Check for updates

Jurnal Akuntansi dan Auditing Indonesia
https://journal.uii.ac.id/JAAI

The role of institutional quality in moderating tax revenue, revenue-sharing funds from natural resources, and government expenditure on inclusive economic growth

Meliza Meliza*, Akhmad Samsul Ulum
Faculty of Economics and Business, Universitas Pekalongan, Pekalongan, Indonesia
*Corresponding Author email: meliza_zafrizal@yahoo.com

ARTICLE INFO

Article history:
Received 2025-08-25
Accepted 2025-12-01
Published 2025-12-10

Keywords:
Economic Growth, *Government Expenditure*, *Government Tax Revenue*, *Institutional Quality*, *Revenue-Sharing Funds from Natural Resources*

DOI:
https://doi.org/10.20885/jaai.vol29.iss2.art1

ABSTRACT

This study aims to provide empirical evidence regarding the influence of tax revenue, revenue-sharing funds from natural resources, and government expenditure on the inclusive economic growth of district and city governments in Indonesia, and the role of institutional quality in moderating these relationships. This study used panel data, with an observation period of 2019–2023 across 515 district and city governments in Indonesia. A total of 2,575 observations of the final sample data were obtained using a purposive sampling method, and the hypothesis testing used Partial Least Squares Structural Equation Modelling (PLS-SEM). The PLS-SEM analysis revealed that tax revenue and government expenditure move in the same direction as inclusive economic growth in district and city governments in Indonesia. However, revenue-sharing funds from natural resources have a negative impact on inclusive economic growth. Institutional quality successfully moderates the effect of tax revenue mobilisation and government expenditure on inclusive economic growth. However, it fails to moderate the relationship between revenue-sharing funds from natural resources and inclusive economic growth.

Introduction

A country's economic development is generally assessed through economic growth, which reflects the increase in the output of goods and services over a specific period. Generally, economic growth is associated with an increase in the quantity of goods and services produced by society. However, the level of societal well-being also needs to be considered when measuring economic growth. Therefore, the existence of inclusive economic growth can help measure various aspects related to societal well-being, such as unemployment, inequality, poverty, and equitable access to education, the economy, and health (Safitri, 2021). One indicator of inclusive economic growth is the inclusive economic development index. Seven provinces in Indonesia have an inclusive economic development index with a moderately high classification in 2025, including Bali at 7.04, the Bangka Belitung Islands at 7.00, the Riau Islands at 6.95, North Maluku at 6.82, Central Sulawesi at 6.81, East Kalimantan at 6.79, and Yogyakarta at 6.72 (Bappenas, 2025).

Inclusive economic growth in Indonesia is also affected by tax revenue (Sihombing & Purwanti, 2022). According to the Direktorat Jenderal Pajak (2024), tax revenue in Indonesia increased by approximately 74.3% from Rp 1.072 trillion in 2020 to Rp 1.869 trillion in 2023. As the primary source of public funding, tax revenue supports the implementation of economic policies and infrastructure development, thereby strengthening the foundations of the economy and driving growth (Adefolake & Omodero, 2022). Moreover, taxes also contribute to the education sector and have an impact on inclusive growth (Oyinlola & Adedeji, 2022). Furthermore, several countries experienced a reduction in social inequality after implementing subsidies and direct cash transfers (Wardani et al., 2023).

Revenue from regional natural resources may also affect inclusive economic growth (Fitrianasari et al., 2024). Revenue-sharing funds for natural resources increased by approximately 12.28% from Rp 53.91 billion in 2019 (Kementerian Keuangan Republik Indonesia, 2019) to Rp 84.33 billion in 2024 (Kementerian Keuangan Republik Indonesia, 2024). Furthermore, natural resources also play a role as a fiscal instrument to balance financial relations between the central and regional governments (Senduk et al., 2019). Education spending is one of the criteria determining the impact of natural resource revenues on inclusive economic growth. Allocating education funds beyond the threshold can increase natural resource revenues and have a more significant impact on inclusive

P ISSN 1410-2420 | E ISSN 2528-6528

economic growth (Fitrianasari et al., 2024). Revenues generated from the exploitation of natural resources, particularly in countries that are highly dependent on them, are used to support essential social services for the community, including access to education and health, as well as job creation, which play a role in reducing social disparities, thus becoming an essential foundation for inclusive human development (Nchofoung et al., 2021).

Government expenditure increased by approximately 20.3% from Rp 2.59 trillion in 2020 (Badan Pusat Statistik, 2020) to Rp 3.12 trillion in 2023 (Badan Pusat Statistik, 2023). Government spending in the health and education sectors contributes to increasing inclusive economic growth, such as reducing poverty inequality, increasing employment, and promoting income equality (Herdiyati & Ismail, 2022). Moreover, government spending through village fund allocation policies plays an essential role in encouraging inclusive growth, whilst strengthening the distribution of economic development for the community (Ernawati et al., 2021). Furthermore, government spending in the health sector contributes to inclusive economic growth, which also shows that investment in the health sector has an impact on increasing economic growth (Arrfah & Syafri, 2022). Nevertheless, government spending in the education sector cannot impact inclusive economic growth optimally. This may be attributed to inefficiencies in fund allocation or implementation challenges at the local level, which warrant further investigation.

Good governance has been the foundation of most developed countries' successful records (Oyinlola et al., 2020). Therefore, it is hoped that district or city government institutions will spur regional economic growth. The effectiveness of a country's resource management is utilised optimally through operational spending, capital spending, and transfer spending by local governments, thus creating an economic ecosystem that fosters investor and public confidence. Credible institutions play a role in increasing investment attractiveness, boosting national productivity, and strengthening the capacity of companies to participate in global value chains, thereby generating more inclusive economic value for all stakeholders (Dollar & Kidder, 2017).

Previous studies show that tax revenue has an impact on inclusive economic growth (Adefolake & Omodero, 2022; Ahmad, 2019; Oyinlola & Adedeji, 2022; Sihombing & Purwanti, 2022). Moreover, previous researchers also showed the effect of revenue-sharing funds from natural resources on inclusive economic growth (Fitrianasari et al., 2024; Nchofoung et al., 2021). Additionally, government expenditure also affects inclusive economic growth (Arrfah & Syafri, 2022; Ernawati et al., 2021; Hartati, 2021; Herdiyati & Ismail, 2022). However, these previous studies generate different results. Therefore, further research is needed to analyse the influence of tax revenue, revenue-sharing funds from natural resources, and government expenditure on inclusive economic growth. Furthermore, the differences in previous research results can also be attributed to the presence of other variables, namely institutional quality, which can strengthen or weaken the influence of tax revenue, natural resource revenue-sharing funds, and government spending on inclusive economic growth. Therefore, the novelty of this research lies in applying institutional quality as a moderating variable, which has not been widely discussed in previous studies.

Literature Review

Stakeholder Theory

Stakeholder theory explains how tax revenue, revenue-sharing funds from natural resources, and government spending contribute to economic growth. According to Freeman (1984), stakeholder theory identifies groups that have an interest in a company's actions and decisions. Moreover, stakeholders in this research consist of the government, the community, natural resource management companies, and the private sector.

Stakeholder theory underscores the importance of government in designing tax policies that are not only fiscally effective but also sensitive to the socioeconomic conditions of the community. High tax rates can reduce purchasing power and hinder investment activity, potentially suppressing inclusive economic growth. In the context of natural resource management, this theory also calls for fair and transparent distribution mechanisms to ensure that communities in producing areas receive tangible benefits, ultimately strengthening inclusive economic growth. Furthermore, stakeholder theory encourages active public involvement in budget planning and oversight processes to ensure that policies reflect the common good.

Stakeholder theory also explains the role of institutional quality as a moderating variable. Institutions that are responsive to stakeholder interests will encourage tax compliance through a fair and transparent system. Institutions that ensure fair and participatory distribution will increase the efficiency of revenue-sharing funds, thus significantly impacting inclusive economic growth. Institutions that involve stakeholders in budget planning and evaluation will increase the effectiveness of public spending and strengthen its contribution to inclusive economic growth.

Tax Revenue and Inclusive Economic Growth

Stakeholder theory emphasises that taxes function as a means for the government to accommodate the needs of all interested parties, including the community, the business and industrial sectors, and the state, thus having an impact on increasing inclusive economic growth. This theoretical framework suggests that tax systems designed with stakeholder interests in mind should demonstrate measurable positive effects on inclusive growth indicators. When governments effectively balance the fiscal needs of the state with the welfare expectations of citizens and the operational requirements of businesses, tax revenue should translate into tangible improvements in employment, poverty reduction, and equitable access to public services. Various empirical studies have reviewed the contribution of tax revenue to economic growth indicators. A comprehensive study by Oyinlola and Adedeji (2022) explored the impact of tax structure on inclusive economic growth in Sub-Saharan African (SSA) countries from 1995 to 2014. They used Gross Domestic Product (GDP) per capita as an indicator of inclusive economic growth. They found that tax has a positive impact on inclusive economic growth. Optimal tax mobilisation can increase productivity whilst opening new opportunities for regional development. SSA countries should focus on direct taxes and corporate taxes as the primary sources of increasing state revenues to support inclusive growth. Moreover, in their examination of the Indonesian context, Sihombing and Purwanti (2022) analysed the effect of tax revenue on inclusive economic growth from 2018 to 2021using fixed-effect model, demonstrating that increasing tax revenue and regional original income can boost the economy and address poverty issues and disparities, ultimately increasing inclusive economic growth. Furthermore, evidence from Mohammed et al. (2023) suggests that tax revenue has a positive and significant effect on inclusive economic growth based on their longitudinal analysis of Nigerian data spanning 1987 to 2022. Mohammed et al. (2023) employed Johansen's cointegration approach and Vector Error Correction Model (VECM). Taxes serve a vital function as a resource for the government to provide essential services to the public. Therefore, taxes contribute directly to improving general welfare and supporting sustainable economic growth. Consequently, the first hypothesis is that tax revenue has a positive and significant impact on inclusive economic growth.

Revenue-Sharing Funds from Natural Resources and Inclusive Economic Growth

According to stakeholder theory, revenue-sharing funds from natural resources influence economic growth because local governments are required to account for their use to various stakeholders. Appropriate allocation of revenue-sharing funds from natural resources can enhance regional development, strengthen stakeholder trust, and ultimately drive economic growth. From this theoretical perspective, the effectiveness of revenue-sharing funds from natural resources in promoting inclusive economic growth depends on the extent to which allocation decisions reflect the priorities and needs of diverse stakeholder groups, particularly communities in resource-producing regions. When local governments transparently distribute these funds towards education, healthcare, infrastructure, and livelihood opportunities, stakeholder theory predicts positive outcomes for inclusive development. Several empirical studies have examined how revenue-sharing funds from natural resources contribute to economic development. Research conducted by Fitrianasari et al. (2024) in East Kalimantan from 2015 to 2022 employed a multidimensional approach, applying economic growth, productive jobs and economic infrastructure, poverty and inequality, human capabilities, and social protection as dimensions of inclusive economic growth. Their findings indicate that increased spending in the education sector can strengthen the influence of natural resource revenues on inclusive growth. This suggests that increased investment in education will benefit natural resource revenues, driving more equitable and optimal economic growth. Moreover, a cross-national study by Nchofoung et al. (2021) investigated the influence of natural resource rents on inclusive human development in developing countries , revealing that revenues from natural resources, such as gas and oil revenues, as well as forest and mineral revenues, are used to provide education services, health services, and job creation, which reduces social inequality and ultimately enhances inclusive human development. Despite this positive evidence, some studies have reported mixed or negative effects of natural resource revenues on economic outcomes, particularly in contexts characterised by weak governance, the resource curse phenomenon, or inadequate distribution mechanisms. These contradictory findings underscore the need for further investigation, particularly regarding the moderating role of institutional quality. Hence, the second hypothesis is that revenue-sharing funds from natural resources have a positive and significant impact on inclusive economic growth.

Government Spending and Inclusive Economic Growth

According to stakeholder theory, government spending influences inclusive economic growth because every public spending policy must consider the interests of stakeholders, such as the community, the business sector, and the government. Spending that aligns with stakeholder needs, such as on education, health, and infrastructure, can drive inclusive economic growth. This theoretical lens implies that government expenditure decisions made through participatory processes that incorporate stakeholder input should yield more inclusive growth outcomes than spending determined solely by technocratic or political considerations. Stakeholder theory, therefore, leads us to expect that government expenditure will have more substantial positive effects on inclusive economic growth when it addresses the articulated priorities of multiple stakeholder groups, particularly those related to human capital development and equitable opportunity creation. Various empirical studies have evaluated the contribution of government spending to increasing economic activity. Using the poverty equivalent growth rate (PEGR) model, Purwanti and Rahmawati (2021) assessed the contribution of government expenditure on inclusive economic growth in Indonesia from 2010 to 2019 using multiple linear regression. This analytical approach, which compares data on poverty, income distribution, and the population average, demonstrated that government spending, particularly in the education sector, can improve the education system in general and develop educational facilities and infrastructure to enhance the quality of human resources. In a regional analysis, Safitri (2021) explored the impact of government expenditure on inclusive economic growth in East Java from 2014 to 2018, finding that an increase in government expenditure on education and health will increase inclusive economic growth in the short term. Meanwhile, government expenditure on the economy in the form of infrastructure development requires a large workforce and creates job opportunities, resulting in high productivity levels and reduced poverty rates, ultimately increasing inclusive economic growth. Employing a comprehensive set of indicators encompassing economic growth and development, income equality and poverty reduction, and expansion of access and opportunity, Herdiyati and Ismail (2022) investigated the effect of government expenditure on inclusive economic growth in Indonesia from 2015 to 2019 using fixed-effect model regression. Their analysis confirmed that improving the quality of health and education services will enhance the capabilities and skills of the community, which in turn will increase productivity and accelerate economic development. Hence, the third hypothesis is that government expenditure has a positive and significant impact on inclusive economic growth.

The Role of Institutional Quality as a Moderator Variable

According to stakeholder theory, institutional quality moderates the impact of tax revenue on economic growth. This theoretical relationship emerges because institutions serve as the mechanisms through which governments manage their accountability to stakeholders. High-quality institutions—characterised by transparency, accountability, and effectiveness—enhance stakeholder trust and ensure that tax revenues are channelled towards development priorities that benefit multiple stakeholder groups. Conversely, when institutional quality is weak, tax revenues may be subject to rent-seeking behaviour or inefficient allocation, thereby weakening their contribution to inclusive economic growth. Corruption in tax revenue is one indication of weak institutional quality. A study on audit effectiveness by Verawaty (2019) explored the impact of follow-up audit results on the level of corruption in local governments in Indonesia, demonstrating that the increasing number of audit follow-ups, as seen from the per capita value submitted to the state treasury, resulted in a decrease in the level of corruption. Strong institutions ensure transparent and accountable tax management, enabling taxes to function not only as a source of state revenue but also as a more effective instrument for sustainable development, driving economic growth. Drawing on data from 43 Sub-Saharan African countries spanning 2012 to 2022, Ayana et al. (2023) examined the role of institutional quality as a moderator of the effect of government revenue on economic growth, establishing that institutional quality can enhance the impact of government revenue on economic growth. Ayana et al. (2023) employed System Generalized Method of Moment (SGMM). Government revenue plays a crucial role in driving economic growth, but its effectiveness depends heavily on the quality of institutions. Therefore, institutional improvements in countries such as Ethiopia are vital for strengthening the relationship between government revenue and economic growth in SSA countries. Thus, the fourth hypothesis is that institutional quality moderates the effect of tax revenue on inclusive economic growth.

Stakeholder theory explains that institutional quality serves as a key moderator in the relationship between revenue-sharing funds from natural resources and economic growth. When institutions function well, the interests of all parties can be accommodated, making the revenue-sharing funds from natural resources not only a fiscal revenue source but also a driver of sustainable development. From a stakeholder theory perspective, institutional quality determines whether natural resource revenues are managed in ways that balance the competing interests of different stakeholder groups—including present and future generations, local communities, private sector actors, and government entities. Strong institutions facilitate stakeholder participation in resource governance decisions, ensure equitable benefit distribution, and prevent the resource curse phenomenon by channelling revenues towards diversified and sustainable development pathways. Furthermore, in the context of Belt and Road countries, Wang et al. (2023) investigated the role of institutional quality as a moderator variable in the influence of natural resource abundance on economic growth, revealing that institutional quality can increase the impact of natural resources on economic growth. Improving institutional quality is driving countries' gradual awareness of the importance of low-carbon development. Green ecological principles are increasingly integrated into resource management, so that at a more mature institutional stage, natural resources are reflected as catalysts for green economic growth. Therefore, the fifth hypothesis is that institutional quality moderates the effect of revenue-sharing funds from natural resources on inclusive economic growth.

According to stakeholder theory, institutional quality plays a key role as a moderator in the relationship between government spending and economic growth. When institutions function optimally, stakeholder interests are safeguarded, enabling government spending to function not only as a fiscal tool but also as a driving force for sustainable development. This theoretical expectation arises because high-quality institutions create the governance structures necessary for effective stakeholder engagement in budget formulation and monitoring. When institutional quality is strong, government expenditure decisions are more likely to reflect genuine stakeholder priorities, implementation is more efficient, and resources reach intended beneficiaries. Consequently, stakeholder theory predicts that the positive relationship between government expenditure and inclusive economic growth will be amplified in contexts characterised by strong institutional quality. Through a comprehensive two-decade analysis (2003–2022), Kpegba et al. (2024) investigated the impact of institutional quality on public expenditure and the role of institutional quality as a moderator variable in the relationship between public expenditure and economic growth in Sub-Saharan countries using Pooled OLS and System GMM econometric techniques, finding that the interaction between the coefficients of institutional quality and public spending altered the direction of their effects on economic sustainability. In other words, the relationship between the rule of law, control of corruption, government effectiveness, political stability, and economic sustainability showed a statistically significant negative result. This indicates that although institutional quality acts as a moderator, increasing the interaction decreases economic sustainability across all institutional dimensions. Hence, the sixth hypothesis is that institutional quality moderates the impact of government expenditure on inclusive economic growth.

Research Method

This study uses data obtained from official local government financial reports of the district and city governments from 2019 to 2023. The sample for this research comprises 515 district and city governments in Indonesia, and the total number of observations is 2,575. The data in these reports are used to obtain information on taxes, natural resources, and expenditures of the district and city governments in Indonesia. Moreover, data on the inclusive economic development index were derived from the Badan Perencanaan Pembangunan Nasional (BAPPENAS).

The dependent variable in this research is inclusive economic growth, measured using the inclusive economic development index. This index provides a comprehensive assessment of economic growth quality by incorporating dimensions of equity, opportunity, and broad-based participation in economic development (Fitrianasari et al., 2024; Herdiyati & Ismail, 2022). The index captures not only the rate of economic expansion but also the extent to which growth benefits are distributed across different segments of society, making it a more holistic measure than traditional GDP-based indicators.

Tax revenue, as the first independent variable, represents mandatory contributions by individuals or entities to the state without direct compensation, used to finance public services and promote societal prosperity (Law of the Republic of Indonesia Number 16 of 2009 Concerning General Provisions and Tax Procedures, 2009). Tax revenue is measured based on three components. First, regional taxes, which are sourced from local revenue and collected directly by district and city governments. Second, central government tax revenue-sharing funds, which represent taxes managed by the central government but originating from economic activities within districts or cities. Third, provincial government tax revenue-sharing funds, which are taxes managed by provincial governments but sourced from districts or cities within their jurisdiction (Law of the Republic of Indonesia Number 16 of 2009 Concerning General Provisions and Tax Procedures, 2009). The aggregate value of these three components constitutes the total tax revenue variable, measured in billion rupiah.

The second independent variable is revenue-sharing funds from natural resources, which represent transfers from the central government to regional governments based on the exploitation of natural resources within their jurisdictions. This revenue is derived from natural resources in forestry, general mining, fisheries, oil mining, natural gas mining, and geothermal mining (Government Regulation of the Republic of Indonesia Number 55 of 2005 Concerning Balancing Funds, 2005). Revenue-sharing funds from natural resources are measured by the total amount (in billion rupiah) received by each district or city government annually. This variable reflects the fiscal benefits that local governments obtain from natural resource extraction activities within their administrative boundaries.

The third independent variable is government expenditure, which represents all spending allocated by district and city governments for the procurement of goods and services in the current period (Nguyen et al., 2022). This expenditure encompasses operational spending for day-to-day government functions, capital spending for infrastructure and asset development, and transfer spending for social assistance and subsidies. Government expenditure is measured by the total amount (in billion rupiah) allocated in the regional budget for each district or city government annually. This variable captures the scale of government fiscal intervention in the local economy.

Institutional quality serves as the moderator variable in this research. Institutional quality refers to the level of compliance of local governments with the principles of good governance, which include legal, administrative, social, and ethical aspects to realise fair and effective public services (Law of the Republic of Indonesia Number 23 of 2014 Concerning Regional Government, 2014). This variable is measured by the ranking score and performance status of regional government administrators of districts and cities issued by the Minister of Home Affairs through the Government Agency Performance Accountability System.

Scores in the governance index are presented numerically, on a scale of 0–100, with higher scores indicating better institutional quality. The scoring system evaluates multiple dimensions of governance, including transparency in decision-making processes, accountability in resource management, effectiveness in policy implementation, efficiency in service delivery, and public participation in governance processes. A high score reflects good and sustainable governance, indicating that principles such as transparency, accountability, and effectiveness have been consistently implemented. Conversely, a low score suggests weaknesses in certain aspects, such as a lack of information transparency or minimal public participation, requiring attention and improvement from relevant parties. For analytical purposes, this continuous measure allows for the examination of how varying levels of institutional quality moderate the relationships between fiscal variables and inclusive economic growth.

This study adopts the Partial Least Squares Structural Equation Modelling (PLS-SEM) method as an analysis technique to test the relationships between variables in the structural model. Model evaluation in SEM involves two stages: measurement model evaluation and structural model evaluation. The outer model evaluation is conducted to assess the reliability and validity of the indicators forming the latent construct. Meanwhile, the inner model evaluation aims to predict the relationships between variables by examining the amount of variance explained and determining the significance of the *p*-value (Latan & Ghozali, 2016).

The rule of thumb for evaluating measurement models is shown on Table 1.

Table 1. Rule of Thumb for Evaluating Measurement Model

Eligibility of Formative Indicators	Parameter	Rule of Thumb
Significant Weight	*p*-Value	$p < 0.10$ (level 10%) $p < 0.05$ (level 5%) $p < 0.01$ (level 1%)
Multicollinearity	Variance Inflation Factor (VIF)	VIF < 5 (acceptable) or < 3.3 (preferred)

Source: (Latan & Ghozali, 2016)

Structural model evaluation is the next step after evaluating the measurement model. The first step in structural model evaluation is to assess whether a research model meets the goodness-of-fit (GoF) criteria. Six model fit indicators were used in this study: Average Path Coefficient (APC), Average *R*-squared (ARS), Average Variance Inflation Factor (AVIF), Average Adjusted *R*-squared (AARS), Average Full Collinearity VIF (AFVIF), and Tenenhaus GoF (GoF).

The first criterion for fulfilling the GoF of a model is that the *p*-value for APC, ARS, and AARS must be significant at the 0.05 level ($p < 0.05$). The second criterion is that the AVIF and AFVIF values are no more than 5 (AVIF and AFVIF < 5). The third criterion is that the GoF value for small is ≥ 0.1, medium is ≥ 0.25, and large is ≥ 0.36.

The final step in evaluating a structural model is to examine the path coefficients and *p*-values. In addition, the equation for this research is:

$$\text{Inclusive Economic Growth} = \alpha_1 + \beta_1(\text{Institutional Quality}) + \beta_2(\text{Tax Revenue}) + \beta_3(\text{Revenue-Sharing Funds from Natural Resources}) + \beta_4(\text{Government Expenditure}) + \varepsilon$$

Where:
α_1 = constant term
$\beta_1, \beta_2, \beta_3, \beta_4$ = regression coefficients
ε = error term

Hypothesis testing uses the rule of thumb for significance (two-tailed). The significance value of the relationship between variables uses a *p*-value of 0.1 (10% level), a *p*-value of 0.05 (5% level), and a *p*-value of 0.01 (1% level).

Result and Discussion

Table 2 presents the descriptive statistics results. The mean value of inclusive economic growth in Indonesia, which is estimated by the inclusive economic development index, is 4.87. This value indicates that economic growth in Indonesia is quite good, but this economic growth is not yet entirely equitable or inclusive. Moreover, the minimum value of the inclusive economic development index is 2.4. This index shows that there are regions in Indonesia where economic growth is still not stable, there is substantial social inequality, and access to basic services is limited. Meanwhile, the maximum value is 6.48. This index shows that there are regions in Indonesia that have relatively even growth, better access to public services, and low inequality. The mean value of tax revenue in Indonesia is Rp 193.7 billion. These tax revenues play an essential role in supporting fiscal policy and encouraging economic growth, particularly if the funds are used productively for development and public services. The minimum value of tax revenue is Rp 10.59 billion, whilst the maximum value is Rp 4,197 billion. Furthermore, the mean value of revenue-sharing funds from natural resources is Rp 63.2 billion. The average revenue-sharing funds from natural resources of 63.2 billion indicate that each region or entity that receives the funds receives an average of 63.2 billion from the revenue sharing derived from the exploitation of natural resources. The maximum value of revenue-sharing funds from natural resources is Rp 2,136 billion, whilst the minimum value is Rp 1.67 billion. In addition, institutional quality has a mean value of approximately 35.07. The figure of 35.07 shows that, in general, the institutional quality of districts and cities in Indonesia is still at a low to moderate level. The minimum value of institutional quality is 2.5. This value indicates that the quality of governance is at a low or inadequate level and requires improvements in the aspects of transparency, accountability, and institutional effectiveness. Meanwhile, the maximum value is 86.35. This value reflects a high level of compliance, effectiveness, and transparency in the implementation of governance.

Table 2. Descriptive Statistics

Variable	Mean	Max	Min
Economic Growth (Inclusive economic development index)	4.87	6.48	2.4
Tax Revenue (In billion rupiah)	193.7	4,197	10.59
Revenue-Sharing Funds from Natural Resources (In billion rupiah)	63.2	2.136	1.67
Government Expenditure (In billion rupiah)	1,431	8,708	56.58
Institutional Quality	35.07	86.35	2.5

Source: Authors' calculations

Table 3 shows that all model fit measures have met the requirements. Therefore, it can be concluded that this research model is adequate. The model fit measures are APC = 0.172, ARS = 0.219, and AARS = 0.208, all of which are significant ($\rho < 0.01$). The APC value of 0.172 indicates that the model has a relatively good strength of relationship between variables and is suitable for further interpretation. The ARS value of 0.219 suggests that, on average, approximately 21.9% of the variability in the dependent variable can be explained by the structural model used. The AARS value of 0.208 indicates that, after adjustment for model complexity, approximately 20.8% of the variability in the endogenous variables can be explained by the model. The AVIF (3.52) and AFVIF (3.2) values are lower than 5, which is the minimum criterion limit; therefore, the research model does not have vertical collinearity problems (collinearity between exogenous/predictor variables) or lateral collinearity (collinearity between exogenous/predictor and endogenous/criterion variables). The GoF value criterion of 0.443 indicates that the model's predictive power falls within the large category, as its value exceeds 0.36. The GoF value of 0.443 indicates that the model has a good overall fit and can be considered suitable for use in further analysis.

Table 3. Model Fit and Quality Indices

Model Fit and Quality Indices	Value	Significance	Rule of Thumb	Conclusion
APC	0.172	$p < 0.001$	$p < 0.05$	Meets the rule of thumb
ARS	0.219	$p < 0.001$	$p < 0.05$	Meets the rule of thumb
AARS	0.208	$p < 0.001$	$p < 0.05$	Meets the rule of thumb
AVIF	3.52		< 5	Meets the rule of thumb
AFVIF	3.2		< 5	Meets the rule of thumb
GoF	0.443		small > 0.1 medium > 0.25 large > 0.36	Large

Source: Authors' calculations

Table 4 shows that tax revenue has a coefficient value of approximately 0.423. This value indicates that tax revenue has a positive and significant effect on economic growth. An increase in tax revenue will increase inclusive economic growth, and vice versa. Increased tax revenue can improve the inclusive economic development index as an indicator of economic growth because it provides the government with greater resources to finance programmes that promote equitable distribution of welfare and access to public services.

Moreover, the coefficient value of revenue-sharing funds from natural resources is approximately –0.159. This value shows that revenue-sharing funds from natural resources have a negative impact on inclusive economic growth. This is due to the ineffective management of natural resources, uneven distribution, and failure to support inclusive development.

Furthermore, the coefficient value of government expenditure is approximately 0.116. This value indicates that government expenditure has a positive and significant effect on economic growth. An increase in government expenditure will increase inclusive economic growth. Increased government spending directed at strategic sectors such as education, health, infrastructure, and social protection can encourage inclusive economic growth.

The interaction between institutional quality and tax revenue has a coefficient of –0.179, and this value is significant with $p < 0.001$. This result shows that the existence of institutional quality weakens the effect of tax revenue on inclusive economic growth. Low institutional quality can undermine the positive impact of tax revenue on inclusive economic growth because tax funds are not managed effectively, transparently, or fairly. Consequently, high taxes do not automatically result in more equitable welfare or broader access for the public.

The coefficient of interaction between institutional quality as a moderating variable and revenue-sharing funds from natural resources has a negative and insignificant effect. Although the coefficient is negative (–0.067), the relationship does not reach conventional levels of statistical significance ($p = 0.053$), suggesting that institutional quality's moderating role in this relationship remains inconclusive. Institutional quality fails to moderate the influence of revenue-sharing funds from natural resources on inclusive economic growth because weak institutions fail to optimise the use of funds productively and sustainably.

The interaction of institutional quality with government expenditure has a coefficient of 0.086, and this value is significant with $p = 0.019$. Institutional quality is able to moderate the influence of government spending on inclusive economic growth because good institutions ensure that budget allocation is carried out efficiently, transparently, and on target.

Table 4. Path Coefficients and *p*-Values for Economic Growth

Variable	Path Coefficients	*p*-Value	Rule of Thumb	Conclusion
Tax Revenue	0.423	< 0.01		Meets the rule of thumb
Revenue-Sharing Funds from Natural Resources	-0.159	< 0.01		Meets the rule of thumb
Government Expenditure	0.116	0.003	$p < 0.05$	Meets the rule of thumb
Institutional Quality × Tax Revenue	-0.179	< 0.01	$p < 0.01$	Meets the rule of thumb
Institutional Quality × Revenue-Sharing Funds from Natural Resources	-0.067	0.053		Does not meet the rule of thumb
Institutional Quality × Government Expenditure	0.086	0.019		Meets the rule of thumb

Source: Authors' calculations

The empirical analysis in Table 4 shows that tax revenue functions as a positive determinant in the inclusive economic growth of districts and cities in Indonesia. These results demonstrate that tax revenue generated by the government, encompassing district taxes, city taxes, provincial taxes, and central government taxes originating from the regions, has significant implications for enhancing the inclusive economic growth of district and city governments in Indonesia. These results align with stakeholder theory, as it describes the parties to whom a government is accountable (Freeman, 1984). Tax revenue, as the primary fiscal instrument, plays a strategic role in meeting the expectations and needs of these stakeholders. The taxes collected will be used to finance education and health services, investment in infrastructure and human resource development, and the improvement of public service quality. Thus, increasing tax revenue will have an impact on increasing economic growth and increasing the ability of local governments to reduce disparities in society. This positive result is consistent with the findings of (Mohammed et al., 2023; Oyinlola & Adedeji, 2022; Sihombing & Purwanti, 2022).

Based on Table 4, revenue-sharing funds from natural resources have a negative impact on economic growth. Ineffective and uneven management of revenue-sharing funds from natural resources can have a significant negative impact on the achievement of inclusive economic growth, measured by the inclusive economic development index. This condition can be caused by high dependence on natural resources and low economic diversification, unproductive use of revenue-sharing funds from natural resources, and unequal distribution of natural resource benefits. From the perspective of stakeholder theory, non-inclusive management of revenue-sharing funds from natural resources reflects the government's inability to accommodate the interests of key stakeholders, particularly local communities, thus reducing the achievement of the inclusive economic development index as an indicator of economic growth. The negative relationship between revenue-sharing funds from natural resources and economic growth is contrary to the findings of Fitrianasari et al. (2024) and Nchofoung et al. (2021).

The findings in Table 4 show that government expenditure plays a significant role as a determinant factor in driving the economic growth of district and city governments in Indonesia. These results indicate a tendency for higher government expenditure to be associated with higher levels of inclusive economic growth. These results are consistent with the findings of Herdiyati and Ismail (2022), Purwanti and Rahmawati (2021), and Safitri (2021) These results align with stakeholder theory, which focuses on the methods governments use to manage relationships with their stakeholders. In the government sector, these methods are reflected in the preparation, approval, implementation, and accountability of regional revenue and expenditure budgets. Government spending plays a crucial role in driving economic growth through various strategic channels. Spending in the education and health sectors improves the quality of human resources, thus strengthening the foundation of national productivity. Investment in infrastructure and public services, on the other hand, creates new job opportunities, particularly for vulnerable and low-income groups. The government also contributes to reducing social inequality through social transfers and subsidies that help the poor meet basic needs, as well as through the development of underdeveloped regions.

Table 4 shows that institutional quality weakens or has a negative moderating effect on the relationship between tax revenue and inclusive economic growth of district or city governments in Indonesia. Several factors may explain this unexpected negative moderating effect. First, in contexts with higher institutional quality, tax collection may become more stringent, potentially suppressing informal economic activities that contribute to inclusive growth. Second, improved institutions may redirect tax revenues towards governance improvements rather than direct public service delivery. Third, as institutional quality improves, expectations for service delivery may rise faster than the government's capacity to meet them, creating a paradoxical weakening effect. This finding warrants further investigation into the specific mechanisms through which institutional quality interacts with tax revenue in the Indonesian context.

The results of the analysis in Table 4 also show that institutional quality fails to moderate the relationship between revenue-sharing funds from natural resources and inclusive economic growth of districts and cities in Indonesia. Ineffective institutions have been unable to mitigate the negative impact of revenue-sharing funds from natural resources on economic growth because these funds are not managed productively and sustainably. The lack of local institutional capacity in planning and implementing development programmes based on revenue-sharing funds from natural resources means that funds are not used optimally.

The research findings show that institutional effectiveness strengthens the impact of government spending on increasing inclusive economic growth in Indonesia. This indicates that institutions function not only as implementers but also as catalysts for development. Strong institutional quality can help allocate government expenditure in the form of investment and act as a systemic driver. Government spending will be more effective in driving economic growth if supported by strong and trustworthy institutions. Institutional transparency and accountability play a crucial role in preventing budget misuse and ensuring that public funds are used in accordance with development priorities. A government with a sound institutional system is able to formulate and implement policies relevant to the needs of the community and key economic sectors. Institutional stability also creates a conducive investment climate, thereby strengthening fiscal impact. Furthermore, regulations designed clearly and consistently by competent institutions facilitate economic actors in optimally responding to government policies.

Conclusion

Tax revenue provides a crucial contribution to the inclusive economic development index. The amount of tax revenue influences the development of public facilities that can increase access to education and health for the community and reduce the poverty gap. However, revenue-sharing funds from natural resources present a contrasting picture. Increasing these revenue-sharing funds from natural resources can reduce inclusive economic growth, particularly when the management of the funds is not effective. The higher government spending allocated to address inequality in the education and health sectors has an impact on increasing economic growth. Furthermore, the institutional quality of tax management is considered inadequate. Tax revenues are likely not allocated effectively, thus underperforming in their contribution to inclusive economic growth. Similarly, institutional quality fails to moderate the relationship between revenue-sharing funds from natural resources and inclusive economic growth, suggesting that weak institutions are unable to mitigate the negative effects of resource dependence regardless of their quality level. In addition, institutional quality can enhance the quality of the realisation and allocation of government spending to reduce poverty inequality and increase economic growth.

This study makes several significant contributions to the literature on fiscal policy and inclusive economic growth in developing countries. First, it provides comprehensive empirical evidence on the differential effects of various fiscal instruments (tax revenue, natural resource revenues, and government expenditure) on inclusive economic growth using a large-scale panel dataset covering 515 Indonesian districts and cities over five years. Second, this study extends stakeholder theory to the public sector context, demonstrating its relevance for understanding fiscal policy effectiveness in local government settings. Third, and most notably, this study advances the literature by examining institutional quality as a moderator variable, revealing complex interaction effects that challenge simplistic assumptions about governance and fiscal policy. The finding that institutional quality can have negative moderating effects on certain fiscal relationships is particularly novel. It opens new avenues for research on the contextual factors that determine governance effectiveness.

The findings of this study have important implications for theoretical development in several areas. First, this study extends stakeholder theory beyond its traditional corporate context to public sector fiscal management, demonstrating that local governments must balance the interests of multiple stakeholders—taxpayers, service recipients, natural resource communities, and oversight bodies—in their fiscal decisions. Second, this study contributes to institutional theory by demonstrating that institutions do not uniformly strengthen policy effectiveness; instead, their moderating effects are contingent on the specific fiscal instrument and policy context.

The findings of this study offer several practical implications for policymakers and local government administrators in Indonesia. First, district and city governments should prioritise strengthening their tax collection systems whilst ensuring that tax policies remain equitable and do not disproportionately burden low-income populations. Second, local governments should establish transparent monitoring mechanisms, engage local communities in resource management decisions, and allocate natural resource revenues strategically to sectors that promote economic diversification and human capital development, rather than current consumption. Third, district and city governments should invest in institutional ciapacity building, strengthen transparency and accountability mechanisms, implement anti-corruption measures, and foster participatory governance structures that engage citizens and civil society in budget planning and monitoring processes.

This study focuses entirely on the role of institutional quality in districts and cities in Indonesia. Therefore, further research could expand on this research by comparing the institutional quality of district and city governments in other countries, particularly in Southeast Asian nations with similar developmental challenges and resource endowments. Such comparative studies would enable researchers to identify whether the negative moderating effect of institutional quality on tax revenue is context-specific or represents a broader phenomenon in developing economies. Additionally, future research could incorporate other variables that may explain the remaining variance in inclusive economic growth, such as technological innovation, social capital, political stability, and external economic factors.

This study has several limitations that should be considered when interpreting the findings. First, the study focuses exclusively on Indonesian districts and cities from 2019 to 2023, which limits the generalisability of the findings to other countries with different institutional and economic contexts. Second, the observation period includes the COVID-19 pandemic (2020–2021), which may have introduced unprecedented disruptions to fiscal management and economic growth patterns that are not representative of normal circumstances. Third, the institutional quality measure, whilst comprehensive, relies on government-issued rankings, which may not fully capture all dimensions of institutional effectiveness, such as citizen perceptions or corruption at the ground level.

Acknowledgements

The authors would like to thank Lembaga Penelitian dan Pengabdian Masyarakat (LPPM), Universitas Pekalongan, for its support of this research.

References

Adefolake, A. O., & Omodero, C. O. (2022). Tax revenue and economic growth in Nigeria. *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2022.2115282

Ahmad, M. (2019). Desentralisasi fiskal dan inklusifitas pertumbuhan ekonomi di kabupaten/kota di NTB. *Jurnal Akuntansi Dan Keuangan Syariah - ALIANSI*, *2*(2). https://doi.org/10.54712/aliansi.v2i2.37

Arrfah, A. P., & Syafri, S. (2022). Dampak belanja pemerintah daerah terhadap pembangunan ekonomi inklusif di Provinsi Sulawesi Tengah. *Info Artha*, *6*(2), 159–166. https://doi.org/10.31092/jia.v6i2.1890

Ayana, I. D., Demissie, W. M., & Sore, A. G. (2023). Effect of government revenue on economic growth of Sub-Saharan Africa: Does institutional quality matter? *PLOS ONE*, *18*(11), e0293847. https://doi.org/10.1371/journal.pone.0293847

Badan Pusat Statistik. (2020). *Realisasi Pengeluaran Negara (Keuangan) (Milyar Rupiah), 2020*. https://www.bps.go.id/id/statistics-table/2/MTA4NSMy/realisasi-pengeluaran-negara--keuangan-.html

Badan Pusat Statistik. (2023). *Realisasi Pengeluaran Negara (Keuangan) (Milyar Rupiah), 2023*. https://www.bps.go.id/id/statistics-table/2/MTA4NSMy/realisasi-pengeluaran-negara--keuangan-.html

Bappenas. (2025). *7 Provinsi dengan Indeks Pembangunan Ekonomi Inklusif Terbaik*. GoosStats. https://data.goodstats.id/statistic/7-provinsi-dengan-indeks-pembangunan-ekonomi-inklusif-terbaik-

HZJGd#:~:text=Indeks pembangunan ekonomi inklusif mengukur inklusivitas pembangunan di,serta 21 indikator pembentuk indeks pembangunan ekonomi inklusif.

Direktorat Jenderal Pajak. (2024). *Statistik Penerimaan Pajak Tahun 2023 dalam Angka*. https://pajak.go.id/index.php/id/artikel/statistik-penerimaan-pajak-tahun-2023-dalam-angka

Dollar, D., & Kidder, M. (2017). Institutional quality and participation in global value chains. *Global Value Chain Development Report 2017: Measuring and Analyzing the Impact of GVCs on Economic Development* (pp. 161–174.). World Bank.

Ernawati, E., Tajuddin, T., & Nur, S. (2021). Does government expenditure affect regional inclusive growth? An Experience of Implementing Village Fund Policy in Indonesia. *Economies*, *9*(4), 164. https://doi.org/10.3390/economies9040164

Fitrianasari, R. N., Moh. Khusaini, & Wahyudi, S. T. (2024). Does natural resource revenue contribute to achieving inclusive growth? *Futurity Economics&Law*, *4*(4), 185–203. https://doi.org/10.57125/FEL.2024.12.25.11

Freeman, R. M. (1984). *Strategic management: A stakeholder approach*. Cambridge University Press.

Government Regulation of the Republic of Indonesia Number 55 of 2005 Concerning Balancing Funds, Pemerintah Republik Indonesia (2005).

Hartati, Y. S. (2021). Analisis pertumbuhan ekonomi inklusif di Indonesia. *Jurnal Ekonomi Dan Bisnis*, *12*(1), 79–92. https://doi.org/10.55049/jeb.v12i1.74

Herdiyati, L., & Ismail, M. (2022). Government spending and investment for inclusive growth in Indonesia: A panel data analysis. *Southeast Asian Journal of Economics*, *10*(3), 27–73. https://so05.tci-thaijo.org/index.php/saje/article/view/262485

Kementerian Keuangan Republik Indonesia. (2019). Rincian Dana Bagi Hasil 2019. In *Kementerian Keuangan Republik Indonesia* (Vol. 2019, Issue 1).

Kementerian Keuangan Republik Indonesia. (2024). Rincian Alokasi DAU DBH TA 2024. In *Kementerian Keuangan Republik Indonesia*.

Kpegba, S. A., Atisu, L. K. K., Nketiah Sarfo, K., Oppong, C., & Akwaa-Sekyi, E. K. (2024). Public expenditure and economic sustainability: Does institutional quality matter? *Sustainable Development*, *32*(6), 6241–6252. https://doi.org/10.1002/sd.3024

Latan, H., & Ghozali, I. (2016). *Partial Least Squares: Konsep, Metode, dan Aplikasi Menggunakan WarpPLS 5.0*. Universitas Diponegoro.

Law of the Republic of Indonesia Number 16 of 2009 Concerning General Provisions and Tax Procedures, Kementerian Sekretariat Negara (2009).

Law of the Republic of Indonesia Number 23 of 2014 Concerning Regional Government, Kementerian Sekretariat Negara (2014).

Mohammed, M., Jajere, A., & Mallum, A. (2023). Domestic revenue mobilization and inclusive growth: Empirical evidence from Nigeria (1987-2022). *Yobe Journal of Economics (YOJE)*, *8*(1).

Nchofoung, T. N., Achuo, E. D., & Asongu, S. (2021). *Resource rents and inclusive human development in developing countries* (WP/21/025; AGDI Working Paper, Issue WP/21/025). African Governance and Development Institute (AGDI). https://hdl.handle.net/10419/244200

Nguyen, D. C., Ding, M., Pathirana, P. N., Seneviratne, A., Li, J., Niyato, D., Dobre, O., & Poor, H. V. (2022). 6G internet of things: A comprehensive survey. *IEEE Internet of Things Journal*, *9*(1), 359–383. https://doi.org/10.1109/JIOT.2021.3103320

Oyinlola, M. A., & Adedeji, A. A. (2022). Tax structure, human capital, and inclusive growth: A sub-Saharan Africa perspective. *Journal of Public Affairs*, *22*(4). https://doi.org/10.1002/pa.2670

Oyinlola, M. A., Adedeji, A. A., Bolarinwa, M. O., & Olabisi, N. (2020). Governance, domestic resource mobilization, and inclusive growth in sub-Saharan Africa. *Economic Analysis and Policy*, *65*, 68–88. https://doi.org/10.1016/j.eap.2019.11.006

Purwanti, S. D., & Rahmawati, F. (2021). Pengaruh pengeluaran pemerintah dan tingkat pengangguran terbuka (TPT) terhadap pertumbuhan ekonomi inklusif Indonesia. *Ecoplan*, *4*(1), 32–44. https://doi.org/10.20527/ecoplan.v4i1.231

Safitri, M. I. D. (2021). Analisis dampak belanja pemerintah daerah terhadap pertumbuhan ekonomi inklusif Jawa Timur. *Indonesian Treasury Review: Jurnal Perbendaharaan, Keuangan Negara Dan Kebijakan Publik*, *6*(2), 85–96. https://doi.org/10.33105/itrev.v6i2.339

Senduk, F., Engka, D. S. M., & Kawung, G. V. M. (2019). Pengaruh dana bagi hasil dan infrastruktur terhadap pertumbuhan ekonomi Kota Manado. *Jurnal Pembangunan Ekonomi Dan Keuangan Daerah*, *20*(2), 45–61.

Sihombing, P. R., & Purwanti, D. (2022). Apakah dana desa dan pendapatan APBD mempengaruhi indeks pembangun ekonomi inklusif di Indonesia. *Jurnal Perspektif*, *20*(2), 182–187. https://doi.org/10.31294/jp.v20i2.13553

Verawaty, V. (2019). Pengaruh BPK, Karakteristik Pemerintah Dan Indeks Pembangunan Manusia Terhadap Tingkat Korupsi Pemerintah Daerah Di Indonesia. *MBIA*, *18*(2), 79–99. https://doi.org/10.33557/mbia.v18i2.428

Wang, X., Wang, Y., & Wei, C. (2023). The impact of natural resource abundance on green economic growth in the belt and road countries: The role of institutional quality. *Environmental Impact Assessment Review*, *98*, 106977. https://doi.org/10.1016/j.eiar.2022.106977

Wardani, A. S., Saputra, M. A., Niarsih, M., & Malik, A. (2023). Kebijakan fiskal sebagai penggerak pertumbuhan inklusif peluang dan tantangan di negara berkembang. *IJEN: Indonesian Journal of Economy and Education Economy*, *01*(01), 86–91.