

IMPACTS OF FOREIGN DIRECT INVESTMENT ON POVERTY REDUCTION IN VIETNAM

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1. Introduction

Foreign direct investment (FDI) has been recognized as an important resource for economic development. Many people argue that the flows of FDI could fill the gap between desired investment and domestically mobilized saving (Todaro and Smith, 2003, Hayami, 2001). It also may increase tax revenues and improve management, technology, as well as labor skills in host countries (Todaro and Smith, 2003, Hayami, 2001). Additionally, FDI may help the host country to break out of the vicious cycle of underdevelopment (Hayami, 2001).

Many scholars widely believe that the benefits accrued from FDI may include the acquisition of new technology, employment creation, human capital development, contribution to international trade integration, enhancing domestic investment, and increasing tax revenue generated by FDI (Jenkins and Thomas, 2002; World Bank, 2000). All of these benefits are expected to contribute to higher economic and employment growth which is an effective tool for achieving improvement in the reduction of poverty. However, the impacts of FDI on poverty depend on many factors including the host countries' institutions and policies, the quality of the labor market, the economic environment, and the investment itself (Mayne, 1997).

Global trends in FDI flows to developing countries have increased dramatically in both quality and quantity. FDI flows reached \$70 billion in 1993 (Nair-Reichert and Weinhold, 2001) and nearly \$180 billion in 1999 (GDF, 2003). According to Global Development Finance report (GDF, 2003), FDI has slipped from \$179 billion in 1999 to \$143 billion in 2002, but it still remains a dominant source of financing for developing countries.

Vietnam has been reasonably successful in attracting FDI since it implemented its Foreign Investment Law in 1987. According to Ministry of Planning and Investment, from 1987 to the end of 2003, total FDI inflows to Vietnam were approximately US\$ 40.8 billion in terms of commitments, while the actual inflows were US\$ 25 billion. Additionally, the significant contribution of FDI to economic growth has been realized through GDP growth, international trade, and employment. Furthermore, the number of people living below the poverty line in Vietnam has been significantly reduced since the opening of the country in 1987. According to a poverty report provided by the World Bank (2003), the percentage of people living below the standard poverty line in Vietnam decreased rapidly from 58 percent in 1993 to 29 percent in 2002.

Although the FDI effects on the reduction of poverty have been identified, empirical research on the impact of FDI on poverty reduction in Vietnam has not been extensively conducted. Moreover, research using econometric models to evaluate the relationship among the inflows of FDI, growth, and poverty reduction in Vietnam is lacking. One of the possible reasons of this is that the availability of the data on FDI, poverty, as well as others determinant variables is limited in Vietnam. However, to evaluate the impact of FDI as well as to introduce the policies to promote FDI and

poverty reduction, a regression analysis is necessary and useful. Thus, this paper will use empirical panel data across provinces and cities in Vietnam to find the impact of FDI on poverty reduction. The final results will be used to recommend suitable policies to promote FDI and poverty reduction.

The remainder of this paper is organized as follows. In section 2, I will review the literature of the theories and background on the impact of FDI on economic growth and poverty reduction. In section 3, the data and methodology will be introduced. The results and discussion will be presented in section 4. Finally, section 5 will discuss and introduce some policies based on the results.

2. Literature Review

2.1 Theories and empirical study

Foreign direct investment is defined by the World Bank as “investment made to acquire a lasting management in an enterprise operating in a country other than that of the investor.” In general, investment which includes at least a 10 percent ownership of an enterprise is considered as FDI.

According to Hayami (2001) and Todaro and Smith (2003), the contributions of FDI to the development of a country are widely recognized as filling the gap between desired investment and domestically mobilized saving, increasing the tax revenues, and improving management, technology, as well as labor skills in host countries. These could help the country to break the vicious cycle of underdevelopment (Hayami, 2001). Empirical studies suggest that FDI is very important because it provides a source of

capital, complements domestic private investment, and generates new job opportunities as well as transfers technologies and boosts economic growth in host countries.

Foreign direct investment can have direct and indirect impacts on poverty reduction in the host country. The indirect impact of FDI on the reduction of poverty is through economic growth which results in the improvement of living standards due to the increase in GDP, improvement of technology and productivity, as well as the economic environment. The direct impact of FDI on poverty can be seen through the increase in employment and the reduction of people living below the poverty line resulting from the increase in the demand for employment, and the improvement of workforce and safety nets.

Bende-Nabende (1998) investigated the data from 5 South East Asian countries, and found a positive direct link between FDI and economic growth. In the paper, he found that FDI for Indonesia, Malaysia and the Philippines are positively correlated with growth, while that for Singapore and Thailand are negatively related. Moreover, the result revealed that FDI stimulated economic growth in those ASEAN countries mostly through human capital and employment. Likewise, the investigation by UNCTAD (1999) found FDI has both positive and negative impacts on economic growth depending on the variables that were entered in the equation.

FDI contributes to economic growth directly by creating employment opportunities and indirectly through the creation of employment opportunities in other organizations. Indirect employment created by foreign affiliates in host countries can be large, probably larger than that created directly. With the growth of international production, the share of employment creation by foreign affiliates is growing.

Employment creation in host countries has been partly attributed to the labor-intensive nature of the economic activities established by foreign companies. There is an experience of low growth or decline in employment in foreign affiliates (OECD, 1995). Thus, this gives an indication that labor abundant countries are likely to create more employment by following an outward- looking rather than inward- looking approach.

The presence of FDI is expected to create competition that probably improves the quality of the host countries' stock of physical capital and the efficiency of investment in the countries, and thus the effectiveness of domestic investment. This increases the ratio of investment to GDP and subsequently the investment increases translate into the demand for goods and service of other sectors via multiplier and accelerator effects. Thus, it prompts higher economic growth in the host countries. Bende-Nabende (1998) found that FDI generated positive impulses on capital formation in the Philippines and Thailand. However, capital formation in turn impacted negatively on the Philippines' output and affected neutrally on Thailand's output. Finally, they concluded that spillovers were not attained via capital formation and it could generate crowding out effects in the host countries.

Therefore, based on this, the first hypothesis is: *H1: Inflows of FDI in each province have a positive impact on the economic growth of the province. The higher the inflows of FDI in each province, the higher the gross domestic product in that province.*

Furthermore, economic growth is the single most important factor affecting poverty reduction. Dollar and Kraay (2000), using the Deninger and Squire Database, found that growth tends to increase the incomes of the poor proportionately with the overall growth. FDI is a key figure for generating growth and thus it is an important

ingredient for poverty reduction. In the study, they investigated this phenomenon by testing the relationship between the income of the poor (bottom 20% of the income distribution) and overall income using data on income of the poor and mean income for 80 countries over 40 years. They suggest that when overall income increases, on average incomes of the poor increase by exactly the same rate. They also found that openness to international trade and improvement in the rule of law raise incomes of the poor by raising per capita GDP but do not significantly influence the income distribution.

Roemer and Gugerty (1997) indicate that on average the poor do benefit from the growth because their study shows that an increase in the rate of GDP per capita leads to a one for one increase in the average income of the poorest (bottom 40% of income distribution). Nelson and Pack (1999), and Kakwani (2000) agree that the positive effects of FDI tend to outweigh the negative effects, resulting in economic growth and poverty reduction. Furthermore, Roemer and Gugerty (1997) suggest that on average the poor do benefit from economic growth. An increase in the growth rate per capita GDP strongly correlates with average incomes of the poor.

Therefore, based on this, the second hypothesis (H2) is: *The number of poor people who live below the poverty line in the province is negatively correlated with the economic growth.*

Foreign direct investment mainly promotes growth and affects the quality of growth especially poverty reduction and thereby reduces income poverty. It may reduce the adverse shock to the poor from financial instability and improve the capacity management of the government. It also increases the safety nets for the country and through government led programs to redistribute assets and income (Klein et al. 2001).

Nordstrom et al. (1999) suggest that economic integration is generally a positive contributor to poverty alleviation, by allowing people to exploit their productivity potential, promoting economic growth, and helping the country to prevent the unexpected shocks. Although they found no direct links between FDI and poverty reduction, they concluded that the scale effects which are the impact of FDI on growth via economic activities, and employment outweighed the quality effects which are the direct impact of FDI on poverty reduction, level income of poor, and skill improvement.

Thus, the third hypothesis (H3) is: *Inflows of FDI have positive impacts on the reduction of poverty in the provinces which are surveyed. The higher the inflows of FDI in the province, the lower the number of people living below the poverty line.*

2.2 Characteristic of FDI and poverty in Vietnam

In 1986, the Vietnamese government introduced the *Doi Moi* (renovation) program and a movement away from a system of central government planning to one which placed market forces centrally in the economy of Vietnam. Since then, the inflows of FDI started to flow into Vietnam. Initially, FDI focused on the mining industry and the oil and gas industry as Vietnam is rich in natural resources.

Since 1992, new investment laws were issued which acknowledged the importance of FDI inflows to economic growth as well as deregulated many restrictions and limitation of government intervention in the economy. The government promoting and active supported resulted in dramatically high growth in Vietnam since that period. With Vietnam, foreign firms saw much potential of the transition economy including a young labor force, relatively good quality of human capital, a big market of 70 million

people and a largely untapped market. For that reason, Vietnam has attracted a large amount of FDI inflows since following market orientation.

During the Asian crisis in 1997, inflows of FDI dramatically declined throughout Asian region. Vietnam, as a part of the ASEAN region which was the center of the crisis, also suffered a large reduction in both FDI commitment and implementation. After the crisis, the level of FDI to Vietnam greatly diminished. By the end of the 1990s, despite a downturn in foreign investment after the Asian crisis and a general reconsideration of Vietnam's potential and business environment in the later 1990s, foreign investment had managed to cumulatively account for 27% of Vietnam's non-oil exports, 35% of its industrial output, contributed 13% of Vietnam's GDP and 25% of total tax revenues, though it only employed 1% of the country's workforce. Figure 1 details Vietnam's FDI inflows and pledges between 1991 to 2002, averaging 9% of a growing GDP between 1994 and 1997, and the highest levels of any developing country during this period.

The 1990s saw the continuing integration of Vietnam into the global economy through choosing market orientation, increasing FDI inflows, further liberalizing its trade regime and increasing its participating in the world market. At the same time, the poverty in Vietnam substantially declined, with the number of poor people falling from 59 percent of the population in 1992-1993 to 37 percent in 1997-1998 (World Bank, 2004).

According to Vietnam Living Standard Survey (VLSS), in 1998 approximately 37 percent of Vietnamese – around 28 million people- were living in poverty. While this rate is unacceptably high, it represents a significant improvement from the early 1990s. The rapid growth that was triggered by the reform of the late eighties and early nineties has reduced the rate of poverty significantly.

Since 1987, Vietnam's market oriented reforms have generated very high rates of growth that have benefited the poor, cutting the poverty rate to around one in every three by 2000. The fact that the poverty rate remains very high even after such high growth reflects the enormous depth and breadth of poverty in Vietnam at the start of its transition period. A longer period of sustained growth is required to further raise the incomes of the poor and lift more people out of poverty.

Furthermore, rural areas are the most vulnerable for poverty compared to urban areas. The heads of poor households usually are farmers who have typically low education; they account for nearly 80 percent of the poor in Vietnam (World Bank, 2004). Figure 2 shows that urban areas have a low poverty rate, which accounts for less than 10 percent in 1998. However, rural areas still have nearly 50 percent of the poor people in the same year. The tremendous difference between rural and urban areas can be explained by the difference in earning opportunity. In rural areas, most of the household income is from agriculture which is relatively low and grows slowly compared to modern industries in urban areas. On the other hand, household earnings in urban areas are higher and grow faster. Thus, the pace of reduction of poverty in urban areas is much faster than in rural areas.

As can be seen in Figure 4 and 5, the geography of poverty in Vietnam is different between provinces and regions from the North to the South. A large number of poor people are living in the North West and North Central and Central Highlands of Vietnam. In these regions, more than 50% of the population is still living under the poverty line. These areas normally have numerous minor ethnic groups and are partly isolated with other regions due to the lack of infrastructure and transportation. Moreover, due to the

limitation of fertilized lands and economic activities, the speed of poverty reduction in the regions are lower than in others part of Vietnam. Thus, poverty alleviation in these regions must be addressed to support in order to achieve the Millennium Development Goals (MDGs) which Vietnam signed in 2000.

3. Data and Methodology

3.1 Data and initial models

This paper will use two regression analyses to evaluate the relationship between FDI and economic growth, and then the impact of growth and FDI on poverty reduction in provinces and cities in Vietnam. The data used is panel data collected in the period from 1992 to 2002 and using 12 provinces and cities which are from the north to the south of Vietnam. The data using in this paper are mostly collected from Vietnam Statistical Department and Vietnam Development Strategy Institute. Additionally, the data of GDP (using 1994 prices) and FDI are collected from Ministry of Planning and Investment from the year 1992 to year 2003. Although some data has yet to be made public, I have tried to compute some data including GDP growth rate, Gross Domestic Investment based on the primary data. The data framework is collected as the table follows using Hanoi as an example. In the table, we can see that the poverty rate reduced rapidly, while the inflows of FDI significantly increased in the first period and subsequently stabilized in the next period. However, the economy growth rates were positive and large during the surveyed period.

Summary Statistics (Hanoi)			
	1993	1998	2002
Population (In thousand)	2,302.4	2,621.8	2,902

FDI (Billions VND)	1,654.0	3,650	3,645
GDP (Billions VND)	10,499	16,829.7	22,850
GDP growth rate	7.0	15.4	8.7
Poverty rate	12.3	7.2	3.2
Employment rate	94.6	93.7	93.2
Gross Domestic Investment (Billions VND)	3,396	5,564.7	9,465

An econometric approach using the ordinary least squares method (OLS) is used in this paper to examine the effects of FDI on economic growth as well as the effects of FDI and economic growth on poverty incidence of each surveyed province. To evaluate these effects, this paper will adopt two stage econometric methods to capture the relationship between FDI, growth, and poverty reduction. Based on the literature review, the determinants chosen are: FDI inflows, private investment, public investment, government spending, GDP, GDP growth rate, and employment using province level data. This paper does not use variables such as average years of schooling, primary enrolment rate which are said to measure the impact of human capital on growth as well as the reduction of poverty. The absence of human capital indexes are due to the difficulty in obtaining the data which is rarely available at the province level in Vietnam. Thus, this paper focuses on the physical impact of investment on growth as well as on the reduction of poverty.

According to the literature review, the impact of FDI on poverty reduction has two effects. The indirect effect is through increasing economic growth and subsequently, the reduction of poverty, and the direct effect is through FDI's direct effects on poverty.

The model used to test the impact of FDI on economic growth comes from the Cobb-Douglas production function. Both explained and explanatory variables except

dummies variables for examining the impacts of cities and after the Asia crisis are in logarithm form.

The initial econometric model to estimate the growth from FDI is:

Growth = f(FDI, Conditional set);

$Y = f(K, L) = AK^{\beta_1}L^{\beta_2}g(\text{FDI})$;

Or: $f(K, L) = AK^{\beta_1}L^{\beta_2}K_{\text{FDI}}^{\beta_3}$.

The production function will be:

$\ln \text{GDP} = \ln A + \beta_1 \ln(K) + \beta_2 \ln(L) + \beta_3 \ln(K_{\text{FDI}})$,

where $\ln(\text{GDP})$ stands for the change in GDP, $\ln(K)$, $\ln(L)$ and $\ln(K_{\text{FDI}})$, and $\ln A$ stand for the change of gross domestic investment, change of human capital and change of FDI inflows and a change in productivity respectively. Due to the limitation of data available, this paper will not estimate the effect of productivity. By adding the stochastic error term to the equation above, we have the growth accounting formulation. From the equation, it could allow us to test regressions estimating the GDP growth elasticity with different forms of capital.

Thus, the growth equation used in this paper is:

$$\ln(\text{GDP}_{it}) = \alpha_{it} + \beta_1 \ln(\text{FDI}_{it}) + \beta_2 \ln(\text{GDI}_{it}) + \beta_3 \ln(\text{Pop}_{it}) + \beta_4 D_1 + \beta_5 D_2 + u_{it} \quad (1).$$

However, this paper will use population in each province for the growth equation instead of using labor force in the province due to the lack of the availability of data on labor force. The paper assumes that the growth rate of labor force is similar to the growth rate of the population. Thus, the population in each province can be used as the proxy for labor force in that province.

Corresponding to my literature review and hypotheses, I expect β_1 , β_2 , and β_3 to be positive and statistically significant.

There could be a problem with causation. Blomstrom et al. (1996) find a positive causation derives from economic growth to the investment ratio. Thus, causation could run from growth to investment, which in this case is FDI. However, the literature review supports the idea that regarding FDI in most situations, causation runs from investment to growth. To be consistent, I also tested the causality between the FDI and growth and found the direction from growth to FDI is not significant.

The second model is adopted to test the effects of economic growth on the reduction of poverty. Furthermore, the ratio of FDI to GDP is used to capture the direct effect of FDI on poverty reduction in the model.

$$POVT = f(GDPGRTH, FDI/GDP, GOVSPD, LITRT);$$

Using OLS regression we have:

$$Pov_{it} = c + \beta_1 \ln GDP_{it} + \beta_2 \ln(FDI_{it}/GDP_{it}) + \beta_3 \ln(Emp_{it}) + \beta_4 \ln(Govspd_{it}) + \beta_5 D_1 + \beta_6 D_2 + u_{it} \quad (2);$$

where Povit stands for poverty incidence of people living under the poverty line in each province in time t, GDPcapt stands for GDP per capita of each province, FDI_{it}/GDP_{it} stands for the proportion of FDI to GDP in the province in time t, Emp and Govspd stand for employment and government spending respectively in each province at time t.

Furthermore, the variables in the equation consisting of GDP, FDI, and government spending and gross domestic investment are measured in billions of Vietnamese Dong. To capture the real change in economic growth, the real value of the currency will be used.

In addition, two dummy variables used in the growth model are the dummy for city and dummy for the period from 1998 to 2002. The city dummy tests whether the difference between cities and provinces exists or not in the growth model. Cities used in this paper are large cities which are directly under control by the central government. It is considered equivalent with the province level in Vietnam. A dummy variable for the period after the Asian crisis is introduced in the regression due to the largely negative impact of the crisis on the inflows of FDI, and growth rate, and possible the reduction of poverty. Thus, the after crisis dummy is used to test whether the growth of the province is affected by the Asian crisis which is considered the main factor of the decline in growth and FDI inflows.

To capture the impact of employment opportunity, the paper uses the percentage of people in the labor force employed in each province in year t . It is expected to describe the employment opportunity generated from economic growth and FDI inflows. The coefficient of employment is expected to be negative and statistically significant based on the literature review which indicates that the employment reduced the poverty in the provinces. Moreover, because some surveyed provinces are highly engaged in agriculture activities, the employment rate in these provinces could be considered the percentage of people involved with agriculture activities and non-agriculture activities. However, the employment rate in the large cities is collected from the Employment Department in the cities. Although there is little difference in the data sources of employment, it is a relatively good measure of the employment.

To understand how the FDI contributes to the reduction of poverty at the province level, it is necessary to recognize the characteristic of the number of people living under

the poverty line in the provinces. Firstly, the poverty line is based on the country standard. It could be different than the United Nations standard which is defined as the number of people who are living on less than US\$ 1 a day. The country poverty standard is stated in the host currency and it could be revised depending on government policy. However, due to the living standard difference between rural and urban areas, the poverty line could fluctuate depending on the location.

4. Results and Discussion

Table 1 shows the regression results of equation (1), which are tested with and without the dummy variables. The test is in logarithm form to test the elasticity of the explanatory variables to the dependent variable. The combined impact of gross domestic product per capita and the inflows of FDI, which is in ratio form respectively to GDP, are estimated in equation (2) shown in table 2. The inflows of FDI indicators have positive and highly significant effects in both equations as expected and supported by the literature review. The coefficients of the inflows of FDI in both the growth equation and the poverty equation are correct with the expected sign and significant at the 1% level, which reflects the direct and indirect effects of FDI on poverty reduction. Moreover, in the growth equation, the effects of gross domestic investment, and population are all highly statistically significant. However, the dummies variables, which capture the effects of cities and the period after the Asian crisis, are not found to be significant. In addition, the coefficients of growth in GDP per capita, and employment, and government spending in the poverty equation are highly statistically significant. The adjusted R-sq in both equation (1) and (2) are very high, 76% and 75% respectively. Considering the

magnitude and the significance of each variable in table 1 and table 2, the results can be discussed as follows;

The partial regression coefficient of inflows of FDI in each province is positive and statistically significant at the 1% level. It means holding other variables constant, a one percentage increase in the inflows of FDI in each province increases the GDP of each province by 0.105 percent. This result supports the first hypothesis, which states the positive correlation between the inflows of FDI and economic growth. Furthermore, its positive sign shows that a province with a large inflow of FDI tends to grow faster. This result is also consistent with the finding of Blomstrom et al. (1996), and Balasubramanyam et al. (1996) that the inflow of FDI has a statistically significant effects on the growth. According to the literature review, the economic growth is stimulated by the inflows of FDI through the channel of investment, and diffusion of technology, and increase in government revenue, and increases the employment opportunity. This result is also consistent with the finding of Blomstrom et al. (1996), and Balasubramanyam et al. (1996) that the inflows of FDI have a statistically significant effect on the growth.

The partial regression coefficient of gross domestic investment is positive and statistically significant at the 1% level. Holding other variables constant, a one percentage increase in the inflows of FDI in each province increases the GDP of each province by 0.443 percent. It is interesting to note that the effect of gross domestic investment is larger than the effect of FDI in the provinces. The different results can be explained by the nature of the source of investment. This can be due to the nature of gross domestic investment, which is mostly from the saving of people, and FDI which consists of the

financial and physical capital resources, which come from overseas. This result is quite similar with the findings of Borenzstein et al. (1998) who found the difficult impacts of different sources of physical capital on the economic growth.

The partial coefficient of population, which is used as a proxy for the growth of the labor force, is also positive and statistically significant at the 1% level. Holding other variables constant, a one percentage increase in the total population of each province tends to increase growth by 0.56 percentages. Its positive sign shows that the labor force expansion in a province can largely improve the economic growth of a province.

The dummy variables for cities and the period after the Asian crisis are not statistically significant. This result can be explained by the fact that during the Asian crisis, the Vietnamese economy was integrated partly in the global economy especially in the financial market. Thus, the impact of the crisis is not significant to the Vietnamese economy as well as provinces in Vietnam in particular. Furthermore, the difference in growth between the large cities and provinces is not significant in the model. This can be because of the wide spread of economic activities throughout the country.

In the poverty equation, the partial coefficient of gross domestic product per capita is negatively statistically significant at the 5% level. This result is consistent with the hypothesis that the growth of an economy reduces the number of poor people in a province. It shows that holding other variables constant, the percentage of people living below the poverty line in a province will decrease by 0.0167% when GDP per capita of the province increases 1%. This result can be explained by Dollar and Kraay's (2000) finding that growth tends to increase the incomes of the poor proportionately with the overall growth.

The direct effects of FDI on poverty reduction through the partial coefficient of the ratio of the inflows of FDI to the GDP of the province are negative and statistically significant at the 1% level. This result is consistent with the hypothesis that FDI has positively indirect impact on the reduction of poverty in a province. Holding other variables constant, a one percentage increases in the ratio of FDI to GDP in a province will decrease by 0.0516% the number of people living below the poverty line. It is interesting to note that the impact of FDI is even larger than the impact of growth on poverty reduction. This is possible due to the nature of the inflows of FDI, which usually flows into areas having good infrastructure, labor, and availability of market. Thus, with the availability of a good economic environment, the impact of FDI largely reduces the poverty in the surveyed provinces.

The effect of the employment in a province is negative and significant at the 5% level. The percentage of people living under the poverty line will reduce by 1.32 percent when the employment rate in a province increases by one percent, holding other variables constant. This is consistent with some studies which show that increases in employment opportunity reduce poverty.

Government spending has strong positive effects on poverty reduction from the results of the regression. Increasing government spending by one percent tends to reduce by 0.0188 percent the number of people living under the poverty line in a province at the 1% level of significance, holding other variables constant. This strong effect is possible because government spending focuses largely on investment in infrastructure as well as poverty alleviation programs. This can promote economic growth and poverty reduction simultaneously.

The dummy variable for the large cities is negative and insignificant. The negative sign of the dummy variable is unexpected and shows that if other variables grow at the same rate, the poverty reduction in provinces is faster than that in the cities. This could be due to the lower level of people living below the poverty line in the cities than in the provinces. Thus, the poverty reduction is slower in the cities than in the provinces. However, the coefficient of the dummy is not significant so we can consider that there is no difference between cities and provinces.

The second dummy variable for the period after the Asian crisis is positive and significant at the 1% level. Holding other variables constant, the period after the Asian crisis increases by 4.48% the percentage of people living below the poverty line. This is consistent with the literature review, which indicates that the crisis has a negative impact on poverty reduction. This will possibly slow down the poverty reduction process in Vietnam due to the decrease in growth rate, decline in investment, and reduction in employment.

The R-square and adjusted R-square in both regressions are relatively high. Thus, it could capture and explain largely the change in the explanatory variables affect on the dependent variables. Additionally, the R-square and adjusted R-square can be improved if the model can capture the impact of human capital in growth and poverty reduction.

5. Conclusion and Policy Recommendations

The study provides empirical evidence on the impact of FDI in both direct and indirect ways on the reduction of poverty in surveyed provinces and cities in Vietnam from the period from 1993 to 2002. Panel data analysis is used in the form of two

regressions, which is represented in the growth model and poverty model in the paper, and the findings of the regressions are discussed. The major findings derived from the study are:

- (a) The inflows of FDI in a province are found to have a significant and positive effect on the economic growth.
- (b) The economic growth at the province level is found to have a positive and significant impact on the reduction of poverty.
- (c) The inflows of FDI have a directly and strongly positive and significant impact on the poverty reduction in a province. The evidence is consistent with the assumption of the direct and indirect effects of FDI on poverty reduction.

The above findings of the research highlight the importance of the inflows of FDI to the reduction of poverty at the province level in Vietnam. Based on the finding of the positive and significant impacts of inflows of FDI on poverty reduction in the paper, the government policies should promote and encourage FDI to the accomplishment of the Millennium Goals in Vietnam in 2015. To promote economic growth and poverty reduction, there are some possible policies which the government should follow.

First, due the significant and positive impact of FDI and employment on poverty reduction especially in the provinces, it reflects the fact that labor-intensive industries can reduce poverty rapidly. Moreover, Vietnam, like other developing countries, has a competitive advantage in labor-intensive production. Thus, the government should encourage more FDI inflows in labor-intensive industries. The policies should include giving tax incentive, training courses for people especially at the province level where

people are not highly educated. However, the paper does not analyze the impact of human capital as well as skilled and unskilled workers on the reduction of poverty. Thus it will be hazardous to draw a policy based on the improvement of human capital to promote the inflows of FDI. But, the government should have a policy to support the improvement of human capital because it is hoped to enhance the country's competitiveness especially in global economic integration.

Second, parts of the revenues from FDI, which are collected through tax revenue, rental fees, export and import activities should be used to promote further economic activities, safety nets as well as investment in infrastructure. These are believed to have significant and positive effects on the reduction of poverty. Furthermore, with the participation of foreign companies in social welfare, this could reduce the burden of the government budget to build the safety nets as well as improve other social welfare.

Furthermore, government spending has a large impact on poverty. Although the paper does not analyze the effects of government spending on poverty alleviation programs alone, the positive effects of government spending, as a whole are significant. Additionally this paper alone could not analyze the efficiency of government spending so it is difficult to draw a timeline as well as specific goals in the paper. To enhance the effects, the government should spend more on poverty alleviation program as well as infrastructure because it has a direct and significant impact on poverty.

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