The Impact of Fiscal Decentralization on Public Service Delivery: Evidence from Indonesia
(Dampak Desentralisasi Fiskal terhadap Pelayanan Publik: Studi Kasus Indonesia)

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Abstract

The expanded autonomy of local governments has influenced local economies and enhanced public services in the health and education sectors. This research has aims to develop a conceptual model illustrating the impact of fiscal decentralization on the public health and education sectors. The study was conducted from 2013 to 2021 using sample data from Indonesia's districts and urban clusters. Empirical research is performed via a dynamic data panel or the Generalized Method of Moments (GMM). The study's results indicate that fiscal decentralization exerts a beneficial albeit statistically insignificant influence on public health services across all cluster data. Moreover, fiscal decentralization exerts a beneficial and substantial influence on public services within the education sector. This report advocates for the government to reallocate funding towards public health and education. Specifically, it is recommended that funds be allocated more effectively toward responsive sectors, notably education, to enhance the outcomes and quality of public services. Additionally, the study underscores the necessity for continuous monitoring and assessment mechanisms to ensure transparency and accountability in fiscal transfers. The central government should also encourage local authorities to prioritize community needs assessment to better align fiscal expenditures with local priorities.

Keywords: fiscal decentralization, public service, panel data analysis

Abstrak

Perluasan otonomi pemerintah daerah telah memengaruhi ekonomi lokal dan meningkatkan layanan publik di sektor kesehatan dan pendidikan. Penelitian ini bertujuan untuk mengembangkan model konseptual yang menggambarkan dampak desentralisasi fiskal terhadap sektor kesehatan masyarakat dan pendidikan. Studi ini dilakukan dari tahun 2013 hingga 2021 dengan menggunakan data sampel dari kabupaten dan klaster perkotaan di Indonesia. Penelitian empiris dilakukan melalui panel data dinamis atau Generalized Method of Moments (GMM). Hasil studi menunjukkan bahwa desentralisasi fiskal memberikan pengaruh yang menguntungkan meskipun secara statistik tidak signifikan pada layanan kesehatan masyarakat di semua data klaster. Selain itu, desentralisasi fiskal memberikan pengaruh yang menguntungkan dan substansial pada layanan publik dalam sektor pendidikan. Laporan ini menganjurkan pemerintah untuk mengalokasikan kembali dana untuk kesehatan masyarakat dan pendidikan. Secara khusus, direkomendasikan agar dana dialokasikan secara lebih efektif untuk sektor responsif, terutama pendidikan, untuk meningkatkan hasil dan kualitas layanan publik. Selain itu, studi ini menggarisbawahi perlunya mekanisme pemantauan dan penilaian berkelanjutan untuk memastikan transparansi dan akuntabilitas dalam transfer fiskal. Pemerintah pusat juga harus mendorong otoritas lokal untuk memprioritaskan penilaian kebutuhan masyarakat untuk lebih menyelaraskan pengeluaran fiskal dengan prioritas lokal.

Kata kunci: dana perimbangan, pelayanan publik, analisis data panel.

INTRODUCTION

In recent eras, a surge of fiscal decentralization measures has undermined confidence in central governments' capacity to provide public services efficiently. The assumption is whether local governments, closer to their constituents, can allocate public goods more effectively. The government may encounter significant obstacles in the effective implementation of budgetary responsibility. Nonetheless, there are reasons to suppose that lower thirds exist (Arends, 2020). The centralized government system in Indonesia ultimately failed to foster prosperity and progress, resulting in heightened regional disparities between Java Island and areas outside of it, as well as between the western and eastern regions of Indonesia (Kuncoro, 2014).

The discontent with the local government's excessively centralized system prompted the need for greater autonomy, ultimately affecting Indonesia's local governments. Following the 1999 reform, President Habibie enacted Law No. 22/1999 about Local Government and Law No. 25/1999 pertaining to Fiscal Balance between Central and Local Government. The increased autonomy granted to local governments has resulted in implications for fiscal decentralization monies (Wasistiono and Polyando, 2017).

Tiebout (1956) was the originator of fiscal decentralization theory, asserting that fiscal decentralization enhances efficiency in the provision of public services. Moreover, the decentralization theory (Oates, 1999)

posits that local governments enhance service accessibility due to their advantages related to the economic or social attributes of their regions. Therefore, greater emphasis should be placed on assessing the impact of decentralization on the quality of public service delivery. The central government allocates fiscal decentralization funding to effectuate change in local governance. Fiscal decentralization primarily seeks to enhance the proximity of local government to the community (Adam and Delis, 2012; Faguet, 2008; Robinson, 2007; Tiebout, 1956; Wang et al., 2012; Ahmad et al. 2017).

In theory, the provision of regional autonomy is an attempt to motivate regions to enhance their development management. Regional governments are anticipated to establish and retain a variety of management policies, particularly those that prioritize innovation, creativity, and autonomy. It is crucial to promote regional autonomy and diminish dependencies on the central authority. In order to enhance the quality of service provided by regional governments to the community, regional autonomy is also promoted. As regional governments are granted greater autonomy by the central government, the provision of public products and services becomes more secure and increases (Christia and Ispriyarso, 2019).

Kis-Katos and Sjahrir (2017) conducted research of 271 districts and cities in Indonesia from 1994 to 2009, revealing that post-2001, numerous districts showed low levels of public funding while beginning to allocate resources to the health and education sectors. Nevertheless, the study did not examine the impact of fiscal decentralization on the growth of public services, particularly in the education and health sectors. Moreover, Gonschorek & Schulze (2021) discovered that under President Joko Widodo's administration, the intergovernmental fiscal transfer system continues to utilize the requisite allocation derived from the general allocation fund (DAU) formula, whereas allocative efficiency necessitates its cessation and substitution with a scheme wherein transactions are independent of inputs. Consequently, numerous regions and cities, particularly in eastern Indonesia, continue to experience inadequate public services in both the healthcare and education sectors. Research by Efriandi, Couwenberg, and Holzhacker (2019) revealed that fiscal decentralization was ineffective in distributing public services, including education, health, and clean water, in the Jayawijaya District of Papua Province.

We contribute to this research by mapping and investigating the impact of fiscal decentralization on public service in all districts and cities of Indonesia. This research examines the impact of fiscal decentralization on public service in the health and education sectors of districts and cities in Indonesia, drawing on the aforementioned facts and findings. The aim of this research is to furnish information, particularly for other researchers who are interested in enhancing the impact of fiscal decentralization on public services in Indonesia. It is expected that additional researchers will conduct additional studies by conducting a comprehensive analysis of additional variables in order to enhance public services in Indonesia

This study addresses a critical research gap identified in prior literature, specifically examining the direct impacts of fiscal decentralization on public service delivery within Indonesia's health and education sectors across all districts and cities. Previous studies, such as Kis-Katos and Sjahrir (2017), highlighted the initial allocation patterns post-decentralization but did not explicitly evaluate the effect of fiscal decentralization on public service growth. Likewise, Efriandi, Couwenberg, and Holzhacker (2019) revealed ineffectiveness in certain regions, underscoring the need for a comprehensive nationwide assessment. Therefore, the novelty of this research lies in its extensive, nationwide approach to analyzing the impact of fiscal decentralization, filling a critical knowledge gap by examining previously unexplored direct relationships between fiscal decentralization and public service outcomes in health and education sectors.

Moreover, this study explicitly integrates Indonesia's unique multilevel governance structure into the analysis, examining how the country's specific decentralization practices influence local service delivery outcomes. The complexity inherent in Indonesia's governance, characterized by varying regional capacities, administrative structures, and resource distributions, necessitates an in-depth investigation of how these factors mediate the effectiveness of fiscal transfers. Consequently, the study introduces local governance quality and civic participation as critical mediating variables, hypothesizing that these factors significantly influence the relationship between fiscal decentralization and public service outcomes.

By highlighting these mediating variables, this research not only provides valuable theoretical contributions but also practical insights. Policymakers and local government officials can leverage these findings to optimize fiscal decentralization strategies, enhancing local governance quality and civic engagement to improve public services. Thus, the significance of this study extends beyond academic discourse, directly informing policy formulation and implementation aimed at achieving equitable and efficient service provision across Indonesia.

LITERATURE REVIEW

Fiscal decentralization has become a central strategy in improving the efficiency of public service delivery, particularly in countries that previously followed highly centralized systems. Oates (1972, 1999) emphasized that local governments possess superior knowledge and information regarding the specific needs of their communities. Therefore, the delegation of fiscal authority is not only rational but imperative. This aligns with the core functions of government as outlined by Musgrave (1959)—macroeconomic stabilization, resource allocation, and income distribution—where fiscal decentralization plays a key role in enhancing the allocation function due to the proximity of local authorities to constituent needs.

In centralized systems, the appeal of decentralizing public services lies in enabling sub-national administrations to prioritize decision-making, thereby fostering better intergovernmental coordination and more effective policy implementation. Grindle (2007) supports this view, arguing that decentralization improves policy outcomes by enhancing information flows, ensuring smoother policy transitions, and strengthening mechanisms for monitoring and accountability.

Empirical studies have highlighted the impacts of fiscal decentralization in key sectors such as education and health. In the education sector, Melo-Becerra et al. (2020) found that fiscal decentralization in Colombia between 2008 and 2013 led to notable improvements in education quality, with local government efficiency ranging from 26% to 98%, despite challenges related to limited fiscal autonomy and administrative constraints. Similarly, Letelier and Ormeño (2021), using panel data from Chile (2005–2013), demonstrated that increased fiscal autonomy for municipal governments positively influenced educational outcomes, underscoring the importance of strong fiscal support in effective decentralization.

In contrast, findings in the health sector reveal more mixed outcomes. Dwicaksono and Fox (2021) showed that fiscal decentralization in Indonesia had a positive impact on health system performance indicators, contributing to better service delivery. However, Hao et al. (2020), analyzing panel data from 23 provinces in China (2002–2012), concluded that while decentralization improved fiscal capacity at the local level, it also intensified income inequality, which in turn negatively affected public health services both directly and indirectly.

Cordeiro Guerra and Lastra-Anadón (2019) further noted that fiscal decentralization can lead to improved policy outcomes when implemented alongside strong local government performance, particularly in the provision of public goods. This is supported by Narbón-Perpiñá and De Witte (2021), who conducted a systematic review of 84 empirical studies on local governance between 1990 and 2016. Their findings highlight the wide variation in approaches to evaluating local public sector performance across countries, in terms of methodologies, inputs, and outputs.

Although many studies support the positive potential of fiscal decentralization, its effectiveness remains highly context-dependent, shaped by local institutional capacity and governance structures. In Indonesia, there is a noticeable gap in empirical research that comprehensively addresses the variations in institutional strength and administrative heterogeneity across regions. Accordingly, this study seeks to fill that gap by providing empirical evidence on the relationship between fiscal decentralization and public service outcomes, particularly within Indonesia's diverse subnational governance landscape.

METHOD

This study adopts a mixed-method approach that integrates both quantitative and qualitative methodologies. The qualitative component involves data collection techniques such as data reduction, data display, and conclusion drawing to support the interpretation of statistical findings. Meanwhile, the quantitative analysis is conducted through static and dynamic panel data regression models, focusing on the impact of fiscal decentralization on the provision of public services by local governments in Indonesia.

The panel data regression model in this study draws from Gujarati's (2004) definition of panel data as pooled data consisting of time series and cross-sectional observations across units, allowing for the analysis of longitudinal behavior across entities. Following Baltagi (2008), the study employs three primary panel data models—common effect, fixed effect, and random effect. To determine the most appropriate model, the Wald test is used to compare the common and fixed effect models, while the Hausman test is used to choose between fixed and random effects. Model selection is guided by significance thresholds of 1%, 5%, and 10%.

To account for endogeneity and potential simultaneity bias in the panel data, the study further applies a two-step Generalized Method of Moments (GMM) system estimator, following the Arellano-Bover/Blundell-Bond approach. This dynamic model includes lagged dependent variables to capture delayed effects of fiscal decentralization on public services and to mitigate reverse causality. Instruments are selected based on lagged levels and differences of endogenous regressors. The validity of instruments is tested using the Hansen J-test (to confirm instrument exogeneity) and the Arellano-Bond test for autocorrelation in second-order residuals. Instruments are collapsed where necessary to avoid overfitting, and the total number of instruments is carefully monitored to remain below the number of cross-sectional units.

The analysis includes clustered panel data covering 514 districts and cities in Indonesia from 2013 to 2021, segmented into four clusters to reflect varying levels of dependency on fiscal decentralization funds. The first cluster includes special autonomy regions such as Aceh, Yogyakarta, Papua, and West Papua. The second cluster comprises regions where more than 50% of local revenue comes from fiscal decentralization transfers. The third cluster contains regions with 25% to 50% fiscal dependency, and the fourth includes those with less than 25%. This clustering method is grounded in prior empirical studies (e.g., Faguet, 2004; Jia et al., 2014), which emphasize the heterogeneous impact of fiscal policy depending on fiscal capacity and autonomy.

To ensure data validity, several data-cleaning steps were implemented. Outliers were managed using a 1% winsorization method, and variables such as locally generated revenue (PAD) and fiscal transfers (FD) were normalized relative to population or GDP to enhance comparability. Missing values were handled through multiple imputation methods where data were missing completely at random, and districts with more than 30% missing data across the study period were excluded from the analysis.

The empirical models used in this study are adapted from Adam and Delis (2012), Jia et al. (2014), and Zhong (2014), who examined the relationship between fiscal decentralization and public services across OECD countries and China. Two regression equations are specified: the first analyzes the effect of fiscal decentralization on health services (measured by the availability of health facilities), while the second focuses on education services. Key independent variables include fiscal decentralization funds (FD), regional economic growth (GDPR), own-source revenue (PAD), population (Pop), and sector-specific expenditures (health and education).

Stata software is used to perform the panel regression analysis. The robustness of the GMM estimations is confirmed through diagnostic tests, and the models are interpreted based on theoretical expectations and empirical precedents in the literature

The dynamic panel regression estimation model, which is a two-step GMM system, was employed in this investigation. The GMM dynamic panel scheme monitors the fixed effects on the year's dimension and the single dimension by recognizing the dummy variable of the year dimension. We presume that the constant variable in the regression equation is. If the p-value of the AR (2) and Hansen-J tests is less than the significance level (*** $p < 0.01$; ** $p < 0.05$, and* $p < 0.1$), then GMM systems are considered accurate. In the interim, the Stata software is employed to analyze the data panels.

The model employed to empirically analyze the impact of fiscal decentralization funds on public service is derived from a model developed by Adam and Delis (2012), who conducted research on the impact of decentralization funds on public services. From 1970 to 2000, the investigation employed data from 21 Organization for Economic Co-operation and Development (OECD) countries, with an emphasis on public service in education and health. The outcome is consistent with Jia et al. (2014) and Zhong (2014). Using a sample of China from 1997 to 2006, who discovered an increase in public expenditure as a result of an increase in fiscal decentralization funding. Public health and public service in education are the two components of this research. The model employed in this investigation is predicated on Jia et al. (2014). Therefore, the panel regression model is implemented in the following manner: model (1) is employed to investigate the impact of fiscal decentralization on public service in the health sector, while model (2) is employed to investigate the impact of fiscal decentralization on public service in the education sector:

$$PS\ Health_{it} = \alpha_0 + \beta_1 FD_{it} + \beta_2 GDPR_{it} + \beta_3 PAD_{it} + +\beta_4 Pop_{it} + \beta_5 Kes_{it} u_{it} \ldots\ldots\ldots\ldots (1)$$

$PS\ Health$ is a public sector health service where the assumption used is the number of health service facilities with i for the cross-local government's cross-section based on 4 cluster data and t for time. FD is a decentralized fund received by the local government; GDPR is the local government's regional economic

growth. PAD is the original local government revenue. POP is the population of the local government. Kes is the proportion of local government expenditure on health.

$$PS\ Educ_{it} = \alpha_0 + \beta_1 FD_{it} + \beta_2 GDPR_{it} + +\beta_3 PAD_{it} + +\beta_4 Pop_{it} + \beta_5 Educ_{it} + u_{it} \dots\dots (2)$$

$PS\ Educ$ is a public sector education service where the assumption used is the number of years used by inhabitants aged 15 years and older in undergoing prescribed education, with i for the cross-section of local government based on 4 cluster data and t for time. FD is a decentralized fund received by the local government; GDPR is the local government's regional economic growth. The initial local government income is PAD. The population of the local government is POP. Educ is the proportion of spending by local government on education. Table 1 below describes the research variables and explanation.

Table 1. Research Variables and Explanation

Variable	Description	Explanation
Dependent Variables		
PS Health	Health Sector	The sum of health care facilities, including hospitals, health centers, and clinics, in districts and localities with clusters 1 to 4 from 2013 to 2021 are used as proxies for public services in the health sector.
PS Educ	Education sector	The number of years that inhabitants aged 15 years and older used to endure formal education in districts and cities with clusters 1 to 4 between 2013 and 2021 was a factor in the public service education sector.
Independent Variables		
FD	Fiscal decentralization	Fiscal decentralization is the term used to describe the amount of funding that districts and localities received from 2013 to 2021 in clusters 1 to 4.
GDPR	Regional Gross Product Domestic	Regional Gross Product Domestic is the regional economic development of the local government in districts and cities in clusters 1 to 4, spanning the years 2013 to 2021.
PAD	Original Local Government Revenue	In the districts and cities of clusters 1 to 4, the initial revenue of the local authority from 2013 to 2021
POP	Population	The population of the districts and localities in clusters 1 to 4 from 2013 to 2021 is the subject of this study.
Kes	Local Government spending on health	This is the local government's proportion of health expenditure in all districts and cities in clusters 1 to 4, covering the years 2013 to 2021.
Educ	Local Government Expenditure on Education	The focus of this investigation is the local government's allocation of education in all districts and communities across all clusters from 2013 to 2021.

RESULT AND DISCUSSION

The variables of the research are collected and encoded for statistical analysis using STATA software. The study gathered data from over 482 districts and cities in all provinces of Indonesia, which were then grouped into four cluster districts and cities. A number of districts and cities have been omitted from the investigation due to a lack of data. The data of districts/cities in the Special Province of the Capital City (DKI) Jakarta is excluded from the research data due to the fact that the district/city in DKI Jakarta Province has never received fiscal decentralization funds from the central government. Table 2 contains the descriptive statistics of the variables that were employed to estimate the regression equations (1) and (2).

Tabel 2. Variable description

Variables	SD	Mean	Min	Max
PS Health	211.21	592.03	27	4896
PS Educ	0.916	8.34	6.65	11.16
FD	1,378,334,312,798	1,219,044,753,011	100,235,786,200	71,567,021,624,736

GDPR	2.775	5.7625	-9,66	38,23
PAD	370,820,214,035.17	436,658,088,618	1,490,176,000.00	867,643,469,527
POP	117993	132757	7734	3692693
Kes	363489071432	120588726751	1265342632	946839548712
Educ	56182078798	35868541721	1056370807	930943288998

Source: Results from data analysis on STATA Software

The Common Effect Model (CEM) or Fixed Effect Model (FEM) in the panel data regression of clusters 1 through 4 will be determined using the Wald Test in the subsequent section. The Hausman Test is the subsequent phase after the Wald Test. It is used to ascertain whether the Fixed Effect Model (FEM) or the Random Effect Model (REM) should be employed against data clusters from 1 to 4. Table 3 contains a summary of the Wald Test and Hausman Test results. Random Effect Model (REM) is employed in clusters I, II, and III, while Fixed Effect Model (FEM) is employed in cluster IV, as indicated by the final result-based Table 3 for model (1) above.

Table 3. The Result of Test CEM vs. FEM on Model (1)

Model	Cluster I	Cluster II	Cluster III	Cluster IV
CEM vs. FEM	FEM	FEM	FEM	FEM
FEM vs. REM	FEM	FEM	FEM	FEM
Final Result	FEM	FEM	FEM	FEM

Source: Author's calculation based on the cluster panel data.

Meanwhile, in Table 4 for the model (2) below, the analysis proves that all the four-cluster panel models use the Fixed Effect Model (FEM).

Table 4. The Result of Test FEM vs. REM on the Model (2)

Model	Cluster I	Cluster II	Cluster III	Cluster IV
CEM vs. FEM	FEM	FEM	FEM	FEM
FEM vs. REM	FEM	FEM	FEM	FEM
Final Result	FEM	FEM	FEM	FEM

Source: Author's calculation based on the cluster panel data.

The subsequent phase is to conduct panel regression data for model (1) and model (2) in accordance with these findings. Table 5 displays the panel data regression results for the model (1), which illustrates the impact of fiscal decentralization on public services in the health sector.

Table 5. The Result for dependent variable Public Service on Health

Variable	Fixed Effect Model				GMM system			
	Cluster I	Cluster II	Cluster III	Cluster IV	Cluster I	Cluster II	Cluster III	Cluster IV
FD	0.187	0.641	0.724	0.416	0,3168	0,261	0,491	0,506
GDPR	0.548	0.512*	0.043	0.096	0,610*	0,221*	0,09*	0,104*
PAD	0.718	0.428*	0.018	0.022	0,248	0,267	0,021	0,044
POP	0.278*	0.011	0.232*	0.017*	0,558	0,02	0,042	0,108*
Kes	0.342*	0.823*	0.008	0.588	0,106*	0,161*	0,727	0,691
R-Square Adj-R^2 Prob F-Stat	0.707 0.703 0.000	0.595 0.557 0.000	0.410 0.407 0.007	0.588 0.564 0.000	N/A	N/A	N/A	N/A
AR (2) *p-value*	N/A	N/A	N/A	N/A	0,279	0,324	0,452	0,534
Hansen-J *p-value*	N/A	N/A	N/A	N/A	0,415	0,421	0,537	0,617

*Significant at 5%
Source: Author's calculation based on the cluster panel data (2020).

According to the empirical results presented in Table 5, fiscal decentralization will influence the public service in health approximation using System GMM. In the health sector, fiscal decentralization has a positive but not significant impact on the public service, despite being a fixed-effect model. The conclusion implies that the expansion of fiscal decentralization does not have an impact on public health services in any of the cluster data districts or cities. Specifically, this investigation indicates that the fiscal decentralization

fund does not have a significant impact on public services in the heath sector. Research conclusions are consistent with those presented by Sow and Razafimahefa (2021). In the health sector, the research underscores that fiscal decentralization funds can foster public service, provided that certain absolute requirements are met.

Additionally, Hao et al. (2020) conducted research on the impact of fiscal decentralization on public health. They employed a data cohort from 23 provinces in China and demonstrated that fiscal decentralization has a detrimental impact on public health in China from 2002 to 2012. This study suggested that the efficacy of local governments in serving public health should be the basis for their evaluation. Another recommendation from this research was that the local government should adjust the top-down configuration and increase the bottom-up charge to prioritize the health requirements of residents.

In the interim, the economic growth in all districts and communities in all clusters is both positive and substantial. This robust relationship is impervious to analysis using the GMM system. The economic growth has a positive and significant impact only on cluster 2, whereas the fixed-effect model yields distinct results. In both System GMM and fixed effect panel data results, the public health sector of districts and localities is positively and significantly influenced by variable government expenditure on health in clusters I and II.

The health sector has been decentralized to local governance in districts and cities as a result of the autonomy era that began in 2001. While the responsibility for public health has been decentralized to the city and district governments, the health indicator output and outcomes remain established (Law No 23/2014). The central government has established a consistent policy regarding minimum service standards. The local government is required to provide residents with essential public services, including health and education, in accordance with the standard (Government Regulation, 2021). This minimum service standard, particularly in the context of health, has resulted in new challenges for districts and cities across all clusters. It indicates that the government has established a minimum health standard; however, the fiscal capacity of the districts and cities in all data clusters is insufficient to meet the minimum public health standard. The research conducted by DiNovi & Turati (2019) is consistent with the findings of this study. They conducted an analysis of fiscal decentralization using a study conducted by the Italian government that examined variations in health outcomes. The discovery has demonstrated that fiscal decentralization is contingent upon growth, which is contingent upon the extent of fiscal autonomy. Healthcare services can be enhanced in wealthy regions that generate substantial expenses from their revenues.

Table 6. The result of the dependent variable Public Service for Education

Variable	Fixed Effect Model				GMM system			
	Cluster I	Cluster II	Cluster III	Cluster IV	Cluster I	Cluster II	Cluster III	Cluster IV
FD	0.524*	0.783*	0.612*	0.403*	0,734*	0,640*	0,529*	0,428*
GDPR	0.687	0.425	0.778	0.728*	0,525	0,332	0,293	0,764*
PAD	0.882	0.652	0.897	0.484	0,611	0,231	0,389	0,581
POP	0.718	0.528	0.321	0.013	0,231	0,582	0,369	0,041
Educ	0.323*	0.623*	0.363*	0.308	0,305*	0,735*	0,387*	0,599
R-Square Adj-R^2 Prob F-Stat	0.701 0.690 0.000	0.797 0.794 0.000	0.697 0.672 0.000	0.675 0.582 0.000	N/A	N/A	N/A	N/A
AR (2) *p-value*	N/A	N/A	N/A	N/A	0,523	0,517	0,253	0,654
Hansen-J *p-value*	N/A	N/A	N/A	N/A	0,613	0,690	0,315	0,737

*Significant at 5%
Source: Author's calculation based on the cluster panel data (2020).

Substantively, the outcome of Table 6 suggests that fiscal decentralization has a positive and substantial impact on the public service in the education sector in all cluster districts and cities. This research posits that the expansion of public service in education is facilitated by the increase in fiscal decentralization. Conversely, public services in the health sector are significantly and positively influenced by the population and local and regional revenues of all clusters. Public service in health is positively and significantly influenced by original local revenue (PAD) exclusively in cluster II. Moreover, the public service on health in clusters I

and II is positively and significantly impacted by local government expenditure on health. The health sector's public service is not significantly affected by the other cluster.

In addition, the subsequent section emphasized the influence of fiscal decentralization on public services in the education sector. The research findings in Table5 demonstrate that fiscal decentralization (FD) has a substantial and advantageous impact on public services in the education sector in all clusters, specifically clusters I, II, III, and IV. Economic growth in clusters II and IV has a considerable positive impact on public services in the education sector, as indicated by the panel's regression. Local original revenue (PAD) and population variables do not influence public service in the education sector. Additionally, the education of all clusters, specifically clusters I, II, III, and IV, is significantly and positively influenced by the expenditure of local governments on education.

The results presented in Table 6 reveal several important insights into the determinants of public service delivery in the education sector across different district clusters. The most notable finding is the consistently positive and statistically significant influence of Fiscal Decentralization (FD) across all clusters (I–IV) under both the Fixed Effect and GMM system models. The magnitude of FD's coefficients ranges from 0.403 to 0.783, indicating that increased fiscal autonomy at the local level correlates strongly with improved public service performance in education. This suggests that when local governments are granted greater fiscal discretion, they are better positioned to allocate resources effectively and respond to specific local educational needs, thereby enhancing service delivery.

On the other hand, the variable representing Gross Domestic Product per Region (GDPR) shows mixed results. While it yields a positive effect across clusters, its statistical significance is limited—only reaching significance in Cluster IV under the GMM model. This implies that while economic growth may provide a broader financial base, it does not consistently lead to improved educational public services unless coupled with targeted policy measures or investment. Similarly, Original Local Government Revenue (PAD) and Population (POP) do not exhibit statistically significant effects on education service provision across most clusters. This may be due to the fact that larger population sizes and higher local revenues do not necessarily guarantee effective service unless they are matched by sound planning, governance, and spending priorities.

In contrast, Education-specific expenditure (Educ) is a consistently significant driver of public service improvements in education across most clusters. Under both modeling approaches, education spending by local governments demonstrates a positive and statistically significant relationship with public service outcomes, with coefficients ranging between 0.305 and 0.735. This underscores the importance of direct investment in the education sector and highlights the practical role that budgetary commitments play in elevating service quality.

Overall, the findings suggest that the education sector is particularly responsive to fiscal decentralization and dedicated expenditure. This may be due to the structured nature of educational planning, where performance indicators (such as enrollment and literacy rates) are clearly defined and monitored. Moreover, community participation and local oversight mechanisms, such as school committees and parent associations, likely enhance the effectiveness of spending. These governance structures create a level of accountability and responsiveness that may be less prevalent in other sectors. In summary, Table 6 supports the view that fiscal decentralization, when accompanied by targeted education expenditures, plays a pivotal role in enhancing the quality and reach of public education services.

The second effect is the impact of fiscal decentralization on public service in the education sector. In all cluster data, namely clusters I, II, III, and IV, fiscal decentralization has a positive impact on public service in the education sector, as indicated by the panel regression. The consequence is that any increase in the fiscal decentralization funds allocated to local governments can serve to promote the expansion of public services in the education sector. The findings of this study are consistent with prior research that has demonstrated that the expansion of fiscal decentralization funds promotes public services in the education sector. For instance, Dissou et al. (2016), Sanogo (2019), Cordeiro & Lastra-Anadón (2019), and Melo-Becerra et al. (2020) have all reported similar findings. According to Ebel and Yilmaz (2016), the efficacy of public service is enhanced by the implementation of fiscal decentralization. Regional governments are motivated to augment their local government spending capacity by increasing the fiscal decentralization fund. This rise in local government expenditure has the potential to stimulate the expansion of public services. The allocation of resources available to local governments to meet enhanced public services should be influenced by the result of fiscal decentralization, as demonstrated in Tables 5 and 6.

Local governments are required to develop Regional Medium-Term Development Plans in order to articulate the vision, mission, and work programs of regional heads, as well as regional development strategies, general policies, priority programs, and regional financial policies, as outlined in Law No. 25 of 2004 regarding the National Development Planning System. Nevertheless, obstacles or issues may arise, despite the fact that planning has been prepared. The constraints of available budgets frequently prevent the realization of programs and activities. Consequently, obstacles arise. District and city administrations frequently implement the sole strategy due to inadequate funding sources. The journey of regional autonomy, which has provided fiscal decentralization to local governments to carry out these duties for more than 19 years in Indonesia, is not perfect. Several records have established the autonomy of local governments as a public policy that has been selected to establish the pattern of relations between the central government and the local government. The note pertains to the enhancement of public services, particularly those in the health and education sectors of the regions, through higher levels of fiscal decentralization.

In the implementation of fiscal decentralization, the primary guideline and reference should be the principle of money following functions. According to this principle, any delegation or transfer of government authority must have an effect on the budget necessary to execute that authority. To maintain the principle of "money follows function," the central government must be able to supervise the continuous implementation of fiscal decentralization. In order for this principle to be consistently and explicitly implemented, the central government must monitor it. The purpose of this is to prevent the transfer of financial resources that have been controlled and owned by the region but are not accompanied by the decentralization tasks that are the region's responsibility, particularly in terms of public services to the community in the areas.

A thorough assessment of the regional autonomy implementation, which has been in progress for more than 23 years, is finally required. The central government must rework the concept and implementation of special autonomy, particularly in the provision of fiscal decentralization funds in Indonesia, with a particular emphasis on the delivery of public services. Indonesian district and city administrations must be capable of formulating budget policies that foster the enhancement of public services in the region, with a particular emphasis on education and health. Regional autonomy policies can be implemented to create high-quality public services in education and health. In order to improve public services and the regional economy in the district/city, these policies must have a significant impact on district/city governments, in addition to the provision of fiscal decentralization to district/city governments.

CONCLUSION

The findings of this study demonstrate that fiscal decentralization exerts a significant and positive influence on public service delivery in the education sector across all district/city categories (I–IV). In contrast, while the health sector also experiences positive effects, the impact is relatively moderate and less pronounced. These results reinforce theoretical perspectives that fiscal decentralization enhances allocative efficiency and local responsiveness, especially in sectors closely tied to human development outcomes.

Importantly, the positive effects observed are not automatic. The study emphasizes that fiscal decentralization must be accompanied by targeted institutional reforms and supportive policies. One critical recommendation is the integration of Minimum Service Standards (SPM) indicators into the evaluation of district-level performance, thereby creating a standardized framework for measuring progress in education and health services. The APBD budget allocations should be guided by rational and evidence-based expenditure priorities, ensuring that spending in these two sectors aligns with service delivery targets and population needs.

To further reinforce these effects, a national incentive-penalty mechanism is recommended. This would reward local governments that achieve or exceed SPM indicators and penalize those that fall below benchmarks, fostering accountability and continuous improvement in service quality. The central government should also support capacity building at the subnational level, ensuring that district and city administrations have the administrative and technical competencies to manage decentralized funds effectively.

REFERENCES

Adam, A., & Delis, M. D. P. K. (2012). Fiscal decentralization and public service sector efficiency: Evidence from OECD countries (No. 36889). MPRA. https://mpra.ub.uni-muenchen.de/36889/1/MPRA_paper_36889.pdf.

Ahmad, D., Khan, A. A., Ali, S., Qureshi, G. Y., Anwar, N., & Rauf, A. (2017). Fiscal decentralization and delivery of public services: Evidence from education sector in Pakistan. Studies in Business and Economics, 12(1), 174–184. https://doi.org/10.1515/sbe-2017-0013.

Arends, H. (2020). The dangers of fiscal decentralization and public service delivery: A review of arguments. Politische Vierteljahresschrift, 61(3), 599–622. https://doi.org/10.1007/s11615-020-00233-7.

Arzaghi, M., & Henderson, J. V. (2005). Why countries are fiscally decentralizing. Journal of Public Economics, 89, 1157–1189. https://doi.org/10.1016/j.jpubeco.2003.10.009.

Baltagi, B. H. (2008). Econometrics (4th ed.). Springer.

Christia, A. M., & Ispriyarso, B. (2019). Desentralisasi fiskal dan otonomi daerah di Indonesia. Law Reform, 15(1), 149–163.

Cordeiro Guerra, S., & Lastra-Anadón, C. X. (2019). The quality-access tradeoff in decentralizing public services: Evidence from education in the OECD and Spain. Journal of Comparative Economics, 47(2), 295–316. https://doi.org/10.1016/j.jce.2021.12.004.

Davoodi, H., & Zou, H. (1998). Fiscal decentralization and economic growth: A cross-country study. Journal of Urban Economics, 43, 244–257.

Diaz-Serrano, L., & Meix-Llop, E. (2019). Decentralization and the quality of public services: Cross-country evidence from educational data. Environment and Planning C: Politics and Space, 37(7), 1296–1316. https://doi.org/10.1177/2399654418824602.

Di Novi, C., Piacenza, M., Robone, S., & Turati, G. (2019). Does fiscal decentralization affect regional disparities in health? Quasi-experimental evidence from Italy. Regional Science and Urban Economics, 78, 103465. https://doi.org/10.1016/j.regsciurbeco.2019.103465.

Dissou, Y., Didic, S., & Yakautsava, T. (2016). Government spending on education, human capital accumulation, and growth. Economic Modelling, 58, 9–21. https://doi.org/10.1016/j.econmod.2016.04.015.

Dwicaksono, A., & Fox, A. M. (2021). Does decentralization improve health system performance and outcomes in low-and middle-income countries? A systematic review of evidence from quantitative studies. The Milbank Quarterly, 96(2), 323–368..

Ebel, R., & Yilmaz, S. (2016). On the measurement and impact of fiscal decentralization (World Bank Policy Research Working Paper No. 2809).

Efriandi, T. R. I., Couwenberg, O., & Holzhacker, R. L. (2019). Decentralization and public service provision: A case study of the education sector in Jayawijaya District, Papua, Indonesia. Contemporary Southeast Asia, 41(3), 364–389. https://doi.org/10.1355/cs41-3b.

Faguet, J. P. (2008). Decentralisation's effects on public investment: Evidence and policy lessons from Bolivia and Colombia. The Journal of Development Studies, 44(8), 1100–1121. https://doi.org/10.1080/00220380802242370.

Filippetti, A., & Cerulli, G. (2021). Are local public services better delivered in more autonomous regions? Evidence from European regions using a dose-response approach. Papers in Regional Science, 97(3), 801–826. https://doi.org/10.1111/pirs.12283.

Flynn, N. (2014). Decentralization and governance in health care. In Decentralizing health services: A global perspective (pp. 51–76). Springer. https://doi.org/10.1007/978-1-4614-9071-5_4.

Ganaie, A. A., Bhat, S. A., Kamaiah, B., & Khan, N. A. (2021). Fiscal decentralization and economic growth: Evidence from Indian states. South Asian Journal of Macroeconomics and Public Finance, 7(1), 83–108. https://doi.org/10.1177/2277978718760071.

Ginting, A. M., Hamzah, M. Z., & Sofilda, E. (2019). The impact of fiscal decentralization on economic growth in Indonesia. Economic Journal of Emerging Markets, 11(2), 152–160. https://doi.org/10.20885/ejem.vol11.iss2.art3.

Gonschorek, G. J., & Schulze, G. G. (2021). Continuity or change?: Indonesia's intergovernmental fiscal transfer system under Jokowi. Journal of Southeast Asian Economies, 35(2), 143–164. https://doi.org/10.1355/ae35-2c.

Government Regulation. (2021). Minimum service standard.

Grindle, M. S. (2007). Going local: Decentralization, democratization, and the promise of good governance. Princeton University Press.

Gujarati, D. N. (2004). Basic econometrics (4th ed.). McGraw-Hill.

Hao, Y., Liu, J., Lu, Z. N., Shi, R., & Wu, H. (2020). Impact of income inequality and fiscal decentralization on public health: Evidence from China. Economic Modelling, 91, 902–910. https://doi.org/10.1016/j.econmod.2020.02.034.

Jia, J., Guo, Q., & Zhang, J. (2014). Fiscal decentralization and local expenditure policy in China. China Economic Review, 28, 107–122. https://doi.org/10.1016/j.chieco.2014.01.002.

Kis-Katos, K., & Sjahrir, B. S. (2017). The impact of fiscal and political decentralization on local public investment in Indonesia. Journal of Comparative Economics, 45(2), 344–365. https://doi.org/10.1016/j.jce.2017.03.003.

Kuncoro, M. (2014). Otonomi daerah: Menuju era pembangunan daerah (3rd ed.). Penerbit Erlangga.

Law of the Republic of Indonesia No. 23 of 2014 concerning Local Government.

Letelier, S. L., & Ormeño, C. H. (2021). Education and fiscal decentralization: The case of municipal education in Chile. Environment and Planning C: Politics and Space, 36(8), 1499–1521. https://doi.org/10.1177/2399654418761888.

Melo-Becerra, L. A., Hahn-De-Castro, L. W., Ariza, D. S., & Carmona, C. O. (2020). Efficiency of local public education in a decentralized context. International Journal of Educational Development, 76, 102194. https://doi.org/10.1016/j.ijedudev.2020.102194.

Mitchell, A., & Bossert, T. J. (2010). Decentralisation, governance and health-system performance: "Where you stand depends on where you sit." Development Policy Review, 28(6), 669–691. https://doi.org/10.1111/j.1467-7679.2010.00504.x.

Musgrave, R. A. (1959). The theory of public finance. McGraw-Hill.

Narbón-Perpiñá, I., & De Witte, K. (2021). Local governments' efficiency: A systematic literature review—Part I. International Transactions in Operational Research, 25(2), 431–468. https://doi.org/10.1111/itor.12364.

Oates, W. E. (1972). Fiscal federalism. Harcourt Brace Jovanovich.

Oates, W. E. (1999). An essay on fiscal federalism. Journal of Economic Literature, 37(3), 1120–1149.

Robinson, M. (2007). Does decentralisation improve equity and efficiency in public service delivery provision? IDS Bulletin, 38(1), 7–17. https://doi.org/10.1111/j.1759-5436.2007.tb00333.x.

Sanogo, T. (2019). Does fiscal decentralization enhance citizens' access to public services and reduce poverty? Evidence from Côte d'Ivoire municipalities in a conflict setting. World Development, 113, 204–221. https://doi.org/10.1016/j.worlddev.2021.09.008.

Smoke, P., & Lewis, B. D. (1996). Fiscal decentralization in Indonesia: A new approach to an old idea. World Development, 24(8), 1281–1299. https://doi.org/10.1016/0305-750X(96)00042-3.

Tiebout, C. M. (1956). Theoretical implications of local expenditure competition. *Journal of Political Economy*, *64*(5), 416–424. https://doi.org/10.1086/257839.

Wang, W., Zheng, X., & Zhao, Z. (2012). Fiscal reform and public education spending: A quasi-natural experiment of fiscal decentralization in China. Publius: The Journal of Federalism, 42(2), 334–356. https://doi.org/10.1093/publius/pjr039.

Wasistiono, S., & Polyando, P. (2017). Politik desentralisasi di Indonesia. IPDN Press.

Appendix 1.
Research Data Cluster:

No.	Clusters	Districts/Cities
1.	Districts/Cities that receive additional funds in addition to fiscal decentralization fund. Like a special autonomy fund.	Districts/cities di Aceh Province: 1. District Aceh Barat 2. District Aceh Besar 3. District Aceh Selatan 4. District Aceh Singkil 5. District Aceh Tengah 6. District Aceh Tenggara 7. District Aceh Bireun 8. District Simulue 9. City Sabang 10. City Lhoksemawe 11. District Gayo Lues 12. District Aceh Barat Daya 13. District Aceh Jaya 14. District Aceh Tamiang 15. District Benar Meriah 16. District Pidie Jaya 17. City Banda Aceh 18. District Subussalam District/City di Yogyakarta Province: 1. District Gunung Kidul 2. District Kulon Progo 3. District Sleman 4. City Yogyakarta 5. District Bantul District/City di Papua Province: 1. City Sorong 2. District Fakfak 3. District Manokwari 4. District Manokwari Selatan 5. District Maybrat 6. District Pegunungan Arfak 7. District Raja Ampat 8. District Sorong 9. District Sorong Selatan 10. District Teluk Bintuni 11. District Tambraw 12. District Teluk Wondama 13. District Kaimana District/City di West Papua Province: 1. District Asmat 2. District Biak Numfor 3. District Boven Digoel 4. District Dogiyai 5. District Intan Jaya 6. District Jayapura 7. District Jayawijaya 8. District Keerom 9. District Kepulauan Yapen 10. District Deiyai 11. District Lanny Jaya 12. District Mamberamo Raya 13. District Mamberamo Tengah

		14. District Mappi
		15. District Merauke
		16. District Mimika
		17. District Nabire
		18. District Nduga
		19. District Paniai
		20. District Pegunungan Bintang
		21. District Puncak
		22. District Puncak Jaya
		23. District Sarmi
		24. District Supiori
		25. District Tolikara
		26. District Waropen
		27. District Yahukimo
		28. District Yalimo
		29. City Jayapura
2.	Districts/cities that have a proportion of local revenue/ income (PAD) compared to fiscal decentralization > 50%	1. City Medan 2. City Palembang 3. City Bandar Lampung 4. District Karawang 5. City Bandung 6. City Bekasi 7. City Bogor 8. City Cirebon 9. City Depok 10. City Semarang 11. District Sidoarjo 12. City Surabaya 13. City Balikpapan 14. District Morowali 15. City Makassar 16. City Kendari 17. District Badung 18. District Gianyar 19. City Denpasar 20. District Tangerang 21. City Tangerang 22. City Tangerang Selatan 23. City Batam
3.	Districts/cities that have a proportion of local revenue/ income (PAD) compared to fiscal decentralization between 25% to 50%.	1. District Deli Serdang 2. District Simalungun 3. City Padang Panjang 4. City Padang 5. City Dumai 6. City Pekan Baru 7. City Jambi 8. District Bandung 9. District Cianjur 10. District Cirebon 11. District Majalengka 12. District Sumedang 13. City Sukabumi 14. City Tasikmalaya 15. City Cimahi 16. City Banjar 17. District Banyumas

		18. District Kendal
		19. District Kudus
		20. District Pekalongan
		21. District Purworejo
		22. District Rembang
		23. District Semarang
		24. District Tegal
		25. City Magelang
		26. City Pekalongan
		27. City Salatiga
		28. City Surakarta
		29. District Banyuwangi
		30. District Jombang
		31. District Kediri
		32. District Lamongan
		33. District Mojokerto
		34. City Kediri
		35. City Malang
		36. City Madiun
		37. City Mojokerto
		38. City Probolinggo
		39. District Jombang
		40. District Tuban
		41. City Surabaya
		42. City Pontianak
		43. City Banjarbaru
		44. City Samarinda
		45. City Palu
		46. City Luwu Timur
		47. District Buleleng
		48. District Tabanan
		49. District Lombok Barat
		50. City Mataram
		51. District Lombok Utara
		52. District Halmahera Utara
		53. District Serang
		54. District Karimun
		55. District Bintan
4.	Districts/cities that have a proportion of local revenue/ income (PAD) compared to fiscal decentralization less than 25%	1. District Asahan
		2. District Dairi
		3. District Karo
		4. District Labuhan Batu
		5. District Langkat
		6. District Mandailing Natal
		7. District Nias
		8. District Tapanuli Selatan
		9. District Tapanuli Tengah
		10. District Tapanuli Utara
		11. District Toba Samosir
		12. City Binjai
		13. City Pematang Siantar
		14. City Sibolga
		15. City Tanjung Balai
		16. City Tebing tinggi
		17. City Padangsidimpuan
		18. District Pakpak Barat
		19. District Nias Selatan
		20. District Humbang Hasundutan
		21. District Sedang Berdagai

		22. District Samosir
		23. District Batubara
		24. District Padang Lawas
		25. District Padang Lawas Utara
		26. District Labuhanbatu Selatan
		27. District Labuhanbatu Utara
		28. District Nias Utara
		29. District Nias Barat
		30. City Gunung Sitoli
		31. District Lima Puluh City
		32. District Agam
		33. District Kepulauan Mentawai
		34. District Padang Pariaman
		35. District Pasaman
		36. District Pesisir Selatan
		37. District Siunjung
		38. District Solok
		39. District Tanah Datar
		40. City Bukit Tinggi
		41. City Payakumbuh
		42. City Sawahlunto
		43. City Solok
		44. City Pariaman
		45. District Pasaman Barat
		46. District Dharmasraya
		47. City Solok Selatan
		48. District Bengkalis
		49. District Indragiri Hilir
		50. District Indragiri Hulu
		51. District Kampar
		52. District Kuantan Singingi
		53. District Pelawan
		54. District Rokan Hilir
		55. District Rokan Hulu
		56. District Siak
		57. District Kepulauan Meranti
		58. District Batanghari
		59. District Bungo
		60. District Kerinci
		61. District Merangin
		62. District Muaro Jambi
		63. District Sarolangun
		64. District Tanjung Jabung Barat
		65. District Tanjung Jabung Timur
		66. District Tebo
		67. District Lahat
		68. District Musi Banyuasin
		69. District Musi Rawas
		70. District Muara Enim
		71. District Ogan Komering Ilir
		72. District Ogan Komering Ulu
		73. City Prabumulih
		74. City Pagar Alam
		75. District Lubuk Linggau
		76. District Banyuasin
		77. District Ogan Ilir

		78.	District Ogan Komering Ulu Timur
		79.	District Ogan Komering Ulu Selatan
		80.	District Empat Lawang
		81.	District Penukal Abab Lematang Ilir
		82.	District Musi Rawas Utara
		83.	District Bengkulu Selatan
		84.	District Bengkulu Utara
		85.	District Rejang Lebong
		86.	City Bengkulu
		87.	District Kaur
		88.	District Seluma
		89.	District Mukomuko
		90.	District Lebong
		91.	District Kepahiang
		92.	District Bengkulu Tengah
		93.	District Lampung Barat
		94.	District Lampung Selatan
		95.	District Lampung Tengah
		96.	District Lampung Utara
		97.	District Lampung Timur
		98.	District Tanggamus
		99.	District Tulang Bawang
		100.	City Metro
		101.	District Pesawaran
		102.	District Pringsewu
		103.	District Mesuji
		104.	District Tulang Bawang Barat
		105.	District Pesisir Barat
		106.	District Garut
		107.	District Indramayu
		108.	District Kuningan
		109.	District Tasikmalaya
		110.	District Bandung Barat
		111.	District Pangandaran
		112.	District Banjarnegara
		113.	District Batang
		114.	District Blora
		115.	District Boyolali
		116.	District Brebes
		117.	District Cilacap
		118.	District Demak
		119.	District Grobogan
		120.	District Jepara
		121.	District Karanganyar
		122.	District Kebumen
		123.	District Klaten
		124.	District Magelang
		125.	District Pati
		126.	District Pemalang
		127.	District Purbalingga
		128.	District Sragen
		129.	District Sukoharjo
		130.	District Temanggung
		131.	District Wonogiri
		132.	District Wonosobo
		133.	District Bangkalan
		134.	District Blitar
		135.	District Bojonegoro
		136.	District Bondowoso
		137.	District Jember

| | | 138. District Lumajang |
| 139. District Madiun |
| 140. District Magetan |
| 141. District Malang |
| 142. District Nganjuk |
| 143. District Pacitan |
| 144. District Pamekasan |
| 145. District Ponorogo |
| 146. District Probolinggo |
| 147. District Sampang |
| 148. District Situbondo |
| 149. District Sumenep |
| 150. District Trenggalek |
| 151. District Tulungagung |
| 152. District Pasuruan |
| 153. City Batu |
| 154. District Bengkayang |
| 155. District Landak |
| 156. District Kapuas Hulu |
| 157. District Ketapang |
| 158. District Sambas |
| 159. District Sanggau |
| 160. District Sintang |
| 161. City Singkawang |
| 162. District Sekadau |
| 163. District Melawi |
| 164. District Koyong Utara |
| 165. District Kubu Raya |
| 166. District Barito Selatan |
| 167. District Barito Utara |
| 168. District Kapuas |
| 169. District Citywaringin Barat |
| 170. District Citywaringin Timur |
| 171. City Palangkaraya |
| 172. District Katingan |
| 173. District Seruyan |
| 174. District Sukamara |
| 175. District Lamandau |
| 176. District Gunung Mas |
| 177. District Pulang Pisau |
| 178. District Murung Raya |
| 179. District Barito Timur |
| 180. District Banjar |
| 181. District Barito Kuala |
| 182. District Hulu Sungai Selatan |
| 183. District Hulu Sungai Tengah |
| 184. District Hulu Sungai Utara |
| 185. District Citybaru |
| 186. District Tabalong |
| 187. District Tanah Laut |
| 188. District Tapin |
| 189. District Balangan |
| 190. District Tanah Bumbu |
| 191. District Berau |
| 192. District Kutai Kartanegara |
| 193. District Kutai Barat |

		194. District Kutai Timur
		195. District Paser
		196. City Bontang
		197. District Penajam Paser Utara
		198. District Mahakam Ulu
		199. District Bolaang Mongondow
		200. District Minahasa
		201. District Kepulauan Sangihe
		202. District Bitung
		203. District Kepulauan Talaud
		204. District Mihasa Selatan
		205. District Kepulauan Siau Tahulandang Biaro
		206. City Citymobagu
		207. District Bolaang Mongondow Utara
		208. District Mihasa Tenggara
		209. District Bolaang Mongondow Timur
		210. District Bolaang Mongondow Selatan
		211. District Banggai
		212. District Banggai Kepulauan
		213. District Buol
		214. District Tolitoli
		215. District Donggala
		216. District Poso
		217. District Parigi Moutong
		218. District Tojo Una Una
		219. District Sigi
		220. District Banggai Laut
		221. District Morowali Utara
		222. District Bantaeng
		223. District Barru
		224. District Bonne
		225. District Bulukumba
		226. District Enrekang
		227. District Gowa
		228. District Jeneponto
		229. District Luwu
		230. District Luwu Utara
		231. District Maros
		232. District Pangkajene dan Kepulauan
		233. City Palopo
		234. District Pinrang
		235. District Sinjai
		236. District Kepulauan Selayar
		237. District Sidenreng Rappang
		238. District Soppeng
		239. District Takalar
		240. District Tana Toraja
		241. District Wajo
		242. City Pare-Pare
		243. District Toraja Utara
		244. District Buton
		245. District Konawe
		246. District Kolaka
		247. District Muna
		248. City Bau-Bau
		249. District Konawe Selatan
		250. District Wakatobi
		251. District Kolaka Utara
		252. District Konawe Utara
		253. District Buton Utara

		254. District Konawe Kepulauan
		255. District Kolaka Timur
		256. District Muna Barat
		257. District Buton Tengah
		258. District Buton Selatan
		259. District Bangli
		260. District Jembrana
		261. District Klungkung
		262. District Bima
		263. District Dompu
		264. District Lombok Tengah
		265. District Lombok Timur
		266. District Sumbawa
		267. District Alor
		268. District Belu
		269. District Ende
		270. District Flores Timur
		271. District Kupang
		272. District Lembata
		273. District Manggarai
		274. District Ngada
		275. District Sikka
		276. District Sumba Barat
		277. District Sumba Timur
		278. District Timor Tengah Selatan
		279. District Timor Tengah Utara
		280. City Kupang
		281. District Rote Ndao
		282. District Manggarai Barat
		283. District Nagekeo
		284. District Sumba Barat Daya
		285. District Sumba Tengah
		286. District Manggarai Timur
		287. District Sabu Rijua
		288. District Malaka
		289. District Maluku Tenggara Barat
		290. District Maluku Tengah
		291. District Maluku Tenggara
		292. District Buru
		293. City Ambon
		294. District Seram Bagian Barat
		295. District Seram Bagian Timur
		296. District Kepulauan Aru
		297. City Tual
		298. District Maluku Barat Daya
		299. District Buru Selatan
		300. District Biak Numfor
		301. District Halmahera Tengah
		302. City Ternate
		303. District Halmahera Barat
		304. District Halmahera Timur
		305. District Halmahera Selatan
		306. District Kepulauan Sula
		307. City Tidore Kepulauan
		308. District Pulau Morotai
		309. District Pulau Taliabo

		310. District Lebak
		311. District Pandeglang
		312. District Bangka
		313. District Belitung
		314. City Pangkal Pinang
		315. District Bangka Selatan
		316. District Bangka Tengah
		317. District Bangka Barat
		318. District Belitung Timur
		319. District Boalemo
		320. District Gorontalo
		321. District Pohuwato
		322. District Bone Bolango
		323. District Gorontalo Utara
		324. District Natuna
		325. District Kepulauan Anambas
		326. District Karimun
		327. District Tanjung Pinang
		328. District Lingga
		329. District Majene
		330. District Mamuju
		331. District Polewali Mandar
		332. District Mamasa
		333. District Mamuju Utara
		334. District Mamuju Tengah
		335. District Bulungan
		336. District Malinau
		337. District Nunukan
		338. City Tarakan
		339. District Tana Tidung