

# The Effect Of Local Original Income, Public Consumption And Government Expenditure On Economic Growth In Indonesia: Panel Data Analysis 2014-2023

Original Article

Olos Wasahua<sup>1\*</sup>, Sumaryoto<sup>2</sup>, Karno<sup>3</sup>

<sup>1\*</sup>Doctoral Student of Economics Study Program, Postgraduate Program, Universitas Borobudur, Indonesia

<sup>2-3</sup>Doctoral Program in Economics, Postgraduate Program, Universitas Borobudur, Indonesia

Email: <sup>1\*)</sup> [wasahuammo@gmail.com](mailto:wasahuammo@gmail.com)<sup>1</sup>, [sumaryoto2512@yahoo.com](mailto:sumaryoto2512@yahoo.com)<sup>2</sup>, [karno@gmail.com](mailto:karno@gmail.com)<sup>3</sup>

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## Abstract

Indonesia's provincial economic development relies on strengthening regional fiscal capacity, sustaining domestic consumption, and improving the efficiency of productive government spending. This study analyzes the simultaneous impact of real per-capita Local Own-Source Revenue (PAD), household consumption, and regional government productive expenditure (GOV\_EXP) on provincial economic growth across 34 provinces over 2014–2023, using a balanced dynamic panel regression with the Fixed Effect Model (FEM) as the main estimator. Before modeling, all independent variables achieved stationarity at the second difference, allowing stable panel estimation. Findings from FEM indicate that PAD ( $\beta = 0.082$ ;  $t = 22.36$ ;  $p = 0.000$ ) provides the strongest positive growth effect, followed by household consumption ( $\beta = 0.043$ ;  $t = 10.88$ ;  $p = 0.000$ ) and productive expenditure ( $\beta = 0.032$ ;  $t = 7.46$ ;  $p = 0.000$ ), all statistically significant at  $\alpha < 0.05$ . Results confirm that while productive public spending contributes to provincial GDP expansion, its growth elasticity remains more moderate relative to PAD and consumption, suggesting persistent regional fiscal efficiency challenges even in economically enabling sectors. The model also demonstrates that growth is demand-driven and regionally persistent, emphasizing that the synergy of fiscal autonomy and domestic purchasing momentum, rather than budget size alone, drives sustainable economic progress. Policy implications support digital fiscal transformation, optimized capital allocation, and consumption-supporting regional strategies to accelerate equitable and resilient provincial growth.

**Keywords:** Local Own-Source Revenue (PAD), Household Consumption, Government Productive Expenditure, Fiscal Decentralization, Fixed Effect Model (FEM)

## 1. Introduction

Indonesia's economic growth is heavily influenced by regional fiscal capacity and government spending strategies relevant to the region's economic characteristics. Under the fiscal decentralization model, provinces have the autonomy to increase internal revenue through regional tax schemes and the utilization of productive assets. However, regional fiscal effectiveness depends not only on the size of local revenue (PAD) but also on policy innovation and institutional strength in mobilizing revenue (Bahl et al., 2022; Qibthiyyah & Desdiani, 2022).

Regional Original Revenue (PAD) serves as a barometer of a province's ability to independently finance development needs. Subnational fiscal research in Indonesia shows that the implementation of regional tax digitalization has significantly contributed to



accelerating PAD optimization, particularly in provinces with high urbanization intensity. Digital-based fiscal reform also opens up opportunities for increased tax collection efficiency and the integration of regional payment data (Martinez-Vazquez, 2025).

Although local revenue (PAD) shows an increasing trend nationally, disparities between provinces remain profound, and the basic structure of tax collection varies. Many agrarian-based and traditional-economy provinces face limitations in revenue mobilization schemes, so increases in local revenue (PAD) are not always linear with increases in fiscal space for development. This indicates a structural revenue gap stemming from flawed collection system designs and immature fiscal capacity. (Ferry et al., 2021)

The World Bank emphasizes that improving regional fiscal governance is closely linked to the quality of public spending, productive investment, and its impact on human development. A large local revenue (PAD) does not automatically improve welfare unless accompanied by output-based budget planning and an allocation strategy that supports regional capital formation. Fiscal governance determines whether PAD can translate into quality economic growth. (Savoia & Sen, 2023)

Household consumption is the main engine of Indonesia's subnational economic growth, but its regional impact is highly uneven due to structural fiscal and institutional conditions. Empirical evidence from provincial-level studies demonstrates that household consumption significantly accelerates regional output formation, particularly in provinces dominated by trade, manufacturing, and urban economic mobility. (Hakib, 2018). However, post-pandemic recovery revealed that real consumption growth slowed disproportionately across provinces, aligning with broader institutional assessments that domestic demand rebounds are heterogeneous in emerging regional economies. In Indonesia, the responsiveness of consumption to GDP expansion is also shaped by fiscal transmission quality, because government spending only stimulates regional consumption sustainably when it is allocated toward capital-forming sectors and managed with strong institutional capacity. (Gunarto et al., 2018).

Panel-based provincial research further validates that household consumption and government expenditures jointly explain short-run GDP growth variations, yet with differing elasticities depending on the region, inflation exposure, and maturity of local governance systems. (Almaya et al., 2021; H. H. Putra, 2022). These findings emphasize that household consumption remains a statistically dominant driver of Indonesia's regional growth, but its long-term contribution requires support from efficient public capital spending, strengthened fiscal planning, digitalized revenue collection, and reduced dominance of routine operational expenditures, so that consumption can work synergistically within a resilient and equitable subnational growth framework.

Consumption structure reflects regional welfare progression, where the rising share of non-food expenditure signals middle-class expansion and improved living standards at the provincial level. However, provinces marked by high urban-rural expenditure gaps continue to exhibit unequal consumption elasticity, as higher-income clusters allocate more spending toward discretionary and non-staple categories, while lower-income households remain concentrated in basic-needs consumption. This divergence creates an asymmetric transmission of consumption into provincial economic growth, reinforcing persistent spatial demand imbalances. Although government fiscal intervention aims to lift domestic demand, its impact on household consumption and regional output depends on local budget execution quality, institutional maturity, and formal-economic intensity across provinces (A. R., Putra & Khoirudin, 2021; Sugiarto & Wibowo, 2020), confirming that Indonesia's regional

consumption contribution to PDRB is statistically significant but structurally uneven, especially in provinces with deeper urban-rural welfare disparities.

Public expenditure from Indonesia's provincial budgets (APBD) has expanded consistently, yet its allocation remains heavily skewed toward administrative and personnel-related apparatus spending. Fiscal policy literature emphasizes that public spending generates a meaningful fiscal multiplier on regional output only when directed to capital-forming, economy-enabling sectors, including infrastructure, health, and education investment. Provinces dominated by routine employee and operational expenditure frequently experience diluted multiplier transmission, slower capital formation, and potential inflationary financing pressures that may trigger crowding-out tendencies, limiting the stimulus impact on GRDP growth. Empirical provincial studies in Indonesia corroborate this, showing that productive spending exhibits significant elasticity on regional economic output, whereas routine or administrative-heavy expenditure often reduces the strength of consumption and investment spillovers into provincial GDP growth. (Yusup et al., 2022).

Empirical evidence in many developing countries shows that a 1% increase in government spending produces only a limited gain in investment, reflecting a suboptimal multiplier effect of capital-oriented public expenditure. In Indonesia, a parallel trend is observed: although provincial public spending (APBD) has continued to rise, its contribution to long-term investment formation and regional economic acceleration remains far from optimal, largely due to persistent weaknesses in planning efficiency, slow execution pipelines, and variation in provincial budget absorption rates, especially in capital-forming sectors. Several Indonesian fiscal decentralization studies confirm that provincial economic growth elasticity improves when public expenditure prioritizes fixed capital formation, infrastructure, education, and public health investment, but diminishes when spending is concentrated on non-capital operational components, including personnel and administrative outflows that fail to build long-term regional productive assets (non-capital formation trap) (Rinaldi et al., 2020). These constraints indicate that subnational fiscal output in Indonesia is still structurally confined by non-capital capital-substitution financing, ultimately reducing the fiscal stimulus transmission into provincial growth performance.

In addition to allocation, the human resource capacity of local fiscal officials also poses a constraint to the efficiency of public spending and the optimization of local revenue (PAD). Many provinces still face the problem of immature fiscal institutions and a technologically insensitive apparatus. Without a strong human resource capacity, budgetary stimulus does not optimally translate to regional development and growth outcomes.

Thus, provincial-level economic growth in Indonesia is determined not only by the amount of local revenue (PAD) or regional budget (APBD) expenditure, but also by how fiscal and consumption synergies operate simultaneously and dynamically. The interaction model between PAD, consumption, and government spending must be tested using a dynamic panel approach because fiscal effects are persistent and lag-dependent across growth regions. The strength of regional consumption, the efficiency of public spending, and the fiscal modernization of PAD are key variables determining the pace of regional economic growth in Indonesia.

## 2. Literature Review

### 2.1. Fiscal Decentralization, PAD, and Regional Financial Independence

The literature on fiscal decentralization emphasizes that the delegation of fiscal authority to regions is intended to improve the efficiency of public resource allocation, improve government engagement with citizens, and drive regional economic growth. (Oates, 1993). Chicago Journals A comprehensive review of the relationship between fiscal decentralization and economic growth shows that positive impacts only emerge when regions are able to mobilize their own revenues and manage expenditures effectively, rather than simply channeling central transfer funds. ResearchGate. In the Indonesian context, a systematic study of fiscal decentralization found that the effectiveness of decentralization is largely determined by the capacity of regional financial management and the quality of local institutions. (Hendana et al., 2025)

PAD then becomes a key indicator of fiscal independence because it reflects a region's ability to generate original revenue sources through taxes, levies, regional wealth management, and other sources. Several studies in Indonesia show that increasing PAD, accompanied by strong tax efforts, can enhance regional financial independence and expand fiscal space for development financing. (Oktavia & Handayani, 2021). However, the literature also highlights that not all regions are able to optimally utilize PAD potential, particularly those with traditional economic bases and limited administrative capacity.

### 2.2. PAD, Tax Effort, and Economic Growth

Recent research in Indonesia emphasizes the importance of tax effort as a mediator between economic potential and local revenue (PAD) realization. Quantitative studies in several provinces and regencies/cities show that high PAD generally correlates with strong tax effort and a large formal economic base, particularly in metropolitan areas. (Frijunita et al., 2024). On the other hand, regions that rely on the primary sector tend to have lower tax effort, thus limiting PAD's contribution to economic growth.

Theoretically, increasing PAD has the potential to stimulate economic growth through two main channels: (1) increasing government spending capacity for infrastructure and productive public services; and (2) reducing dependence on central transfers, thus better aligning budget allocations with local needs. International studies on local fiscal performance in developing countries show that regions with strong revenue capacity typically have better public service performance and development indicators. (Bose et al., 2003). However, the literature also confirms that the size of PAD does not automatically correlate with the quality of development if spending governance is inefficient or not pro-investment.

### 2.3. Household Consumption and Economic Growth: Inefficient or not pro-investment.

Both classical and modern macroeconomic literature place household consumption as the primary driver of growth, particularly in developing countries whose economies are driven by domestic demand. Numerous empirical studies confirm that consumption is the largest component of GDP and an indicator of household well-being and economic resilience. (Gohar et al., 2023)

In the Indonesian context, macroeconomic data-based research finds that consumption growth is strongly influenced by consumer confidence, income, and financial variables such as interest rates and asset prices. Juhro and colleagues show that consumer and business confidence indices play a significant role in predicting consumption growth in Indonesia, indicating that expectations and sentiment act as transmission channels for monetary and

fiscal policy to the real sector (Juhro & Iyke, 2020). Internationally, Iyke found that exchange rate uncertainty also impacts real consumption in Asian countries, highlighting consumption's vulnerability to external shocks and macroeconomic volatility.

#### **2.4. Consumption Structure, Inequality, and Digitalization**

Recent literature highlights that consumption structure—not just the aggregate level—is closely related to income inequality and the quality of growth. An increase in the share of non-food consumption is typically associated with the rise of the middle class and improvements in quality of life, while the dominance of food consumption is common among lower-income groups. However, significant differences in per capita expenditure between urban and rural areas result in unequal contributions to regional economic growth. Conversely, emerging literature examines the impact of digitalization and the online economy on household consumption patterns. The adoption of e-commerce, digital payments, and internet access correlates with increased consumption activity, particularly for non-essential goods and services. Cross-country studies show that the digital economy encourages diversification of consumption patterns, although it also poses the risk of new inequalities between digitally connected and marginalized households. (Abosedra et al., 2021). Research in Indonesia is still relatively limited in linking digital consumption to disparities between provinces, opening up opportunities for further research.

#### **2.5. Government Spending and Economic Growth**

The literature on government spending and growth is extensive and produces mixed findings. Classical and contemporary studies in developing countries suggest that government spending can boost growth if directed toward productive spending, such as infrastructure, education, and health, within the framework of Keynesian fiscal multiplier theory. (Bose et al., 2003) This effect is highly dependent on the composition and efficiency of spending.

International panel studies have found that increases in government spending often produce only a relatively small multiplier effect on investment and growth, especially when a large proportion of the budget is spent on non-productive personnel and subsidies. Ahuja, for example, found a causal relationship supporting the role of government spending on growth, but with varying intensity across countries and expenditure categories. (Ahuja & Pandit, 2020). The IMF survey study on public spending and inclusive growth also confirms that the quality, targeting, and governance of spending are far more important than the volume of spending.

#### **2.6. Government Spending, Public Investment, and Inclusiveness**

Recent research emphasizes the inclusive dimension in analyzing government spending. It considers not only GDP growth but also its impact on inequality and poverty. Cross-country studies show that spending on social infrastructure (education, health, social security) tends to have a stronger long-term effect on equity and human capability improvement than government consumption spending. (Zouhar et al., 2021). In the context of developing countries, several studies have found that a 1% increase in government spending only increases investment by a relatively small amount, reflecting the limited effectiveness of public spending. (Bista & Sankhi, 2022). This is in line with findings in many jurisdictions that institutional bottlenecks, weak project planning, and less transparent procurement governance prevent capital spending from fully transforming into productive capital formation.

## 2.7. Fiscal Decentralization, Public Expenditure Performance, and Regional Inequality

In Indonesia, the relationship between fiscal decentralization, regional spending, and development inequality has been the focus of several empirical studies. Ginting's research shows that fiscal decentralization has the potential to boost growth and improve public services, but its effects vary significantly across regions depending on budget management capacity and the quality of regional institutions. Journal Portal Another study in Eastern Indonesia confirms that fiscal decentralization can either reduce or widen inequality, depending on the region's ability to allocate spending efficiently. Journal of Indonesian. In general, this literature emphasizes that regional fiscal performance cannot be assessed solely in terms of revenue (PAD) or the amount of transfers, but must be viewed through a combination of fiscal capacity, expenditure composition, and resulting development outcomes. This is where simultaneous analysis of PAD, consumption, and government spending becomes crucial for understanding how regional fiscal policy interacts with household economic behavior and regional growth performance.

## 3. Methods

This study uses a longitudinal quantitative approach based on dynamic panel data to examine the effect of fiscal capacity and public spending stimulus on provincial economic growth in Indonesia. The observational units cover 24 provinces (14 in Java, 10 in Sumatra) over the analysis period 2014–2023, resulting in 340 balanced panel observations. Fiscal and consumption data are converted to real values using the annual provincial inflation deflator and normalized in natural logarithmic form to reduce extreme variance.

The study variables include: provincial economic growth (GROWTH) as the dependent variable (percentage change in real GRDP ADHK), real PAD per capita (lnPAD) as a proxy for fiscal capacity, real household consumption per capita (lnCONS) as a proxy for domestic demand, and productive government expenditure (lnGOV\_EXP) calculated from the realization of the regional budget (APBD) based on capital, education, and health expenditures. Estimation is performed in stages using the Fixed Effect Model (FEM) and Random Effect Model (REM) as baselines, then further refined using System GMM (Blundell–Bond) to capture lag effects and address fiscal endogeneity. Dynamic model specifications:

$$\text{GROWTH}_{i,t} = \alpha \text{GROWTH}_{i,t-1} + \beta_1 \ln \text{PAD}_{i,t} + \beta_2 \ln \text{CONS}_{i,t} + \beta_3 \ln \text{GOV\_EXP}_{i,t} + \mu_i + \varepsilon_{i,t}$$

The feasibility of the model was tested using the Hansen J-test ( $p > 0.05$ ) for instrument validity and the Arellano-Bond AR(2) test ( $p > 0.05$ ) to ensure there was no second-order error autocorrelation. The model was also strengthened with robust standard errors based on cross-section clusters at the FEM/REM stage.

## 4. Results and Discussion

### 4.1. Result

Panel data stationarity tests were conducted using the Augmented Dickey Fuller (ADF) to ensure there was no unit root in the research variables. The test results showed that all independent variables were not stationary at the level or first difference, but achieved stationarity after second difference differentiation. The ADF value at the second difference for each variable showed a p-value <0.05, indicating that all independent variables were stationary at the second difference level, thus fulfilling the prerequisite for time series data stability before entering dynamic panel regression modeling.

After confirming stationarity, the panel model estimation was tested to determine the best approach. The Chow test – Redundant Fixed Effects – yielded a cross-section chi-square probability of 0.0000 (<0.05), indicating that the Fixed Effects (FE) model was superior to the Common Effects/Pooled OLS model. Furthermore, the Hausman test strengthened the model's decision by yielding a random cross-section probability of 0.0256 (<0.05), indicating that the Random Effects (RE) estimator is inconsistent, thus making the Fixed Effects Model more appropriate for estimating the relationship between the independent variables and provincial economic growth.

Because both model decision tests led to the same conclusion, this study selected the Fixed Effects Model as the primary estimation model to explain the influence of real per capita PAD, household consumption, and local government productive spending on provincial economic growth in Indonesia within a dynamic interregional panel data framework. The selection of the FE model ensures that unobserved heterogeneity in provincial characteristics is controlled for in the model, resulting in more reliable estimates.

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Table 1. Linear Regression Results of Panel Data Fixed Effect Model

Sample: 2014 2023  
 Periods included: 10  
 Cross-sections included: 34  
 Total panel (balanced) observations: 340

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.455226	0.031157	-14.61051	0.0000
PAD	0.082493	0.003688	22.36499	0.0000
KONSUMSI	0.043329	0.003983	10.87939	0.0000
GOV_EXP	0.031639	0.004238	7.464730	0.0000

The results of the Fixed Effect Model estimation using panel data from 34 provinces for the 2014–2023 period indicate that the three independent variables Local Original Revenue (PAD), household consumption, and productive local government expenditure have a positive and significant impact ( $p < 0.05$ ) on regional economic growth. The PAD coefficient of 0.082 ( $t = 22.36$ ) is the parameter with the most elastic effect, indicating that increasing real PAD per capita acts as an important catalyst in strengthening regional fiscal space and driving provincial economic acceleration. Public consumption also proved significant ( $\beta = 0.043$ ;  $t = 10.88$ ), indicating that growth in Indonesia's regions remains reliant on domestic demand, driven by public purchasing power, as the engine of sectoral-provincial growth. Meanwhile, productive local government expenditure recorded a positive but relatively lower effect ( $\beta = 0.032$ ;  $t = 7.46$ ) compared to PAD and consumption.

This confirms that public spending in Indonesia has a growth impact when focused on productive sectors. However, the multiplier effect remains moderate, likely due to ongoing competition between routine and productive capital expenditures in some provinces, as is often found in subnational fiscal studies in developing countries. This model meets global significance criteria with a stable  $R^2$  and low error rate. It also ensures that differences in unobserved characteristics between provinces are controlled through intercept fixed regional effects. Therefore, the resulting estimates can more reliably represent the fiscal-consumption-economic output relationship in regional economic development policies in Indonesia.

## 4.2. Discussion

### 4.2.1. The Influence of Regional Original Income on Economic Growth in Indonesia

Locally Generated Revenue (PAD) has proven to be a key driver of regional economic growth in Indonesia, particularly under fiscal decentralization schemes that demand independent development financing at the provincial level. Theoretically, PAD expands regional fiscal space, giving local governments greater capacity to fund productive sectors such as infrastructure, education, and health, which directly contribute to increased economic output. Subnational research in developing countries shows that increased regional revenue is positively correlated with accelerated economic growth when tax collection and revenue management are carried out effectively and accountably (Bahl et al., 2022; Borge et al., 2021).

In the Indonesian context, the contribution of local revenue (PAD) to economic growth appears significant in provinces with a strong formal economic base, high levels of urbanization, and the adoption of more advanced digital tax collection systems, enabling PAD to be more quickly transmitted to local economic activity. However, the literature also highlights that nominal PAD growth does not always reflect improvements in the quality of structural fiscal mobilization, as some regions still have low tax-to-GRDP ratios and a strong dependence on central transfers (Ferry et al., 2021; World Bank, 2021).

Empirical results from fixed-effect modeling in Indonesia confirm that real per capita local revenue (PAD) has a positive and significant impact on inter-provincial GRDP growth, underscoring its role as a growth enabler capable of boosting regional economic output. However, the leverage of PAD on economic growth remains influenced by disparities in fiscal capacity, the tax base, tax collection efficiency, and the quality of regional public spending. This means that the higher a province's PAD, the greater the potential for accelerated economic growth. However, the impact will be greater and more sustainable in provinces with more adaptive and productive fiscal governance. Overall, PAD is not only an indicator of fiscal independence but also a crucial instrument for creating economic growth responsive to local

needs. The highest significance is found in provinces that optimize regional tax potential, accelerate digitalization adoption, and reduce fiscal leakage inefficiencies in the collection system (Alm & McClellan, 2021; Mahama et al., 2024).

#### **4.2.2. The Influence of Public Consumption on Economic Growth in Indonesia**

The Fixed Effect Model (FEM) estimation results for 34 provinces for the 2014–2023 period show that public consumption in the form of CONSUMPTION has a positive coefficient of 0.043329 with a p-value of 0.0000 ( $<0.05$ ), indicating a highly significant and consistent effect on regional economic growth. Statistically, the t-statistic value of 10.88 indicates a strong relationship after the model controls for heterogeneity of fixed characteristics in each province. This finding confirms the assumption of a demand-driven growth economy, where the increase in per capita household consumption expenditure is an important factor driving the expansion of real GRDP output at the regional level.

The consumption coefficient in the FEM model illustrates that every 1% increase in real per capita consumption in a province is associated with an increase in economic growth of approximately 0.043%, all other things being equal, after controlling for inter-provincial fixed effects. This value is relevant to Indonesia's economic structure, which relies heavily on domestic demand. Provinces with high levels of market activity, trade, and digital services tend to have more responsive consumption channels in driving regional growth, especially as income shifts toward non-food consumption and digital-based transactions.

The significance of consumption in FEM also shows that differences in consumption driving forces between provinces are also controlled through the intercept fixed effect, strengthening the validity that the relationship is not simply a national average effect, but rather an internal force of each province in creating domestic economic impetus. Although consumption has a strong influence, other variables in the model (PAD and GOV\_EXP) still play a role as a supporting stimulus, indicating that consumption is the fastest-transmitting engine of growth, while government spending and PAD work more as factors strengthening fiscal space and accumulating development capital.

Overall, the FEM results provide robust evidence that public consumption is a stable and significant determinant of provincial economic growth and is capable of becoming a major pillar of regional GRDP acceleration in Indonesia, particularly in provinces with a strong domestic demand structure, high digital connectivity, and more intensive urban-economic spending dynamics.

#### **4.2.3. The Impact of Government Spending on Economic Growth in Indonesia**

Government spending is a key instrument of fiscal policy to stimulate economic growth by increasing aggregate demand and creating public capital. From a development economics perspective, spending on productive sectors such as basic infrastructure, education, and health can create a multiplier effect that accelerates regional economic output, expands household purchasing power, and strengthens the regional production base. The Fixed Effect Model (FEM) estimation results for 34 provinces for the 2014–2023 period provide strong evidence that the GOV\_EXP variable (productive regional government expenditure) has a positive coefficient of 0.031639 with a p-value of 0.0000 ( $<0.05$ ) and a t-statistic of 7.46, indicating its statistically significant effect on provincial GRDP growth. This coefficient value indicates that a 1% increase in real government spending on the productive component is associated

with an increase in economic growth of around 0.032%, *ceteris paribus*, after the model controls for fixed characteristics between provinces.

While significant, the effect of government spending on FEM is relatively more moderate than that of PAD and household consumption, indicating that the size of the government budget does not always have a linear transmission to regional growth. This is common in regions with a still dominant proportion of operating expenditures, delays in capital project execution, and limited outcome-based budget governance. Nevertheless, the focus of the GOV\_EXP variable in this study—which targets the productive component—confirms that government spending continues to drive regional growth, particularly when directed at public capital formation and services that directly transmit to the local economy.

Overall, FEM findings confirm that productive expenditure by local governments acts as an accelerator of provincial economic growth in Indonesia, but its sustainability requires increased allocation efficiency, accelerated realization of capital expenditures, and strengthened budget governance to optimize its fiscal multiplier effect in each province.

#### **4.2.4. Limitations in research**

This study has several limitations that require attention for interpretation and further study development. First, although the data used is a balanced panel of 34 provinces for 2014–2023, the dynamic model does not fully eliminate the potential for endogeneity bias originating from other macroeconomic variables outside the model, such as inflation, regional interest rates, private investment levels, and sectoral economic shocks that can temporally influence GRDP growth. These variables have the potential to create omitted variable bias even though provincial fixed effects have been controlled for in the Fixed Effects Model (FEM) approach.

Second, the Government Expenditure (GOV\_EXP) variable is limited to productive expenditure components (capital expenditure, education, and health), so the findings do not reflect the total composition of public spending, which in many provinces is still dominated by personnel and administrative expenditures. While this limitation enhances the analytical rigor, it also makes the results less representative in explaining the full nature of routine-nonproductive regional spending.

Third, while the process of converting fiscal data to real values using the provincial inflation deflator has reduced nominal variance, the quality of fiscal records across provinces continues to vary depending on the reporting capacity of local governments. These differences, particularly between developed and developing provinces, have the potential to impact the sensitivity of estimation results and interregional comparisons.

Fourth, the stationary test shows that all variables are only stable in the second difference, which econometrically allows panel regression, but substantively causes the loss of some long-term information (trend level) that would have been observed if the data were stationary at a lower level.

Finally, this study focuses only on Java and Sumatra, so the generalizability of the results to other regions such as Kalimantan, Sulawesi, Bali–Nusa Tenggara, and Eastern Indonesia is limited. Moderating factors such as the level of fiscal digitalization, consumption market density, and industrialization base, which are at the core of the leverage model, are likely structurally different outside these two islands.

## 5. Conclusion

This study confirms that provincial economic growth in Indonesia during 2014–2023 is strongly shaped by internal demand and regional fiscal capacity when heterogeneity across provinces is controlled through the Fixed Effect Model (FEM). Empirical results demonstrate that real per-capita Local Own-Source Revenue (PAD), household consumption, and productive public expenditure (GOV\_EXP) exert positive and statistically significant influences ( $p < 0.05$ ) on provincial GDP growth, rejecting linear assumptions that output expansion is driven solely by budget size or central transfers.

The FEM estimation reveals PAD ( $\beta = 0.082$ ;  $t = 22.36$ ) as the most powerful and elastic growth-enabling variable, indicating that provinces with higher real PAD per capita have greater fiscal flexibility to sustain growth. Household consumption ( $\beta = 0.043$ ;  $t = 10.88$ ) remains the backbone of regional output, proving that domestic spending momentum directly accelerates real PDRB growth at the provincial scale. Productive government expenditure ( $\beta = 0.032$ ;  $t = 7.46$ ) supports growth, yet its effect is relatively more moderate compared to PAD and consumption, suggesting that Indonesia's subnational fiscal multiplier still faces efficiency constraints in several provinces, even when spending targets economically enabling sectors.

The research also highlights that growth transmission works optimally when fiscal leverage synchronizes with domestic consumption channels, supported by stronger formal economic bases, urban market density, and digital-enabled fiscal administration—conditions most prominent within Java and parts of Sumatra. Although all independent variables achieved stationarity only at the second difference, enabling panel regression, some long-term trend information at the level may have been lost, and other macro drivers, such as inflation and private investment, are not explicitly captured.

Going forward, growth policies should intensify digitalization of revenue collection, expansion of consumer-supporting infrastructure, and sustained reallocation toward capital-forming sectors to strengthen provincial fiscal autonomy and maintain household purchasing power. A simultaneous fiscal-consumption policy design remains essential for inclusive and sustainable regional growth in Indonesia.

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