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Analysis of Inclusive Economic Development and Its Driving Factors in Papua Province

Pisi Bethania Titalessy *, , Radian Januari Situmeang , Herlina Irianti Mulyono , and Richard Patty
Cenderawasih University, 99224, Jayapura, Papua Province, Indonesia
* Corresponding Author: bethaniapisi@yahoo.com

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ABSTRACT

Papua Province, known for its abundant natural resources and cultural diversity, faces significant challenges in achieving inclusive economic development. Persistent disparities in income, infrastructure, and access to essential services have hindered equitable growth and social welfare improvement. This study examines the inclusiveness of economic development in Papua and explores its driving factors. Utilizing secondary data from the Ministry of National Development Planning/National Development Planning Agency (Badan Perencanaan Pembangunan Nasional, Bappenas), BPS - Statistics Indonesia (Badan Pusat Statistik, BPS), and the Directorate General of Fiscal Balance (Direktorat Jenderal Perimbangan Keuangan, DJPK) for 2017–2021, the research employs descriptive analysis and panel data regression methods. The panel regression results highlight the critical role of fiscal policies in promoting inclusivity. Economic expenditures demonstrate a positive and significant impact on inclusive development, fostering equitable economic participation and productivity. In contrast, basic infrastructure spending shows a significant negative effect, possibly due to uneven allocation or misalignment with local community needs. While education expenditures are not statistically significant, they exhibit potential for enhancing inclusivity through long-term human capital development. These findings underscore the importance of targeted and well-distributed fiscal policies to address Papua's unique socio-economic challenges. By prioritizing human capital, aligning infrastructure investments with local needs, and fostering balanced economic growth, policymakers can pave the way for more inclusive development across the province. This research provides valuable insights for designing effective policy *interventions to reduce inequality and foster sustainable economic growth in Papua.*

Keywords: *Education; Economic; Government expenditure; Inclusive Economic Development; Infrastructure; Per Capita Income*

1. Introduction

Economic growth has traditionally been viewed as a primary indicator of national development, with Gross Domestic Product (GDP) as the standard measure of progress. However, GDP-centric growth often overlooks the equitable distribution of benefits, leaving marginalized groups excluded from economic gains. This issue is particularly pronounced in developing countries, where high growth rates coexist with persistent poverty, inequality, and unemployment (Klasen, 2010). Inclusive economic growth addresses these shortcomings by emphasizing the quality of growth—ensuring that all segments of society participate in and benefit from economic progress.

Inclusive growth integrates economic, social, and environmental dimensions to promote a sustainable and equitable development model. It is characterized by poverty reduction, equitable income distribution, and the creation of meaningful employment opportunities. These features are essential for addressing structural inequalities that hinder long-term economic stability. Inclusive growth enhances societal well-being and strengthens economic resilience by broadening the base of contributors to economic productivity.

Inclusive growth has gained traction in Indonesia as policymakers recognize its potential to address regional disparities. Despite its abundant natural resources, Papua Province lags significantly behind other provinces regarding inclusivity. The region ranks lowest in the Inclusive Economic Development Index (*Indeks Pembangunan Ekonomi Eksklusif*, IPEI) with a score of 4.14% (Badan Perencanaan Pembangunan Nasional, 2021). This low inclusivity is mirrored in Papua's poverty rate, which, at 26.86%, is the highest in Indonesia (Badan Pusat Statistik Provinsi Papua, 2021). The disparities stem from limited infrastructure, inadequate education and health services, and insufficient economic opportunities for marginalized communities.

Fiscal policy plays a critical role in promoting inclusive economic growth. Strategic government expenditures in education, health, and infrastructure can reduce disparities and create opportunities for underserved populations. Studies have shown that public investments in these areas significantly reduce poverty and inequality, especially in regions with structural disadvantages (Bastagli et al., 2012; Safitri et al., 2021). For Papua, understanding the impact of fiscal allocations on inclusivity is crucial for designing effective interventions.

Despite various policy efforts, Papua's economic development remains uneven. Certain regencies have shown progress, while others face stagnation or decline in inclusivity indicators. This uneven development underscores the need for targeted research to identify the factors driving inclusive growth and to formulate evidence-based policies tailored to Papua's unique socio-economic context.

This study analyzes the factors influencing inclusive economic development in Papua, focusing on fiscal policy and per capita income. By leveraging panel data from 16 regencies between 2017 and 2021, this research aims to provide actionable insights for improving inclusivity across the province. This study contributes to the broader dialogue on inclusive

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development by providing insights to help policymakers tackle the distinct challenges of promoting inclusivity in Papua, ultimately enhancing the region's socio-economic well-being.

2. Literature Review

2.1. Inclusive Economic Growth and Its Dimensions

Inclusive economic growth extends beyond economic expansion to address disparities in income, opportunities, and access to basic services. Klasen argues that growth is only meaningful when it involves the active participation of all societal groups, reducing poverty and inequality simultaneously (Klasen, 2010). Hapsari noted that income inequality hinders poverty alleviation and economic progress in developing regions. Inclusive growth requires economic policies targeting disadvantaged groups to ensure equitable outcomes (W. R. Hapsari, 2019).

The Indonesian government adopted the Inclusive Economic Development Index (*Indeks Pembangunan Ekonomi Eksklusif*, IPEI) to measure regional inclusiveness, considering economic growth, social disparities, and accessibility. The IPEI is a benchmark for identifying regional inequalities and prioritizing development efforts. The index aims to better understand inclusiveness across the nation's provinces by combining infrastructure, social capital, and economic opportunities metrics.

Despite these measures, challenges persist, particularly in resource-rich provinces like Papua. Despite its abundant natural resources, BPS - Statistics Indonesia highlights that Papua suffers from weak infrastructure and limited access to education and healthcare, which hinder inclusive development (Badan Pusat Statistik Provinsi Papua, 2021). This underlines the importance of addressing systemic barriers, such as geographic isolation and lack of connectivity, which disproportionately affect marginalized communities in the region.

Further evidence points to the role of social capital and governance in achieving inclusivity. Strong local governance and community engagement significantly contribute to inclusive economic policies. Regions with transparent governance structures and active public participation tend to perform better in reducing disparities and fostering inclusiveness. In Papua, improving local governance is essential to overcoming developmental bottlenecks.

Lastly, the role of fiscal policy in fostering inclusive growth cannot be understated. Research by Gupta et al. highlights that well-targeted public spending in infrastructure, education, and health significantly enhances inclusiveness by addressing inequalities and promoting sustainable development (Gupta et al., 2005). Similarly, the Asian Development Bank emphasizes aligning fiscal policies with inclusive growth objectives to reduce regional disparities (Asian Development Bank, 2021). For Indonesia, strategic fiscal interventions remain crucial in addressing inequality, particularly in underserved provinces like Papua, where disparities in access to services and opportunities pose significant challenges.

2.2. Fiscal Policy and Inclusive Development

Education, health, and infrastructure expenditures are critical in fostering inclusivity. Bastagli et al. found that fiscal policies targeting these sectors significantly reduce income disparities and enhance economic participation. Investment in these areas improves access to basic services and strengthens the foundation for sustainable and equitable economic growth (Bastagli et al., 2012). By addressing the root causes of inequality, such policies can create more balanced development outcomes.

Safitri et al. (2021) analyzed government spending in East Java. They concluded that education and health expenditures positively impacted inclusive growth by improving human

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capital and reducing inequality (Safitri et al., 2021). This evidence highlights the transformative potential of targeted fiscal policies to enhance societal well-being. Education spending, for example, contributes to long-term economic gains by equipping individuals with the skills needed to participate in and benefit from economic growth.

Similarly, research by Hanushek and Woessmann highlights the critical role of education investment in fostering long-term economic inclusivity. Their findings indicate that access to quality education enhances individual earning potential and drives broader economic growth, particularly in marginalized communities (Hanushek & Woessmann, 2015). Likewise, studies by Bloom et al. underscore the impact of health expenditure on productivity, emphasizing that a healthier workforce is more likely to contribute to economic participation and overall development (Bloom et al., 2004). Strategic investments in education and health form the backbone of inclusive development, addressing disparities and promoting sustainable growth.

Hausmann et al. emphasized the need for targeted fiscal policies to address regional disparities, particularly in areas with significant socio-economic challenges. They argue that resource allocation must prioritize underdeveloped regions to ensure balanced growth across a country (Hausmann et al., 2016). For regions like Papua, this means channeling fiscal resources to improve connectivity, access to services, and economic opportunities in remote areas. Strategic investments can mitigate geographical and structural disadvantages, fostering greater inclusivity.

2.3. Challenges in Inclusive Growth for Papua

Papua faces unique challenges in achieving inclusive economic development. Papua's IPEI score of 4.14% reflects the province's limited progress in reducing poverty and inequality (Badan Perencanaan Pembangunan Nasional, 2021). The low IPEI score underscores significant gaps in human development and economic inclusion compared to other provinces. These disparities are deeply rooted in historical, geographical, and socio-political factors affecting regional policy implementation.

Disparities in fiscal transfers and local governance capacity have been identified as factors exacerbating inequalities in Papua. While fiscal decentralization was introduced to address regional disparities, its uneven implementation has left marginalized communities with inadequate economic opportunities. The region's vast and challenging geographical terrain further compounds the difficulty in ensuring equal access to public services, particularly for remote and Indigenous communities.

A study by Aritenang found that fiscal decentralization in Indonesia has not effectively reduced regional disparities, with less-developed regions like Papua continuing to experience limited economic growth (Aritenang, 2014). Additionally, the challenging geographical terrain of Papua poses significant obstacles to infrastructure development and service delivery, further hindering efforts to achieve equitable development (Sumule et al., 2019).

Research by Ndadari and Adi examines the asymmetric behavior of local governments in response to central government transfers, highlighting disparities in resource allocation (Ndadari & Adi, 2008). Despite increased fiscal transfers under special autonomy in Papua, the benefits have not consistently translated into improved living standards for many residents (Bakar et al., 2024). Limited local capacity to manage resources and deliver public services effectively has led to uneven development outcomes across the province (Cahyaningsih & Fitrady, 2019).

Inadequate infrastructure and limited access to education and healthcare services are significant obstacles to inclusive growth in Papua. Research indicates that while fiscal

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decentralization aims to address these systemic issues, challenges persist in the equitable distribution of resources. A study by Cahyaningsih and Fitrady found that despite increased fiscal allocations under special autonomy, education and healthcare outcomes in Papua remain below national standards, suggesting that financial resources alone are insufficient without effective local governance and capacity (Cahyaningsih & Fitrady, 2019).

The region's challenging geographical terrain further exacerbates these issues, hindering the development of essential infrastructure such as roads and communication networks. This isolation limits integration into broader economic activities and access to public services. Kuahaty et al. emphasize that infrastructure development in rural areas of Papua is crucial for improving community welfare and economic growth, yet the diverse topography presents significant challenges (Kuahaty et al., 2018).

Moreover, limited investment in education and healthcare has impeded human capital development, perpetuating cycles of poverty. Nasution and Imam argue that government fiscal policies should prioritize spending in the education and infrastructure sectors to enhance public welfare, highlighting the need for effective allocation to address disparities (Nasution & Imam, 2017).

Addressing socio-cultural factors, particularly indigenous rights and land ownership issues, is crucial for achieving inclusive development in Papua. The marginalization of indigenous populations often leads to conflicts over land and resources, hindering economic progress (Deda & Mofu, 2014).

Furthermore, the recognition and protection of indigenous land rights are essential for sustainable development. Indigenous communities have recently achieved official recognition of their customary land rights, enabling them to safeguard their forests and cultural heritage (Wachid et al., 2023).

These challenges underscore the need for a comprehensive, multi-sectoral approach that prioritizes equitable development while respecting local traditions and cultural contexts. Recognizing and integrating indigenous land rights into development planning is essential to ensure that economic initiatives benefit all community members and do not exacerbate existing inequalities.

2.4. Inclusive Growth in Practice

Global studies provide valuable insights into effective strategies for fostering inclusivity. Nchake and Shuaibu demonstrated the role of technology and infrastructure investments in enhancing African economic participation (Nchake & Shuaibu, 2022). Investments in digital technology, for instance, bridge gaps in access and create opportunities for marginalized communities to participate in the global economy. Similarly, Safitri et al. emphasized that inclusive growth requires balancing infrastructure development and direct social interventions, such as health and education programs, to ensure equitable benefits across all social strata (Safitri et al., 2021).

The relationship between economic policies and inclusivity has been extensively studied in Asia. For instance, the Asian Development Bank (ADB) has analyzed rising inequality in Asia, emphasizing the need for inclusive growth strategies that integrate marginalized groups into mainstream economic activities to enhance resilience against economic shocks (Huang et al., 2019).

In India, research has highlighted the significant impact of policies targeting rural development and women's empowerment on poverty reduction and inclusive growth. A study by Nandwani and Roychowdhury examined the effects of rural road infrastructure on women's

https://doi.org/10.33019/society.v12i2.743

empowerment, finding that improved connectivity enhances women's access to education and employment opportunities, thereby contributing to inclusive economic development (Nandwani & Roychowdhury, 2024).

Additionally, Roy et al. developed a Women Empowerment Index to measure rural women's empowerment levels in India. Their research underscores the importance of access to resources, decision-making capabilities, and the ability to take a stand, all of which are critical for fostering inclusive growth (Roy et al., 2018).

Furthermore, studies have highlighted that Indonesia's economic growth has not always been inclusive, particularly in reducing poverty and inequality. For instance, research analyzing data from 33 provinces from 2008 to 2012 found that economic growth during this time was not inclusive regarding poverty reduction, decreasing inequality, and increasing employment (S. A. D. Hapsari et al., 2013).

Additionally, the need for integrating regional development policies with national strategies has been stressed to ensure no region is left behind, especially those with historical disparities in infrastructure and services. A study on regional development in Indonesia notes that aligning regional policies with national development goals is crucial for achieving balanced and inclusive growth across the country (Paddu et al., 2015).

Focusing on Papua, a region marked by significant economic and social disparities, aligning fiscal policies with local needs is essential for inclusive growth. Strategies should address disparities in access to education, healthcare, and job opportunities while fostering local participation in decision-making processes. Research by Ariutama (2020) indicates that Papua has not yet achieved inclusive growth, with only Jayapura City meeting the criteria at the city and regency levels. The study found that between 2010 and 2016, health improvements positively affected inclusive growth, while education and economic growth had a negative influence (Ariutama et al., 2020).

Additionally, a study on the Inclusive Economic Growth of Indonesia and Its Determinants highlights that while some provinces, such as West Papua, have experienced inclusive growth, others still face challenges. The research emphasizes the importance of fiscal policy in promoting inclusive economic development across different regions (Rini & Hamonangan Tambunan, 2021).

3. Research Methodology

This research adopts a quantitative approach to objectively analyze the factors driving inclusive economic development in Papua. The research uses secondary data from the Ministry of National Development Planning/National Development Planning Agency (Badan Perencanaan Pembangunan Nasional, Bappenas), BPS - Statistics Indonesia (Badan Pusat Statistik, BPS), and the Directorate General of Fiscal Balance (Direktorat Jenderal Perimbangan Keuangan, DJPK) in 2017-2021. The data studied are panel data in Regencies/Cities in Papua from 2019 to 2021. The variables studied consist of per capita income variables, education spending, economic spending, and basic infrastructure spending as independent variables, and the Inclusive Economic Development Index variable as the dependent variable. The definition and units of the variables used can be seen in the details of **Table 1**.

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Table 1. Variables and Definitions

Variable/Index	Definition	Unit
Per capita Income (X_{1it})	Per capita income of the *i*-regency in the *t*-year	IDR
Education Expenditure (X_{2it})	The ratio of government expenditure on the education sector to GDP for the *i*-regency in the *t*-year	%
Economic Expenditure (X_{3it})	The ratio of government expenditure on the economic sector to GDP for the *i*-regency in the *t*-year	%
Infrastructure Expenditure (X_{4it})	The ratio of government expenditure on the infrastructure sector to GDP for the *i*-regency in the *t*-year	%
Inclusive Economic Development Index ($IEDI_{it}$)	The Inclusive Economic Development Index for the *i*-regency in the *t*-year	%

Notes:
- *i*: Observation area index, referring to regencies in Papua (*i = 1, 2, …, 16*).
- *t*: Observation time index, covering 2019 to 2021 (*t = 2019, 2020, 2021*).

This study applies quantitative analysis methods. Quantitative analysis is a data processing process that utilizes mathematical, statistical, and econometric models. The results of this analysis are presented in the form of numbers, which are then explained in a narrative. The researcher uses a descriptive statistical approach and panel data regression to process the findings.

4. Results

This study examines the Inclusive Economic Development Index (IEDI) and its factors in sixteen (16) regencies/cities in Papua during 2019-2021. The characteristics of the data for each variable can be seen through the statistical description in **Table 2**. The mean of each variable illustrates a very striking difference between the Middle values. The greater the standard deviation, the further the data is spread from the middle value. The differences in the character of the research data strike not only from the middle value but also from its distribution.

Table 2. Descriptive Statistics

Variable	Observations (Obs)	Mean	Standard Deviation (Std. Dev)	Minimum (Min)	Maximum (Max)
Inclusive Economic Development Index (IEDI)	48	4.621042	0.7606779	3.01	5.88
Per Capita Income	48	45,800,000	44,000,000	4,368,114	220,000,000
Education Expenditure	48	149,238.8	179,658.8	13,529.78	766,420

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Variable	Observations (Obs)	Mean	Standard Deviation (Std. Dev)	Minimum (Min)	Maximum (Max)
Economic Expenditure	48	370,640.7	256,808.6	46,591.3	888,743.6
Infrastructure Expenditure	48	482,711	282,738.6	126,637.2	1,320,095

Source: Processed data (2024)

The table provides descriptive statistics for five variables across 48 observations, highlighting significant variability in economic and development measures. The inclusive Economic Development Index (IEDI) averages 4.62, with a moderate variation (standard deviation of 0.76) and values ranging from 3.01 to 5.88. Per capita income shows a wide disparity, with a mean of 45.8 million units but a substantial standard deviation of 44 million, ranging from 4.37 million to 220 million. These statistics suggest considerable inequality in economic development and income distribution across the observations.

Spending patterns also exhibit notable differences. Education expenditure averages 149,238.8 units, with significant variability (standard deviation of 179,658.8) and a wide range from 13,529.78 to 766,420 units. Economic and infrastructure expenditures show even higher averages (370,640.7 and 482,711 units, respectively), but both have substantial variability, reflecting differing priorities or resource allocations among the entities studied. Overall, the data suggests disparities in income and spending, potentially pointing to unequal investment in development and infrastructure across regions or entities.

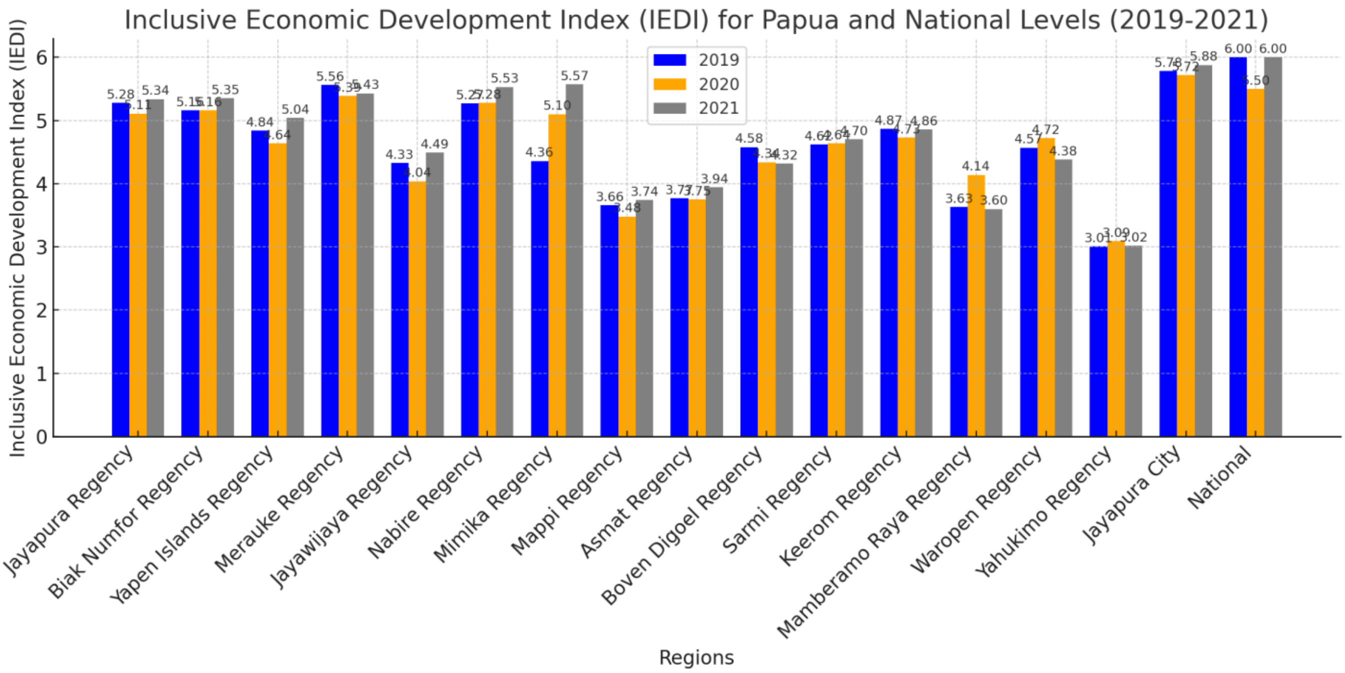

Figure 1. IEDI of Papua and National
Source: Processed data (2024)

Figure 1 illustrates the trends of the Inclusive Economic Development Index (IEDI) for various regions in Papua Province and at the national level from 2019 to 2021. The IEDI shows steady improvement at the national level, rising from approximately 5.26 in 2019 to 5.60 in 2021,

https://doi.org/10.33019/society.v12i2.743

reflecting progressive growth. However, most regions in Papua consistently fall below the national average, highlighting a significant development gap. Notable exceptions include Jayapura Regency and Jayapura City, which show relatively high scores, nearing or slightly exceeding 5.0 by 2021. These areas likely benefit from better infrastructure, governance, or economic activity.

In contrast, several regions, such as Yahukimo Regency, Mamberamo Raya Regency, and Asmat Regency, consistently score lower (around 2.5 to 3.5), indicating persistent challenges such as geographic isolation, limited infrastructure, or socio-economic disparities. While regions like Nabire Regency show noticeable improvement, others, like Boven Digoel Regency, exhibit stagnation, with little change over the three years. This disparity underscores unequal progress in development initiatives across Papua Province, suggesting that more targeted interventions are needed to address underperforming regions.

After the regression analysis, the Random Effect Model (REM) was identified as the most suitable choice based on statistical and theoretical considerations. This decision is supported by the model's ability to account for both within-group (individual regional) variations and between-group variations, making it ideal for panel data where unobserved heterogeneity across regions may exist. Additionally, diagnostic tests such as the Hausman Test confirmed that the Random Effect Model is more appropriate than the Fixed Effect Model (FEM), as the individual effects are not correlated with the independent variables. This ensures that the model provides unbiased and efficient estimates, capturing the variability across regions while maintaining robustness in the results.

Table 3. Random Effect Model (REM) Results

Variable	Coefficient (Coef.)	Standard Error (Std. Error)	z-value (z)	p-value (Prob)
Per Capita Income	1.62e-09	2.35e-09	0.69	0.492
Education Expenditure	1.39e-06	8.14e-07	1.71	0.088
Economic Expenditure	2.55e-06	7.15e-07	3.57	0.000
Infrastructure Expenditure	-2.87e-06	8.06e-07	-3.56	0.000
Constant (Cons)	4.780019	0.2129983	22.44	0.000
R-squared (R^2)	**0.2641**			

Source: Processed data (2024)

The analysis reveals that the relationship between various factors and inclusive economic development is complex, with some variables exerting positive influences while others show negligible or even negative impacts. Notably, the coefficient for per capita income is positive (1.62e-09) but not statistically significant (p-value = 0.492). This indicates that changes in per capita income alone do not significantly affect economic inclusivity.

Higher per capita income is often linked to economic growth, yet it does not inherently address issues of equitable income distribution or access to opportunities. This disconnect suggests that focusing solely on aggregate income measures might overlook the broader aspects of inclusivity, such as disparities in wealth distribution, access to essential services, and participation in economic activities by marginalized groups.

These findings are consistent with prior research, highlighting the importance of reducing economic disparities and improving resource allocation to foster inclusivity. Inclusive economic

https://doi.org/10.33019/society.v12i2.743

development requires deliberate efforts to ensure equitable opportunities and outcomes, demonstrating that aggregate income growth, while beneficial, is insufficient to achieve a truly inclusive economy.

In contrast, education expenditure demonstrates a positive and marginally significant effect on the Inclusive Economic Development Index (IEDI), with a coefficient of 1.39e-06 and a p-value of 0.088. This suggests that increased investment in education has the potential to enhance inclusivity by fostering human capital development, reducing inequality, and expanding access to economic opportunities. While the statistical significance is modest, the positive coefficient highlights the critical role of education in creating a more inclusive economic landscape.

These findings emphasize the importance of prioritizing education as a strategic pathway to inclusive economic development. By equipping individuals with skills and knowledge, education can break cycles of poverty, promote social mobility, and enable broader participation in economic activities. Although the effect in this analysis is not strongly significant, it points to the transformative potential of targeted education investments in driving equitable and sustainable growth.

The most significant positive influence is observed for economic expenditure, with a coefficient of 2.55e-06 and a highly significant p-value of 0.000. This underscores the pivotal role of economic spending in promoting inclusivity by generating opportunities for growth, employment, and participation across diverse groups in society. Such investments can catalyze development by supporting industries, infrastructure, and small businesses, thereby broadening access to economic benefits.

These findings highlight economic expenditure as a critical area for policy intervention to achieve inclusive development. Policymakers can address structural inequalities and create a more equitable economic environment by strategically allocating resources toward programs that enhance employment opportunities and reduce barriers to economic participation. This reinforces the importance of sustained and targeted economic investments to drive inclusivity and ensure long-term growth.

Interestingly, infrastructure expenditure has a negative coefficient (-2.87e-06) and is highly significant (p-value = 0.000). This suggests that higher infrastructure spending is associated with a decline in inclusivity. While infrastructure development is generally expected to promote growth, the negative effect observed here could point to inefficiencies or unequal allocation of infrastructure resources. For instance, if infrastructure investments are concentrated in urban or economically advantaged regions, they may exacerbate disparities and limit the benefits for underserved populations, reducing overall inclusivity.

The constant term in the model is positive and highly significant, indicating a baseline level of economic inclusivity even in the absence of the independent variables. This suggests that certain inherent or structural factors contribute to inclusivity, independent of the measured predictors.

However, the R-squared value of 0.2641 reveals that the model explains only 26.41% of the Inclusive Economic Development Index (IEDI) variation. This highlights other unobserved factors significantly influencing economic inclusivity, underscoring the need for further research to identify and incorporate additional variables that could improve the model's explanatory power.

In summary, the findings highlight the critical role of targeted and equitable government spending in promoting inclusive economic development. While education and economic expenditures positively impact IEDI, infrastructure expenditure requires careful evaluation to ensure it addresses disparities and supports inclusivity. Additionally, the insignificant effect of

https://doi.org/10.33019/society.v12i2.743

per capita income emphasizes the need to look beyond aggregate growth measures and focus on equitable distribution and access to resources. These results provide valuable insights for policymakers to design strategies that promote inclusive and sustainable economic development.

5. Discussions

The findings of this analysis shed light on the multifaceted nature of inclusive economic development, emphasizing the importance of targeted interventions to address disparities and promote equity. The results suggest that focusing solely on aggregate income measures, such as per capita income, may be insufficient for fostering inclusive growth. While per capita income exhibits a positive but statistically insignificant relationship with the Inclusive Economic Development Index (IEDI), prior research corroborates that income growth alone does not inherently translate to inclusivity. For instance, studies highlight that economic growth often fails to adequately address wealth distribution and access to opportunities, especially for marginalized communities (Bourguignon, 2004; Ravallion, 2004). This underscores the necessity of complementing growth-oriented strategies with policies aimed at equitable resource allocation and social inclusion.

The positive and marginally significant relationship between education expenditure and IEDI aligns with the extensive literature underscoring the transformative role of education in reducing inequality and fostering inclusivity. Studies emphasize that investments in education enhance human capital development, which is critical for breaking cycles of poverty and promoting social mobility (Hanushek & Woessmann, 2012; Lucas, 2015). While not strongly significant, the findings here affirm that education is a key enabler of inclusive economic participation and an essential driver of long-term development. Governments should prioritize education expenditure to build a skilled workforce capable of contributing to and benefiting from economic growth.

Economic expenditure's highly significant positive effect on inclusivity highlights the pivotal role of strategic resource allocation in addressing structural barriers and promoting equitable growth. Similar results have been documented in studies by Klasen and Lamanna, who argue that public spending on economic development fosters employment opportunities and supports underrepresented groups in accessing economic benefits (Klasen & Lamanna, 2009). Policymakers can ensure that economic growth benefits are more widely distributed across society by channeling resources toward programs that reduce barriers to economic participation—such as supporting small businesses, vocational training, and targeted subsidies.

Conversely, the negative and significant effect of infrastructure expenditure raises critical questions about the equity of resource distribution. The literature on infrastructure's impact on inclusivity presents mixed findings. While studies like those by Calderón and Servén suggest that infrastructure investment can enhance productivity and reduce poverty, others highlight potential inefficiencies and unequal allocation (Calderon & Serven, 2010). For instance, Somanathan et al. argue that poorly targeted infrastructure projects often exacerbate regional inequalities, disproportionately benefiting urban and economically advanced areas while neglecting rural and disadvantaged regions (Somanathan et al., 2021). The negative coefficient in this analysis may reflect such inequities, suggesting that infrastructure spending requires a more inclusive and participatory approach to ensure equitable benefits.

The significant constant term indicates underlying structural factors contributing to economic inclusivity that the included predictors do not capture. This aligns with the broader literature suggesting that social, cultural, and institutional factors are critical in shaping

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inclusive development outcomes (Dunusinghe, 2014). For instance, strong governance, social cohesion, and access to justice systems are often cited as foundational elements of inclusive economies.

Finally, the R-squared value of 0.2641 reveals that the model captures only a fraction of the variation in IEDI, pointing to the need for future research to incorporate additional explanatory variables. Potential areas for further exploration include social protection systems, labor market dynamics, gender equality, and environmental sustainability, which are increasingly recognized as integral to inclusive development (Organisation for Economic Co-operation and Development, 2020).

The discussion on regional government spending is closely related to regional autonomy and fiscal decentralization. The implementation of fiscal autonomy and decentralization in Indonesia began with the enactment of Law No. 22 of 1999 on Regional Government and Law No. 25 of 1999 on Fiscal Balance Between the Central and Regional Governments, which have undergone several revisions, resulting in Law No. 32 of 2004 on Regional Government and Law No. 33 of 2004 on Fiscal Balance Between the Central and Regional Governments.

According to Article 1, Number 7 of Law No. 32 of 2004, decentralization refers to the transfer of government authority by the central government to autonomous regions to regulate and manage government affairs within the framework of the Unitary State of the Republic of Indonesia. The cost aspect is also distributed with the implementation of the decentralization system. The transfer of tasks from the central government to regional governments as part of autonomy must be accompanied by the transfer of finances, following the principle of money following functions. Therefore, regional governments must be able to finance their regional development independently.

Fiscal decentralization, as articulated by Roy Bahl, involves transferring budgetary authority from central governments to elected subnational governments, thereby granting them the power to make decisions regarding taxes and expenditures. This process is seen as a means to empower local populations by empowering their local governments (Bahl, 2008).

The Central Government supports regional governments by delegating revenue sources for them to manage effectively, enabling regions to fund their duties and responsibilities. Additionally, the Central Government provides transfer funds to help finance the operations of Regional Governments. This initiative aims to address fiscal disparities between the Central Government and Regional Governments and among different regions. To reduce regional governments' reliance on these transfer funds, they are encouraged to maximize their efforts to tap into their revenue-generating potential.

The results of data analysis show that government spending has a significant effect on inclusive economic development. The study by Safitri et al. analyzed the effect of local government spending on inclusive economic growth in East Java, focusing on spending on education, health, and economic functions. The results of this study show that government spending on education and health functions has a positive and significant effect on the inclusive economic development index, both in the short and long term (Safitri et al., 2021).

In addition, research by Faizin and Prabowo (2022) in Central Java Province found that government spending on education, health, and economic functions had a positive effect on the inclusive economic development index, especially on the pillars of economic growth and development (Faizin & Prabowo, 2023).

Another study analyzed the effect of government spending in the education, health, and agriculture sectors on Indonesia's economic growth for the period 1970-2015. The results

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showed that government spending in the education and health sectors had a significant positive effect on economic growth (Puspitasari & Sarfiah, 2017).

Increased government spending, particularly in the education and health sectors, contributes positively to inclusive economic growth. Education spending has a positive and significant relationship with economic growth.

Government spending can stimulate long-term economic growth by increasing aggregate demand. According to Mehmood and Sadiq, there is a negative relationship between government spending and poverty, which suggests that an increase in government spending can reduce poverty and, implicitly, boost economic growth (Mehmood & Sadiq, 2010).

In addition, Ono discussed the Keynesian multiplier effect, where government spending has a direct impact on the economy through the government multiplier function. The study shows that public spending, such as unproductive public works, can increase national income more than equivalent government transfer payments, highlighting the significant role of government spending in promoting economic growth (Ono, 2006).

Furthermore, Ramey reviewed the literature on government spending multipliers and found that the value of multipliers varies depending on economic conditions and financing methods. This study emphasizes that government spending can stimulate the economy, especially when there is idle production capacity (Ramey, 2011).

Government spending, especially in sectors such as education that improve human capital, can have a significant positive impact on economic growth by increasing aggregate demand and through fiscal multiplier effects.

The role of the Papuan government in stimulating economic growth is evident through the impact of government spending on both revenue and expenditure aspects. However, studies in other regions, such as West Nusa Tenggara (NTB), reveal contrasting results. Research by Murad indicates that there was no inclusive economic growth in NTB's regencies and cities concerning poverty reduction, economic inequality, and labor absorption. The benefits of economic growth were primarily enjoyed by the upper-middle class, leaving lower-income groups excluded. (Murad, 2019)

Murad further argues that fiscal decentralization, measured through Regional Own-Source Revenue (Pendapatan Asli Daerah, PAD), does not significantly influence inclusive economic growth in terms of reducing poverty and economic inequality, except in increasing labor absorption (Murad, 2019). This limitation arises from PAD's minimal contribution to overall economic development, accounting for only about 8% during the research period, thus failing to reach all societal segments effectively.

These findings suggest that while government spending can play a crucial role in promoting economic growth, its effectiveness in achieving inclusivity depends on the allocation and magnitude of fiscal resources. In regions like NTB, the limited impact of PAD highlights the need for more substantial and targeted fiscal policies to ensure that economic growth benefits all societal segments equitably.

6. Conclusion

This study investigates the impact of government spending on various sectors on the Inclusive Economic Development Index (IEDI) and highlights critical factors influencing inclusivity in Papua Province. The findings reveal that while positively associated with inclusivity, per capita income does not show statistical significance, suggesting that aggregate income levels alone are insufficient to reflect economic inclusivity. Instead, equitable income distribution and the quality of government expenditures play more decisive roles.

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Education expenditure demonstrates a marginally significant and positive effect on inclusivity, underscoring the importance of investments in human capital to reduce inequality and enhance overall societal well-being. Similarly, economic expenditures have a significant positive impact, indicating their pivotal role in fostering inclusive growth by supporting infrastructure, small and medium-sized enterprises (SMEs), and broader economic participation. Conversely, spending on basic infrastructure significantly negatively affects inclusivity, potentially due to uneven or ineffective allocation that fails to address the needs of marginalized groups.

These findings emphasize the importance of quality and equity in government spending to ensure that all societal groups benefit. Policymakers must adopt a comprehensive approach that prioritizes equitable income distribution, targeted fiscal interventions, and long-term investments in education. By improving human capital, these measures can reduce inequality and equip individuals with the skills necessary to participate in and benefit from economic growth. Optimizing economic expenditures through expanded support for SMEs and infrastructure investments to boost productivity and inclusivity is also essential.

Local governments should be empowered with greater autonomy and resources to address regional disparities, enabling them to develop and implement policies tailored to local needs. Additionally, programs that empower communities, provide skills training, and encourage entrepreneurship must be prioritized to create inclusive economic opportunities. By ensuring that the benefits of economic growth reach all segments of society, these initiatives can foster sustainable and equitable development across Papua Province.

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The authors have declared no potential conflicts of interest concerning this article's research, authorship, and/or publication.

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About the Authors

1) **Pisi Bethania Titalessy** is an Assistant Professor and researcher in the Department of Development Economics at Cenderawasih University, Indonesia. She earned her Master's degree from Universitas Gadjah Mada, Indonesia, in 2019 and possesses expertise in data analysis, development studies, strategic management, and public policy analysis. Her research primarily focuses on inclusive economic development, fiscal policy evaluation, and regional development planning, particularly addressing poverty and inequality in underserved areas. Combining academic rigor with practical experience, she has contributed to numerous projects and scholarly publications that effectively bridge economic theory with real-world policy implementation. Committed to fostering sustainable development, she emphasizes evidence-based policymaking and interdisciplinary collaboration to create impactful solutions for the socio-economic challenges faced by marginalized communities.
   Email: bethaniapisi@yahoo.com

2) **Radian Januari Situmeang** is an Assistant Professor and researcher in the Department of Statistics at Cenderawasih University, Indonesia. He earned his Master's degree from the Bandung Institute of Technology, Indonesia, in 2018. His research focuses on data analysis and statistical modeling, particularly addressing social, economic, and financial issues. Driven by a passion for applying statistical methods to real-world challenges, he actively contributes to advancing knowledge and delivering practical solutions in these areas.
   Email: radian.situmeang@gmail.com

https://doi.org/10.33019/society.v12i2.743

3) **Herlina Irianti Mulyono** is an Assistant Professor and researcher in the Department of Development Economics at Cenderawasih University, Indonesia. She earned her Master's degree from Cenderawasih University in 2012. Her expertise lies in economics and development studies, focusing on sustainable development, regional economic policies, and integrating local knowledge into development practices. Her research interests include analyzing social and economic policies designed to reduce disparities in Indonesia, with a special emphasis on the Papua region.

4) **Richard Patty** is a lecturer and researcher in the Department of Economics at Cenderawasih University, Indonesia. He earned his Doctoral degree from Universitas Gadjah Mada, Indonesia, in 2017. He specializes in economics and development studies, focusing on inclusive economic development and regional growth strategies. His expertise includes economic policy analysis, development planning, and the integration of participatory approaches and local knowledge into policy design. His research further explores strategies to address social and economic disparities and foster equitable growth in Papua and across Indonesia.
Email: 14richardpatty@gmail.com

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