



# Impact of FDI on economic growth from the sustainable development perspective: A case study from the assessment in the middle of Vietnam

Nguyen Ngoc Tien, Ngo Thi Thanh Thuy<sup>†</sup>, Le Thi Thanh Binh\*

*Faculty of Economics & Accounting, Quy Nhon University, Nguyen Van Cu, Quy Nhon, Binh Dinh, Vietnam*

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## Abstract

This study aims to investigate the impact of foreign direct investment (FDI) on economic growth from the sustainable development perspective with a case study of provinces in the middle of Central Vietnam. The effect is evaluated through five different aspects, namely: economics, society, environment, institution and labor. This study used the method of five-level Likert scale and descriptive statistics to analyse the data from the empirical survey of 194 FDI enterprises, experts and managers who are working for research institutions, local organizations in the middle of Vietnam. The results showed that attracting FDI is necessary for economic growth. Under the effect of FDI, economic growth, social development, institutional improvement and labor quality have significantly improved whereas the effect of FDI on the environmental aspect is still unclear. Moreover, from the evidence, the authors proposed some policy implications for attracting FDI to contribute to sustainable economic growth in the provinces in the middle of Vietnam.

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## Introduction

The middle part of Vietnam includes 14 provinces divided into two different parts, namely the Northern Middle and Central Coastal part. The area is 84,250 km<sup>2</sup>, accounting for 25.6 percent of the total area of Vietnam. This area, and Vietnam as a whole, has a relatively high and stable economic growth rate, with approximately 7.6 percent between 1991 – 2000 and around 7.26 percent in the period of 2001 – 2010, which has enabled Vietnam to move from the least developing country status, becoming a member of the WTO in 2008 and reaching the lower middle income status in 2011 (Van, 2018). It is true that Vietnam could not achieve this success without the support from foreign direct investment. However, while

FDI fosters economic growth, it negatively impacts the environment, causing a significant effect on the ecosystem and serious diseases for humans, for example, Vedan and Miwon-the Taiwan monosodium glutamate companies, both of which released unprocessed waste, destroying the environment during their operation time in Vietnam. Another example is Formosa- a Taiwanese steel company in Ha Tinh, whose waste has destroyed the environment in Ha Tinh, Quang Binh, Quang Tri, Thua Thien Hue in 2016.

In recent years, through supplying investment capital which allows to increase output, create jobs and transfer technology, FDI has significantly contributed to economic growth. However, the real contribution and impact of FDI on the economic growth should be fully considered in many aspects. It would be difficult to utilize and promote the positive effects and prevent the risk of environmental pollution and loss of budget revenue when we do not have the objective and sufficient assessment of FDI impact. Currently, there are some empirical studies about the impact of FDI on economic growth in Vietnam and other countries around the world, but

\* Corresponding author.

E-mail address: [lethithanhbinh@qnu.edu.vn](mailto:lethithanhbinh@qnu.edu.vn) (L.T.T. Binh).

<sup>†</sup> Co-first authors.

E-mail addresses: [nguyenngoctien@qnu.edu.vn](mailto:nguyenngoctien@qnu.edu.vn) (N. N. Tien),  
[ngothithanhthuy@qnu.edu.vn](mailto:ngothithanhthuy@qnu.edu.vn) (N. T. T. Thuy).

these studies used secondary data. For example, Mallick and Moore (2008), Agrawal and Aamir (2011), Anh, Hong, Thang, and Hai (2006) and Tien (2015) found that FDI positively contributes to economic growth. Hoa (2004) used secondary data to assess the role of FDI in economic growth and poverty reduction. The result showed that FDI significantly impacts on economic growth and reducing poverty in some provinces in Vietnam. However, it also showed that most studies have evaluated the impact of FDI on separate aspects, especially the economic and social components. Even though some current studies are about FDI from the sustainable perspective, the authors used the qualitative method, such as analysis, descriptive statistics from the secondary data. For instance, Binh (2007) studied the impact of FDI on the economy in terms of economic growth, employment creation, poverty reduction by analysing the statistical data. On the other hand, Lan (2014) studied the impact of FDI on sustainable development in the central economic zones in the Northern parts of Vietnam, but this study only focused on the socioeconomic basic criteria. To tackle the research gap, the authors used data from the empirical survey with FDI investors and interviews with experts and local managers, to try to examine the role of FDI on the provincial economies in the Middle of Vietnam.

## Literature Review

According to Perić and NikšićRadić (2011), FDI and sustainable development are taken into consideration with four dimensions: economic, social, environmental, and institutional aspects. Sauvant and Mann (2017) also state that the sustainable FDI includes four pillars: economic growth, sustainable environment, social development, and good governance. In particular, the economic aspect is evaluated on the criteria of employment, local linkage, technology transfer, and infrastructure development while the environmental sustainability includes resource management, pollution control, and waste reduction. The social development consists of human rights, skill development, workplace safety, and non-discrimination. On the other hand, the institutional management, the compliance, environmental management system, environmental impact assessment, social impact assessment, human rights, and corporate management will be presented in good governance.

In Vietnam, the term of “sustainable FDI” is towards “clean FDI” (Nga & Huong, 2017). The “clean FDI” is needed to drive the sustainable economic growth and development. Specifically, it must meet three requirements, namely economic benefit, social benefit and environmental benefit. For **economic benefit**, FDI ensures the benefits for both investors and recipient countries and contributes to the economic growth in the host country. On the other hand, **social benefit** is presented by the goal of social progress and equality, poverty reduction, job creation, increasing income and improving labor skills. In terms of **environmental benefit**, friendly environmental production and improving the quality of the environment are evaluated.

## Methodology

### Research Site

The middle part of Vietnam includes 14 provinces: Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, Thua Thien Hue, Da Nang, Quang Nam, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ninh Thuan and Binh Thuan. Although the natural conditions in this area are harsher than the economic areas in the North and South of Vietnam, this area has advantages in business environment such as geographic location, infrastructure, natural resource, cheap labor cost. These factors have allowed this area to become a potential investing destination over the years. According to the General Statistics of Vietnam (2016), there are in total 1,364 projects invested in the middle of Vietnam with the amount of capital around 49 billion USD, accounting for 16.7 percent of total capital in Vietnam.

### Study Process

Process of this study includes three stages. The first stage is the interview of 10 experts, including 3 lecturers in this field, 4 managers of FDI enterprises and 3 governors related to FDI enterprises (one from the Planning and Investment Department, Management Board of Industrial Zones and Economic Zones, People Committee) to study the questionnaire. In order to correct the questionnaire before the official survey, in the second stage, a sample survey was conducted with 60 respondents including 20 FDI enterprises, 20 experts and 20 managers via the in person interview between April and June 2017. For the last stage between August 2017 and January 2018, the main survey was conducted with randomly selected 250 respondents, including managers of the FDI enterprises, experts and governors related to FDI enterprises via the in person and online interview.

### Data Analysis Methods

Descriptive Statistics is applied to show the evaluation of FDI enterprises, experts and managers about the impact of FDI on economic growth from the sustainable perspective in Vietnam through calculating the mean value of scale (five-level Linkert scale is used to show the increase of evaluating level: 1 = Strongly disagree; 2 = Disagree; 3 = Neither Agree nor disagree; 4 = Agree; 5 = Strongly agree). After collecting data, the authors use the SPSS 22 program to evaluate the statistical indicators.

### Analysis Framework

From our point of view, evaluating the contribution of FDI to the sustainable development is not only the consideration in three aspects, namely economics, society and environment but also the institution quality and labor skills, in which, (1) the institution is understood as the regulation or management of the economy of the local government affecting the development strategy of enterprises, which, in turn, has a huge impact on the operation and quality of FDI (Oliver, 1997). On the other

hand, FDI also puts pressure on the local government to improve the institution quality in order to create the nice business environment for FDI enterprises (Son, 2017). (2) FDI can bring the technology, managing, secrete, marketing skills and skill improvement that lead to the increase of productivity and local economic growth (Blomstrom & Kokko, 1996).

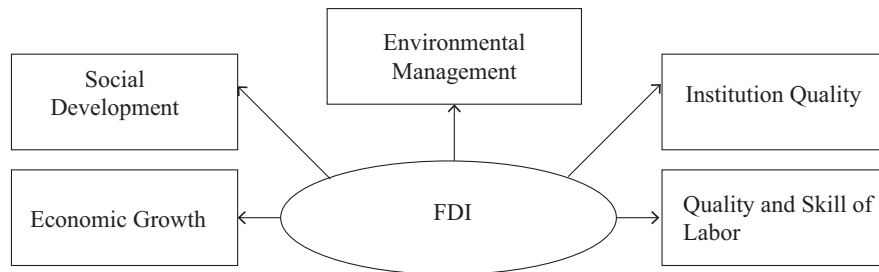
Figure 1 shows that the impact of FDI on economic growth from the sustainable perspective evaluated via five pillars, namely economics, social development, environment management, institution quality and skill of labors. These aspects are documented in the theory of sustainable FDI by Lan (2014) and Sauvaint and Mann (2017).

The following Table 1 shows the factors of five different aspects in evaluating the impact of FDI on economic growth from the sustainable perspective. In this study, the authors designed the questionnaire to collect data of the impact of FDI on five aspects as follow:

**Results and Discussion**

With the total of 250 questionnaires issued, there are only 194 reasonable respondents. The other 56 respondents were eliminated because of the lack of information or the same score for every answer to every question. Among 194 collected respondents, there were 118 samples ( $n_1 = 118$ ) collected from Managers and Experts, accounting for 60.83 percent. The remaining 39.17 percent or 76 samples ( $n_2 = 76$ ) were collected from FDI enterprises. The descriptive statistics are as shownin Table 2.

Table 2 shows the score of the assessment of the impact of FDI on economic growth from the sustainable perspective. The result shows that FDI has the positive impact on the economic growth. In detail, FDI contributes to the improvement of skills and labor quality, with the average score of 4.4/5, followed by social development with 3.85/5, economic growth was third with 3.56/5. However, in terms of the environment, the score of FDI is relatively low at around 2.93. The specification is as follows.



**Figure 1** Impact of FDI on economic growth from the sustainable perspective  
**Source:** Authors

**Table 1** Aspects and observed variables measuring the impact of FDI from the sustainable perspective

Aspects	Variables	Theoretical background
1.Economic Growth	EC1. Contribution to GDP EC2. Contribution to export EC3. Contribution to budget EC4. Linkagebetween FDI enterprises and Vietnam enterprises (consumption market, material supply, technology transfer...) EC5. Trade development and integration	Lan (2014); Sauvaint and Mann (2017)
2.Social Aspect	SO1. New Employment SO2. Average income of labor SO3. Social security for employees SO4. Contribution to the poverty reduction	Lan (2014); Sauvaint and Mann (2017)
3.Environment	EN1. EnvironmentRequirement EN2. Environmental Impact Assessment and Environmental protection commitments EN3. Technology Capacity EN4. Investment in equipment with the environment standard	Lan (2014); CIEM (2016); Sauvaint and Mann (2017)
4.Institution Quality	IN1. Investment Law IN2. Capability of inspection and supervision IN3. The dynamics of the local government and the connection among the authorities IN4. Administrative procedure IN5. Competitive environment among the enterprises IN6. Quality of local labor training IN7. Enterprise support services	Lan (2014); VCCI (2016); Sauvaint andMann (2017)
5.Quality and skill of labor	QU1. Training to improve the quality of labor QU2. Qualification and specialization of labor QU3. Profession of labor	Son (2017)

**Table 2** Assess the impact of FDI on economic growth from the sustainable perspective

Impact of FDI	M
Economic growth	3.56
Social development contribution	3.85
Environment protection and improvement	2.93
Improvement of institution quality	3.42
Improvement of skill and quality for workers	4.40

*Impact of FDI on the Economic Growth*

The respondents surveyed have the positive assessment to FDI in terms of economic growth and there is not much difference among groups with most of the Sig-value of *t*-test greater than .05. This result is in line with some previous studies in Vietnam. For example, by analysing the secondary data in 61 provinces, Hoa and Hemmer (2002) showed that FDI plays an important role in economic growth in Vietnam while Son (2017) stated that FDI contributed to the economic growth in Hue, Da Nang, Quang Nam, Quang Ngai and Phu Yen in the period of 2010–2014. However, the link between FDI and domestic enterprises (EC4) is graded at a very low

level with the mean = 1.5/5. This result is consistent with the weak link between FDI and domestic enterprises and there is not much support for the development of domestic enterprises (Phong & Tri, 2018).

*Impact of FDI on Social Aspect*

In terms of social development, the respondents evaluated that FDI has a significant impact and contribution to the development with the average score of over 3 and the same level of change (Levene’s Test for Equality of Variances with Sig. Values > .05). At the same time, there is no difference in the assessment level of the impact of FDI on social development between two groups or the perceived values of the two groups are the same (*t*-test for Equality of Mean with Sig. > .05).

*Impact of FDI on Environment Aspect*

In Levene’s test of EN1 and EN3, the significant value is less than .05, the variance of two samples are different. Besides that, the Sig. value of *t*-test is .000 < .05, there is the difference in evaluation and average score of two subjectives surveyed. The details are presented in Table 6.

**Table 3** Impact of FDI on economic growth

(n = 194)					
	EC1	EC2	EC3	EC4	EC5
Statistics					
Mean	4.39	3.93	3.52	1.50	4.45
Mode	4	4	3	1	5
Std. Deviation	.594	.751	.541	.622	.576
Independent Sample Test					
Levene’s Test for Equality of Variances	Sig. .132	.472	.933	.034	.096
t-test for Equality of Mean	Sig. (2-tailed) .183	.282	.870	.077	.750

**Table 4** Impact of FDI on social aspect

(n = 194)				
	SO1	SO2	SO3	SO4
Statistics				
Mean	4.22	4.23	3.23	3.73
Mode	4	4	3	3
Std. Deviation	.673	.529	.559	.977
Independent Sample Test				
Levene’s Test for Equality of Variances	Sig. .630	.102	.783	.394
t-test for Equality of Mean	Sig. (2-tailed) .612	.060	.860	.956

**Table 5** Impact of FDI on environment aspect

(n = 194)				
	EN1	EN2	EN3	EN4
Statistics				
Mean	2.58	3.02	2.79	3.32
Mode	2	3	3	4
Std. Deviation	.732	.748	.677	.834
Independent Sample Test				
Levene’s Test for Equality of Variances	Sig. .002	.305	.002	.130
t-test for Equality of Mean	Sig. (2-tailed) .000	.197	.000	.015

**Table 6** Assessment level of FDI on the environment aspect by two respondents surveyed

	Assessment of experts and managers ( $n_1 = 118$ )				Assessment of FDI enterprises ( $n_2 = 76$ )			
	EN1	EN2	EN3	EN4	EN1	EN2	EN3	EN4
Mean	2.30	3.08	2.96	3.20	3.01	3.14	3.08	3.25
Mode	2	3	3	3	3	4	3	4
Std. Deviation	.683	.764	.646	.882	.577	.509	.582	.436

The table shows that the assessment of experts and managers about the commitment of the environment requirement and technology standards of FDI enterprises is very low, with the mean of 2.3 and 2.96, respectively. This fact is consistent with the reports at the conference “Reducing the environment effect related to foreign direct investment in Vietnam, 2016” celebrated by the Central Institution of Economics and Management (CIEM) and Project of Trade and Investment Policy supported by Europe (EU-MUTRAP) in Hanoi, Vietnam. Many FDI enterprises are still using old technology and few pay attention to environment protection in Vietnam. In detail, around 80 percent of FDI enterprises use intermediate technology, 14 percent use old models and only around 6 percent use advanced technology. In particular, in the period of 2011–2015, more than 50 percent of cases were detected to be violating the environment law. Formosa, for example, released waste and caused fish poisoning in 4 provinces: Ha Tinh, Quang Binh, Quang Tri and Thua Thien Hue in April 2016. This issue resulted not only from the irresponsibility of Formosa, but also from the weakness of environmental regulations.

*Impact of FDI on Institutional Aspect*

Thanks to the FDI enterprises, the local quality of institutions has been improved over the years. Except for the

support for enterprises (IN7), most of the average scores are over 3. This result is consistent with the PCI index issued by the Vietnam Chamber of Commerce and Industry, which is the supporting service for enterprises not given much attention by the government. For instance, the PCI for enterprise was 5.33 in 2016 and this number dropped to 5.03 in 2017.

*Impact of FDI on Improving the Quality of Labor*

The result from Table 8 shows that the grade of all three scales is over 3 points. FDI enterprises contribute to improving skills, expertise and quality of labor. This result is in line with Son (2017) evaluating the effect of FDI in 5 provinces: Hue, Danang, Quang Nam, Quang Ngai and Phu Yen. UNIDO (2011) also shows that FDI positively contributes to the industrial growth via employment creation and labor skill improvement.

**Conclusion**

By analysing the Descriptive Statistics, the result shows that under the effect of FDI, the economic growth is accelerated, social welfare for labor, quality of institution and labor skill have been improved in the middle part of Vietnam. However, the business environment is still left behind and the supporting services for enterprises are relatively low in some

**Table 7** Impact of FDI on institution quality

		( $n = 194$ )						
		IN1	IN2	IN3	IN4	IN5	IN6	IN7
Statistics								
Mean		3.36	3.19	3.40	3.66	3.51	3.06	2.98
Mode		3	4	4	4	4	3	3
Std. Deviation		.480	.876	.09	.507	.501	.779	.792
Independent SampleTest								
Levene’s Test for Equality of Variances	Sig.	.090	.648	.422	.018	.878	.524	.000
t-test for Equality of Mean	Sig. (2- tailed)	.364	.053	.050	.074	.321	.807	.017

**Table 8** Impact of FDI on improving the skill and quality of labor

		( $n = 194$ )		
		QU1	QU2	QU3
Statistics				
Mean		3.87	4.63	4.69
Mode		4	5	5
Std. Deviation		.334	.524	.462
Independent SampleTest				
Levene’s Test for Equality of Variances	Sig.	.857	.080	.963
t-test for Equality of Mean	Sig.(2-tailed)	.228	.740	.982

provinces, like Binh Dinh, Phu Yen. From these findings, the authors propose some petitions for both government and local provinces to attract green FDI for sustainable development in future.

It is necessary for the government to have policies to encourage “green FDI” investment. For example, criteria are needed to evaluate the current FDI enterprises, including applying global environment standards, linkage between FDI enterprises and local agencies, and transferring friendly environment technology to local firms.

For the local agencies, it is suggested that we need to create the business environment to make the connection between the FDI and local enterprises that allows the local enterprises to develop and participate in the global value chain.

The local government should pay more attention to the management capacity, such as the supporting services for enterprises that would create convenient conditions for current firms and attract more FDI, especially FDI from the multinational companies and high technology and friendly environment projects.

In order to attract FDI efficiently, the local government should build up the criteria to evaluate the current FDI enterprises in the local advantaged fields. Moreover, to reduce the negative influence of FDI, the local government should improve its supervising capacity of the operating FDI companies.

### Conflict of Interest

There is no conflict of interest.

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