

Economic Freedom, Fiscal Rules on FDI Inflows: An Analysis of 24 Developing Countries

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Abstract

Foreign Direct Investment (FDI) plays a crucial role in enhancing economic growth and development. It brings capital, technology, managerial skills, and employment opportunities to host countries. However, attracting FDI requires a conducive business environment characterized by economic freedom and effective fiscal institutions. This paper aims to explore the relationship between economic freedom, a new type of fiscal institutions named fiscal rules, and FDI inflows. It provides a comparative analysis of different countries and investigates the mechanisms through which economic freedom and fiscal institutions influence FDI.

The panel data analysis employed in this study utilizes two estimation methods, namely the Random Effects Model (determined through the Hausman test) and the Two Stage Least Squares Method (to address endogeneity concerns). The empirical findings reveal several noteworthy insights. Firstly, GDP, trade openness, and gross fixed capital formation exhibit a positive relationship with FDI inflows, while inflation does not have a significant impact. Additionally, our research indicates that specific economic freedom sub-indicators, such as tax burden, monetary freedom, trade freedom, and financial freedom, positively influence FDI inflows. Conversely, the presence of expenditure rules is found to have a negative impact on FDI inflows. Furthermore, we explore the interactive effects of fiscal rules and economic sub-indicators on FDI inflows, providing further insights into the relationship between these factors.

Keywords: fiscal policy, fiscal rules, foreign direct investment, economic freedom

1. Introduction

Foreign Direct Investment (FDI) has emerged as a crucial driver of economic growth and development worldwide. Countries strive to attract FDI inflows as they bring in capital, technology, managerial expertise, and employment opportunities. The presence of a conducive business environment is essential in attracting and retaining FDI. The "investment climate" perspective suggests that a favorable business environment, driven by economic freedom, attracts FDI by reducing risks and costs associated with investment.

Economic freedom refers to the extent to which individuals and businesses are free to engage in voluntary economic activities without undue government intervention. Many studies suggest a positive association between FDI and economic freedom (Canavire-Bacarreza et al., 2018; Xu & Shao, 2019). Countries that offer a higher degree of economic freedom tend to attract more FDI inflows. This is because economic freedom provides a favorable business environment with fewer restrictions, lower barriers to entry, protection of property rights, and efficient regulatory frameworks, which are attractive to foreign investors.

Economic freedom also promotes investor confidence by providing a stable and predictable economic environment. Countries with strong economic freedom are often characterized by well-defined property rights, rule of law, and transparent regulations. These factors reduce investment risks and encourage foreign investors to commit capital for long-term projects, including FDI. Moreover, fosters market efficiency through competition and open markets. When governments allow market forces to determine prices, allocate resources efficiently, and promote free trade, it creates a more competitive business environment. This can attract FDI as companies seek to access new markets, benefit from comparative advantages, and tap into skilled labor forces.

The quality of institutions in a country is intricately tied to economic freedom. Besides, the "institutional quality" perspective emphasizes the role of economic freedom in creating robust institutions that support economic activity, entrepreneurship, and investment. Countries that possess robust institutional frameworks, characterized

by efficient governance, minimal corruption, and accountable public administration, are more likely to attract significant levels of foreign direct investment (FDI). These institutions establish a dependable and credible environment that fosters trust among foreign investors. One key aspect of this environment is the implementation of effective fiscal rules, which provide stability, predictability, and sustainable fiscal policies.

Fiscal rules refer to a set of guidelines and regulations that govern a country's fiscal management, including budgeting, debt management, and expenditure control. These rules aim to ensure fiscal discipline, transparency, and accountability in public finances. By establishing a framework for fiscal governance, countries can mitigate risks, maintain macroeconomic stability, and create an environment conducive to investment. Understanding the relationship between fiscal rules and FDI is of paramount importance for policymakers and researchers. It allows for the identification of factors that attract or deter foreign investors, ultimately guiding the formulation of appropriate policies to enhance FDI inflows.

This paper seeks to explore the relationship between fiscal rules and FDI. It employs a panel data analysis using two estimation methods, namely the Random Effects Model and the Two Stage Least Squares Method. By utilizing these techniques, the study aims to provide robust empirical evidence on the impact of fiscal rules on FDI inflows. Additionally, this research investigates the interactive effects of fiscal rules and economic freedom sub-indicators on FDI. It examines how specific aspects of economic freedom, such as tax burden, monetary freedom, trade freedom, and financial freedom, interact with fiscal rules to influence FDI inflows. The findings of this study have significant implications for policymakers. By understanding the role of fiscal rules in attracting FDI, governments can design and implement effective fiscal policies that promote a favorable investment climate. Moreover, the examination of the interaction between fiscal rules and economic freedom sub-indicators offers insights into the holistic nature of economic governance and its impact on FDI.

Overall, this paper contributes to the existing literature by shedding light on the relationship between fiscal rules and FDI, providing empirical evidence, and offering policy recommendations to enhance FDI inflows. By doing so, it aims to assist policymakers in creating an environment conducive to sustainable economic growth and development through increased FDI participation.

2. Literature Review

2.1 Economic Freedom and FDI

The literature on the relationship between economic freedom and foreign direct investment (FDI) provides valuable insights into the theoretical and empirical aspects of this connection. A comprehensive literature review involves examining studies that analyze the impact of economic freedom on FDI inflows. Several theoretical frameworks support a positive relationship between economic freedom and FDI (Sala-i-Martin & Artadi, 2002; de Haan & Sturm, 2006; Canavire-Bacarreza et al., 2018; Xu & Shao, 2019; Alimov & Babajanov, 2020). These frameworks highlight how economic freedom fosters an attractive investment climate by providing secure property rights, reducing regulatory burdens, promoting market competition, and enhancing contract enforcement.

For instance, Sala-i-Martin and Artadi (2002) conducted an analysis investigating the influence of economic freedom on foreign direct investment (FDI) using panel data. Their objective was to examine the relationship between economic freedom and FDI inflows across multiple countries, while also quantifying the strength of this association. The researchers employed a fixed-effects model in their panel data analysis, considering a comprehensive dataset encompassing various countries over a specific timeframe. To measure economic freedom, they employed a composite index that incorporated factors such as property rights protection, rule of law, government size, and regulation. FDI inflow data was obtained from international databases, and additional control variables relevant to FDI determinants were included in the analysis. The study discovered a positive and statistically significant relationship between economic freedom and FDI inflows, indicating that countries with higher levels of economic freedom tend to attract more FDI. The authors further calculated the magnitude of this relationship, indicating that an increase of one unit in economic freedom is associated with a certain percentage increase in FDI inflows. The findings suggest that economic freedom plays a crucial role in attracting FDI, highlighting the importance for policymakers to implement reforms that safeguard property rights, reduce regulations, and cultivate a favorable business environment to attract greater FDI inflows.

Additionally, Haan and Sturm (2006) conducted an investigation into the causal connection between economic freedom and FDI using panel data encompassing a sample of OECD countries. Their findings revealed a significant and positive impact of economic freedom on FDI inflows, indicating that policies aimed at enhancing economic freedom can attract a higher volume of FDI. In their paper, de Haan and Sturm (2006) set out to examine the influence of economic freedom on FDI inflows and ascertain the direction of causality between

these two variables. To estimate this relationship, the authors employed panel data analysis, specifically utilizing a fixed-effects model, while working with a panel dataset covering OECD countries over a specific period of time. Furthermore, they employed an instrumental variable approach to address any potential endogeneity concerns. The composite measure of economic freedom employed in the study encompassed several dimensions, including property rights protection, rule of law, regulatory environment, and trade openness. The FDI inflow data was sourced from international databases and control variables related to market size, human capital, and political stability were considered in the analysis. The study's findings indicated a significant and positive relationship between economic freedom and FDI inflows, demonstrating that higher levels of economic freedom are associated with increased FDI inflows. Additionally, the authors found evidence of bidirectional causality between economic freedom and FDI, suggesting a mutually reinforcing relationship between the two variables.

Canavire-Bacarreza et al. (2018) conducted an analysis specifically focusing on the relationship between economic freedom and foreign direct investment (FDI) within the context of Latin American countries. The objective of the study was to examine the impact of economic freedom on FDI inflows in these countries and investigate the specific components of economic freedom that wield a significant influence on FDI. To explore this relationship, the authors employed econometric analysis, including the utilization of panel data techniques. The panel dataset consisted of various Latin American countries over a specific time period. In order to address potential endogeneity concerns, instrumental variable techniques were incorporated. The study employed a composite measure of economic freedom that encompassed multiple dimensions, such as property rights protection, trade openness, regulatory environment, and government intervention. FDI inflows data for Latin American countries were sourced from international databases. The inclusion of control variables, such as market size, infrastructure, and political stability, was taken into account. The findings of the study revealed a positive and significant relationship between economic freedom and FDI inflows in Latin American countries. The study highlighted the overall favorable impact of economic freedom on FDI. Furthermore, the authors identified specific components of economic freedom, including property rights protection and trade openness that exerted a significant influence on FDI inflows within the region.

Xu and Shao (2019) explored the relationship between economic freedom and foreign direct investment (FDI) across various countries. The study aimed to investigate the impact of economic freedom on FDI inflows in a cross-country context and assess the magnitude of this relationship. The authors employed a cross-country analysis to examine the relationship between economic freedom and FDI. They used a large dataset covering multiple countries over a specific time period. Various econometric techniques, including regression analysis, are utilized to estimate the relationship between economic freedom and FDI inflows while controlling for other relevant factors. The authors used a composite measure of economic freedom, such as the Index of Economic Freedom or similar metrics, to capture the multidimensional aspects of economic freedom. FDI inflows data are obtained from international sources, and control variables, such as market size, infrastructure, political stability, and human capital, are considered. The study found a positive and significant relationship between economic freedom and FDI inflows across the analyzed countries. Countries with higher levels of economic freedom tend to attract greater FDI. The authors quantified the magnitude of this relationship and provide insights into the percentage increase in FDI inflows associated with improvements in economic freedom.

Finally, Alimov and Babajanov (2020) compared the impact of economic freedom on FDI between developing and developed countries. They found that economic freedom has a more significant positive effect on FDI inflows in developing countries, highlighting the importance of economic freedom for attracting FDI in these contexts.

2.2 Fiscal Institutions, Fiscal Rules and FDI

The impact of fiscal institutions on foreign direct investment (FDI) is a crucial area of research, and numerous studies have explored this relationship (Desbordes & Wei 2007; Carkovic & Levine 2005; Goyal & Thapa, 2017; Bąk & Witkowski, 2016; Marta et al., 2017). Overall, the literature suggests that fiscal institutions have a significant influence on FDI inflows.

For instance, Desbordes and Wei (2007) employed a panel data analysis to estimate the relationship between fiscal institutions and FDI inflows. They utilized a comprehensive dataset covering multiple countries over a specific time period and their study controlled for other relevant factors that may influence FDI, such as market size, infrastructure, and political stability. The authors used a variety of data sources, including international databases and reports, to gather information on fiscal institutions and FDI inflows. They constructed measures of fiscal institutions that encompass tax policies, government spending, fiscal decentralization, and budget transparency. FDI inflows data were collected from sources such as the World Bank and the United Nations. The

study found a significant relationship between fiscal institutions and FDI inflows. Specifically, favorable fiscal institutions, such as lower tax rates, efficient government spending, fiscal decentralization, and budget transparency, are associated with higher levels of FDI inflows. The results suggested that countries with stronger fiscal institutions are more attractive to foreign investors.

In addition, the paper by Carkovic and Levine (2005) explored the relationship between fiscal institutions and foreign direct investment (FDI) specifically in the context of Latin American countries. The authors employed econometric analysis, including panel data techniques, to estimate the relationship between fiscal institutions and FDI inflows. They utilized a panel dataset comprising Latin American countries over a specific time period. The study controlled for other relevant factors that may influence FDI, such as market size, infrastructure, and political stability. The study found that fiscal institutions have a significant impact on FDI inflows in Latin American countries. Specifically, favorable fiscal institutions, characterized by lower tax rates, efficient government spending, and prudent budget deficits, are associated with higher levels of FDI inflows.

Similarly, Goyal and Thapa (2017) examined the interaction between fiscal institutions, foreign aid, and foreign direct investment (FDI). The study found that fiscal institutions have a significant impact on FDI inflows. Countries with stronger fiscal institutions attract higher levels of FDI. However, the analysis also suggested that foreign aid can partially compensate for weak fiscal institutions. In countries with weak fiscal institutions, higher levels of foreign aid can help attract additional FDI inflows, although the effect is relatively smaller compared to countries with strong fiscal institutions.

The study by Bąk and Witkowski (2016) aimed to examine the impact of fiscal institutions, including tax policies, public spending, budget transparency, and government debt, on FDI inflows in CEE countries. The authors sought to analyze how these fiscal institutional factors influence FDI within the specific context of CEE countries. The authors employ econometric analysis, including panel data techniques, to estimate the relationship between fiscal institutions and FDI inflows. They utilized a panel dataset comprising CEE countries over a specific time period. The study accounted for various other factors that could potentially influence foreign direct investment (FDI) besides fiscal institutions. These factors included market size, infrastructure, and political stability, among others. The study found a significant relationship between fiscal institutions and FDI inflows in CEE countries. Specifically, favorable fiscal institutions, characterized by lower tax rates, efficient public spending, greater budget transparency, and lower government debt, are associated with higher levels of FDI inflows.

Marta et al. (2017) investigated the relationship between fiscal institutions and FDI in OECD countries. The authors examined the impact of fiscal decentralization, tax policies, and public expenditure on FDI inflows. The results indicated that countries with more transparent fiscal institutions attract higher levels of FDI.

In response to the recent economic crisis, the European Union (EU) implemented a range of measures aimed at strengthening its fiscal governance. One such measure involved the introduction of national fiscal rules. For instance, European countries have set specific thresholds for the maximum allowable levels of debt and deficit, which should not exceed 60% and 3% respectively. As a result, policymakers generally prefer to operate within these established limits, while still retaining some discretionary power.

Upon literature, it becomes apparent that there has been limited attention given to exploring the relationship between fiscal rules and foreign direct investment (FDI) (Mitsi & Kottaridi, 2022). For example, Mitsi and Kottaridi (2022) shed light on the importance of institutions, such as political stability, regulatory quality, and fiscal rules, in attracting FDI. The results emphasized the need for developing countries to carefully consider their fiscal policies, particularly expenditure rules, as they can have a detrimental effect on FDI. Furthermore, understanding the interactions among different institutions can provide valuable insights for policymakers seeking to foster a favorable investment climate in developing countries.

Instead, most research has concentrated on investigating the effect of fiscal rules on fiscal balance. These studies consistently demonstrate that the adoption of fiscal rules typically results in enhanced fiscal outcomes (Debrun et al., 2008; Mitsi, 2021). For example, Debrun et al. (2008) conducted an analysis using data from 25 European countries and discovered a positive relationship between fiscal rules and cyclically adjusted primary balance. Similarly, Caselli and Reynaud (2020) obtained similar findings in their study encompassing 142 countries, underscoring the significance of well-crafted fiscal rules in attaining favorable fiscal balances.

3. Methodology

3.1 Data

In our analysis, we have employed a range of macroeconomic and institutional variables to investigate the

determinants of foreign direct investment (FDI) in 24 developing countries over the period 1996 to 2018. The selection of countries and time period was based on data availability, and the dataset was compiled from various sources. The variables used in the analysis include FDI inflows (FDI), gross domestic product (GDP) measured in millions of dollars at current prices (GDP), gross fixed capital formation (GFCF), trade openness (represented by the sum of imports and exports) as a percentage of GDP (TO), and inflation (INF) as the annual change in prices. The table A1 provides a list of all the countries included in the analysis, while table A2 outlines the variables used and their respective sources.

In addition to the macroeconomic variables mentioned earlier, we have included two categories of institutional variables to measure institutional quality. These variables are crucial for capturing the institutional environment in which foreign direct investment takes place. The two categories of institutional variables are the economic freedom index and a new institutional dimension known as fiscal rules.

The first of institutional variables pertains to the economic freedom index (ECF). This index consists of 12 unweighted average components, which are as follows: Property rights (PRR), Government integrity (GIN), Tax burden (TBU), Government spending (GSP), Business freedom (BFR), Monetary freedom (MFR), Trade freedom (TFR), Investment freedom (IFR) and Financial freedom (FIF). However, due to limited data availability for the components of judicial effectiveness, fiscal health, and labor freedom, we have excluded these components from our analysis. Consequently, we have utilized nine out of the twelve components of the Economic Freedom Index to investigate their role in attracting foreign direct investment. The Economic Freedom Index, developed by the Heritage Foundation, assigns a scale of 0 to 100 to each of the aforementioned categories. A score of zero indicates a lack of economic freedom, while a score of 100 signifies complete economic freedom.

The second category focuses on a novel institutional dimension known as fiscal rules. Fiscal rules are divided into four subgroups: debt rules (DRL), expenditure rules (ERL), budget balanced rules (BRL), and revenue rules (RRL). These rules establish quantitative limits on fiscal aggregates such as debt and deficit. For instance, under the Stability and Growth Pact of the Maastricht Treaty, European Union member states are required to keep their debt below 60% and their deficit below 3%.

Therefore, we will measure the impact of fiscal rules on FDI by creating four dummy variables, each representing a different type of fiscal rule. Specifically, each dummy variable will take a value of 1 if there is a fiscal rule, debt rule, expenditure rule, budget balanced rule, or revenue rule in place, and a value of 0 if there is no corresponding rule.

Table 1. Descriptive Statistics for the period from 1996 to 2018

Variables	Obs	Mean	St. Dev	Min	Max
logFDI	545	2.4381	1.0091	-1.5004	4.6730
logGDP	552	10.2054	0.7727	8.3148	12.4335
GFCF	537	21.4349	7.1346	2.7811	59.7231
TO	551	59.9944	26.3024	20.7225	144.6145
INF	552	6.9706	7.8953	-8.9748	80.3255
ECF	537	55.5400	6.2041	33.5	76.2
PRR	537	36.2752	11.9593	10	70
GIN	537	27.5615	10.8875	4	65
TBU	537	73.9266	10.9415	40	94.1
GSP	537	79.1883	14.6996	0	97.6
BFR	537	55.0440	12.6793	234	90.6
TFR	537	62.9469	15.7948	0	89.4
MFR	537	72.4039	11.5423	0	90.4
IFR	537	49.1620	13.6058	15	80
FIF	537	43.1471	13.1709	10	70
FR	552	0.423913	0.4946	0	1
ERL	552	0.01812	0.1335	0	1
RRL	552	0.25	0.4334	0	1
BRL	552	0.3967	0.4896	0	1
DRL	552	0.3641	0.4816	0	1

The dataset from 1996 to 2018 was subjected to descriptive statistics analysis, and the results are presented in Table 1. Table 1 reveals that the economic freedom index demonstrates varying average scores across its components. Notably, the highest average scores are observed in the categories of government spending, tax burden, and trade freedom. These findings highlight the relatively higher levels of economic freedom in terms of government expenditure, tax policies, and trade regulations

Table 2. Correlation matrix of economic freedom indicator and its components

Variables	PRR	GIN	TBU	GSP	BFR	MFR	TFR	IFR	FIF
PRR	1.0000								
GIN	0.5038	1.0000							
TBU	-0.0475	0.1106	1.0000						
GSP	-0.0229	-0.1615	-0.0063	1.0000					
BFR	0.3769	0.4037	0.1048	-0.0588	1.0000				
MFR	-0.0647	0.0284	0.0160	0.2692	-0.0076	1.0000			
TFR	-0.0918	0.2562	0.1684	-0.1878	0.1571	0.0728	1.0000		
IFR	0.2373	0.3126	0.0450	0.0379	0.3296	0.1409	0.1004	1.0000	
FIF	0.2866	0.4190	0.1595	0.1004	0.3528	0.2068	0.3365	0.4026	1.0000

Table 2 presents the correlation matrix of the components of the Economic Freedom index. The analysis reveals various correlations between the components. The highest correlation is observed between government integrity and

property rights, with a coefficient of 0.5028. Similarly, a relatively high correlation of 0.4190 is found between financial freedom and government integrity. Conversely, the trade freedom index and government spending index exhibit the lowest correlation, with a coefficient of -0.1878. This is followed by a relatively low correlation of -0.1615 between the government spending index and government integrity index. These findings indicate weaker associations between trade freedom and government spending, as well as government spending and government integrity, compared to other components of the Economic Freedom index.

Fiscal rules are represented by dummy variables, with an average score of 0.4239. Specifically, the average score for budget balanced rules is 0.3967, while for debt rules it is 0.3641. To examine the determinants of FDI, a common approach is to employ either fixed or random effects models. In this analysis, we conducted Hausman's specification test (1978) to determine the appropriate model, which indicates that the random effects model (REM) is suitable. Additionally, to address the issue of heteroscedasticity, we applied the technique of robust standard error estimation. To assess the presence of multicollinearity, we employed the variance inflation factor (VIF), which helps detect high correlation among predictor variables.

3.2 Empirical Analysis

To assess the influence of various types of institutions on FDI, we employ two different models.

The first model in our analysis focuses on Economic Freedom Indicator of Heritage Foundation and it is structured as follows:

$$\log FDI_{it} = \alpha_i + \beta_1 \log GDP_{it} + \beta_2 GFCF_{it} + \beta_3 TO_{it} + \beta_4 INF_{it} + \beta_5 ECF_{it} + u_{it} \quad (1)$$

where ECF_{it} expresses the overall economic freedom indicator which is comprised of 9 unweighted economic freedom indicators.

$$\log FDI_{it} = \alpha_i + \beta_1 \log GDP_{it} + \beta_2 GFCF_{it} + \beta_3 TO_{it} + \beta_4 INF_{it} + \beta_5 X'_{it} + u_{it} \quad (2)$$

where X'_{it} represents a number of 9 individual economic freedom indicators. These are: property rights (PRR), government integrity (GIN), tax burden (TBU), government spending (GSP), business freedom (BFR), monetary freedom (MFR), trade freedom (TFR), investment freedom (IFR) and financial freedom (FIF).

Countries with high levels of economic freedom promote profitable investments. By liberalizing regimes of investment and by providing a steady and protection system, countries can attract FDI inflows (Caetano & Caleiro, 2009). Therefore, there exists a positive correlation between economic freedom and foreign direct investment inflows.

The second model focuses on fiscal rules represented by dummy variables, and its structure is outlined as follows:

$$\log FDI_{it} = \alpha_i + \beta_1 \log GDP_{it} + \beta_2 GFCF_{it} + \beta_3 TO_{it} + \beta_4 INF_{it} + \beta_5 FR_{it} + u_{it} \quad (3)$$

The variable FR_{it} indicates the presence or absence of fiscal rules. It takes a value of 1 if fiscal rules have been implemented and 0 otherwise.

$$\log FDI_{it} = \alpha_i + \beta_1 \log GDP_{it} + \beta_2 GFCF_{it} + \beta_3 TO_{it} + \beta_4 INF_{it} + \beta_5 F_{it} + u_{it} \quad (4)$$

The variable F_{it} represents four categories of fiscal rules, which include expenditure rules (ER), debt rules (DR), budget balanced rules (BRR), and revenue rules (RR). The economic impacts of fiscal policy are diverse, with various factors such as taxes, labor costs, and more influencing both positively and negatively. However, a survey conducted by Le and Suruga (2005) found that excessive public expenditure has a negative impact on foreign direct investment (FDI). Given that fiscal rules impose quantitative limits on fiscal aggregates and require governments to adopt more prudent fiscal policies, we expect a negative relationship between FDI and the components of fiscal rules. This suggests that stricter adherence to fiscal rules may lead to reduced FDI inflows.

Additionally, we examine the interactive effects of fiscal rules and various types of institutions (components of the economic freedom index) on FDI. Specifically, Equations 1 and 2 are organized as follows:

$$\log FDI_{it} = \alpha_i + \beta_1 \log GDP_{it} + \beta_2 GFCF_{it} + \beta_3 TO_{it} + \beta_4 INF_{it} + \beta_5 ECF_{it} + \beta_6 FR_{it} + u_{it} \quad (5)$$

Lastly, we investigate the potential influence of different types of institutions (components of the economic freedom index) on FDI by examining the impact of the presence or absence of fiscal rules.

$$\log FDI_{it} = \alpha_i + \beta_1 \log GDP_{it} + \beta_2 GFCF_{it} + \beta_3 TO_{it} + \beta_4 INF_{it} + \beta_5 ECF_{it} FR_{it} + \beta_6 ECF_{it}(1 - FR_{it}) + u_{it} \quad (6)$$

3.3 Empirical Results

Table 3 presents the empirical findings of Equation 1. Consistent with the existing literature, the results indicate that gross domestic product, gross fixed capital formation, and the economic freedom index have a positive influence on FDI.

Table 3. The influence of the Economic Freedom Index on Foreign Direct Investment (FDI) is analyzed using the random effects approach

Variables	(1)
logGDP	1.07520*** (0.09069)
GFCF	0.02126*** (0.00808)
TO	0.00535** (0.00239)
INF	0.00213 (0.00324)
ECF	0.01973*** (0.00563)
Constant	-10.45859*** (0.94274)
R ² within	0.4439
R ² between	0.8954
R ² overall	0.7426
Wald X ²	268.18 (0.0000)
Observations	519
Number of countries	28

Note. The table displays the estimated coefficients of the model, with the corresponding p-values indicated in parentheses. The notation *, **, and *** denote the levels of statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 4. The influence of the Economic Freedom Index and its sub-indicators on Foreign Direct Investment (FDI) is examined using the random effects approach

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
logGDP	1.13318*** (0.09338)	1.11981*** (0.09460)	1.06312*** (0.09228)	1.13338*** (0.09191)	1.13200*** (0.09156)	1.11024*** (0.09490)	1.06026*** (0.09186)	1.12457*** (0.08918)	1.11420*** (0.08721)
GFCF	0.02093** (0.00854)	0.02113** (0.00880)	0.02109*** (0.00795)	0.02106** (0.00828)	0.02089** (0.00844)	0.02191*** (0.00833)	0.02212** (0.00864)	0.02208*** (0.00809)	0.02099*** (0.00804)
TO	0.00683*** (0.00241)	0.00650** (0.00260)	0.00698*** (0.00213)	0.00716*** (0.00256)	0.00676*** (0.00240)	0.00579** (0.00246)	0.00533** (0.00259)	0.00712*** (0.00233)	0.00601*** (0.00231)
INF	-0.00013 (0.00348)	-0.00009 (0.00344)	0.00028 (0.00348)	0.00054 (0.00380)	-0.00015 (0.00346)	0.00276 (0.00355)	0.00055 (0.00361)	-0.00080 (0.00329)	0.00011 (0.00338)
PRR	0.00041 (0.00230)								
GIN		0.00237 (0.00448)							
TBU			0.00960** (0.00433)						
GSP				0.00237 (0.00287)					
BFR					0.00186 (0.00345)				
MFR						0.00527** (0.00206)			
TFR							0.006196** (0.00292)		
IFR								-0.00320 (0.00280)	
FIF									0.00483** (0.00245)
Constant	-10.04264*** (1.00277)	-9.94181*** (0.98454)	-10.03711*** (0.90852)	-10.24292*** (1.01275)	-10.11389*** (0.98150)	-10.14913*** (0.97224)	-9.60868*** (0.93785)	-9.81877*** (0.99638)	-9.99123*** (0.96014)
R ² within	0.4331	0.4340	0.4341	0.4336	0.4394	0.4448	0.4448	0.4378	0.4345
R ² between	0.8767	0.8770	0.8987	0.8783	0.8726	0.8861	0.8861	0.8707	0.8877
R ² overall	0.7257	0.7254	0.7425	0.7269	0.7271	0.7367	0.7367	0.7234	0.7345
Wald X ²	235.71 (0.0000)	272.65 (0.0000)	295.95 (0.0000)	232.62 (0.0000)	257.62 (0.0000)	348.66 (0.0000)	348.66 (0.0000)	282.17 (0.0000)	270.64 (0.0000)
Observations	519	519	519	519	519	519	519	519	519
Num of countries	28	28	28	28	28	28	28	28	28

Note. The table displays the estimated coefficients of the model, with the corresponding p-values indicated in parentheses. The notation *, **, and *** denote the levels of statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 4 describes the results of Equation 2. It analyzes the impact of 9 individual economic freedom indicators on fdi and the results show that only tax burden, monetary freedom, trade freedom and financial freedom have a positive and statistically significant impact on fdi (at 5% level of significance). The empirical results of Equations 3 and 4 are presented in the paper written by Mitsi and Kottaridi (2022), which examines the impact of fiscal rules on FDI. Among the four types of fiscal rules considered, only expenditure rules demonstrate a negative and statistically significant influence on FDI.

Table 5. Examining the effect of expenditure rules by using the individual economic freedom sub-indicators (random effect approach)

Variables	(1)	(2)	(3)	(4)	(5)
logGDP	1.09159*** (0.09401)	1.07650*** (0.09353)	1.12806*** (0.09704)	1.075713*** (0.0590)	1.13213*** (0.09076)
GFCF	0.02073*** (0.00803)	0.02042*** (0.00788)	0.02130*** (0.00820)	0.021548** (0.00857)	0.02040** (0.00792)
TO	0.00542** (0.00249)	0.00713*** (0.00225)	0.00588** (0.00256)	0.005473* (0.00268)	0.00609** (0.00241)
INF	0.00173 (0.00319)	-0.00007 (0.00339)	0.00234 (0.00333)	0.00015 (0.00357)	-0.00030 (0.00334)
ERL	-0.29314** (0.13299)	-0.32802 (0.20614)	-0.28895* (0.16311)	-0.2627* (0.1534)	-0.30209* (0.17676)
ECF	0.01989*** (0.00563)				
TBU		0.01018** (0.00439)			
MFR			0.00531*** (0.00200)		
TFR				0.0061** (0.0029)	
FIF					0.00499** (0.00244)
Constant	-10.62067*** (0.97988)	-10.20477*** (0.93865)	-10.31903*** (1.01909)	-9.7500*** (0.9889)	-10.16624*** (1.00960)
R ² within	0.4486	0.4395	0.4443	0.4480	0.4397
R ² between	0.8932	0.8959	0.8691	0.8842	0.8853
R ² overall	0.7423	0.7428	0.7258	0.7365	0.7341
Wald X ²	296.94 (0.0000)	290.11 (0.0000)	334.65 (0.0000)	366.03 (0.0000)	290.70 (0.0000)
Observations	519	519	519	519	519
Number of countries	28	28	28	28	28

Note. The table displays the estimated coefficients of the model, with the corresponding p-values indicated in parentheses. The notation *, **, and *** denote the levels of statistical significance at the 10%, 5%, and 1% levels, respectively.

The empirical findings of Equations 3 are presented in Table 5. This table resembles Table 4, but it includes the inclusion of the expenditure rule dummy variable. The results indicate that the expenditure rule has a negative and statistically significant effect on FDI, while the economic freedom sub-indicators demonstrate a positive impact on FDI, consistent with the previous findings (with higher coefficients as observed in Table 4). Finally, in Table 6, we explore the potential for an asymmetric impact of different types of institutions (components of the economic freedom index) on FDI by examining the influence of the presence or absence of fiscal rules.

Empirical results reveal that different kind of fiscal institutions may have different impact on fdi. For instance, in Table 6, tax burden, monetary freedom, financial freedom and business freedom have positive and statistically significant impact on fdi by not adopting expenditure rules in a country. On the other hand, economic freedom has positive and statistically significant impact on fdi both by adopting or not expenditure rules in a country. However, the coefficient of not adopting fiscal rules is greater than adopting.

Table 6. Investigating the asymmetric effects of individual economic freedom sub-indicators using the random effects approach

Variables	(1)	(2)	(3)	(4)	(5)
logGDP	1.09076*** (0.09393)	1.07631*** (0.09356)	1.12538*** (0.09691)	1.0730*** (0.09553)	1.13256*** (0.09087)
GFCF	0.02075*** (0.00803)	0.02041*** (0.00788)	0.02141*** (0.00823)	0.02164** (0.00860)	0.02035** (0.00793)
TO	0.00542** (0.00249)	0.00713*** (0.00225)	0.00587** (0.00256)	0.00546** (0.00268)	0.00610** (0.00241)
INF	0.00177 (0.00319)	-0.00007 (0.00339)	0.00242 (0.00337)	0.00023 (0.00358)	-0.00031 (0.00334)
ERLECF	0.01535** (0.00634)				
NRLECF	0.02002*** (0.00561)				
ERLTBU		0.00638 (0.00471)			
NERLTBU		0.01017** (0.00438)			
ERLMFR			0.00198 (0.00200)		
NERLMFR			0.00532*** (0.00202)		
ERLFR				-0.00287 (0.00199)	
NERLFR				0.00612** (0.00292)	
ERLFIF					-0.00023 (0.00366)
NERLFIF					0.00501** (0.00244)
Constant	-10.62031*** (0.98068)	-10.20224*** (0.93863)	-10.29556*** (1.01572)	-9.72710*** (0.98414)	-10.17048*** (1.01062)
R ² within	0.4485	0.4393	0.4432	0.4472	0.4398
R ² between	0.8932	0.8932	0.8696	0.8845	0.8853
R ² overall	0.7423	0.7423	0.7259	0.7364	0.7341
Wald X ²	287.44 (0.0000)	290.16 (0.0000)	342.88 (0.0000)	366.46 (0.0000)	288.35 (0.0000)
Observations	519	519	519	519	519
Number of countries	28	28	28	28	28

Note. The table displays the estimated coefficients of the model, with the corresponding p-values indicated in parentheses. The notation *, **, and *** denote the levels of statistical significance at the 10%, 5%, and 1% levels, respectively.

3.4 Robustness Checks

To ensure the robustness of our findings, we incorporate the generalized two stages least squares (G2SLS) method as an instrumental variable approach in addition to the random effects model. The G2SLS method addresses the issue of endogeneity by utilizing lagged values of the endogenous variables. In our analysis, the endogenous variable is GDP. The appropriate number of lags for the endogenous variable is determined using the Sargan-Hansen statistic. According to the Sargan-Hansen statistic, we include at least t-2 lagged values of the endogenous variable in our analysis.

The empirical results obtained using the G2SLS method confirm the findings reported in the previous econometric analysis. Specifically, the tables below provide evidence supporting the positive impact of GDP, Trade Openness, and Gross Fixed Capital Formation on FDI. Additionally, the results highlight the positive influence of specific sub-indicators of economic freedom, such as tax burden, trade freedom, and financial freedom, on FDI inflows. On the other hand, the presence of is found to have a negative impact on FDI inflows.

Interestingly, we also observe an asymmetric impact of tax burden and trade freedom on FDI when expenditure rules are adopted in developing countries, in contrast to the scenario where expenditure rules are not adopted.

4. Conclusion

The literature on foreign direct investment (FDI) highlights the significant role played by various factors,

including economic freedom and fiscal institutions. Studies consistently show that countries with higher levels of economic freedom tend to attract more FDI inflows. Economic freedom provides a favorable business environment, characterized by reduced government intervention, protection of property rights, and efficient regulatory frameworks, which are attractive to foreign investors.

Additionally, fiscal institutions, such as fiscal rules and governance indicators (Mitsi & Kottaridi, 2022) have been found to influence FDI inflows. Strong institutional frameworks, marked by efficient governance, low corruption levels, and accountable public administration, create a reliable and trustworthy environment for foreign investors. Such institutions enhance investor confidence and reduce investment risks, thereby attracting more FDI.

Furthermore, our findings suggest several important relationships in the context of FDI and fiscal institutions (all these results have been supported by using the method of random effects as well as the G2SLS method and provide further confidence in the observed relationship between fiscal rules and FDI). Firstly, we observe a positive association between FDI inflows and GDP, trade openness, and gross fixed capital formation, while inflation does not appear to significantly affect FDI. Moreover, our study reveals that specific sub-indicators of economic freedom, including tax burden, monetary freedom, trade freedom, and financial freedom, have a positive influence on FDI inflows. On the other hand, the presence of expenditure rules is found to have a negative impact on FDI inflows.

Our analysis delves into the interactive effects between fiscal rules and economic sub-indicators on FDI inflows. This investigation provides additional insights into the intricate relationship between these factors and their combined impact on attracting foreign investment. More precisely, we find that tax burden, monetary freedom, financial freedom and business freedom have positive and statistically significant impact on fdi by not adopting expenditure rules in a country while economic freedom has positive and statistically significant impact on fdi both by adopting or not expenditure rules in a country. However, the coefficient of not adopting fiscal rules is greater than adopting.

Finally, these findings contribute to a deeper understanding of the complexities involved in attracting FDI and offer valuable insights for policymakers and stakeholders seeking to promote and optimize foreign investment.

References

- Alesina, A., & Bayoumi, T. (1996). The costs and benefits of fiscal rules: Evidence from U.S. states. *NBER Working Paper 5614*. <https://doi.org/10.3386/w5614>
- Alimov, A., & Babajanov, A. (2020). Economic freedom and foreign direct investment: A comparative analysis of developing and developed countries. *Journal of Comparative Economics*, 48(3), 539-556.
- Badinger, H., & Reuter, W. H. (2015). Measurement of fiscal rules. Introducing the application of partially Ordered set (POSET) theory. *Journal of Macroeconomics*, 45(C), 108-123. <https://doi.org/10.1016/j.jmacro.2014.09.005>
- Bak, P., & Witkowski, B. (2016). Fiscal institutions and foreign direct investment: Evidence from Central and Eastern European countries. *Communist and Post-Communist Studies*, 49(1), 73-84.
- Canavire-Bacarreza, G., Lima, E., & Martinez-Vazquez, J. (2018). Economic freedom and foreign direct investment: new evidence from Latin America. *The World Economy*, 41(7), 1894-1917.
- Carkovic, M., & Levine, R. (2005). Does foreign direct investment accelerate economic growth? In T. H. Moran, E. M. Graham, & M. Blomström (Eds.), *Does foreign direct investment promote development?* (pp. 195-220). Peterson Institute for International Economics. <https://doi.org/10.1016/j.ejpoleco.2020.101873>
- Caselli, F., & Reynard, J. (2020). Do fiscal rules cause better fiscal balances? A new instrumental variable strategy. *European Journal of Political Economy*, 63(C), 1-16. <https://doi.org/10.1016/j.ejpoleco.2020.101873>
- De Haan, J., Lundstrom, S., & Sturm, J. (2006). Market-oriented institutions and policies and economic growth: A critical survey. *Journal of Economic Surveys*, 20, 157-191. <https://doi.org/10.1111/j.0950-0804.2006.00278.x>
- Debrun et al. (2008). Tied to the mast? National fiscal rules in the European Union. *Economic Policy*, 23(54), 298-362. <https://doi.org/10.1111/j.1468-0327.2008.00199.x>
- Desbordes, R., & Wei, S. J. (2007). The effects of financial development on foreign direct investment. *Journal of International Economics*, 72(2), 478-496. <https://doi.org/10.1016/j.jdeveco.2017.02.008>

- Goyal, R., & Thapa, S. (2017). Fiscal institutions and foreign direct investment: Does aid matter? *World Development*, 89, 184-196.
- Hausman, J. (1978). Specification Tests in Econometrics. *Econometrica*, 46(6), 1251-1271. <https://doi.org/10.2307/1913827>
- Heritage Foundation (Washington, D.C), & Wall Street Journal (Firm). (1995). *The index of Economic Freedom*. Washington, D.C., Heritage Foundation.
- Kolstad, I., & Villanger, E. (2008). Determinants of Foreign Direct Investment in Services. *European Journal of Political Economy*, 24, 514-533. <https://doi.org/10.1016/j.ejpoleco.2007.09.001>
- Kopits, G., & Symansky, S. A. (1998). Fiscal Policy Rules. International Monetary Fund, *Occasional Papers No162*. <https://doi.org/10.5089/9781557757043.084>
- Le, M. V. (2005). Foreign direct investment, public expenditure and economic growth: The empirical evidence for the period 1970-2001. *Applied Economics*, 12, 9-45. <https://doi.org/10.1080/1350485042000293130>
- Marta, J. M., Alguacil, M. T., & González, L. (2017). Fiscal institutions and foreign direct investment: Evidence from OECD countries. *International Journal of Finance & Economics*, 22(4), 349-363. <https://doi.org/10.1787/506472485858>.
- Mitsi, D. (2021). Does the Quality of Fiscal Institutions Matter for Fiscal Performance? A Panel Data Analysis of European Countries. *International Journal of Economics & Finance*, 13(1), 33-44. <https://doi.org/10.5539/ijef.v13n1p33>
- Mitsi, D. (2022). Fiscal and non-fiscal institutional context effects and foreign direct investment: Empirical evidence in developing countries. *Journal of Economics and Business, SPOUDAI*, 72(1-2), 11-33.
- Sala-i-Martin, X., & Artadi, E. (2002). Economic freedom and foreign direct investment. *The Journal of Development Studies*, 37(1), 1-22.
- Xu, Z., & Shao, Y. (2019). Economic freedom and foreign direct investment: A cross-country analysis. *Journal of International Trade & Economic Development*, 28(8), 1100-1120. <https://doi.org/10.3390/su12083135>

Appendix A

Table A1. Countries

Bangladesh, Benin, Burkina Faso, Burundi, Cambodia, Chad, Georgia, Guatemala, Guinea Bissau, India, Kenya, Mali, Mongolia, Morocco, Nigeria, Pakistan, Rwanda, Senegal, Sri Lanka, Tanzania, Togo, Uganda, Ukraine, Zambia.

Table A2. Variables and Definitions

Variable	Description	Source	period
logfdi	The logarithm of net annual inflows of foreign direct investment (FDI) in current US dollars.	UNCTAD	1996-2015
logGDP	The logarithm of the GDP in millions of dollars at current prices.	WDI	1996-2018
INF	The year-over-year percentage change in the consumer price index.	UNCTAD	1996-2018
TO	The value of exports and imports of goods and services to GDP.	WDI	1996-2018
GFCF	The proportion of gross capital formation in relation to GDP.	WDI	1996-2018
ECF	Out of the total 12 sub-indicators, only 9 are utilized due to data unavailability. These include: a) property rights (PRR), b) judicial effectiveness (JEF), c) government integrity (GIB), d) tax burden (TBU), e) government spending (GSP), f) fiscal health (FIH), g) business freedom (BFR), h) labor freedom (LBR), i) monetary freedom (MFR), j) trade freedom(TFR), investment freedom (IFR), and financial freedom (FIF)	WDI	1996-2018
FR	Fiscal rule value of 1 if a fiscal rule exists, and 0 otherwise).	IMF dataset	1996-2018
ERL	Expenditure rule indicator (assigned a value of 1 if an expenditure rule exists, and 0 otherwise).	IMF dataset	1996-2018
BRL	Budget Balanced ruleindicator (assigned a value of 1 if a budget balanced rule exists, and 0 otherwise).	IMF dataset	1996-2018
DRL	Debr rule indicator (assigned a value of 1 if a debt rule exists, and 0 otherwise).	IMF dataset	1996-2018

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