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ANALYSIS OF FOREIGN DIRECT INVESTMENT (FDI) IMPACT ON POVERTY IN INDONESIA 2010 UNTIL 2014

Fathur Rochman[1] *Widya Sylviana*[2]

[1,2]Development Economics Department, Faculty of Economy and Business, Universitas Airlangga. Jl. Airlangga No.4, Airlangga, Gubeng, Surabaya, East Java 60286

*Correspondence Author : [2]widya-s@feb.unair.ac.id

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ABSTRACT

Foreign Direct Investment (FDI) is one of the important factors that can improve a country's economy, both in increasing economic growth, opening new jobs and reducing poverty. This study aims to analyze the impact of FDI on provincial poverty levels in Indonesia in 2010 to 2014. The study used quantitative research methods with a regression equation model used in research that is panel data regression method. The panel regression model used is the Fixed Effect Model (FEM) with the Generalized Least Square (GLS) healing method. The method used in this study is the econometric approach. The study result indicates economic growth, FDI, number of labor force, and government expenditure negatively and significantly affects poverty levels in Indonesia. The impact of having a Foreign Direct Investment (FDI) can reduce the provincial poverty rate in Indonesia from 2010 to 2014.

INTRODUCTION

Economic growth is considered as one of the indicators of a country's economic progress [1]. Economic development in Indonesia is currently faced with the problem of poverty. The problem of poverty can be measured in several ways, one of which uses 14 indicators that used by the Indonesian government [2]. In general, developing countries such as Indonesia, the problem of low income with the problem of poverty is the main problem in economic development.

Poverty which is currently popular as a study in the context of development is poverty which is often found in developing countries and third countries [3]. The

society poverty problem in these countries are not just a form of incapability income, but have expanded in the form of social and political powerlessness. Poverty is considered not just an economic incapability, but has expanded to social and political aspects.
The poor people are those who have an average monthly per capita expenditure below the poverty line. The Poverty Line (GK) is the sum of the Food Poverty Line (GKM) and Non-Food Poverty Line (GKNM) [4]. The development of provincial poverty levels in Indonesia on 2010 to 2014 in each province is different [5]. Several factors which can affect the high and low poverty levels are economic growth, FDI, the number of labor force, and government expenditure. The *trickle-down effect* economic growth theory briefly explains that increasing economic growth can be evenly distributed [6,7].

Growth with greater benefits must be enjoyed by the poor people [8]. Thus, the entry of FDI into a country other than to increase economic growth, it is expected to be able to provide a *domino effect* to the reduction of poverty in recipient countries of FDI (Egger, 2001). *Foreign Direct Investment* (FDI) is an international capital flow in which companies from a country establish or expand their company in another country [9]. FDI flows funds to the developing countries through 4 types of foreign investment, namely FDI in infrastructure; FDI in manufacturing and assembly; and FDI in the country's economic services [10]. FDI contributes positively to the country's economic growth and has been used by several countries in Latin America and Asia [11].

Besides increasing economic growth, foreign investment can also affect other economic sectors, such as opening new jobs, transferring technology, and decreasing the level of poverty in FDI recipient countries [12]. Economic growth is a quantitative measure that describes the development of an economy in a particular year compared with the prevoius year [13]. This study aims to determine the impact analysis of *Foreign Direct Investment* (FDI) to the poverty in Indonesia.

LITERATURE REVIEW

Theory of Poverty

Sharp and roper poverty theory identifies three causes of poverty and is viewed from an economic side. First, micro-poverty arises because of inequality in the ownership of resources. Second, poverty arises from the differences in the quality of human resources. Third, poverty arises as a result of differences in capital access. The three causes of poverty lead to the theory of the vicious circle of poverty (*vicious circle of poverty),* namely the lack of capital causes low productivity [14].

Theory of FDI (Foreign Direct Investment)

Neo-Classical Economic Theory

FDI contributes positively to the growth of the *host country* economy. Foreign investment may affect other economic sectors, such as opening new jobs, transferring technology, and reducing poverty in the recipient country of FDI [12].

Dependency Theory

This theory suggests that FDI does not have any impact on the economy of the *host country*.

Middle Path Theory

FDI has positive aspects and negative aspects of the *host country*, because of that, *the host country* must develop a fair regulatory policy.

Government Intervention Theory

This theory sees the importance of economic policy steps including investment, the role of the government is believed to be able to intervene in the market and provide protection to local industries, the society interests, domestic entrepreneurs, and environmental protection.

Hypothesis and Research Model

The hypothesis which obtained in this study is:
a. Economic growth variable, FDI that enters, the labor force, and government expenditure simultaneously have a significant effect on the provincial poverty level in Indonesia in the study period.
b. Economic growth variable, FDI that enters, the labor force, and government expenditure partially have a negative and significant effect on the provincial poverty level in Indonesia in the study period.
Regression models to analyze the effect of economic growth, FDI, labor force, and expenditure on provincial poverty levels.

METHOD

Types of research and variables

This study used a quantitative approach to determine the relationship between one variable and another variable which is a combination of economic theory and statistical mathematical models [15]. The regression equation model used in the study is panel data regression method. Like general economic study, this method uses two variables, the dependent variable and the independent variable [16]. The dependent variable used is economic growth and poverty, while the independent variables used in this study are thought to affect the

dependent variable, namely the number of FDI that enter, domestic investment, and population growth. The next independent variable used is economic growth, the number of FDI that enter, the number of the Labor Force, and local government expenditure.

Procedure for Collecting Data

The first thing to do is doing a literature study to get the theories and appropriate reference material from various textbooks, research journals, and other sources to be able to explain the problems that exist in this study. After that, the data is collected namely secondary data to be used in this study. All the data used in this study were obtained from Badan Pusat Statistik (BPS). All the data is collected, then tabulated into a Microsoft Excel program and then analyzed using STATA 13 software.

Panel Data Method Analysis Techniques

Panel data (*pooled data*) or also called longitudinal data is a combination of *cross section* data and *time series* data [15]. *Cross section data* is data collected at a time against many individuals, whereas *time series data* is data collected from time to time to an individual.

a. Pooled Least Square Model *(Common Effect)*

This method of approach does not pay attention to individual dimensions or time. It is assumed that the behavior of data among regions is the same in various periods of time [17].

b. Fixed Effect Approach Model *(Fixed Effect)*

The approach of this model uses puppet variables known as *fixed effect models* or *Least Square Dummy Variables* or also called *Covariance Models*. In the *fixed effect* method, estimation can be done without weighting (*no weighted*) or *Least Square Dummy Variable* (LSDV) and by weighting (*cross section weight)* or *General Least Square* (GLS) [15].

c. Random Effect Approach Model *(Random Effect)*

The third approach to panel data model is a random effects model (*random effect)*. In the *fixed effect* model, inserting *dummy* is aims to represent ignorance about the actual model [17].

Statistic test

Statistical tests conducted in the study used 3 types of testing. F-statistic test (simultaneous) can be used to see the probability value (*p-value).* T-statistic test (partial) is used to see the effect of each independent variable on the dependent variable. The function of the coefficient of determination (R^2) is used to determine whether the variation of independent variables in the estimation equation can explain well the dependent variable.

RESULT

In the FEM model, the four independent variables have a negative and significant effect on the poverty level. In the REM model, lnFDI and lnPP variables have a negative and significant relationship, while lnGROWTH has negative effect not significant and lnAK variables have a positive effect and not significant on the provincial poverty level in Indonesia.

Panel Data Regression Testing Results

There are three estimation models used in the results of data processing with panel data regression. The three estimation models are *Pooled Least Square* (PLS), *Fixed Effect Model* (FEM), *and Random Effect Model* (REM). The dependent variable of the study is the poverty level and the independent variable is economic growth which is represented by lnGROWTH variable, FDI that enter represented by lnFDI variable, the number of labor force represented by lnAK variables, and government expenditure represented by the lnPP variable.

Table 1. Results of Panel Data Regression with Three Estimation Models.

Variable		**Estimation Model**		
		PLS	**FEM**	**REM**
InGROWTH	Koefisien	-0,060	-0159	-0,101
	Std. Error	0,079	0,063	0,057
	t-statistik	-0,75	-2,51	-1,75
	Prob	0,14	0,013	0,080
InFDI	Koefisien	-0,138	-0,020	-0,024
	Std. Error	0,024	0,006	0,006
	t-statistik	-,561	-,320	-3,79
	Prob	0,000	0,002	0,000
InAK	Koefisien	0,055	-0,420	0,039
	Std. Error	0,012	0,173	0,025
	t-statistik	4,54	-2,46	1,55
	Prob	0,000	0,015	0,121
InPP	Koefisien	0,196	-0,110	-0115
	Std. Error	0,092	0,036	0,035
	t-statistik	2,12	-3,03	-3,29
	Prob	0,036	0,003	0,001
Konstanta	Koefisien	2,288	13,744	9,480
	Std. Error	1,175	1,730	1,161
	t-statistik	1,95	7,94	8,16
	Prob	0,003	0,000	0,000
A		5%		
R-Square		0,3527	0,6295	0,178
F-Stat		21,79	54,38	198,64
Prob. (F-Stat)		0,000	0,000	0,000

Table 1 shows the regression results on three estimation models at the α 5 percent level. In the PLS model, lnFDI and lnGROWTH variables showed a relationship that negative and significant effect on the provincial poverty level while variable lnTK and lnPP have a positive relationship with a significant effect on the provincial poverty level in Indonesia.

In the FEM model, the four independent variables have a negative and significant effect on the poverty level. In the REM model, lnFDI and lnPP variables have a negative and significant relationship, while lnGROWTH negative effect is not significant and lnAK variables have a positive effect and not significant on the provincial poverty level in Indonesia.

The Coefficient of Determination (R^2)

The coefficient of determination (R^2) shows the ability of all the independent variables in explaining the variation of the changes dependent variable simultaneously. The estimation results of the FEM model in Table 4.2 obtain R^2 of 0.629. The estimation results show that the independent variables in this study can explain the dependent variable of 62.9 percent, while the remaining 37.1 percent is explained by other variables outside the model. In regression analysis, the value of R^2 indicates how big the influence of the explanatory variables on the dependent variables and statistical significance. The higher the R^2 value, the better the regression model to be used as an analysis model.

Proof of Hypothesis

The results of the analysis using the panel data regression method, the proof of the hypothesis obtained is as follows:

a. The first hypothesis which states that the of economic growth variables, FDI that enters, the labor force, and government expenditure simultaneously has a significant effect on the poverty level of the Indonesian province in the study period received. Based on regression estimation results, economic growth variables, FDI that enter, the number of labor force and government expenditure simultaneously and significantly influence the provincial poverty level.

b. The second hypothesis states that the economic growth variables, FDI that enter, the number of labor force, and government expenditure partially have a negative and significant effect on the provincial poverty level in Indonesia in the study period received. Based on the regression estimation results, the economic growth variables, FDI that enter, the number of labor force, and government expenditure partially have a negative and significant effect on the provincial poverty level.

DISCUSSION

The estimation model chosen for the poverty level model is FEM. This estimation model indicates the existence of heteroscedasticity and

autocorrelation, Then, GLS regression is performed for healing and produces new coefficients in the regression results.

The Effect of Economic Growth on Poverty Levels in 33 Provinces in Indonesia

The estimation results show the truth of the *Trickle Down Effect* theory. According to the *Trickle Down Effect* theory , economic growth can have a positive impact on poverty reduction when economic growth occurs in favor of the poor people *(pro-poor growth / PPG)* [6,18,19]. The effect of economic growth on reducing poverty is an indirect effect by the vertical flow from the rich to the poor people.

Economic growth and poverty have a very strong correlation [20,21]. This is because in the early stages of the development process the poverty level tends to increase and as it approaches the final stage of development the number of poor people gradually decreases. The impact of economic growth on poverty is seen as an indirect impact of FDI entering poverty [22–24]. This is because the FDI that enter influences first on the economic growth, before the economic growth will affect the level of poverty.

The Influence of FDI Enter on Poverty Levels in 33 Provinces in Indonesia

In accordance with the results of previous studies which concluded that FDI entered in a country has a negative and significant impact on poverty levels in FDI recipient countries [24–27]. That means the higher the FDI enter will have an impact on the decline in poverty levels. These estimation results also prove the truth of neo-classical economic theory. Neo-classical economic theory explains that FDI contributes positively to recipient countries of FDI. The entry of foreign capital in FDI recipient countries will encourage domestic capital for various businesses so as to encourage economic growth and impact on decreasing poverty [12]. FDI entering the *host country* will improve infrastructure and the availability of jobs so that it has a significant impact on reducing [24]. From the estimation results it can be seen that the indirect impact of FDI entering poverty through economic growth is greater than the direct impact of FDI on poverty.

The Effect of the Labor Force on Poverty Levels in 33 Provinces in Indonesia

The study obtained the same results as previous studies that increasing the labor force will reduce poverty [28]. The estimation results also prove the truth of the labor force theory stated by Esther Boserup. This theory states that the increasing number of labor force will bring an innovation to increase the productivity of *output*. The increasing of the *output* has a positive effect on increasing the income of workers so that workers can avoid poverty [29]. The numbers of labor force will have a positive impact on poverty

reduction [30]. The greater number of the labor force will increase the number of productive workers who can increase economic activity so that it can increasing economic growth and impact on reducing poverty levels

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The Effect of Government Expenditures on Poverty Levels in 33 Provinces in Indonesia

The results of this study are in accordance with previous studies which concluded that government expenditure has a negative and significant effect on poverty levels [31]. That means if government expenditures increases, so it will have an impact on reducing poverty. The estimated result shows that government expenditures can reduce poverty proves the truth of the government expenditure theory stated by Rostow and Musgrave. This theory argues that government spending in the initial stages of providing facilities and infrastructure such as education, health, transportation and so on is considered to be able to reduce poverty. Thus it can be said that the government plays a very important role in reducing poverty.

CONCLUSION

The variables of economic growth, *Foreign Direct Investment* (FDI) that enter, labor force, and government expenditure simultaneously have a significant effect on provincial poverty in Indonesia. This variable partially has a negative and significant effect on the level of provincial poverty in Indonesia in 2010 to 2014.

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