International Journal of Sustainable Development and Planning
Vol. 17, No. 3, June, 2022, pp. 925-929
Journal homepage: http://iieta.org/journals/ijsdp

Impact of the Institution on Foreign Direct Investment in Economic Transition

Lanh Van Nguyen[1], Tha Hien To[2*], Duong Huy Phan[3]

[1] Faculty of Economics, Huu Nghi University of Technology & Management, Hanoi 100000, Vietnam
[2] Faculty of Economics, Le Quy Don Technical University, Hanoi 100000, Vietnam
[3] Faculty of Economics, Dai Nam Univerisity, Hanoi 100000, Vietnam

Corresponding Author Email: thath.th@mta.edu.vn

https://doi.org/10.18280/ijsdp.170322

Received: 9 March 2022
Accepted: 28 April 2022

Keywords:
institution, foreign direct investment, economoic traneconomicpanel data, IV-GMM, Vietnam

ABSTRACT

Foreign direct investment plays an important role in the economic development of developing countries. One of the factors that investors consider when deciding to invest in a country is the institutional factor. Therefore, this study is conducted to determine the relationship between institutions and foreign direct investment in Vietnam. Research data is panel data from 63 provinces/cities of Vietnam for 2012-2015 used to test the hypothesis. The fixed impact assessment model (F.E.M.) and IV-GMM allowed the exact causal relationship of these factors to be determined. The results show a positive impact from institutional factors on FDI attraction in Vietnam. Research results also show that R&D research also helps increase FDI attraction into Vietnam significantly, and the accountability factor is the most important factor for investment decisions of FDI owners. In addition, the study also examines in detail the institutional distribution indicators that affect FDI. The study shows a significant relationship between institutions and FDI attraction to Vietnam. From this result, some policy implications are also given to improve the ability to attract FDI based on institutional policy.

1. INTRODUCTION

The importance of Foreign direct investment (FDI) in sustainable economic growth and development has been discussed in many previous studies. FDI positively impacts economic development by promoting technological activities and management skills and increasing employment and production capacity for host countries [1, 2]. FDI capital is poured capital by foreign investors, invested in infrastructure to develop operating systems in the country receiving FDI capital. This investment helps the host country's economy develop more by investing in infrastructure, people have more jobs, and ancillary services also develop. Especially for countries in transition, the need for capital is seen as one of the most important aspects of development [3]. Therefore, the need to attract FDI is one of the important issues, especially for a country in transition like Vietnam. Therefore, efforts by the Vietnamese government in recent decades have been aimed at improving the quantity and quality of FDI inflows into the country.

Much empirical and theoretical evidence points to the relationship between institutional quality and FDI attraction [4-6]. According to the Pollution Hypothesis for FDI attraction, the investor's investment decisions are very sensitive to the environmental standards in the host country [7]. In other words, the higher the quality of economic-environmental institutions, the more FDI tends to decline. This theory also supports the Kuznet curve (Environmental Kuznets Curve - EKC) and argues that: it is necessary to reach a certain level of development; new institutional growth promotes enhanced FDI attraction. On the other hand, institutions have a positive impact on FDI attraction. Examples are Dunning's theory [8] [or better known for Ownership, Location, and Internationalization (O.L.I.)] [9, 10].

Vietnam is one of the specific countries in transition with efforts to improve institutions to attract FDI [4]. Resolution 50-NQ/T.W. is seen as realizing efforts to improve institutions towards effective FDI attraction. However, the fluctuations in Vietnam's FDI flows also have important special features and are easily indicated by shocks (for example, the global economic crisis in 2008 has shifted the FDI attraction of Vietnam by more than three times compared to 2007). Furthermore, Vietnam is an example of countries in transition with relatively high and sustainable growth rates (economic, institutional), and these countries often face more challenges in capital flows [11]. In addition, it is considered a country with a high level of corruption and a stable political institution. Therefore, studying the impact of these factors on FDI attraction will bring more specific perspectives to Vietnam.

Studies evaluating the impact of institutions on FDI attraction are relatively wealthy, but the relevance is relatively limited within transition countries, especially in Vietnam. If the study of Huyen and Hoang [12] evaluates this relationship through survey data with a relatively narrow scope, the study of Vo [4] does not indicate the causal relationship. The effect between institutions and FDI attraction in the research model. Therefore, the study was conducted to solve several problems: (1) Empirical assessment in 63 provinces/cities in Vietnam in the period 2012-2015 of the relationship between institutional quality and FDI attraction (using PCI and PAPI indicators); (2) Determining the cause-and-effect relationship and solving model defects through the use of reasonable instrumental variables, while the fixed-effects model also deals with unobserved factors. (3) Give some recommendations to improve Vietnam's ability to attract FDI in the coming period.

2. LITERATURE REVIEW

The Dunning theory [8] also known as the Ownership, Location, and Internationalization (O.L.I.) model, provides a comprehensive explanation of FDI activities that combine ownership, location, and Intrinsic advantages of foreign investment as a significant stimulus for FDI inflows [8]. In addition, Lott and North [13] defined institutions as social, political, and economic factors and examined how institutions shape foreign investors' FDI decisions [10]. There are at least three reasons and mechanisms that support the view that institutional quality is an essential factor in attracting FDI: (1) Good institutions such as property rights and the rule of law will improve employment resource allocation, productivity growth prospects, and investment incentives [14]; (2) Poor governance or poor institutional environment creates an environment of risk and uncertainty, and this is detrimental to FDI inflows because FDI is very vulnerable to high sunk costs [5]; (3) Poor institutional quality such as corruption [15]; or crime [16] increases the cost of doing business and thus discourages investors. Therefore, many studies have demonstrated that FDI inflows are significantly affected by several institutional aspects such as Democratic accountability and political risk [17]; intellectual property rights, the extent of government interference in business and contract enforcement [18]; privatization, and political instability [19]; economic freedom, political rights and civil liberties [20]; political instability [21]; and contract law.

Other empirical evidence that can be summarized is that macroeconomic instability, investment restrictions, corruption, and political instability have a negative impact on FDI attraction; government stability, internal and external conflicts, corruption and ethnic tensions, law and order, democratic accountability of government, and quality of bureaucracy are huge determinants of foreign investment capital flows [17]; Uddin [3] shows that specific institutional determinants such as the size of government, legal solid and property structures, and free trade and civil liberties have a positive effect strongly on FDI inflows.

Research on factors affecting FDI attraction in Vietnam, notably Huyen and Hoang [12], Vo [4], Huyen and Hoang [12] identifies the role of institutional factors affecting the decision to invest in FDI through a survey sample of 41 FDI enterprises. Vo [4] identifies factors other than institutional factors, such as the size of the economy, inflation, and the openness of the economy [4]. Research by Loi [5] also shows a two-way relationship between institutional quality and FDI attraction. However, these studies have not identified the cause-and-effect relationship in a research model like Uddin [3].

In addition to the literature demonstrating a strong positive relationship between institutional quality and FDI attraction, another line of opinion concerns the opposite effect in low-income transition countries. Accordingly, FDI enterprises are looking for places to invest in to use outdated technologies with the possibility of large emissions into the environment. Therefore, improving the quality of institutions can be a major obstacle to their goals. The empirical evidence of negative emissions to the environment of FDI companies is given by [7]. The study was carried out within 5 ASEAN countries (Indonesia, Malaysia, Thailand, Singapore, Philippines) and reaffirmed the relationship Kuznet's inverted U-shaped system. In Vietnam, a newly transformed country that is on the way to development, there are still many problems related to institutions. Working characteristics still have many shortcomings in culture and working methods different from developed countries. Therefore, there is a need for specific research related to institutions in Vietnam.

In general, there have been many studies in the world and Vietnam to evaluate institutions and FDI. However, studies in Vietnam have not shown a causal relationship between institutional quality and FDI attraction. Therefore, this is an important study to help find out the impact (causal relationship) of institutional quality on FDI attraction in Vietnam.

3. METHOD

3.1 Research model

To provide a research model to determine the causal relationship of institutional quality to FDI attraction, we are based on the following estimation model:

$$FDI_{it}=\beta_0+\beta_1.\ Ins_{i(t-1)}+\beta_2.Z_{it}+\varepsilon_{it}+\Phi_{it} \quad (1)$$

$$FDI_{it}=\beta_0+\beta_1.\ PAPI_{i(t-1)}+\beta_2.Z_{it}+\varepsilon_{it} \quad (2)$$

$$FDI_{it}=\beta_0+\beta_1.\ [\text{Component of PAPI}]_{i(t-1)}+\beta_2.Z_{it}+\varepsilon_{it} \quad (3)$$

Ins is the institutional quality, measured through several key representative variables such as PAPI. PAPI assesses institutional quality according to people's experience, one of the most suitable indicators for overall assessment instead of just evaluating related to the business environment like PCI. Due to the complex relationship between institutional quality and FDI [22], the study uses a 1-year lag of institutional quality (PAPI) to determine the causal relationship between them [6].

Z is the control variable, specifically some discussions related to controlling the impact on FDI attraction, such as:

DI: Domestic investment, measured as the ratio of domestic investment to G.D.P. (%). Specifically, high domestic investment can support a better domestic business and production environment, especially investment related to research and development and infrastructure construction. These factors will improve domestic production, attract foreign investment in Vietnam, and reduce transaction costs.

The growth rate represents economic development (%). When the economy has a high growth rate, foreign investors will expect to develop their businesses in the host country. Therefore, a high growth rate will attract FDI.

LABOR: Human capital, as measured by the proportion of the population, is an essential factor in attracting FDI [23]. In fact, in developing countries like Vietnam, the larger the workforce, the easier it is to attract FDI.

R&D: Representing scientific and technological research. The higher the R&D research, the more quality FDI the host country can attract. In Vietnam, scientific research mainly comes from state investment. Therefore, total government spending on R&D activities is the representative variable in the study.

Other variables: ε is the random error, Φ is the unobserved factors and does not change over time, i is 63 provinces/cities in the period t (2012-2015).

In the first model, we use a fixed-effects model with additional controls for the year and correct for errors through clustering of errors by seven economic regions. Institutional differences among seven economic regions are based on the study of Tran et al. [24].

In the second model, we estimate through the G.M.M. method with the IV variable for institutional quality (PAPI), the poverty rate, G.D.P., and regional characteristics (according to 7 economic regions). Again, ample evidence demonstrates a clear relationship between economic growth, poverty rates, and institutional quality. Meanwhile, regional differences in institutional quality were pointed out in Tran et al. [24].

From models 3-8, we consider each component of PAPI's impact on FDI attraction based on the estimation of model number (1).

3.2 Data

The data source is collected from the statistical yearbook of 63 provinces/cities in Vietnam from 2012 to 2015. Statistical Yearbook is a book that collects data of provinces related to the most important topics of that province/city during the year. The study uses data on foreign direct investment (FDI). The growth rate is calculated on the G.D.P. (G.R.) data. The investment rate in the economy is calculated on the investment data in the province/city with G.D.P. (DI), total population (P.O.P.), and poverty rate measured as multidimensional poverty since 2012 (poverty).

Table 1. Data description

	Unit	mean	sd	min	max
FDI	$ million	334.08	718.17	0.00	4100.20
PAPI		36.27	1.88	31.72	42.33
PAPI1		5.08	0.49	3.75	6.48
PAPI2		5.72	0.53	4.49	7.24
PAPI3		5.68	0.50	4.42	7.51
PAPI4		5.99	0.61	4.24	7.60
PAPI5		6.91	0.31	5.90	7.79
PAPI6		6.90	0.36	5.92	7.86
Pop	People	1432.59	1246.81	303.00	8146.30
GR	%	8.42	4.24	-6.25	43.23
RD	Billion VNĐ	27.89	45.81	0.00	460.00
DI	%	508.89	279.31	158.97	1979.97
GRDP	Trillion VNĐ	54.74	120.84	4.15	936.50
Porerty	%	12.03	8.91	0.00	43.50
Observations = 252					

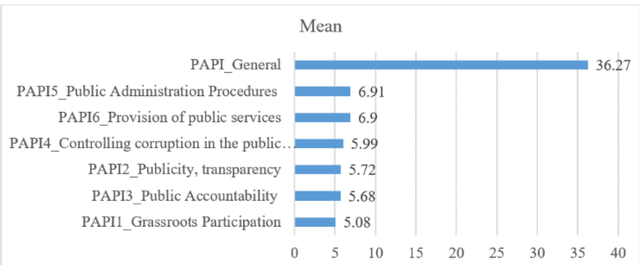

Figure 1. Information about institutional quality

This data is combined with the PAPI (http://papi.org.vn/) dataset. PAPI is a research program on governance initiated by the United Nations Development Program in Vietnam since 2009. The PAPI Index measures and compares people's experiences and perceptions about the effectiveness and quality of implementation. Public policy and service delivery by local governments in 63 provinces and cities in Vietnam to promote effective governance and proactively respond to people's needs. The data are described in the table below. As of 2018, the latest set of PAPI indexes measures eight content sector indexes, 29 sub-content indexes, and more than 120 sub-criteria on governance and public administration efficiency of all 63 provinces/cities. Whereas before, this set of indicators consisted of 6 sector indicators: (1) Grassroots Participation (PAPI1); (2) Publicity, transparency (PAPI2); (3) Public Accountability (PAPI3); (4) Controlling corruption in the public sector (PAPI4); (5) Public Administration Procedures (PAPI5); (6) Provision of public services (PAPI6). The description of the data is presented in the Table 1 and Figure 1.

4. RESULT

The models without lag of variable are presented in Table 2. The results of model (1) using the fixed model and (2) using the G.M.M. estimate are presented below.

Research results in both models are consistent in insignificance with the impact of institutional quality (PAPI) on FDI attraction and R&D investment on FDI attraction. Therefore, it is consistent with previous studies in Vietnam and theories that support a positive relationship between institutional quality improvement and FDI attraction. Hansen's test [25] checks the model fit (p-value=0.7871), and the instrumental variable used is relatively suitable.

The research results in Table 2 also show that FDI investors in Vietnam expect economic and institutional growth (environment for investment) instead of looking for a country to use new outdated technologies or stated pollution theories. This is an important signal that the transition in Vietnam is creating good signals for foreign investors. In addition, investing in R&D is also a better way to attract FDI. This again also supports Huyen's theoretical framework on some important factors affecting FDI capital owners' investment decisions [12].

For a more detailed assessment, model (3)-(8), the components affecting FDI attraction are shown in Table 3.

Table 2. Research model results (1) – (2)

	(1)	(2)
VARIABLES	Fixed effect model	IV- GMM
lagPAPI_1	53.06**	580.3**
	(14.44)	(286.0)
GR	-12.92***	15.38
	(3.443)	(22.03)
Pop	4.552*	0.0554
	(1.987)	(0.0967)
RD	2.675*	6.525***
	(1.174)	(2.363)
DI	-2.154**	0.0104
	(0.831)	(0.383)
Constant	-6,950*	-21,129**
	(3,209)	(10,258)
Observations	189	189
R-squared	0.237	
Number of ID	63	

Years are controlled by robust standard errors in parentheses (grouped by seven economic regions). In the IV-GMM model, the instrument variables used are poverty (%), gross product (G.D.P.), and region
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Research results show a more straightforward relationship on the main impact of accountability to the people on FDI attraction. FDI enterprises investing in Vietnam are very concerned about legal issues related to intellectual property rights, property rights, and risks of disputes. Therefore, the need to transparently deal with relevant information is their top concern [12].

Other indicators of corruption control, public administrative procedures, openness-transparency, grassroots citizen participation, and public service delivery were not statistically significant. These may be indicators that have existed for many years for the country's state. Therefore, these issues are not new or significant to FDI attraction. FDI investors have anticipated and have their ways of dealing with these factors.

Table 3. Research model results (3) – (8)

VARIABLES	(3) Model 1	(4) Model 2	(5) Model 3	(6) Model 4	(7) Model 5	(8) Model 6
Pop	4.618*	4.613*	4.400*	4.610*	4.444*	4.696*
	(2.156)	(2.148)	(1.886)	(2.086)	(2.170)	(2.070)
GR	-12.40**	-12.74**	-11.67***	-13.31**	-11.97**	-12.33**
	(4.614)	(4.294)	(2.749)	(4.178)	(3.843)	(4.222)
RD	2.621**	2.575*	2.357*	2.801*	2.734**	2.818**
	(1.029)	(1.075)	(1.146)	(1.155)	(1.052)	(0.905)
DI	-2.084*	-2.096**	-2.283**	-2.097**	-2.106*	-2.110**
lagPAPI1_1	-55.07					
	(105.6)					
lagPAPI2_1		23.61				
		(164.1)				
lagPAPI3_1			255.4**			
			(74.31)			
lagPAPI4_1				90.15		
				(64.42)		
lagPAPI5_1					227.8	
					(262.4)	
lagPAPI6_1						291.2
						(268.3)
Constant	-4,858	-5,370	-6,194*	-5,661	-6,483*	-7,241
	(3,264)	(3,232)	(2,827)	(3,174)	(3,194)	(4,390)
Observations	189	189	189	189	189	189
R-squared	0.225	0.225	0.253	0.229	0.233	0.232
Number of ID	63	63	63	63	63	63

Note: Grassroots Participation (PAPI1); Publicity, transparency (PAPI2); public accountability (PAPI3); Controlling corruption in the public sector (PAPI4); Public Administration Procedures (PAPI5); Public Service Delivery (PAPI6).
Robust standard errors in parentheses (grouping errors by seven economic regions, years controlled)
**** p<0.01, ** p<0.05, * p<0.1*

5. CONCLUSION AND IMPLICATIONS

The study has shown a theoretical framework and empirical evidence demonstrating a positive relationship between institutional quality and FDI attraction. We use the statistical and public administration quality index (PAPI) datasets to evaluate people's feedback instead of opinions in the business environment (PCI).

The research model also has important contributions to the fixed effects model (F.E.M.) and the use of the lagged variable PAPI confirming the causal relationship between institutional quality and FDI attraction more clearly. Furthermore, the instrumental variable used with the G.M.M. method is the poverty rate, the gross product, which partially addresses the endogenous phenomenon of institutional quality (PAPI).

PAPI has a relationship to FDI attraction. Which accountability (PAPI3) is the most concerned factor of investors. Investment in improving R&D is also an important factor in attracting FDI in Vietnam. This relationship proves that Vietnam's transition sends out positive signals for investment. Specifically, a favorable environment for business development with a stable growth rate, an improved policy environment towards modernization and integration, relatively high ability to use new technologies with high investment R&D investment continues to increase.

The study will contribute theoretically to the institutional factors affecting FDI attraction. Changing the institution's characteristics is to change the behavior of FDI investors. Therefore, the business environment or institutional issues are really important to the investment decisions of FDI enterprises.

The Vietnamese state needs to have policies to improve the quality of institutions at the provincial/city level to create more favorable conditions for investment to attract FDI. In particular, it focuses resources on enhancing the accountability of people in the economy. In addition, the government also needs to increase investment in R&D if it is to attract more quality FDI resources. Thus, it can be said that institutional policy is one of the important bright spots to improve the quality of institutions to effectively attract FDI sources for long-term goals - sustainable economic development in Vietnam.

6. LIMITATIONS AND FUTURE RESEARCH

Although the study has found the impact of institutional quality on FDI attraction in Vietnam, the study still has some limitations. Firstly, the study provides a fairly simple model when only focusing on institutional factors measuring from PAPI1 to PAPI6 without exploiting other factors to make the model larger. Second, the study has limited data from 2012 to 2015 due to database problems.

From these limitations, the authors also make some recommendations for the following research: Firstly, the next study will add other variables that are more representative of institutions or other factors to reflect the broader than attracting FDI. Secondly, the research continues to update and build a better database to have the closest look at the present.

REFERENCES

[1] Oxelheim, L., Ghauri, P. (2008). EU–China and the non-transparent race for inward FDI. Journal of Asian Economics, 19(4): 358-370. https://doi.org/10.1016/J.ASIECO.2008.04.001

[2] Ngoc, H.T., Tuan, B.A., Duy, N.V., Kien, D.T., Dat, N.N. (2021). Impact of foreign direct investment and urbanisation on CO_2 emissions in Vietnam. International Journal of Business and Globalisation, 27(3): 313-332.

[3] Uddin, M., Chowdhury, A., Zafar, S., Shafique, S., Liu, J. (2019). Institutional determinants of inward FDI: Evidence from Pakistan. International Business Review, 28(2): 344-358. https://doi.org/10.1016/J.IBUSREV.2018.10.006

[4] Vo, X.V. (2018). Determinants of capital flows to emerging economies. Evidence from Vietnam, Finance Research Letters, 27: 23-27. https://doi.org/10.1016/J.FRL.2018.02.031

[5] Minh, H.C., Loi, T. (2020). Foreign direct investment and institutional quality: Empirical evidence from Asian Countries. Journal of Asian Business and Economic Studies, 28: 54-72.

[6] Viet, N.Q., Nhuong, C.T., Quynh, T.T.G., Hien, P.T. (2014). Assessing the impact of provincial-level institutional quality on the ability to attract FDI to localities in Vietnam. Journal of Science: Economics and Business. https://js.vnu.edu.vn/EAB/article/view/348, accessed on Nov. 4, 2021.

[7] Zhu, H., Duan, L., Guo, Y., Yu, K. (2016). The effects of FDI, economic growth and energy consumption on carbon emissions in ASEAN-5: Evidence from panel quantile regression. Economic Modelling, 58: 237-248. https://doi.org/10.1016/J.ECONMOD.2016.05.003

[8] Dunning, J.H. (1980). Toward an eclectic theory of international production: Some empirical tests. Journal of International Business Studies, 11: 9-31. https://doi.org/10.1057/PALGRAVE.JIBS.8490593

[9] Scott, W.R., Richard Scott, W. (1995), Institutions and organizations. ideas. Interests and Identities., Management, 17: 136. https://doi.org/10.3917/MANA.172.0136

[10] North, D.C. (2018). Institutional Change: A Framework of Analysis, Social Rules, 189-201. https://doi.org/10.4324/9780429497278-13

[11] Ostry, J.D. (2016). Managing the exchange rate in the face of volatile capital flows. Contemporary Issues in Macroeconomics, 129-147. https://doi.org/10.1057/9781137529589_11

[12] Huyen, L.H.B. (2015). Determinant of the factors affecting foreign direct investment (FDI) flow to Thanh Hoa province in Vietnam. Procedia-Social and Behavioral Sciences, 172: 26-33. https://doi.org/10.1016/j.sbspro.2015.01.331

[13] Lott, J.R., North, D.C. (1992). Institutions, institutional change and economic performance. Journal of Policy Analysis and Management, 11(1): 156-159. https://doi.org/10.2307/3325144

[14] Acemoglu, D., Johnson, S., Robinson, J.A. (2005). Chapter 6 institutions as a fundamental cause of long-run growth. Handbook of Economic Growth, 1: 385-472. https://doi.org/10.1016/S1574-0684(05)01006-3

[15] Shleifer, A., Vishny, R.W. (1993). Corruption. The Quarterly Journal of Economics, 108(3): 599-617. https://doi.org/10.2307/2118402

[16] Daniele, V., Marani, U. (2011). Organized crime, the quality of local institutions and FDI in Italy: A panel data analysis. European Journal of Political Economy, 27(1): 132-142. https://doi.org/10.1016/J.EJPOLECO.2010.04.003

[17] Busse, M., Hefeker, C. (2007). Political risk, institutions and foreign direct investment. European Journal of Political Economy, 23(2): 397-415. https://doi.org/10.1016/J.EJPOLECO.2006.02.003

[18] Du, J., Lu, Y., Tao, Z. (2008). Economic institutions and FDI location choice: Evidence from US multinationals in China. Journal of Comparative Economics, 36(3): 412-429. https://doi.org/10.1016/J.JCE.2008.04.004

[19] Trevino, L.J., Thomas, D.E., Cullen, J. (2008). The three pillars of institutional theory and FDI in Latin America: An institutionalization process. International Business Review, 17(1): 118-133. https://doi.org/10.1016/J.IBUSREV.2007.10.002

[20] Tintin, C. (2013). The determinants of foreign direct investment inflows in the Central and Eastern European Countries: The importance of institutions. Communist and Post-Communist Studies, 46(2): 287-298. https://doi.org/10.1016/J.POSTCOMSTUD.2013.03.006

[21] Lucke, N., Eichler, S. (2015). Foreign direct investment: the role of institutional and cultural determinants. Applied Economics, 48(11): 935-956. https://doi.org/10.1080/00036846.2015.1090551

[22] Dang, D.A. (2013). How foreign direct investment promote institutional quality: Evidence from Vietnam. Journal of Comparative Economics, 41(4): 1054-1072. https://doi.org/10.1016/J.JCE.2013.05.010

[23] Borensztein, E., de Gregorio, J., Lee, J.W. (1998). How does foreign direct investment affect economic growth? Journal of International Economics, 45(1): 115-135. https://doi.org/10.1016/S0022-1996(97)00033-0

[24] Tran, T.B., Grafton, R.Q., Kompas, T. (2009). Institutions matter: The case of Vietnam. The Journal of Socio-Economics, 38(1): 1-12. https://doi.org/10.1016/J.SOCEC.2008.05.012

[25] Hansen, L.P. (1982). Large sample properties of generalized method of moments estimators. Econometrica, 50(4): 1029-1054. https://doi.org/10.2307/1912775