

Regional Financial Management towards Village Development Independency in Indonesia Lacking Regions

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Abstract

The aim of this study is to examine the impact of regional government expenditure on regional autonomy, taking into account indices of social, economic, and ecological resilience within the context of impoverished regions. This study employs panel regression and route analysis techniques to analyze data from 62 districts identified as undeveloped regions in Indonesia throughout the period of 2016–2022. The exogenous factors in this study encompass capital investment, operating expenditure, and balancing funds, whereas the endogenous variable is the village development index. The findings show that (1) capital expenditure, operational expenditure, and balancing funds have an indirect influence on IDM through the economy. (2) Capital expenditure has a negative impact on economic growth because underdeveloped areas are increasingly concentrated in the eastern region and cause economic disparities to grow. (3) Operational expenditure and balancing funds have a positive impact on the regional economy, which also impacts village independence.

Keywords: *Village Independence, Capital Expenditure, Operational Expenditure, Fiscal Balance Transfer, Regional Economy.*

Introduction

The purpose of this research is to assess how regional government spending affects regional autonomy through the economy of undeveloped regions, with a focus on social, economic, and ecological indices of resilience. The success of development projects and regional economic growth is heavily influenced by the quality of financial management at the regional level (Elmassah & Mohieldin, 2020). Keynes (2022) contends that in order to boost economic growth, government must interfere through the management of government spending and income (Poku et al., 2022). According with the theories of Keynes Zhang et al. (2021) conducted a study that demonstrates the positive influence of government expenditure on the magnitude of economic growth (Zhang et al., 2021). In order to enhance economic growth within a certain region, it is imperative to effectively administer government expenditures and revenues (Mohsin et al., 2021).

Government expenditure and income can be managed by regulating the composition of government expenditure focused on economic development, such as capital investment, operational expenditure, and balancing funds (H. H. Nguyen, 2019). Capital expenditures are government investments in public infrastructure and production capacity (Zhao et al., 2021). The investment is designed to boost regional productivity and contribute to long-term economic growth (Du et al., 2022). According to the endogenous growth model, together with private capital, government capital as a public good steers the economy to balanced growth (Gross & Klein, 2022). Meanwhile, operational expenditure refers to routine expenditures incurred by local governments in carrying out their operations and providing critical community services (Deslatte & Stokan, 2020). These expenditures include payroll, maintenance, and other ongoing expenses. Although capital spending is focused on long-term investments, operational expenditure is required for the

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smooth administration of local government and the delivery of fundamental services to inhabitants (Y. J. Park et al., 2022).

The Indonesian federal government has the power to raise or lower taxes and distribute the proceeds to the provinces and municipalities as it sees fit (Desdiani et al., 2022). Balancing funds are money that the federal government gives to state and local governments to help even things out (Ahmad et al., 2021). Equal and more equitable development across Indonesia is the outcome of this support, helping local governments satisfy their basic needs in areas like infrastructure, health, and education (Arends, 2020).

The implementation of policies aimed at eliminating regional underdevelopment persists, yet there are certain regions that exhibit lower levels of development in comparison to other places at the national level, commonly referred to as underdeveloped regions (Rochwulaningsih et al., 2019). The phrase "underdeveloped regions" refers to geographical locations that exhibit a lack of progress or advancement in multiple dimensions of development, including ecological, economic, and social resilience, in comparison to other regions within the same country (Ma et al., 2020). In recent decades, the nation has witnessed significant advancements; nonetheless, the issue of development disparity between urban and rural regions remains a prominent concern (Hill, 2021). Hence, it is imperative for the government to persist in its endeavors to address this disparity by implementing diverse development initiatives (Roberson et al., 2020). Figure 1 below illustrates the progression of regencies and cities categorized as underdeveloped regions for the periods of 2015–2019 and 2020–2024.

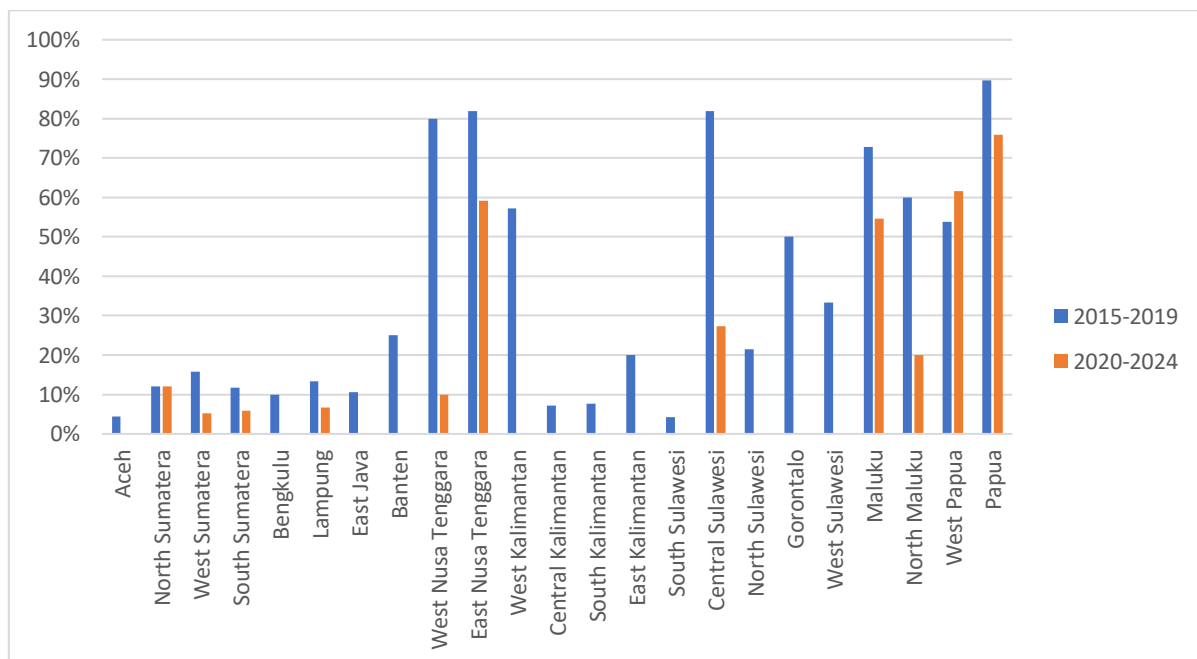


Figure 1. Indonesian Disadvantaged Regions Development Percentage 2015-2019 and 2020-2024

Source: (Indonesia, 2015)

Figure 1 show that has been a notable decrease in the development levels of certain regions in Indonesia that were previously classified as underdeveloped. Nevertheless, this phenomenon is limited to the eastern area of Indonesia. Indeed, certain provinces, namely Papua, West Papua, and East Nusa Tenggara (NTT), continue to exhibit a significant proportion of their territories that remain underdeveloped, with over 50% of their areas falling into this category. In addition to this, the province of West Papua witnessed a notable rise of 7.69% in areas characterized by socio-economic disadvantages (Mendez, 2020; Surya et al., 2020).

however, there has been a noticeable decrease in resources allocated towards addressing the needs of underprivileged regions, as depicted in Figure 2.

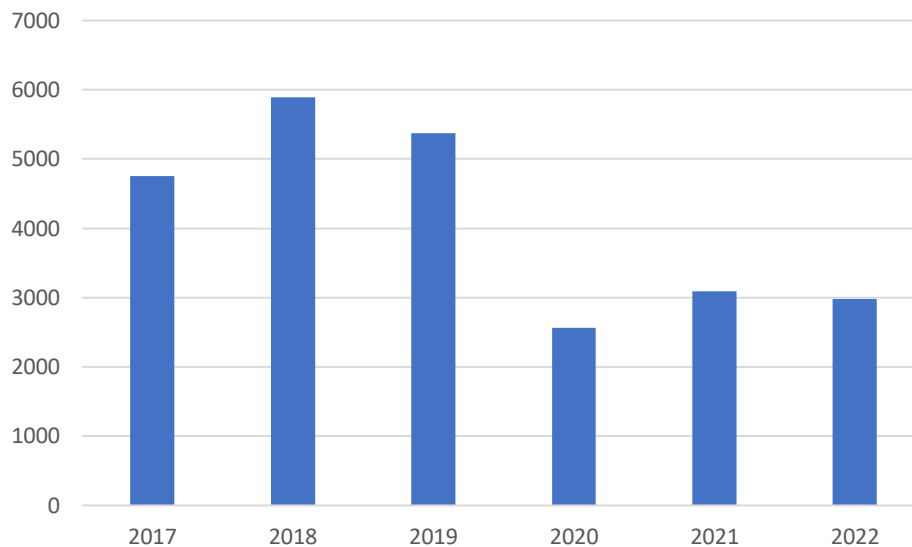


Figure 2. Budget Allocation for Alleviation of Disadvantaged Areas in Indonesia (In Billions of Rupiah)

Source: (Peraturan Menteri Desa, Pembangunan Daerah Tertinggal, Dan Transmigrasi Republik Indonesia Nomor 1 Tahun 2022, 2022)

According to the data presented in Figure 2, there is a noticeable decline in the budget allocation for addressing underdeveloped areas, with a significant fall of 47.76% observed in 2020. This reduction in funding is concerning, particularly considering the persistence of underdeveloped areas, particularly in the eastern region, over the period of 2020–2024. The aforementioned circumstance highlights the imperative of conducting research and comprehending strategies for enhancing regional autonomy, which should be accomplished by using proficient and productive approaches to managing fiscal allocations by regional authorities (X. Wang & Wang, 2021).

Regional independence refers to the ability of a certain geographical area or region to exercise self-governance and administer its own governmental issues with minimal dependence on the central government or higher tiers of governance (Talitha et al., 2020). The relationship between regional independence and regional government spending is closely intertwined and carries substantial implications for the well-being of local communities. In regions that are underdeveloped, it becomes crucial to prioritize infrastructure enhancements and foster regional openness as means to promote regional independence, this includes empowering village governments (Karaev et al., 2022; Yusuf & Khoirunurrofik, 2022; Wu et al., 2020).

The measurement of village independence can be assessed by utilizing several variables, including but not limited to economic growth, accessibility to education and healthcare services, and the presence of fundamental infrastructure (Harmadi et al., 2020). From an alternative perspective, the concept of village independence encompasses the capacity of a community to autonomously administer its resources, foster local capabilities, and surmount obstacles related to development. The indicators that have been elucidated can be applied in the context of the Developing Village Index (Hidayat et al., 2019).

In order to address the underdevelopment of marginalized regions, the government established the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration (Kemendesa) (Shoemith et al., 2020). The establishment of the Ministry of Villages was driven by the objective of enhancing the growth, progress, and empowerment of rural communities and underprivileged regions (Arifin et al., 2020).

The success of the Ministry of Villages can be assessed through the utilization of the Village Development Index (IDM), which serves as an evaluation tool for the numerous duties undertaken by the ministry. The establishment of IDM was driven by the objective of assessing the amount of advancement and self-sufficiency in a particular area while also furnishing fundamental data and information to facilitate regional development at the village level (Zaman et al., 2021). The endeavor to enhance the Indonesian Democracy Index (IDM) is intricately linked to the country's Sustainable Development Goals (SDGs) for the year 2030, as seen by the tight correlation between several indicators within the IDM and the 17 SDGs (Allawi & Al-jazaeri, 2023).

Many studies on regional independence have been conducted. According to one study, optimizing village-owned firms can produce good village financial management and village independence by enhancing the community's economy and village income (Adhinata et al., 2020). Other study indicates that accountability and openness have a major impact on village fund management in order to promote management accountability so that village fund distribution increases rural community independence (Hutuely & Rumra, 2023; Lubis et al., 2022).

According to other research, several instruments that can increase village independence include allocating funds to improve village government services, improving village institutions in planning, community socioeconomic development, and increasing community participation (Asni et al., 2013). Additional studies have demonstrated that a more robust power subculture corresponds to a heightened influence on the establishment of a self-sufficient and prosperous community or nation (Lumbantobing, 2019).

The main purpose of this study is to examine the advancement and self-sufficiency of rural communities, with a particular emphasis on their economic status, capital and operational expenditures, as well as the allocation and management of finances. Moreover, the present study centers its attention on the entirety of disadvantaged regions within Indonesia, as documented in Presidential Regulation of the Government of the Republic of Indonesia Number 63 of 2020, specifically addressing the identification and classification of disadvantaged regions for the period of 2020–2024. Drawing from the preceding contextual information and elucidation, a study hypothesis has been formulated positing that capital spending, operating expenditure, and balancing funds exert an indirect influence on the advancement and self-sufficiency of villages via their impact on the economy.

Literature Review

In this section, we aim to investigate and evaluate the correlation between each variable in the research model. Specifically, we will explore the impact of capital expenditure, operational expenditure, and balancing funds on the village development index. Additionally, we will examine the influence of capital expenditure, operational expenditure, balancing funds, and the economy on the village development index. It is important to note that while these relationships are being explored, their significance is still being assessed (Akbar et al., 2022) (Chu & Yang, 2012). This study is subject to several limitations.

Government Intervention in the Form of Regional Financial Management

According to one study on the impact of capital spending on the Russian economy, a lack of capital expenditure not only affects the economy overall but also generates structural imbalances and technology gaps (Berezinskaya, 2017). Makin & Ratnasari (2022) discovered that capital spending has a direct impact on the economy (Makin & Ratnasari, 2022). These conclusions are confirmed by research findings (Agénor & Bayraktar, 2023) that show that capital expenditure can directly stimulate economic growth. According to a study conducted in Nigeria, routine government spending has a strong negative influence on economic growth (Onifade et al., 2020).

Similar to research conducted in Norway, the relationship between fiscal balancing policy, government spending multiplier, labor tax cuts, and active and passive monetary policy is contingent upon the level of economic activity (Boug et al., 2023). According to the research conducted by Cardi & Restout (2023) it has been determined that the equitable distribution of economic growth across various sectors can be attributed

to alterations in government expenditure (Cardi & Restout, 2023). Afonso & Alves (2023) in their latest findings conducted in 35 OECD member countries show that increasing government output can lead to increased economic growth and additional government revenue as well as increasing fiscal sustainability (Afonso & Alves, 2023).

Due to a study conducted in China by Liang et al. (2023) regional productivity growth is crucial for boosting the efficiency of multifactor technologies, promoting the use of environmentally friendly bonds, and disclosing progress toward a sustainable energy future (Liang et al., 2023). Further to other studies, productivity growth will raise real income by 2.5 percent and commerce between RCEP members by 12.3 percent by 2035 (Jacob et al., 2018). Zhan et al. (2023) in their study on financial management stated that the development of digital financial management in China is inclusive and has an independent impact on capital allocation outside the traditional financial system (Zhan et al., 2023).

Development of Underdeveloped Areas

According to research on village development initiatives in China's undeveloped areas, these programs considerably raised government and village-financed investment and income by 6.1 to 9.2% (A. Park & Wang, 2010). Other research in Indonesia shows that the government's efforts to eradicate underdeveloped areas by expanding these areas do not reduce the predicate of being underdeveloped but rather encourage large numbers of poor people to migrate to new autonomous regions (Faoziyah & Salim, 2016). According to another study, investment in undeveloped areas, particularly in the health sector, improves the use of medical services, which is significant for expanding access to health care in general (Arifin, 2022).

Mallawaarachchi & Rahut (2023) present a study that elucidates the challenges encountered in the pursuit of poverty reduction in rural areas, which constitutes a central objective of rural economic transformation. These setbacks have persisted over a span of multiple decades and have been further compounded by the recent global health crisis caused by the COVID-19 pandemic (Mallawaarachchi & Rahut, 2023). Other research in China shows that ecological development in underdeveloped areas will help encourage economic progress in these areas (Guo et al., 2020). Gao et al. (2023) conducted research in China which studied regions and also stated that regions that are dependent on natural resource industries will tend to reduce high-quality economic development. Further research reveals that government governance capacity weakens the impact of resource industry dependence on high-quality economic development (Gao et al., 2023).

According to Wu & Chen (2023) the extent to which scientific and technological advancements are being implemented in various provinces across China remains at a moderate level. This degree of implementation is consistent with the overall level of economic progress and regional disparities observed in the country (Wu & Chen, 2023). Also, Pokharel et al. (2023) indicates that the allocation of resources towards transportation infrastructure can enhance the appeal of a region and stimulate economic activity. This, in turn, can foster additional investment, leading to the expansion of regional GDP and urban development (Pokharel et al., 2023). Additional research also posits that, as a general trend, the immediate effects of transportation infrastructure development on economically disadvantaged regions are comparatively less pronounced than on economically more developed regions. However, it is observed that such development exerts the most significant influence on regional economic growth and spatial governance dynamics within economically underdeveloped areas (Wang et al., 2023).

Method

This study use panel data regression analysis to examine the impact, the findings of which will afterwards undergo additional investigation through route analysis. Panel data regression is a statistical method that integrates cross-sectional data with time-series data, resulting in a larger number of observations compared to the individual utilization of cross-sectional or time-series data. Panel data refers to data that is collected from the same persons over a specific period of time (Putria et al., 2023). The research population comprises districts located in impoverished areas of Indonesia for each respective era. The sample consists of districts from underdeveloped areas in Indonesia spanning from 2016 to 2022. So the length of time for

using this research data is 7 years. The choice of the number of years is based on several results which show that the impact of government investment can be felt after 5-8 years (Leduc & Wilson, 2012; Mollick & Cabral, 2011; Oxford Analytica, 2018). The data included in this study was sourced from reputable institutions such as the Indonesian Ministry of Finance, BPS Indonesia, and the Ministry of Finance Village. The dataset comprises 62 districts distributed among 10 provinces in Indonesia.

The variables that comprise this study encompass capital spending, operational expenditure, balancing funds, gross regional domestic product as an economic indicator, and the Village Development Index (IDM) within 62 districts that are characterized as disadvantaged regions in Indonesia. The initial model examines the relationship between the economy as the dependent variable and the independent variables of capital expenditure, operational expenditure, and balancing funds. Meanwhile, the second model investigates the relationship between IDM as the dependent variable and the independent variables of capital expenditure, operational expenditure, balancing funds, and the economy. In order to examine the impact of two research models on the economies of undeveloped regions in Indonesia, namely the First Model, which includes capital expenditure, operational expenditure, and balancing funds, and the Second Model, which includes capital expenditure, operational expenditure, balancing funds, and the economy on IDM, a comprehensive analysis is required.

The Village Development Index (IDM) is a composite index formed based on three indices that are divided into several variables: (1) the social resilience index with the variables education, health, social capital, and settlement; (2) the economic resilience index, whose variable is the diversity of community production, access to trade centers and markets, logistics access, banking and credit access, and regional openness; and (3) the ecological and environmental resilience index, which has environmental quality, natural disasters, and disaster response variables (Hasugjan, 2020). IDM will classify villages into 5 statuses: independent villages, advanced villages, developing villages, disadvantageous villages, and very disadvantageous villages (Manurung & Lubis, 2022).

The Gross Regional Domestic Product (GRDP) is a metric utilized to assess the progress and comparative state of a regional economy within a specific year (Chen et al., 2020). This study employs a methodology based on the expenditure approach of Gross Regional Domestic Product (GRDP), which involves the calculation of many components, including household consumption, non-profit institutions serving households, investment, government expenditures, and net exports. Capital expenditure refers to the use of financial resources for the purpose of acquiring fixed assets and other assets that yield long-term benefits extending beyond a single accounting period (Afnisah et al., 2020). Capital expenditure is evident in the Regional Revenue and Expenditure Budget (APBD) through various categories, including land expenditure, equipment and machinery expenditure, building and infrastructure expenditure, road, irrigation, and network expenditure, other physical expenditure, and public service agency expenditure. In the context of budgeting, operational spending refers to the allocation of funds for the acquisition of consumable products and/or services. This allocation is intended to meet the fundamental requirements of a certain work unit, typically encompassing internal services as well (Mulyono et al., 2023). Operational spending is observable in the Regional Revenue and Spending Budget (APBD), encompassing categories such as personnel expenditure, goods and services expenditure, interest expenditure, subsidy expenditure, grant expenditure, and social assistance expenditure. In order to enhance comprehension of the research's progression, it is imperative to establish a coherent flow. In order to enhance comprehension of the cognitive processes involved in this study, it is possible to construct a visual representation of the conceptual framework, as depicted in Figure 2.

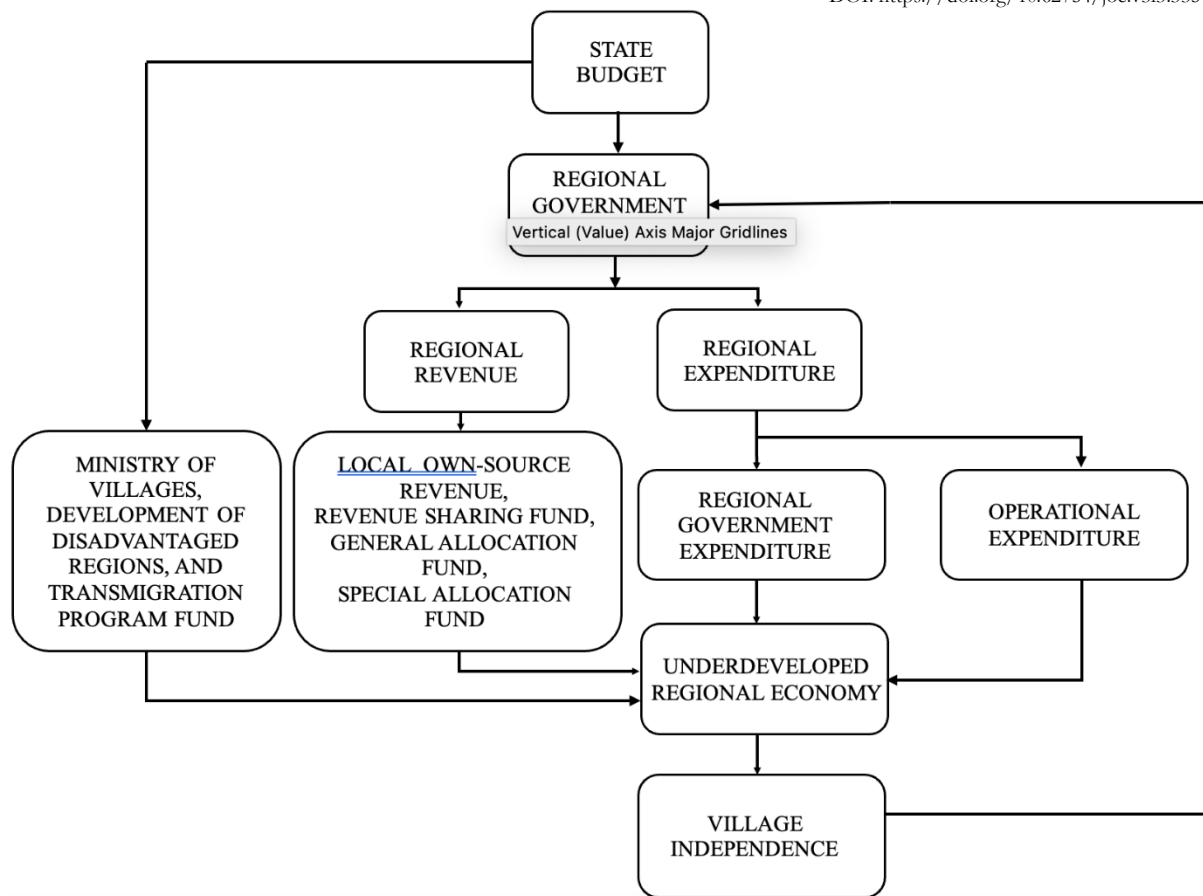


Figure 3. Critical Framework

Source: Adopted by (Akbar et al., 2022)(Aslim & Neyapti, 2022)

From Figure 3 it can be seen that the flow of state finances to increase regional independence is carried out through several factors. Regional independence is determined by the economy in underdeveloped areas. To encourage the economy in underdeveloped areas, this is done through funding from several parties, namely the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration of the Republic of Indonesia and the Regional Government. Based on the explanation in Figure 2, the allocation of funds through this ministry has been reduced in recent years. Therefore, this research focuses on regional governments that are able to overcome themselves to become independent regions.

In order to conduct an analysis of the two research models that have been referenced, it is necessary to follow a series of steps within the framework of panel data regression. (1) The model will be estimated using the common effect model, fixed effect model, and random effect model. In order to ascertain the most suitable model, the Hausman test and the Chow test were employed. (3) Conduct an analysis of classical assumptions. (4) Evaluate the outcomes of the optimal model that has been identified. (5) Perform a path analysis on the outcomes of the two models.

Result And Discussion

The first stage in determining the optimal model to utilize is to choose between common effect, fixed effect, and random effect (H. T. T. Nguyen et al., 2020). To determine this, three tests must be performed: the Chow test, the Hausman test, and the Langrange Multiplier test. The first test is the chow test, which is used to detect if a common effect or a fixed effect is chosen, and the second test is the Hausman test, which is used to discover whether a fixed effect or a random effect is chosen (Polcyn et al., 2022; Shahzad et al., 2020). The results of the test show that the best model that can be used in this paper data is the Fixed Effect Model. Analysis of the data resulting from panel data regression, these results can be seen in table 1.

Table 1 Regression Result

Variable	(1) Lacking Regions	(2) Indonesia	(3) West	(4) Center	(5) East
<i>Dependen Variable: GDP</i>					
OpEx	6.29E-12 (7.11E-12)	2.19E-11*** (3.29E-12)	1.87E-11*** (1.54E-12)	4.61E-11*** (1.11E-11)	4.17E-12 (3.28E-11)
CapEx	-1.62E-11** (5.95E-12)	-8.49E-12** (3.39E-12)	-6.07E-12*** (1.62E-12)	-3.03E-11** (1.20E-11)	-4.86E-11* (2.68E-11)
BT	2.05E-12 (3.36E-12)	1.58E-11*** (1.80E-12)	7.93E-12*** (8.83E-13)	3.42E-11*** (5.73E-12)	4.28E-11** (1.39E-11)
Constant	32.3103*** (4.4397)	13.7907*** (2.9650)	17.1944*** (1.6800)	-3.3613 (8.3430)	35.7485** (17.1946)
Adj. R2	0.9734	0.8861	0.9697	0.8182	0.8495
Obs.	422	3500	1916	918	244
<i>Dependen Variable: IDM</i>					
OpEx	1.41E-13*** (2.66E-14)	9.42E-14*** (7.79E-15)	5.89E-14*** (8.93E-15)	1.31E-13*** (1.58E-14)	-3.69E-14 (5.82E-14)
CapEx	-1.89E-13*** (2.27E-14)	-1.41E-13*** (8.06E-15)	-1.02E-13*** (9.27E-15)	-1.98E-13*** (1.74E-14)	-2.50E-13*** (4.62E-14)
BT	4.26E-14** (1.28E-14)	6.86E-14*** (4.03E-15)	4.56E-14*** (4.71E-15)	9.40E-14*** (7.98E-15)	1.21E-13*** (2.55E-14)
GDPc	0.00032* (0.0001)	0.000284*** (3.93E-05)	0.00248*** (0.0001)	5.64E-07 (4.68E-05)	0.0003** (0.0001)
Constant	0.4269*** (0.0017)	0.4784*** (0.0069)	0.4358*** (0.0009)	0.4897*** (0.0114)	0.52842*** (0.0304)
Adj. R2	0.8171	0.7825	0.7275	0.7082	0.6561
Obs.	375	3055	1687	773	220

Note ***, **, * are 0.01, 0.05, and 0.1 significance levels, respectively. The standard errors are in parentheses. The areas included in columns (2), (3), (4), and (5) are areas that are not included in column (1).

In Table 1 it can be found that operational expenditure has no effect on GDP in the East and Lacking Regions, whereas in Indonesia, West and Center operational expenditure has a positive effect on GDP. Meanwhile, in all regions in Indonesia, capital expenditure has a negative effect on GDP. Balance transfer only has no effect in lacking regions, for other regions it has a positive influence on GDP. Apart from that, other findings show that in the East region, operational expenditure has no effect on IDM. Meanwhile, in other areas operational expenditure has a positive effect on IDM. GDP in the Center region has no effect on IDM while other regions have a positive influence. In all regions of Indonesia, capital expenditure has a negative influence on IDM while balance transfers have a positive influence. From the results of these findings, path analysis was carried out which is presented in the following table.

Table 2 Path Analysis Result

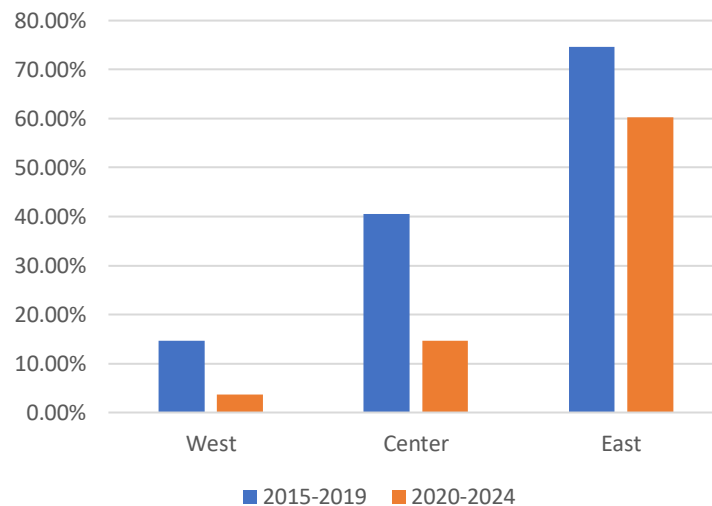
	Lacking Regions	Indonesia	West	Center	East
<i>Direct Effect</i>					
OpEx → IDM	1.41E-13	9.42E-14	5.89E-14	1.31E-13	-3.69E-14*
CapEx → IDM	-1.89E-13	-1.41E-13	-1.02E-13	-1.98E-13	-2.50E-13
BT → IDM	4.26E-14	6.86E-14	4.56E-14	9.40E-14	1.21E-13
<i>Indirect Effect</i>					
OpEx → GDP → IDM	2.01E-15*	6.22E-15	4.64E-14	2.60E-17*	1.25E-15*
CapEx → GDP → IDM	-5.18E-15	-2.41E-15	-1.51E-14	-1.71E-17*	-1.46E-14
BT → GDP → IDM	6.56E-16*	4.49E-15	1.97E-14	1.93E-17*	1.28E-14

Note * is not significant. The values presented are regression coefficients. The indirect effect value is obtained from multiplying the two regression coefficients.

As shown in Table 2, the direct influence of capital expenditure on IDM is -1.89E-13. Meanwhile, the indirect effect of capital spending on IDM is -5.18E-15. According to the results of these computations, the indirect influence is greater than the direct influence. These findings suggest that capital spending has a direct or indirect impact on IDM via the economy. However, capital spending has the most influence because it has a direct and direct impact on IDM. According to the findings, capital expenditure has a negative impact on the economy. This is consistent with Wagner's (1883) theory, which claims that government expenditure is an endogenous variable that tends to increase with some aggregate national income over time. Furthermore, public spending is a result of national revenue rather than a cause of it. As a result, according to Wagner's hypothesis, public spending has no effect on boosting national income (Arestis et al., 2021; Selvanathan et al., 2021). These findings are consistent with a study undertaken at the US State Department from 1990 to 2013, which discovered that capital expenditure results were inversely associated with the amount of economic growth (Kim & Park, 2020).

The finding that capital expenditure has a negative impact on the economy is due to the growing inequality between regions, which encourages underdeveloped regions to increasingly depend on Indonesia's Eastern Region. In terms of development, underprivileged areas in Indonesia's Eastern Region have declined at a significantly slower rate than those in Indonesia's Western Region. Between 2004 and 2009, the rate of decline in underdeveloped areas in Indonesia's Eastern Region was 18.75%, or it was able to alleviate 18 districts in the eastern region. In contrast, the decrease in poor areas in Indonesia's Western Region was very considerable, reaching 41.79%, or 28 districts. Then, from 2009 to 2014, disadvantaged areas had an average fall of 11.11% to 17.09%, with the western part of Indonesia experiencing the highest rate of reduction at 41.03%. This contrasts with a 5.13% decline in disadvantaged areas in the east, implying that the eastern region was only able to improve in four districts over that time span. This demonstrates that impoverished areas are becoming more concentrated in eastern Indonesia (Amsari & Nasution, 2019).

Although the number of underdeveloped regions in Indonesia is decreasing year after year, inequality between regions remains very high, as evidenced by the very high concentration of underdeveloped regions in the eastern region of Indonesia, both in number and at a rate of low decline, while the concentration of underdeveloped areas in western Indonesia continues to experience a Many districts in Indonesia's Eastern Region have lagged behind because development prioritizes efficiency over equity. This was especially true during the New Order era, when development was focused on growth hubs, particularly on the island of Java. This scenario has not changed much since the New Order ended and was replaced by the Regional Autonomy era (Batubara et al., 2023). This is also shown by Figure 2 which shows that the eastern region has the most lacking regions compared to other regions.



Source: Presidential Decree No. 131 of 2015 and no. 63 of 2020, processed

Figure 2. Percentage of the Number of Disadvantaged Regions in Indonesia 2015-2019 and 2020-2024 Based on District

Disparities in economic growth across different regions are evident through an economic structure that remains heavily reliant on agricultural and extractive industries. This reliance has resulted in limited value addition for the region and has, in fact, fostered a progressively harsh exploitation of natural resources. The western quarter of Indonesia, particularly Java, remains the focal point of industrial expansion, constituting over 85% of the nation's overall industrial output.

In contrast, the eastern region of Indonesia makes a relatively modest contribution of less than 5% to the overall industrial output. Even within the framework of government development goals, there remains a discernible bias towards prioritizing the utilization of the Java programming language. The extensive impact of multiplier effects across Java can be observed through the implementation of significant government projects (Batubara et al., 2023). In contrast, the development efforts in the eastern region primarily prioritize the construction of infrastructure that enhances connectivity between producing sites and distribution centers, such as ports, as opposed to emphasizing the establishment of processing facilities. Based on previous research, it was found that the western part of Indonesia has fewer disadvantaged areas than the eastern part. In underdeveloped areas, the western region has a problem focus on human resources, while the eastern part has more complex problems, namely some regions have a focus on infrastructure problems, some have a focus on economic problems, and others have a focus on human resource problems (Suyanto et al., 2023).

The divergence in developmental advancements between the western and eastern areas of Indonesia cannot be attributed to a lack of sufficient natural resources in the eastern region. An example of an underdeveloped area is Timika Regency, located in Papua Province, which possesses abundant gold deposits. Nevertheless, despite the emergence of a global-scale mining sector in the region, it continues to

experience a developmental lag due to the control and exploitation of its natural resources by specific individuals. This phenomenon is not limited to Papua alone but is also observed in various other regions, like West Manggarai Regency. The latter location possesses significant potential for copper and gold mining, although its contribution to local regional autonomy remains limited.

The economic progress of impoverished areas significantly impacts the autonomy of a village. Sustainable economic growth has the potential to generate enhanced income and job prospects for rural communities. The augmentation of revenue will provide enhanced accessibility to education, health, and fundamental infrastructural services, hence enhancing the overall quality of life for rural communities. The enhancement of regional economic sectors, such as agriculture, small-scale industry, and tourism, has the potential to foster economic diversification, mitigate reliance on a single sector, and stimulate innovation in the production of local goods and services. Therefore, rural communities possess a heightened capacity to fulfill their own requirements and mitigate the disparity between rural and urban regions.

This study has identified an additional discovery, specifically the negative impact of operational spending on IDM, with a coefficient of $1.41E-13$. In the meantime, $2.01E-15$ for the impact of operational spending on IDM when taking indirect effects across the economy into account. The findings of these computations indicate that the direct influence surpasses the indirect influence. The findings suggest that operational spending is the primary driver with a direct impact on IDM. It may be concluded that operational expenditure directly affects IDM. The findings of this study align with Keynesian theory, which posits that government expenditure serves as an effective fiscal instrument for stimulating and enhancing economic growth (Ejem & Ogbonna, 2019). The findings shown here align with a study conducted in Nepal, wherein it was discovered that regular expenditures were effectively incorporated into the context of economic growth and yielded a favorable influence on both short-term and long-term output growth (Rana, 2021).

Further study reveals that operational spending is the same as local government consumption. Local government consumption will rise as operational expenses rise. This rise has a multiplier effect on the economy, particularly in commerce and services. This, in turn, will stimulate regional economic growth (Khan et al., 2020). Sustainable economic growth will provide new jobs in a variety of economic sectors, reduce rural unemployment, and provide opportunities for local residents to work and do business in their own community. Villages can enhance people's income and spending power by providing more diverse and possibly profitable occupations, which will promote local consumption and business opportunities.

Economic growth has the potential to facilitate increased investment and enhance accessibility to improved infrastructure. Investments in infrastructure development, such as the construction of roads, electrical networks, and other public facilities, have the potential to enhance the connectedness and accessibility of rural areas. This, in turn, can facilitate the movement of people, the distribution of goods and services, and the expansion of market access for these communities.

Improved infrastructure enables rural communities to enhance their capacity for producing higher-quality goods and services. The advancement and self-sufficiency of rural communities can be facilitated through the economic development of underdeveloped regions. Villages possess the potential to actively contribute to the economic and social advancement of their respective regions through the implementation of strategies such as job creation, infrastructure investment, and the enhancement of educational and healthcare accessibility. In the process, individuals have the ability to uphold distinct regional identities and traits.

The investigation showed significant results indicating a direct correlation between the balancing fund and the IDM, with a coefficient of $4.26E-14$. In the context of the economy, the indirect impact of capital expenditure on IDM is $6.56E-16$. The findings of these computations indicate that the direct influence surpasses the indirect influence. The findings of this study demonstrate that the presence of balanced funds has a discernible impact.

Nevertheless, it is important to note that the primary channel exerting the most significant influence on the Integrated Development Model (IDM) is the balancing fund. This particular channel indirectly impacts

IDM by virtue of its influence on the whole economy. The findings presented here align with previous research undertaken in Kenya, which showed that augmenting fiscal transfers within the regular budget had a positive impact on regional economic growth (Mose, 2021).

The main goal of balancing funds is to facilitate revenue generation for underdeveloped local governments. Frequently, less developed areas encounter challenges in generating their own revenue, particularly with regard to taxation and levies (Abdel-Kader & Mooij, 2020). Regional governments have the potential to secure increased budgetary allocations from the central government by means of balancing funds. This facilitates the implementation of more effective programs pertaining to development, infrastructure, and public services. This initiative is poised to foster local economic expansion, facilitate the creation of novel employment prospects, and enhance individuals' purchasing power.

The findings of this study's balanced fund analysis can help eliminate economic inequities between areas. By providing cash to regions that are more disadvantaged than those that are already rich, the central government can help equalize economic growth across the country (Bartik, 2020). With these funds, investments in infrastructure such as roads, bridges, clean water, and electrical energy can be made, creating a more conducive environment for economic growth. More local job opportunities will be created, helping to reduce unemployment and improve the economy.

The process of economic development has the potential to stimulate the growth and advancement of the education and health sectors within rural communities. Increased levels of revenue provide local governments and communities with the means to allocate resources towards enhancing educational opportunities, facilitating skills development, and improving healthcare services. Enhancing the availability of educational and healthcare resources will enhance the overall well-being of rural inhabitants, empowering them to cultivate their individual capacities and make greater contributions to the socioeconomic advancement of their communities (Gil-Lacruz et al., 2020).

Conclusion

The conclusions of this study show that capital spending, operational expenditure, and balancing funds exert an indirect influence on regional autonomy via their impact on the economy in less developed regions. Capital expenditure has been found to have a detrimental impact on the overall economy; however, it has been observed to have a favorable effect on regional autonomy. This phenomenon is evident when examining the declining prevalence of poor regions in Indonesia. Notably, the eastern region, despite its abundant natural resources, exhibits a higher concentration of underdeveloped areas, as exemplified by Timika Regency in Papua. In contrast to capital spending, augmenting operational expenditure by regional governments, particularly in the trade and services sector, has the potential to diminish the unemployment rate and enhance the purchasing power of the populace, fostering economic growth. Furthermore, the allocation of funding serves as a crucial factor in facilitating the generation of additional revenue for underdeveloped regional governments, consequently fostering economic growth and enhancing regional autonomy.

The analysis technique of this research study is subject to many constraints. This study utilizes data spanning from 2016 to 2022, during which the entire Indonesian territory encountered the COVID-19 epidemic in 2019. The research conducted thus far has not incorporated the impact of the pandemic, despite the significant alterations made to regional expenditure, income, and overall economic conditions during this period. Hence, it is desirable that future investigations incorporate the variable of the COVID-19 epidemic, enhancing the depth and realism of the analysis. Additionally, it is anticipated that this research can serve as a valuable resource in informing decision-making processes pertaining to budget allocation and the formulation of regional development policies. Further development of this research can be achieved by incorporating additional variables, such as economic capability and regional government expenditures on education, health, and economic activities.

Appendix

Indeks Desa Membangun (IDM / Village Development Index)

Indeks Desa Membangun (IDM) is a Composite Index formed based on three indices, namely the Social Resilience Index, Economic Resilience Index and Ecological/Environmental Resilience Index. The Village Development Index calculation is carried out by the lowest level of government and verification is carried out by the government one level above. We attach more details in the following schematic form.

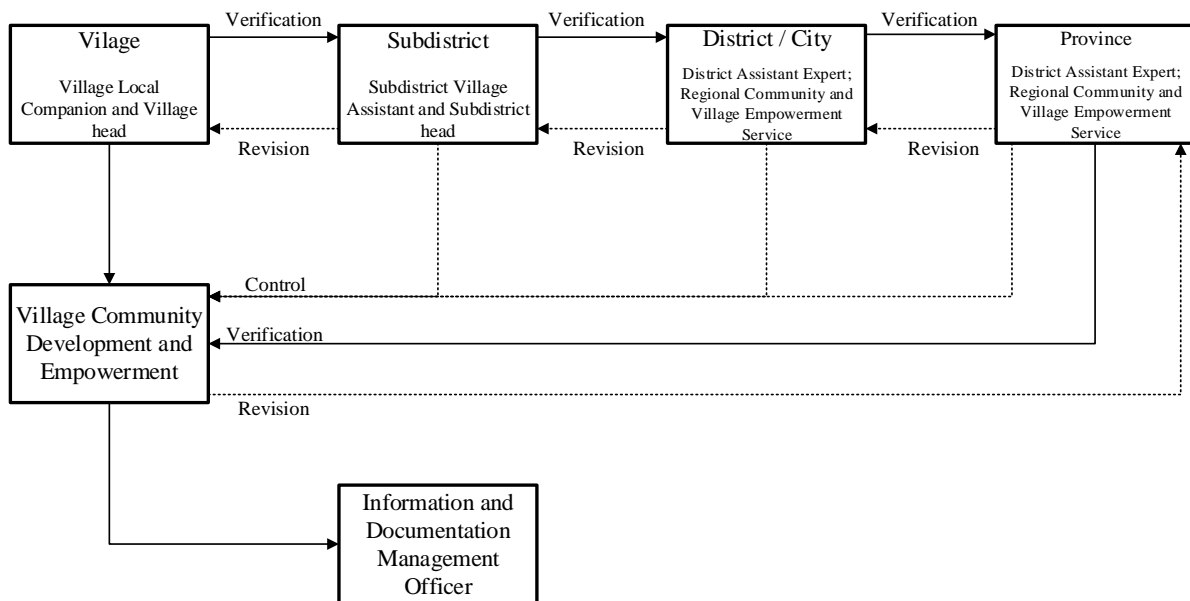


Figure 5. Village Development Index Data Measurement Scheme

Based on Figure 5, the Village Development Index calculation involves several parties such as village local companion, village head, subdistrict village assistant, subdistrict head, district assistant expert; regional community, and village empowerment service. The index calculation for each dimension is carried out using a scoring method which is then transformed into an index. The Village Development Index is produced from the average of the Social Resilience Index, Economic Resilience Index and Environmental Resilience Index which is calculated using the formula:

$$IDM = \frac{IKS + IKE + IKL}{3}$$

Where IDM is the Village Development Index, IKS is the Social Resilience Index, IKE is the Economic Resilience Index, and IKL is the Environmental Resilience Index. The Social Resilience Index is calculated based on several indicators such as access to health facilities, number of doctors, number of midwives, number of other health workers, number of *Badan Penyelenggara Jaminan Sosial (BPJS / Sosial Social Insurance Administration Organization)* participants, distance to go *Pos Kesehatan Desa (Poskesdes / Village Health Post)*, *Posyandu* activities, distance to elementary school, distance to secondary school, number of preschool, number of *Pusat Kegiatan Belajar Masyarakat (PBKM / Learning centers)* availability, number of skills centers/courses, existence of reading parks/village libraries, mutual cooperation habits, frequency of mutual cooperation, existence of public spaces, number of sports activity groups, number of sports activities, number of types of religion, number of languages used daily, number of ethnicities in a villages, number of village security posts, number of residents' environmental security systems, village conflicts, number of people with social welfare problems, number of Special Education Schools, electricity access, cell phone signal access, internet facilities at the village office, village residents' internet access, access ownership of toilets, access to waste disposal, access to drinking water, access to bathing and washing water.

The calculation of the Economic Resilience Index is calculated based on indicators of production diversity, distance to the nearest group of shops, markets, number of shops and grocery stalls, number of shops and accommodation, number of postal and logistics services, number of banks and *Bank Pengkreditan Rakyat* (BPR / Rural Bank), number of credit facilities, number of active cooperatives and village-owned enterprises, mode of public transportation, village roads traversed by four-wheeled or more motorized vehicles, quality of village roads. Meanwhile, the calculation of the Environmental Resilience Index is calculated based on environmental quality indicators, disaster vulnerability, disaster mitigation/response facilities.

Author contributions statement

Suyanto and Amirul Mustofa was the research director, conception and design. Muhammad Afdha Alif Almughni and Dendy Syahrul Ramadhan was the drafting of the paper, carried introduction and literature review section. Rahmawati Erma Standsyah carried analysis & interpretation of the data, statistical analysis, and method section. Jajuk Suprijati and Rohana Ahmad carried result & discussion section and revised the method. Wiwik Budiarti and Eny Haryati revised the theoretical framework and conclusions. All authors read and approved the final manuscript.

Disclosure of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Data availability statement

The data that support the findings of this study are openly available in *Direktorat Jenderal Perimbangan Keuangan Kementerian Keuangan APBD* section at <https://dipk.kemenkeu.go.id/portal/data/apbd>. Other data can be found at <https://idm.kemendesa.go.id/status> and <https://www.bps.go.id> on the menu *Produk – Statistik menurut Subject* in the *Statistik Ekonomi – Neraca Ekonomi* section.

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