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FUTURE PATHWAYS FOR FOREIGN DIRECT INVESTMENTS: ANALYZING THE NEXUS OF OBSTACLES AND INCENTIVES IN MIDDLE INCOME COUNTRY

CAMINHOS FUTUROS PARA INVESTIMENTOS ESTRANGEIROS DIRETOS: ANALISANDO A RELAÇÃO ENTRE OBSTÁCULOS E INCENTIVOS EM PAÍSES DE RENDA MÉDIA

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Abstract
Attracting foreign direct investment is of great importance for middle-income countries in terms of economic growth and global competitiveness. In this context, accurately analyzing the incentives and barriers that shape foreign investment decisions is of great importance for countries seeking to attract a larger share of global capital flows and achieve sustainable development goals. This study examines how foreign direct investment in middle-income countries is influenced by incentives and obstacles. Using firm-level data from the World Bank's 2019 Global Investment Competitiveness Survey, it analyses foreign-invested firms across Brazil, China, India, Indonesia, Malaysia, Mexico, Nigeria, Thailand, Türkiye, and Vietnam. The study evaluates incentives such as tax exemptions, reduced corporate tax rates, cash grants, and infrastructure support, alongside obstacles like investment approval requirements, mandatory foreign partnerships, and local content rules. Findings from the Logit method reveal country-specific variations: cash grants positively impact FDI in India, Indonesia, and Türkiye, while some incentives negatively affect China. Obstacles generally have strong negative effects, especially in India, Mexico, and Vietnam. The study concludes that improving

Resumo
Atrair investimento estrangeiro direto é de grande importância para países de renda média em termos de crescimento econômico e competitividade global. Nesse contexto, analisar com precisão os incentivos e as barreiras que moldam as decisões de investimento estrangeiro é fundamental para países que buscam atrair uma parcela maior dos fluxos de capital globais e alcançar os Objetivos de Desenvolvimento Sustentável. Este estudo examina como o investimento estrangeiro direto em países de renda média é influenciado por incentivos e obstáculos. Utilizando dados em nível de empresa da Pesquisa Global de Competitividade de Investimentos de 2019 do Banco Mundial, analisa empresas com investimento estrangeiro no Brasil, China, Índia, Indonésia, Malásia, México, Nigéria, Tailândia, Turquia e Vietnã. O estudo avalia incentivos como isenções fiscais, redução das alíquotas do imposto de renda corporativo, subsídios em dinheiro e apoio à infraestrutura, juntamente com obstáculos como requisitos de aprovação de investimento, parcerias estrangeiras obrigatórias e regras de conteúdo local. Os resultados do método Logit revelam variações específicas de cada país: subsídios em dinheiro impactam positivamente o IED na Índia, Indonésia e Turquia, enquanto

investment conditions requires country-specific policy mix balancing incentives with the removal of obstacles. A comprehensive policy framework is essential for sustainable FDI growth, considering each country's unique economic and institutional context.

Keywords: Foreign Direct Investment. Middle-Income Countries. Firm Specific Data. Logit Method.

alguns incentivos afetam negativamente a China. Os obstáculos, em geral, têm fortes efeitos negativos, especialmente na Índia, México e Vietnã. O estudo conclui que a melhoria das condições de investimento exige um conjunto de políticas específicas para cada país, que equilibre incentivos com a remoção de obstáculos. Um quadro político abrangente é essencial para o crescimento sustentável do IDE (Investimento Direto Estrangeiro), considerando o contexto econômico e institucional único de cada país.

Palavras-chave: *Investimento Estrangeiro Direto. Países de Renda Média. Dados Específicos da Empresa. Método Logit.*

1 INTRODUCTION

With rising capital mobility under globalization, foreign direct investment (FDI) has become vital for national economies. This has intensified competition among countries, prompting the use of various incentives to attract FDI. Among these, tax incentives (such as reduced corporate tax rates, tax holidays, credits, and investment allowances) are widely used, especially in developing countries. These measures aim to lower investment costs and enhance a country's attractiveness by encouraging foreign capital inflows. Globalization has also significantly increased international trade flows, creating new opportunities for economic growth. This expansion has particularly benefited developing countries by improving access to global markets, attracting investments, and supporting economic diversification. Enhanced interconnectedness has further facilitated technology transfer, improved productivity, and competitiveness, and contributed to long-term economic development.

The effects of FDI on host countries and policies to attract these investments have been widely discussed in the international economics literature. FDI flows, which have gained momentum with the liberalization of trade since the 1980s, provide host countries with various advantages such as capital, technology, knowledge transfer and access to markets.

Some studies argue that FDI inflows contribute to poverty reduction by creating employment opportunities, promoting technological transfers, and fostering human

capital development, while also generating broader social benefits such as enhancing productivity (Janicki and Wunnava, 2004). From the perspective of developing countries, FDI is seen as an important tool for closing the foreign exchange deficit, increasing tax revenues, fostering human capital development and accelerating economic growth (Hunady and Orviska, 2014). Therefore, the policies implemented to encourage these investments are of great importance.

The benefits of FDI to host countries are not limited to the increase in capital; it also contributes to technology transfer, infrastructure development and improved labor quality (Lee, 2009). FDI assumes a particularly crucial role in developing countries, as it may represent one of the most viable pathways for overcoming the "middle income trap." The middle-income trap refers to the phenomenon where countries stagnate at middle-income levels and fail to transition into higher-income status. In this context, FDI can serve as a key driver of economic growth, facilitating technology transfer, enhancing productivity, and fostering skill development within the local workforce. By attracting foreign investments, developing countries can accelerate their integration into global value chains, thus achieving the structural transformation necessary to break free from the middle-income trap and pursue sustainable economic advancement (Hu *et al*., 2023).

Accordingly, countries aiming to maximize the positive effects of FDI are reshaping their tax policies to improve the investment climate and achieve their capital attraction targets. Therefore, in order to increase FDI, countries have implemented various incentives to reduce taxes, which are an important cost factor for investors. In addition, many countries have introduced additional region-specific incentives to encourage industrial development in specific regions (Tung and Cho, 2000).

The aim of this study is to analyze the effects of public incentives, which have a significant impact on FDI, and to provide policy recommendations in line with the findings. At the same time, the difficulties encountered in the FDI process will also be analyzed. The study will use firm-level data from the Global Investment Competitiveness Survey conducted by the World Bank in 2019. This data will be analyzed to assess the decision-making processes of international investors and which factors are effective in the selection of investment locations. The motivation behind this study is to identify the obstacles and incentives to significant FDI inflows and to make policy recommendations in this regard.

This study contributes to the existing literature in several ways. Unlike many previous studies that focus exclusively on either incentive mechanisms or regulatory obstacles, this research adopts an integrated approach by simultaneously examining the effects of both tax incentives and institutional obstacles on FDI. Furthermore, the use of firm-level data enables a more detailed understanding of investor decision-making processes compared to analyses based solely on macroeconomic indicators. The inclusion of multiple developing countries in the analysis also allows for cross-country comparisons, shedding light on the heterogeneity of investment climates across different national contexts. Additionally, by focusing specifically on the volume of FDI and its role in overcoming the "middle income trap," the study offers a novel perspective that emphasizes the strategic importance of foreign capital for long-term structural transformation in middle-income countries. The results of the study are expected to have important implications for policy makers in middle-income countries. In this respect, the study is expected to contribute to the literature by offering both theoretical insights and evidence-based policy recommendations.

The study consists of five sections in total. The first section is devoted to the introduction. The second section reviews the existing literature, examining the relationship between FDI and incentives, as well as the obstacles encountered, under subheadings, and highlights gaps in the literature. The third section presents the model design; first, the data set and model are introduced, followed by an explanation of the methodology used. The fourth section discusses the findings in comparison with the existing literature. The fifth and final section summarizes the main results of the study, develops policy recommendations, and identifies the limitations of the research. This section also includes suggestions for future studies.

2 THEORETICAL FRAMEWORK

A comprehensive review of the empirical literature underscores the role of tax policies in shaping FDI flows. While the relationship between statutory tax rates and FDI remains contested across studies, there is a general consensus that well-designed tax incentives can enhance a country's investment attractiveness. Nevertheless, elevated tax burdens and legal uncertainties may exert a deterrent effect on foreign investors' decision-

making processes. Although prior research has predominantly centered on the fiscal dimension, the influence of administrative and institutional obstacles has received comparatively limited scholarly attention. Accordingly, this section seeks to provide a more holistic analysis by investigating not only the impact of tax incentives on FDI inflows but also the extent to which regulatory and bureaucratic obstacles constrain foreign investment. These two dimensions -fiscal incentives and structural impediments- will be examined in an integrated framework to offer a nuanced understanding of the investment climate.

2.1 Incentives and FDI

International investors consider tax burdens when making investment decisions. High tax rates reduce the after-tax return on investments and encourage companies to move to countries with lower taxes (Slemrod, 1990). Developing countries that use tax competition as a strategy seek to attract foreign capital through policies to reduce corporate tax rates (Oliveira, 2017). The impact of international tax competition on foreign investors is known to be decisive, especially for countries with strong economies and high export potential (Gordon, 1992). Foreign investors are inclined towards tax-incentivized regions by considering taxed and non-taxed factors in their investment location preferences (Tung and Cho, 2000).

Fiscal incentives to attract FDI can support economic growth by increasing capital flows, especially in developing countries. Moreover, fiscal incentives contribute to both productivity growth and competitiveness by providing important contributions such as technology, knowledge and management experience to local enterprises through the acceleration of foreign investments (Blomstrom and Kokko, 2003). Halvorsen (1995), Wilson (1996), Osman (2000) and Wells *et al*. (2001) argue that fiscal incentives may be effective in attracting investment in the short run, but in the long run the costs of such incentives may exceed the benefits. Large-scale tax cuts or subsidies can create deficits in the government budget and adversely affect public services. Therefore, fiscal incentives need to be implemented in a more balanced and strategic manner, considering not only investment attractiveness but also long-term fiscal sustainability.

It is emphasized that various fiscal instruments are available to attract FDI, but

fiscal incentives are the most important and effective among these instruments (Davies and Ellis, 2007). Cleeve (2008) states that less developed countries offer fiscal incentives such as tax holidays, rebates and customs exemptions to attract FDI. These incentives are usually targeted at profitable firms, while costly instruments such as grants are rarely used and are more favored in industrialized countries. FDI tax has a negative impact on FDI as it may cause these firms to reduce their capital and labor inputs (Desai *et al*., 2004: 2728). In this context, special attention has been paid to the impact of corporate taxes when analyzing tax regimes. Studies show that tax rate reductions and tax holidays have an important place among fiscal incentives (Slemrod, 1990).

Research on the role of tax rates in attracting FDI has an important place in the literature. Empirical studies provide different findings on the relationship between taxes and FDI and the findings on this issue vary in the literature (Hunady and Orviska, 2014). Many studies argue that high tax rates have negative effects on FDI. Researchers such as Mohamed and Sidiropoulos (2010), Djankov *et al*. (2010), Hunady and Orviska (2014) have empirically shown that high tax rates negatively affect FDI inflows.

Devereux and Freeman (1995) state that tax policy is an effective factor in determining the direction of FDI. Moreover, Morisset and Pirnia (1999) emphasize that tax policies have a significant effect on FDI, but this effect may differ from country to country. Gropp and Kostial (2000) argue that FDI inflows are affected by tax regimes in host countries and therefore taxation is an important determinant of investment decisions. Tung and Cho (2001) analyzed the impact of tax incentives on regional investment in China. Taking the 1991 tax law into account, the study showed that low tax rates and various tax incentives implemented in the post-1991 period had positive effects on FDI. Mutti and Grubert (2004) found that FDI is sensitive to tax policies in host countries. Their research shows that this sensitivity is more pronounced in developing countries than in developed countries. An empirical study by Simmons (2003) supports the significant impact of national tax policies on FDI. This study reveals that there is a positive correlation between FDI flows and tax regimes. Klemm and Parys (2009) evaluated the impact of tax incentives on tax competition and FDIs by conducting a panel data analysis on 40 countries consisting of Latin American, Caribbean and African countries between 1985 and 2004. The results of the study revealed that tax incentives have a strategic interaction and positively affect FDIs. Thuita (2017) investigated the impact of tax

incentives on FDI attraction and retention in a survey of employees of firms operating in export processing zones in Kenya. The results of the study showed that tax holidays have a significant impact on FDI attraction and retention. Boly *et al*. (2019) examined the effectiveness of corporate tax rate cuts in attracting FDI in 19 African countries over the period 1990-2012. The study finds that corporate tax rate cuts increase FDI inflows to host countries and other neighboring countries in both the short and long run. Hintošová, *et al*. (2021) found that low tax rates in European countries increase FDI inflows, but investors also attach importance to investment climate, legal regulations, and macroeconomic stability. Katitas and Pandya (2024) examined the impact of investment incentives on FDI during the Great Recession and found that tax breaks and subsidies offered in times of crisis are decisive for investors. Oyerogba *et al*. (2024) analyzed the impact of tax incentives on FDI for manufacturing firms in Nigeria and found that tax exemptions and low corporate tax are effective in attracting investment.

On the other hand, there are also studies that argue that tax rates have no significant effect on FDI. Slemrod (1990) and Wheeler and Mody (1992) argue that tax rates have an insignificant effect on FDI. In a study conducted in Albania, Nene and Pasholli (2011) measured the impact of fiscal incentives provided by the government by analyzing 44 industrial, 4 agricultural, 50 textile, 20 construction and 4 other enterprises and found that fiscal incentives are not an effective factor in attracting FDI. Lodhi (2017) found that corporate tax reduction in Pakistan increased foreign direct and domestic investments, but import tariffs had no significant effect. Focusing on the importance of competitiveness, transparency and consistent tax policies for an investment-friendly environment, Lodhi argued that tax policy should be designed holistically to encourage investments, not just to collect revenue. Hsu *et al*. (2019) analyzed the impact of tax incentives on FDI in Chinese provinces during the 1998-2008 period and found that market size and geographical factors are determinant, while tax incentives do not have a significant effect. Manrejo and Yulaeli (2022) argue that since FDI is a long-term capital investment, host countries may increase the fiscal burden on investors after the tax exemption period expires.

In conclusion, there are different views on the impact of tax policies on FDI in the literature. Although it is generally accepted that countries with high tax rates are less attractive and countries with low tax rates become more attractive for foreign investments,

it is emphasized that this effect is not valid for all countries in the same way and macroeconomic conditions, political stability and infrastructure factors should also be considered. In this context, it should be kept in mind that non-tax factors also play an important role in assessing the impact of tax rates on FDI decisions.

2.2 Obstacles and FDI

FDI may face various administrative and public obstacles. These obstacles are among the important factors affecting investors' decisions. Firstly, legal and regulatory obstacles emerge as laws and regulations that restrict foreign investments in a country. In some sectors, foreign investments may be limited or investors may need to obtain certain permits. This can make it difficult for investors to access the market and complicate investment processes. Bureaucratic procedures are also an important obstacle. Lengthy and complex bureaucratic processes may adversely affect foreign investors' decisions by making it difficult to obtain necessary permits and complete transactions. Furthermore, cultural differences and local business practices can create potential obstacles, making it difficult for foreign investors to adapt to the local environment. Resistance to foreign investment from local communities or civil society organizations can create difficulties in obtaining the necessary public support to implement projects. Economic obstacles are also among the factors affecting investment decisions. Economic constraints, such as taxes payable on foreign investment and capital controls, can increase costs for investors (Globerman and Shapiro, 2002; Busse and Hefeker, 2007).

The FDI literature provides extensive empirical evidence on the reasons why investors prefer certain countries or regions. While it seems logical that FDI should favor regions with a strong governance infrastructure, most of the studies in this area have focused on economic factors. Kobrin (1976) emphasized the importance of country-specific political risks, so subsequent studies have included variables controlling for political differences across countries. However, the results of these studies are quite mixed. It is difficult to generalize about the impact of governance-related indicators on FDI because these indicators are defined and measured in different ways in different studies. In this context, a systematic analysis of the relationship between governance infrastructure and FDI flows over a large sample of countries has long been missing in

the literature (Dawson, 1998; Globerman and Shapiro, 2002).

Globerman and Shapiro (2002), while analysing global FDI flows, found that governance infrastructure plays a decisive role in investment decisions. The study shows that good governance practices (rule of law, anti-corruption, transparency and institutional quality) have a positive impact on FDI inflows. In this context, it is indicated that not only fiscal incentives but also a strong governance infrastructure is a key attraction factor for investors. The effects of political and economic uncertainty on FDI are widely discussed in the literature. Uncertainty may affect investors' decisions and international investors may become more sensitive to economic and political developments in host countries. Under uncertainty, firms may postpone their investment decisions, while exchange rate fluctuations may lead to an increase in FDI, in some cases due to the cheapening of firms abroad (Canh *et al*., 2020). In particular, the high FDI potential in countries such as Brazil is supported by positive factors such as rapid population growth and industrialization, but obstacles such as intense bureaucracy, political risk and internal crises can be a source of concern for investors (Christo, 2021). Moreover, Popescu (2014) argues that fewer regulatory restrictions and trade obstacles would promote global trade and favor FDI flows. While democratic institutions provide protection to local businesses, they may restrict the fiscal and financial incentives that host governments can offer to foreign investors (Choi and Samy, 2008). In this context, it is emphasised that emerging democracies need to establish sound institutions in order to attract more FDI (Choi and Samy, 2008). Ali and Guo (2005) argue that most of the obstacles in China are based on the political and legal environment, with political stability, inadequate foreign trade policies and a deficient legal system being important factors in this context. These situations pose risks for foreign investors and make it difficult to realize investments.

In general, political and economic uncertainties have multifaceted effects on FDI flows. While political stability and predictability of the regulatory framework encourage FDI flows by increasing investor confidence, uncertainty and risk factors may adversely affect investment decisions. However, some economic variables, such as exchange rate fluctuations, can create opportunities for foreign investors under certain conditions. While the existence of democratic institutions and sound legal infrastructure stand out as factors that favor FDI in the long run, bureaucratic obstacles and uncertainties in trade policies

can be a deterrent for investors. Therefore, in order to attract sustainable and high volumes of foreign investments, host countries need to develop policies to ensure political and economic stability.

3 MODEL SPECIFICATION

The methodology of an article outlines the procedures employed to conduct the research, including the type of study, sample selection, data collection and analysis methods, ethical considerations, and limitations of the study. Its detailed and transparent description is essential to guarantee the replicability and reliability of the results, in addition to providing a solid basis for the interpretation and generalization of the findings.

This study intents to clarify the effects of incentives and obstacles on FDI in middle-income countries. The main hypothesis to be tested within the scope of the study is as follows:

H_0: Incentives and obstacles have no effect on the amount of foreign investment in middle-income countries. This hypothesis is based on studies in the literature. There are studies in the literature examining the effect of incentives and disincentives on direct foreign investment. While some studies reveal that investment, incentives have a limited or insignificant effect on FDI (Wheeler and Mody, 1992; Morisset and Pirnia, 1999), others emphasise that these incentives often fail to produce the expected effect, particularly in developing and transition economies (Cleeve, 2008; Nene and Pasholli, 2011). In addition to studies showing that incentives have a limited effect on FDI in most cases, there are also studies showing that obstacles such as political risk, institutional weaknesses and high tax burdens can negatively affect foreign investment (Globerman and Shapiro, 2002; Choi and Samy, 2008; Dawson, 1998; Devereux and Freeman, 1995; Djankov *et al*., 2010).

3.1 Data and model

Within the scope of the main hypothesis, the influence of tax incentives, tax holidays and reduced corporate tax rates, allowances, loans or accelerated depreciation, Value Added Tax (VAT) exemption or amnesty, customs duty exemption or amnesty,

fiscal incentives, cash grants, capital support and discount rates on land, public services and transport will be examined one by one. As obstacles to be encountered in the country of investment, the complexity of administrative procedures, capacity of public institutions, coordination between public institutions, discretion of bureaucracy, quality of laws and regulations, accessibility of laws and regulations will be tested.

To test the hypotheses, the study will use firm-level data from the 2019 Global Investment Competitiveness Survey (GICS) collected face-to-face by the World Bank (2020). The survey represents a representative sample of foreign-owned firms in each of 10 middle-income countries, namely Brazil, China, India, Indonesia, Malaysia, Mexico, Nigeria, Thailand, Türkiye and Vietnam. Each country sample consists of approximately 250 foreign-owned firms with at least five employees. In each country, about 125 respondent firms operate in the manufacturing sector and about 125 respondent firms operate in the service sector. The only exception is Nigeria, where, due to sampling frame limitations, the sample consists of 164 respondents (55 manufacturing and 109 services). More than 2,400 questionnaires were collected across the 10 target countries. Since the dataset includes only foreign-owned firms that have made some level of investment, all observations have strictly positive investment values. The dependent variable in this study is a binary indicator that equals 1 if the firm has invested more than 50 million USD, and 0 otherwise.

In order to analyze the impact of incentives and obstacles on FDI, the equation shown in (1) is established.

$$dyy_{it} = \beta 0 + \beta 1.controlvariable + \beta 2.incentives + \beta 3.obstacle + \varepsilon \quad (1)$$

Countries apply various incentive mechanisms to attract FDI and support sustainable economic growth. While tax incentives, direct financial support and infrastructure facilities are among the important factors affecting investors' decisions, regulatory obstacles faced by foreign investors may restrict investment flows. In this context, in order to assess the impact of incentives and obstacles on FDI, the factors analyzed within the framework of tax incentives, financial support and regulatory constraints are presented in Table 1.

Table 1

Variables Used in the Analysis and Their Definitions

Dependent Variable	
Inv2	If the FDI inflow is higher than 50 million, 1 Otherwise, 0
Control Variables	
lnemp	Logarithm of firm total employees
age	The age of the firm
Tax incentives	
Incentive1	Tax holidays and/or reduced corporate income tax rates
Incentive2	Allowances, credits and/ or accelerated depreciations
Incentive3	VAT exemption and/or remission
Incentive4	Customs duty exemption and/or remission
Financial incentives	
Incentive5	Cash and matching grants
Incentive6	Equity or capital from the government
Incentive7	Reduced rates on land, utilities, and transportation
Obstacles	
Obstacle1	Cumbersome investment approvals to start and operate a business
Obstacle2	Requirements to foreign investors to enter into joint-ventures with local company in your sector
Obstacle3	Limit on amount of permissible foreign investment in your sector(s)
Obstacle4	Restrictions on hiring and bringing in expatriate staff
Obstacle5	Requirements to foreign investors to use locally produced inputs or local staff
Obstacle6	Requirements to foreign investors to invest in R&D
Obstacle7	Minimum investment requirements
Obstacle8	Restrictions on setting prices, production technology, or format of products

Source: Created by the authors.

In this study, the definition of the dependent variable based on whether FDI inflows are above or below the threshold value of 50 million dollars is grounded in theoretical and empirical justification rather than merely being a methodological choice. The literature emphasises that when FDI flows exceed certain threshold values, the potential to generate significant economic impacts for the host country becomes more pronounced. In this context, the aim is to distinguish ‘substantial’ investment inflows which are capable of creating more lasting effects on the eco-nomic structure rather than low-volume and often temporary investment flows. The 50 million dollars threshold was chosen because it provides a distinct break-point in terms of the distribution characteristics of the dataset and the intensity of investment within the sample.

Table 2

FDI net inflows in selected countries in 2019

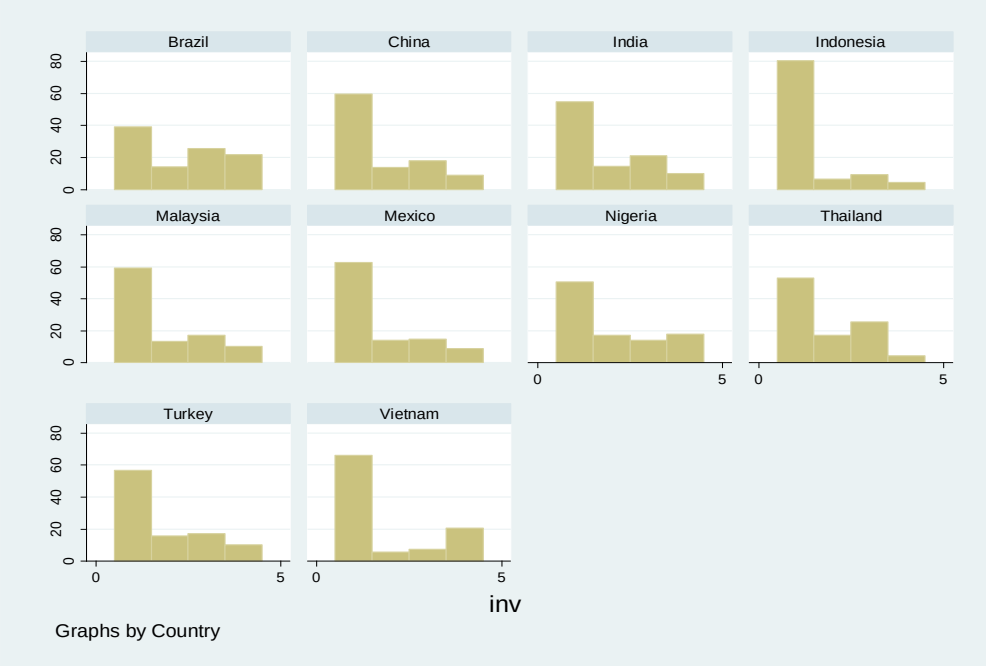
Country Name	2019 (billion)	Sample (million)	2019 (%)
Brazil	69.174	6.675	0.0097
China	187.170	3.425	0.0018
India	50.611	4.060	0.0080
Indonesia	2.4994	2.140	0.0086
Malaysia	9.155	3.518	0.038
Mexico	29.898	3.090	0.0103
Nigeria	2.305	3.750	0.1627
Thailand	5.519	2.838	0.0514
Türkiye	9.573	3.683	0.0385
Vietnam	16.120	5.598	0.0347

Source: Created by the authors.

Table 2 presents the FDI net inflows of selected countries for 2019 and the observation values in the sample, which is important for assessing the representativeness of the sample. According to the data, although the share of large economies such as China, India and Brazil, which have the highest FDI net inflows, in the sample appears to be low, this indicates that sufficient data is provided to analyze overall FDI trends. In particular, the higher sample proportions in countries such as Nigeria, Thailand, Malaysia and Türkiye suggest a balanced distribution covering different economic structures and investment dynamics. In this context, it can be said that the sample level is sufficient to understand the distribution of FDI across countries.

Figure 1

Distribution of FDI in Middle-income Countries



Source: Created by the authors.

Investment amounts in the countries are given in the graph above. 39.01% of those who invested in Brazil invested less than 5 million dollars, while only 21.52% invested more than 50 million dollars. In China, 59.63% of investors allocated less than 5 million dollars. Overall, the investment amounts across countries are largely concentrated in the category of less than 5 million dollars. This suggests that although attracting FDI is a key objective for many countries, the scale of investment is equally important. A high number of small-scale investments may not yield the same economic impact as fewer but larger investments. Therefore, not only the presence of FDI, but also its magnitude, plays a crucial role in generating long-term developmental benefits and economic transformation in host countries.

3.2 Methodology

If the dependent variable has a Bernoulli distribution, Logit or Probit model should be used. In cases where there is a choice between two options the decision is represented as a binary variable, typically coded as 0 (no) and 1 (yes). Such cases where

the independent variable is a dummy variable can be expressed as follows (Cameron and Trivedi, 2010):

$$Y = \begin{cases} 1 & with\ probability\ p \\ 0 & 1 - with\ probability\ p \end{cases} \qquad (2)$$

The variable Y, the dependent (endogenous) variable, takes the value 1 with probability p and 0 with probability 1-p. In the Logit model, which is one of the probability models, the dependent variable usually takes the values 0 and 1. This model is also known as the logistic model. If the cumulative distribution of the error term, ui, is logistic, then the Logit method is used (Cameron and Trivedi, 2010):

$$p = \Lambda(x'\beta)\ \frac{e^{x'\beta}}{1+e^{x'\beta}} \qquad (3)$$

here

$\Lambda(.)$ is the logistic cumulative distribution function. The maximum likelihood first-order conditions of the Logit method are as follows:

$$\sum_{i=1}^{N}(\ y_i - \Lambda(x'_i\ \beta))\ x_i = 0 \qquad (4)$$

If there is a constant term among the independent variables, then equation (5) becomes as follows, such that the sum of the Logit residuals is zero (Cameron and Trivedi, 2010):

$$\sum_{i=1}^{N}(\ y_i - \Lambda(x'_i\ \beta) = 0 \qquad (5)$$

When the partial derivative of the probability with respect to the independent variable is taken, the calculation that changes in the independent variable have a constant effect on the probability is given by the marginal effect of x_i on p_i. Marginal effects are found as follows:

$$\frac{\partial \rho_i}{\partial x_{ij}} = \rho_i(1-\rho_i)\beta_j \qquad (6)$$

If the dependent variable is a classifiable qualitative variable, Multinomial regression model (Multinomial Logit) should be used, and if it is an ordinal qualitative variable, Ordered Logit or Probit (Ordered Logit, Ordered Probit) regression models should be used. There are no restrictions for independent variables in these models. In other words, the independent variable or variables can be of any type (qualitative, quantitative, etc.). When a regression model with a dependent variable taking the values of 0 and 1 is estimated with ECM, these models are estimated with the Maximum Likelihood (ML) estimation method since many problems such as non-normal distribution of residuals, the problem of changing variance and the loss of the meaning of the coefficient of determination R2 are encountered.

3.3 Empirical results and discussion

In this section, incentives and obstacles affecting FDI in selected countries are analyzed. The country-by-country analysis reveals the role of different investment environments on FDI inflows. The effects of incentives and obstacles vary depending on the economic, political and regulatory structure of each country. The findings help to understand how FDI-enhancing incentives as well as investment-limiting obstacles differ across countries. In Table 3, the incentives and obstacles affecting FDI in selected countries are analyzed on a country-by-country basis.

Table 3[1]

Incentives and Obstacles Affecting FDI in Selected Countries

	Brazil	China	India	Indonesia	Malaysia	Mexico	Nigeria	Thailand	Türkiye	Vietnam	All
lnemp	(+)***	(+)**	(+)*		(+)***	(+)***	(+)***	(+)***	(+)***	(+)***	(+)***
age		(+)***									(+)***
Incentive 1											

[1] Detailed results are available upon request from the authors.

Incentive 2	(+)*			(-)*							
Incentive 3		(-)*									
Incentive 4											
Incentive 5			(+)***	(+)*					(+)**		(+)***
Incentive6											
Incentive 7			(+)**								(-)**
Obstacle 1					(+)*						
Obstacle 2			(+)**							(-)*	
Obstacle 3			(-)**				(+)*				(+)*
Obstacle 4			(+)*		(-)*						
Obstacle 5	(+)*										
Obstacle 6			(-)**					(+)**	(+)**		
Obstacle 7											
Obstacle 8			(+)*			(-)**		(+)***			(+)*
Number of obs.	169	145	160	188	148	190	138	141	182	93	1569
McFadden's R^2	0.318	0.191	0.235	0.109	0.199	0.117	0.192	0.443	0.208	0.154	0.086
Hosmer-Lemeshow test	26282.95***	145.52	142.75	184.12	159.39**	481.50***	137.46	240.46***	230.35***	120.98***	1724.19***

Source: Created by the authors.
Notes: The effect of each incentive and obstacle is shown as positive (+), negative (-) or statistically significant (*: %5, **: %1).

Table 3 analyses the effects of incentives and obstacles on FDI by country. McFaddens's R^2 and Hosmer-Lemeshow[2] test is given for goodness of fit. The models for Thailand (0.443) and Brazil (0.318) demonstrate relatively strong explanatory power. According to Hosmer-Lemeshow test, the model fits the data adequately for China, India, Indonesia and Nigeria.

Table 3 reveals that the relationship between FDI and incentives and obstacles vary significantly across countries. This once again emphasizes the importance of country-specific policy design. The fact that the same incentive or Obstacle variable shows different signs and significance levels in different countries points to the limited applicability of universal policy recommendations.

For example, while 'Incentive 1' has a positive and statistically significant effect in countries such as Vietnam and Nigeria, it has a negative effect in China and its effect is not significant in some countries. Similarly, 'Incentive 5' is positively associated with

[2] ROC curves and AUC values are available upon request.

FDI in Brazil and Türkiye, but negatively in Vietnam. These findings suggest that uniform incentive models are not sufficient and that incentives should be tailored to target sectors, implementation modalities and country-specific needs. The fact that incentives are effective in some middle-income countries such as Türkiye, Vietnam and Indonesia indicate that policies are being developed in line with investor expectations.

In terms of Obstacle, the inconsistency in the effects is striking. For example, while 'Obstacle 3' has a negative and statistically significant effect in Brazil and India, it is not significant or negative in other countries. Similarly, 'Obstacle 4' shows mixed effects across countries. This suggests that the effect of structural Obstacle is not consistent, and these differences may be related to whether the obstacles are perceptual or structural, or to the way they are measured. In the case of Türkiye, 'Incentive 5' and 'Incentive 6' show positive effects, suggesting that well-designed incentive policies favor FDI inflows. However, 'Obstacle 7' shows a negative and statistically significant relationship, suggesting that certain structural problems limit investment decisions. While the Asian countries of Indonesia, Thailand and Vietnam generally respond more positively to incentives, the effects of obstacles vary across countries - in particular, 'Obstacle 3' in India and 'Obstacle 8' in Vietnam show negative and significant results. Among Latin American countries, some obstacles, such as 'Obstacle 3' and 'Obstacle 4' in Brazil and Mexico, have persistent and negative effects on FDI.

These findings are consistent with previous studies highlighting that the determinants of FDI vary significantly across countries and that country-specific conditions play a critical role (Wheeler and Mody, 1992; Janicki and Wunnava, 2004). Parallel to our findings, various studies also reveal that the effects of incentives are heterogeneous and often limited depending on policy design and the national context (Cleeve, 2008; Nene and Pasholli, 2011). Similarly, the inconsistent effects of barriers across countries align with the literature emphasizing the importance of governance quality, institutional structures, and political risk in shaping FDI inflows (Globerman and Shapiro, 2002; Dawson, 1998; Choi and Samy, 2008).

For the effect of the investing country, a dummy variable was created for Germany, Japan, Singapore and the USA, which have invested in more than 100 firms, and a negative and significant effect was found in the regression including all countries,

but the effect of the investing country was left for another study since there were no consistent results in some regressions.

4 CONCLUSION

FDI is an important instrument that supports economic growth, especially in developing economies. In this study, the effects of incentives and obstacles on FDI are analysed on a country-by-country basis and it is revealed that these factors differ significantly from country to country. The findings show that when properly designed and targeted, incentives can have a positive impact on FDI inflows. For instance, in countries such as India and Indonesia, some incentives have been found to have statistically significant and positive effects. Similarly, incentives in Türkiye have been found to have positive effects in general. On the other hand, in some countries such as China, certain incentives (e.g. Incentive 1 and Incentive 7) have statistically significant and negative effects, suggesting that incentive policies should be designed in line with country-specific needs and investor expectations, rather than a universal model.

In terms of obstacles, it is observed that the effects are not homogenous in all countries and do not always lead to negative results. While some obstacles have significant and negative effects on FDI in countries such as Brazil, India and Indonesia, some factors such as Obstacle 5 do not have a significant effect in Türkiye. This may reflect cross-country variation in institutional capacity, risk perception and implementation differences.

At the regional level, similarities are striking. In Asian countries (China, India, Malaysia, Vietnam), while incentives generally have positive effects, some structural problems such as obstacles 3, 4 and 8 limit the strength of this positive effect. In Latin America, as in the cases of Brazil and Mexico, the impact of obstacles is more pronounced, while the impact of incentives remains limited. These findings show that the country-specific economic and institutional structure is determinant in the success of FDI policies.

In conclusion, policy measures to attract FDI should be tailored to the specific economic, political and regulatory conditions of each country. Even countries with similar levels of development need different strategies. Therefore, instead of focusing

only on short-term instruments such as tax incentives, a mixed policy approach involving well-designed incentives and simultaneous reduction of structural obstacles would be more effective. Moreover, countries with similar structural problems can enhance their capacity to attract FDI by developing common strategies through regional co-operation. This holistic and long-term approach will contribute to achieving sustainable growth and development goals by creating a stable and investment-friendly environment. However, this study has certain limitations. The analysis is constrained by factors such as the scope and quality of country-based data, as well as the selected period and model design.

The findings of this study indicate that incentives generally have a positive effect on FDI inflows. However, it is noteworthy that in the case of China, incentives had a negative effect contrary to expectations. This situation reveals that country-specific economic and institutional dynamics can differentiate the effectiveness of incentives. Therefore, it is important for future studies to investigate the reasons for this inverse relationship observed in China. Furthermore, re-examining these relationships by considering different country groups and diversifying the selected methods and time periods will contribute significantly to the literature.

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