

STATISTICAL ANALYSIS OF SOME REALITY FEATURES IN ATTRACTING FDI FOR EDUCATION AND TRAINING IN VIETNAM

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ABSTRACT

In this paper, the status of the scale and distribution of FDI in education and training (Education and Training) at the total size of foreign investment in Vietnam was evaluated. Attracting foreign investments into education and training have significant impacts in the economic development of Vietnam. However, clear differences between investing in education and training with investing in other industry groups, and the differences between the various types of training institutions show that attracting FDI in education and training is significantly necessary and meaningful in the whole process of economic and social development in our country in the next stage.

Keywords: *Education and training, foreign investment FDI, Vietnam.*

INTRODUCTION

The concept of foreign investment in the field of education and training (FDI) is a relatively new concept for developing countries like Vietnam. Previously, education was seen as a welfare to meet the learning needs of the society, however, with the economic and social development, and the increasingly important role of education, investment in education is no longer a separate job of the government but has become an indispensable part of economic and social development strategy. As defined by the WTO, the foreign direct investment (FDI) occurs when an investor from a country (investor countries) has an asset in another country (countries attract investment) along with the management of these assets. Management aspect is a feature to distinguish FDI with other financial instruments. In most cases, the investor is often called "parent company" and these assets are referred to as "subsidiary" or "affiliates".

The right to choose the form and methods of investment belongs to investors. The forms and methods are selected by investors following the law on investment in Vietnam which includes: Establishment of a business which is 100% owned by investors (100vov); Investment in shares or merger or acquisition of a business (CP); forms of contract BOT, BTO and BT (BOT, BTO and BT);

Investment in the form of business cooperation contract (HDHT); and Establishment of joint venture enterprise between domestic and foreign investors (LD).

METHODOLOGY

This paper used data for FDI by year period from 2010 to 2015 and the latest data was used at the end of quarter 3 of 2016. The study was conducted by collecting the data published by the Vietnam General Statistics Office with descriptive statistics method. The study applied ANOVA analysis of variance to assess the status of FDI investment in education and training compared to other sectors in Vietnam, and pointed out the differences between existing types of investment in the country. The data was processed in Excel, software R (Turkey method). Besides, the authors evaluated the ability to attract capital of the types of training that are directly influenced by the labor market. In addition, the data analysis also shows the significant impact of FDI to yearly GDP growth in the country.

RESULTS OF THE STUDY

Attracting foreign investment in the process of socio-economic development

Statistics of FDI investments in Vietnam from 2010 to 2015 showed that there are differences in terms of forms of investments in different stages.

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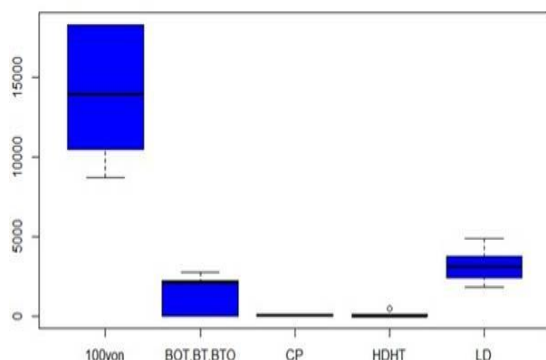


Figure 1. Distribution of FDI in the forms of investment, period 2010 -2015

Source: Quoted from [1]

In fact, the form of 100% foreign capital business is the traditional and popular form of FDI, the advantage of which is that the host

country does not need capital, thus can avoid the business risk, immediately collect rent land, taxes, create jobs for laborers. On the other hand, as independent in terms of ownership, foreign investors can actively invest and to remain competitive, they often invest new technology, advanced technical devices in order to achieve high business efficiency, which contributes to enhancing the professional skills of workers. Figure 1 also shows a marked difference between this form with 4 other forms including CP; BOT, BTO, BT; HDHT and LD.

Using ANOVA analysis by R to verify the difference of 5 investment forms in the period from 2010 to 2015 we have the following data

Table 1. Differences in 5 forms of investments

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
dulieu\$ht	4	816341631	204085408	53.84	6.31e-12 ***
Residuals	25	94770212	3790808		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Source: Analysis with function R

In table 1, as $Pr(>F)=6.31e^{-12}$, there is a visible difference of the 5 forms of investments.

Checking with Tukey methods (implementation of R) to see the significance of the difference

Table 2. Comparison between pairs of investment forms

Tukey multiple comparisons of means				
95% family-wise confidence level				
Fit: aov(formula = dulieu\$fdi ~ dulieu\$ht)				
\$`dulieu\$ht`				
	diff	lwr	upr	p adj
BOT,BT,BTO-100von	-12399.83	-15701.17	-9098.49	0.0000000
CP-100von	-13888.40	-17189.74	-10587.06	0.0000000
HDHT-100von	-13841.82	-17143.16	-10540.48	0.0000000
LD-100von	-10759.46	-14060.80	-7458.12	0.0000000
CP-BOT,BT,BTO	-1488.57	-4789.91	1812.77	0.6791818
HDHT-BOT,BT,BTO	-1442.00	-4743.33	1859.35	0.7037767
LD-BOT,BT,BTO	1640.37	-1660.97	4941.71	0.5969641
HDHT-CP	46.58	-3254.76	3347.92	0.9999993
LD-CP	3128.94	-172.40	6430.28	0.0693203
LD-HDHT	3082.36	-218.98	6383.70	0.0755651

Source: Analysis with function R, Turkey method

p-value indicates significant statistical differences between FDI in 100von compared to 4 other forms (BOT,BT,BTO; CP; HDHT; LD)

FDI has a positive impact on the development of national human resources who receive benefits through investment projects in the field of education and training. Education and training is one

of the 12 service sectors that immediately made Vietnam to actively commit to comply with the General Agreement on Trade in Services (GATS) after joining the WTO.

The investment in education has great significance in meeting the development needs of education and training in compliance with high quality international standards from kindergarten to university level in Vietnam. This is an important contribution to the development of high quality human resources for Vietnam. Investment in education is investment in human capital. Just as investment in physical capital, investors are concerned about the cost and the interest rates on future revenues. However, for investment in education, the benefits cannot be precisely calculated because education has both economic and non-economic values. Education and training is a field in which there are no limits on the development.

The scale of FDI in Education and Training in Vietnam

Vietnam has set diplomatic relations with 178 countries of the world. China, US, Japan, Korea, etc. are those that have a sustainable relationship with us. According to statistics, 116 countries have invested in Vietnam, in which 24 countries and territories invested in the field of education in our country, especially countries like US, UK, Japan, Singapore, Australia, those with modern education, have investment projects in Vietnam.

Within 5 years, training establishments which received FDI have been growing in both quantity and quality. Before 2007, the average total funding of each project was only about 450-600 thousand dollars, now those projects worth 40-50 million USD have become more popular.

The scale of FDI in Education and Training compared to other sectors

To assess the difference between foreign investment in education and training and other economic and social sectors, besides visual statistics, some mathematical tools were applied to analyze the difference from the perspective of mathematical statistics. The period from 2006 to 2010 is the "gold" period of FDI inflows because this is the immediate period before and after Vietnam joins the WTO. However, in the period from 2010 to 2015, the FDI inflows show signs of decline. The question is whether the decline has affected the scale of capital between sectors?

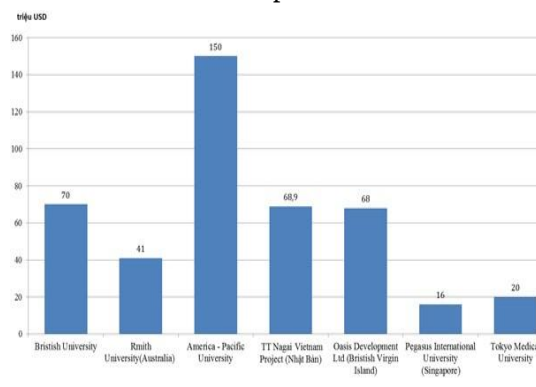


Figure 2. Some FDI projects of foreign countries on education and training in Vietnam

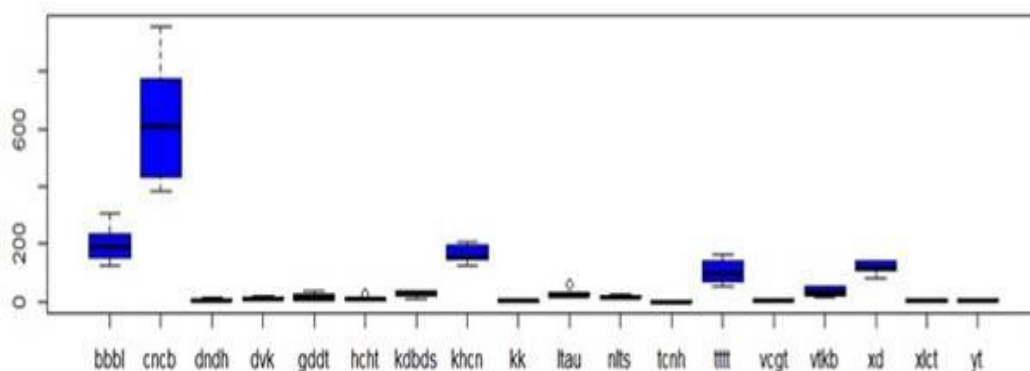


Figure 3. FDI scale in sectors, period 2010-2015

Source: Quoted from [1]

In the period 2010-2015, FDI investment was distributed to 18 sectors

Sectors	abbr	Sectors	abbr
Wholesale and retail trade, repair of automobiles, motorcycles	bbbl	Food and Storage Service	ltau
Processing industry, manufacturing	cncb	Agro - forestry and fisheries	nlts
Production and distribution of electricity, gas, water, air conditioners	dndh	financial activities, banking, insurance	tcnh
Other Services	dvk	Information and Communication	tttt
Education and Training Education	gddt	Entertainment and recreation	vcgt
Administrative and operational support services	hcht	Transportation and storage	vtkb
Real estate business	kdbds	Construction	xd
Science and Technology	khn	Water Supply and Waste Disposal	xlct
Mining	kk	Health and social assistance activities	yt

According to Figure 3, the scale of investment in education and training is different from that in the wholesale and retail sectors of automobiles, and motorcycles repair; manufacturing and processing industry; science and technology; information and communication; building and not much different compared with other sectors.

Using ANOVA analysis by R to verify the differences in the scale of FDI inflows into the different sectors based on mathematical statistical calculations. The results are as followed

Table 3. Differences of FDI scales on different industries

	Df	Sum Sq	Mean Sq	F value	Pr(>F)	
dulieu\$nganh	17	2296263	135074	41.55	<2e-16 ***	
Residuals	90	292571	3251			
Signif. codes:	0 '***'	0.001 '**'	0.01 '*'	0.05 '.'	0.1 ' '	1

Source: ANOVA analysis with function R.

Because $Pr(> F) < 2e-16$ there is a clear difference of the scale of capital investment in those industries.

Continue checking with Tukey methods (implementation of R) to see the significance of the difference.

Table 4. Comparison between pairs of industries

Tukey multiple comparisons of means				
95% family-wise confidence level				
Fit: aov(formula = dulieu\$fdi ~ dulieu\$nganh)				
\$`dulieu\$nganh`				
	diff	lwr	upr	p adj
gddt-bbbl	-183.17	-301.42	-64.92	0.0000383
gddt-cncb	-610.33	-728.58	-492.08	0.0000000
gddt-dndh	10.17	-108.08	128.42	1.0000000
gddt-dvk	5.333	-112.92	123.58	1.0000000
hcht-gddt	-7.67	-125.92	110.58	1.0000000
kdbds-gddt	7.83	-110.42	126.08	1.0000000
khn-gddt	145.67	27.42	263.921	0.0033263
kk-gddt	-14.50	-132.75	103.75	1.0000000
ltau-gddt	11.00	-107.25	129.25	1.0000000
nlts-gddt	-0.33	-118.58	117.921	1.0000000
tcnh-gddt	-16.33	-134.58	101.92	1.0000000
tttt-gddt	87.33	-30.92	205.58	0.4275812
vcgt-gddt	-11.50	-129.75	106.75	1.0000000
vtkb-gddt	15.33	-102.92	133.58	1.0000000
xd-gddt	99.17	-19.08	217.42	0.2168027
xlct-gddt	-13.33	-131.58	104.92	1.0000000
yt-gddt	-11.17	-129.42	107.08	1.0000000

Source: Analysis with function R, Turkey method

Based on the value of p in Tukey method, we see that the difference between investment in education and training with the wholesale and retail sector, automotive repair, mopeds, motorcycles; processing industry and manufacturing; scientific and technological activities are statistically significant.

Distribution of education and training projects with foreign capital investment

Statistics of valid projects to 31st December, 2015 mainly show that the projects mainly focus on three regions which are the Southeast, North Central, Central Coast and Hong river Plains. This is also the the fastest growing region in terms of economics and services of the country. Whereas education and training are put in the service sector. FDI projects in the field of education in three key cities corresponding to the three regions of the Ho Chi Minh City, Da Nang, Hanoi have accounted for 90.8% of the total registered capital of the whole industry.

In the focus areas of industrial zones of Dong Nai, Binh Duong, Long An, Vinh Phuc, Thai Nguyen, Bac Ninh, Hung Yen, ... with the aim to meet the vocational training needs of large numbers of workers, there is an urgent need for required site planning for vocational schools and skill training centers. It is also an affecting factor in attracting foreign investment in this sector.

According to statistics, by the end of 2015, in Vietnam, although total foreign investment in the field of education reached only a modest number of 240 valid projects with a total capital of over 710 million and from early 2016 to the end of September, 2016, there were 48 more new projects, equivalent to 16.88 million US dollars of capital. Previously, according to the Department of Foreign Investment, FDI projects in education and training is unevenly distributed, mostly concentrated in big cities, almost no FDI projects in education services are made out in the countryside. However, it is encouraging

that few years ago the quality of foreign investment in the field of education has markedly improved, showing off by the growing number of school corporations in countries with developed education investment in Vietnam. Instead of focusing on only investing in big cities such as Hanoi, Da Nang, and Ho Chi Minh city with short-term projects, now the group has begun to reach out to other provinces and to develop long-term projects such as international universities and colleges. For example, KinderWorld Group alone, as of early June 2015, has invested in operating 15 schools in many provinces across the country. The system includes the Singapore International School, International Kindergarten KinderWorld, Vietnam Singapore International School, etc. which have been invested in the cities such as Hanoi, Da Nang, Ho Chi Minh city, Vung Tau, Binh Duong, etc. KinderWorld also plans to invest in schools in two other south central provinces Khanh Hoa and Binh Dinh. Meanwhile, the Group RMIT (Australia) has invested approximately US \$ 41.1 million project in the RMIT University in Vietnam, with the expectation to expand to other cities besides Hanoi and Ho Chi Minh city.

FDI by type of education and training establishments

Seen from the labor market, two types of FDI inflows are attracted by the two types of labor markets: high quality labor and large labor quantity. FDI investment activities in Vietnam are quite exciting when Vietnam is one of the attractive investment destinations of the world due to many factors including cheap labor. The fact that most large corporations have been in Vietnam and are gradually expanding the scale of operation, followed by the use of new technologies and modern production processes, enterprises with FDI are trying to create training facilities to improve the quality of labor firstly to serve its own business.

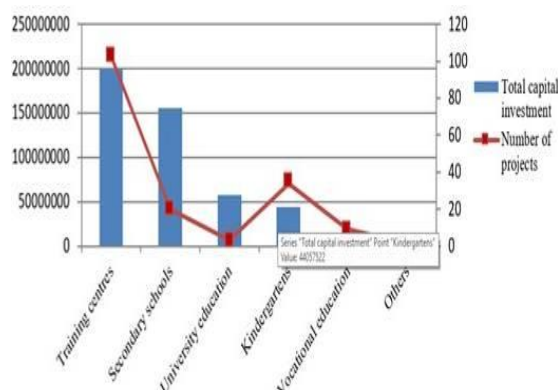


Figure 4. Distribution of FDI inflows in the form of training (2013 statistics)

The projects for short-term training centers account for the largest number. Besides, the fact shows that the field of vocational training, especially in information technology and foreign languages also attract the interest of investors for Vietnam. The similar point of the projects is quick development, prestige and good effect on students but due to legal procedures in Vietnam, the number of projects do not increase more than other types. Conversely, projects for secondary and higher education have been increasingly developed in recent years such as projects to improve the education system of Vietnam (Department for International Development UK (DFID) and the Ministry of Foreign Australia Affairs & Trade (DFAT)) and a number of projects mentioned above.

Assessing the impact of FDI on education and training to Vietnam GDP growth

Although FDI for education and training represents only a small fraction of the investment capital from abroad into Vietnam, its impact on economic development, namely the growth rate of GDP in our country every year cannot be denied.

On the other hand, FDI is considered very important in funding the development of education in Vietnam. Obviously besides an active role in contributing to job creation, investment in education from foreign funds also help improve the quality of human resources for the labor market and human in

Vietnam. The number of workers with highly specialized jobs is increasing in the country, moreover, what FDI has indirectly done is changing the style of thinking and working towards modern industrial style, effectively absorbing the result of the transfer of technology and advanced management experience.

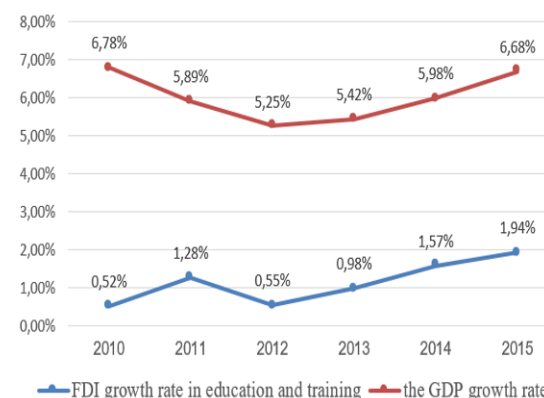


Figure 5. FDI growth rate in education and training and the GDP growth rate, period 2010 – 2015

Source: Data from Vietnam General Statistics Office and calculations of the authors

CONCLUSION

In the context of integration and fierce economic competition, FDI inflows are effective resources to support the growth and development of Vietnam. FDI brings in a variety of benefits in many aspects, ranging from economic growth, transfer of technology, knowledge, management skills, etc. Thus, Vietnam needs to continue to improve the investment climate, reform policies, appropriate legislation, etc. to encourage foreign investors to Vietnam.

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TÓM TẮT

VÀI NÉT PHÂN TÍCH THỐNG KÊ VỀ THỰC TRẠNG THU HÚT FDI VÀO GIÁO DỤC ĐÀO TẠO VIỆT NAM

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Trong bài báo này, chúng tôi đánh giá thực trạng quy mô và sự phân bố của nguồn vốn FDI vào giáo dục đào tạo (GDĐT) xét trong tổng quy mô vốn đầu tư nước ngoài vào Việt Nam. Việc thu hút nguồn vốn đầu tư nước ngoài vào GDĐT có ảnh hưởng không nhỏ trong sự phát triển kinh tế Việt Nam. Tuy nhiên, sự khác biệt rõ rệt giữa sự đầu tư vào GDĐT với các nhóm ngành khác, sự khác nhau giữa chính các loại hình cơ sở đào tạo cho thấy vấn đề phát triển việc thu hút FDI vào GDĐT thực sự cần thiết và có ý nghĩa trong toàn bộ quá trình phát triển kinh tế xã hội ở nước ta trong các giai đoạn tiếp theo.

Từ khóa: *Giáo dục và đào tạo, vốn đầu tư nước ngoài FDI, Việt Nam*

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