

Poverty and Agriculture Development in Indonesia: Unfinishing Agenda

Zulgani^{a*}, Syaparuddin^b, Armandelis^c, Amri Amir^d

^{a,b,c,d}*Economics and Business Faculty, Jambi University-Indonesia*

^a*Email: zulganzulgani18@gmail.com*

Abstract

This study aims to see the effect of the variable rate of economic growth (GRDP), farmer terms of trade (FTT), human development index (HDI), and regional minimum wage (RMW) on the number of poor people in Indonesia during the period 2010-2016. The analysis was carried out using a panel data regression model. The results showed that GRDP (the rate of economic growth) had a negative and significant effect on poverty, while the HDI variable had a significant negative effect. For the FTT and RMW variables both have positive and significant effects on poverty. There needs to be a fundamental change in realizing a more sustainable, quality, and equitable economic growth and formulating a state budget that is more pro-poverty reduction, agricultural development and rural areas

Keywords: poverty; farmer term of trade; human development index; regional minimum wage; rate of economic growth.

1. Introduction

One of the most important development agendas in the history of the development of modern Indonesian economic is poverty alleviation. The problem of poverty in Indonesia relates to other development problems such as environmental problems, quality of human resources, scarcity of development financing sources, limited investment, powerlessness of farmers, low contribution of agricultural value added to GDP, fluctuations in prices of primary agricultural products to other problems such as political stability economic and social. Such is the complexity of the poverty problem that the poverty alleviation agenda from time to time has not been adequately resolved.

* Corresponding author.

Today the number of poor Indonesians up to September 2017 is 26.58 million people from. Of this number 16.31 million people or around 61.36 percent live in rural areas with basic livelihoods working in the agricultural sector [1]. This fact is part of a global picture of poverty [2] that most of the population in developing countries live in rural areas and work in the agricultural sector for at least the last 30 years. The quality of life of farmers is quite alarming because of various things such as the limitation of even lack of access to land resources and financial resources, the relatively low quality of farmer resources, the purchasing power of farmers which is quite alarming as a result of fluctuations in farmers' exchange rates, inflation rates and more fundamentally the ability of farmers to maintain a bargaining position in terms of pricing the primary products that they strive for both within the domestic market and international commodity markets. Farmer Term of Trade, although in June 2018 it increased by 0.05 percent to 102.04 when compared to 2017, which was 101.99. Meanwhile rural inflation in the same period was 0.33 percent, higher than the increase in Farmer Term of Trade, this condition was one of the causes of the decline in the purchasing power of farmers [3].

Besides the above problems, the increase in the rate of economic growth from 5.03 percent in 2016 to 5.07 percent in 2017 [4], also has not given too much guarantee to improve the quality of life of farmers, the difficulty of creating quality economic growth or inclusive economic growth causes a burden on the lives of farmers increasingly delivering farmers to the gates of poverty. Although there are serious efforts to overcome poverty problems, one of its successes is measured by the increase in the Human Development Index (HDI) from 70.18 in 2016 to 70.81 in 2017 or an increase of 0.63 points, but fundamental issues in economic development and agricultural development have not given sufficient meaning. This article seeks to examine the effects of economic growth rates, the Human Development Index and Farmer terms of trade on poverty in Indonesia in the perspective of the unresolved development agenda.

2. Literature Review

One of the biggest development agendas in the past few periods is the importance of increasing the role of the agricultural sector and increasing income (farmers) in rural areas. This agenda is stated as the biggest political agenda in order to reduce the number of poor people in rural areas [5]. The agricultural sector is basically a very important sector in relation to poverty alleviation, especially in rural areas, but even so the success of reducing the number of poor people and alleviating poverty in rural areas is not too significant.

This statement was confirmed again by [6] who argued that the agricultural sector made a very important contribution to the industrial process and changes in economic structure and even the advancements encountered in the era of globalization, such as the rapid innovation of institutions and technologies, the chain of marketing systems that are developing today are initially driven by the role of the agricultural sector. Iradian [7] asserts that the development strategy and growth of the agricultural sector play a very important role in reducing the number of poor people and in some Asian countries, the agricultural sector is precisely the main support of the transformation process of economic structure.

This is confirmed by [8] which states that the agricultural sector plays an important role in alleviating poverty. Meanwhile [9] also emphasized the role of the agricultural sector in economic development, especially in

developing countries about increasing the added value of the agricultural sector including its performance in the last 15 years in making important contributions to the economic growth of African countries, at least at least for the period 2003-2010.

He further explained that the role of the agricultural sector is always associated with the scope of development theories and strategies that have been present in the nuances of economic development in developing countries. There are several approaches to development theory, namely: 1. Growth based on industry (led-growth industry) that was popular in the 1950s to 1970s, 2. Economic growth strategies oriented to the development of the agricultural sector (agriculture-led growth and development) which was popular in the 1960s and 1970s, 3. Development strategies oriented to rural development and basic needs fulfillment (rural development and basic needs) that were once used as a reference for establishing development policies in the 70s, 4 Development strategies that are oriented towards structural change and economic growth (Structural adjustment-led growth) have been popular in the 1980s and 1990s. 5. Poverty reduction strategies (Poverty reduction strategies) which began to be implemented in the 1990-2010 era. Then 6. Development strategies based on agriculture and poverty reduction (Agricultural led-growth and poverty reduction).

In connection with that to improve the economic development performance of Africa, the approach that needs to be taken is to restructure economic development policies by focusing on several fundamental aspects such as; 1. Modernization of the informal sector and the service sector and agribusiness-based agricultural development. 2. Re-updating the industrialization strategy, 3. Encouraging productivity and growth in the agricultural sector so that the sector is able to achieve competitiveness and succeed in building a pillar of economic independence in the long term [10].

Adelman [11] states that poverty is basically very responsive to the shift in sectoral composition and economic growth compared to income. Reference [12] who conducted a study on the role of the agricultural sector in relation to poverty reduction in India recommends that in order to alleviate the potential in India today, the government must reformulate various economic development policies made to have connectivity with good poverty alleviation programs. in the short and long term. These recommendations include: 1. Improving the productivity of the agricultural sector (Improving Agricultural Poverty). 2. Creating linkages between cities and villages 3. Promoting rural infrastructure development. 4. Focus on regional development strategies. 5. Creating Social Protection. 6. Focus on developing the Human Development Index

For almost the last half century, the role of the agricultural sector in the process of economic growth and development has undergone a very significant change. The flow of thought is as follows: the development of the two-sector economic model starts from a theoretical understanding where in the process of economic development economic growth will occur as a result of reallocation of factors of production from the agricultural sector characterized by low levels of productivity (low productivity) to the modern high-level industrial sector productivity and has a significant increase in return. As a traditional sector the agricultural sector only acts as a contributor to labor and food for the needs of the industrialization process in urban areas, especially for the industrial sector [13].

This condition was shown in real time at the time of the implementation of the Green Revolution policy in developing countries in the early 1970s. Meanwhile, Adelman [14] argues that there is a possibility that the agricultural sector is transforming widely in the process of economic development into a potential modern sector to support economic development. Other approaches such as those proposed by Hirschman [15] and Johnston & Reference [16], among others, state the importance of linkages between the agricultural sector and the non-agricultural sector in promoting economic growth.

Reference [17] indicates that the decline in poverty levels in Indonesia has been slow before and after the crisis, economic growth has not significantly affected poverty levels, this is shown by poverty elasticity figures. During the two periods (before and after the Asian financial crisis, the service sector was a sector that played a major role in reducing poverty in Indonesia. After the Asian financial crisis, the industrial sector despite being the second largest contributor to GDP, its role in poverty reduction is less relevant. agriculture its role in poverty reduction only occurs in rural areas.

Other findings as stated by [18] state that economic growth cannot be relied upon to reduce poverty, although theoretically economic growth plays an important role in reducing poverty. The results of the study note that economic growth as measured by GDP does not play an important role in improving welfare. Based on the analysis of research in the short term there is a relationship between the level of inflation and poverty. This is in accordance with the theoretical aspects where inflation will reduce the purchasing power of the people.

Other researchers sometimes say the same thing, for example Iradian [19] who conducted research in 82 countries stated that per capita income had a relatively small influence on poverty, without any improvement in income distribution. In Indonesia, per capita income and economic growth are more enjoyed by minority groups. The results of this study are different from the research conducted by [20] in the United States which states that increasing per capita income will affect the number of poor people.

Meanwhile, Rifa'i [21] through the results of his research in South Sumatra, where the results of his research are in line with Iradian which concludes that the increase in per capita income is only enjoyed by the smallest portion of the population, so that the majority of the population still remain in poor conditions. Aprilani [22] also study stated that economic growth had no effect on poverty, while the unemployment rate and education level had an effect on poverty.

The results of research conducted by [23] concluded that the variables of the Human Development Index, Regional Minimum Wage, education level and unemployment have an impact on efforts to overcome poverty in Indonesia, and even emphasized that the rise and fall of HDI and education levels is very affect the level of poverty. Reference [24] in her research concluded that the factors of education and health which are part of the human development index influence the decline of poverty.

3. Method

This research is a quantitative descriptive study using secondary data which will be analyzed with a data panel regression approach that combines time series data and cross section data. The time series data includes annual

data from 2010 to 2016, while the cross section data covering 31 provinces in Indonesia consists of the Human Development Index, Poverty, Farmer Terms of Trade, and Gross Regional Domestic Product Data. The source of the data comes from the report of the Indonesian Central Statistics Agency.

The analytical tool used in this study is the analysis of panel data regression models with the following model forms [26, 27].

Theoretical models are as follows:

$$Y_{it} = \alpha + X'_{it}\beta + \mu_{it}$$

Where :

i = cross section data (showing cross data dimensions)

t = time series data (shows the time series dimension)

α = intercept coefficient (constant)

β = slope coefficient with dimension $K \times 1$ where K is the number of independent variables

Y_{it} = the dependent variable for the i -individual unit and the t -time unit

X_{it} = the independent variable for the i -individual unit and the t -time unit

μ_{it} = disturbance error

The empirical model of this study is as follows:

$$Y_{it} = \alpha_0 + X1_{it} + X2_{it} + X3_{it} + \epsilon_{it}$$

Where:

Y_{it} = the number of poor people in the i region and t -year

α_0 = constant coefficient (intercept)

$X1_{it}$ = GRDP regression coefficient in the i region and t -year regions

$X2_{it}$ = FTT regression coefficients in the i region and t -year

X_{it} = the HDI regression coefficient in the *i* region and the *t*-year

While the operational definitions of the variables used are as follows a. poverty: is the number of poor people according to the Central Statistics Agency calculated in people, b. GRDP is the amount of the value of goods and services produced in a provincial economy in the third year expressed in billions of rupiah. for a certain period, c. the human development index is the amount of HDI score recorded by Central Statistics Agency for each of the third provinces in the year *t*, and d. Farmer Term of Trade (FTT) is the farmer's exchange rate that is recorded or reported by BPS for each province of the *i* and *t* year, e. Regional minimum wages are the wages received by each monthly worker which have been calculated with the inflation rate and minimum physical needs.

4. Results and Discussion

The following will be explained by the results of data processing carried out using EViews 8. After the Chow test to determine the best model between the PLS (CEM) model and the FEM model, then to determine which model is the best between FEM and REM, the Hausman test is used. The results obtained after testing using the 2 approaches above it was decided that the best model used in this study was the Fixed Effect Model (FEM). The FEM in question is as follow

Table 1: Model FEM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.37042	1.377243	8.982016	0.0000
LOG(GRDP)	-0.174083	0.054108	-3.217323	0.0015
LOG(HDI)	-0.007783	0.016206	-0.480289	0.6316
LOG(FTT)	0.251381	0.131152	1.916719	0.0568
LOG(RMW)	0.093580	0.044224	2.116055	0.0357

Effects Specification

Cross-section fixed (dummy variables)			
R-squared	0.996575	Mean dependent var	13.08365
Adjusted R-squared	0.995935	S.D. dependent var	1.070884
S.E. of regression	0.068274	Akaike info criterion	-2.383873
Sum squared resid	0.848375	Schwarz criterion	-1.838728
Log likelihood	293.6502	Hannan-Quinn criter.	-2.163657
F-statistic	1557.591	Durbin-Watson stat	1.147084
Prob(F-statistic)	0.000000		

From the results of the processing obtained the regression of Fixed Effect Model as follows:

$$\log \text{poverty} = 12.37042 - 0.174083\text{GRDP} - 0.007783\text{HDI} +$$

$$t \text{ stat } -3.217323 \quad -0.480289$$

	prob	0.0015*)	0.6316
0.251381FTT + 0.093580 RMW			
t stat	1.916719	2.116055	
prob	0.0568***)	0.0357**)	

*) significant at $\alpha = 0.01$

***) significant at $\alpha = 0.05$

****) significant at $\alpha = 0.10$

From the results of the data processing above can be explained that with R² of 0.996575 means the ability of the independent variable to influence the dependent variable is 99.66 percent, while 0.34 percent is outside this model, while Adjusted R² is 0.9959 is the ability of independent variables to influence changes in variation the dependent variable is 99.59 percent. For partial testing of the GRDP variable, the results have a negative and significant effect, meaning that any GRDP increase or economic growth rate of 1 percent will reduce the number of poor people by 0.17 percent, while the HDI variable has a negative and insignificant effect on poverty, the results of this study are contrary to the results of research conducted by Arimah (2004) which states that the Human Development Index has a positive effect on poverty reduction. meanwhile for the FTT variable the results have a positive and significant effect, meaning that each FTT increase of 1 percent, the number of poor people will increase by 0.25 percent.

This means that the increase in FTT does not have a significant impact on reducing the number of poor people. For the Regional Minimum Wage variable (RMW), the results have a positive and significant effect, meaning that every increase in UMR is 1 percent, the number of poor people will increase by 0.09 percent. This means that the increase in RMW does not significantly affect the reduction in the number of poor people, and it seems that what is needed by the community is how they can maintain purchasing power through the real income they receive.

Table 2: Redundant Fixed Effects Tests

Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	885.968411	(30,182)	0.0000
Cross-section Chi-square	1082.981065	30	0.0000

Testing using the Chow-Test Risk Performance Test, namely:

Ho: the model follows the pool or CEM

H1: the model follows the Fixed Effect Model

The EViews output shows both F test and chi-square significant (p-value 0.0000 and 0.0000 smaller than 5%), so Ho is rejected, thus means the FEM model is better than the PLS or CEM model. After that, it is also necessary to test which is the best model between FEM and REM, for that the Hausman Test is used with the following results:

Table 3: Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	49.943234	4	0.0000

The hypothesis tested, in this case is:

Ho = random effect (individual uncorrelated effect)

H1 = fixed effect

With the test statistic $\chi^2_{hit} = (b - \beta)' \text{Var}(b - \beta)$

Where b = random effect coefficient; while β = fixed effect coefficient

The decision to reject Ho if $\chi^2_{hit} > X^2(k, \alpha)$ or p-value $< \alpha$

Where: k = number of coefficients

Based on the Hausman test, the results of p-value = 0.0000 < 0.05 so Ho is rejected, thus it can be concluded that in this study, the FEM model is better than the REM model, therefore it can be concluded for the analysis needs in this study the FEM model is used to explain the results of the study and formulate the implications of the research results.

In order to alleviate poverty in Indonesia, a combination or combination of agricultural sector development, rural development and the development of the informal sector is an absolute necessity.

That is, it is impossible for efforts to reduce poverty to run successfully when not followed by the synergy of the three components of development.

For this reason, a new paradigm in development in Indonesia is needed which will lead to the formation of inclusive economic growth buildings which are colored by guarantees for the realization of sustainable economic growth, the quality of growth and fairness (the justice of growth).)

The general characteristics of a sustainable, quality and sustainable model of economic growth must be supported by the State Budget (APBN) Model which is characterized by:

1. APBN which is pro to alleviate poverty;
2. The APBN is pro for environmental conservation and environmental development;
3. The state budget is pro for the development of the agricultural sector, the informal sector and the development of rural areas;
4. APBN which is pro-human resource development including groups of farmers and marginal groups;
5. The APBN is pro for investment and exports involving processed products from the agricultural sector and creative economy;
6. APBN which is pro for efforts to develop the competitiveness of the regional economy and the Indonesian economy based on superior commodities to secure global competitiveness;
7. APBN which is pro for the creation of employment opportunities and business opportunities through the development of agribusiness and agro-industry supported by the pillars of rural industrialization which aim to create competitive advantage;
8. APBN which is pro for the development of social, economic and institutional infrastructure and superstructure to create connectivity between zones and regions;
9. A pro-national budget to support efforts to promote equitable development and distribution of income between community groups, between sectors and between regions.
10. APBN which is pro to reduce development inequality between regions.
11. APBN which is pro against eradication of corruption, nepotism, inefficiency, debureaucratization and waste of resources both natural resources and sources of funds.

APBN posture as stated above is the basic capital needed to solve various fundamental problems of economic development including including gradually completing the poverty alleviation agenda and underdevelopment that has so far plagued the agricultural sector, the informal sector and rural areas.

In other words, this is the beginning of an effort to get out of an unfinished development agenda.

5. Conclusions and Recommendations

5.1. Conclusions

From the results of the analysis, some important conclusions can be drawn between them

1. The poverty rate in Indonesia has decreased but the decline does not seem to be in line with the role of economic fundamental factors such as economic growth rate, farmer exchange rate, Human Development Index, and Regional Minimum Wage.
2. From the results of the data processing it is seen that GRDP (economic growth rate) has a negative and significant effect on poverty, while the variable has a positive but insignificant effect. For the FTT and RMW variables both positive and significant effects on poverty this indicates a bias towards an increase in FTT and RMW where positive changes (increase) of the two variables have not touched the

decline in the number of poor people.

5.2. Recommendations

From the description above, the researcher recommends several things including:

1. It is necessary to restructure and enhance the role of farmer or FTT exchange rates and regional minimum wages or RMW accompanied by other supporting components such as the availability of basic necessities in accordance with the time dimension accompanied by adequate supply management, besides that access to productive resources is also very important
2. For the rate of economic growth, it is necessary to be associated with efforts to create and present inclusive economic growth that actually involves most of the community.

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