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Fiscal Decentralization and Its Effect on Poverty Alleviation: A Case Study of Indonesia

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Abstract: This research provides empirical evidence of the effect of fiscal decentralization on poverty alleviation and used data from 505 districts/cities in Indonesia from 2010 to 2019. The poverty rate is used as an indicator to measure the social condition of the area with the parameter of the percentage of the total population below the poverty line, while the fiscal decentralization indicator uses an approach to the size of the ratio of PAD to total regional income and expenditure. The estimated results using the fixed effect model show that fiscal decentralization has a significant role to reduce the level of poverty in districts/cities nationally. From this estimation result, the recommended policy formulation is pro-poor fiscal decentralization through strengthening regional financial capacity, both optimizing Original Local Government Revenue (PAD), allocating Transfer Funds to Regions that are specific grants, improving the quality of spending and regional financial management, as well as mechanisms monitoring - better evaluation. In addition, the effectiveness and efficiency of regional government policies in dealing with socio-economic issues such as unemployment and the growth of the population must also be considered.

Keywords: *Fiscal Decentralization, Poverty Alleviation, and Social Development.*

Introduction

The decentralization policy consists of political decentralization, fiscal decentralization, administrative decentralization, and economic decentralization. Decentralization refers to the transfer of competencies, abilities, and responsibilities for administering public services from the Central Government to better local governments, including the transfer of functions and resources (Kharisma, 2013). Fiscal decentralization is an essential policy reform; about 95% of developing countries of the world have adopted this policy for stability in various sectors. Fiscal decentralization is generally defined as the transfer of power and responsibility from the federal government to subnational governments. It empowers the people to run their daily economic, social, and political affairs with the help of their local governments. There are different goals of fiscal decentralization in different countries, like improvement in the delivery of important public goods and services such as the provision of basic education, and essential health care, fiscal empowerment of the local communities by the local government, and allocation of the resources across the s Since the implementation of decentralization, there have been significant changes in local government finances. Decentralization is realized through the delegation of authority to lower levels of government to carry out matters such as spending, exploring potential regional revenues independently, allocating transfers from the Central Government, and others (Sidik, 2002 in Kharisma, 2013). The division of authority to regional governments to regulate and manage their administration and the provision of services to the community is accompanied by the delegation of authority to utilize and allocate finances based on the principle of decentralization,

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among others for collecting taxes and fees (tax assignment), allocating revenue sharing, and financial transfers (grant).

Since the implementation of fiscal decentralization in Indonesia in 2001, there have been significant changes in local government finances. Decentralization is realized through the delegation of authority to lower levels of government to carry out matters such as spending, exploring potential regional revenues independently, allocating transfers from the Central Government, and others (Sidik, 2002 in Kharisma, 2013). The division of authority to regional governments to regulate and manage their administration and the provision of services to the community is accompanied by the delegation of authority to utilize and allocate finances based on the principle of decentralization, among others for collecting taxes and fees (tax assignment), allocating revenue sharing, and financial transfers (grant). Increasing regional authority should ideally be accompanied by the regional capacity to optimize regional revenues. Data shows that the average share of Transfers to Regions and Village Funds (TKDD) in total revenue in provincial and district/city APBD in 2020 is 53.79% and 73.8%, respectively. Meanwhile, the average percentage of PAD in total provincial and district/city APBD revenues in the same period was 44.97% and 14.75%, respectively. This shows that fiscal decentralization in Indonesia has not yet stimulated regional government independence.

After more than two decades of implementing decentralization in Indonesia, there is an urgency to evaluate the impact of decentralization policies. Development performance in fiscal decentralization is viewed from various aspects, one of them being poverty alleviation. As poverty has become a great issue in the world, almost all countries are suffering from this problem. There are different causes of poverty in different countries. Many countries have experienced that fiscal decentralization is the best way to reduce poverty in the national as well as local areas. Based on the Statistics Indonesia Report, poverty in 1999 reached 23.43% while in 2019 it decreased to 9.41%. This leads to the conclusion that the performance of regional development has been better but not optimal and evenly distributed. The effectiveness and efficiency of regional financial planning and budgeting mechanisms are key factors for optimizing regional development performance. Therefore, a study of the effect of fiscal decentralization on the poverty rate is needed to understand the conditions that occur as well as formulate policy recommendations for subnational territory. Local government fiscal planning may play a vital part in reducing poverty in the country. Mehmood and Sadiq (2010) elaborate that fiscal decentralization plays an important role in increasing educational levels and health facilities while facilitating the lowering of poverty in any country whether it is developed or underdeveloped.

Some international studies conducted in selected developing countries establish that the relationship between fiscal decentralization and poverty reduction resulted in a relatively ambiguous link. Jütting, et.al. (2004:7) discovered that the impact of decentralization on poverty is not straightforward. It is generally considered that the usefulness of decentralization as a tool for poverty reduction varies distinctly between poor countries on the one side and emerging economies on the other side. Other studies have also highlighted that the essence of decentralization occurs in particular contexts instead of generally. It means “it may take many different forms in different countries at different times” (Bird & Rodriguez, 1999:299).

Based on this background, the purpose of this study is to analyze the effect of fiscal decentralization on reducing poverty rates in 505 districts/cities in Indonesia during the 2010-2019 period. This study is also focused on fiscal decentralization because it is assumed that through fiscal decentralization, local governments can have more opportunities to use their financial resources for more pro-poor programs.

Literature Review

Fiscal Decentralization

Decentralization is the transfer of Government Affairs by the Central Government to autonomous regions based on the principle of Autonomy, while regional autonomy is the rights, authorities, and obligations of autonomous regions to regulate and manage their affairs of Government and the interests of local communities within the Unitary State system. Republic of Indonesia (UU 23/2014). Dixon and Hakim (2009) stated that decentralization in 2001 eliminated the hierarchical relationship between central, provincial, and district/city governments and transfers of funds up to 1/3 of total national spending. The decentralization policy also encouraged the formation of New Autonomous Regions

(DOBs), so that from 1999 to 2013 the number of provinces increased from 26 to 34 and districts/cities from 293 to 505.

Davoodi & Zou (1998, p.245) defines fiscal decentralization as "a complex phenomenon with multiple dimensions". Ideally, the main goal of fiscal decentralization is to increase regional development, encourage economic growth, and reduce poverty (Salim, 2009 in Ahmed, 2013). Many developing countries take advantage of fiscal decentralization as a solution to ineffective and efficient governance, macroeconomic instability, and weak economic growth (Bird, 1993). Smoke (2001) mentions the justifications for implementing fiscal decentralization policies such as the failure of a centralized economic system, changes in international economic conditions and structural adjustment programs, as well as changes in the political climate. This condition is in accordance with the phenomena that occurred in Indonesia after the reform period in 1998.

There are two main issues in fiscal decentralization, namely regarding regional income and the mechanism of transferring funds to the regions (Bird, 1993). In order to create effective government spending, the relationship between assignments to local governments and their performance becomes crucial (ibid.,). Local government capacity and fiscal capacity are some of the key factors that determine the impact of fiscal decentralization on economic development (Oates, 1993). The important thing to note in measuring the success of fiscal decentralization is whether the policy contributes to achieving national or regional development targets (Bird & Vaillancourt, 1998).

Implementation of Fiscal Decentralization in Indonesia

Fiscal decentralization policy in Indonesia is primarily regulated in Law No. 33 of 2004 concerning the Financial Balance between the Central and Regional Governments which was revised into Law No. 2 of 2022 concerning Financial Relations between the Central Government and Regional Governments. The revised regulations aim to strengthen fiscal decentralization in the context of realizing prosperity through reducing vertical and horizontal fiscal inequality, increasing the quality of regional spending, strengthening local taxing power, and harmonizing central and regional spending. The provisions of Law No. 1 of 2022 cover regional taxes and regional fees (in Law No. 28 of 2009 concerning PDRD), Transfers to Regions, management of regional expenditures as well as regional financing and fiscal synergy (Ministry of Finance, 2021).

Fiscal decentralization and regional autonomy are dynamic concepts that adapt to the local context or conditions encountered. Fiscal decentralization in Indonesia still leads to the expenditure side (expenditure assignment) with funding sources that are still very dependent on the Transfer of Funds to the regions. Fiscal decentralization challenges in Indonesia, among others: (1) TKDD utilization that is not optimal (64.8% of DAU for personnel expenditures and capital expenditures depend on DAK); (2) The local tax ratio is low (although the previous trend of PDRD receipts has increased, it has decreased to 1.2% since the Covid-19 pandemic); (3) The quality structure of spending is not optimal (programs and activities are not yet focused, reaching 29,623 programs and 263,135 activities, personnel spending reaches 32.4% of APBD and regional infrastructure spending is only 11.5%); (4) Limited use of alternative financing (PPP is not optimal, regional loans are only 0.049% of GDP); and (5) Central-regional fiscal synergy is not optimal (central-regional program mismatch) (Ministry of Finance, 2021).

One of the implications of fiscal decentralization is the transfer of funds from the center to local governments. Figure 1 shows the trend of increasing nominal as well as the proportion of provincial/district/city Transfers to Regions and Village Funds (TKDD) to the APBN from 2005 to 2019, namely from 29.52% in 2005 to 35.20% in 2019. The largest component of The TKDD is the General Allocation Fund (DAU) and RevenueSharing Fund (DBH) which aim to overcome vertical and horizontal imbalances. The large increase in TKDD allocation every year indicates a commitment from the Central Government in line with the increasing number of government affairs being handed over to local governments.

From the aspect of regional independence, the proportion of TKDD to total provincial/district/city APBD revenues in the 2010–2019 period is still high. In 2010 TKDD contributed around 75.98% of total provincial/district/city APBD revenues, which then decreased to 66.67% in 2019. Although relatively fluctuating, this data shows that local governments are still highly dependent on TKDD. On the other hand, the downward trend in the proportion of TKDD to provincial/district/city APBD revenues indicates efforts to optimize regional revenues in the framework of realizing regional fiscal independence. Wibowo et.al., (2011) using data from 440 districts in Indonesia in 2003-2007, found that the DAK allocation mechanism at that time did not contribute to long-term development achievements. The DAU allocation formula is also believed to be ineffective in reducing poverty, encouraging corrupt practices, and worsening the quality of Indonesian public services (Green, 2005). The high level of regional dependence on transfer funds indicates that decentralization in Indonesia is more towards administrative decentralization (Green, 2005). This is because local taxes are not optimal with a large enough taxing power in the central government. Regulations regarding decentralization mandate regional expenditures financed by the APBN but do not provide significant tax collection authority to local governments (Aritenang, 2008). Since the implementation of Law No.28/2009 on Regional Taxes and Regional Retributions, the ratio of tax revenues (the ratio of regional tax revenues to GDP) has increased although not yet optimal. Therefore, an incentive system that can improve the performance of tax collection by regional governments is necessary while still minimizing the exploitation of natural resources or the high-cost economy.

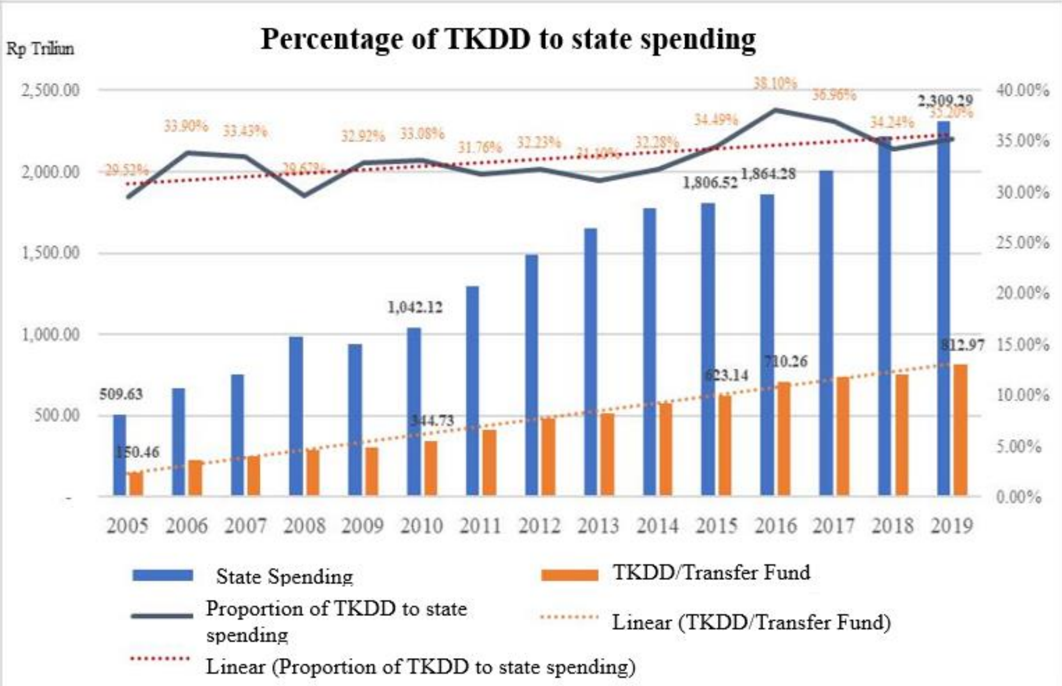

Figure 1. The proportion of TKDD to State Spending in the 2005-2019 period
Source: DJPK Ministry of Finance, processed, 2022.

From the revenue aspect, the proportion of PAD to Total Regional Income in provincial/district/city APBD during 2010 – 2019, which was 18.1% in 2010 and increased fluctuating to reach 24.5% in 2019. This supports previous data that the level of dependency on local government towards TKDD is decreasing. The contributing factors include innovations in tax collection and retribution that have not been optimal in the regions and tend to be business as usual, there is still not high awareness and compliance of taxpayers, or because the tax system has not been effective and efficient in the regions. However, it must also be considered that high rates of taxes and fees can create a high-cost economy and become a disincentive for foreign and domestic investment to enter.

Another issue is in terms of the quality of spending. The average proportion of personnel expenditure in APBD (nationally) reached 39.14% in 2014 and decreased to 33.69% in 2017. The average personnel expenditure in the city APBD reached 50.63% in 2014, while the average at the district level is 46.52%. On the other hand, the proportion of capital spending at the provincial/district/city level tends to be low, namely 18.28%, 22.6%, and 25.51% respectively in 2014 and decreased to 17.32%, 20%, and 24.29% in 2017. This indicates that the orientation of local government spending is still focused on fulfilling organizational spending rather than fulfilling public services and basic infrastructure. Local governments tend not to prioritize budget allocations for increasing capital expenditures even though they are more productive and related to the fulfillment of basic services. This phenomenon is considered one of the factors causing fiscal decentralization to be unable to reduce inter-regional disparities (Zakaria, 2013). Another issue is the absorption of regional spending which tends to be low at the beginning of the period and increases at the end of the budgeting period, thus not optimizing the quality of spending.

Poverty

Boex, et.al. (2006:3) pointed out that the definition of poverty has evolved. In the very basic sense, poverty has been defined as the lack of conditions to fulfill people's basic needs. This definition has evolved to cover a wider humanity concept such as capabilities, dignity, autonomy, vulnerability, voice, empowerment, and participation. In "Voices of the Poor", Narayan, et.al. (2000:31) gave an explanation about six areas covering poverty, namely: material well-being, psychological aspect, basic infrastructure, illness, schooling, and assets. Accordingly, the measurement of poverty has been broadening, not only based on income but also on non-income indicators. Regarding the income indicator, a specific definition and measurement of poverty have been developed for comparing poverty in the world to achieve the millennium development goals. The World Bank uses "US $1 a day" as an international common standard to define what poverty means in the World's poorest countries. Poverty in a country then is estimated by converting the US $1 a day poverty line to local currency using the latest Purchasing Power Parity (PPP) exchange reductions for consumption taken from World Bank estimates. On the other hand, the non-income indicators are such as primary education, basic health, and access to social services. The Human Development Index (HDI) is usually used as a non-income indicator for measuring the achievement of human development based on life expectancy, educational attainment, and GDP per capita.

Poverty in Indonesia

Before the Asian Financial Crisis in 1997 – 1998, Indonesia experienced very good economic growth with a significant decrease in the poverty rate, from 40.1% in 1975 to 17.7% in 1996 (before the economic crisis occurred in 1997) and increased from 3 to 23.4% in 1999 (SEADI, 2013). During 2006 - 2020, the poverty rate and the poverty rate in Indonesia decreased significantly, from 39.30 million or 17.75% in 2006 to 27.6 million or 10.14% in 2020 with poverty rates in rural and urban areas averaging 13.2% and 7.88% respectively in the same year (BPS, 2022). Poverty reduction strategies that have been initiated by the Government of Indonesia are very diverse, including Health Insurance for the poor (Askeskin), subsidized rice allocation (Raskin), Direct Cash Assistance (BLT), Family Hope Program (PKH), Staple Food Cards, Social Assistance, energy and electricity subsidies, as well as community-driven development (CDD) programs such as PNPM-Mandiri (National Community Empowerment Program) and the Pre-Employment Card program.

Figure 2 shows the percentage of poor people in Indonesia which decreased from 1998–2019, from 24.20% in 1998 to 9.22% in 2019. The poverty rate fluctuated because it was influenced by many factors such as Indonesia's economic crisis in 1997–1998 Apart from the percentage of poor people, other indicators of poverty that are commonly used in analysis such as the Poverty Depth and Severity Index or the Gini Coefficient. Papua is the province with the highest poverty rate, which is 26.8% or 912,230 people in 2020, on the other hand, DKI Jakarta Province has the lowest poverty rate, only 4.69%, but in absolute numbers, it reaches 496,840 poor people (BPS, 2022). Poverty analysis must consider population density, not just percentages. The low poverty rate in Jakarta is likely an implication of the enormous job creation of the large-scale manufacturing sector, large government spending, and the concentration of the tertiary sector (SEADI, 2013).

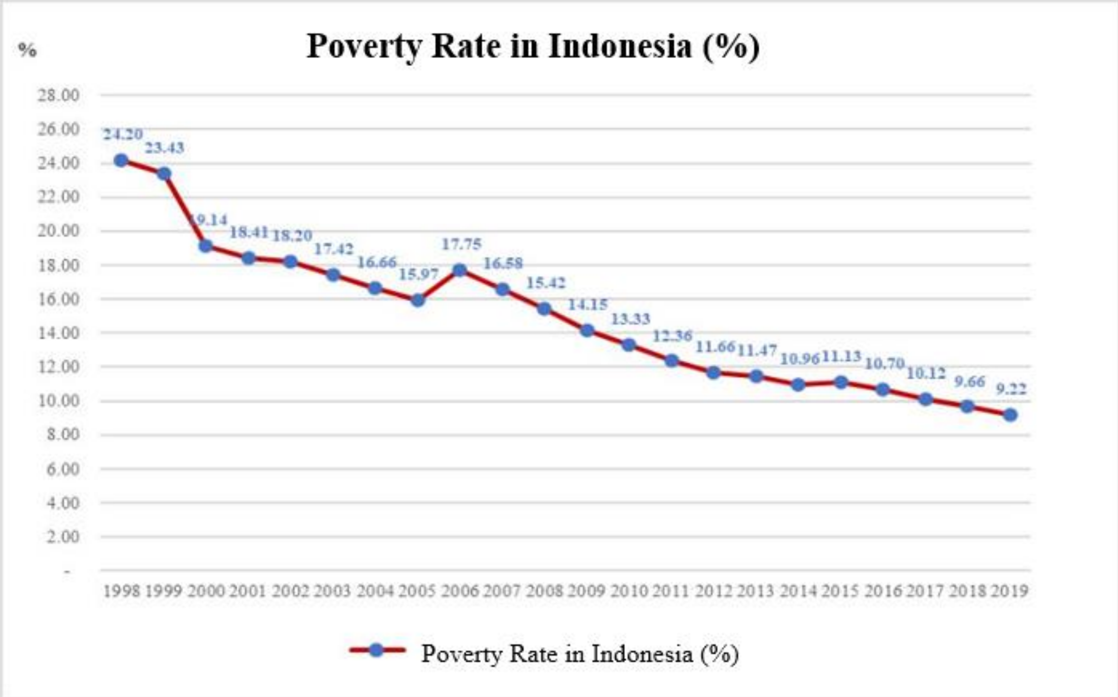

Figure 2. Percentage of Indonesian Poor Population 1998-2019 (in %)
Source: BPS, processed, 2022.

Fiscal Decentralization and Poverty Alleviation

Autonomy in income and spending at the provincial level in Pakistan has shown a positive impact on poverty reduction and job creation (Faridi & Nazar, 2013; Faridi, et.al., 2012). A study compiled by Ahmed (2013) also shows a positive correlation between fiscal decentralization in Pakistan and the effectiveness of poverty reduction programs. A similar conclusion is found in research by Yao (2007) using data from 150 countries in 1975–2000 which found a positive relationship between fiscal decentralization and poverty reduction up to a point. By using unbalanced panel data from 34 developing countries, Sepulveda & Martinez-Vazquez (2010) recommends that the central government carry out the redistribution function because fiscal decentralization is considered to have a negative impact on poverty reduction programs. Findings that are quite different from the studies discussed earlier show that the impact of fiscal decentralization is highly contextual and depends on many factors.

Banwo (2012) found no direct link between fiscal decentralization and poverty reduction in Nigeria due to the weak performance of local governments. A case study of 8 regions in South Africa concluded that fiscal decentralization implicitly exacerbated poverty conditions due to problems of corruption and budget constraints faced by local governments (Moche, et.al., 2014). This finding can be relevant in various regions in Indonesia considering that the practice of budget abuse by regional heads and their officials in Indonesia has become quite commonplace. Shahzad & Yasmin (2016) emphasize the strategic role of institutional quality because low-quality institutions and low governance can hinder the impact of fiscal decentralization to reduce poverty and income inequality. Findings in Pakistan show that income decentralization has a positive correlation with poverty and income inequality, although it can be mitigated by improving the quality of institutions. One reason is the capacity of provincial governments in Pakistan to be less efficient in tax collection and resource distribution.

Yao (2007) suggests that there is a positive relationship between fiscal decentralization and the outcomes of poverty alleviation programs up to a certain critical threshold which then changes the impact to negative. This analysis is quite comprehensive because it looks at various possible indicators of poverty and transmission although the description of the interpretation of the critical threshold is not sufficient. On the other hand, Steiner (2005) concludes that the impact of decentralization on poverty is insignificant due to low political commitment, corrupt practices, and limited human resource capacity. There are two aspects of the relationship between decentralization and poverty, namely politics and economics (ibid.,). The political impact emphasizes the aspects of participation, accountability, and the right to voice (power/voice), while the economic aspect includes the ability to generate income and the right to demand the provision of public goods related to access to social infrastructure and increased income.

Kusumaningrum (2013), using a descriptive analysis of 26 provinces in Indonesia in 1996–2000, has not found a strong and clear link between fiscal decentralization and poverty reduction in Indonesia. Siburian (2020) using Indonesian empirical data, tries to analyze the relationship between fiscal decentralization, regional disparities, and the provision of public goods. The results of his research show a link between regional disparities and fiscal decentralization (ibid.,). Kis-Katos & Sjahrir (2017), using Indonesian empirical data, produced slightly different findings, namely that fiscal decentralization has an effect on local government responses to the fulfillment of public goods, especially the health and physical infrastructure sectors. While Green (2005) argues that the DAU formula is considered ineffective in reducing poverty, it even has the potential to increase corrupt practices and provide low-quality public services in Indonesia.

Method

The study includes empirical data from 505 districts/cities from 34 provinces in Indonesia and used a panel data model processed with STATA 17 because it can capture the dynamics of the dependent and independent variables, and overcome the heterogeneity of unobserved samples (control the sample unobserved heterogeneity) (Yao, 2007). Referring to the literature (Yao, 2007; Sepulveda and Vazquez, 2010; Ahmed, 2013 and 2015), the econometric model used is the Fixed Effects Model (FEM) because of the potential endogeneity problem of regressors and heteroscedasticity of errors (Yao, 2007). FEM is considered important in overcoming OLS estimator problems such as unbiased but inefficient results or inconsistent OLS estimators with biased results because of the correlation between the effects of certain unobserved areas and explanatory variables (Ahmed, 2013). There are several econometric problems in research, namely endogeneity, multicollinearity, and heteroscedasticity. The explanatory variable is endogenous because of the disturbance term of the equation, while heteroscedasticity indicates the presence of unequal spread or non-constant error of variance (Gujarati, 2003). Multicollinearity shows a linear relationship between some or all of the explanatory variables of the regression model.

Table 1. Fiscal Decentralization Indicators

Independent Variables	Proxies	Description
PADREV	The ratio between original local government revenue with total regional government revenue	A proxy that denotes an independent area in generating income (without calculating the transfer of funds from the center to the regions), compared to the total regional income
PADSPEND	The ratio between original local government revenue with total regional government spending	A proxy that shows the independence of a region in generating income, taking into account the potential capabilities of the area compared to the total regional spending on it.

The Dependent Variable used in this study is an indicator of the level of poverty or the ratio of the number of poor people to the total population in an area (% poor). The main independent variable used is fiscal decentralization. The measurement of fiscal decentralization is quite complicated because there is no one best measure of decentralization (Martinez-Vazquez & McNab, 2003). Some researchers use the ratio of regional income and expenditure to total national (central and regional) income and expenditure in determining the level of fiscal decentralization, although a high ratio does not necessarily reflect a high level of regional autonomy (Thornton, 2007). This measurement also cannot cover institutional diversity in terms of the competence of Central and Regional agencies (Peralta, 2012). In this study, the main independent variable is fiscal decentralization, which is measured using 2 types of indicators as described in Table 1. This indicator is used because it is difficult to obtain comprehensive indicators because fiscal decentralization is multidimensional and there are limited data.

The control variables used refer to the empirical literature on control variables which are considered to be related to the socio-economic dimensions, politics, and other factors used in research (Sepulveda & Martinez-Vazquez, 2010; Ahmed, 2013; Yao, 2007). The control variables used are access to drinking water (representing infrastructure conditions), population density, and unemployment rate. The research equation of this study is:

Equation 1:
$$POVERTY_{i,t} = \alpha + \beta_1 PADREV_{i,t} + \beta_2 X_2 + \beta n Xn + \varepsilon_{i,t}$$

Equation 2:
$$POVERTY_{i,t} = \alpha + \beta_1 PADSPEND_{i,t} + \beta_2 X_2 + \beta n Xn + \varepsilon_{i,t}$$

Results and Discussion

The results of the regression on the model estimate the effect of fiscal decentralization on the poverty rate in districts/cities in Indonesia as described in Table 2.

Table 2. Regression Results of the Effect of Fiscal Decentralization on Poverty Rates in Districts/Cities in Indonesia

Independent Variables	Dependent Variables
	POVERTY
PADREV	-0.00593***
	(0.00124)
PADSPEND	-0.00459***
	(0.00140)
INFR	-0.00152***
	(0.000291)
POPULATION	-1.683***
	(0.0779)
UNEMPLOYMENT	0.00395***
	(0.00144)
Constant	8.057***
	(0.547)
Observations	5050
R-square	0.627
Number of ids	505
F Stat	137.4
Prob >F	0

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The first fiscal Decentralization Indicator (namely PADREV or ratio of PAD to regional income) has a negative (-) significant relationship to the poverty level. Regression results with data from all districts/cities show that every 1-point increase in the ratio of PAD to regional income (Rp 1 billion PAD per Rp 100 billion regional income) will reduce the poverty rate by 0.59% (ceteris paribus). The second fiscal Decentralization Indicator(namely PADSPEND or the ratio of PAD to regional spending) has a (-) negative effect/relationship with the poverty level. Regression results with data from all districts/cities show that every 1-point increase in the ratio of PAD to regional expenditure (an increase of IDR 1 billion PAD per IDR 100 billion of regional expenditure) will reduce the poverty rate by 0.46% (ceteris paribus).

Regression results on several control variables also indicate a significant impact on poverty. The control variable with a negative and significant impact relationship for both indicators of fiscal decentralization is population density. This can be interpreted that the higher the population density is inversely proportional to the level of poverty. This is quite contrary to the general assumption that the greater the population, the greater the burden on the local and central government in terms of poverty alleviation. One of the possible justifications is that the total population is part of the General Allocation Fund (DAU) allocation component so that the higher the population, the greater the DAU and can increase the capacity of local governments in financing poverty alleviation programs/activities as well as in spending funds on programs that increase people's purchasing power. Another argument is that the increase in the number of people is greater than the increase in the number of poor people (as a percentage). Another thing is the characteristics of areas with high population density tend to be areas in the 'developed' category (eg big cities) so that they have a population below the poverty line which tends to be smaller even in terms of purchasing power as well as the depth and severity of poverty may be greater than rural areas.

The control variable for the ratio of household access to clean water (adequate water access) generally shows negative results and is significant. This negative relationship means that the higher the ratio of access to clean water in an area, the poverty rate in that area will decrease. This indicates that infrastructure has a crucial role in reducing poverty in the regions. For example, the availability of clean water can directly be used as a production factor (for example as raw material for food processing centers) or stimulate economic activity so that it indirectly increases people's purchasing power while simultaneously reducing poverty. Another control variable is the unemployment and labor force ratio which shows positive results. In theory, the unemployment rate should contribute significantly to poverty.

The results of the regression in the study further reinforce the question of whether fiscal decentralization is a panacea or a placebo for targeting poverty alleviation programs in Indonesia. Von Braun & Grote (2000, p.25) argues that the analysis should be based on ".. the type of decentralization, the type and condition of an area, and the causes and patterns of poverty). The analysis must be based on factors influencing the effectiveness of fiscal decentralization in reducing poverty, namely internal factors (capacity and performance of local governments) and external factors (socio-economic and political factors).

The first major factor is the disparity between regions. Pepinsky and Wihardja (2011) state that "three pathologies from the implementation of decentralization in Indonesia that can become obstacles to the achievement of decentralization policy outcomes include: heterogeneity in resource ownership between jurisdictions, factors that are immobile, and the quality of endogenous institutions". These factors are considered to be the main factors causing the majority of local governments in Indonesia to not optimize the potential benefits of inter-regional competition and local democratic processes (ibid.,). Heterogeneity in this context includes differences in resources (natural and human), socio-political-economic conditions, and ownership of infrastructure (Miranti et al., 2013). Inequality between regions is also considered to have an important correlation with poverty and inequality in society.

Another issue is institutional factors which include the local government's capacity in planning, budgeting, and implementing development programs and activities at the local and national levels. The effectiveness of development programs and activities during the decentralization period required not only the commitment of the central government but also the active participation of local governments. However, coordination among stakeholders in implementing policies (including 'pro-poor' programs) is still a crucial issue. For example, quite several local governments do not prioritize poverty reduction programs or human resource capacity building as development goals. This is partly due to the prevailing political and planning-budgeting system. The implication of the democratic process with many political parties and direct election of regional heads is the creation of coordination constraints due to differences in vision and interests among the president, governors, and regents/mayors, even within their own regions (if there are differences in supporting parties between regional heads and party sympathizers opposition). The establishment of an effective mechanism for synchronizing development targets through a top-down and bottom-up approach is crucial considering that existing mechanisms (such as Development Planning Meetings/Musrenbang) are often seen as ceremonial activities.

Another factor is socio-economic, such as the structure of the workforce. The high unemployment rate is a characteristic of the labor market in developing countries such as Indonesia, which has many non-permanent workers (Sackey & Osey, 2006). This kind of labor market structure needs to be considered considering that there is a positive relationship between poverty and underemployment. Even though the informal sector provides an instant solution to the problem of unemployment, it pushes many workers into vulnerable conditions to lose their jobs.

Furthermore, demographic conditions are also crucial to consider. The national dependency ratio (dependency ratio or ratio between non-productive and productive populations) is projected to increase along with the potential 'Demographic Bonus' in Indonesia. Changes in the demographic structure will have a major impact on the demand for work, where excess labor supply not only creates unemployment but also workers who are in an inferior position in the informal sector. With limited social assistance programs and government intervention in the informal sector, the condition of workers in the informal sector is very vulnerable to entering poverty. The phenomenon of migration (urbanization) and the quality of human resources also have a major impact on development achievements because the limited competence of the workforce causes low competitiveness of prospective workers and makes them more vulnerable to poverty.

Conclusion

By using data from 505 districts/cities in Indonesia in the period 2011 – 2019, an empirical study of the effect of fiscal decentralization on poverty alleviation shows several important findings. First, there is a negative and significant relationship between fiscal decentralization and poverty reduction nationally in 2010–2019 using two different indicators. Second, socio-economic factors such as the availability of basic infrastructure, population density, and unemployment have a crucial role in poverty reduction programs. However, data limitations meant that a more in-depth analysis could not be carried out. The findings in this study may change with longer data over a period of time and with the use of other control variables. This research does not consider the influence of other strategic variables such as the quality of government (transparency, accountability, and democratization aspects), environmental factors, private sector contributions, and international conditions as well as other conditional variables due to limited access to data. Not using important variables can potentially lead to overestimating the regression results. Another thing is the use of interpolated data in several variables because the data is incomplete. It is hoped that future research will be able to answer this problem considering that “the differences between monetary measurements of poverty and multidimensional poverty are significant in Indonesia (Sumarti and de Silva, p.17). Studying the impact of fiscal decentralization at a lower level such as in border or rural areas can also be developed in future research. The challenge to answer the claim that there are disparities and inequalities in development between regions (based on geographic location) will provide a different perspective on the diversity of characteristics between regions.

Based on these conclusions, the implication is that it is important to consider policy interventions that are systematic, consistent, and comprehensive, both regarding fiscal decentralization and programs/activities in general. In addition, policy recommendations for central and regional governments must be based on approaches that consider income and population structure (demographics). Some of the findings of fiscal decentralization in this study have potential implications that could influence regional development policies in Indonesia. First, the use of PAD (Original Local Government Revenue) as a component of measuring fiscal decentralization through two indicators, shows significant findings and is in accordance with the hypothesis, This shows that the fiscal decentralization policy that is ideally driven by the Government is increase regional fiscal independence. Optimizing regional revenues from resource utilization is crucial, not only because it affects the spending capacity of local governments but also spending patterns. The momentum for the enactment of Law No. 1 of 2022 concerning HKPD as a new legal protection for fiscal decentralization, including regional taxes and levies, should be optimized to encourage regional fiscal independence without becoming a bottleneck in the regional economy. Second, with regard to the Transfer of Funds to the Regions, several findings in the study indicated that the impact of fiscal decentralization (with indicators using DBH as one of its components) did not have significant achievements on development achievements. This indicates TKDD has a crucial role, especially in overcoming horizontal and vertical imbalances. However, it is not necessarily recommended to increase TKDD, but for specific types of grants such as the Special Allocation Fund (DAK) which is a closed list and includes the type of capital expenditure. Regional government spending in the form of DAK which is capital expenditure in nature can create jobs and increase people's purchasing power. For example the construction of roads or the construction of other public facilities and infrastructure. Apart from that, indirect programs/activities supported by DAK have helped improve people's living standards, for example through the provision of education, health, and connectivity (access) facilities.

The next policy implication related to the reduction of the poverty rate is Government should pay attention to policies related to all factors that are correlated, both with the demand for and supply of labor (supply and demand). From the labor supply side, it is very strategic for local governments to encourage the competitiveness of the workforce. Targets at the national and regional levels should be set at secondary and tertiary education to anticipate the demand for skilled workers. The government should also increase the number of vocational schools as well as training programs, apprenticeships, and scholarships, including increasing awareness of the need for incentives for the lower middle class in sending their children to educational institutions.

Furthermore, from the demand side, local governments must be actively involved in creating a conducive and pro-poor business climate. The informal sector is not always assumed to be a marginal activity that must be formalized, but can also be integrated as a significant shareholder in driving the economy (David et al., 2013). Most poverty alleviation programs are top-down policies with the main role played by the central government, including programs such as the People's Business Credit/KUR and the Family Hope Program/PKH. Strengthening the role of local governments in the target-setting process (by controlling the accuracy of target beneficiary data), as well as monitoring and evaluation in policy implementation must be carried out. This process should also involve the use of various routine activities/traditions (such as meetings for cultural or religious activities) as a forum for outreach to local community leaders. Local governments must also ensure that both domestic and foreign investments (such as foreign direct investment) must include as many local people as possible and take advantage of the use of local resources.

The role of local government can be categorized according to the stages of planning, budgeting, implementation, and evaluation. During the planning-budgeting process, local governments must be able to design pro-poor policies at various levels of government. Local governments must be able to integrate policies on the informal sector into planning documents and set targets explicitly. Local governments should also develop an early warning system to periodically monitor demographic and structural changes in the labor market, including taking advantage of the presence of governmental and non-governmental elements with a stake in poverty alleviation and relevant forums. In the budgeting process, it is necessary to improve the quality of spending through more and more investments that have a multiplier effect on the lower middle class. This includes the provision of quality basic service facilities and infrastructure considering that human capital (HR/human capital which is influenced by education and health status) is the main asset of the lower middle class in urban areas in reducing their vulnerability to poverty (Moser, 1996).

Last, the quality of local government spending still needs to be improved. Data shows that the average proportion of personnel spending in APBD (nationally) reached 39.14% in 2014 and decreased to 33.69% in 2017 (Ministry of Finance, 2021). The average personnel expenditure in APBD at the city level tends to be very high, reaching 50.63% in 2014, while the average proportion of capital expenditure is only around 25.51% in 2014 and decreased to 24.29% in 2017. The district level also shows a similar portrait, namely in 2014 the average district-level personnel expenditure was 46.52% of the APBD while the average proportion of capital expenditure was only 22.6%, in 2014 it even decreased to 20% in 2017. This phenomenon indicates that the orientation of regional spending is still focused on fulfilling organizational spending rather than fulfilling public services and basic infrastructure. This is considered one of the factors causing fiscal decentralization to be unable to reduce interregional disparities (Zakaria, 2013). Related to this research, the impact of fiscal decentralization that has not been optimal, especially in the KTI region, can be caused by the quality of regional spending that is not fully oriented towards fulfilling basic services. Regulations in accountability, transparency, and law enforcement arrangements should be adequately implemented in Indonesia.

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