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The Impact of Mineral Resources Windfall on Poverty Through Fiscal Transmission

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Abstract

Following the implementation of fiscal decentralization, the Indonesian government has employed natural resource revenue-sharing funds as a mechanism to allocate revenues from the mining sector to producing areas. Nonetheless, research regarding the effects of fiscal windfall from mining at the local level in Indonesia remains scarce. This study aims to address the research gap by examining the impact of natural resource abundance through the distribution of mining revenue sharing funds on poverty on Sulawesi Island, the biggest nickel-producing and processing region in Indonesia. Analysis of panel data from 51 districts in Central Sulawesi, South Sulawesi, and Southeast Sulawesi for the period 2017-2022, utilizing the Fixed Effect estimation method, reveals that mining revenue sharing, intended to mitigate the adverse externalities of mining projects and alleviate poverty, is not statistically significant. Sub-sample analysis reveals that mining revenue sharing correlates with a rise in poverty rates in Southeast Sulawesi, indicating the presence of the resource curse phenomena. Simultaneously, the contributions of mining and industrial GRDP, the human development index, and the proportion of "*Program Keluarga Harapan* (PKH)" recipients affected the alleviation of poverty. This research underscores the necessity for the government to account for local fiscal capability and institutional quality in the administration of mining revenue sharing funds, while also advocating for economic diversification to enhance the welfare of local populations.

Keywords: Mining Revenue Sharing, Poverty, Negative Externality, Resource Curse

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INTRODUCTION

Although the oil and gas sector has been declining since 2015, Indonesia's mineral mining sector has grown significantly and is expected to peak in 2022. This indicates a shift in the dominance of non-tax state revenues from natural resources, with the previously dominating oil and gas sector being displaced by the mineral mining industry.

The increase in non-tax revenues from the mineral mining industry in Indonesia was caused by an increase in world nickel output, value, and prices. This is owing to rising demand for nickel as the primary raw element for electric car batteries, which supports the sustainable development strategy. Indonesia has a significant opportunity to dominate the global supply chain of electric battery production due to its strategic position as the world's largest nickel producer, accounting for 37% of the world's total nickel production in 2021.

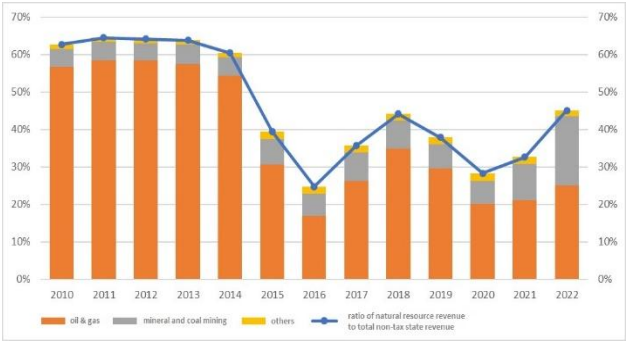

Figure 1. Contribution of Natural Resources to Non-tax Revenues 2010 - 2022
Source: Processed data, 2024

Figure 1 illustrates the trajectory of natural resource revenue contributions to non-tax state revenues from 2010 to 2022 (Ministry of Finance, 2022). The contribution of natural resource revenue to total non-tax revenue shows a sharp downward trend after 2014, primarily influenced by fluctuations in oil and gas commodity prices, which are the largest component.

Recovery occurred after 2017, but volatility persisted, leaving the non-tax revenue structure vulnerable to external shocks in the extractive industry. Furthermore, the share of mineral and coal mining expanded dramatically between 2021 and 2022, reflecting strong global coal price drivers and increased domestic output.

The Indonesian government is committed to optimizing nickel's potential by prohibiting nickel ore exports (effective January 1, 2020) and promoting downstream activities through the establishment of smelters in the Sulawesi and Halmahera regions, which are the principal nickel-producing and processing areas in Indonesia.

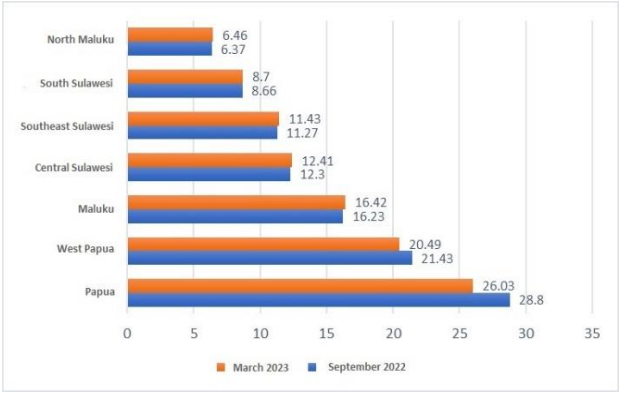

Figure 1. Percentage of Poverty in Nickel Mining Provinces (September 2022-March 2023)
Source: Processed data, 2024

While these policies attempt to enhance the added value of nickel and stimulate national economic growth, their local effects, particularly on poverty and inequality in mining regions, remain little acknowledged. According to data from the Statistics Indonesia (BPS), the percentage of poverty increased in several significant nickel-producing regions, including Southeast Sulawesi, Central Sulawesi, South

Sulawesi, Maluku, and North Maluku, in March 2023 compared to September 2022 (Figure 2). In addition, the environmental consequences of mining activities increase socioeconomic issues.

Mining activities, particularly those involving nickel and gold, can include negative externalities such as environmental damage and health risks, undermining poverty reduction efforts (Iksan et al., 2023; Mustafa et al., 2022; Upe et al., 2019). This phenomenon indicates a misalignment between the growth of the nickel export sector and efforts to alleviate regional poverty.

When evaluating the effects of mining and other extractive industries, it is crucial to examine the possible advantages for those living nearby. One method of transmission is through fiscal transfers, like revenue sharing, royalties, or local taxes, which local governments can utilize to deliver public services, enhance infrastructure, and stimulate economic activity.

Nonetheless, the efficacy of this process, especially in developing countries, remains inadequately acknowledged. Numerous studies indicate that natural resource exploitation may provide both beneficial and detrimental effects on poverty, with differing impacts at national, sub-national, and local levels.

Gamu et al. (2015) performed a comparative analysis of 52 empirical studies examining the relationship between extractive industries and poverty, identifying transmission channels that may facilitate poverty reduction, including accelerated economic growth, fiscal transfers, labor absorption, upstream and downstream linkages, private investment in public goods, and corporate social responsibility.

In the Indonesian context, it is essential to do an empirical investigation to ascertain if channels of transmission, particularly fiscal transfers such as mining revenue sharing payments, have effectively mitigated poverty or, conversely, worsened it.

Since the implementation of fiscal decentralization in 2002, the Indonesian government has utilized natural resource revenue-sharing funds to allocate earnings from the mining industry to the producing areas. This strategy facilitates the examination of mining's effects at the district or municipal level, as opposed to the conventional macro-level focus.

Numerous worldwide studies have utilized profit-sharing revenue as a proxy to assess the influence of mining on local socio-economic variables. Loayza & Rigolini (2016) assessed the effects of mining operations on poverty within local communities in Peru, whereas Aragon & Winkler (2023) investigated the enduring consequences of extractive cash transfers on quality of life, including access to public services, poverty, and inequality, in the same nation.

Nonetheless, in Indonesia, comparable research regarding the effects of fiscal spillovers from mining at a local level remains scarce. Research conducted by Hilmawan & Clark (2019) indicates a favorable correlation between mining production and per capita income in Indonesia; however, it does not directly address its effects on poverty or incorporate geographical proximity variables. Mining frequently generates externalities that impact surrounding regions; hence, it is crucial to examine if the areas next to the mining site exhibit varying degrees of poverty.

Figure 3 illustrates the spatial correlation between profit-sharing funds from the mining sector and poverty levels on the island of Sulawesi in 2022, indicating that districts receiving substantial mining profit-sharing fund

transfers often exhibit a comparatively elevated percentage of deprived individuals, particularly in established nickel mining regions such as Morowali Regency in Central Sulawesi and North Konawe in Southeast Sulawesi. The management of natural resources, especially nickel, exemplifies the "resource curse" phenomenon (Muhammad et al., 2023; Gedikli, 2020).

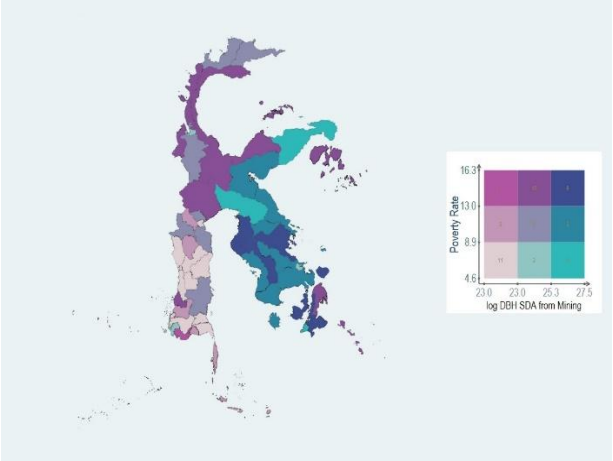

Figure 2. Bivariate Map of Mining Revenue Sharing Funds and Poverty in 2022
Source: Processed data, 2024

This paradox indicates that the availability of natural resources does not consistently correspond favorably with economic development; rather, it can frequently result in sluggish growth, enduring poverty, and corruption. The term "resource curse" was initially used by Richard M. Auty (2017), who noted that countries abundant in resources often have diminished economic growth.

Terry Karl (2010) established the idea of the "paradox of plenty," which denotes the failure of natural resources to provide expected utility, perhaps resulting in negative externalities owing to poor management. This contradiction generally emerges because natural resources can destabilize other economic sectors (Dutch Disease), promote imprudent policies, and render the economy susceptible to external shocks.

This mechanism is reinforced by the characteristics of the mining industry that tends to be enclave and isolated from other economic sectors (Hirschman, 1958). In this industry, backward and forward linkages are frequently inadequate; production inputs are predominantly imported, and further processing typically occurs abroad, thereby constraining its beneficial effects on the local economy (Auty, 2017).

Several mechanisms have been identified in previous empirical research that elucidate how development can be impeded by reliance on natural resources. Initially, there is a structural distortion that results in the diversion of resources from other productive sectors and the reduction of investment in the field of human capital (Ridena et al., 2021; Sun et al., 2018).

Secondly, the phenomenon of rent seeking is on the rise, a phenomenon in which economic activity is more focused on the competition for profits from resources than on productive investment, thereby exacerbating inequality (Frynas et al., 2017; Badeeb & Lean, 2017). The misallocation of fiscal revenue from extractive activities is also a significant factor that can exacerbate poverty.

The funds are frequently ineffective, as demonstrated by Elwerfelli & Benhin (2018), Sun et al. (2018), and Szturo et al. (2021), rather than being allocated to essential public services such as education and health. Consequently, it is imperative to establish a robust economic management framework and institutional quality. By assuring efficient resource allocation and promoting sustainable development,

effective institutions can mitigate the negative impacts of the "resource curse" (Hassan & Bezbaruah, 2019; Badeeb et al., 2017; Olalekan & Odhiambo, 2024).

The objective of this study is to address the research void that has been identified in previous studies by presenting empirical evidence regarding the impact of resource windfall on poverty at the subnational level, with a particular emphasis on the island of Sulawesi, through mining profit-sharing funds.

The study's results make a significant contribution by emphasizing the impact of nickel mining, which is expected to expand substantially in Indonesia. This evaluation is necessary to assess the efficacy of fiscal governance in averting the "resources curse". This method is distinct from previous research, which has a tendency to overlook geographical factors and consolidate various categories of natural resources.

Furthermore, the results of this study are more precise in describing the relationship between natural resource revenue sharing funds and poverty levels, as it employs a fixed effect panel estimation method that can mitigate the bias of district characteristics that remain constant over time.

RESEARCH METHODS

This study utilizes data from 51 districts in the Provinces of South Sulawesi, Central Sulawesi, and Southeast Sulawesi from 2017 to 2022. The selection of these three provinces is due to their substantial nickel mining, refining, and processing activities in Indonesia, which have directly or indirectly experienced the effects of the recent increase in nickel commodity prices. Subsequently, Figure 4 illustrates the conceptual framework of the research, which also functions as the foundation for operationalizing the variables. Within such paradigm, it is presumed that the availability of natural resources directly influences fiscal channels, namely revenue from royalties and land rent.

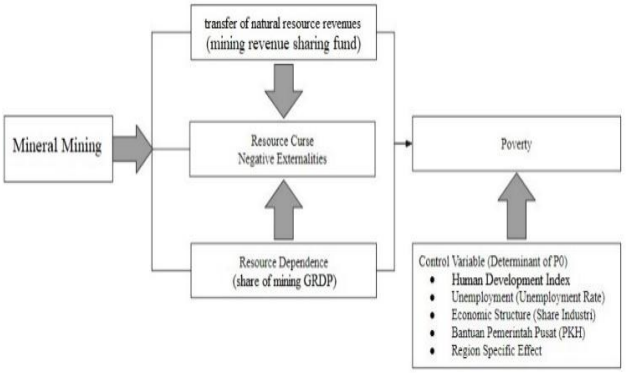

Figure 4. Research Conceptual Framework
Source: Data Processed, 2024

The degree of reliance on mineral resources is assessed by the ratio of the mining sector's value contributed to the overall Gross Regional Domestic Product (GRDP) of districts or municipalities. When such dependency exacerbates poverty levels, this circumstance might be classified as a manifestation of the resource curse.

Additionally, the variable of mining income distribution is presumed to influence the region's capacity to mitigate the adverse externalities and possible economic detriment resulting from mining operations. These two variables are deemed to affect poverty levels, especially in places with significant mineral mining activity, such as those producing nickel.

Furthermore, control variables such as industrial structure, human development index, unemployment rate, and a proxy for central government support represented by the "Program Keluarga Harapan (PKH)" have been

recognized as factors influencing poverty at the regional level. PKH is a conditional social assistance program from the Indonesian government aimed at poor and vulnerable families.

This control variable was incorporated to mitigate the possibility of overestimating the regression coefficient. These variables constitute an empirical model utilized to examine the correlation between mining income distribution in nickel-producing regions on Sulawesi Island. Table 1 displays the variables and operational definitions utilized in this investigation.

Table 1. Variable Operational Definition

Indicator	Variable	Definition	Source
Poverty	*pov_rate:* Poverty Rate	The percentage of the population that is below the Poverty Line.	BPS
Fiscal Transmission	*mining_revenue*: Natural Resources Revenue Sharing Fund from the Mining Sector	The producing district gets a larger portion, and other regions (within the province concerned) get an equal share with a certain portion stipulated in the law.	DJPK Ministry of Finance
Economic Structure	*share_inds*: Industrial GRDP	Ratio of Industrial GRDP to Total GRDP According to SNA 2008 with the base year 2010.	BPS CEIC
	share_mining: Mining GRDP	Ratio of Mining GRDP to Total GDRP According to SNA 2008 with the base year 2010.	BPS CEIC
Human Capital	*hdi_idx*: Human Development Index	A composite index consisting of life expectancy, education, and health.	BPS
Workforce	*unemployrate*: Open Unemployment Rate	The percentage of the labor force that is unemployed.	Sakernas World Bank
Government Social Assistance	*share_PKH*: Program Keluarga Harapan (PKH)	Percentage of households with PKH recipient status	Susenas

Source: Data processed, 2024

Our initial technique involves estimating Equation (1) by Ordinary Least Squares (OLS) while including a comprehensive set of control variables. Then the fixed-effects panel data

regression estimate approach is employed to assess the influence of natural resource windfall through mining revenue sharing funds on poverty. This strategy effectively eradicates estimate bias resulting from time-invariant heterogeneity, including unobserved district or municipality characteristics (α_i) that correlate with poverty levels.

Nursini and Tawakkal (2019) employed this technique to illustrate that local government revenue and intergovernmental transfers substantially influence poverty alleviation in Indonesia. In the Philippines, a comparable research employing a fixed-effects model to examine the influence of decentralization and revenue-sharing mechanisms on poverty dynamics indicated that fiscal autonomy positively contributes to poverty alleviation (Canare & Francisco, 2019).

The following study is a heterogeneity assessment, segmenting the sample into three sub-samples to investigate the variations in effects throughout each province (South Sulawesi, Central Sulawesi, and Southeast Sulawesi). The analysis was conducted using STATA 17 software.

$$pov\_rate_{it} = \beta_0 + \beta_1 ln\_mining\_revenue_{it} + \beta_2 share\_mining_{it} + \beta_3 share\_inds_{it} + \beta_4 hdi\_idx_{it} + \beta_5 unemployrate_{it} + \beta_6 share\_PKH_{it} + \alpha_i + u_{it}$$

Where the unit observation is district municipality *i* in year *t*. *Pov_rate* (poverty rate) is the outcome variable and *ln_mining_revenue* (log mining sharing revenue funds) is the interest variable. Concurrently, *share_mining* (the ratio of mining GRDP to total GRDP), *share_inds* (the ratio of industrial GRDP to total GRDP), human development index, open unemployment rate, and *share_PKH* (the proportion of households having PKH beneficial status) are employed as control variables. In this context, α_i denotes the time-invariant and unobserved characteristics of the district or municipality, which will be controlled for by fixed effects regression, whereas u_{it} signifies the error term.

RESULTS AND DISCUSSION

This research employs 306 observations from 51 districts and municipalities in the provinces of South Sulawesi, Central Sulawesi, and Southeast Sulawesi, covering the period from 2017 to 2022. The districts of South Buton, Central Buton, and West Muna were excluded from the research sample due to irretrievable missing values that could not be rectified by interpolation and were presumed to be sufficiently represented by their parent districts, as they resulted from regional division. Table 2 displays the descriptive statistics for all variables included in this investigation.

Table 2. Descriptive Statistics

Variable	Mean	Std. dev.	Min	Max
pov_rate (%)	11.50	3.59	4.28	18.4
mining_revenue (billion IDR)	32.20	75.80	1.84	851.0
share_mining (%)	9.94	12.84	0	56.58
share_inds (%)	8.18	10.89	0.91	67.31
hdi_idx	69.69	4.42	62.61	84.51
unemployment (%)	3.69	2.07	0.26	14.26
share_PKH (%)	0.13	0.07	0.01	0.37

Source: Data processed, 2024

The analysis presented in Table 3 with robust standard errors in parentheses *** p<0.01, ** p<0.05 and * p<0.1 indicates that the allocation of mining revenue-sharing funds does

not significantly correlate with a decrease in poverty rates, suggesting the ineffectiveness of these funds as a compensatory mechanism for negative externalities arising from the mining sector. These findings align with the studies conducted by Loayza & Rigolini (2016) and Aragon & Winkler (2023), which also indicated that revenue-sharing funds from natural resources in Peru are unsuccessful in alleviating poverty.

Table 3. Results of Estimating the Impact of Mining Revenue Sharing Funds on Poverty

poverty rate	(1) OLS	(2) FE
ln_mining_revenue	0.162	**-0.107**
	(0.194)	(0.069)
share_inds	0.026	-0.039***
	(0.024)	(0.011)
share_mining	0.002	-0.100***
	(0.028)	(0.027)
hdi_idx	-0.513***	-0.189**
	(0.078)	(0.087)
unemployment	0.024	-0.003
	(0.161)	(0.038)
share_PKH	14.400***	-3.953***
	(3.666)	(1.461)
constant	41.363***	29.013***
	(5.018)	(5.354)
municipality FE	NO	YES
Observations	306	306
R^2	0.528	0.477
Number of ID	51	51

Source: Data processed, 2024

Mining sharing revenues are ineffective in alleviating poverty for several reasons. The diverse preferences of the local population result in budget allocations that do not consistently prioritize poverty alleviation or the enhancement of public services. Secondly, the constrained technological capabilities of local governments hinder efficient budget management, particularly in elaborate investment initiatives. Third, insufficient political incentives and accountability promote the allocation of funds towards short-term interests or clientelism, so undermining the fundamental objectives of development and poverty alleviation (Aragon & Winkler, 2023).

A negative correlation exists between the mining sector's contribution to the Gross Regional Domestic Product (GRDP) and the poverty rate. The evidence reveals that a one percentage point rise in mining GRDP contribution is associated with a 0.1 percent reduction in poverty.

An increase of one percent in the processing industry's contribution to GDP correlates with a 0.038 percent reduction in poverty. This is because the mining and industrial sectors are the primary contributors to the GRDP in nickel-producing districts and municipalities in Sulawesi.

In Southeast Sulawesi, the mining industry accounts for 19.30% of the Gross Regional Domestic Product (GRDP), positioning it as the second-largest contributor behind the agriculture sector, which provides 24.42% (BPS, 2021). Asmiani et al. (2023) examined the contribution of the mining industry to economic growth in Kolaka Regency, Southeast Sulawesi Province, Indonesia. The findings indicate that the mining sector is a crucial industry capable of stimulating economic growth and exports in Kolaka.

The estimation findings also discovered other additional factors that influence poverty. A one percent improvement in the Human Development Index (HDI) was strongly

correlated with a 0.19 percent decrease in poverty. The positive link between an elevation in the HDI and a reduction in poverty is consistent with acknowledged development theories. An elevated HDI, which includes advancements in health, education, and living conditions, immediately enhances human capabilities and economic prospects, therefore aiding in poverty alleviation.

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An elevated HDI, which includes advancements in health, education, and living conditions, immediately enhances human capabilities and economic prospects, therefore aiding in poverty alleviation. Similarly, PKH support from the central government has a negative association, indicating that a one percentage point increase in PKH help results in a 3.95 percent reduction in the poverty rate.

PKH, a conditional cash transfer program, helps low-income families by requiring school attendance and health checks. The significant decrease in poverty rates due to PKH assistance shows the importance of social protection systems in delivering immediate relief and long-term human development in deprived regions.

Interestingly, the open unemployment rate exerts no impact on diminishing the poverty rate. This suggests that the employment opportunities accessible to the deprived, sometimes within the informal sector or in low-wage insecure positions, may not necessarily lead to a significant alleviation of poverty, despite a decrease in unemployment rates. This intriguing finding shows how complicated the causes of poverty are and implies that just lowering unemployment may not be enough to fix the core causes of poverty if jobs are still not sufficient or stable enough.

Table 4. Sub-sample Heterogeneity Analysis

poverty rate	**(1) South Sulawesi**	**(2) Central Sulawesi**	**(3) Southeast Sulawesi**
ln_mining_revenue	0.0848	-0.176	0.352**
	(0.0818)	(0.103)	(0.154)
share_inds	0.0424	-0.0235	-0.0604**
	(0.0285)	(0.0186)	(0.0234)
share_mining	-0.0259	-0.0821**	-0.0753
	(0.0392)	(0.0280)	(0.119)
hdi_idx	-0.212*	-0.603*	-0.617***
	(0.103)	(0.336)	(0.185)
unemployment	0.0270	0.0701	-0.0221
	(0.0342)	(0.131)	(0.0551)
share_PKH	-4.112**	-0.903	-4.741
	(1.557)	(3.675)	(2.701)
Constant	22.74***	60.19**	49.68***
	(6.253)	(20.98)	(11.05)
Observations	144	78	84
R-squared	0.555	0.618	0.475
Number of _ID	24	13	14
Municipality FE	Yes	Yes	Yes

Source: Data processed, 2024

The study of subsamples by province in Table 4 revealed the variety of the impact of mining revenue sharing funds on poverty. In Southeast Sulawesi Province, mining revenue sharing funds are positively connected with an increase in poverty rates, indicating that the rise in the funds contributes to higher poverty levels. The findings are further supported by the instance of North Konawe Regency, the foremost

receiver of mining revenue-sharing money, which is witnessing a rising trend in poverty and has a low level of decentralization (shown in Figure 5).

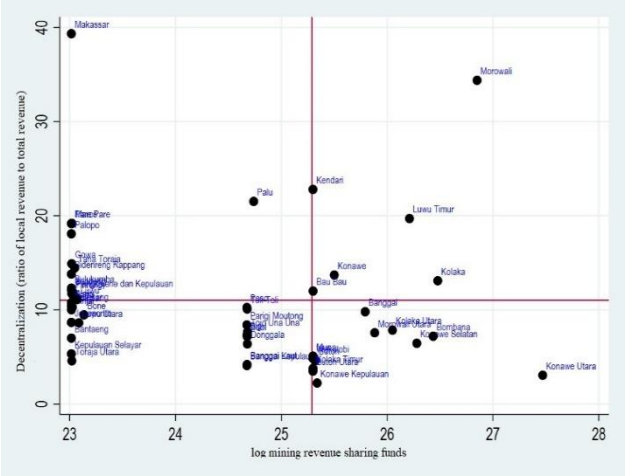

Figure 5. Mining Revenue Sharing Fund and Decentralized Degrees in 2022
Source: Data processed, 2024

On the other hand, economic diversification into the processing industry has demonstrated efficacy in alleviating poverty in the province, with a one percent rise in the processing industry's GRDP contribution correlating with a 0.06 percent decrease in poverty levels. The rise in poverty in North Konawe, despite substantial mining revenue sharing funds allocations, signifies a systemic issue in income management.

This is due to the insufficient capacity of local governments to handle revenues spillovers. Alongside North Konawe, many additional districts exhibiting elevated mining revenues (top 25%) yet possessing subpar levels of fiscal decentralization (10%), including Konawe Islands, North Morowali, South Konawe, and North Kolaka, may have analogous challenges. This aligns with the findings of Gonschorek and Schulze (2018), which indicate that government accountability is often greater when income is derived directly from the communities serviced.

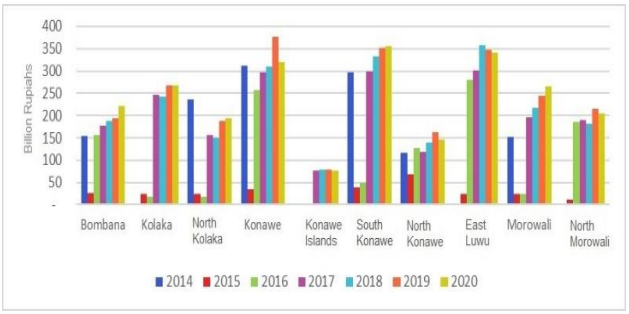

Figure 6. Education Expenditure in Nickel-Producing Districts on Sulawesi Island
Source: World Bank, 2024

In contrast, mining revenue sharing in South Sulawesi and Central Sulawesi provinces does not significantly affect poverty alleviation. In South Sulawesi, this insignificance is attributed to the relatively low intensity of nickel mining, with the exception of East Luwu. The "Program Keluarga Harapan (PKH)" was identified as a significant contributor to the reduction of poverty in this province. In Central Sulawesi, the overall mining GDP and the human development index significantly contributed to poverty alleviation.

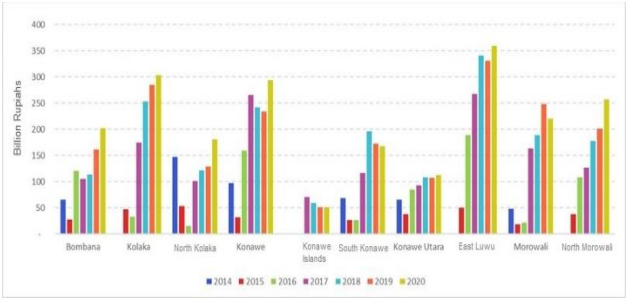

Figure 7. Health Spending in Nickel-Producing Districts on Sulawesi Island
Source: World Bank, 2024

This situation frequently occurs in subnational administrations that rely heavily on

natural resource transfers, shown by Nigeria and Peru (Natural Resource Governance Institute, 2016). Severe examples in North Konawe demonstrate that insufficient local revenue and substantial transfers to regional and village finances elucidate the ineffectiveness of mining revenue sharing.

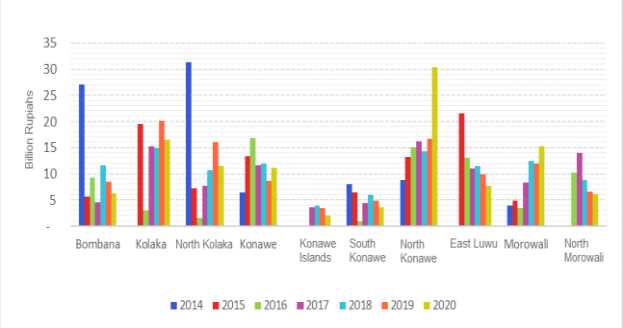

Figure 8. Environmental Spending in Nickel-Producing Districts on Sulawesi Island
Source: World Bank, 2024

This underscores two concerns: firstly, extractive revenue may diminish the level of decentralization; and secondly, Indonesia's complexities fiscal transfer mechanism. The provision of revenue sharing from natural resources may discourage local governments from augmenting their local revenue, as this is a key factor in deciding the allocation of General Allocation Funds.

This paper posits that, even though the challenges in directly monitoring the allocation of mining revenue sharing funds as Block Grants, specific expenditures (namely capital outlays, educational investments, and environmental expenditures) may serve as indicators of poverty alleviation. Figures 6, 7, and 8 illustrate the expenditure trends for education, health, and the environment in nickel-producing regions of Sulawesi Island from 2014 to 2020.

Nickel-producing regions have seen an upward trend in this expenditure, while variations in magnitude exist. Nickel-producing regions with comparatively lower poverty rates, such as East Luwu and South Konawe, have greater levels of education and capital investment. This challenge underscores the necessity for enhancements in the existing framework for handling mining revenue-sharing funds.

CONCLUSION

This study examined the impact of mining revenue-sharing payments on poverty in nickel-producing regions of Sulawesi, Indonesia. The study's findings indicate that mining profit-sharing funds do not significantly affect poverty rates. These findings indicate a disjunction between the income produced by resource exploitation and the advantages that would typically contribute to poverty reduction.

Nevertheless, the heterogeneity analysis within the Southeast Sulawesi sub-sample indicated a strong adverse correlation, whereby an increase in the allocation of mining profit-sharing funds was associated with a rise in poverty rates.

These conflicting outcomes align with the "resource curse" concept, which posits that resource-abundant nations frequently encounter slow economic development, heightened social inequality, and instability, rather than prosperity. The divergence between the comprehensive study outcomes and the Southeast Sulawesi sub-sample highlights the necessity for local contextualization and robust governance structures.

The distribution of mining earnings aims to help local populations, but its effectiveness depends significantly on robust institutional

capability, openness, and fair distribution processes.

This study's findings have substantial implications for the administration of natural resource earnings in Indonesia, particularly in Sulawesi. The failure of mining revenue-sharing funds to mitigate poverty indicates the necessity for a comprehensive evaluation of the existing structure for fund distribution and usage. Policymakers must guarantee that resources are directed towards lasting poverty alleviation programs, including investments in education, health, and infrastructure, rather than being consumed by administrative expenses or useless expenditures.

The findings in Southeast Sulawesi indicate that a correlation exists between increasing mining-sharing funds and increased poverty, necessitating immediate legislative intervention. To mitigate the "resource curse," governments must enhance openness and accountability in fund distribution, enhance regional governance capabilities, and promote local community involvement in decision-making processes. An economic diversification plan is essential to diminish reliance on mining and foster more resilient lives, enabling the effective utilization of mineral riches for equitable and sustainable development.

Unfortunately, the empirical model assumptions in this study have yet to adequately reflect the long-term disparities in the effects of mining activities. The study by Wen and Jia (2022) evaluated the impact of resource dependency on economic growth using panel data from 236 prefecture-level cities in China from 2005 to 2018, utilizing the system generalized method of moments (SYS-GMM) model. The results demonstrated a non-linear correlation, suggesting that certain areas had a "resource blessing," whilst others endured a "resource curse."

The absence of data at the district and municipal levels in Indonesia before to 2010 renders such an analysis unfeasible. The empirical model employed in this work lacks to account for various forms of endogeneity beyond district-specific effects that remain constant over time, which is likely to occur. Additional study is recommended to assess the impact of approaches that might mitigate bias in counterfactual creation, such as Propensity Score Matching (PSM) and Difference in Difference (DID), as demonstrated by Aragon & Winkler (2023).

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