

Influence of Quality Education on FDI Inflows in Sub-Saharan Africa: A Theoretical and Empirical Research

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Abstract: The non-traditional influences of Foreign Direct Investment (FDI) are increasingly gaining attention in international business studies; however, the empirical evidence of these influences is still scant. Using human capital theory within the context of the national competitive framework, the study reported in this paper considers the progress towards achieving Quality education as a likely influence of FDI inflows in Sub-Saharan Africa (SSA). The paper employs a panel data research design and conducts fixed effects estimations. The analysis categorizes FDI flows into global FDI, FDI from developed countries, and FDI from developing countries to SSA. Thus, the paper is centred around three research questions: (1) How does progress toward quality education influence global FDI inflows? (2) How does progress towards quality education influence FDI inflows from developed and (3) from developing countries? The analysis mainly utilizes a bespoke dataset from the United Nations Conference on Trade and Development (UNCTAD) and data from trustworthy databases such as UNCTADSTAT and the World Development Indicators (WDI). The results support the claim of the increasing importance of non-traditional influences of FDI flow. Quality Education significantly influenced FDI inflows from the globe and developing countries to SSA. This research provides further evidence that the national competitive framework can thoroughly explain the factors that have different significant powers in influencing FDI flows to SSA from developed and developing countries. The study is highly policy-relevant because it examines the effects of the degree of attainment of specific UN Sustainable Development Goals (quality education) on inward FDI performance. It, therefore, shows the benefits of SSA countries investing in the SDGs for the policy goal of attracting more considerable amounts of inward FDI.

Keywords: FDI inflow, Quality education, Sub-Saharan Africa, Fixed effect model, Human capital theory

1. Introduction

Since the early 1990s, developing economies have been experiencing a boom in their Foreign Direct Investment (FDI) inflows. However, Africa as a continent has not witnessed much increase relative to the FDI surge in developing countries despite the efforts undertaken to attract FDI (Sichei & Kinyondo, 2012). For example, global FDI inflows in 2015 recorded the highest peak since the global economic and financial crisis of 2008/2009, increasing 38 percent over the previous year. Unexpectedly, FDI to Africa fell by 7 percent while the overall developing countries experienced a rise of 9.5 percent in the same year (UNCTAD, 2016).

In the late 1990s, scholars in the field of international business started to argue on the reformation of the determinants and motivations for FDI inflows due to globalization (Dunning, 2004; Kokko, 2002). Nonetheless, studies on FDI determinants have been dominated by traditional factors such as natural resources and market size for over three decades (Naanwaab & Diarrassouba, 2016). The reformation of FDI determinants may result in MNEs evaluating host countries on broader policies than before (Nunnenkamp & Spatz, 2002). Thus, it becomes essential to assess how various non-traditional determinants, such as human capital, health, and well-being, affect FDI allocation (Naanwaab & Diarrassouba, 2016). The United Nations Sustainable Development Goals (SDGs) have highlighted some of these factors. In particular, the 'People' category includes the following goals: quality education, eradicating poverty, ending hunger, gender equality, and health and well-being.

This study addresses three significant gaps in the literature and practice related to the discussion above, focusing on quality education as one of the SDGs. The first category is the scant nature of literature that assesses the influence of quality education on FDI inflows in developing countries, particularly Sub-Saharan Africa (SSA). The second category refers to the lack of studies that use an adequate theoretical framework to incorporate the non-traditional determinants of FDI flows in SSA. The third category refers to extending the sparse literature that assesses the influence of quality education on FDI flows to SSA, broken down by different types of investing or source countries. This research is novel as many studies in the literature attempt to analyze how FDI contributes to sustainable development, which is an international development perspective (Gohou & Soumaré, 2012; Mihalache-O'keef & Li, 2011; Oetzel & Doh, 2009; Wang, 2009) and neglects the other side of the coin which is to say, how progress on the sustainable development influences the attraction of inward FDI. It is this latter question this study pursued.

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The remainder of this article is organized as follows: A brief literature review and an in-depth discussion of the methodology. Then, estimation results and discussion are presented, followed by the last section, the conclusion.

2. Literature Review

Quality education is typically regarded as a country-level characteristic and thus qualifies as an FDI location factor. In this regard, location-based theories organized under the Dunning paradigm can comprehensively explain the relationship between quality education and FDI inflows in SSA (Dunning, 2000; Dunning, 1977). Based on the location-based theories, the national competitive framework is more relevant to the current study. The national competitiveness framework is mainly referred to Porter's diamond theory of national competitive advantage (Porter, 1990). Contrary to standard economic theory, the diamond system emphasizes that national prosperity is created and not inherited (Porter, 2011; Porter, 1990). It draws more attention to created factors of production, such as skilled labour, rather than endowed resources, such as land and natural resources. The national competitive model avers that a nation gains a competitive advantage when it creates and possesses certain hard-to-imitate factors (Porter, 1990). These hard-to-imitate factors included in the diamond framework are the firm's strategy, structure and rivalry, related supporting industries, demand conditions, and factor conditions (Porter, 1990).

According to Delgado et al. (2012), country competitiveness could be viewed in two ways. One way is to view it as foundational competitiveness (expected output per potential worker), and the other way is to relate it to a global investment attractiveness, which is the gap between the country's foundational competitiveness and the country's current factor cost (Delgado et al., 2012).

The national competitive framework incorporates quality education and explains how it affects competitiveness and, consequently, a country's attractiveness to FDI inflows by linking them to human capital, productivity, and transaction costs (Delgado et al., 2012). The theoretical grounds for the link in the framework can be drawn from the human capital theory.

The human capital theory can be traced back to authors such as Mincer (1958) and Becker (1962). According to Porter (1990), productivity is the only sensible indicator of a country's competitiveness. Thus, an increase in a nation's productivity could be equated to an increase in the competitiveness of a country. "The human capital theory is premised on the notion that an increase in a person's stock of knowledge and health raises his or her productivity in both market and non-market activities" (Tompa, 2002: 183). Among human capital forms are knowledge capital, which results from schooling, and health capital. Education is a critical component of human capital (Bleakley, 2010; D. Bloom and Canning, 2003).

A country with an educated population has skilled and highly educated labour. These workers would work with advanced methodologies, execute their duties with competencies, and have minimum errors in their operations; this could increase efficiency and productivity. Educated workers are easily trainable; consequently, an intellectual and well-trained worker can handle various tasks, lowering unit costs as opposed to the uneducated worker (Shatz, 2003). When human capital is enhanced, productivity is high; unit labour cost should decrease.

Also, Ishak and Rahmah (2002) state that as far as skilled workers are concerned, a country's education level is critical to ensuring the workforce supply is what is required by the economy. To support this view, Shatz (2003) argues that most multinational industries deal with differentiated products or technically advanced industries, which produce more appealing products to educated or high-income earners. Therefore, MNEs also need highly skilled labour to make these sophisticated products. On the other hand, highly educated workers could imply high wage costs to MNEs because of their qualifications, but according to Kucera (2002), MNEs are more concerned with skills than wage costs. Thus, the argument for highly educated workers seems to be stronger than the uneducated and cheap ones (Shatz, 2003).

3. Methodology

The study is mainly quantitative and employs panel data. It falls under the explanatory studies category since it seeks to explain the relationship between progress towards quality education and the inflow of FDI in Sub-

Saharan Africa. Because the objective of this study is not to include every possible explanatory variable of FDI flows to SSA, we, therefore, needed a method that could deal with the problem of omitted variables. In this regard, the fixed effects models are appropriate for dealing with omitted variables (Wooldridge, 2002). The only drawback of fixed effect is that it cannot include time-constant explanatory variables (Torres-Reyna, 2007). However, because the interest is only on time-varying explanatory variables, this limitation does not cause worry (Wooldridge, 2002: 266).

There are 48 countries in Sub-Saharan Africa. Due to data availability, the study includes only 38 countries, covering 2001 to 2016. Of these 38 countries, 23 are least developed countries (LDCs), and 15 are low- and high-middle-income countries.

4. Data Collection and Management

We first obtained the bilateral FDI flow data for Sub-Saharan African Countries from UNCTAD as bespoke data in mirror data format. The mirrored data provides the amount of FDI inflows received by a particular Sub-Saharan African country from individual countries around the World and the amount of FDI outflows this country invests in different countries worldwide every year. We grouped the partner countries into developing and developed countries. After this, we create distinctive bilateral FDI flow data sets, which show the amount of FDI flows into SSA countries from developed countries as one dataset and developing countries as the other data set. The aggregate or global FDI flows to SSA countries were obtained from UNCTADSTAT. The three unique FDI data sets, namely global or aggregate FDI flows data set (FDI), FDI flows from developed countries data set (FDID), and FDI flows from developing countries data set (FDING), were cleaned and rearranged into a long format. The format makes the data clear and usable, ready to be combined with independent and control variables. Despite the benefits of this data source, such as a wide range of reputable sources for control variables, clarity, and usability, limitations exist, including limited control over data collection and incomplete information. In the current study, we had a limitation of the data; we obtained data for 38 out of 55 countries. We follow Blanco et al. (2016), Albuлесcu and Goyeau (2016), and Azemar and Desbordes (2009) in doing linear interpolation to fill the gaps.

Econometric model

According to Delgado et al. (2012)

$$FDI = f(\text{FOUNDATIONAL COMPETITIVENESS}), (\text{FACTOR COST}) \quad 1$$

Where:

Foundational competitiveness depends on Social Infrastructure and Political Institutions (SIPI), which include education, health, and institutional factors.

Factor costs include labour costs, cost of materials, transaction costs

Apply natural logarithm transforms to equation 2 and include quality education

$$\ln FDI = \alpha + \beta_1 \text{Education}_{t-1} + \varepsilon \quad 2$$

Note: the t-1 is the time lag

The study employs three main models:

Model 1: the first model assessment involves FDI flows from the World to SSA.

$$\ln FDI = \alpha + \beta_1 \text{Education}_{t-1} + \beta_2 \text{Control variables}_{t-1} + \varepsilon \quad 3$$

Where:

Ln FDI is a natural logarithm of FDI flows from the World

Model 2: the second model assessment involves only FDI flows from developed countries to SSA.

$$\ln FDID = \alpha + \beta_1 Education_{t-1} + \beta_2 Control\ variables_{t-1} + \varepsilon \quad 4$$

Where:

$\ln FDID$ is a natural logarithm of FDI flows from developed countries to sub-Saharan African countries.

Model 3: the third model assessment involves FDI flows from the developing countries to SSA.

$$\ln FDING = \alpha + \beta_1 Education_{t-1} + \beta_2 Control\ variables_{t-1} + \varepsilon \quad 5$$

Where:

$\ln FDING$ is a natural logarithm of FDI flows from developing countries to sub-Saharan African countries.

Estimations

On the three models that we developed, we estimate our models with a fixed-effect model with robust standard errors, wherein the explanatory variables lagged one period. An intensive examination of the data confirms that both the selective choice of countries during a benchmark survey and the cross-country nature of the data introduce sample selection bias and omitted-variable bias. The fixed-effects estimation technique reduces the omitted variable and sample-selection biases by including the country-specific effects as regressors rather than assigning them to the error term (Wooldridge, 2002). Furthermore, fixed effects estimation is chosen as an estimation method because the fixed effects interpretations prove useful for policy analysis and program evaluation (Wooldridge, 2002).

We could use pooled regression by OLS; however, this will bring heterogeneity bias because each country has different real models; thus, pooling them all together without considering unobserved effects will create biases in the estimation. Fixed effects estimation is appropriate when analyzing the impact of variables that vary over time. The estimation explores the relationship between the predictor and outcome variables within an entity. Each entity has its characteristics, which may or may not influence the predictor variable; the fixed effects assume that some characters within an entity may impact the predictor or outcome variables, and we need to control for this.

A fixed-effects model is reliable for removing omitted variable bias or endogeneity problems (Allison et al., 2017; Qian and Su, 2014). Firstly, it controls for the average differences across countries in any observable and unobservable predictors (Francis et al., 2013), significantly reducing the threat of omitted variable bias (Qian and Su, 2014). Secondly, It removes the effect of the time-invariant characteristics to assess the net impact of predictors on the outcome variable (Torres-Reyna, 2007) by applying a first-difference transformation (Wooldridge, 2010).

In the equation:

$$Y_{it} = X_{it}\beta + C_i + U_{it} \dots t = 1 \quad 6$$

$$Y_{it-1} = X_{it-1}\beta + C_i + U_{it-1} \dots t = 2 \quad 7$$

Subtracting eq7 from eq6 we get

$$\Delta Y_{it} = Y_{it} - Y_{it-1} = \Delta X_{it}\beta + \Delta U_{it} \dots t = 2 \quad 8$$

This removes the unobserved C_i ; hence, the FD estimator avoids bias due to some omitted, time-invariant variables using repeated observations over time. Subsequently, we apply OLS to the different variables.

5. Results and Discussion

It is crucial to conduct several pre-tests before performing the analysis to ensure that all fixed effects assumptions are met.

Normality

Normality in the regression errors allows us to assume more stable regression solutions and makes our inference procedures more straightforward (Hair et al., 2009). We transformed the dependent variables by applying the natural logarithm transformation; the normality test indicates there is no reason to suppose they are not normally distributed.

Heteroscedasticity test for model 1 (global FDI flows to SSA)

Modified Wald test for GroupWise heteroscedasticity in the fixed effect regression model

$$H_0: \sigma_i^2 = \sigma^2 \text{ for all } i$$

$$H_i: \sigma_i^2 \neq \sigma^2 \text{ for all } i$$

$$\text{chi2 (21)} = 2.6\text{e}+28$$

$$\text{Prob}>\text{chi2} = 0.0000$$

Since $\text{Prob}>\text{chi2} < 0.05$, we reject the null and conclude the presence of heteroskedasticity.

Heteroscedasticity test for model 2 (FDI flows from developed countries to SSA)

Modified Wald test for GroupWise heteroscedasticity in the fixed effect regression model

$$\text{The null hypothesis } H_0: \sigma_i^2 = \sigma^2 \text{ for all } i$$

$$\text{An alternative hypothesis } H_i: \sigma_i^2 \neq \sigma^2 \text{ for all } i$$

$i = \sigma^2$ for $i = 1. . . . N_g$, where N_g is the number of cross-sectional units.

$$\text{chi2 (19)} = 7.5\text{e}+28$$

$$\text{Prob}>\text{chi2} = 0.0000$$

Since $\text{Prob}>\text{chi2} < 0.05$, we reject the null and conclude there is evidence of heteroskedasticity.

Heteroscedasticity test for model 3 (FDI flows from developing countries)

Modified Wald test for GroupWise heteroscedasticity in the fixed effect regression model

$$H_0: \sigma_i^2 = \sigma^2 \text{ for all } i$$

$$H_i: \sigma_i^2 \neq \sigma^2 \text{ for all } i$$

$$\text{chi2 (20)} = 415.43$$

$$\text{Prob}>\text{chi2} = 0.0000$$

Since $\text{Prob}>\text{chi2} < 0.05$, we reject the null and conclude the presence of heteroskedasticity.

The three models above show the presence of heteroscedasticity. To control for the heteroscedasticity problem, we add a robust option in running a fixed effect (FE) regression (Torres-Reyna, 2007; Drukker, 2003).

Hausman Test

Each model is subjected to the Hausman test to determine which estimator between fixed and random effect is consistent and unbiased.

Hausman's test for the three data sets

For aggregate FDI flows (Model 1):

$$\text{Hausman's Prob}>\text{chi2} = 0.0009$$

Since Hausman's p-value is less than 0.01, we reject the null hypothesis; therefore, a fixed effects estimator is required.

FDI flows from developed countries (Model 2):

Hausman's Prob>chi2 = 0.0005

Since Hausman's p-value is less than 0.01, we reject the null hypothesis; therefore, the fixed effects estimator is required.

FDI flows from developing countries (Model 3):

Hausman's Prob>chi2 = 0.0040

Since Hausman's p-value is less than 0.01, we reject the null hypothesis; therefore, the fixed effects estimator is required.

Table 1: Summary of the fixed effects estimation on Model 1, Model 2, and Model 3

Hypothesis	explanatory variable	Aggregate FDI (Model 1)	FDI from developed countries (Model 2)	FDI from developing countries (Model 3)
+	Progress toward quality education	-19.85834**	12.3316	5.858174*
+	GNI	2.578028***	-1.376757	3.04387***
+	Openness	1.320821**	2.668459*	.5863179
+	Natural resources	6.076851*	-8.788389	.7476992
+	Infrastructure	.1211656	-1.73678	-3.20e-08
+	Governance index	.2626634	-.8978056	1.042253
+	Labour	-30.04718***	44.9407**	-.0000171
+	GDPW	-.8257098	3.22982	-5.962376***
	R ²	0.8745	0.8806	0.8654
	Adjusted R ²	0.8145	0.7964	0.7912
	P-value	0.0000	0.0000	0.0000
	constant	-7.13853	4.386575	-118.7668**

*** Significant at a test size of 1% ** Significant at a test size of 5% * Significant at a test size of 10%

RQ1: How does progress toward quality education influence global FDI inflows?

Quality education was significant and negatively related to global FDI flows in SSA countries at a test size of 5 percent (**-19.85834*****). The result suggests that the higher the quality of education, the less the global FDI flows to SSA countries. The result is inconsistent with expectations. On the contrary, the result supports the alternative hypothesis that FDI is undertaken "in countries with low levels of education to escape the high compensation costs with which higher levels of education and skill are associated" (Shatz, 2003: 188). The negative relationship is consistent with the view that MNEs seek indigenous workers for casual jobs, which often require less qualification than tertiary-level jobs (Shatz, 2003). Thus, an increase in tertiary-level enrolment might cause a negative relationship between education and FDI inflows.

RQ2: How does progress towards quality education influence FDI inflows from developed countries?

The quality of education relating to FDI flows from developed countries was positive; however, it was not significant. The lack of significance of education could be because FDI flows from developed countries, which are most likely not looking for technological innovations or quality education in developing countries such as SSA.

RQ3: How does progress towards quality education influence FDI inflows from developing countries?

The quality of education was significant and positively related to FDI flows from developing countries to SSA countries at a test size of 10 percent (5.858174*). The result suggests that the higher the quality of education,

the more the FDI flows from developing countries to the SSA region. The result is consistent with expectations. The results support Noorbakhsh et al. (2001) and Globerman and Shapiro (2002), who argue that education positively and significantly impacts foreign investment flows to low- and middle-income countries and that its effect has increased over time.

For the control variables, the study found a significant and positive relationship between a country's market size and global FDI flows to SSA and FDI flows from developing countries to SSA at a 1 and 5 percent test size, respectively. This aligns with the observation that larger markets with untapped resources tend to attract more FDI, exemplified by nations like Angola, Congo, Mozambique, South Africa, Ghana, and Nigeria.

A positive and significant relationship exists between a country's openness and FDI flows to SSA, particularly from global and developed countries, at a 5 and 10 percent test size, respectively. This result supports the notion that the more open the economy is, the higher levels of FDI attraction, as evidenced by previous research by Mijiyawa (2015), Demirhan and Masca (2008), Kinaro (2006), and Asiedu (2002).

A positive and significant relationship exists between the abundance of natural resources in SSA countries, and global FDI flows to SSA at a test size of 10 percent. This finding reflects the traditional trend of FDI allocation to natural resource exploitation, consistent with Cleeve et al. (2015) and UNCTAD (2016).

Contrary to expectations, the study found a negative and significant relationship between the labor force and global FDI flows to SSA at 1 percent test size. These results are supported by Meyer and Thajongrak (2013), who argue that a highly skilled workforce is seen as a disadvantage because of the cost of maintaining them. However, a positive and significant relationship exists between the labor force and FDI flows from developed countries to SSA at a 5 percent test size. This aligns with the expectation that multinational enterprises (MNEs) seek countries with large working-age populations for cheaper labor costs (Dunning, 1993).

Model diagnostics

The fixed effects estimations of all three models are highly significant at a 1 % level. The explained variance of the three models expressed by R^2 -type measures ranges between 0.8654– 0.8806. These values are in line with or above related longitudinal studies that applied fixed effects analysis (Demir, 2016; Davies et al., 2008; Kimino et al., 2007; Dees, 1998)

Robustness test of the models

We follow Hair et al. (2009) in using split sample analysis to test for the robustness of the model. The regression results of the divided sample models resembled the original models significantly. Therefore, the result of the split sample technique validated the models.

In addition, the ex-post Harman Single Factors test (Podsakoff et al., 2003) was employed to detect any Common Method Bias. Principal Axis Factoring Extraction derives the result, and the single construct's total percentage of variance is 20.491%, which indicates the minimal presence of common method bias.

6. Conclusion

This study contributes to the knowledge and demonstrates that an existing international business framework (national competitive framework) can explain the relationship between non-traditional influences of FDI, particularly SDGs, and FDI flows to SSA (Delgado et al., 2012). Previous literature lacks holistic and integrated approaches to explain non-traditional influences, particularly in SSA (Cleeve et al., 2015; Busse and Nunnenkamp, 2009; Noorbakhsh et al., 2001).

The study demonstrates that the national competitive framework offers a comprehensive analytical framework using human capital theory to assess the non-traditional influences via their effects on productivity. Since the framework has been applied in the context of developed countries (Delgado et al., 2012), the results show that the national competitive framework can integrate and merge the theoretical underpinnings of the human capital theory within the new context of developing countries (SSA). Therefore, as far as we know, this is the unique application of the framework in this particular context.

The study adds value to the empirical studies of non-traditional influences by applying the bespoke bilateral FDI inflow data to SSA from UNCTAD. This data set is new and not publicly available. This adds novelty to this research.

This research offers a robust quantitative methodological approach in the reasonably new research context of FDI flows and non-traditional influences of FDI in SSA. It adopted a novel feature in FDI research by collecting

secondary data from authoritative organizations and databases responsible for collecting official data from states such as World Development Indicators (WDI), UNCTADSTAT, and ILO. The study adds a contribution to the methodology by analyzing the novel data set in categories of North to South FDI flows (Developed countries to SSA), South to South FDI flows (Developing countries to SSA), and global to SSA flow (world FDI to SSA). Generally, this approach has already been used. However, it has never been used in Sub-Saharan Africa, as data is not publicly available unless obtained from UNCTAD.

The findings of this study imply that universities, public and private scientific research institutions, industrial concentrations, and highly skilled R&D employees in a country constitute the fundamental force behind the development and success of FDI flow levels, particularly from developing countries. It is worth noting that institutions have always been considered drivers of productivity improvement, which translates to more FDI flows per human capital theory linkage (Bénassy-Quéré et al., 2007).

References

- Crick, D. (2007). UK SMEs' motives for internationalizing: Differences between firms employing particular overseas market servicing strategies. *Journal of International Entrepreneurship*, 5(1-2), 11-23.
- Delgado, M., Ketels, C., Porter, M. E. and Stern, S. (2012) *The determinants of national competitiveness*. National Bureau of Economic Research.
- Dunning, J. H. (2004). Determinants of foreign direct investment: globalization-induced changes and the role of policies. *Towards Pro Poor Policies*, 279-290.
- Gohou, G., & Soumaré, I. (2012). Does foreign direct investment reduce poverty in Africa and are there regional differences? *World Development*, 40(1), 75-95.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational evaluation and policy analysis*, 11(3), 255-274.
- Kokko, A. (2002). Globalization and FDI incentives. World Bank ABCDE–Europe Conference. Oslo, Norway. June,
- Mihalache-O'keef, A., & Li, Q. (2011). Modernization vs. Dependency Revisited: Effects of Foreign Direct Investment on Food Security in Less Developed Countries1. *International Studies Quarterly*, 55(1), 71-93.
- Naanwaab, C., & Diarrassouba, M. (2016). Economic freedom, human capital, and foreign direct investment. *Journal of Developing Areas*, 50(1), 407.
- Nunnenkamp, P., & Spatz, J. (2002). *Determinants of FDI in developing countries: has globalization changed the rules of the game?* (Vol. 1122). Kiel Institute for World Economics Germany.
- Oetzel, J., & Doh, J. P. (2009). MNEs and development: a review and reconceptualization. *Journal of World Business*, 44(2), 108-120.
- Sharma, R. R., Nguyen, T. K., & Crick, D. (2018). Exploitation strategy and performance of contract manufacturing exporters: The mediating roles of exploration strategy and marketing capability. *Journal of International Management*, 24(3), 271-283.
- Sichei, M. M., & Kinyondo, G. (2012). Determinants of Foreign Direct Investment in Africa: A Panel Data Analysis. *Global Journal of Management and Business Research*, 12(18).
- Torres-Reyna, O. (2007). Panel data analysis fixed and random effects using Stata (v. 4.2). *Data & Statistical Services*, Princeton University.
- UNCTAD. (2016). *World Investment Report* (Investor Nationality: Policy Challenges, Issue. U. N. Publication.
- Wang, M. (2009). Manufacturing FDI and economic growth: evidence from Asian economies. *Applied Economics*, 41(8), 991-1002.
- Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data* MIT press. Cambridge, MA, 108.