



# The Effect of Village Fund on Inequality and Inclusive Growth in Indonesia: A District Level Case Study

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## Abstract

**Objective** –This study tries to find the relationship between Village Fund expenditures and the inequality and growth inclusiveness using data from 434 districts for the time span of seven years from 2015 to 2021.

**Design/Methodology** –This study uses quantitative research. The research data comprised the data of Village Fund, Gini Ratio, and Inclusive Growth Index from the Ministry of Finance, Central Bureau of Statistics, and the Ministry of National Development Planning. To investigate the relationship between variables, a dynamic panel data with Generalized Method of Moment (GMM) approach is applied.

**Results** –This study revealed the relationship between Village Fund and Inequality and Inclusive Growth. We found that there is no strong relationship between the Village Fund, the first lag of the Village Fund, the second lag of Village Fund and Inequality among specifications. Similar relationships are also shown by the Village Fund, the first lag of Village Fund, the second lag of the Village Fund, and the Inclusive Growth among specifications. In other words, the implementation of Village Fund could not eradicate the inequality problem and could not support inclusion of economic growth in the village level.

**Research Limitations/Implications** –The result of this study potentially has a major implication in terms of program delivery effectiveness and the factors that influence the program effectiveness. Furthermore, in this particular research, the major problems with village fund allocation are the equity issue of the allocation scheme and the clarity of the village service responsibilities.

**Novelty/Originality** –This study uses a different approach to the panel data, which is a dynamic panel data with GMM approach. This study also uses a more specific scope of the data which is a district (*kabupaten/kota*) level in Indonesia.

**Keywords:** Village Fund, Decentralisation, Inequality, Inclusive Growth

## 1. Introduction

Since the introduction in Indonesia in 2015, the Village Fund opens a new dimension of decentralisation. Indeed, since the year 2000, Indonesia has been delivering fiscal decentralisation from the central government to the local government through provinces and districts (Government Regulation Number 60 of 2014). Decentralisation, however, should be noted that its main benefits to delivering services to local government is to increase proximity; thus, more effective and efficient service, tax, and spending are delivered because of the better recognition of local government (Lewis, 2015). Moreover, decentralisation could also affect the income distribution among citizens as well as boost economic growth. Such conditions could happen if the decentralisation is effectively and efficiently distributed.

According to the village law (Law number 6 of 2014), there are nine main objectives of the village law. Indeed, one of the main objectives of village governance is

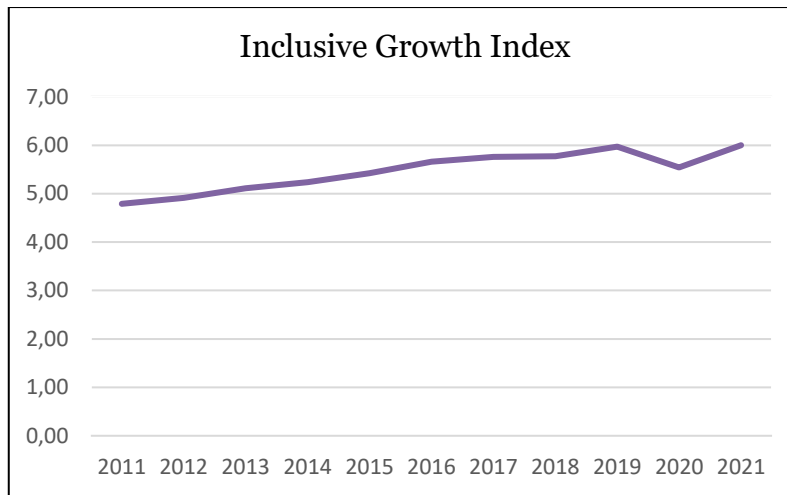
to advance the economy of village communities and to address the inequality in the village growth (article 4 of the Law Number 6 of 2014).

Nevertheless, there is no single definition of the idea of inequality. Much research has been done by philosophers, political theorists, sociologists, statisticians, and economists to study the phenomenon of inequality. However, this study will focus on the economic aspect of inequality. According to Foster & Sen (1997) the measurement of inequality in economics is broadly divided into two categories. First, there are measurements that try to understand inequality in some objective sense and employ statistical measures of relative variation of income. Second, there are indices to measure inequality in normative notions of social welfare. Furthermore, Foster & Sen (1997) argue that objective senses such as the variance, the coefficient of variation, and the Gini coefficient are more advantageous approaches since researchers can distinguish more or less inequality and include the ethical aspects.

**Figure 1.**  
Gini Ratio in  
Indonesia



The next objective of the village proposed by the village law is economic growth. Indeed, in modern social science, economic growth and the sources of differences in economic performance are the most important and challenging areas (Acemoglu, 2009). Despite the usefulness of classical economic growth to explain the engine of economy, it also has flaws when used to explain the engine of prosperity. In 2012, OECD launched the Inclusive Growth Initiative OECD (2014) defines Inclusive Growth as the economic growth that includes inclusive opportunity and equal distribution of prosperity in the terms of monetary as well as non-monetary measurement. Inclusive growth not only focuses on the economic growth itself, but also how the increased prosperity and the living standards could be distributed more equally.

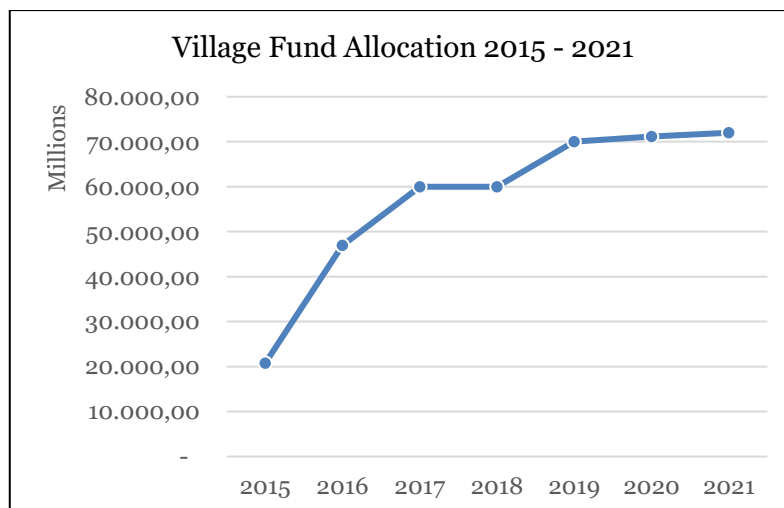


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**Figure 2.** Inclusive Growth Index in Indonesia

In 2015, The Government of Indonesia introduced the Village Fund (Dana Desa) Program by the enactment of law number 6 of 2014 and government regulation number 60 of 2014. This program is the extension of the previous Indonesia’s decentralisation program. After 15 years of decentralisation process, Indonesia has finally decentralised to the level of village (Lewis, 2015). The main aim of this program is to increase the prosperity and the life quality of villagers and also to alleviate poverty at the village level.

Every year, the central government allocated Village Fund to be distributed to 74.953 villages spread over 434 districts/ cities. The Village Fund is allocated based on the number of villages, population, poverty rate, area, and construction cost index. The Village Fund is distributed via two procedures. First, The Ministry of Finance allocates Village Fund to districts, and then districts distribute those funds to villages. The Village Fund implementation has been running for 5 years and the number of allocations are increasing every year. Since 2015, the Government of Indonesia has distributed the Village Fund for a total amount of IDR 400 trillion to village governments (*pemerintah desa*) across Indonesia.



**Figure 3.** Village Fund Allocation

The study on the relationship between Village Fund, Inequality, and Inclusive Growth in Indonesia seems limited. Study by Arham & Hatu (2020); Canare et al. (2020) and Siburian (2020) found that revenue decentralisation has a weak relationship with lower income inequality whereas study conducted by Digdowiseiso et al. (2022) and Lessmann (2009) concluded that fiscal decentralisation has a significant effect on inequality. Similar result shown by Hutapia et al. (2023) that among other variables, Village Fund reduce income inequality between villages in Southern Sumatra.

However, a study conducted in the United States by Cavusoglu & Dincer (2015) concluded that Fiscal decentralisation only reduces income inequality in the rich states.

Similarly, the studies on the relationship between decentralisation and growth also show different results. Study conducted by Carniti et al. (2019); Ganaie et al. (2018); and Nantharath et al. (2019) found that decentralisation positively correlated with growth. A qualitative study by (Sianipar et al., 2023) found that Village Fund sufficiently helped village development in Simalungun Regency. Alternatively, according to Rodríguez-Pose & Krøijer (2009), the two out of three fiscal decentralisation have a significant negative relationship on the growth.

This research contributes to the understanding of the effects of Village Fund spending to specific objectives of welfare, namely: inequality and Inclusive Growth. Over the past years, several studies have been conducted to examine the effect of decentralisation on inequality and growth. However, to the best of our knowledge, no study has been conducted to examine the effect of Village Fund on inequality and inclusive growth at the national level. This research also could help the central government's policymakers to formulate the most effective and efficient way to spend village fund. For instance, the central government should give more attention to the Village Officers and the Village Companion Officers as the local actors of village development. The officers can act as the local people ideas accumulator that could be used to evaluate the current program. Together with the villagers, the officers could maximize the local potential of the village.

Based on these considerations, we feel motivated to conduct research to examine The Effect of Village Fund on The Society Welfare at the district Level in Indonesia. This paper is structured into six sections. The first section is the introduction, Section 2 addresses the literature review, theoretical framework, and the hypothesis development. Section 3 presents the data and methodology. Section 4 presents the results and discussion. Section 5 discusses the conclusions and recommendations, followed by the last section, the limitations.

## **2. Literature Review, Theoretical Framework, and Hypothesis Development**

### *2.1 Village Fund*

Until 2021, the central government has distributed around Rp2.0766 billion to 81.616 villages in Indonesia (data gathered from the Ministry of Finance and authors' calculation). Based on Government Regulations of the Republic of Indonesia Number 8 Of 2016, the amount of village fund allocation is calculated based on the population of the district, the area of the district, the poverty rate of the district, and the level of geographic difficulty.

The large amounts of funds are distributed into villages into three main steps. Firstly, the Central government distributes the fund into the province government to be distributed to the district government. Secondly, the district government distributed the fund into every village in their jurisdiction. Lastly, The Village Government (*Pemerintah Desa*) then allocates the fund based on the minister of Home Affairs Regulation number 20 of 2018 in Village Budget (*Anggaran Pendapatan dan Belanja Desa*) to be spent in five sectors: Village Governance (*Penyelenggaraan Pemerintahan Desa*), Village Development (*Pelaksanaan Pembangunan Desa*), Village Community Development (*Pembinaan Kemasyarakatan Desa*), Village Community Empowerment (*Pemberdayaan Masyarakat Desa*), and Disaster Management and emergencies (*Penanggulangan Bencana, keadaan darurat dan mendesak desa*).

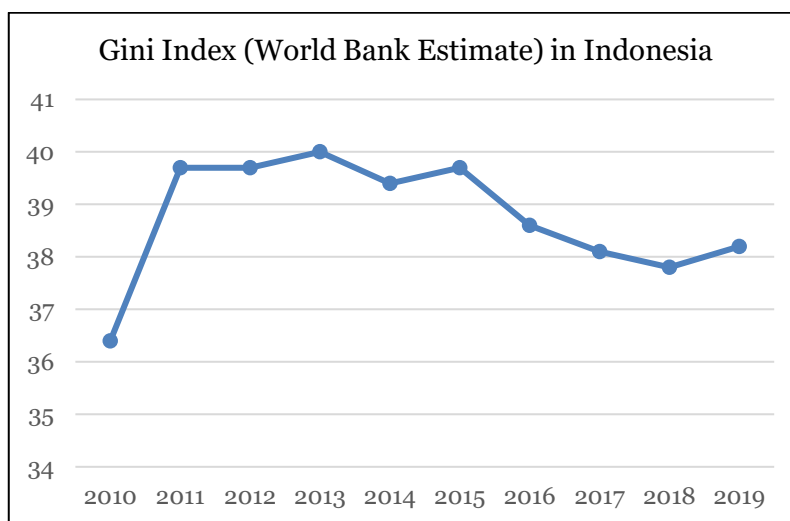
In addition to following those allocations based on Minister of Home Affairs Regulation number 20 of 2018, village governments also have to follow Priorities for the usage of Village Fund Based on The Regulation of The Minister of Village, Development of Land Areas, and Transmigration of The Republic of Indonesia

(Peraturan Menteri Desa, Pembangunan Daerah Tertinggal, dan Transmigrasi Republik Indonesia) which is updated on yearly basis.

### 2.2 Inequality and Inclusive Growth

Equality represents the fact that some quantities are the same size. Professor Rein and Miller in Cowell & Frank A. (2011) interpreted the standard of equality in nine ways: One-hundred-percentism means complete horizontal equity; The social minimum means nobody falls below minimum standard of well-being; Equalization of lifetime income profiles that focuses on future income prospects inequality; Mobility to reduce the barriers between groups; Economic inclusion with the objective is to reduce differences in incomes; Income shares to increase the share of national income to disadvantaged group; Lowering the ceiling to limiting the share of national income to relatively advantaged group; Avoidance of income and wealth crystallisation to eliminating disadvantages in education, political power and social acceptability; and International yardsticks to increase equality with another comparable nation.

In the various literature, there is no single definition of the idea of inequality. Much research has been done by philosophers, political theorists, sociologists, statisticians, and economists to study the phenomenon of inequality. However, this study will focus on the economic aspect of inequality. According to Foster & Sen (1997) the measurement of inequality in economics is broadly divided into two categories. First, there are measurements that try to understand inequality in some objective sense and employ statistical measures of relative variation of income. Second, there are indices to measure inequality in normative notions of social welfare. Furthermore, Foster & Sen (1997) argue that objective senses such as the variance, the coefficient of variation, and the Gini coefficient are more advantageous approaches since researchers can distinguish more or less inequality and include the ethical aspects.



**Figure 4.** Gini Ratio in Indonesia

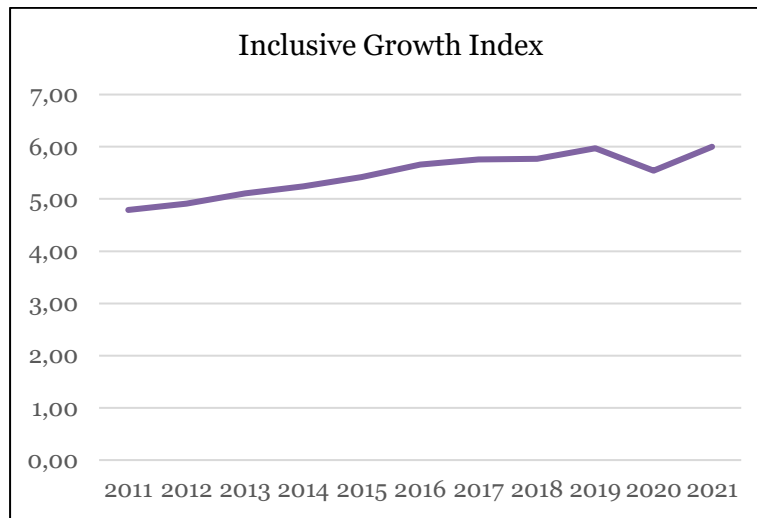
Indeed, in modern social science, some of the most interesting, important, and challenging areas are the process of economic growth and the sources of differences in economic performance among nations (Acemoglu, 2009). Despite the usefulness of classical economic growth to explain the engine of economy, it also has flaws when used to explain the engine of prosperity. In 2012, OECD launched the Inclusive Growth Initiative. OECD (2014) defines Inclusive Growth as “economic growth that creates opportunity for all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary terms, fairly across society”. Inclusive growth not only focuses on the economic growth itself, but also how the increased prosperity and the living standards could be distributed more equally.

Moreover, according to OECD (2014) the aim of inclusive growth is to more equally improve the living standards and share the benefits of prosperity increases.

However, it should be underlined that inclusive growth should focus on equality in every society class since the growth that only focuses on the poor will potentially decrease economic growth (Prasetyia, 2021).

According to OECD (2014) there are three approaches to inclusive growth namely: Multidimensionality, emphasis on distribution, and policy relevance. Since 2011 the Indonesian Ministry of National Development Planning (Bappenas) has issued the Indonesian Inclusive Growth Index. The data is available at national, province, and regency level annually. The index is based on three pillars namely Economic Growth and Development, Income Equity and Poverty Alleviation, and expansion of access and opportunities.

**Figure 5.**  
Inclusive  
Growth  
Index in  
Indonesia



### 2.3 Local Development Strategy

Central governments are considered to be the best party to deliver public services in many countries. However, in certain cases, the local government could deliver those services better (Chmieliński et al., 2018; Olar & Jitea, 2020). Moreover, since the majority of national economic stimulators are not designed for specific groups of population, the national strategy could hinder the local actor role to support the sectoral economic and local employment (Leigh & Blakely, 2017). Hence, the local development strategy plays a big role in the economic development in many other countries.

Local development needs specific steps and roles of local agents to be implemented. Indeed, to promote local growth, Beer (2016) suggests that the local government agencies or community groups could mix several strategies including: investment stimulation, innovation encouragement, creative environment, start-ups promotion, regional economic planning, infrastructure investment, and small business assistance. Correspondingly, Wiatrak (2018) explains that local development strategy comprises several elements, namely: objective description, action plan, solutions description, community involvement strategy, and a financial plan.

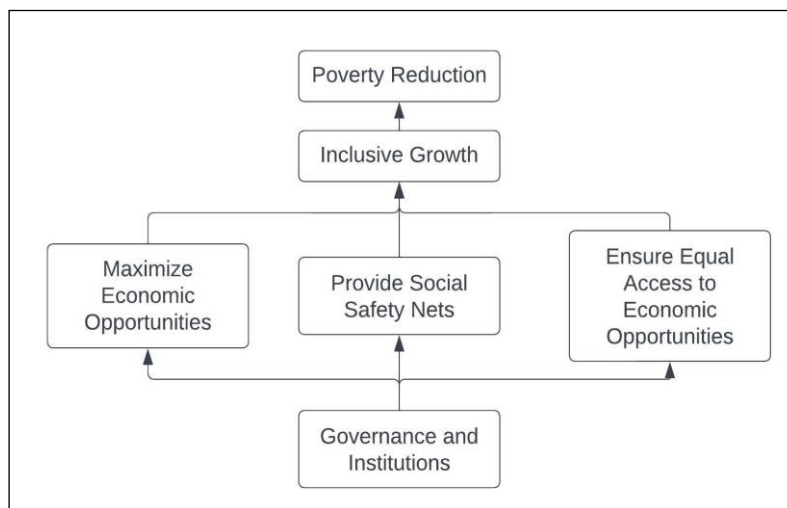
Lastly, in the context of village government, local development strategy has several prominent advantages. First, economic development supports the better educated people and skilled people to shape community development. Second, rising globalisation raises the importance of localities, not hinder it. Third, as the world economy has changed, community-based economic development has become much more important. Lastly, missed opportunities and slow performance could be caused by the failure to plan (Beer & Clower, 2020).

2.4 Decentralization and Village Fund on Inequality and Inclusive Growth

Whereas there are theoretical channels connecting decentralisation to poverty, the link between decentralisation and inequality is rather unclear. Digdowiseiso et al. (2022) argue that the recent evidence in the relationship between fiscal decentralisation and inequality is inconclusive because of its complexity. Correspondingly, (Lessmann, 2009) argues that the theoretical link between fiscal decentralisation and regional disparities shows no clear-cut picture.

Studies by Arham & Hatu (2020); Canare (2020; and Siburian (2020) found that revenue decentralisation is weakly associated with lower income inequality whereas studies conducted by Digdowiseiso et al. (2022) and (Lessmann, 2009) concluded that fiscal decentralisation has significant effect on inequality. However, a study conducted in the United States by (Cavusoglu & Dincer, 2015) concluded that Fiscal decentralisation does reduce income inequality, but only in rich states.

While there are numerous studies of the relationship on decentralisation on economic growth, the number of studies of inclusive growth seems limited. Hill et al. (2012) has made the inclusive growth concept based on ADB (2017) illustrated on Figure 6.



**Figure 6.** Inclusive Growth Concept Source: (Hill et al., 2012)

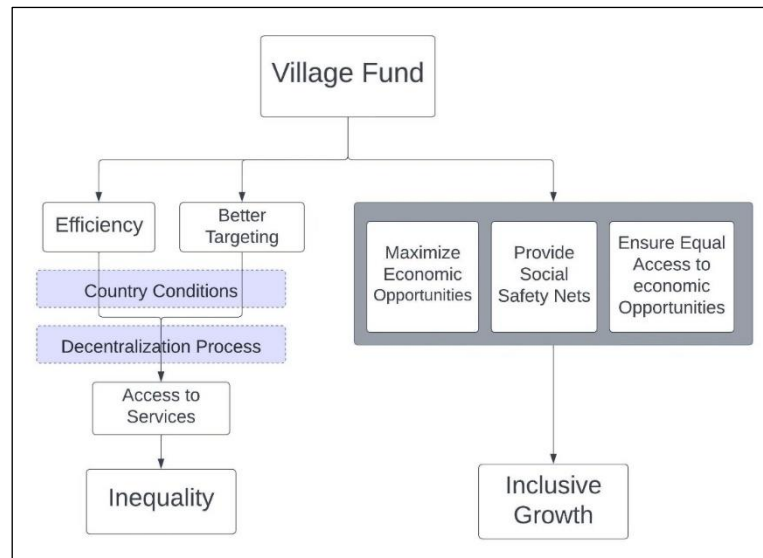
Studies conducted by Carniti et al. (2019); Ganaie et al. (2018); Nantharath et al. (2019) found that decentralisation positively correlated with growth while according to (Rodríguez-Pose & Krøijer, 2009) contrary to the majority view, there is a significant negative relationship between two out of three fiscal decentralisation indicators included in the analysis and economic growth. Similarly, a study by Fadli (2014) found that fiscal decentralisation does not directly affect the fiscal, regional disparity and economic growth.

Studies by Arham & Hatu (2020); Canare (2020; and Siburian (2020) found that revenue decentralisation is weakly associated with lower income inequality whereas study conducted by Digdowiseiso et al. (2022) and (Lessmann, 2009) concluded that fiscal decentralisation has significant effect on inequality. However, a study conducted in the United States by (Cavusoglu & Dincer, 2015) concluded that Fiscal decentralisation does reduce income inequality, but only in rich states.

2.5 Theoretical Framework and Hypothesis Development

Based on the previously mentioned problem and literature review, this study will find the relationship between village fund spending on the inequality issue and the inclusive growth issue. A number of previous studies that assess the potential channel between decentralisation and inequality and welfare has been available. The channels are summarised in the figure below.

**Figure 7.**  
Theoretical  
Framework  
Source:  
Adopted with  
modification  
from Canare



Although there are previous research on the village fund topic, the available paper seems very limited. To the best of our knowledge, there is no specific study on Village Fund based on district (*Kabupaten*) data. In fact, the introduction of Village Fund in 2015 (Law Number 6 of 2014) opened up opportunities to overcome previously mentioned problems in Villages. Hence, based on those conditions, we are motivated to study the relationship between those main variables through hypotheses:

H1. Village Fund have a negative relationship to inequality in Indonesia at the district level

H2. Village Fund have a positive relationship to inclusive growth in Indonesia at the district level

### 3. Research Method

#### 3.1 Data and Sampling

The data used in this research consists of data of Village Fund (*Dana Desa*), Gini Ratio, and Inclusive Economic Growth Index (*Indeks Pembangunan Ekonomi Inklusif*), and several control variables namely General Allocation Fund (*Dana Alokasi Umum*) and Human Development Index (*Indeks Pembangunan Manusia*). The data collected from 434 districts which received Village Fund from 2015 to 2021. Village Fund allocation data and General Allocation Fund data obtained from the Ministry of Finance (*Kementerian Keuangan*). Correspondingly, data of Gini Ratio and Human Development Index obtained from the Central Bureau of Statistics (*Badan Pusat Statistik: BPS*). In comparison, the Inclusive Economic Growth Index is obtained from the Ministry of National Development Planning (*Bappenas*). The year 2015 is chosen as the beginning of observation since the year is the first implementation of the Village Fund Program. The chosen time span and cross section will be sufficient for the panel data analysis.

#### 3.2 Data Analysis

To examine the influence of Village Fund on gini ratio and inclusive growth, a panel data framework is adopted to deal with potential econometric issues caused by

the available data. Panel data analysis has several advantages compared to time series and cross section data (Baltagi, 2021). Firstly, panel data usage facilitates individual heterogeneity control. Secondly, panels data are more informative, more variable, less collinearity among variables, more degrees of freedom, and more efficiency. Thirdly, the dynamics of adjustment are better studied. Fourth, the effects that are not detectable in cross-section or time-series data are easier to identify and to measure. Next, more complicated behavioural models are easier to construct and to test. Next, biases from aggregation over entities may be reduced or eliminated. Lastly, the panel unit root test has standard asymptotic distributions compared to unit root test in time-series analysis.

Arguably, the simplest approach to estimate the panel data is the Ordinary Least Square (OLS). However, the usage of OLS will be inefficient because of the unobserved fixed effects of the districts. Another alternative estimation is using a Fixed Effect Model (FEM) or Random Effect Model (REM). The utilisation of FEM or REM could address the limitations of OLS.

Previous research on similar topics shows that poverty, inequality and inclusive growth are dynamic panel data (Canare, 2021; Digdowiseiso et al., 2022; Teixeira & Queirós, 2016). Additionally, the Baltagi-Wu test and Wooldridge test also show autocorrelation on Village Fund and Gini Ratio, whereas there is no first-order autocorrelation on the Inclusive Growth Index. Hence, the usage of FEM or REM could not be accepted because of the strict assumption of exogeneity. Moreover, in certain cases like the dependence of a GLS-like transformation, GMM shows consistent results than other estimation like GIV (Wooldridge, 2010). Lastly, in the case of panel data where the cross-section N is relatively large while the time T is relatively small, the utilisation of GMM is the best option (Canare, 2021). To help the internal validity of the model, control variables of the General Allocation Fund and Human Development Index will be used. The data will be analysed through following models:

$$Gini_{it} = \beta_{it} + \beta_2 Gini_{it-1} + \beta_3 VF_{it} + \beta_4 VF_{it-1} + \beta_5 VF_{it-2} + \beta_6 GAF_{it} + \beta_7 GAF_{it-1} + \beta_8 GAF_{it-2} + \beta_9 HDI_{it} + \beta_{10} HDI_{it-1} + \beta_{11} HDI_{it-2} + u_{it} \quad (1)$$

$$Inc_{it} = \beta_{it} + \beta_2 Inc_{it-1} + \beta_3 VF_{it} + \beta_4 VF_{it-1} + \beta_5 VF_{it-2} + \beta_6 GAF_{it} + \beta_7 GAF_{it-1} + \beta_8 GAF_{it-2} + \beta_9 HDI_{it} + \beta_{10} HDI_{it-1} + \beta_{11} HDI_{it-2} + u_{it} \quad (2)$$

Where:

$Gini_{it}$  = Gini Ratio  $i^{th}$  district in period  $t$

$Inc_{it}$  = Inclusive Economic Growth Index  $i^{th}$  district in period  $t$

$VF_{it}$  = Village Fund allocation  $i^{th}$  district in period  $t$

$GAF_{it}$  = General Allocation Fund  $i^{th}$  district in period  $t$

$HDI_{it}$  = Human Development Index  $i^{th}$  district in period  $t$

Where the subscript  $it$  is the actual treatment of the  $i^{th}$  district in the cross section in period  $t$  ( $t=1,2$ ).

#### 4. Results and Discussion

##### 4.1 Descriptive Statistics

The main statistics for every variable is available in table 1. The data is available for 434 districts for the period of seven years between 2015 to 2021 but there are several empty data Gini Ratio and inclusive Growth Index.

Variable	Obs	Mean	Std. Dev.	Min	Max
VillageFund*	038	1.320e+08	94697245	4572649	6.36e+08
GAF*	038	6.85e+08	2.91e+08	44897311	2.18e+09
HDI	038	67.09905	5.856824	25.47	85.71
Poverty	035	13.64147	8.018398	1.78	45.74

**Table 1.**  
Summary  
Statistics

Gini	074	.3209743	.0476495	.135	.508
Inclusive Growth Index	720	5.177059	.4749652	2.66	6.46

\*Note: the number shown on Village Fund and General Allocation Fund are represented in thousand rupiahs.

The source data shows that during the time span of seven years, Kabupaten Aceh Utara was the district with the highest allocation of Village Fund in 2015 whereas Kota Kotamobagu was the district with the lowest allocation of Village Fund in 2021. Correspondingly, in terms of Inequality, Kabupaten Aceh Tengah in 2015 was the district with the highest gini ratio while Kabupaten Yalimo in 2019 was the district with the lowest gini ratio. Lastly, Kabupaten Kudus was the district with the highest Inclusive Growth Index in 2015 and Kabupaten Tolikara was the district with the lowest Inclusive Growth Index.

#### 4.2 Empirical Results

The estimation of the dynamic panel data model is presented in table 2 and table 3. Table 2 shows the relationship between village fund and inequality and other control variables whereas table 3 shows the relationship between poverty and inclusive growth index and other control variables.

The first results show the estimation using explanatory variables of Village Fund as well as the first and the second lagged year. The second column shows the result using the same explanatory variables and the time dummies. Lastly, in the last column, we used the full model with all the control variables. The usage of different control variables is to check the robustness of the results.

##### 4.2.1 Village Fund and Income Equality Outcomes

The results from table 2 shows that unlike the effect of Village Fund on Poverty, the Village Fund Allocation is not associated with Inequality rate at the second and third specification. A weak and unstable relationship occurred in the first specification in which not utilising any control variables.

**Table 2.**  
First  
Difference  
GMM  
Estimates  
(Dependent  
Variable:  
Gini Ratio)

Independent Variable	Dependent Variable: Gini		
	(1)	(2)	(3)
Lagged Dep. Variable (Gini)	0.239** (0.098)	0.227*** (0.067)	0.240*** (0.066)
Village Fund (VF)	-2.53e-10*** (8.92e-11)	3.19e-11 (1.09e-10)	-2.45e-11 (0.066)
First Lag of VF	9.67e-11* (5.79e-11)	8.02e-11 (7.81e-11)	4.83e-11 (2.74e-11)
Second Lag of VF	-1.20e-11 (2.99e-11)	-3.82e-11 (4.42e-11)	-5.36e-11 (4.36e-11)
GAF			-4.40e-12 (4.89e-11)
First Lag of GAF			8.11e-11*** (2.74e-11)
Second Lag of GAF			5.56e-11** (2.73e-11)
HDI			0.017*** (0.007)
First Lag of HDI			-0.010** (0.006)
Second Lag of HDI			0.011**

	No	Yes	(0.005)
Time Dummies	No	Yes	Yes
Number of observations	1095	1095	1095
Number of Instruments	17	21	27
GMM Instrument Lag	2	2	2

Notes: robust standard errors are reported in parentheses. \* indicates significance at the 90% level, \*\* indicates significance at the 95% level, and \*\*\* indicates significance at the 99% level

The result in this research is in accordance with the findings of previous research. A study by Stossberg et al. (2016) concludes that across OECD countries in 1996 to 2011 there is a weak and unstable relationship between decentralisation and income inequality. Similarly, study with different time span countries (over the year period of 1971 to 2000) on OECD by Sacchi and Salotti (2014) also found that higher decentralisation is associated with higher income inequality within a country.

The finding of previous research on the country level also suggests similar results. A study conducted by Cavusoglu and Dincer (2015) in the US over a 35-year time span confirmed Oates' (1973) theorem that decentralisation reduces inequality, but only in relatively richer states. A similar study conducted in China by (Wong et al., 2021) also found that decentralised power of collective asset management and the distribution to grassroots organisations widened income disparities among villagers.

Prud'homme (1995) also explains that distribution of income can increase disparities and thus, should be done by central government because of two reasons: First, local governments are likely to be unfair to redistribute income; and second, decentralised redistribution tends to be counterproductive because of the tax-related effects of new income. Indeed, to be able to achieve income inequality, Goerl and Seiferling (2014) mention that three conditions must be fulfilled: First, a relatively large government sector; second, a comprehensive decentralisation; and third, a revenue decentralisation has to accompany the decentralisation on the expenditure side.

#### 4.2.2 Village Fund and Growth Outcome

The results from table 3 also indicate that similar to the effect of Village Fund to Inequality, the relationship between Village Fund allocation and Inclusive Growth is unstable across specification.

Independent Variable	Dependent Variable: Inclusive Growth		
	(1)	(2)	(3)
Lagged Dep. Variable (Inclusive Growth)	-0.142*** (0.047)	0.307*** (0.118)	0.336*** (0.117)
Village Fund (VF)	1.03e-09*** (1.96e-10)	1.04e-10 (2.12e-10)	1.09e-10 (2.16e-10)
First Lag of VF	-1.93e-09*** (2.87e-10)	-5.56e-10** (2.28e-10)	-5.35e-10** (2.30e-10)
Second Lag of VF	2.12e-09*** (2.12e-09)	3.01e-11 (1.32e-10)	2.97e-11 (1.34e-10)
GAF			4.10e-11 (4.86e-11)
First Lag of GAF			-5.87e-11 (7.65e-11)
Second Lag of GAF			3.05e-11 (4.43e-11)
HDI			0.011 (0.019)

**Table 3.** First Difference GMM Estimates (Dependent Variable: Inclusive Growth)

First Lag of HDI			0.013 (0.019)
Second Lag of HDI			-0.047*** (0.015)
Time Dummies	No	Yes	Yes
Number of observations	1736	1736	1736
Number of Instruments	17	21	27
GMM Instrument Lag	2	2	2

Notes: robust standard errors are reported in parentheses. \* indicates significance at the 90% level, \*\* indicates significance at the 95% level, and \*\*\* indicates significance at the 99% level

Similar to the relationship between decentralisation and poverty or inequality, the relationship between decentralisation and economic growth shows mixed results. For many years, people measured economic growth as the only engine of prosperity (Kim & Dougherty, 2018).

However, in terms of inclusive growth, not many researchers give attention to it as traditional economic growth. Kim & Dougherty (2018) point out that economies with relatively high degree of trade openness are likely to gain benefit from economic growth improvement.

In the Asian countries context, inclusive development is determined by, inter alia, the framework of decentralisation, the structure of intergovernmental, and political system accountability (Kim and Dougherty, 2019). Further, in the Indonesian case, the major problem with village fund allocation are the equity issue of the allocation scheme and the clarity of the village service responsibilities (ibid.).

#### 4.3 Policy Analysis

Our results suggest that there is no strong evidence on the relationship between village fund and inequality as well as between village fund and the inclusive growth. The results are in accordance with previous research that in the context of inequality eradication, the central government is the best party to do the task. Previous results, however, point out that there are possibilities to build the relationship by strengthening the framework of decentralisation, the structure of intergovernmental, and political system accountability (Kim & Dougherty, 2019). Further, in the Indonesian case, the major problem with village fund allocation are the equity issue of the allocation scheme and the clarity of the village service responsibilities (Kim & Dougherty, 2019).

The insignificant results could also be explained through several channels of Village Fund Spending. It could imply that the spending of Village Fund in certain groups and subgroups is not efficient. Firstly, as the Minister of Home Affairs Regulation number 20 of 2018 regulates the spending grouping in Village Fund, the education spending is grouped under the Village Physical Development. Secondly, in terms of health spending, the regulation mentions that basic healthcare spending is categorised under the Village Physical Development, subgroup of Health. correspondingly, the infrastructure spending is grouped into three categories, namely: (1) Village Administration, subgroup Village Administration Facilities; (2) Village Physical Development, subgroups education, health, public works, residential area, transportation, communication and informatics; and (3) Group of Village Community Empowerment, subgroups marine and fishery, agriculture and animal husbandry, capacity building, cooperatives, MSME and Trade. Lastly, the governance related spending is grouped into Village Administration groups. The complete categorisation of spending is attached in the appendix.

## 5. Conclusion

This study investigates the relationship between village funds on inequality and inclusive growth. The data on village fund, gini ratio, and inclusive growth index are estimated using a dynamic panel data model with the approach of Generalized Method of Moment (GMM). In general, we use a model based on previous frameworks by (Canare, 2021), (Canare & Francisco, 2019), (Jütting et al., 2004), (Hill et al., 2012), and (Espasa et al., 2017). The regression results are further discussed using decentralisation theory and local development theory.

The absence of significant relationships between variables imply that the implementation of village funds could not eradicate the inequality problem and could not support inclusion of economic growth. To overcome those problems, we suggest several recommendations. Firstly, more consideration to institutionalism and governance should be given to village fund spending. Secondly, the framework of decentralization should be in accordance with the inclusive growth issues. Thirdly, village officers and village companion officers should be more involved in the development program in the villages. Lastly, the responsibility of village fund service should be more clarified.

The lack of prior research on the village fund topic is limiting the comparability of the result. Although there are programs with similar names in other countries such as the Sangkat and Commune Fund in Cambodia and the village fund in India, those programmes are delivered in microfinance programs.

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