論 説

The Impact of the Ease of Doing Business on Foreign Direct Investment

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ABSTRACT:

The institutional factor is important factor in the determinant of FDI inward. This study observes the impact of the ease of doing business (EoDB) as one of the institutional factors that measure the government's attempts to simplify business regulations and create a fairer business climate. Using the data from 166 countries and a ten-year period (2009–2018), this study investigates the impact of overall EoDB score and the relevant indicators of EoDB on inward FDI. Moreover, this study divides the sample of countries into several categories based on the countries' income to observe the different impacts. This study observes the impact of EoDB on the inward FDI by utilizing the distance to frontier (DTF) score. This study also includes a new indicator, getting electricity, which was first introduced in 2009.

Using various estimation methods, the fixed-effects and two-step difference generalized moments of method (GMM), several results emerge after estimations. First, in general, the overall EoDB score is significant in attracting inward FDI. Second, in general, getting credit and getting electricity are regarded as the most relevant indicators of EoDB that affect inward FDI in the host countries. Third, this study finds that the overall EoDB score has a significantly positive impact in almost all categories of countries (high-income, middle-income, low-income, and the Sub-Saharan African countries), except for OECD countries. This study finds different relevant indicators of EoDB that affect FDI for different categories of countries: For the high-income countries and OECD countries, starting a business seems to be the most important indicator of EoDB that affects FDI. For middle-income countries, paying taxes emerges as the most significant indicator that affects FDI. However, for Sub-Saharan African countries, enforcing contracts emerges as the most relevant indicator of EoDB that affects FDI with a negative sign. Finally, for low-

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income countries, getting credit seems to be the most relevant indicator of EoDB that affects FDI.

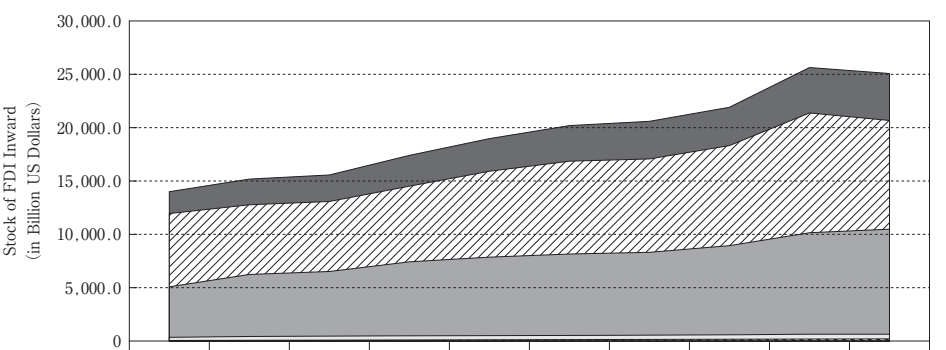
Keywords: Foreign Direct Investment, Ease of Doing Business, Determinants, Regulation.

1. Introduction

The neoclassical growth model states that foreign direct investment (FDI) has played an important role in accelerating economic growth. The volume of inward FDI is expected to increase in many countries. According to Saini and Singhania (2018), developed countries may benefit from foreign capital to maintain sustainable growth, whereas for developing countries and low-income countries, foreign capital is a catalyst for economic growth.

Figure 1 presents the trends in the stock of inward FDI in the world, in billion US dollars of constant 2010 price. Overall, the stock of FDI for all income categories of countries shows increasing trends from 2009 until 2017, with the high-income countries dominated the volume by around 13,992 billion US dollars. However, starting in 2018, the figure shows that the stock of FDI decreased in all income categories of countries. When particularly looking at the average growth rate from the 2009 to 2018 period, it is observed that the low-income countries gained the highest growth by around 14.9%. The second-largest group, developing countries, grew by 8.4% on average from 2009 to 2018. On the other hand, the high-income and OECD countries generated an average growth

Figure 1: The Stock of Inward FDI in the World (2009-2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
High-income Countries	13,992.6	15,177.9	15,568.5	17,404.3	18,982.5	20,197.1	20,598.4	21,923.8	25,644.3	25,088.4
High-income: OECD Countries	11,954.3	12,780.3	13,086.3	14,522.7	15,914.2	16,858.8	17,075.3	18,318.6	21,384.9	20,682.6
Developing Countries	5,078.3	6,242.4	6,517.2	7,418.3	7,861.3	8,158.9	8,320.2	8,941.4	10,145.9	10,486.1
Low-income Countries	54.5	66.9	79.8	99.6	115.3	127.1	139.8	158.2	175.5	190.8
Sub-Sahara Africa Countries	341.5	426.3	449.5	491.3	507.7	513.1	535.8	576.8	636.4	632.2

Year

Source: Unctad Statistics, accessed in 2020

Table 1: Ten Indicators of the Ease of Doing Business

No.	INDICATOR	EXPLANATION
1.	Starting Business	evaluates business entry license and regulation.
2.	Dealing with Construction Permits	records the procedures required to build a warehouse.
3.	Getting Electricity	time, procedures and costs needed to obtain the supply of electricity.
4.	Registering Property	processes needed for a business to purchase a property from another business.
5.	Getting Credit	the legal rights of borrowers and lenders concerning and credit information.
6.	Protecting Minority Investors	the strength of minority shareholders' protection against directors' misuse of corporate assets for personal gain.
7.	Paying Taxes	the amount of taxes and mandatory contributions, includes the administrative burdens to accomplish tax payments and contributions.
8.	Trading Across Borders	associates documents, time and cost to export and import.
9.	Enforcing Contracts	procedures, time and cost to resolve a commercial dispute.
10.	Resolving Insolvency	the time, cost and outcome of an insolvency proceedings including domestic companies.

Source: www.doingbusiness.org

rate of around 6.7% and 6.3%, respectively. Bayraktar (2013) argues that after the 2008 global financial crisis, there is a change in the economic situation in developed countries that increase the flow of FDI in developing countries. Thus, developing countries still have potential to attract more FDI inflows.

There has been a growing amount of literature observing the determinants for attracting FDI. Whereas the neoclassical model is concerned with the return on capital, recent studies argue that it is important to assume an imperfect market competition and emphasize the institutional factors in explaining the determinants of attracting FDI.[1)] This phenomenon has brought up a new concern about how to create a favorable business environment through reformation in legal procedures and simplification of the business process (Besley, 2015). To evaluate this process, in 2002, the World Bank introduced a survey project called "The Ease of Doing Business (EoDB)," which measures the government's attempts to simplify business regulations and create a fairer business climate. The result of the EoDB survey may reflect the responses of business entities from a foreign country or investors toward the changes in regulations or policies formed by the government (The World Bank, 2019). Currently, there are ten indicators of EoDB as shown in Table 1.

This study aims to show that business regulatory reform, indicated by the EoDB score,

plays a critical role in increasing the amount of inward FDI. Furthermore, various characteristics of economies may have different impacts in attracting FDI. Thus, this study also observes the impact of EoDB on FDI in different categories of countries' income. This study uses the eclectic paradigm developed by Dunning and McQueen (1981) for analyzing factors that affect the inward FDI in the host country, which does not include the *distance* variable, because this study does not focus on bilateral trade flows. The eclectic paradigm emphasizes the motivation of a business entity (which is usually related to *ownership, location, and internalization*) to choose FDI in a country as a form of business expansion. The selection of this paradigm follows previous studies conducted by Walsh and Yu (2010), Vogiatzoglou (2016), and Jayasuriya (2012). Furthermore, according to Jayasuriya (2011), the use of gravity models sometimes ignores the large amount of FDI outflows from emerging countries. As a result, this study observes only the location-specific aspects of FDI determinants in the host country.

This paper is composed of several sections. The second section describes the literature reviews of the previous studies and the significance of the study. The third section contains the data and methodology used in this study. The fourth section discusses the empirical results of statistical estimation and the interpretation of the results. The last section concludes with a summary of the study, the policy implications, and the limitations of the study.

2. Literature Reviews

2.1. How the Ease of Doing Business Project Works

The quality of regulations set by the government regarding business activities, such as obtaining a business license, workers' contract, limitations in ownership status and taxation in a country, may affect the decision of a firm to enter the market in the host country (Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2002). In evaluating this process, the World Bank distributes around 10,000 questionnaires to legal practitioners[2] as they experience the regulations regularly. Until the latest survey in 2019, EoDB has ten areas (or indicators) of regulatory reform, in which each indicator has sub-indicators (around 41 sub-indicators).

In 2011, the World Bank introduced a new methodology in reporting the survey results, which is called distance to frontier (DTF)[3] score, along with the EoDB ranking. The DTF score is an index that measures the difference in magnitude of a country's achievement in a specific indicator from the *frontier* (a country's best performance). The scores range between 0 (worst performance) and 100 (the best performance, or *frontier*). Although calculations of the DTF score started in 2011, the World Bank revises the DTF scores

each year to account for new *frontiers* taken from an extension of the EoDB sub-indicator. Thus, the data are comparable across the years. Since the new indicator "getting electricity" was introduced in 2009, the overall DTF score has only been used since 2009. Hence, the DTF score is not available before 2009, whereas the EoDB ranking started in 2004. Moreover, The DTF score shows how much the regulatory environment for local entrepreneurs in an economy has improved over time (The World Bank, 2018). Finally, the EoDB ranking, which provides information about how one economy differs from others, is determined by sorting the overall DTF score.

2.2. Improvement in EoDB and Economic Performance: a Literature Review

Recently, academics and policymakers have used the EoDB and observed its impact on the economy. For instance, after examining 135 countries, Djankov, Mc Liesh, and Ramalho (2006) find that the simpler the regulation performance is in a country, the better growth is in some aspects, such as the growth of GDP and school enrollment. Focusing on the role of EoDB on FDI, Blonigen and Piger (2011) examine the determinants of FDI using four indicators of EoDB[4)] and applying the Bayesian model averaging (BMA). Their study is probably the first study related to EoDB and FDI. Blonigen and Piger (2011) find that the four EoDB variables they included have low inclusion probability.

Jayasuriya (2011) finds a different result regarding the impact of EoDB ranking on FDI inflows. Using data from 84 countries from 2006 to 2010 and *generalized method of moments* (GMM) method, six indicators, and 12 sub-indicators of EoDB, He also finds that, on average, improvement in the EODB ranking has a positive impact on FDI inflows. When focusing on developing countries, an improvement on the EoDB rankings (when a country moves more than nine rankings higher) with FDI inflows tends to be insignificant. The finding is that the component of EoDB that has the most significant impact on the FDI inflows is the reduction in the time and costs taken to enforce contracts.

Corcoran and Gillanders (2015) observes considerable differences regarding the impact of improvement in the EoDB rankings on inward FDI for developing countries. The EoDB has a significant impact on inward FDI (either from the United States or around the world) for developing countries. For countries with low income, such as Sub-Saharan African countries and developed countries, the relationship shows an insignificant impact. This result is different from what Morris & Aziz (2011) find, that the registering property and trading across borders indicators are significantly correlated with FDI for Asian countries and Sub-Saharan African countries. Regarding the most significant component of the doing business rankings, Corcoran and Gillanders (2015) also find that trading across borders is the most significant factor. They also find that there is no evidence that the EoDB of nearby countries has a significant impact on the inward FDI of other countries in general.

Focusing on developing countries, Bayraktar (2013) uses data from 2004 to 2010 and employs a descriptive analysis to observe factors that affect investment climate and FDI in developing countries. She find that mainly, after the financial crisis of 2008, developed countries tend to invest their capital mainly in developing countries. In another study that focuses on the developing countries, Vogiatzoglou (2016) finds that an efficient business regulation significantly affects FDI inflows. However, Vogiatzoglou (2016) can not conclude which specific EoDB indicators significantly affect FDI inflows, because the use of factor analysis in the study creates group factors of EoDB indicators along with other FDI determinants.

In a recent study, Jovanovic and Jovanovic (2018) observe the impact of the EoDB indicators on FDI inflows, using data from 22 OECD countries and 27 former socialist countries. The study combines the two-step system GMM and Bayesian analysis or instrumental variable Bayesian model averaging (IV-BMA) method, using data from 2004 to 2011. They also conclude that there is uncertainty regarding the effect of EoDB, because most of the indicators are either insignificant or lack robustness, except for the trading across borders indicator.

Previous studies have shown different results regarding the impact of EoDB on FDI. This study observes the impact of EoDB on inward FDI by utilizing the DTF score. The use of the DTF score benchmarks economies concerning regulatory best practices and shows how much the regulatory environment for local entrepreneurs in an economy has changed over time (The World Bank, 2018). This study also includes the new indicator, getting electricity, which was first introduced in 2009. Furthermore, this study examines the impact of EoDB in different income categories of countries to obtain more detailed and different characteristics of EoDB's impact.

3. Data and Methodology

This study uses annual data, consisting of ten periods of observations, from 2009 to 2018, and covers panel data from 166 of 190 overall countries that have been participating in the annual EoDB survey since the beginning period of observation. The classifications of the sample used in this study are based on the income level of the country from the World Bank's classification: high-income countries (51 countries), high income-OECD Countries (35 countries), middle-income countries (87 countries), low-income countries (28 countries), and Sub-Saharan African countries (45 countries). A detailed list of countries for each category is provided in Appendix A.

In general, this study adopts the economic model of other studies related to the determinants of FDI inflows by adding the EoDB variable as the variable of interest.

According to Blonigen and Piger (2011), there is no consensus on how to observe the patterns of FDI determinants. Thus, the econometric model for this study is as follows:

$$FDI_{it}=\alpha+\beta_1 DB_{i,t}+IX+\varepsilon_{i,t} \quad (1)$$

where

$FDI_{i,t}$=FDI attracted by country i at period t
$DB_{i,t}$=Country i's doing business score or country i's EoDB indicator scores at period t
X=Control variables (variables outlined in Table 3.1, other than doing business variables)
ε_{it}=Error term
I=group of parameters which correspond to control variables X.

Following Blonigen and Piger (2011), Corcoran and Gillanders (2015), and Camarero, Montolio, and Tamarit (2019), this study utilizes inward FDI stock data as the dependent variable to examine the determinants of FDI. According to Camarero et al. (2019), stock data are much less volatile than flow data due to the presence of economic shocks and individual large-scale investment decisions, and thus may provide better proxies to capture the long-run behavior of investment decisions. The initial period of calculation for the stock of FDI is the same for all countries in the sample, which is 1980. Furthermore, following Camarero et al. (2019), this study adds the first lagged FDI stock as the control variable to account for the existing firm's activity effect. This study includes other macroeconomic variables as control variables in the model. A detailed explanation of the variables used in this study is provided in Table 2.

As in previous studies, such as those conducted by Jayasuriya (2011) and Corcoran and Gillanders (2015), first, this study employs a static panel data analysis to control for unobserved heterogeneity in the model. In estimating the result, this study adopts a baseline model similar to that used by Li and Liu (2005), Walsh and Yu (2010), in equation (2), as follows:

$$FDI_{it}=\alpha_0+\alpha_1 gdppercap_{i,t}+\alpha_2 gdpgr_{i,t}+\alpha_3 Openness_{i,t}+\alpha_4 DB_{i,t}+AX_{i,t}+\varepsilon, \quad (2)$$

where $gdppercap_{i,t}$ is the real GDP per capita, $gdpgr_{i,t}$ is the real GDP growth, $openness_{i,t}$ is the ratio of trade to GDP, $DB_{i,t}$ is the EoDB score in the current year, and $X_{i,t}$ is a group of control variables included gradually in the model. A is group of parameters which correspond to control variables X.

Including those macroeconomic variables in the model, such as GDP per capita, real GDP growth, openness ratio, and the real effective exchange rate may raise some issues of endogeneity (Walsh & Yu, 2010). Endogeneity, or two-way causality, occurs when some of

Table 2: Variables Descriptions

No.	Variables	Explanation	Source of Data	Expected Sign
Dependent Variable				
1.	FDI inflows (Y)	Natural logarithm of FDI, stock (in million USD and 2010 constant price) as used by Blonigen and Piger (2011), Corcoran and Gillanders (2015), and Camarero et al. (2019).	UNCTAD	
Independent Variable				
1.	Quality of institutions, measured by the indicators of EoDB, which are: • Overall Doing Business (db) • Starting Business (db_starting) • Construction Permits (db_construction) • Getting Electricity (db_electric) • Registering Property (db_property) • Getting Credit (db_credit) • Protecting Minority Investors (db_invest) • Paying Taxes (db_taxes) • Trading Across Borders (db_trade) • Enforcing Contracts (db_contracts) • Resolving Insolvency (db_insolvency)	DTF score per indicator in EODB measurement. The score ranges from 0 (worst performance) to 100 (best performance).	doingbusiness.org	+
2.	GDP growth (gdpdr)	GDP growth (annual), in 2010 constant USD (represents countries' market size).	WDI Data	+
3.	GDP per capita (gdppercap)	GDP per capita, in constant 2010 USD (represents countries' growth potential, in USD).	WDI Data	+
4.	Inflation rate (inflation)	Inflation rate, based on 2010 constant consumer price index (annual), represents the macroeconomic stability.	WDI Data	−
5.	Real effective exchange rate (reer)	A depreciation in the host country's currency against the foreign currency, would encourage FDI inflows into the country (CPI based calculations).	Bruegel.org	−
3.	Trade openness (openness)	Trade openness, import plus export over GDP, in 2010 constant price.	WDI Data	+
4.	Resource rent (resources)	Total natural resource rents, as percentage of GDP, reflects the dependency on the host country's natural resources, which means the higher the price of natural resources, the higher the natural resources exploitation in the host countries (Jovanovic & Jovanovic, 2018).	WDI Data	+
6.	World Governance Indicators (wgi)	Averaged value of six World Governance Indicators (composite index). Value ranges from approximately −2.5 (weak) to 2.5 (strong) performance.	The World Bank	+

the explanatory variables are wholly or partially influenced by the dependent variable and may cause bias in the estimation (Makhavikova, 2018). To address the endogeneity issue, this study applies the two-step difference GMM dynamic estimator. This method is also used in this study to strengthen the estimation result after using the fixed-effects method.

4. Empirical Results and Discussions

4.1. Impact of the Overall EoDB Score on FDI

Table 3 shows that using all 166 countries' data, the overall EoDB score has a significantly positive impact on FDI in the fixed-effects estimation without the lagged dependent variable and two-step difference GMM estimation. When the first lagged dependent variable is added into the fixed-effects estimation, the overall EoDB variable loses its significance. On the other hand, the two-step difference GMM provides more robust results than fixed-effects estimation does. The result implies that an improvement in overall EoDB indicators, which shows simplification and improvement in business regulations, will encourage more inward FDI. A detailed explanation regarding the estimation result is provided below:

• Overall EoDB score: The variable of interest, the EoDB (overall score), shows a positive impact on FDI at a 1% level of significance using both fixed-effects (without one period of lagged dependent variable) and two-step difference GMM methods. The magnitude of impact of a 1% increase of overall EoDB on FDI is approximately 4.17% to 7.37% based on the estimated results. This result is consistent with previous studies that utilized the rank measurement of EoDB, such as those by Corcoran and Gillanders (2015) and Jayasuriya (2011).

• One period lag of inward FDI stock: One period lag of inward FDI stock shows a significantly positive impact on FDI at the 1% level of significance, using both fixed-effects and two-step difference GMM methods. The coefficients of estimation can be interpreted as meaning a 1% increase in the lag of inward FDI stock will increase the FDI inward by around 0.27% to 0.86%. According to Camarero et al. (2019), the one period lag of inward FDI stock may reflect the agglomeration effect for attracting new investments in the host country.

• GDP per capita: The coefficient of GDP per capita shows a significantly positive impact on FDI at a 5% level of significance based on the estimations using the fixed-effects method. The magnitude of impact of a 1% increase in GDP per capita on FDI is approximately 0.0036% to 0.0041%. This result implies that the market potential of the host country positively affects the FDI due to larger demand potential and a higher level of people's ability to pay in the host country. This result is also in line with the previous

Table 3: The Impact of Overall EoDB Score on FDI (All 166 Countries' Data)

Dependent Variable: lfdistck (natural logarithm of FDI (in stock form)						
	Fixed-Effects		Fixed-Effects		Two step Difference GMM	
	1.1	1.2	1.3	1.4	1.5	1.6
lfdistck L1.	—	—	.866*** (.0156)	.8645*** (.0156)	.2772*** (.0664)	.2063*** (.0381)
gdpgr	.006939 (.00674)	.00397 (.00686)	.011** (.00429)	.00924** (.00441)	.00659 (.01406)	.0071 (.0098)
gdppercap	.0000413** (.0000167)	.0000359** (.0000168)	8.98e−08 (.0000102)	−4.19e−07 (.0000102)	.0000101 (.0000126)	−.0000245 (.0000292)
Openness	−.00297 (.002104)	−.00296 (.00222)	.0000109 (.00132)	−.000882 (.001406)	−.00368** (.00182)	−.00374 (.00307)
db	.04173*** (.00655)	.0422*** (.00665)	.00331 (.00408)	.00297 (.00416)	.0463*** (.00785)	.07375*** (.00978)
wgi	—	.5694** (.2338)	—	.2064 (.1444)	—	.4555 (.5228)
resources	—	.0153** (.00644)	—	.00686 (.00371)	—	.0176 (.0189)
Inflation	—	.00679 (.005487)	—	.00214* (.00324)	—	−.00409 (.0123)
reer	—	.00457* (.00242)	—	−.00175 (.00145)	—	.00856** (.00334)
_cons	6.741*** (.456)	6.164*** (.5595)	1.103*** (.308)	1.360*** (.3706)	—	—
Observations	1660	1660	1494	1494	1328	1328
Groups	166	166	166	166	166	166
R^2	0.3783	0.3505	0.9628	0.9587	—	—
Instruments					169	126
Sargan p-value					0.997	0.999
Hansen p-value					0.495	0.111
AB test AR (2) p-value					0.364	0.338

Panel Data Notes:
(1) For this sample, a Hausman test favors fixed effects, therefore all models are estimated using a fixed-effects method. (2) Values in parentheses are standard errors. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level.

Two-Step GMM Notes:
For AR (2), H_0=there exists no autocorrelation.
Multiple R-squared test for AR (2): $p > 0.05$ suggests non-rejection (acceptance) of the null hypothesis (there is no autocorrelation in the second order in the differenced residuals). This supports the validity of the instruments.
Values in parentheses are standard errors corrected for robustness. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level.

Source: Author's estimation

study by Jayasuriya (2011).

• GDP growth: Using the fixed-effects estimation with the one period lag of inward FDI stock, GDP growth has a significantly positive impact on FDI at a 5% level of significance. The interpretation of the coefficients of estimation is that a 1% increase in the GDP growth will increase the stock of FDI inward by approximately 1.1% to 9.2%, based on the fixed-effects estimation (including the lagged dependent variable). This result indicates that higher GDP growth in the host country presents more promising prospects and greater incentives for inward FDI (Makhavikova, 2018).

• Openness ratio: The openness ratio shows a significantly negative impact on inward FDI at a 5% level of significance, in the estimation using a two-step difference GMM method. The magnitude of impact on inward FDI is around 3.6% with a 1% decrease in the openness ratio based on the baseline model using a two-step difference GMM method. According to Walsh and Yu (2010), there might be a negative correlation between horizontal FDI and trade openness, as horizontal FDI benefits from the trade barrier and a lower rate of market competition in the host country. However, because this study uses aggregated inward FDI stock data, the empirical result showing a negatively significant impact of the openness ratio on the inward FDI should be taken into consideration.

• Real effective exchange rate (REER): The impact of REER on FDI emerges as significantly positive on FDI using both fixed-effects and two-step difference GMM methods, at a 10% level of significance based on the fixed-effects method and a 5% level of significance using the two-step difference GMM method. The coefficients of estimation reflect that a 1% increase in REER will lead to an increase in inward FDI by approximately 4.57% to 8.56% based on the fixed-effects and two-step difference GMM methods. The positive sign of the coefficient implies that foreign investors, usually in service sectors, might benefit as their revenue becomes higher due to an increase or appreciation in the real value of the host's currency (Alba, Wang, & Park, 2010).

• World Governance Indicator (WGI): Another institutional variable, averaged WGI score, emerges to have a positive impact on inward FDI by using the fixed-effects method (in the model without the lagged of dependent variable) at a 5% level of significance. The coefficient of estimation reflects that a 1% increase in WGI will lead to an increase in inward FDI by around 56.9% based on the fixed-effects method. This result implies that a good governance will create a favorable business climate and eliminate the level of uncertainty, and thus will attract more inward FDI in the host country (Walsh & Yu, 2010).

• Resource rents: The coefficients of the estimation using the fixed effects method for the resource rents variable is positively correlated with FDI based on the fixed-effects estimation (without including the lagged dependent variable in the model) at a 5% level of significance. The magnitude of impact of a 1% increase in resource rents on FDI is around

1.5% based on the estimation result. The positive sign of the coefficient of resource rents reflects the resource-seeking motivation by foreign firms in the host countries (Asiedu, 2006).

• Inflation: One of the macroeconomic variables, inflation, emerges to have a positive impact on FDI based on the fixed-effects estimation, including the lagged dependent variable in the model at a 10% level of significance. The coefficient of estimation reflects that a 1% increase in the inflation rate will lead to an increase in FDI inward by around 2.1% based on the fixed-effects estimation. The neoclassical theory argues that an increase in the inflation rate will reduce the real interest rate and create a lower rate of the cost of capital, and then investment activities become more profitable (Munemo, 2014). Hence, in the initial period of the higher rate of inflation, it may attract more inward FDI in the host country.

4.2. Relevant Indicators of EODB in Affecting FDI

According to the estimated result using 166 countries, Table 4 shows that some indicators of EoDB significantly affect FDI. Among the ten EoDB, approximately eight indicators significantly affect the inward FDI. A detailed discussion of the significant indicators is provided below:

• *Starting a business*: The indicator *starting a business* emerges to be significantly positive in affecting inward FDI using the fixed-effects method (without including the lagged dependent variable) at a 1% level of significance. This result implies that improvement in the time, procedures, and documents needed to obtain the license permits is essential for attracting more FDI.

• *Getting credit*: The *getting credit* indicator is significant and has a positive impact on FDI, at a 5% level of significance based on the fixed-effects method and at a 1% to 5% level of significance based on the two-step difference GMM estimations. The getting credit indicator, which is composed of the strength of the legal index and the depth of credit information index, reflects the transparency of the financial institutions in the host country and thus lowers the risk of investment.

• *Getting electricity*: The new *getting electricity* indicator is significant at a 10% level of significance using the fixed-effects (including the lagged dependent variable) method and at a 5% level of significance based on the two-step difference GMM methods. The components for the measurement of this indicator are likely to be associated with the infrastructure of the host country. Thus, better regulations for getting electricity for business activities means that costs of business faced foreign companies may become more efficient due to better infrastructure in the host country. As a result, it will attract more FDI.

• *Dealing with construction permits*: The indicator *dealing with construction permits* shows

Table 4: The Relevant Indicators of EoDB in Affecting FDI (All 166 Countries' Data)

Dependent Variable: lfdistck (natural logarithm of FDI inflows in stock form)						
	Fixed-Effects		Fixed-Effects		Two-Step Difference GMM	
	3.1	3.2	3.3.	3.4.	3.5.	3.6.
lfdistck L1.			.868*** (.0157)	.8657*** (.0158)	.1902*** (.0531)	.186*** (.0385)
gdpgr	.00745 (.00673)	.00413 (.00685)	.0102** (.00432)	.00882** (.00443)	−.00396 (.00455)	−.00206 (.00637)
gdppercap	.000038** (.0000175)	.0000337** (.0000176)	−2.99e−06 (.0000108)	−3.83e−06 (.0000109)	.0000351** (.000015)	.0000388** (.0000145)
Openness	−.00168 (.0021)	−.00225 (.0022)	−.000396 (.00135)	−.000961 (.00142)	.00396 (.00626)	.00479 (.00593)
Reer	—	.001588 (.00251)	—	−.00114 (.00152)	—	.0143* (.008177)
Resources	—	.0180401** (.0068)	—	.00637 (.00402)	—	.00957 (.0234)
Inflation	—	.00457 (.00547)	—	.00208 (.00327)	—	−.0117 (.0157)
Wgi	—	.5207** (.233)	—	.2103 (.145)	—	−.2509 (.8041)
db_starting	.0154*** (.00333)	.0162*** (.00346)	−.001754 (.00208)	−.000968 (.00216)	.00255 (.0158)	.00215 (.0179)
db_construction	.00391 (.00358)	.00489 (.0036)	.00261 (.00218)	.00266 (.0022)	.0315* (.019)	.0333 (.0224)
db_electric	.00122 (.00368)	.00132 (.0037)	.00402* (.002215)	.0039* (.00223)	.0132** (.00662)	.00827 (.00667)
db_property	.00472 (.0048)	.00314 (.00489)	.00250 (.00307)	.00131 (.00316)	.0232 (.0183)	.0202 (.0158)
db_credit	.00784*** (.00243)	.00697** (.00249)	.00199 (.00145)	.00159 (.0014)	.0105*** (.00315)	.0109** (.00797)
db_investment	−.00929** (.00428)	−.00741* (.00434)	−.000515 (.00258)	−.00015 (.00262)	.00383 (.00811)	.00203 (.00389)
db_taxes	.00831** (.0036)	.00727** (.00361)	−.00186 (.0022)	−.00215 (.00221)	.000251 (.00749)	−.0093 (.0077)
db_trade	−.0011 (.00229)	−.00165 (.00232)	−.001063 (.00132)	−.00140 (.00135)	.0124 (.0112)	.00971 (.0113)
db_contracts	−.0127** (.00592)	−.0126** (.005913)	−.00359 (.0035)	−.00337 (.0035)	.0257 (.0428)	.0235 (.0396)
db_insolvency	.00869*** (.00305)	.00883** (.00307)	.000283 (.00185)	.00050 (.00186)	−.00356 (.00663)	−.000294 (.00619)
_cons	7.308*** (.595)	7.125*** (.6702)	1.219** (.3931)	1.414*** (.441)	—	—
Observations	1,660	1,660	1494	1494	1,328	1,328
R^2	0.3420	0.3197	166	166	—	—
Groups			0.9613	0.9594	166	166
Instruments					124	124
Sargan p-value					1.000	1.000
Hansen p-value					0.201	0.114
AB test AR (2) *p-value*					0.883	0.776

Panel Data Notes: (1) For this sample, a Hausman test favors fixed effects, therefore all models are estimated using the fixed effects method. (2) Values in parentheses are standard errors. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level

GMM Notes: For AR (2), H_0=there exists no autocorrelation.

Multiple R-squared test for AR (2): $p > 0.05$ suggests non-rejection (acceptance) of the null hypothesis (there is no autocorrelation in the second order in the differenced residuals). This supports the validity of the instrument. Values in parentheses are standard errors corrected for robustness. * Significant at the 10% level, ** Significant at the 5% level, ***Significant at the 1% level

Source: Author's estimation

a significant and positive impact on FDI according to the baseline model estimation result using the two-step difference GMM method at a 10% level of significance. The estimated result implies that simpler regulations in dealing with construction permits will decrease the cost of business and can increase new investments.

• *Protecting minority investors:* According to fixed-effects estimation (without the lagged dependent variable in the model) result, the *protecting minority investors* emerges to be as having a significant but negative impact on FDI at a 10% level of significance. According to Choi et al. (2016), the relationship between protecting minority investors and FDI is detrimental because it can reduce the potential gains of international corporate investors, especially when they provide significant equity capital making the foreign acquirer a controlling shareholder.

• *Paying taxes:* The indicator *paying taxes* emerges to have a significantly positive impact on FDI based on the fixed-effects estimation (without the lagged of the dependent variable in the model) at a 5% level of significance. The result implies that the improvement in tax completion procedures may attract more FDI inflows, as argued by Lawless (2012).

• *Enforcing contracts:* The *enforcing contracts* indicator is significant but harms FDI, based on the fixed-effects estimation (without the lagged dependent variable in the model) at a 5% level of significance. According to Ahlquist and Prakash (2010), when the government of the host country is more dependent on the existence of foreign capital, there will be a tendency from foreign companies to pursue individual interests. As a result, when the government responds to these individual interests, it may hinder investments from other companies in the host countries (Ahlquist & Prakash, 2010). Thus, in this situation, the government's enforcing contracts may lower the level of overall inward FDI.

• *Resolving insolvency:* The *resolving insolvency* indicator emerges to have a significantly positive impact on FDI, based on the fixed-effects estimation method (without the lagged dependent variable) at a 5% level of significance. The positive coefficient of the indicator implies that a good legal framework regarding bankruptcy settlement procedures may reduce the costs of the resolution process and the debt burden faced due to the bankrupctcy and then provide the company with an opportunity to regain assets and recover from bankruptcy (Lee, Yamakawa, Peng, & Barney, 2011).

Overall, the estimated result suggests that getting credit is the indicator that mostly drives the EoDB's effect in increasing inward FDI in the host country, based on the fixed-effects and two-step difference GMM estimations. The magnitude of effect of the getting credit indicator on FDI is around 0.69% to 0.78% according to the fixed-effects estimation, and around 1.05% to 1.09% based on the two-step difference GMM estimation.

Another relevant indicator of EoDB in affecting inward FDI is getting electricity. The significance level of the getting electricity indicator shows a relatively larger significance level compared to other indicators, which are 10% and 5% using the fixed-effects method

and two-step difference GMM method, respectively. Hence, it can be concluded that using all 166 countries in the sample, the getting credit, and the getting electricity indicators are two of the most relevant indicators of EoDB in affecting inward FDI.

4.3. The Impact of Overall EoDB on Inward FDI: Comparison Among Categories of Countries

In this section, the estimated results are split into five different categories of countries. The tables of estimation results (Tables B1, B2 and B3) in this section are provided in Appendix B. This study finds that, in general, the overall EoDB score significantly affects inward FDI in almost all categories of countries, except for the OECD countries. However, the results may vary across different categories of income in terms of significance level and the magnitude of effect, due to different methods applied in the estimations. Furthermore, this study finds that the characteristics between the high-income countries and high-income OECD countries and between the low-income countries and sub-Saharan African countries are somewhat similar

• High-income countries: The impact of overall EoDB on inward FDI emerges to be significant in all methods used. The magnitude of effect of overall EoDB is approximately 0.41% to 2.05% with a 1% increase in the EoDB score using fixed-effects and two-step difference GMM estimations. Other independent variables, which are the lagged dependent variable and the GDP per capita, also have significant and positive impacts on FDI. This result indicates that, even for high-income countries, the market size and existing foreign investment activities are important to attract new investments.

• High-income OECD countries: For high-income OECD countries, this study finds that the overall EoDB is insignificant in affecting FDI based on all estimation methods, similar to previous findings by Corcoran and Gillanders (2015). Compared with the EoDB score, macroeconomic variables, such as GDP per capita, inflation rate, and REER, are more relatively significant in affecting FDI in OECD countries.

• Middle-income countries: The overall EoDB score is significant and positive in affecting FDI using the fixed-effects estimation (without the lagged dependent variable in the model) and the two-step difference GMM estimation for middle-income countries. The magnitude of impact of the coefficient estimation of EoDB is approximately 3.7% to 3.8%, which is relatively larger than the magnitude for the high-income countries. These results imply that the impact of business regulatory reform is more significant for middle-income countries than for high-income countries.

• Low-income countries: The variable of interest, which is the overall EoDB score, emerges to be significant and has a positive effect on inward FDI among all methods of estimation. Another institutional variable, which is the averaged WGI index, shows a significant and positive impact on FDI, as expected using the two-step difference GMM method. This

result indicates that for low income-countries, despite the abundant natural resources, improvement in the quality of institutions is important for attracting FDI, as mentioned by Asiedu (2013).

• Sub-Saharan African countries: For Sub-Saharan African countries, the impact of EoDB on FDI is significant and positive in all estimated results, which is consistent with the result found by Morris & Aziz (2011). Comparing the magnitude of impact of the EoDB score on FDI in the low-income countries shows a higher magnitude for Sub-Saharan African countries than for low-income countries (4.32% for Sub-Saharan African compared to 3.88% for low-income countries). Another independent variable, resources rent, also emerges as having a significant negative effect on inward FDI, based on fixed-effects estimation, similar to the previous study by Ndikumana and Sarr (2019). Hence, improvement in the institutional variables (EoDB score and WGI index) could mitigate the capital flight and attract more FDI in Sub-Saharan African countries and low-income countries.

Another important issue is to identify the relevant indicators of EoDB in affecting FDI across the different income categories of countries. When particularly looking at the relevant indicators that affect inward FDI, the estimated results of relevant indicators in Appendix B (Tables B4, B5 and B6) suggest that there is an uncertainty regarding which indicator contributes most to the changes in FDI across the different categories of countries, as many independent variables lose their significance. Statistically, the lack of significance in independent variables is because of the use of instruments in the GMM method that might decrease the degree of freedom in the model. However, when looking at the probability of the autocorrelation test, Hansen-J test, and Sargan test, the results are still reliable because the probabilities of the tests result in no autocorrelation, and the instruments used in the models are valid across the GMM estimations. A detailed discussion of this study is provided below:

• High-income countries and OECD countries: The characteristics of both groups of countries are almost the same. Thus, for both categories of income, it emerges that starting a business seems to be the most relevant indicator that drives the FDI based on the fixed-effects estimation (both including and excluding the lagged dependent variable). Other indicators, which are protecting minority investors and trading across borders, show negative coefficients toward FDI. Francis, Hasan, Song and Waisman (2013) argue that for some countries, stronger protection of minority investors may distort the efficient allocation of investment and thus lower the overall amount of FDI in the host country.

• Middle-income countries: For middle-income countries, getting credit, paying taxes, and getting electricity indicators are significant in affecting inward FDI based on the fixed-effects estimated results (both including and excluding the lagged dependent variable in the models). When particularly looking at the magnitude of effects, the paying taxes indicator is probably the most important indicator in affecting FDI, where a 1% increase in

paying taxes score will lead to a 1.2% increase in FDI. However, the enforcing contracts indicator emerges as significant with a negative impact on FDI.

• Sub-Saharan African countries: When looking at the estimation result for the Sub-Saharan African countries, the result is quite puzzling, with only some indicators that emerge as significant, with different levels of significance and different coefficients signs. However, when considering the two-step difference GMM as the superior method in this study, which accounts for endogeneity and autocorrelation problems, enforcing contracts may be regarded as the most relevant indicator of EoDB in affecting FDI for Sub-Saharan African countries. The negative sign of the coefficients may reflect a similar condition with the middle-income countries, where many countries in Sub-Saharan Africa are still dependent on foreign capital.

• Low-income countries: It is shown that dealing with construction permits, getting credit, and trading across borders indicators are significant and have positive impacts on affecting FDI based on the fixed-effects and two-step difference GMM methods. However, looking at the level of significance among these indicators, for the low-income countries, the getting credit indicator probably plays a significant role in affecting FDI. The significance of getting a credit indicator is probably related to its side effects in affecting the interest rate and overall macroeconomic stability in low-income countries.

5. Conclusions and Policy Implications

5.1. Conclusions

In general, improvement in the regulatory reform related to the business environment is essential for creating a conducive investment climate. Using a data set of 166 countries, first, this study finds that the overall EoDB score has a positive impact on attracting more inward FDI. Furthermore, this study considers getting credit and getting electricity as the most important indicators that drive inward FDI in the host countries.

Second, this study finds that the overall EoDB score has a significantly positive impact in high-income, middle-income, low-income, and Sub-Saharan African countries, but not in OECD countries. Moreover, among these categories of countries, the greatest magnitude of effect of the EoDB score is found in the group of low-income countries and Sub-Saharan African countries. This result implies that for countries with a relatively high dependence on foreign capital, institutional factors are fundamental in attracting more FDI.

Third, regarding EoDB indicators, this study investigates the different relevant indicators for different categories of countries, with some differences and similarities among the categories. High-income countries and OECD countries have almost the same characteristics, in which starting a business indicator seems to be the most important indicator of

EoDB that affects FDI. For middle-income countries, paying taxes emerges as the most significant indicator that affects FDI. For Sub-Saharan African countries, enforcing contracts emerges to be the most relevant indicator of EoDB that affects FDI. Finally, for low-income countries, getting credit seems to be the most relevant indicator of EoDB that affects FDI.

5.2. Policy Implication

This study finds that only some indicators of EoDB significantly affect FDI. However, it is still important for the government to not only focus on some indicators and neglect improvement in other indicators of EoDB. Moreover, the Doing Business project always experiences development in terms of its methodology and components, which means the governments need to consider other indicators of EoDB in creating a strategy for attracting more investments. If the government only focuses on some indicators, the overall score and ranking for EoDB will slip. Hence, rather than focusing on some indicators of EoDB, it is important to improve the aggregate EoDB score as a signal for the investors that the host country has a favorable investment climate.

Another policy implication that may be important to note is related to the dissemination of the improvement of EoDB in the host countries, toward potential investors. Sometimes, many investors, mainly the new investors, do not have any information and are not aware of the EoDB and the investment climate of the host country. These new investors usually rely on information available from the existing companies in the host countries. Hence, besides pursuing improvements in EoDB, it is also important for the government of the host countries to socialize the information about regulatory reform made in the EoDB area.

5.3. Limitations of the Study

Although this study finds that in general, EoDB has a positive impact on FDI, and there are some relevant indicators of EoDB that affect FDI significantly, some results still have to be taken into consideration. Because different characteristics of the host country may require different factors in attracting FDI, different types of FDI may also behave differently after being affected by one of the factors. Future studies can utilize sectoral FDI to obtain a more consistent result. Moreover, future studies may divide the stock of inward FDI with GDP as the dependent variable to create a more balanced comparison among different categories of countries.

Another important issue is that in reality, the host country implements technological factors as the catalyst for accelerating improvement in the institutional area and macroeconomic stability. Furthermore, technological factors can create transparency in the business process, which is related to the institutional quality of the host countries. Hence, future studies could also include the interaction terms among independent variables and the

indicators of EoDB to observe the joint effects.

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Notes

1) For example, Blonigen (2005) mentioned the importance of legal protection in a company's asset ownership, which may increase certainty in investment activities. In another study, Asiedu (2006) finds that corruption is a sign of a poor institutional quality that brings negative impact on FDI.

2) According to Djankov (2004), the involvement of legal practitioners in this survey is because they are more familiar with legal business practice. They usually register 100-150 businesses a year, rather than a company's CEO who directly deal with legal business materials once or twice.

3) In this step, the calculation is based on the linear transformation formula (y-min)/(max-min) of each sub indicator (y) of EoDB, except for the total tax rate. The detailed method for calculation of the DTF score is available at https://www.doingbusiness.org/en/methodology

4) Blonigen and Piger (2011) utilized four sub-indicators related to time to observe the determinants of FDI. These four variables are the time/days to enforce contracts, time/days to start a business, time/days to register property, and time/days to resolve insolvency.

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APPENDIX

Appendix A: List of Countries

High-income Countries

Argentina	France	Netherlands	Switzerland
Australia	Germany	New Zealand	Trinidad and Tobago
Austria	Greece	Norway	United Arab Emirates
Bahamas, The	Hong Kong SAR, China	Oman	United Kingdom
Bahrain	Hungary	Panama	United States
Belgium	Iceland	Poland	Uruguay
Brunei Darussalam	Ireland	Portugal	
Canada	Israel	Qatar	
Chile	Italy	Saudi Arabia	
Croatia	Japan	Seychelles	
Cyprus	Korea, Rep.	Singapore	
Czech Republic	Kuwait	Slovak Republic	
Denmark	Latvia	Slovenia	
Estonia	Lithuania	Spain	
Finland	Luxembourg	Sweden	

High-income OECD Countries

Australia	Haiti	New Zealand
Austria	Hungary	Norway
Belgium	Iceland	Poland
Canada	Ireland	Portugal
Chile	Israel	Slovak Republic
Czech Republic	Italy	Slovenia
Denmark	Japan	Spain
Estonia	Korea, Rep.	Sweden
Finland	Latvia	Switzerland
France	Lithuania	United Kingdom
Germany	Luxembourg	United States
Greece	Netherlands	

Middle-income countries

Albania	Costa Rica	Jamaica	Nigeria	Tunisia
Algeria	Cote d'Ivoire	Jordan	Pakistan	Turkey
Angola	Dominica	Kazakhstan	Papua New Guinea	Ukraine
Armenia	Dominican Republic	Kenya	Paraguay	Uzbekistan
Azerbaijan	Ecuador	Kiribati	Peru	Vanuatu
Bangladesh	Egypt, Arab Rep.	Kyrgyz Republic	Philippines	Vietnam
Belarus	El Salvador	Lao PDR	Romania	Zambia
Belize	Equatorial Guinea	Lebanon	Russian Federation	
Bhutan	Eswatini	Lesotho	Samoa	
Bolivia	Fiji	North Macedonia	Sao Tome and Principe	
Bosnia and Herzegovina	Gabon	Malaysia	Serbia	
Botswana	Georgia	Maldives	Solomon Islands	
Brazil	Ghana	Mauritania	South Africa	
Bulgaria	Guatemala	Mauritius	Sri Lanka	
Cabo Verde	Guyana	Mexico	St. Lucia	
Cambodia	Honduras	Moldova	Sudan	
Cameroon	India	Mongolia	Suriname	
China	Indonesia	Morocco	Thailand	
Colombia	Iran, Islamic Rep.	Namibia	Timor-Leste	
Congo, Rep.	Iraq	Nicaragua	Tonga	

Low-income countries

Afghanistan	Madagascar
Benin	Malawi
Burkina Faso	Mali
Burundi	Mozambique
Central African Republic	Nepal
Chad	Niger
Comoros	Rwanda
Congo, Dem. Rep.	Senegal
Ethiopia	Sierra Leone
Gambia, The	Tajikistan
Guinea	Tanzania
Guinea-Bissau	Togo
Haiti	Uganda
Liberia	Zimbabwe

Sub-sahara African Countries

Angola	Ethiopia	Namibia
Benin	Gabon	Niger
Botswana	Gambia, The	Nigeria
Burkina Faso	Ghana	Rwanda
Burundi	Guinea	Sao Tome and Principe
Cabo Verde	Guinea-Bissau	Senegal
Cameroon	Kenya	Seychelles
Central African Republic	Lesotho	Sierra Leone
Chad	Liberia	South Africa
Comoros	Madagascar	Sudan
Congo, Dem. Rep.	Malawi	Tanzania
Congo, Rep.	Mali	Togo
Cote d'Ivoire	Mauritania	Uganda
Equatorial Guinea	Mauritius	Zambia
Eswatini	Mozambique	Zimbabwe

APPENDIX B: ESTIMATIONS RESULT (BASED ON COUNTRIES CATEGORIES)

Table B1. The Impact of Overall EoDB Score on FDI: Comparison Among Categories of Countries (Fixed Effects Method)

Dependent Variable: lfdistck (natural logarithm of FDI Inflows in stock form)					
	1	2	3	4	5
	High Income Countries (Based on The World Bank's classification)	High Income: OECD Countries	Middle Income Countries (Based on The World Bank's classification)	Low Income Countries (Based on The World Bank's classification)	Sub-Saharan Africa Countries
gdpgr	−.000277 (.00276)	.000852 (.00345)	.0163 (.0132)	−.00525 (.00544)	−.00376 (.00483)
gdppercap	.0000491*** (3.54e−-06)	.0000429*** (4.16e−06)	−.0000867 (.0000806)	.00329*** (.000439)	.0000192 (.0000329)
Openness	−.000117 (.000686)	.002108** (.000974)	−.00796* (.00457)	.00941*** (.00252)	.00516** (.00179)
db	.00962** (.00346)	.00386 (.00441)	.0372** (.0119)	.0628*** (.00695)	.07745*** (.00519)
reer	.0094*** (.00122)	.0121*** (.00173)	−.001973 (.004059)	.01307*** (.00221)	.00858*** (.00153)
resources	−.00135 (.00241)	−.0244* (.0136)	.0312** (.0116)	−.0169** (.006804)	−.0163*** (.00415)
Inflation	.00207 (.00339)	.0283*** (.005931)	.0145 (.00929)	−.00144 (.00426)	−.00556* (.00335)
wgi	−.1371 (.1068)	−.00776 (.1475)	1.305** (.40503)	−.888*** (.216)	−.7702*** (.1811)
_cons	8.316*** (.3252)	8.514*** (.4451)	8.275*** (.9609)	−.1989 (.4517)	2.657*** (.3644)
Observations	510	350	870	280	450
Groups	51	35	87	28	45
R^2	0.2040	0.1749	0.0019	0.0099	0.0534

Panel data Notes: (1) For this sample, a Hausman test favors fixed effects, therefore all models are estimated using a fixed effects method. (2) Value in the parentheses are standard errors. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level

Source: Author's Estimation

Table B2. The Impact of Overall EoDB Score on FDI: Comparison Among Categories of Countries
(Fixed Effects Method Including the One Period Lag of the Dependent Variable)

Dependent Variable: lfdistck (natural logarithm of FDI Inflows in stock form)					
	1	2	3	4	5
	High Income Countries (Based on The World Bank's classification)	High Income: OECD Countries	Middle Income Countries (Based on The World Bank's classification)	Developing Countries (Based on UNCTAD classification)	Sub-Saharan Africa Countries
lfdistck L1.	.7086***	.6977***	.8662***	.8644***	.7352***
	(.0323)	(.0412)	(.0218)	(.0219)	(.0283)
gdpgr	.0053**	.00851**	.01604*	.01736**	−.0000481
	(.00233)	(.00331)	(.0085)	(.00851)	(.002806)
gdppercap	.0000113***	9.80e-06**	−.0000393	−.0000254	.0000225
	(2.89e−06)	(3.56e−06)	(.0000512)	(.0000311)	(.0000208)
Openness	−.000108	.000709	−.00256	−.00311	.00208**
	(.000484)	(.000793)	(.0029)	(.00260)	(.0011)
db	.004147*	.00502	.00607	.00699	.011**
	(.00234)	(.00333)	(.00744)	(.00727)	(.00379)
reer	.00208**	.00298**	−.002856	−.00217	.000249
	(.000924)	(.00140)	(.00243)	(.0028)	(.115)
resources	−.000159	.00147	.01732**	.01897**	−.00742**
	(.00153)	(.0096)	(.00682)	(.0069)	(.000938)
Inflation	.00233	.01357**	.00519	.00513	−.00251
	(.00281)	(.00484)	(.00547)	(.00602)	(.00234)
wgi	−.0135	.00141	.30172	.3033	.0267
	(.0745)	(.1121)	(.25107)	(.2478)	(.00197)
_cons	2.498***	2.45***	1.491**	1.466**	1.577***
	(.3549)	(.5018)	(.6447)	(.701)	(.2418)
Observations	459	315	783	774	405
Groups	51	35	87	86	45
R^2	0.9706	0.9664	0.9250	0.9188	0.9459

Panel data Notes: (1) For this sample, a Hausman test favors fixed effects, therefore all models are estimated using a fixed effects method. (2) Value in the parentheses are standard errors. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level
Source: Author's Estimation

Table B3. The Impact of Ease of Doing Business' Overal DTF Score on FDI Inflows : Comparison Among Categories of Countries (Two-step Difference GMM Method)

	2	3	4	6	7
	High Income Countries (Based on The World Bank's classification)	High Income: OECD Countries	Middle Income Countries (Based on The World Bank's classification)	Low Income Countries (Based on The World Bank's classification)	Sub-Saharan Africa Countries
lfdistck L1.	.273* (.153)	−.174 (.2224)	.3209 (.2405)	.566*** (.1596)	.4334 (.277)
gdpgr	−.00259 (.00748)	−.0112 (.0145)	.00657 (.00858)	.00505 (.00511)	−.00384 (.00568)
gdppercap	.0000263* (.0000138)	.0000518 (.000036)	−.0000627 (.0001448)	.000113 (.00148)	−.0000532 (.00017)
Openness	−.000205 (.00186)	.00466 (.00633)	.004408 (.006549)	−.00314 (.00769)	−.00513 (.00533)
db	.0205* (.0111)	.0402 (.0352)	.0380003** (.0215)	.0388* (.0203)	.0432** (.0172)
reer	.0167** (.00719)	.03955*** (.0107)	.01635** (.00829)	.00583 (.00848)	.00633 (.00779)
resources	.00744 (.00875)	.00553 (.0221)	.00188 (.01448)	−.00109 (.01029)	−.00197 (.00627)
Inflation	.0136 (.0109)	−.03671 (.02859)	.0007156 (.00825)	.00468 (.00759)	.0097 (.008102)
wgi	−1.369** (.6000)	−2.74446** (1.5499)	.815009 (1.497)	1.0445** (.4968)	.7305 (.6939)
Observations	408	280	696	224	360
Groups	51	35	87	28	45
Number of instruments	36	27	27	27	28
Sargan P-Value	0.164	0.381	0.986	0.933	0.409
Hansen P-Value	0.116	0.158	0.953	0.646	0.444
AB test AR (2) p-value	0.778	0.548	0.515	0.707	0.866

GMM Notes: For AR (2), H_0=there exist no autocorrelation.
Multiple R-squared test for AR (2): $p>0.05$ suggests non-rejection (accepting) the null hypothesis (there is no autocorrelation in the second order in the differenced residuals). This supports the validity of the instruments.Value in the parentheses are standard errors corrected for robustness. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level
Source: Author's Estimation

Table B4. Relevant Indicators of the Ease of Doing Business in Affecting FDI Inflows: Comparison among Categories of Countries Using Fixed-Effects Method (Excluding the One Period Lag of the Dependent Variable)

Dependent Variable: lfdistck (natural logarithm of FDI Inflows in stock form)					
	1	2	3	4	5
	High Income Countries (Based on the World Bank's classification)	High Income: OECD Countries	Middle Income Countries (Based on the World Bank's classification)	Low Income Countries (Based on the World Bank's classification)	Sub-Saharan Africa Countries
gdpgr	−.000712 (.00264)	−.000604 (.00319)	.0156 (.0133)	−.00582 (.00517)	−.00252 (.00428)
gdppercap	.0000448*** (4.04e−06)	.0000346*** (4.90e−06)	−.0000679 (.0000855)	.00319*** (.000447)	.0000191 (.0000303)
reer	.00785*** (.00123)	.0124*** (.00162)	−.00422 (.00419)	.0106*** (.00226)	.0067*** (.00142)
resources	.00439 (.0033)	−.0165 (.0133)	.0323** (.0126)	−.0128** (.00678)	−.00592 (.00393)
inflation	.000494 (.00276)	.0268*** (.0059)	.01206 (.00935)	−.00102 (.00407)	−.00433 (.00298)
Openness	.0004453 (.000667)	.001508 (.000958)	−.00974** (.00466)	.00843** (.00246)	.00464** (.0016)
wgi	−.1018 (.1026)	−.029 (.141)	1.198** (.414)	−.6931** (.2166)	−.6022*** (.1676)
db_starting	.01203*** (.0019)	.0219*** (.00414)	.00461 (.00859)	.00883** (.00212)	.01423*** (.00162)
db_construction	.00482** (.00216)	−.000645 (.00283)	.00562 (.00589)	.00805** (.00342)	.0135*** (.0026)
db_electric	.00147 (.00205)	−.00254 (.00272)	.00572 (.00624)	−.0113 (.00351)	−.0033 (.00246)
db_property	.00249 (.00224)	.00747** (.00258)	−.000322 (.00874)	.0158** (.00439)	.00651** (.00306)
db_credit	.000124 (.00106)	−.00425** (.00152)	.0108** (.00427)	.00579*** (.00226)	.00707*** (.00162)
db_investment	−.00327** (.00136)	−.0104*** (.00181)	−.01116 (.00903)	−.00406 (.00391)	−.00409 (.00371)
db_taxes	.0028523 (.0021455)	−.00565** (.00302)	.0124** (.00604)	.0029 (.0031)	.01042*** (.0029)
db_trade	−.00431** (.00141)	.00102 (.00166)	−.007549 (.0042)	.008*** (.00178)	.00227 (.00138)
db_contracts	−.001608 (.00192)	−.00384 (.00241)	−.0131** (.0113)	.00498 (.00728)	−.0158*** (.0044)
db_insolvency	.00105 (.0011)	.00287** (.00125)	.0127 (.006)	.00643** (.00273)	.01289*** (.00214)
_cons	7.868*** (.3576)	8.284*** (.5057)	9.633*** (1.199)	.934 (.636)	4.4012*** (.3997)
Observations	510	350	870	280	450
Groups	51	35	87	28	45
R^2	0.1747	0.1812	0.0002	0.0070	0.0434

Panel data Notes: (1) For this sample, a Hausman test favors fixed effects; therefore, all models are estimated using a fixed-effects method. (2) Values in the parentheses are standard errors. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level

Source: Author's Estimation

Table B5. Relevant Indicators of the Ease of Doing Business in Affecting FDI Comparison among Categories of Countries Using Fixed Effects Method (including the one period lag of the dependent variable)

Dependent Variable: lfdistck (natural logarithm of FDI Inflows in stock form)					
	1	2	3	4	5
	High Income Countries	High Income: OECD	Middle-income Countries	Low Income Countries	Sub Sahara African Countries
lfdistck L1.	.6796*** (.0346)	.6436*** (.0458)	.8637*** (.0221)	.6548*** (.0451)	.6932*** (.0330)
gdpgr	.00527** (.00237)	.00953** (.00341)	.0144* (.0087)	−.00061 (.0035)	−.000838 (.0027)
gdppercap	.0000123*** (3.31e−06)	9.99e−06** (4.21e−06)	−.0000429 (.000054)	.00093** (.00035)	.0000178 (.0000212)
Openness	.0000572 (.0005082)	.00119 (.000882)	−.00301 (.00299)	.00346** (.00171)	.00254** (.0011)
wgi	−.00299 (.07608)	−.07314 (.1158)	.3039 (.2585)	.00175 (.16042)	.0642 (.1191)
reer	.0022** (.000983)	.00364** (.00145)	−.00282 (.00252)	.00351 (.00163)	.00125 (.000967)
resources	.000576 (.00199)	.00110 (.01055)	.0168** (.0076)	−.0142** (.0045)	−.00661** (.00249)
inflation	.00272 (.00297)	.0155** (.00522)	.0044 (.00556)	−.000723 (.00271)	−.00217 (.00196)
db_starting	.00316** (.00142)	.01189** (.00377)	−.000421 (.00537)	−.000763 (.00152)	−.000121 (.001208)
db_construction	.00107 (.00157)	.002159 (.00247)	.00364 (.0036)	.0056** (.00241)	.00583** (.00178)
db_electric	−.0000987 (.00145)	−.00309 (.00221)	.00647* (.00377)	−.000984 (.0025)	−.00117 (.00163)
db_property	.00228 (.00181)	.00249 (.00249)	.000329 (.00583)	.00479 (.00294)	.00098 (.00203)
db_credit	.0000643 (.000958)	−.00129 (.00122)	.002603 (.00261)	.00261 (.0015)	.00258** (.00105)
db_investment	−.00104 (.000748)	−.00302** (.001512)	−.00220 (.00565)	.00125 (.00259)	.00342 (.00246)
db_taxes	.000748 (.00154)	.00331 (.00263)	−.00223 (.00377)	.0000784 (.00207)	.000891 (.00198)
db_trade	−.000189 (.000982)	−.00145 (.00132)	−.0033 (.0024)	.003701** (.00118)	.00115 (.00088)
db_contracts	.00053 (.00133)	.000580 (.00193)	−.00399 (.0067)	−.00628 (.00525)	−.00637** (.00295)
db_insolvency	.00031 (.00082)	.000787 (.00107)	.00187 (.00365)	−.000185 (.00188)	.00263** (.00145)
_cons	2.499*** (.381)	2.3201*** (.5912)	1.781** (.8033)	1.158** (.4579)	1.898*** (.316)
Observations	459	315	783	252	405
Groups	51	35	87	28	45
R^2	0.9588	0.9430	0.9219	0.8430	0.9343

Panel data Notes: (1) For this sample, a Hausman test favors fixed effects; therefore, all models are estimated using a fixed-effects method. (2) Values in the parentheses are standard errors. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level

Source: Author's Estimation

Table B6. Relevant Indicators of the Ease of Doing Business in Affecting FDI Inflows: Comparison among Categories of Countries (Two-step Difference GMM Method)

	2	3	4	6	7
	High Income Countries (Based on the World Bank's classification)	High Income: OECD Countries	Middle Income Countries (Based on the World Bank's classification)	Low Income Countries (Based on the World Bank's classification)	Sub-Saharan Africa Countries
lfdistck L1.	−.0961 (.217)	.0341 (.342)	.65004** (.2278)	.7409** (.341)	.5013** (.183)
gdpgr	−.00466 (.0109)	−.0172 (.0257)	.00297 (.00611)	.00334 (.0083)	−.00429 (.00638)
gdppercap	.0000476 (.000047)	.0000253 (.0000511)	.0000458 (.0000755)	−.000646 (.00227)	−.0000306 (.000116)
Openness	−.0022 (.003)	−.00414 (.01073)	.003503 (.0044)	.00628 (.00651)	.00658** (.00313)
reer	.0246** (.0102)	.0325** (.0162)	.00529 (.00911)	−.000364 (.0127)	.00459 (.00489)
resources	.0098 (.0152)	−.0827 (.1713)	.0008041 (.0124)	−.0190 (.0229)	−.00413 (.00713)
inflation	.019 (.0278)	.0212 (.0342)	−.000266 (.00416)	−.0101 (.00980)	.001049 (.00664)
wgi	−1.318 (.854)	−2.729 (1.864)	.2407 (.4606)	−.7258 (.953)	−.0686 (.7103)
db_starting	−.00596 (.0134)	−.00576 (.0343)	.00218 (.01389)	−.00356 (.0106)	.000347 (.00962)
db_construction	.0298 (.0297)	.02679 (.0542)	.00646 (.00983)	.05445* (.0323)	.0228 (.0181)
db_electric	−.00249 (.01704)	.00264 (.0181)	−.00338 (.0103)	−.02551 (.01596)	−.01203 (.0112)
db_property	.00889 (.01947)	.0387 (.0254)	−.009077 (.02085)	−.00186 (.0255)	.0139 (.01007)
db_credit	.00256 (.00575)	.00250 (.00680)	.00421 (.00681)	.02062** (.01048)	.00643 (.00642)
db_investment	.0230 (.0227)	.02075 (.04260)	.00139 (.01917)	.000164) (.00592	.0215 (.02308)
db_taxes	.00815 (.01102)	−.00798 (.0248)	−.00707 (.01181)	.0127 (.01643)	.00566 (.0137)
db_trade	−.00764 (.01242)	.004034 (.0105)	.00188 (.00941)	.003696 (.00727)	.00179 (.00544)
db_contracts	−.01668 (.0155)	.00370 (.03157)	−.00239 (.03906)	.0245 (.0434)	−.0363** (.0153)
db_insolvency	.00301 (.0094)	−.000581 (.01615)	−.00559 (.01105)	−.0106 (.01068)	−.00128 (.0132)
Observations	408	280	696	224	360
Groups	51	35	87	28	45
Number of instruments	37	27	47	27	37
Sargan P-Value	0.996	0.963	0.395	0.992	0.999
Hansen P-Value	0.186	0.136	1.000	0.149	0.688
AB test AR (2) p-value	0.269	0.767	0.996	0.748	0.337

GMM Notes: For AR (2), H_0=there exist no autocorrelation.

Multiple R-squared test for AR (2): $p>0.05$ suggests non-rejection (accepting) the null hypothesis (there is no autocorrelation in the second order in the differenced residuals). This supports the validity of the instruments. Value in the parentheses are standard errors corrected for robustness. * Significant at the 10% level, ** Significant at the 5% level, ***Significant at the 1% level

Source: Author's Estimation