian government, such as Special Economic Zones, tax breaks, and government support for strategic infrastructure projects under public-private partnerships. On the other hand, there are a number of factors that limit the inflow of FDI to Tanzania. These include, among others: bureaucracy and corruption, frequent changes in law and regulations regarding foreign investments, underdeveloped communication infrastructure, and an insufficiently developed financial system.

Proper identification of the key factors that support or limit the inflow of FDI and establishing the hierarchy of their importance is important from the point of view of formulating the assumptions of the country's long-term development policy. This can be achieved with the support of appropriate econometric models that will reveal the cause-and-effect mechanism between FDI and various macroeconomic variables. This paper proposes the adaptation of the gravity model to identify the impact of selected factors on the volume of FDI located in Tanzania. There are few studies on FDI in Tanzania, and even fewer that use a gravity model in which FDI is the dependent variable (Mahona, Mjema, 2014). The few research results that can be found in the literature are usually obtained using outdated macroeconomic data or omitting

some important factors determining the inflow of FDI to Tanzania (Hemed et al., 2018; Mdee, Aikaeli, 2023). The advantage of the gravity model is that it allows for the inclusion of investment flows in bilateral relations, which improves the reliability of the modeled relationships between macroeconomic variables. More often than gravity models, you can find ARIMA or VAR models, which, although they focus on predicting temporal FDI trends, do not sufficiently isolate the structural connections between countries (Luhwago et al., 2023; Epaphra, 2016). Thus, this paper attempts to bridge this methodological gap. The aim of the paper is therefore to identify factors stimulating and limiting the inflow of FDI to Tanzania using the gravity model. The gravity specification offers a parsimonious and theoretically coherent framework for explaining FDI flows as a function of the size of economies and relational and transaction costs and has a well-established basis in the international economics literature (Asiedu, 2002; Mishra, Jena, 2019). The results obtained may be useful for decision-makers responsible for shaping Tanzania's economic development policy.

1. Literature review

The issue of examining the determinants of FDI is not new and is relatively often undertaken in scientific research. Many researchers point to the relationship between FDI and the GDP of both the investor's country and the GDP of the country receiving investments (host country), as well as the relationship with economic growth in these countries (the dynamics of GDP change). Chakrabarti (2001) identifies a positive relationship between FDI and annual growth rate in his sample which includes Sub Saharan Africa and Non Sub Saharan Africa countries. Hansen and Rand (2006) use 31 developing countries in their sample and they show the link between FDI and GDP via knowledge spillover and the adoption of new technology in host countries. De Mello Jr (1997) says the impact of FDI on growth depends on various types of externalities (such as institutions, trade, policy regime plus resource endowments and foreigner's willingness to transfer newer technologies) and productivity spillovers. He adds also that the impact of FDI on growth seems to be inversely dependent on the technological gap between leaders and followers. Zhang (2001) finds a positive relationship between FDI and growth. Hermes and Lensink (2003) emphasize that FDI plays an important role to economic growth depending on the level of local financial markets. Dauti (2015) based on research conducted for 5 countries of Southeastern Europe and 10 new Member States of the European Union, using an extended gravity model, showed a positive and significant impact of GDP on FDI. While examining the determinants of FDI invested in Egypt, Nadine et al. (2021) indicated

the GDP of the home country and GDP of the host country as important factors attracting foreign capital. In turn, Sultana et al. (2024), examining 11 developing countries where tax revenue used as a control variable, drew attention to the positive role of economic growth in attracting FDI.

Another factor influencing the inflow of FDI is the openness of the economy, which determines the extent to which a country participates in international trade and is integrated with the global economy. It is measured using the balance of foreign trade, especially exports. Although, as a rule, FDI supports foreign trade, in certain circumstances these categories are substitutes. Therefore, there are both empirical studies that confirm the positive impact of exports on FDI (Tsitouras et al., 2020; Nadine et al., 2021) and studies showing that the impact of foreign trade on FDI, depending on various conditions, may have a substitutive nature (Shun-Chiao, 2009). The negative coupling between FDI and exports in the Philippines, Indonesia, Malaysia and Thailand was shown by Sieng et al. (2020).

Tax incentives are also a popular instrument used by developing and developed countries to attract investments, in particular FDI. In developed countries tax incentives are applied to targeted investment incentives, and include income tax laws. But in developing countries there tends to be a combination of targeted and more general incentives which could be incorporated into income tax law, investment and other laws or government decrees (Zee et al., 2002).

Supporters of fiscal incentives such as Blomström et al. (2003), Kumar (2002) find the positive effect of fiscal incentives on FDI. Fiscal incentives create jobs, increase investments, and other social and economic benefits in a host country. Opponents of fiscal incentives like Wells et al. (2001) and Oman (2000) point out that tax incentives cannot be the first-best mechanism for attracting FDI because the costs of incentives are greater than social benefits. Hemed et al. (2018) proved that tax incentives had a negative and significant impact on FDI inflows into Tanzania during the period under study. However, James (2009) showed that tax incentives themselves have little impact on investments. Also, a sectoral analysis by Stöwhase (2006) showed that tax rates have no effect on FDI in the primary sector.

An integral component of the gravity model is the distance between the host country and the source country. It is usually set as the physical distance between country capitals. This factor affects both transport costs, delivery time and logistics risk. Therefore, it influences the intensity of the international exchange of goods and services, and thus influences the volume of foreign direct investment, for example through the costly adaptation of goods to local preferences (Johnson, 2006) and high transport costs (Resmini, 2000). Therefore, a negative impact of the distance between the capitals of the host country and the source country on inward FDI investments should be expected.

There is abundant evidence for this in empirical studies (Dauti, 2015; Nadine et al., 2021), although there are examples of studies where geographical distance did not significantly affect FDI (Mishra, Jena 2019). Gravity models built for FDI are often extended with additional variables that can potentially also affect the inflow of foreign investments, such as interest rate, inflation (Asiedu, 2002) and dummy variables, such as a common border, a common official language, or being a member of a regional trade agreement (Mishra, Jena, 2019). The literature search indicates that there are no gravity models that would comprehensively describe the inflow of FDI to Tanzania, and those that are available show relationships from several to a dozen or so years ago. Thus, there is a research niche that this paper tries to fill.

2. Theoretical background

The relationships between FDI and key macroeconomic variables, primarily GDP and foreign trade, are widely explored in many economic theories. According to economic theorists, the GDP of a country receiving FDI represents a proxy for demand potential and market locational advantages (Dunning, 1988; Markusen, 2002). The relationship between trade and FDI can be either substitutive or complementary. In the models of horizontal FDI, a larger market improves the efficiency of direct investment as an alternative to exporting (Helpman, 1984). In vertical FDI models, assuming the international fragmentation of production, trade, especially in intermediate products, complements foreign investment, resulting in a positive relationship between exports, imports, and FDI. Horizontal FDI models assume that a firm, seeking to avoid trade costs, replicates the same production in multiple countries to serve the local markets in those countries (Markusen, 2002). Other theories describing the relationship between FDI and foreign trade include Mundell's theory (1957), the theory of comparative advantages (Kojima, 1973), and the theory of dynamic comparative advantages (Ozawa, 1992). In a developing economy, where trade relations often precede investment decisions, trade variables may reflect the degree of integration and reduced information costs, increasing the likelihood of FDI inflows. Contemporary models of trade and FDI derived from new international economics (e.g., Helpman, 1984; Helpman et al., 2004) demonstrate that both trade and direct investment are alternative ways of serving foreign markets, and their scale depends on the size of the economies and the transaction costs between countries. In this sense, the gravity structure – a positive relationship with “economic mass” and a negative cost distance – is a direct consequence of the microeconomic models of firms' choices regarding their foreign expansion.

From the perspective of FDI theory, Dunning's (1988) OLI paradigm is particularly important, according to which investor decisions are determined by the existence of ownership (O), internalization (I), and location (L) advantages. The host country's GDP can represent location advantages, reflecting market size and the level of economic development. Foreign trade, in turn, can play a dual role: with low transaction costs, it can be a substitute for FDI, while in conditions of fragmented production and developed economic relations, it can be complementary to direct investment. Therefore, in light of OLI theory, the relationship between trade and FDI is a consequence of the dominant investment motive.

The econometric gravity model can be used to examine the links between these variables. Although the gravity model was originally developed in the analysis of international trade (Tinbergen, 1962; Anderson, 1979), its structure also finds strong support in the theory of foreign direct investment.

The gravity model can be interpreted as an empirical, reduced form of location determinants (L). The size of the host country's market (GDP) reflects demand potential, trade variables (exports, imports) signal the degree of economic integration, while geographic distance and a shared colonial past serve as a proxy for transaction, information, and institutional costs. In this approach, the gravity specification is not merely an empirical tool borrowed from trade analysis, but an operationalization of the theoretical determinants of capital location. The empirical literature supports the validity of this approach. Numerous studies indicate that bilateral FDI flows exhibit a structure analogous to trade flows (e.g., Head, Ries, 2008). The size of economies and economic distance systematically influence the scale of foreign investment, confirming the consistency of the gravity model with observed empirical regularities. In this sense, this model provides a theoretically consistent and empirically grounded framework for analyzing the determinants of FDI inflows.

3. Research methodology

We used the form of a gravity model which was introduced by Tinbergen (1962), assuming that the volume of FDI between countries Y_{ij} is proportional to the size of their economies measured by GDP ($GDP_i^{a_1}$, $GDP_j^{a_2}$) and is inversely proportional to a distance between the said countries ($d_{ij}^{a_3}$). The basic form of the gravity model of FDI referring to Newton's law of gravity is as follows:

$$FDI_{ij} = \frac{a_0 GDP_i^{a_1} GDP_j^{a_2}}{d_{ij}^{a_3}} \quad (1)$$

In this form, the model assumes that the intensity of investment capital flows between two countries i, j is positively related to their “economic mass” expressed by GDP (GDP_i, GDP_j), and negatively related to the costs of the distance between them (d_{ij}).

Formula (1) is adapted in this paper in an extended form to model FDI in Tanzania. Based on literature studies, a set of macroeconomic variables was selected that could potentially affect FDI in Tanzania, and then, using a backward stepwise regression model (backward elimination), a gradual selection of explanatory variables was made, discarding subsequent statistically insignificant variables. Ultimately, the following form of the gravity model was adopted:

$$FDI_{i,t} = \beta_0 \cdot GDP_{i,t}^{\beta_1} \cdot GDP_Tanz_t^{\beta_2} \cdot DIST_i^{\beta_3} \cdot EXP_{i,t}^{\beta_4} \cdot IMP_{i,t}^{\beta_5} \cdot e^{\beta_6 ComLang_i} \cdot e^{\beta_7 ComBorder_i} \cdot e^{\beta_8 ColonialTies_i} \cdot e^{\varepsilon_{i,t}} \quad t = 1, \dots, n \quad (2)$$

where:

$I_{i,t}$ – cumulative volume of foreign direct investment to Tanzania in the year t to country i ,

$GDP_{i,t}$ – gross domestic product in country i (trade partner of Tanzania) and the year t ,

GDP_Tanz_t – gross domestic product in Tanzania in the year t ,

$DIST_i$ – distance between the capital cities of Tanzania and country i (trade partner of Tanzania), which is time invariant,

$EXP_{i,t}$ – volume of exports from Tanzania in the year t to country i ,

$IMP_{i,t}$ – volume of Tanzania imports from country i (partner in the year t),

$ComLang_i$ – binary variable which is equal to 1 if Tanzania and the trading partner country i share a common language,

$ComBorder_i$ – binary variable which is equal to 1 if Tanzania borders the trading partner country i ,

$ColonialTies_i$ – binary variable which is equal to 1, if the country i has colonial ties with Tanzania,

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$ – model parameters,

$\varepsilon_{i,t}$ – error term.

In the model (2), FDI inflows to Tanzania are interpreted as a function of:

- the size of the economies of the FDI-receiving country and the investor’s country,
- trade links between the countries,
- transaction costs and distance barriers (e.g., geographical distance),
- institutional and historical factors (e.g., common language, shared colonial past).

The above equation (2) can be transformed to the linear equation as:

$$\ln FDI_{i,t} = \ln \beta_0 + \beta_1 \ln GDP_{i,t} + \beta_2 \ln GDP_Tan z_t + \beta_3 \ln DIST_i + \beta_4 \ln EXP_{i,t} + \beta_5 \ln IMP_{i,t} + \beta_6 ComLang_i + \beta_7 ComBorder_i + \beta_8 ColonialTies_i + \epsilon_{i,t} \quad (3)$$

$t = 1, \dots, n$

The parameters of model (3) will be estimated in two ways: using the fixed effects estimator (FE) and the random effects estimator (RE). Model 3 was estimated for the main suppliers of FDI to Tanzania and the country's main trading partners. These countries come from different continents namely Africa, Asia, Australia, Europe and North America. The total countries considered in this study are seventeen namely Kenya, Uganda, South Africa, Mauritius and Zambia from the African continent. From the Asian continent are the two world giant economies namely China and India. The Commonwealth of Australia comes from the Australian continent. There are many countries from the European continent namely the United Kingdom, the Netherlands, Switzerland, Sweden, Norway, France and Germany. There are two countries which come the North American continent namely Canada and the United States. The selection of the countries depends on the significant volumes of trade and FDI inflows between these countries and Tanzania. The models were estimated based on data from the World Integrated Trade Solution (WITS) integrated database¹ (which combines the data resources of the following organizations: The World Bank, the United Nations Conference on Trade and Development (UNCTAD), International Trade Center, the United Nations Statistical Division (UNSD) and the World Trade Organization (WTO), World Data Bank,² and from the International Monetary Fund.³ These sources ensure the consistency of macroeconomic variables and FDI data, as they are based on uniform methodological standards (SNA 2008, BPM6). To ensure data comparability:

- all monetary values were expressed in the same currency (USD),
- data were standardized by time period and set of partner countries,

Missing data were checked. For a limited number of missing observations, data imputation was applied. Missing data were filled using linear interpolation (for short time gaps), while maintaining time series consistency. The share of imputed observations was small and did not significantly affect the estimation results. Logarithmic transformation was applied to macroeconomic variables, which limits the influence of extreme observations and is a standard

¹ <https://wits.worldbank.org>.

² <https://data.worldbank.org>.

³ <https://data.imf.org/en/datasets/IMF.STA:DIP>.

procedure in gravity model estimation. Outlier checks and analysis of the results' stability were performed. By using official databases and harmonization procedures, the dataset maintains consistency and spatial and temporal comparability, ensuring robust empirical inference. The calculations used data covering the years 1999–2022.

4. Results and discussion

The choice of the gravity model estimator was preceded by conducting the Breusch-Pagan test. The results indicated the presence of individual effects and therefore the need to reject the OLS estimator ($LM = 6.1598$, $p = 0.01306$). Therefore, the model was estimated using the fixed effects (FE) and random effects (RE) estimators (both estimators allowed for a better assessment of the stability of the results). Table 1 shows the estimation results of the gravity model (3) for FDI using the FE estimator. The coefficient of determination R^2 in the obtained econometric model is 52.31%, which proves that the model fits the empirical data quite well. The F test result is 73.271 ($p < 0.05$), which indicates that at least one of the explanatory variables has a significant impact on the dependent variable (FDI inflows). It should be noted that dummy variables, such as the distance between country capitals, a common language or a common border, are constant over time for a given pair of countries, so they can be perfectly correlated with fixed effects, which means that with fixed effects the parameters of such variables are impossible to estimate. The inflow of FDI to Tanzania is statistically and significantly (at the significance level of 0.05) influenced by: Tanzania's GDP, exports and imports.

Table 1. Gravity model estimation results using the FE estimator for FDI flowing into Tanzania

Variables	Coef.	Std. Err.	t-Stat	p
Const	14.519	16.604	0.874	0.383
LnGDP	-0.056	0.098	-0.567	0.571
LnGDP_Tanz	0.250	0.079	3.187	0.002
LnDIST	-1.711	1.036	-1.652	0.099
LnEXP	-0.046	0.014	-3.231	0.001
LnIMP	0.064	0.021	3.091	0.002
ComBorder	—	—	—	—
ComLang	—	—	—	—
ColonialTies	—	—	—	—

Source: own elaboration.

Tanzania's GDP has the strongest impact on FDI inflows: its increase by 1% results in an increase in FDI inflow by approximately 0.25% on average, *ceteris paribus*. The increase in imports to Tanzania results in an increase in FDI inflow by approximately 0.064% on average, *ceteris paribus*. Exports are substitutive in relation to the inflow of FDI; an increase in Tanzanian exports by 1% results in a decrease in Tanzanian exports by approximately 0.046%, *ceteris paribus*.

Table 2 shows the estimation results of the gravity model (3) for FDI using the RE estimator. The coefficient of determination R^2 in the obtained econometric model is 40.88%, which proves that the model fits the empirical data quite well. The F test result is 28.609 ($p < 0.05$), so at least one of the model parameters is statistically significant. Statistically significant drivers of FDI flowing into Tanzania are: GDP in Tanzania and imports to this country. However, exports, the geographical distance between partner countries and Tanzania and colonial connections are factors limiting the inflow of FDI. Tanzania's GDP has the strongest positive impact on FDI inflows: its increase by 1% results in an increase in FDI inflow by approximately 0.27% on average, *ceteris paribus*. In turn, the $\ln\text{DIST}$ variable has the strongest negative impact on FDI inflows: an increase in the geographical distance between Tanzania and the partner country by 1% results in a decrease in FDI inflow by approximately 0.22% on average, *ceteris paribus*.

Table 2. Gravity model estimation results using the RE estimator for FDI flowing into Tanzania

Variables	Coef.	Std. Err.	t-Stat	p
Const	1.9499	1.7422	1.1192	0.2639
$\ln\text{GDP}$	-0.0544	0.0637	-0.8544	0.3935
$\ln\text{GDP}_{\text{Tanz}}$	0.2673	0.0593	4.5060	0.0000
$\ln\text{DIST}$	-0.2246	0.1039	-2.1627	0.0313
$\ln\text{EXP}$	-0.0515	0.0231	-2.2334	0.0262
$\ln\text{IMP}$	0.0518	0.0164	3.1547	0.0018
ComBorder	-0.6372	0.3847	-1.6565	0.0986
ComLang	0.2499	0.1652	1.5127	0.1313
ColonialTies	-0.3989	0.2003	-1.9916	0.0473

Source: own elaboration.

To assess which of the FE or RE models is more appropriate for modeling Tanzania's FDI, the Hausman test was used. The Hausman test statistic is 3.47806 ($p = 0.62671$), which indicates that the RE estimator for the gravity model is more appropriate to describe the dependence of the

FDI inflow to Tanzania on other variables than the FE estimator. Although the Hausman test favors the RE estimator, it is important to remember that this test has limited power in smaller samples. Another limitation of the RE estimator is the requirement regarding the variance structure of the random component: homoscedasticity and the absence of autocorrelation and cross-sectional dependence. Violating these requirements may affect the validity of statistical inferences using the RE estimator.

In this study unfortunately the relationship between trade and FDI is negative. From this results require profound study to investigate the reasons for this negative relationship. One of the reasons for this state of affairs is certainly the abundance of mineral resources and some agricultural products in Tanzania, which are cheaper to buy by foreign companies than to invest in some sectors of local production. Another reason for the displacement of FDI by Tanzanian exports may be that Tanzania mainly sells products with low added value, so foreign companies can purchase them without the need for long-term capital commitment in the form of FDI invested in industrial processing. It is also necessary to take into account the fact that in Tanzania, as well as in other countries in the region, the energy and transport infrastructure, despite its continuous development, is not sufficient, which may discourage foreign companies from locating investments in this country. The results obtained in our research regarding the impact of exports on FDI are confirmed by many other studies (Shun-Chiao, 2009; Sieng et al. 2020).

The positive relationship between Tanzanian imports and FDI can be explained by the need to bring capital goods, technologies and know-how to the country, which are missing on the local market and are necessary for investors to run a business. In addition, FDI supporting infrastructure in an economically underdeveloped country usually requires appropriate equipment, advanced technologies, as well as construction materials that must be imported from abroad. The obtained results are confirmed by research by other authors (Kis, Bihari, 2017).

The positive impact of Tanzania's GDP on inward FDI is obvious: the country's faster economic development usually attracts foreign capital. There is usually a feedback loop here: inward FDI, supporting the main sectors of the economy, creating new jobs and providing modern technologies and know-how, stimulates economic growth. Similar results were obtained by other authors (Kis, Bihari, 2017).

The negative impact of the distance between country capitals on FDI most often results from the fact that as the distance between the host country and the source country increases transport costs increase, delivery times extend and transport risks increase. Our results are

supported by numerous empirical studies (Nadine et al., 2021). The lack of significance of trading partners' GDP in the estimated gravity model is puzzling. This may be due to the fact that FDI in Tanzania is largely resource-based (FDI driven by access to natural resources) and cost-based (FDI driven by low-income factors of production, e.g., cheap labor). The insignificance of the *ComBorder* variable suggests that geographic proximity does not play a decisive role in investment decisions in Tanzania. This factor is often significant in commodity trade, where transportation costs are crucial. A common language also proved to be statistically insignificant, indicating that investment opportunities are determined not so much by cultural similarities between countries, but primarily by economic, historical, and institutional factors. This may suggest that FDI inflows are more global than regional. Statistically insignificant variables were not removed from the model due to their theoretical justification and control function; a sensitivity analysis indicates that their presence does not affect the stability of the main results.

It should be emphasized that the inflow of foreign direct investment is a multifactorial phenomenon. In addition to the variables included in the model, external and internal factors may play a significant role. These include institutional factors (quality of governance, political stability, protection of property rights), regulatory factors (tax system, administrative barriers), infrastructure, and the level of human capital. In the case of a developing economy, global conditions, such as the business cycle in developed economies, global financial conditions, and commodity prices, may also be significant. Due to limited data availability and the study's focus on bilateral macroeconomic factors, these elements were not explicitly included in the model, which constitutes a potential limitation of the research method employed.

Conclusions

FDI is important to Tanzania's economy. They supplement insufficient internal capital, improve the situation on the labor market, and are a carrier of new technologies and know-how. The paper, using gravity models, shows that Tanzanian exports and the geographical distance between Tanzania and the capital supplier country limit the inflow of FDI, while the factors that attract foreign capital are: Tanzania's economic development and imports. The positive relationship between host country GDP and FDI is consistent with location theory and the market motive of foreign investment. In turn, the positive impact of imports may reflect the complementarity between trade and investment, which are characteristic of vertical structures or economies strongly integrated with the international market. A negative relationship

between exports and FDI, on the other hand, may indicate partial substitutability between trade and investment in serving foreign markets. The key to changing the role of exports from a destimulator to an FDI stimulator is, on the one hand, introducing changes to the structure of Tanzanian exports and, on the other hand, intensifying activities aimed at creating favorable investment conditions for foreign entrepreneurs. In exports, it is necessary to increase the share of highly processed goods with sufficiently high added value, so that it is profitable for foreign companies to invest in local processing plants capable of producing such products. This will be supported by the modernization of trade and investment infrastructure. Based on the obtained results, it can be concluded that actions promoting economic growth and maintaining import openness may indirectly increase Tanzania's investment attractiveness. Furthermore, the importance of historical connections indicates that institutional relations and long-term ties between countries may play a significant role in shaping the directions of capital inflows.

Although the gravity model used here turned out to be an effective tool for FDI modeling, as confirmed by research by other authors, its limitations must be taken into account. These are the inability to determine the direction of causality of variables, rigid assumptions regarding the constancy of variables over time, which may not reflect dynamic changes in FDI, such as technological changes, and the omission of some internal and external factors due to the specificity of the model. This opens the way to further in-depth research on inward FDI in Tanzania, by also using other econometric models.

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