MDPI

Article

Does Government Expenditure Affect Regional Inclusive Growth? An Experience of Implementing Village Fund Policy in Indonesia

Ernawati Ernawati * ![ID], **Tajuddin Tajuddin and Syamsir Nur**

Department of Economics and Development Studies, Halu Oleo University, Kampus Hijau Bumi Tridharma Anduonohu, Kendari City 93232, Indonesia; tajuddin@uho.ac.id (T.T.); syamsirnur@uho.ac.id (S.N.)
* Correspondence: ernawaty@uho.ac.id

Abstract: The village fund allocation is a policy strategy of the government of Indonesia for development in rural areas. Each village has funds sourced from the State Revenue and Expenditure Budget. The uniqueness of this strategy is the community's involvement in determining the allocation expenditure of funds. Therefore, the program is carried out in line with the needs of the community. Rural areas generally rely on agriculture, which has lower productivity than other sectors, so they need support to achieve inclusive growth. This study analyzes whether the village fund allocation is a pro-poor, pro-equality, and pro-job policy. It uses secondary data from the Ministry of Finance, Statistics Indonesia, and the National Development Planning Agency from the period of 2015–2019 for 33 provinces of Indonesia. The data were analyzed using panel regression with three models: income inequality, poverty levels, and unemployment rates. Other variables supporting inclusive growth, including economic growth, infrastructure, and the expansion of public services, were examined. The results showed that government expenditure through village fund allocation encourages inclusive growth as a policy that is pro-poor and pro-job but not pro-equality. Economic growth, on the other hand, reduces income inequality but increases poverty. Economic infrastructure increases income inequality, while increasing access to public services reduces poverty levels and increases unemployment.

Keywords: economic growth; village fund; pro-poor; pro-equality; pro-job

![check for updates]

1. Introduction

Rural areas mainly produce food and raw materials with low productivity. The contribution of agriculture towards economic development has decreased and shifted to the secondary and tertiary sectors. Generally, these sectors are managed based on comparative and competitive advantages that encourage economic advancement, leaving the primary sector behind. Since agricultural communities hardly enjoy inclusive growth, the Indonesian government is implementing a policy to develop rural areas through special village fund transfers, which comprise four priority programs. These include improving the quality of human resources, developing post-harvest industries, enhancing rural-urban connectivity, and developing leading products for each village. The village fund policy aims to reduce poverty levels and improve the quality of life, welfare, and public services (Indonesian Village Minister Regulation No 11/2019). The fund allocation is determined at the village level through deliberation involving the community, known as the Village Development Plan Deliberation (*Musrembang Desa*). In this case, the community determines the direction of the fund allocation according to their needs, implying a bottom-up planning model.

A participatory bottom-up approach in policy-making encourages synergy between people's needs and government programs. Furthermore, village fund policies managed transparently, accountably, and sustainably enhance rural economic development

(Amin 2020). As a development policy based on community needs, a village fund improves the welfare of rural communities, indicated by reduced inequality and poverty and increased job opportunities (reducing unemployment).

The village fund was first implemented in 2015, with a budget of IDR 20.76 trillion, and increased to IDR 60 and 70 trillion in 2018 and 2019, respectively. This fund is different for each village because it depends on several criteria. In 2018, the fund allocation weighted 77 for the basic, 3 for the affirmation, and 20 for the formula allocations. The basic allocation is the minimum for each village, calculated by 77% of the fund divided by national villages. Moreover, affirmation allocation is given to underdeveloped and very underdeveloped villages with a high poor population. The formula allocation is determined based on the total population (JP), the number of poor people (JPM), the area (LW), and the geographic difficulty index (IKG). The IKG reflects a village's geographical difficulty based on the availability of essential services, infrastructure, transportation, and communication conditions. These four criteria have different weights: JP:JPM:LW:IKG = 10:50:15:25.

A village fund is an instrument that encourages inclusive growth. It promotes economic growth, the elimination of poverty, reduced income inequality, and expanded employment opportunities. Village funds are pro-poor, pro-equality, and pro-job policies. Previous studies have shown that village fund policies reduce poverty levels (Daforsa and Handra 2019). Every 1 percent addition to the village fund reduces poverty by 0.57% (Sari and Abdullah 2017). However, other findings have shown that the fund does not significantly reduce poverty (Azmi et al. 2020; Sihite 2021).

The previous findings seem inconsistent due to the different research locations and case studies of specific areas. The studies focused on villages, sub-districts, districts, or certain provinces and were not generalized to macro-Indonesia. Furthermore, the policies studied are limited in the relationship between village funds and welfare from poverty or pro-poor policies. Village funds as pro-equality and pro-job policies are less studied. Recent studies (Indraningsih et al. 2021) showed that a village fund encourages the increased production and income of farmers, where production facilities and the transportation of crops is more accessible through the improvement of agricultural facilities and infrastructure.

Furthermore, a study on the impact of village funds as a pro-job policy showed that they increase working hours in the agricultural and service sectors, especially in islands outside Java (Arifin et al. 2020). However, these two studies did not present the direct influence of village fund variables on income inequality and employment opportunities. Therefore, there is insufficient information to conclude whether village funds are pro-equality and pro-job policies. This study develops previous research on the influence of village funds on poverty, inequality, and unemployment. This study is expected to answer whether government expenditure on village development supports regional inclusive growth as a pro-poor, pro-equality, and pro-job policy. Moreover, this study is expected to contribute empirically in reviewing village development policy models to support inclusive growth for rural communities.

2. Literature Review

The increase in output is expected to have an inclusive impact on the population. Economic inclusion is linked to income poverty and increased employment opportunities (World Bank 2017). Several studies have examined the factors that influence inclusive growth. Economic growth is central to the trickle-down effect paradigm, which is expected to reduce poverty, income inequality, and unemployment rates. The study of twenty-eight (28) African countries in 2001–2016 is not in line with the Kuznets curve hypothesis, where economic growth in African countries has a negative relationship with income inequality, while the unemployment rate has a positive impact (Asogwa et al. 2021).

The trilemma of the growth–poverty–inequality study for the case of Sub-Saharan African, Latin American, and Caribbean countries shows that economic growth reduces poverty, while an increase in inequality is in line with an increase in poverty. There-

fore, an increase in inequality will exacerbate the impact of economic growth on poverty (Adeleye et al. 2020). Testing the growth–inequality–poverty (GIP) triangle in 16 countries with the devastating crime period of 1990–2014 using the Generalized Method of Moments (GMM) estimator panel shows a U-shaped relationship between the number of poor people and per capita income and an inverse U between income inequality and economic growth.

The impact of growth on unemployment is explained by Okun's Law, where there is a strong negative correlation between economic growth and unemployment. From 1991 to 2019, Okun's law was applied in the Algerian economy (Louail and Benarous 2021). A change in the gross domestic product (GDP) growth rate of 4% reduced the unemployment rate by 1% in Mauritius (Chuttoo 2020). However, a study conducted in Nigeria shows that only the growth rate of the merchandise sector reduces rural unemployment in the short term. In contrast, the growth rate of agriculture, oil, manufacturing, and services increased rural unemployment from 1997 to 2019 (Ezindu et al. 2021).

Other research shows that there is a negative relationship between financial development and inclusive growth. Financial developments have a direct effect on poverty reduction in low- and middle-income countries (Boukhatem 2016). In addition to reducing the poverty rate, financial inclusion reduces income inequality in developing countries (Omar and Inaba 2020; Ouechtati 2020). The results of a bivariate causality study in Eastern Indonesia show a high relationship between poverty levels, income distribution, economic growth, and financial inclusion (Erlando et al. 2020). The overall effect of financial development on poverty may be positive or negative, depending on the indirect effect the coefficient on income inequality and growth (de Haan et al. 2021). On the other hand, financial inclusion harms job opportunities. Research conducted in Nigeria from 1980 to 2018 using the ARDL estimation technique showed a positive effect of financial inclusion on women's participation in work (Sakanko 2020).

Infrastructure and government spending also impact inclusive growth. Infrastructure and government spending had a positive and significant impact on Pakistan's inclusive growth from 1994 to 2017 in the short and long term (Anand et al. 2019). Research conducted in Nigeria using a dataset of 5000-panel households shows that road infrastructure development reduces the poverty of households in the country (Aderogba and Adegboye 2019). In the case of the Latin American region, rural infrastructure development will impact at least nine sustainable development goals (SDGs), including poverty, employment, and inequality (Jimenez-Castilla et al. 2020). Apart from infrastructure investment, government spending in transfer funds for developing villages led to inclusive growth.

The Indonesian government implements the village fund program to alleviate poverty by reducing unemployment through the cash-for-work model (Mininstry of Finance 2017). The targets of cash for work are the unemployed, the underemployed, and the poor, making it labor-intensive for the local community. The cash-for-work planning stage is bottom-up planning, in line with the priority village development program that utilizes available local resources. Cash-for-work, labor-intensive activities have several forms of implementation, through the construction and rehabilitation of simple infrastructure; the optimality of unused land to increase agricultural production, plantations, livestock, and fisheries; and other productive activities that provide added value to the community by utilizing and optimizing existing local resources and being sustainable.

Several previous studies have estimated the impact of village funds on inclusive growth. Ismail et al. (2020) used the 2SLS simultaneous equation model to assess the effect of fiscal transfers on income distribution in Indonesia. Another study (Arham and Hatu 2020) was more comprehensive in using panel data regression. Variables estimated as determinants of inclusive growth are economic growth, population, education, unemployment, the human development index, agricultural productivity, industry share, irrigation infrastructure, inflation, and village funds. This study uses the dependent variable of poverty and income inequality and has not estimated the employment opportunity variable. One study estimated irrigation infrastructure as a determinant (Arham and Hatu 2020), but inclusive growth requires other economic infrastructure, such as roads, electricity, and telecommuni-

cations. This study uses economic infrastructure and access expansion (financial and basic infrastructure) variables to influence inclusive growth.

3. Methodology

Secondary data were obtained from the Indonesian Ministry of Finance, Statistics Indonesia, and the National Development Planning Agency. The data covered the period 2015–2019 because the first village fund policy was implemented in 2015. The unit of analysis is all provinces of Indonesia, except Jakarta, which does not receive village fund allocations. The estimated variables were (1) income inequality (*IE*), measured by the Gini coefficient, obtained from Statistics Indonesia; (2) the poverty rate (*P*), obtained from Statistics Indonesia; (3) the unemployment rate (*Un*), obtained from Statistics Indonesia; (4) economic growth (*g*), based on 2010 constant prices obtained from Statistics Indonesia; (5) village fund allocation (*VF*); obtained from the Indonesian Ministry of Finance; (6) economic infrastructure (*Ei*), measured by the economic infrastructure index obtained from the inclusive development data from the Indonesian National Development Planning Agency (Bappenas); and (7) the expansion of access and opportunities (*Ac*), obtained from the inclusive development data from the Indonesian National Development Planning Agency (Bappenas).

The data were analyzed using panel data regression processed through Eviews version 10. The initial panel data regression model is presented as Equation (1), where Y_{it} is the dependent variable, X_{it} is the independent variable, *i* and *t* indicate regional or province and time, and e_{it} is a cross-sectional error.

$$Y_{it} = \alpha + b_1 X_{1it} + b_2 X_{2it} + \ldots + b_n X_{nit} + e_{it} \tag{1}$$

Several models were proposed to prove the village fund policy as being pro-equality (Equation (2)), pro-poor (Equation (3)), and pro-job (Equation (4)).

$$IE_{it} = \alpha_0 + \alpha_1 g_{it} + \alpha_2 \log VF_{it} + \alpha_3 Un_{it} + \alpha_4 Ei_{it} + \alpha_5 Ac_{it} + \alpha_6 P_{it} + \mu_{1it} \tag{2}$$

$$P_{it} = \beta_0 + \beta_1 g_{it} + \beta_2 IE_{it} + \beta_3 \log VF_{it} + \beta_4 Un_{it} + \beta_5 Ei_{it} + \beta_6 Ac_{it} + \mu_{2it} \tag{3}$$

$$Un_{it} = \delta_0 + \delta_1 g_{it} + \delta_2 IE_{it} + \delta_3 \log VF_{it} + \delta_4 Ei_{it} + \delta_5 Ac_{it} + \delta_6 P_{it} + \mu_{3it} \tag{4}$$

The panel data regression test was carried out by selecting the best model that followed the assumptions of the Common Effect Model (CEM), Fixed Effect Model (FEM), or Random Effect Model (REM). The study uses a cross-sectional effect and assumes that the behavior of the data between provinces over the 2015–2019 period is the same. The validity of FEM and CEM assumptions was tested using the Chow test, while the best model between FEM and REM was selected using the Hausman test. The model was selected by analyzing the χ^2 probability from the cross-sectional data. When the probability of χ^2 is < 0.05, the method used in processing the panel data is a fixed effect. However, when the probability of χ^2 > 0.05, the best panel data model is the common effect. Furthermore, the Hausman test model was selected based on the probability of a random crosssection. A probability value of a random crosssection that is <0.05 indicates that panel data processing is a fixed effect. Conversely, a random effect that is >0.05 shows that panel data processing is a common effect. When the selected model is CEM or FEM, the classical assumption test is performed to test for multicollinearity, heteroscedasticity, and cross-sectional dependence.

4. Results

Utilization of village funds consists of two groups, namely the operational administration of the village government with a 30% share and community empowerment with a 70% share. Village government operations consist of financing village operations, operating costs for the Village Consultative Body, and operational costs for the village fund allocation team. The empowerment community program of village funds, i.e., the development of economic facilities and village infrastructure, empowerment in the fields of education

and health, community economic empowerment, village-owned enterprises (BUMDes), business groups according to the economic potential of rural communities, and financial assistance to institutions in the village (Mininstry of Finance 2017).

The achievements of the construction and rehabilitating infrastructure in 2015–2019 supporting community economic activities show a construction of 231,709 km of village roads; bridges spanning a total of 1,327,069 m; 10,480 village market units; 6312 units of boat moorings; 4859 of small farm reservoirs; and 65,626 irrigation units, with village-owned enterprises engaging in 39,226 activities (Ministry of Village n.d.).

Table 1 shows that the highest allocation of village funds by the government of Indonesia for a province during the 2015–2019 period was 12.90%, or around IDR 6.7 trillion, for Central Java in 2019. The province that received the lowest fund was the Riau Islands, with a value of 10.90%, or IDR 79.2 billion, in 2015. Moreover, the village fund allocation has increased on the provincial average, but the standard deviation did not change from 2015 to 2019. The average economic infrastructure index declined in 2019, with the Papua Province experiencing the highest limitations. Nevertheless, the gap in the availability of infrastructure between provinces was decreasing because the government increased the distribution of economic infrastructure in Indonesia. The variable of access and opportunity expansion increased in 2018 but declined in 2019. The provinces with the lowest increase in access and opportunities are Papua, Banten, and North Maluku. However, the gap in expanding access and opportunities between provinces is expected to narrow, enhancing an even distribution of business opportunities between provinces.

Table 1. Descriptive statistics.

	2015	**2016**	**2017**	**2018**	**2019**
		Income Inequality, *IE*			
Max	0.43	0.43	0.44	0.42	0.43
Min	0.28	0.29	0.28	0.27	0.26
Mean	0.36	0.36	0.36	0.35	0.35
Stdev	0.04	0.03	0.04	0.04	0.04
		Poverty, *P*			
Max	28.40	28.40	27.76	27.43	26.55
Min	4.72	4.15	4.14	3.91	3.61
Mean	11.95	11.59	11.17	10.81	10.45
Stdev	6.11	6.07	5.73	5.65	5.47
		Unemployment, *Un*			
Max	9.93	8.92	9.29	8.52	8.11
Min	1.99	1.89	1.49	1.37	1.57
Mean	5.94	4.96	5.04	4.83	4.65
Stdev	1.97	1.95	1.83	1.65	1.55
		Growth, *g*			
Max	21.76	9.94	7.67	20.56	8.83
Min	−1.20	−0.38	0.12	−4.50	−15.75
Mean	5.71	5.33	5.21	5.63	4.66
Stdev	3.98	1.78	1.56	3.38	3.86
		Village Fund, log*VF*			
Max	12.35	12.70	12.81	12.83	12.90
Min	10.90	11.25	11.36	11.35	11.42
Mean	11.64	11.99	12.10	12.10	12.16
Stdev	0.38	0.38	0.38	0.38	0.38

Table 1. *Cont.*

	2015	2016	2017	2018	2019
Economic Infrastructure, *Ei*					
Max	6.91	6.95	7.04	7.13	7.04
Min	1.76	1.89	2.08	2.37	2.19
Mean	5.54	5.73	5.83	6.02	5.89
Stdev	1.06	1.05	0.97	0.93	0.88
Expansion of access and opportunities, *Ac*					
Max	7.68	7.83	7.83	8.61	8.49
Min	3.86	4.13	4.07	4.50	4.96
Mean	5.87	6.21	6.14	6.37	6.60
Stdev	0.79	0.77	0.77	0.79	0.72

The highest poverty rate for the 2015–2019 period was 28.40%, experienced by Papua, while the lowest was 3.61% in Bali in 2016. Furthermore, the average and the standard deviation poverty rate shows a downward trend. The decreasing standard deviation implies a narrowing gap in the poverty rate between provinces, and the same direction occurs for the unemployment rate. Although there was an increase in 2017, the average unemployment rate declined in 2018 and 2019. The unemployment rate gap between provinces is narrowing. The average economic growth achieved by the provinces is more volatile. Some provinces achieved positive economic growth in 2015, while others recorded negative economic growth.

Figure 1 shows that provinces with low inclusive growth indicators are in Eastern Indonesia and include Papua, West Papua, Maluku, and East Nusa Tenggara. Low inclusive growth is related to low economic growth, limited infrastructure, and public access. Bali Province, which is the most inclusive of other provinces, has a relatively high economic growth, an advanced infrastructure, and an adequate expansion of access. However, Central Sulawesi and Gorontalo Province achieved high economic growth, but this was accompanied by high poverty.

The results of the model test are shown in Table 2. Based on the Chow test, all equation models showed a χ^2 cross-sectional probability of 0.000, meaning that FEM was the best model. The results of the Hausman test, the economic inequality model (Model 1), showed a χ^2 of 0.222 (>0.05), indicating that REM was the best model. Based on the probability of χ^2, the statistics for the poverty model (Model 2) and the unemployment model (Model 3) were 0.000 (<0.005). Therefore, these two models were estimated using the FEM approach.

FEM is an OLS model that requires a classical assumption test for multicollinearity, heteroscedasticity, and cross-sectional dependence. Equations (2)–(4) do not contain multicollinearity, as indicated by the correlation coefficient of <0.80 between variables, as shown in Table 3. However, based on the Glejser test, the poverty and unemployment rate models contained heteroscedastic symptoms. Based on the cross-sectional dependence test, the models have cross-sectional dependence, indicated by the probability value of CD dispersion of 0.000 (<0.005). Therefore, Equations (3) and (4) are estimated with fixed effect cross-sectional weights (PCSE).

The results of the data processing of the three models in Table 4 show that factors significantly affecting income inequality are economic infrastructure (*Ei*), poverty level (*P*), and economic growth (*g*). A 1%increase in economic growth reduces income inequality by 0.001%, while a 1% increase in the poverty rate (*P*) raises income inequality (*IE*) by 0.004%. Therefore, the impact of economic infrastructure (*Ei*) on income inequality is positive, which indicates that improving economic infrastructure increases income inequality in Indonesia. Furthermore, the village fund allocation variable (log*VF*) has a coefficient of −0.005, which suggests that village funds (log*VF*) reduce income inequality (*IE*), albeit insignificantly. The insignificant effect of village funds (log*VF*) on income inequality (*IE*) indicates that the village fund policy is not pro-equality.
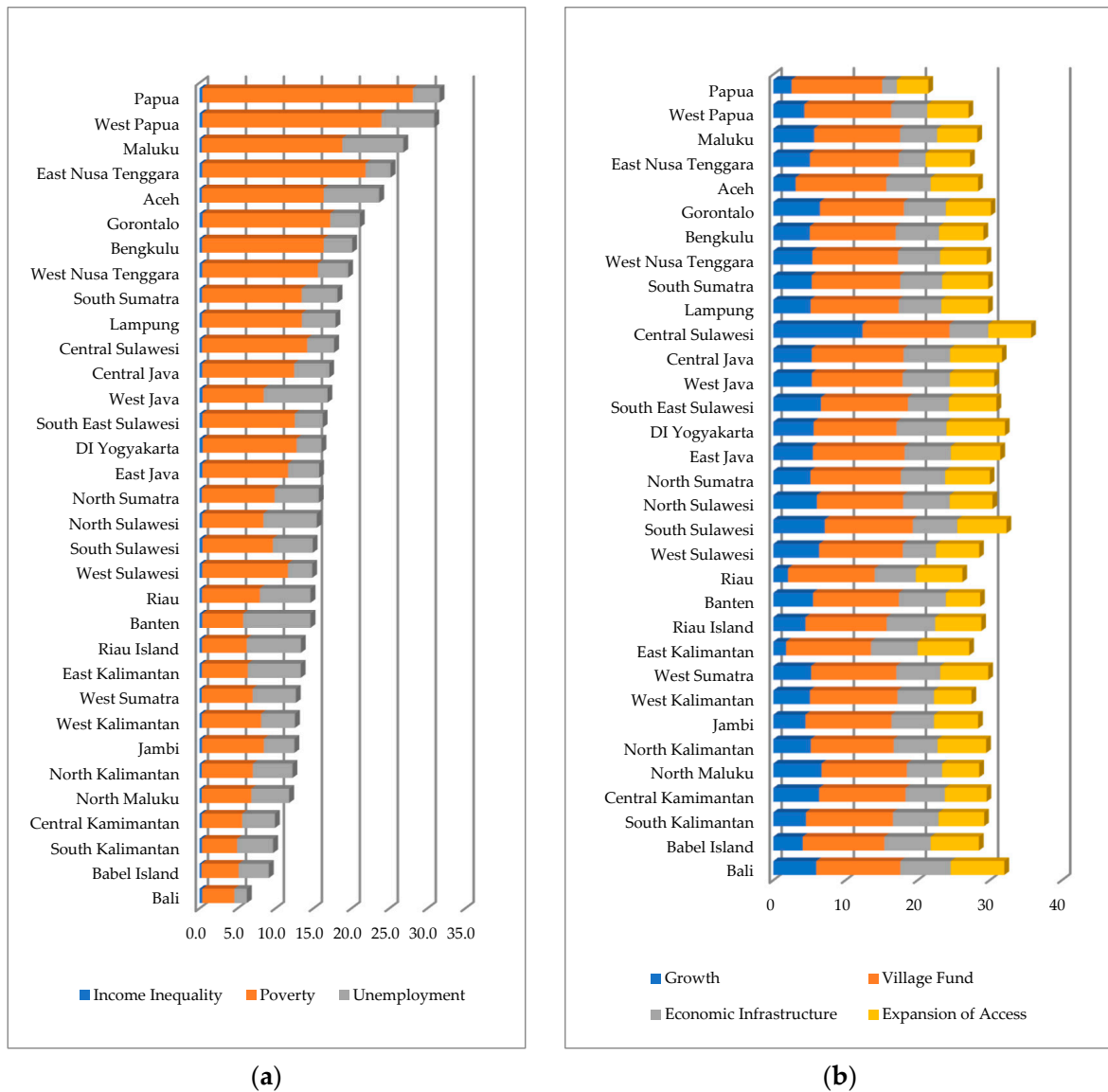
Figure 1. (**a**) Average of income inequality, poverty, and unemployment in 2015–2019 by province in Indonesia. (**b**) Average of growth, village funds, economic infrastructure, and expansion of access in 2015–2019 by province in Indonesia.

Table 2. The Chow and Hausman tests.

Model	Chow Test		Hausman Test	Selected Model
	Cross-Sectional F (prob.)	Cross-Sectional χ^2 (prob.)	χ^2 Statistic (prob.)	
Model 1 (*IE*)	32.548 (0.000)	367.350 (0.000)	8.226 (0.222)	REM
Model 2 (*P*)	252.775 (0.000)	689.273 (0.000)	41.679 (0.000)	FEM
Model 3 (*Un*)	29.699 (0.000)	353.937 (0.000)	38.296 (0.000)	FEM

Table 3. Correlation between variables.

	Probability	*g*	*IE*	log*VF*	*Un*	*Ei*	*Ac*	*P*
g	Correlation	1.000						
	Probability	-						
IE	Correlation	0.048	1.000					
	Probability	0.544	-					
log*VF*	Correlation	−0.071	0.159	1.000				
	Probability	0.364	0.042	-				
Un	Correlation	−0.147	−0.058	−0.013	1.000			
	Probability	0.060	0.460	0.868	-			
Ei	Correlation	0.020	−0.030	−0.143	0.178	1.000		
	Probability	0.794	0.701	0.068	0.022	-		
Ac	Correlation	−0.075	0.066	−0.023	−0.285	0.640	1.000	
	Probability	0.339	0.399	0.769	0.000	0.000	-	
P	Correlation	−0.009	0.377	0.286	−0.104	−0.671	−0.290	1.000
	Probability	0.911	0.000	0.000	0.185	0.000	0.000	-

Table 4. Model estimation results.

Variable	*IE* (Equation (2)) (S.E.)	*P* (Equation (3)) (S.E.)	*Un* (Equation (4)) (S.E.)
C	0.328 ***	26.487 ***	23.129 ***
	(0.077)	(3.644)	(2.451)
g	−0.001 *	0.028 *	−0.013
	(0.0004)	(0.014)	(0.010)
IE	-	13.469 ***	2.154
	-	(3.511)	(2.136)
log*VF*	−0.005	−1.324 ***	−1.775 ***
	(0.007)	(0.345)	(0.196)
Un	0.0002	0.074	-
	(0.002)	(0.074)	-
Ei	0.009 *	−0.191	−0.054
	(0.005)	(0.262)	(0.096)
Ac	−0.001	−0.580 ***	0.192 **
	(0.004)	(0.172)	(0.091)
P	0.004 ***		0.149 ***
	(0.001)		(0.048)
Observations		165	
R^2	0.138	0.994	0.971
Adjusted R^2	0.105	0.992	0.962
F-statistic	4.219	581.823	109.437
Prob(*F*-statistic)	0.000	0.000	0.000

*** Significant at alpha 0.01; ** alpha 0.05; * alpha 0.10; S.E.: standard error.

The estimation results, using the poverty rate model (Equation (3)), showed that the poverty rate (*P*) is significantly affected by income inequality (*IE*), village fund allocation (log*VF*), the expansion of access to public services (*Ac*), and economic growth (*g*). Conversely, the unemployment rate (*Un*) and the availability of economic infrastructure (*Ei*) variables have no significant effect. The highest elasticity coefficient in the poverty rate model of economic inequality was 13.469, while the lowest was of economic growth (*g*), at 0.028. The village fund allocation (log*VF*) variable has a coefficient of −1.324. Therefore, increasing the village fund allocation by 1% reduces the poverty rate by 1.324%. Based on the estimation results of the poverty level model, the allocation of village funds is a pro-poor policy. Moreover, expanding access to opportunities (*Ac*) reduces the poverty rate (*P*), while economic growth (*g*) increases the poverty rate (*P*).

Village fund allocation (log*VF*) significantly and negatively affects the unemployment rate (*Un*), implying a pro-job policy. The variable coefficient of village fund allocation (log*VF*) on unemployment (*Un*) is −1.775, which indicates that a 1% increase in village fund allocation will reduce the unemployment rate by 1.775%. Furthermore, increased poverty (*P*) and the expansion of access (*Ac*) increase unemployment (*Un*). However, economic growth (*g*), income inequality (*IE*), and economic infrastructure (*Ei*) have no significant effect on the unemployment rate.

5. Discussion

Indonesia's village development through fund allocation policy encourages inclusive growth as a pro-poor policy. Previous studies showed that village fund allocation reduces poverty (Arham and Hatu 2020; Sari and Abdullah 2017). The village fund is a pro-job policy. The fund allocation strategy uses a multidimensional approach to support the economic development of rural areas. Furthermore, it is directed at leading sectors, handling production and post-harvest, and product development. This target increases employment opportunities in rural areas and reduces unemployment. The impact of this fund on community empowerment helps drive household-based economic activities in management, production, and distribution (Fatah 2018). Another study showed that increasing per capita village funds increases working hours in the agricultural and service industries, especially in the outer islands of Java (Arifin et al. 2020). However, the village fund allocation policy is not pro-equality because it does not affect income inequality (Ismail et al. 2020). The limited use of this fund for development and empowerment causes inflexibility in fulfilling community needs (Syafingi et al. 2020).

The results showed that Indonesia's economic growth reduces economic inequality and increases the poverty rate but does not reduce unemployment. On the contrary, economic growth increases poverty. The trickle-down effect paradigm assumes that the economic growth of a country directly affects people's welfare. Economic growth is necessary but insufficient in reducing poverty, especially in rapid and sustainable poverty alleviation (Mulok et al. 2012). Income inequality is in line with the poverty rate (Dudzeviciute and Prakapiene 2018). An increase in income inequality increases poverty and vice versa. In line with this, Setiawan (2019) showed a strong positive linear relationship between the poverty rate and the gap after village fund allocation. However, before the fund allocation, there was no significant linear relationship between the rate of poverty and inequality.

Unemployment does not reduce inequality and poverty. Therefore, a decrease in unemployment (creating new jobs) will not reduce income inequality and poverty, implying that the poor have not come out of poverty even after working hard and earning an income appropriate to the type of work and with prevailing wages. Therefore, the influence of employment on inclusive growth is needed in addition to robust job creation and broad labor force participation. Additionally, it requires decent working conditions, which increase the income and self-awareness of employees as active and productive members of society (Tsapko-Piddubna 2021).

The result showed that economic infrastructure increases inequality in Indonesia. The infrastructure that increases income inequality is the number of roads and telecommunications. Conversely, electricity and the quantity and quality of airports reduce the income gap (Makmuri 2017). Transportation infrastructure affects regional development by encouraging sustainable development in rural areas (Jimenez-Castilla et al. 2020; Prus and Sikora 2021). Infrastructure can impact inclusive growth both in the short and long term (Anand et al. 2019).

The expansion of access to public services has no significant effect on income inequality. Indonesia's inclusive development indicators for expanding public services include education and health, basic infrastructure, and inclusive finance. However, the impact of increasing access to public services by improving basic infrastructure on income inequality is insignificant. Basic infrastructure relates indirectly with income inequality through per capita income, while social infrastructure, such as high schools and health facilities,

increases per capita income (Prasetyo et al. 2013). On the contrary, financial inclusion does not affect income inequality, consistent with the previous study, which showed that financial accessibility is insufficient to reduce income inequality and increase the involvement of vulnerable income groups in the formal economic environment (Menyelim et al. 2021).

Access to public services reduces poverty but increases unemployment. Increasing public access to basic infrastructure (Pramono and Marisno 2018) and financial inclusion (Swamy 2014) could reduce poverty. Countries with higher per capita microfinance credits have lower Poverty Head Count ratios (Miled and Rejeb 2015). There is bidirectional causality between financial development and poverty reduction in the short term (Kheir 2018). This finding implies that the development of the financial sector in Indonesia has reached poor and low-income communities.

This study also showed that the expansion of public access had increased unemployment, meaning that financial inclusion has not significantly impacted workers. The poor have access to financial services with low interest rates through public business loans. However, the increase in credit does not increase the number of workers. Economic expansion through increased access to finance reduces job opportunities. Furthermore, MSMEs are generally labor-intensive. Increasing access to finance for the poor reduces job opportunities if increasing financial access to small businesses reduces the share of non-small businesses in accessing credit or financing. It is difficult for the industry to expand with limited capital and save labor costs; therefore, more choose to reduce labor. This finding implies that those who increase public access should pay attention to sectors vulnerable to layoffs due to decreased access to credit or bank financing.

6. Conclusions

Inclusive growth is indicated by economic growth, reduced poverty, income inequality, and expanding employment opportunities or by pro-poor, pro-equality, and pro-job policies. However, economic growth cannot reduce poverty and therefore requires policies that address the causes of poverty, inequality, and unemployment. Indonesia has implemented a policy to develop villages through village fund allocation. The policy aims for village empowerment and the development of infrastructure and production sectors. The rural agricultural sector is the highest contributor to job opportunities in Indonesia. However, it has low productivity, encouraging poverty and inequality. Therefore, the village fund allocation policy is managed on a bottom-up basis where the community determines its expenditure through participatory planning.

A village fund encourages inclusive growth as a policy that is pro-poor and pro-job but not pro-equality. As a pro-poor policy, the fund is allocated according to the economic development needs of the village community, encouraging job opportunities in rural areas. Moreover, the expansion of leading sectors and their supporting industries, such as agriculture and community empowerment, drive economic activity and create new job opportunities. Rural infrastructure development also plays a role in creating new jobs through cash-for-work. However, the village development policy is not pro-equality, indicating that programs financed from the fund allocation have not reduced the community income gap. Some research findings are not as expected. Economic growth increases poverty, economic infrastructure increases income inequality, and access to public services increases unemployment.

Village fund policies that are not pro-equality require a realignment in their management, starting with village development planning deliberation. The public also needs to be educated on determining a priority scale of needs that increases welfare and reduces inequality. The results of village development planning need consistent implementation to minimize income inequality effectively. As the smallest unit of government with a dominant economic structure in the primary sector, the village requires the development of infrastructure and production infrastructure, especially for low-income people, such as laborers, and for small and household-scale business units.

This study has several limitations. The data were collected on a provincial scale; the results can differ when estimating a village analysis unit. Furthermore, the research model does not present indirect effects, such as the effect of growth on poverty through income inequality. This model shows that economic growth has reduced income inequality but has failed to reduce poverty levels. On the other hand, income inequality and poverty levels have a unidirectional relationship. We recommend that other researchers estimate the impact of village fund transfers using the indirect effect. This model does not use simultaneous equations in predicting the impact of village fund allocation on inclusive growth in Indonesia. Future research is expected to reveal the simultaneous effect of village fund allocation policies on inclusive growth using village levels.

Author Contributions: Conceptualization, S.N. and E.E.; methodology, E.E.; software, S.N.; formal analysis, E.E.; resources, T.T. and E.E.; data curation, E.E.; writing—original draft preparation, E.E.; writing—review and editing, T.T. and E.E. All authors have read and agreed to the published version of the manuscript.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data presented in this article is available at The Ministry of Finance, Statistics Indonesia (www.bps.go.id, accessed on 28 March 2021) and the National Development Planning Agency of Indonesia (http://inklusif.bappenas.go.id/, accessed on 28 March 2021).

Conflicts of Interest: The authors declare that there is no conflict of interest.

References

Adeleye, Bosede Ngosi, Obindah Gershon, Adeyemi Ogundipe, Oluwarotimi Owolabi, Ifeoluwa Ogunrinola, and Oluwasogo Adediran. 2020. Comparative investigation of the growth-poverty-inequality trilemma in Sub-Saharan Africa and Latin American and Caribbean Countries. *Heliyon* 6: e05631. [CrossRef]

Aderogba, Badewa Abayomi, and Abiodun Adewale Adegboye. 2019. Assessing the Impact of Road Infrastructure on Poverty Reduction in Developing Economies: The Case of Nigeria. *Modern Economy* 10: 2430–49. [CrossRef]

Amin, Saiful. 2020. Do the Village Fund Management Influence On The Economic Development Of The Village? *JABE Journal of Applied Business and Economic* 7: 12–24. [CrossRef]

Anand, Vivek, Muhammad Qasim Nizamani, and Farheen Qasim Nizamani. 2019. Macroeconomic Determinants of Inclusive Growth in Pakistan: An ARDL Approach. *Global Economics Review* IV. [CrossRef]

Arham, Muhammad Amir, and Rauf Hatu. 2020. Does Village Fund Transfer Address the Issue of Inequality and Poverty? A Lesson from Indonesia. *Journal of Asian Finance, Economics and Business* 7: 433–42. [CrossRef]

Arifin, Bondi, Eko Wicaksono, Rita Helbra Tenrini, Irwanda Wisnu Wardhana, Hadi Setiawan, Sofia Arie Damayanty, Akhmad Solikin, Maman Suhendra, Acwin Hendra Saputra, Gede Agus Ariutama, and et al. 2020. Village fund, village-owned-enterprises, and employment: Evidence from Indonesia. *Journal of Rural Studies* 79: 382–94. [CrossRef]

Asogwa, Fredrick O., Queen O. Onyeke, Patricia M. Kuma, Winnie O. Arazue, and Chigozie Nelson Nkalu. 2021. Do macroeconomic indicators determine income inequality in selected African countries? *Journal of Public Affairs* 2021: e2560. [CrossRef]

Azmi, Syukur, Nunung Nuryartono, and Eran Binenbaum. 2020. Rural Development Policy And Poverty Alleviation: The Case Of Village Funds In Aceh Province, Indonesia. *Info Artha* 4: 136–54. [CrossRef]

Boukhatem, Jamel. 2016. Assessing the direct effect of financial development on poverty reduction in a panel of low- and middle-income countries. *Research in International Business and Finance* 37: 214–30. [CrossRef]

Chuttoo, Usha Devi. 2020. Effect of Economic Growth on Unemployment and Validity of Okun's Law in Mauritius. *Global Journal of Emerging Market Economies* 12: 231–50. [CrossRef]

Daforsa, Ferta, and Hefrizal Handra. 2019. Analysis of village fund management in poverty alleviation at Pasaman Regency, West Sumatra. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah* 6: 717–28. [CrossRef]

de Haan, Jakob, Regina Pleninger, and Jan-Egbert Sturm. 2021. Does Financial Development Reduce the Poverty Gap? *Social Indicators Research* 2021: 1–27. [CrossRef]

Dudzeviciute, Gitana, and Dalia Prakapiene. 2018. Investigation of the economic growth, poverty and inequality inter-linkages in the European Union Countries. *Journal of Security and Sustainability* 7: 839–54. [CrossRef]

Erlando, Angga, Feri Dwi Riyanto, and Someya Masakazu. 2020. Financial inclusion, economic growth, and poverty alleviation: Evidence from eastern Indonesia. *Heliyon* 6: e05235. [CrossRef] [PubMed]

Ezindu, Obisike Ndubueze, Onwuka Irene Nkechi, Oluwaseun B. Alade, and Udeze R. Chike. 2021. Impact of Sectoral Growth on Unemployment in Nigeria. *International Journal of Research and Innovation in Social Science* 5. [CrossRef]

Fatah, Zainal. 2018. Dampak Dana Desa Dalam Pembangunan Desa (Studi Di Desa Tunjungtirto Kecamatan Singosari Malang). *ASKETIK* 2. [CrossRef]

Indraningsih, Kurnia Suci, Wini Nahraeni, Adang Agustian, Endro Gunawan, and Syahyuti. 2021. The Impact of the Use of Village Funds on Sustainable Agricultural Development. *E3S Web of Conferences* 232: 01018. [CrossRef]

Ismail, Yasin R., Muhammad Amir Arham, and Sri Indriyani S. Dai. 2020. Analysis Of Village Dau, Dak, And Funds On Inequality Distribution Income And Growth In Indonesia 2015–2018. *Jambura Equilibrium Journal* 2019: 1. [CrossRef]

Jimenez-Castilla, Tania, Luis M. Bolivar, and Michael Segrera-Castilla. 2020. Infrastructure and rurality: Challenges for sustainable economic development in Latin America. Paper presented at the LACCEI International Multi-Conference for Engineering, Education and Technology, Buenos Aires, Argentina, July 19–23.

Kheir, Vivian Bushra. 2018. The nexus between financial development and poverty reduction in Egypt. *Review of Economics and Political Science* 2018: 3. [CrossRef]

Louail, Bilal, and Djamel Benarous. 2021. Relationship between economic growth and unemployment rates in the algerian economy: Application of Okun's law during 1991–2019. *Organizations and Markets in Emerging Economies* 12: 71–85. [CrossRef]

Makmuri, Amien. 2017. Infrastructure and inequality: An empirical evidence from Indonesia. *Economic Journal of Emerging Markets* 9: 29–39. [CrossRef]

Menyelim, Chima M., Abiola A. Babajide, Alexander E. Omankhanlen, and Benjamin I. Ehikioya. 2021. Financial inclusion, income inequality and sustainable economic growth in Sub-Saharan African countries. *Sustainability* 13: 1780. [CrossRef]

Miled, Kamel Bel Hadji, and Jalel-Eddine Ben Rejeb. 2015. Microfinance and Poverty Reduction: A Review and Synthesis of Empirical Evidence. *Procedia—Social and Behavioral Sciences* 195: 705–12. [CrossRef]

Mininstry of Finance. 2017. Buku Pintar dana Desa. Available online: https://www.kemenkeu.go.id/media/6749/buku-pintar-dana-desa.pdf (accessed on 29 September 2021).

Ministry of Village. n.d. Penyaluran Dana Desa Tahun 2015–2019. Available online: https://sipede.ppmd.kemendesa.go.id/ (accessed on 29 September 2021).

Mulok, Dullah, Mori Kogid, Rozilee Asid, and Jaratin Lily. 2012. Is economic growth sufficient for poverty alleviation? Empirical evidence from Malaysia. *Cuadernos de Economia* 35: 26–32. [CrossRef]

Omar, Md Abdullah, and Kazuo Inaba. 2020. Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. *Journal of Economic Structures* 9: 1–25. [CrossRef]

Ouechtati, Ichraf. 2020. The contribution of financial inclusion in reducing poverty and income inequality in developing countries. *Asian Economic and Financial Review* 10: 1051–61. [CrossRef]

Pramono, Galih, and Waris Marisno. 2018. Availability of Infrastructure for Poverty Reduction in Indonesia: Spatial Panel Data Analysis. *Economics and Finance in Indonesia* 64: 157–80.

Prasetyo, Bayu Agung, Dominicus Savio Priyarsono, and Sri Mulatsih. 2013. Infrastructure, economic growth and inequality in Indonesia land borders. *Economic Journal of Emerging Markets* 5: 99–108. [CrossRef]

Prus, Piotr, and Marek Sikora. 2021. The impact of transport infrastructure on the sustainable development of the region—Case study. *Agriculture* 11: 279. [CrossRef]

Sakanko, Musa Abdullahi. 2020. Financial inclusion and women participation in gainful employment: An empirical analysis of Nigeria. *Indonesian Journal of Islamic Economics Research* 2: 1–14. [CrossRef]

Sari, Intan Mala, and M. Faisal Abdullah. 2017. Analisis Ekonomi Kebijakan Dana Desa Terhadap Kemiskinan Desa Di Kabupaten Tulung Agung. *Jurnal Ekonomi Pembangunan* 15: 34–49. [CrossRef]

Setiawan, Andi. 2019. Analisis Perbedaan Tingkat Kemiskinan Dan Ketimpangan Perdesaan Sebelum Dan Sesudah Digulirkannya Dana Desa. *Akuntabel* 16: 31–35.

Sihite, Lestari. 2021. The Effect Of Village Funds, Human Development Index (HDI), And Economic Growth On Decrease Of Poverty Level In North Sumatera Province. *International Journal of Public Budgeting, Accounting and Finance* 4: 1–10.

Swamy, Vighneswara. 2014. Financial Inclusion, Gender Dimension, and Economic Impact on Poor Households. *World Development* 56: 1–15. [CrossRef]

Syafingi, Habib Muhsin, Dyah Adriantini Sintha Dewi, Suharso, Heniyatun, Puji Sulistyaningsih, and Umi Rahmawati. 2020. Village fund optimization strategy for rural community welfare in Indonesia. *Journal of Critical Reviews* 7: 580–83. [CrossRef]

Tsapko-Piddubna, Olga. 2021. Inclusive Growth Policy And Institutional Assessment: The Case Of Central And Eastern European Countries. *Baltic Journal of Economic Studies* 7: 233–39. [CrossRef]

World Bank. 2017. Promoting Inclusive Growth by Creating Opportunities for the Urban Poor. Available online: https://documents1.worldbank.org/curated/en/904471495808486974/pdf/115310-PN-P156898-PUBLIC-Policy-Notes-Inclusive-Growth-FINAL.pdf (accessed on 30 September 2021).