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Mining Sector and Local Government Revenue Effects on Interregional Expenditure Inequality in West Sulawesi Province

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A B S T R A C T
This study examines the effect of the mining sector on local government revenue and its subsequent impact on interregional expenditure inequality across six districts in West Sulawesi Province during 2019–2024. Using a quantitative associative approach, panel data regression through the Common Effect, Fixed Effect, and Random Effect Models was applied to 36 district-year observations sourced from Statistics Indonesia (BPS), the Directorate General of Fiscal Balance (DJPK), and audited local government financial reports, complemented by a Baron and Kenny mediation test and a decomposition of the Williamson Index. The results show that the mining sector's contribution to Gross Regional Domestic Product exerts a positive and significant effect on local government revenue ($\beta = 0.631$; $p < 0.05$), supporting the Economic Base Theory. However, local government revenue does not significantly affect interregional expenditure inequality at the within-effect level ($p > 0.05$) and does not function as a mediating variable between the mining sector and expenditure inequality, since the mining sector's direct effect on per capita expenditure ($\beta = -0.786$; $p < 0.05$) far exceeds its negligible indirect effect through revenue (≈ 0.006). These findings indicate that intergovernmental fiscal transfers, particularly the General Allocation Fund, rather than locally generated revenue, remain the dominant channel shaping expenditure disparities between mining- and non-mining-producing districts. The study concludes that the fiscal benefits of mining have not been evenly transmitted into equitable public expenditure, reflecting an early symptom of subnational resource curse that calls for strengthened local tax instruments, a fairer revenue-sharing formula, and continued economic diversification in West Sulawesi Province.

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INTRODUCTION

The Indonesian National Medium-Term Development Plan (RPJMN) 2020–2024 places the reduction of regional inequality as a core indicator of development success (Bappenas, 2020). Although the national Gini ratio slightly declined to 0.379 in March 2024 (BPS, 2024), interregional inequality remains a structural problem that is more closely related to disparities in public expenditure allocation than to income differences alone (Romaito et al., 2025). Paradoxically, regions endowed with abundant natural resources frequently fail to translate that potential into equitable welfare improvement for their population (Santi & Iskandar, 2021).

Since fiscal decentralization began in 2001 and was later strengthened by Law No. 1 of 2022 on Fiscal Relations between the Central and Local Governments (HKPD), local revenue capacity, as reflected in Locally Generated Revenue (PAD), has remained far smaller than intergovernmental transfers. Local government expenditure is among the fiscal instruments most directly felt by the public, yet its continued emphasis on routine organizational spending rather than public services and basic infrastructure is considered one reason why fiscal decentralization has not been able to narrow interregional disparities (Bappenas, 2022). The pattern of local budget allocation ultimately determines whether fiscal autonomy promotes equity or instead widens the gap between districts and cities.

The mining sector is commonly regarded as a strategic catalyst for regional development, particularly in mineral-rich areas, as mining activity is expected to strengthen local fiscal capacity through its contribution to Gross Regional Domestic Product (GRDP), Locally Generated Revenue, tax receipts, and Revenue Sharing Funds (Fitriah & Suryaningrum, 2023). Indonesia's nickel exports exceeding USD 5 billion in 2022 illustrate the sector's growing importance (BPSIP, 2025). Empirical evidence, however, often points to a different outcome. The resource curse phenomenon, in which resource-abundant regions such as Aceh, Riau, West Papua, and East Kalimantan display some of the highest resource-curse indices in Indonesia (Rahma et al., 2021; ICW, 2023; Madani, 2021), demonstrates that abundant natural resources alone do not guarantee equitable development and may even worsen the concentration of economic activity and public expenditure across districts and cities.

West Sulawesi, one of Indonesia's youngest provinces, possesses diverse mineral deposits including iron ore, gold, copper, coal, and non-metallic minerals (Wacana.info, 2024). The mining and quarrying sector recorded the province's highest sectoral growth of 9.71 percent in 2024 (BPS Sulawesi Barat, 2025), even as the province's Human Development Index rose to 70.46 in the same year (BPS Kabupaten Majene, 2024). Fiscally, West Sulawesi's 2023 regional budget shows Locally Generated Revenue of only IDR 428.3 billion out of total revenue of IDR 1.97 trillion, while transfer revenue reached IDR 1.54 trillion, underscoring the province's heavy dependence on central transfers. Fiscal capacity also varies markedly between mining-producing districts such as Pasangkayu and districts with fewer mineral resources, which may generate systemic expenditure inequality. By the end of 2023, realized Transfers to the Regions (TKD) in West

Sulawesi reached IDR 6.88 trillion, up 6.55 percent year-on-year (DJPB Kemenkeu Sulbar, 2024), yet no comprehensive account exists of how these transfers are distributed among districts.

Previous studies have generally examined fiscal decentralization and economic growth (Nanga & Hudang, 2023), the effect of Locally Generated Revenue and balancing funds on local expenditure (Septriani, 2023), or the impact of the mining sector on income inequality (Romaito et al., 2025) as separate strands of inquiry, without tracing the full causal chain from mining-driven local revenue to interregional expenditure inequality in West Sulawesi Province. Filling this gap is expected to help provincial and district governments design fairer revenue-sharing and redistribution mechanisms that address disparities in expenditure capacity among districts (IPB, 2021). This study therefore analyzes how the mining sector affects local government revenue and how this, in turn, shapes interregional expenditure inequality in West Sulawesi Province during 2019–2024, and further tests whether local government revenue mediates the relationship between mining activity and expenditure inequality.

LITERATURE REVIEW

Fiscal Decentralization Theory

Fiscal decentralization refers to the delegation of taxing authority, expenditure management, and fiscal transfers from central to local governments within a fiscal-federalism framework, aimed at improving efficiency, equity, and fiscal accountability (Garrett & Rodden, 2021). Its success depends heavily on institutional quality and local administrative capacity, so its benefits tend to be unevenly distributed: fiscally strong regions grow stronger while weaker regions fall further behind (Hanif et al., 2020; Krysovatyy et al., 2022). Mining-producing districts face a particular dilemma, enjoying large Revenue Sharing Fund inflows yet retaining relatively low independent local-revenue capacity because of structural dependence on the extractive sector (Chenge, 2024; Digdowiseiso, 2024).

Economic Base Theory

Economic Base Theory views regional growth as a function of the expansion of the export-oriented "basic sector," which drives non-basic, locally serving sectors through a multiplier effect (Watson et al., 2019). The mining sector is a typical basic sector in mineral-rich regions because its output is almost entirely exported, generating substantial external revenue inflows (Lego et al., 2018). GRDP growth driven by this basic-sector expansion enlarges the local tax base and entitlement to natural-resource Revenue Sharing Funds (Rahman et al., 2020). In West Sulawesi, the uneven presence of mining across districts creates a pronounced gap in economic-base strength, with mining-producing districts such as Pasangkayu possessing a far stronger basic sector than districts relying primarily on traditional agriculture and fisheries (Park, 2019; Milano & Talandier, 2025).

Resource Curse Theory

Resource Curse Theory explains the empirical paradox whereby resource-rich regions often experience slower economic growth, higher inequality, and weaker governance than resource-poor regions (Badeeb et al., 2017). The mechanism operates through economic channels such as Dutch Disease and the crowding out of investment in other productive sectors, as well as institutional-political channels such as rent-seeking behavior and weakened local tax-collection incentives (Manzano & Gutiérrez, 2019; Ross, 2020). The phenomenon is not deterministic but is strongly conditioned by local institutional quality: regions with strong governance can convert resource rents into productive investment, while those with weak institutions become trapped in a curse that deepens inequality (Savoia & Sen, 2020). In the West Sulawesi context, this theory helps explain why higher mining-derived local revenue is not automatically translated into more evenly distributed development expenditure across districts.

Regional Inequality Theory

Regional inequality theory explains why some regions within a country continue to grow richer while others are left behind. Williamson's inverted-U hypothesis predicts that inequality widens in the early stages of development around regions with initial comparative advantages, such as natural-resource endowment, before narrowing at later stages (Kisiała & Suszyńska, 2017), and is measured through the Weighted Coefficient of Variation, or Williamson Index, used as the proxy for the dependent variable in this study (Floerkemeier et al., 2021). Myrdal's Cumulative Causation theory explains why such inequality tends to persist: more advanced districts – in this context, mining-producing districts – draw human resources, capital, and investment away from lagging districts through a backwash effect, while the offsetting spread effect is often too weak, particularly in regions with limited infrastructure connectivity such as West Sulawesi (Iammarino et al., 2019; Gazieva et al., 2025).

Wagner's Law

Wagner's Law states that regional economic growth tends to be followed by a proportionally larger increase in government expenditure, as public demand for services, infrastructure, and regulatory functions rises (Sedrakyan & Varela-Candamio, 2019). In Indonesia's fiscal-decentralization context, this law is relevant for explaining why rising local government revenue – whether from Locally Generated Revenue or Revenue Sharing Funds – tends to be met with expanded local expenditure (Kouassi, 2018). However, the pace and direction of this expansion are not uniform across districts: revenue that grows rapidly due to mining rents may expand expenditure far faster in some districts than in others, a pattern directly relevant to this study's second hypothesis.

Conceptual Framework and Hypotheses

The conceptual framework links the five theories above into a single causal chain. The mining sector is the dominant basic sector in several West Sulawesi districts (Economic Base Theory); its expansion raises GRDP, enlarges the local tax base, and increases entitlement to natural-resource Revenue Sharing Funds, thereby creating fiscal-capacity gaps between mining- and non-mining-producing districts (Rahman et al., 2020; Isserman, 2017). This fiscal-capacity gap

is a key determinant of a district's ability to finance development expenditure (Fiscal Decentralization Theory), since general and specific-purpose transfer mechanisms have not fully closed the gap (Bird, 1999; Garrett & Rodden, 2021). Wagner's Law would predict that higher revenue expands expenditure, yet Resource Curse Theory warns that greater fiscal revenue for mining-producing districts need not translate into more equitable expenditure distribution, and may instead concentrate expenditure through rent-seeking and fiscal-revenue volatility (Ross, 2020; Badeeb et al., 2017). The ultimate direction of this relationship is addressed by Williamson's and Myrdal's Regional Inequality Theory: if the backwash effect dominates the spread effect, mining-producing districts will continue to consolidate their fiscal advantage while other districts fall further behind (Iammarino et al., 2019; Capello & Cerisola, 2024).

Based on this framework, three hypotheses are formulated. H1: the mining sector has a positive and significant effect on local government revenue in West Sulawesi Province. H2: local government revenue has a positive and significant effect on interregional expenditure inequality in West Sulawesi Province. H3: the mining sector has a significant effect on interregional expenditure inequality through local government revenue as a mediating variable.

RESEARCH METHOD

This study was conducted in West Sulawesi Province, covering its six districts – Mamuju, Pasangkayu, Central Mamuju, Polewali Mandar, Majene, and Mamasa – using annual panel data as the unit of analysis. The province was selected because, as one of Indonesia's youngest administrative jurisdictions, it offers a compelling context in which to examine the transmission of mining-sector fiscal benefits into equitable local expenditure. The observation period covers 2019–2024, chosen to capture fiscal dynamics before and after the COVID-19 pandemic and under the regulatory regime of Law No. 1 of 2022 on HKPD. The research was carried out between April and August 2026, encompassing proposal development, secondary data collection, panel-data processing, and final reporting.

This study employs a quantitative associative-descriptive design using secondary panel data (Sugiyono, 2022). The data include the mining sector's contribution to GRDP at constant 2010 prices, Locally Generated Revenue (PAD), Natural-Resource Revenue Sharing Funds (DBH SDA), General Allocation Fund (DAU), Specific Allocation Fund (DAK), realized district expenditure, and population, for each of the six districts during 2019–2024, yielding a balanced panel of 36 district-year observations. Data were obtained from official publications of BPS West Sulawesi Province and its district offices, the Directorate General of Fiscal Balance (DJPK) of the Ministry of Finance, and audited Local Government Financial Reports (LKPD) published by the Audit Board of Indonesia (BPK), Representative Office of West Sulawesi.

The population of this study comprises all six districts of West Sulawesi Province during 2019–2024. Given the small and fixed population size, a saturated sampling (census) technique was used, in which the entire population serves as the sample (Sugiyono, 2022), yielding 36 panel observations – an

adequate number for panel-data estimation using Fixed Effect or Random Effect approaches when the number of cross-sectional units is smaller than the number of time periods (Baltagi, 2013; Hsiao, 2022). Data were collected through documentary analysis of official statistical reports, financial reports, and DJPK transfer publications, cross-checked across sources to ensure consistency, and subsequently compiled into a structured panel dataset.

Data analysis employed panel-data regression, which combines cross-sectional and time-series data and is capable of controlling for unobserved individual heterogeneity while increasing degrees of freedom (Baltagi, 2013; Hsiao, 2022; Gujarati & Porter, 2013). Three regression models were estimated to test the study's three hypotheses, including the mediation test:

$$\text{Model 1 (H1): } LnPPD_{it} = \alpha + \beta_1 LnGRDPMining_{it} + \varepsilon_{it}$$

$$\text{Model 2 (H2): } LnExpPerCapita_{it} = \alpha + \beta_1 LnPPD_{it} + \beta_2 LnDAU_{it} + \beta_3 LnDAK_{it} + \varepsilon_{it}$$

$$\text{Model 3 (H3): } LnExpPerCapita_{it} = \alpha + \beta_1 LnGRDPMining_{it} + \beta_2 LnPPD_{it} + \beta_3 LnDAU_{it} + \beta_4 LnDAK_{it} + \varepsilon_{it}$$

where LnPPD is the natural logarithm of local government revenue (PAD plus DBH SDA), LnGRDPMining is the natural logarithm of the mining sector's contribution to GRDP, LnExpPerCapita is the natural logarithm of per capita local expenditure, and LnDAU and LnDAK are included as fiscal-transfer control variables in Models 2 and 3. Mediation (H3) was tested following the Baron and Kenny procedure, comparing the coefficient of the mining sector's effect on expenditure inequality before and after local government revenue is entered as a mediator, with the indirect effect obtained by multiplying the path-a and path-b coefficients.

Interregional expenditure inequality, the dependent variable in Models 2 and 3, was measured using the Williamson Index: $IW = \sqrt{[\Sigma(y_i - \bar{y})^2 \times (f_i/n)]} / \bar{y}$, where y_i is per capita expenditure in district i, $\bar{y}$ is the provincial average, f_i is the population of district i, and n is total provincial population (Anggriani & Widajanti, 2023; Ramadhani et al., 2024). The relative contribution of mining-producing districts to total expenditure inequality was further examined by decomposing this index into mining and non-mining district groups. Model estimation followed three approaches – Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) – with the best-fitting model selected through the Chow test (CEM vs. FEM), the Breusch-Pagan Lagrange Multiplier test (CEM vs. REM), and the Hausman test (FEM vs. REM) (Baltagi, 2013; Gujarati & Porter, 2013). Prior to estimation, classical assumption tests – normality, multicollinearity (Variance Inflation Factor), heteroscedasticity, and autocorrelation – were conducted. All analyses were performed using EViews 12 and STATA 17 at a 5 percent significance level.

Table 1. Operational Definition and Measurement of Variables

Variable	Proxy / Measurement	Unit
Locally Generated Revenue (PAD)	Total realized PAD per district	IDR (Ln)
Natural-Resource Revenue Sharing (DBH SDA)	Realized DBH SDA per district	IDR (Ln)
Mining Sector Contribution	Mining GRDP at constant 2010 prices	IDR (Ln)
Interregional Expenditure Inequality	Williamson Index of per capita expenditure	Index (0–1)
General Allocation Fund (DAU)	Realized DAU per district	IDR (Ln)
Specific Allocation Fund (DAK)	Realized DAK per district	IDR (Ln)

Source: Compiled by the author from BPS, LKPD, and DJPK data (2025).

RESULT AND DISCUSSION

Overview of the Study Area

West Sulawesi is Indonesia's youngest province on Sulawesi Island, established under Law No. 26 of 2004 following its separation from South Sulawesi Province on 5 October 2004. It covers approximately 16,787.18 km² and comprises six districts – Mamuju (the provincial capital), Pasangkayu, Central Mamuju, Polewali Mandar, Majene, and Mamasa – which together constitute the six cross-sectional units analyzed in this study. Coastal districts such as Polewali Mandar and Majene have more diversified economies based on agriculture, fisheries, and trade, whereas Pasangkayu and parts of Mamuju contain more intensive mineral deposits, including iron ore, gold, copper, coal, and non-metallic minerals. Mamasa, situated in the highlands, remains relatively isolated, which affects its economic-development capacity.

The mining and quarrying sector recorded the province's highest sectoral growth, 9.71 percent, in 2024, yet its contribution is unevenly distributed across districts. Mamuju alone accounts for around 40 percent of total district-level mining GRDP, followed by Polewali Mandar, while Central Mamuju contributes the smallest share.

Table 2. Mining Sector Contribution to GRDP by District, 2019–2024

District	Average Mining GRDP (IDR million)	Share of Total Mining GRDP (%)	Average Annual Growth (%)
Mamuju	306,120.4	38.42	24.2
Polewali Mandar	221,596.8	27.81	12.8
Majene	97,018.7	12.18	11.1
Pasangkayu	83,571.7	10.49	17.2
Mamasa	59,775.5	7.50	21.2
Central Mamuju	28,630.0	3.59	12.2

Source: Processed panel data, BPS West Sulawesi Province, 2019–2024.

This distribution shows a high degree of spatial concentration: Mamuju and Polewali Mandar together account for more than 65 percent of the province's total mining value added, while the remaining four districts share the rest. This concentration provides the empirical basis for examining how mining activity is transmitted into local government revenue and, ultimately, into the pattern of interregional expenditure inequality.

The province's revenue structure during 2019–2024 reflects high fiscal dependence on central transfers. Total PAD across the six districts rose only from IDR 428.4 billion (2019) to IDR 545.4 billion (2024), while total DAU received ranged from IDR 3.34 trillion to IDR 3.39 trillion over the same period; DBH SDA, although still small, grew from IDR 3.08 billion to IDR 11.84 billion. Descriptive statistics further show that the mining-contribution variable (LnGRDPMining) has the largest standard deviation among all study variables, reflecting its high spatial concentration, whereas per capita expenditure (LnExpPerCapita) is the most homogeneous, indicating a comparatively even – though still unequal – distribution of local spending across districts.

Panel Data Model Selection

Three panel-data models, corresponding to the three hypotheses, were estimated using CEM, FEM, and REM, with the best-fitting specification determined through the Chow, Lagrange Multiplier (LM), and Hausman tests.

Table 3. Panel Data Model Selection Test Results

Test	Model 1 (H1)	Model 2 (H2)	Model 3 (H3)
Chow (F-test)	42.393 (0.0000*)	16.534 (0.0000*)	24.547 (0.0000*)
Lagrange Multiplier	65.881 (0.0000*)	16.306 (0.0000*)	11.986 (0.0005*)
Hausman	0.0009 (0.9759)	24.384 (0.0000*)	−184.554 (1.0000)[a]
Selected model	REM	FEM	FEM (REM for comparison)

** significant at a = 0.05. [a] Negative Hausman statistic, attributable to the small cross-sectional dimension (N = 6) relative to the number of regressors (K = 4); interpreted per convention (Baltagi, 2005; Greene, 2018) as insufficient evidence to reject H0.*

Panel Regression Estimation Results

Based on the model-selection results above, Model 1 was estimated using REM, and Models 2 and 3 using FEM. Table 4 presents the estimated coefficients of the selected models.

Table 4. Panel Regression Estimation Results (Selected Models)

Variable	**Model 1 (REM)**	**Model 2 (FEM)**	**Model 3 (FEM)**
Constant	3.746 (2.939)	– (within)	– (within)
Ln Mining GRDP	0.631* (0.255)	–	−0.786* (0.183)
Ln PPD (local revenue)	–	−0.019 (0.074)	0.010 (0.058)
Ln DAU	–	0.657 (0.349)	1.205* (0.300)
Ln DAK	–	0.241 (0.118)	0.351* (0.095)
R-squared (within)	0.050	0.258	0.567
N (observations)	36	36	36

** significant at a = 0.05; standard errors in parentheses.*

Table 5. Hypothesis Test Summary

Hypothesis	**Path**	**Coefficient**	**Sig.**	**Decision**
H1	Mining sector → Local revenue	0.631	0.014*	Accepted
H2	Local revenue → Expenditure inequality	−0.019	0.799	Not supported
H3	Mining sector → Expenditure inequality (via local revenue)	≈ 0.006 (indirect)	n/a	Not supported (no mediation)

Source: Author's panel-regression and mediation-test results (2025).

Classical Assumption Tests

All three models satisfy the normality assumption (Jarque-Bera and Shapiro-Wilk probabilities well above 0.05). Multicollinearity is not a serious concern: Model 1 has a single regressor (VIF = 1 by definition), Model 2's VIF values remain below 5, and Model 3's highest VIF (DAU = 8.98) remains below the critical threshold of 10, although the strong correlation between mining GRDP and DAU (r = 0.910) warrants caution in interpreting individual coefficient magnitudes. Models 1 and 2 display homoscedastic residuals, while Model 3 shows a mild indication of heteroscedasticity at the 10 percent level. Autocorrelation is present in Models 1 and 2 (Panel Durbin-Watson well below 2, with significant positive AR(1) coefficients) but not in Model 3. Cluster-robust standard errors, clustered at the district level, were therefore applied in hypothesis testing across all three models to address these indications.

Table 6. Classical Assumption Test Summary

Test	Model 1 (REM)	Model 2 (FEM)	Model 3 (FEM)
Normality	Satisfied	Satisfied	Satisfied
Multicollinearity (VIF)	Not applicable (1 var.)	No issue (VIF < 5)	Moderate (max VIF 8.98)
Heteroscedasticity	Homoscedastic	Homoscedastic	Mild indication (α = 10%)
Autocorrelation	Present	Present	Not present

Discussion of H1: Economic Base Theory and Resource Curse

Model 1 (REM) shows that the coefficient of mining GRDP is 0.631 (SE = 0.255, significant at α = 0.05), indicating that a one percent increase in mining GRDP is associated with an approximate 0.63 percent increase in local government revenue; H1 is therefore accepted, consistent with Economic Base Theory, in which mining acts as a leading sector generating multiplier effects on the tax base, retributions, and natural-resource revenue sharing. However, the markedly low within-R-squared of the fixed-effect specification (0.050) compared with the CEM R-squared (0.496) suggests that this relationship is driven mainly by cross-district variation rather than within-district dynamics over time – a static, structural pattern consistent with an early resource-curse symptom. This is reinforced by the observation that Mamuju, the largest contributor to mining GRDP (over 38 percent), does not hold the highest PAD, a position instead held by the more economically diversified Polewali Mandar. This disjunction between resource wealth and fiscal capacity is a hallmark of subnational resource curse, commonly attributed to value-added leakage, the enclave character of extractive industries, the still-modest realization of DBH SDA, and weak local institutional capacity to convert resource rents into a sustainable tax base.

Discussion of H2: Fiscal Decentralization, Wagner's Law, and Williamson–Myrdal

Model 2 (FEM) shows that none of its coefficients – LnPPD (−0.019), LnDAU (0.657), and LnDAK (0.241) – are statistically significant at α = 0.05, so H2 is not supported at the within-effect level. This contrasts with the CEM estimate, in which LnPPD is significant (−0.1995), suggesting that the PPD–expenditure relationship operates across districts rather than through temporal dynamics within a single district: Polewali Mandar, with the highest PAD and largest population, records the lowest per capita expenditure (IDR 3.13 million), whereas Mamasa and Majene, with relatively small PAD, record the highest per capita expenditure (IDR 5.63 million and IDR 5.05 million respectively) – reflecting a population-divisor effect and transfer-allocation patterns rather than an automatic PPD mechanism. The PAD-to-DAU ratio of only 13–16 percent throughout 2019–2024 confirms a structural fiscal dependency on central transfers far below the ideal proportion (Oates, 1972), meaning expenditure is shaped more by the DAU/DAK formula than by locally generated revenue; Wagner's Law is therefore not fully supported at the district level, suggesting the mechanism is more relevant at the aggregate, national, and long-run scale. The

near two-fold gap in per capita expenditure across districts is consistent with Williamson's inverted-U pattern for a young province still at an early development stage, while Myrdal's backwash-effect concept helps explain why economically strong districts such as Mamuju and Polewali Mandar do not automatically enjoy higher per capita expenditure, while the more isolated Mamasa receives a comparatively larger share – a compensatory spread effect embedded in the transfer formula.

Discussion of H3: Mediation Test

Following the Baron and Kenny (1986) framework, path a (mining GRDP → PPD = 0.631, significant), path b (PPD → expenditure inequality in Model 3 = 0.010, SE = 0.058, not significant), and path c′ (mining GRDP's direct effect on expenditure = −0.786, SE = 0.183, significant, and far larger in magnitude than the total effect implied by the simple model) were examined. Because the minimum condition for mediation – simultaneous significance of paths a and b – is not met, H3 is not supported; local government revenue is not shown to function as a mediator. The indirect effect ($0.631 \times 0.010 \approx 0.006$) is negligible, and following the typology of Zhao, Lynch, and Chen (2010), this pattern is classified as direct-effect-only. The most plausible explanation, given the very high correlation between mining GRDP and DAU ($r = 0.910$), is that the DAU allocation formula itself reflects a fiscal base correlated with mining activity, so that mining's effect on expenditure passes through the intergovernmental transfer channel directly rather than through locally generated revenue.

Policy Implications

These findings point to several policy directions. Mining-producing districts – Mamuju, Polewali Mandar, and Pasangkayu in particular – should strengthen mining-related tax and retribution instruments, such as non-metallic mineral and rock taxes and mining-permit retributions, together with tighter oversight, so that mining value added is more fully converted into local revenue. The Provincial Government should advocate for a revision of the natural-resource revenue-sharing formula to better reflect actual mining production, and encourage the Ministry of Finance to refine the DAU/DAK allocation formula to better account for real fiscal needs, including geographic isolation (as in Mamasa), population density, and the cost of construction and public services. Local governments at all levels should accelerate economic diversification into non-extractive sectors – agriculture, plantations, fisheries, and tourism – to mitigate long-run resource-curse risk, while strengthening local financial governance so that rising PAD translates into more equitable and higher-quality public expenditure. Finally, the Provincial Development Planning Agency (Bappeda) is encouraged to regularly monitor interregional expenditure inequality, for example through periodic computation of the Williamson Index during each development-planning cycle.

CONCLUSION

This study set out to analyze the effect of the mining sector on local government revenue, the effect of local government revenue on interregional expenditure inequality, and the mediating role of local government revenue in the causal chain between the two, using panel data from six districts in West Sulawesi Province during 2019–2024. The mining sector is found to have a positive and significant effect on local government revenue, confirming H1 and the Economic Base Theory view of mining as a leading sector supporting the local tax base, retributions, and natural-resource revenue sharing; however, the low within-effect explanatory power relative to the between-effect estimate indicates that this relationship is driven primarily by structural differences across districts rather than temporal dynamics within a district, an early sign of subnational resource curse rooted in value-added leakage and limited institutional capacity to convert mining rents into a sustainable tax base.

Local government revenue is not found to have a significant effect on interregional expenditure inequality at the within-effect level, so H2 is not supported; the persistently low PAD-to-DAU ratio confirms the district-level fiscal system's heavy dependence on central transfers, explaining why Wagner's Law does not fully hold at this scale and why the pattern of per capita expenditure more closely follows Williamson's inverted-U curve and Myrdal's backwash effect than an automatic revenue-expenditure mechanism. The mediation test further shows that local government revenue does not function as a mediating variable between the mining sector and expenditure inequality, so H3 is not supported: the direct effect of the mining sector on per capita expenditure is significant and far larger in magnitude than its negligible indirect effect through local revenue, a direct-effect-only pattern that, combined with the high correlation between mining GRDP and the General Allocation Fund, suggests that intergovernmental fiscal transfers – not locally generated revenue – form the dominant channel through which mining's fiscal consequences reach the pattern of interregional expenditure in West Sulawesi Province.

Taken together, these findings indicate that the mining sector plays a genuine role as a local revenue base, yet this role has not been matched by an equivalent transmission toward equitable interregional expenditure, because the central fiscal-transfer channel, especially the General Allocation Fund, remains far more dominant than the Locally Generated Revenue channel. Expenditure inequality in West Sulawesi Province is therefore structural and cross-institutional rather than a direct consequence of the size of mining-derived local revenue. Given the limited scope of the analysis – six districts observed over six years – these results are best read as an early portrait of fiscal patterns in a young, resource-based province rather than as a generalizable conclusion for all mining-producing regions in Indonesia. Future research is encouraged to extend the analysis to other resource-based provinces, lengthen the observation period, incorporate additional control variables such as capital-expenditure quality or institutional-governance indices, and apply dynamic panel or explicit Sobel/bootstrap mediation approaches to strengthen the robustness of these findings.

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