



## CURSE OR BLESSING: ECONOMIC DIVERSIFICATION AMIDST NATURAL RESOURCE DEPENDENCY IN CENTRAL SULAWESI

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### ABSTRACT

This study examines the economic structure and structural transformation in 13 regencies/cities in Central Sulawesi Province during the 2013–2023 period. Its primary objective is to evaluate whether the region’s mineral wealth functions as a “blessing” or a “curse” by analyzing the readiness for economic diversification. This study employs a quantitative approach integrating Klassen’s Typology, the Natural Resource Dependency Index (NRDI), the Location Quotient (LQ), and Shift-Share Analysis (SSA-DS). The findings reveal that Morowali and North Morowali Regencies fall into Quadrant I (Advanced and Fast-Growing) but exhibit extreme dependency, with NRDI values exceeding 50. In Morowali, the manufacturing sector serves as the dominant base (LQ=1.90) with high local competitive advantage (DS=72.60), driven by nickel downstream processing. Conversely, North Morowali exhibits a resource paradox where the mining sector is the base sector (LQ=2.51) yet lacks comparative advantage (DS=-2.23), indicating a high risk of the resource curse. To transform natural wealth into a sustainable blessing, Central Sulawesi must prioritize strategic diversification into non-extractive sectors, such as the processing industry (DS=32.26 in North Morowali) and the service sector, supported by institutional reforms and investment in human capital.

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## 1. INTRODUCTION

The utilization of natural resources, particularly non-renewable commodities such as the utilization of natural resources, particularly non-renewable resources such as minerals and fossil fuels, has long been a strategic pillar for many countries in pursuing economic growth (Yilanci et al., 2021). This aligns with the view that a comparative advantage in the control of natural resources can serve as an engine of growth through increased exports, job creation, and foreign exchange earnings (Sachs & Warner, 2001). Historically, countries such as Canada, Australia, and Finland have leveraged the mining sector to achieve advanced economic status, with the sector continuing to make significant contributions to Australia’s economy to this day (Tonts et al., 2013).

In the Indonesian context, the natural resource-based development paradigm remains the primary foundation in national planning documents such as the 2020–2024 Medium-Term National Development Plan (RPJMN) and the 2025–2045 Long-Term National Development Plan (RPJPN). Through Presidential Regulation No. 12 of 2025, the government has set ambitious economic growth targets, starting at 5.3% in 2025 and reaching 8.0% by 2029.

Empirically, the mining sector has made a significant contribution to the Regional Gross Domestic Product (RGDP) in many provinces across Indonesia, including Central Sulawesi. Nickel reserves in Central Sulawesi have established the region as a hub for nickel industrialization and a special economic zone for mining (Zuada et al., 2023). Data from the Central Statistics Agency (BPS) indicates that Central Sulawesi accounts for approximately 33 percent of Indonesia's total nickel ore production, supported by total nickel ore resources amounting to 32.29 million tons. The magnitude of this potential has attracted substantial foreign investment, recorded at over USD 7 billion annually during the 2022–2023 period. This massive growth is reflected in the mining sector and the basic metals processing industry, which grew from zero in 2014 to Rp 7.4 trillion in 2017. Increases in Local Own-Source Revenue (PAD) and Regional Gross Domestic Product (PDRB) are considered crucial for local governments in regional development and improving community income (Rustiadi et al., 2022); however, this expansion demands a critical evaluation of its distribution and sustainability.

Despite this rapid economic growth, the distribution of development outcomes in Central Sulawesi remains uneven, with regional disparities tending to increase each year. This inequality is largely driven by differences in the utilization of natural resources, the quality of human resources, and the availability of infrastructure across regions. Theoretically, regions rich in natural resources often face the phenomenon of the “resource curse” or “Dutch disease,” where short-term wealth fails to be transformed into sustainable long-term development (Auty, 2007; Mehlum et al., 2006; Sachs & Warner, 1999). In the context of Central Sulawesi, this argument is reinforced by the Human Development Index (HDI), which stands at just 71.56—lower than the national average of 75.02—and lags neighboring provinces on the island of Sulawesi. Another factor indicating the absence of tangible benefits for the community is the high percentage of the poor population, with Central Sulawesi ranking second after Gorontalo Province with a poverty rate of 11.04 percent. This situation underscores that Central Sulawesi's economic growth is dominated by the mining and quarrying sector yet lacks strong forward and backward linkages with other productive sectors (Rahma et al., 2021).

Although there is extensive literature on this phenomenon at the national and provincial levels, there is a significant research gap regarding in-depth assessments at the district/city level in Indonesia's mining growth centers. Research to determine whether mineral resources are a “blessing” or a resource curse for districts and cities in Central Sulawesi has been limited. Therefore, this study aims to fill this gap by identifying the level of dependency and evaluating the potential for diversification to prevent the resource curse through three research questions: (1) how do regional growth characteristics vary across districts using the Klassen typology?; (2) what is the level of economic dependence on mining as measured by the Natural Resource Dependency Index (NRDI)?; and (3) what base sectors and comparative advantages can serve as new engines of growth beyond extraction? By linking the Klassen typology as a tool for analyzing structure, the NRDI for assessing risk, and LQ/SSA as a solution, this study aims to generate recommendations for sectoral diversification so that development in Central Sulawesi can proceed in an inclusive and sustainable manner.

## 2. RESEARCH METHODS

This study employs a descriptive quantitative approach that integrates analysis of economic structure, resource dependency risks, and the formulation of sectoral diversification strategies. The research design is systematically structured to provide a comprehensive understanding of regional development dynamics and the potential risks of the resource curse phenomenon at the district level.

The synergy among various analytical methods in this study aims to bridge the identification of development issues from a spatial perspective to the determination of applicable sector-based policy solutions.

The research framework in this study is divided into three main stages that are analytically interrelated. The first stage involves the use of Klassen’s typology to map patterns of economic growth and identify interregional disparities (Sjafrizal, 2008). The second stage focuses on diagnosing economic vulnerability through the calculation of the Natural Resource Dependency Index (NRDI) to determine the extent to which a region’s progress is heavily reliant on the mining and quarrying sector (Rahma et al., 2021). The third stage involves identifying balancing sectors through Location Quotient (LQ) analysis and Shift-Share Analysis (SSA-DS) to formulate a resilient economic diversification pathway (Manik et al., 2013; Raharjo et al., 2015; Yustian et al., 2014). Visually, the conceptual framework and hypothesis testing flowchart for this study are presented in Figure 1 below.

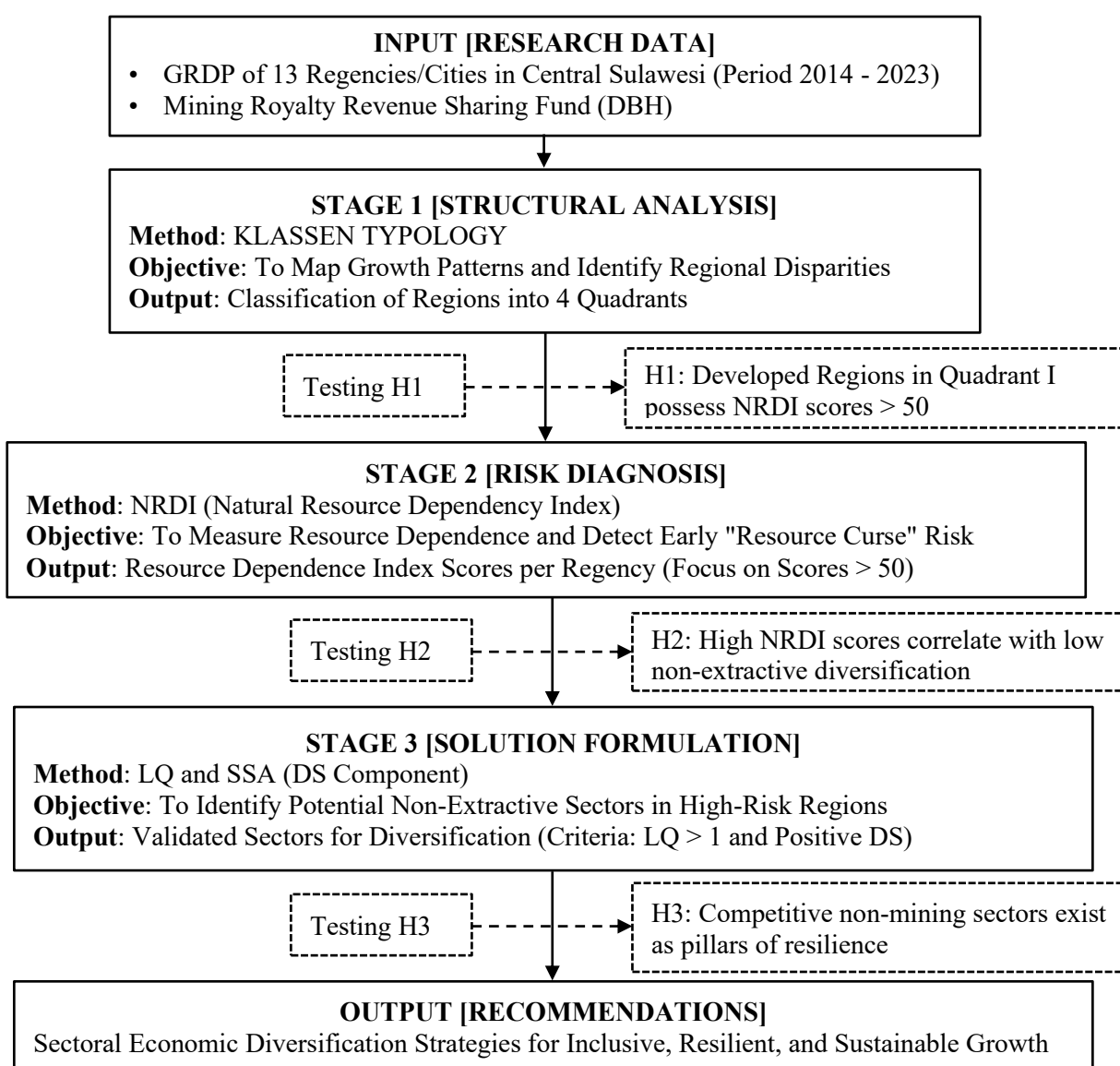


Figure 1. Research Framework  
Source: Processed data (2025)

Through this structured hypothesis-testing framework, each analytical tool is systematically linked to specific empirical parameters, with testing conducted by comparing data analysis results against theoretically established thresholds. The first hypothesis is accepted if regions classified as "Advanced and Fast-Growing" according to the Klassen Typology are found to have an NRDI score above 50, a condition that demonstrates economic progress predominantly driven by natural resource exploitation. The second hypothesis is accepted if districts with high NRDI scores exhibit an economic structure concentrated solely in the extractive sector, indicating the risk of a resource curse due to weak linkages with other productive sectors. The third hypothesis is accepted if non-extractive sectors are found to meet dual criteria, namely serving as a base sector ( $LQ > 1$ ) and possessing local competitive advantages ( $DS > 0$ ), thereby validating them as potential new growth engines to enhance regional economic resilience. Through this framework, the analysis is expected not only to provide a descriptive overview but also to offer strong empirical evidence regarding regional economic phenomena in Central Sulawesi.

This study uses secondary data in the form of panel data (pooled data) covering 13 regencies/cities in Central Sulawesi Province over a ten-year period, from 2014 to 2023. This ten-year timeframe was chosen to capture the dynamics of structural change, patterns of economic growth, and the region's level of dependence on the extractive sector in a more in-depth and accurate manner. The primary data analyzed includes sectoral Gross Regional Domestic Product (GRDP) at constant prices (ADHK) by industry, sourced from the Central Statistics Agency (BPS). This RDP instrument serves as the primary basis for calculating economic growth rates, mapping the Klassen Typology, and conducting sectoral analysis using the Location Quotient (LQ) and Shift-Share Analysis (SSA-DS) methods.

In addition to GRDP data, this study utilizes the per capita Natural Resource Royalty Revenue Sharing Fund (DBH) indicator as a fundamental component in constructing the Natural Resource Dependency Index (NRDI). The DBH data analyzed includes regional revenues from the general mining, petroleum, and natural gas sectors sourced from the Central Government Financial Report (LKPP) of the Ministry of Finance of the Republic of Indonesia. The combination of the mining sector's GRDP contribution and these mining royalty DBH revenues is intended to transparently capture regional economic vulnerability, both in terms of production output and local fiscal dependence on natural resource extraction. All this data has undergone a verification and synchronization process to ensure consistency in hypothesis testing and the identification of potential sectors for economic diversification in major mining-producing regions.

Data analysis was conducted in stages using three main, mutually integrated approaches to identify disparities, diagnose risks, and formulate economic diversification solutions.

This approach is used to map the relative positions of districts/cities based on economic growth structures and per capita income levels. The economic growth rate (EGR) is measured using Regional Gross Domestic Product (RGDP) data at constant prices using the following equation 1:

$$EGR = \frac{GRDP_{n,b} - GRDP_{n-1,b}}{GRDP_{n-1,b,i}} \times 100\% \dots\dots\dots (1)$$

Where  $GRDP_{n,b}$  is the GRDP for the current year and  $GRDP_{n-1, b}$  is the GRDP for the previous year. Klassen's typology is divided into four classifications, each with distinct characteristics across different regions. The classifications of these regional typologies are presented in the following table (Noviyanti et al., 2020).

Table 1. Classification of Regions Based on Klassen Typology

Per capita GRDP (gk)	Average Economic Growth Rate (g)	
	Below Regional Aggregate Average	Above Regional Aggregate Average
Above Regional Aggregate Average	Quadrant II: Developed but depressed regions ( $g_i < g$ ; $g_{ki} > g_k$ )	Quadrant I: Rapidly developed and rapidly growing regions ( $g_i > g$ ; $g_{ki} > g_k$ )
Below the Regional Aggregate Average	Relatively underdeveloped regions ( $g_i < g$ ; $g_{ki} < g_k$ )	Quadrant IV: Rapidly developing regions ( $g_i > g$ ; $g_{ki} < g_k$ )

Source: (Noviyanti et al., 2020)



This analytical framework identifies the sectors prioritized for economic diversification as non-mining sectors that meet dual criteria: they serve as foundational sectors ( $LQ > 1$ ) and simultaneously exhibit progressive growth or competitive advantages at the local level ( $DS > 0$ ).

### 3. RESULTS AND DISCUSSION

#### Regional Economic Performance and Disparity Mapping

Economic development disparities among regions can be observed through regional development performance, which is generally measured based on Gross Regional Domestic Product per region. Figure 2 provides an overview of economic growth in 13 regencies/cities in Central Sulawesi Province between 2014 and 2023. In 2020, economic growth across all regions in Central Sulawesi contracted due to the impact of the COVID-19 pandemic. Economically, disparities between regions are evident. Over the past decade, three regencies have stood out in terms of economic performance: Morowali, North Morowali, and Bangkai. These three regencies have the largest regional GDP from the mining and quarrying sector. Meanwhile, the other ten regencies and cities did not show significant year-over-year economic growth.

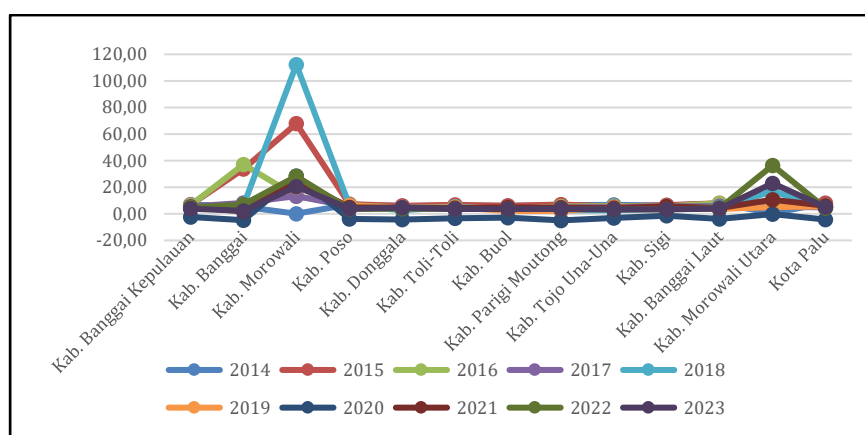


Figure 2. Economic Growth of Regencies/Cities in Central Sulawesi Province 2014 - 2023  
Source: BPS Indonesia, processed by the author, (2024)

Figure 3 show the Klassen's typological analysis, reveals a highly uneven growth pattern in Central Sulawesi Province, confirming the existence of extreme economic polarization between regions. Morowali and North Morowali occupy a unique position in Quadrant I (High Growth, High Income), while most other regencies are trapped in stagnation in Quadrant IV (Low Growth, Low Income). This phenomenon indicates that economic growth in Central Sulawesi is not spatially distributed but is instead massively concentrated in the nickel mining epicenter.

The dominance of Morowali and North Morowali in Quadrant I reflects accelerated economic output driven by a boom in foreign investment in the mineral downstream industry. However, analytically, this position does not necessarily represent a healthy structural transformation. From a regional economic perspective, an ideal transformation involves a shift in productivity from the primary sector to the secondary sector with broad-based linkages. Conversely, the pattern observed in this region tends to be that of an enclave economy. Rapid growth in the nickel processing (smelter) sector appears isolated from the local economic ecosystem, an early indication of the resource curse mechanism (Auty, 2007).

This striking disparity also reflects the weak trickle-down effect from mining hubs to their surrounding regions (hinterlands). This reinforces the findings of Tonts et al., (2013) that resource-rich regions are often trapped as national "resource banks" whose output is exported without sufficient local reinvestment to drive the progress of neighboring regions. Therefore, Morowali's placement in Quadrant I must be interpreted as a signal of structural vulnerability; its growth is highly dependent on global commodity price dynamics and investment policies, rather than on diversified domestic economic fundamentals.

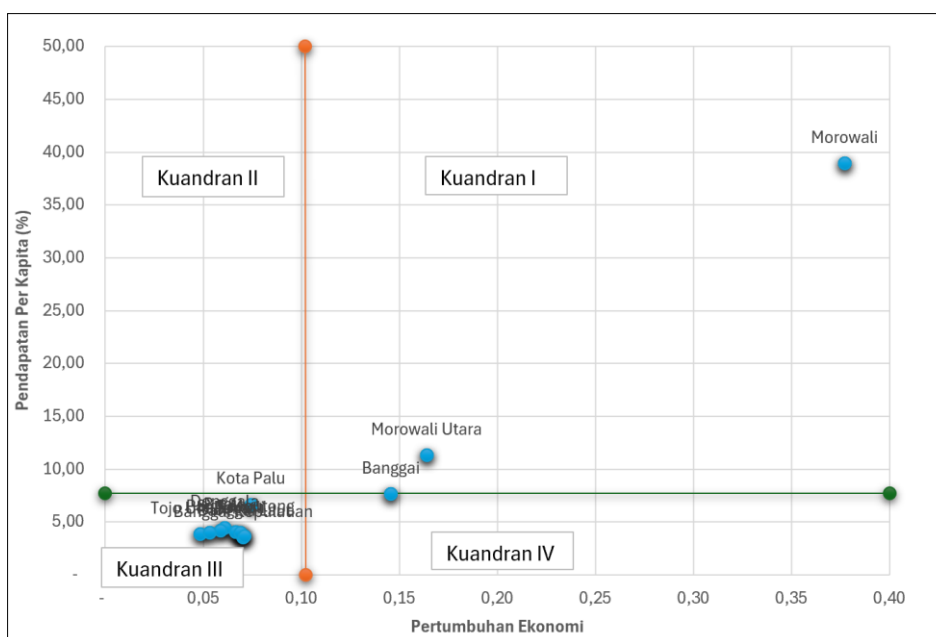


Figure 3. Typology of Klassen Regencies/Cities in Central Sulawesi Province  
Source: Talahatu et al, (2025)

This situation calls for a reorientation toward more inclusive development policies. Local governments need to prioritize vertical integration between the nickel industry and the local business sector to mitigate the risk of the Dutch disease (Sachs & Warner, 1999). Without strategic interventions to diversify the economic base, the current high growth is at risk of a drastic downturn should mineral reserves deplete or international market volatility occur.

### Natural Resource Dependency and Source Curse Risk

After mapping growth disparities, the next crucial step is to determine whether this progress is driven by a solid economic foundation or merely a superficial dependence on mineral extraction. The results of the Natural Resource Dependency Index (NRDI) reveal a strong correlation between a region’s position in Quadrant I (Klassen Typology) and a high level of resource dependency.

Table 2. Natural Resource Dependency Index of Central Sulawesi Province (NRDI)

Number	Regency/City	GRDP of Mining and Quarrying Sector (Rp.000/capita)	IPDRBT	DBH-SDA of Mining and Quarrying Sector (Rp.000/capita)	IDBHT
1.	Banggai	8,237.18	14.80	704.87	59.64
2.	Banggai Laut	178.44	0.01	424.05	33.11
3.	Banggai Kepulauan	173.64	0.00	251.59	16.82
4.	Buol	385.91	0.39	216.64	13.52
5.	Toli-Toli	442.92	0.49	143.96	6.65
6.	Donggala	3,950.91	6.93	107.32	3.19
7.	Morowali	54,647.36	100.00	1,132.01	100.00
8.	Morowali Utara	26,790.15	48.86	650.56	54.51
9.	Poso	365.19	0.35	134.27	5.74
10.	Kota Palu	2,592.97	4.44	80.32	0.64
11.	Parigi Moutong	1,180.22	1.85	73.56	0.00
12.	Sigi	881.73	1.30	120.29	4.41
13.	Tojo Una-Una	409.49	0.43	255.72	17.21

Source: Processed data (2025)

Analytically, the high NRDI scores in Morowali and North Morowali Regencies (both above 50) demonstrate that the economic and fiscal structures of these regions have become “locked in” to the mining sector. This phenomenon is evident not only in the dominance of nickel output in the regional GDP but also in the region’s high fiscal dependence on royalty revenue-sharing funds (DBH). This dual dependence—both sectoral and fiscal—places the region at a significant risk of the resource curse. As noted by Sachs & Warner, 1999), high dependence on primary commodities tends to hinder growth in other sectors through the “Dutch disease” mechanism, wherein resource appreciation diverts production factors away from tradable sectors such as agriculture and non-mining manufacturing.

According to (Talahatu, 2026) study’s, this risk is supported by empirical findings in Central Sulawesi indicating that dependence on the mining sector has a significant negative impact on per capita non-mining economic performance; this mathematical evidence confirms the existence of structural pressures arising from the dominance of the extractive sector at the regional level.

The data shows that although Morowali has recorded massive economic growth, sectors that support the livelihoods of the local community, such as agriculture and fisheries, have stagnated or grown at a rate below the provincial average. This indicates the occurrence of a crowding-out effect, where the capital-intensive mining sector absorbs investment but fails to create linkages with the local economy (Rahma et al., 2021). The dominance of the extractive sector can even trigger the reallocation of resources to rent-seeking sectors, thereby weakening the productivity of other non-extractive sectors. Therefore, the high NRDI in nickel growth centers in Central Sulawesi does not reflect a mature structural transformation, but rather a fragile pattern of specialization (see Figure 4)

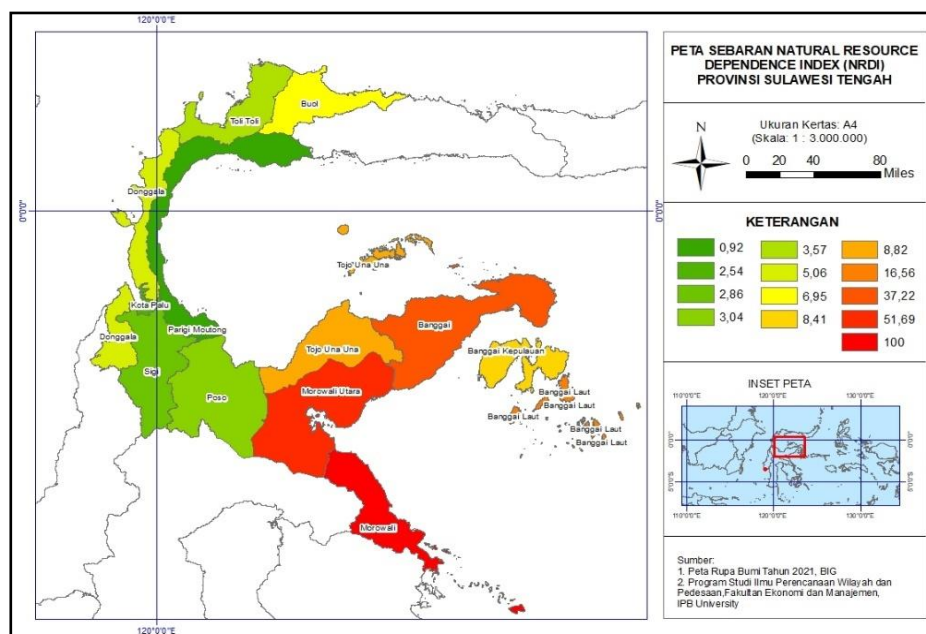


Figure 4. NRDI Distribution Map of Central Sulawesi Province  
Source: (Talahatu et al., 2025)

From a theoretical perspective, this pattern of dependency explains why high GRDP does not correlate directly with a significant increase in the Human Development Index (HDI) in the region. The resource curse mechanism operates through low reinvestment of mining revenues into human capital and infrastructure for diversification (Auty, 2007). The “enclave” nature of the mining industry creates a disconnect from the broader regional economy, thereby hindering inclusive structural transformation. If this dependence is not immediately mitigated through diversification policies and a productive reorientation of public spending, the region will remain trapped in a boom-and-bust cycle, where regional prosperity lasts only as long as mineral reserves remain available or international market prices stay high.

### Leading Sectors and Local Competitive Advantages in Mining Hubs

Based on the results of the Klassen Typology and the Natural Resource Dependency Index (NRDI) analysis, Morowali and North Morowali Regencies have been identified as rapidly growing, high-income regions that are highly dependent on natural resources. To mitigate the resource curse risk, it is necessary to identify competitive non-extractive sectors through Location Quotient (LQ) and Shift-Share Differential Shift (SSA-DS) analyses of the economic sectors.

Table 3. Results of LQ and SSA-DS Analysis for Morowali and North Morowali Regencies

BPS-code	Sektor Ekonomi	Morowali		Morowali Utara	
		LQ	SSA (DS)	LQ	SSA (DS)
A	Agriculture, Forestry, and Fisheries	0.10	-0.04	1.08	0.33
B	Mining and Quarrying	1.16	6.77	2.51	-2.23
C	Manufacturing	1.90	72.60	0.54	32.26
D	Electricity and Gas Supply	0.08	0.40	0.31	0.04
E	Water Supply, Waste Management, Wastewater Management, and Recycling	0.07	0.16	0.35	0.20
F	Construction	0.67	0.62	1.04	6.44
G	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	0.22	1.27	0.74	0.39
H	Transportation and Warehousing	0.19	8.05	0.27	4.02
I	Accommodation and Food Services	0.10	0.69	0.44	0.20
J	Information and Communication	0.11	0.45	0.57	0.05
K	Financial and Insurance Services	0.12	0.11	0.21	0.64
L	Real Estate	0.17	0.64	0.86	0.17
M, N	Business Services	0.02	0.07	0.06	0.46
O	Public Administration, Defense, and Compulsory Social Security	0.05	-0.16	0.33	0.01
P	Education Services	0.05	-0.06	0.31	0.01
Q	Health and Social Services	0.09	0.13	0.47	-0.05
R, S, T, U	Other Services	0.12	0.13	0.65	0.11

Source: (Talahatu et al, 2025)

Table 3 presents the results of the LQ and SSA-DS analyses for Morowali and North Morowali Regencies, which generally show that the three base sectors with comparative advantages are Agriculture, Forestry, and Fisheries (A), Mining and Quarrying (B), and Manufacturing (C). In Morowali Regency, the base sector with a comparative advantage is the Manufacturing sector, with an LQ value of 1.90 and an SSA-DS value of 72.60. Meanwhile, in North Morowali Regency, the base sector is Mining and Quarrying with an LQ value of 2.51, while the sector with a comparative advantage is Manufacturing with an SSA-DS value of 32.26. The dominance of the extractive sector imposes significant structural pressures on regional development. As demonstrated in a study in the Central Sulawesi region, dependence on the mining sector has a negative and significant impact on per capita non-mining economic performance (Talahatu, 2026). This underscores that commodity-driven growth does not automatically strengthen the non-extractive economic base without targeted policy interventions to drive structural transformation.

In detail, the results of the economic diversification analysis for Morowali and North Morowali Regencies, based on the economic sector structure, are illustrated using a scatter plot. The LQ and SSA-DS scatter plots in Figure 5 show sectoral growth (differential shift), indicating that Morowali's economic structure is dominated by the mining and manufacturing sectors. The manufacturing sector is in Quadrant I (foundational and fast-growing), supported by nickel downstreaming (smelters), which allows Morowali's industrial contribution to far exceed the average. This sector has grown significantly above the provincial industrial growth rate, reflecting local competitive advantages. These findings are consistent with the research by Armawati et al.,

(2024), which demonstrates Morowali’s economic transformation from a primary-sector-dominated economy to a secondary-sector-dominated one as the processing industry expands. The risk of a weakening non-mining sector due to this extractive dominance can theoretically be mitigated through effective allocation of local capital expenditures, which has the potential to reduce the negative impacts of mining dependence. This highlights the importance of repositioning capital expenditures as an instrument for converting mining rents into long-term productive economic assets.

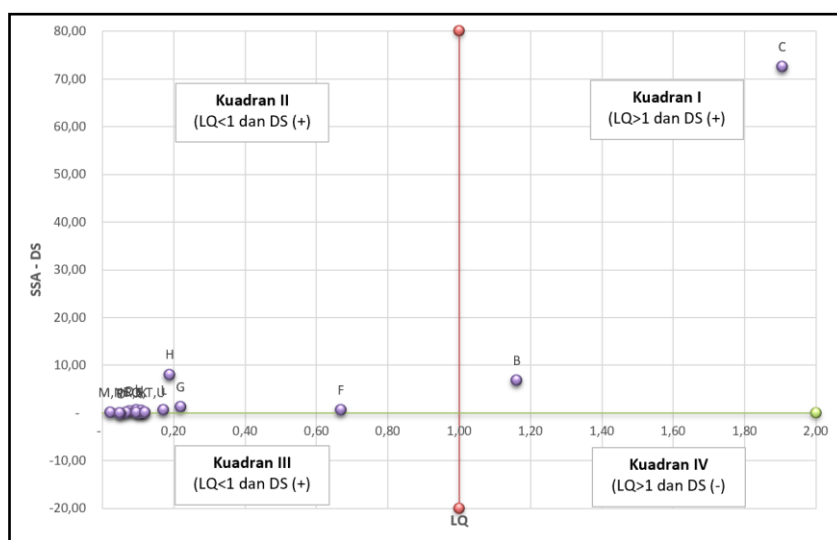


Figure 5. Scatter Plot of LQ and SSA-DS in Morowali Regency  
Source: (Talahatu et al., 2025)

For North Morowali, as shown in Figure 6, the LQ results indicate that several primary sectors—such as agriculture, forestry, and fisheries—constitute the core sectors ( $LQ > 1$ ), suggesting that North Morowali’s economic structure remains rooted in the primary sector. The dominance of the agricultural sector indicates that there has not yet been a comprehensive transformation of the economic structure from primary to secondary or tertiary sectors. Although North Morowali’s NRDI value is high, the mining sector has not developed significantly (Quadrant II), so the main drivers of GRDP still come from natural resources with relatively low value added.

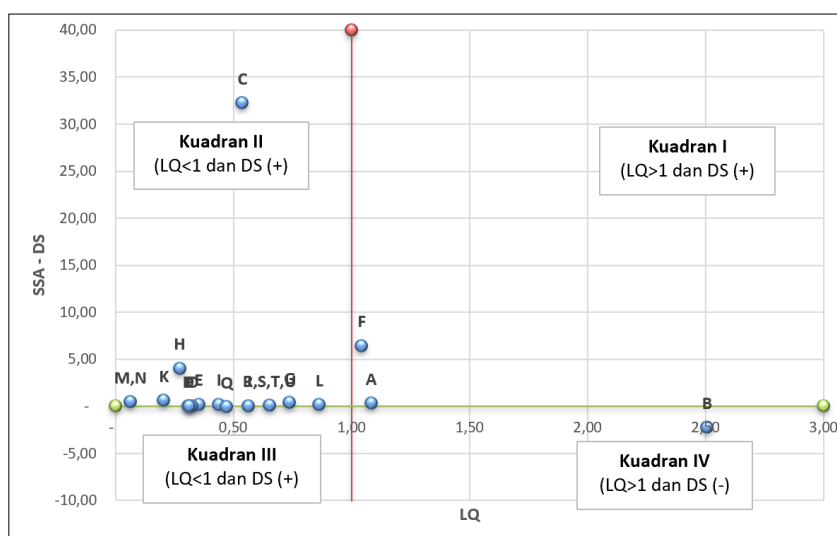


Figure 6. Scatter Plot of LQ and SSA-DS in North Morowali Regency  
Source: (Talahatu et al., 2025)

The shift-share analysis identifies the manufacturing sector as a promising sector ( $DS > 0$ ) in North Morowali, with a value of 32.26. This means that although manufacturing has not yet become a leading sector ( $LQ < 1$ ), its growth rate is faster than the provincial average, making it a potential new driver of the economy. Growth is also evident in the trade and service sectors related to local consumption as community welfare improves, placing these sectors in Quadrant II. However, in general, many modern service sectors (finance, information, accommodation) in North Morowali remain very small ( $LQ < 1$ ) and their growth is not yet significant ( $DS < 0$ ), meaning these sectors are classified as Quadrant III (structurally backward). This aligns with the findings of that North Morowali remains heavily reliant on the primary sector and has not achieved broad economic diversification due to limitations in infrastructure and investment capital. A reorientation of public spending is needed, with a greater focus on developing non-extractive sectors to support the region's structural transformation process and avoid getting trapped in a fragile resource-dependence cycle.

### **Strategic Formulation for Sectoral Diversification and Regional Resilience**

Based on the results of the Klassen Typology analysis, Morowali and North Morowali Regencies are classified as regions with very rapid development and growth (Quadrant I). However, this strategic position is overshadowed by a very high Natural Resource Dependency Index (NRDI) score, particularly in the mining sector. Findings from the Location Quotient (LQ) Analysis and Shift-Share Analysis (SSA), particularly regarding the Differential Shift (DS) value, indicate that the current economic structure remains insufficiently diversified to ensure resilient long-term growth.

In theory, regions rich in natural resources often face the “resource curse,” a phenomenon in which growth is hindered by dependence on raw commodities. The disparity in the impact of resources—whether they become a “blessing” or a “curse”—is largely determined by contextual factors such as governance, institutional quality, and investment in human capital (Wang et al., 2024). In Central Sulawesi, structural pressures resulting from the dominance of the extractive sector have been empirically shown to have a significant negative impact on per capita non-mining economic performance (Talahatu, 2026). Without an aggressive diversification strategy, global commodity price volatility or a decline in mineral reserves risks crippling the local economy. Conversely, synergies with supporting sectors such as energy infrastructure, modern services, and human resource development have the potential to transform this wealth into a “blessing” for development.

To support inclusive development, strong linkages are needed between core sectors and supporting sectors. Table 4 details the sectors that must be strengthened to break the cycle of the enclave economy.

For Morowali Regency, heavy reliance on the mining and processing industry (C) risks creating economic isolation. Diversification should focus on strengthening the service sector and industrial support infrastructure. This step represents a crucial form of value addition to avoid vulnerability in the event of a decline in resource reserves. Meanwhile, for North Morowali Regency, with its agricultural (A) and construction (F) bases, this region can grow more balanced. Support from the trade (G) and warehousing (H) sectors can strengthen the value added of local commodities. Diversification into non-mining sectors is vital to ensure long-term economic sustainability.

Research in other developed regions, such as Surabaya, indicates that strong growth in non-resource-based sectors reflects significant potential for the development of more resilient regions (Suwarno & Sishadiyati, 2022). In Central Sulawesi, cross-sectoral integration encompassing extraction, processing, distribution, and diversification into the service and technology sectors will significantly reduce the risk of dependence on a single sector. In a recent study in Central Sulawesi, fiscal reorientation of public spending emerged as the primary lever. Regional capital expenditure has proven to act as a moderating mechanism capable of mitigating the negative impacts of mining dependence (Talahatu, 2026).

Therefore, a reorientation toward more productive spending, institutional reforms, and sustainable environmental policies are key determinants of Central Sulawesi's future. Aligning the national downstream agenda with the strengthening of local economic capacity will transform natural resources from a structural burden into a catalyst for inclusive growth.

Table 4. Potential for Economic Diversification in Morowali and North Morowali

Regency	Basic Sector (Quadrant I)	Potential Sector (Quadrant II)	Economic Sector Diversification
Morowali	B. Mining and Quarrying	D. Electricity & Gas F. Construction G. Trade H. Transportation I. Accommodation K. Finance L. Real Estate	<ul style="list-style-type: none"> <li>• Provision of energy (D) and infrastructure (F) for mining activities</li> <li>• Provision of mining product distribution facilities (G, H);</li> <li>• Provision of worker accommodation and consumption (I);</li> <li>• Provision of financial services (K);</li> <li>• Provision of industrial land/buildings (L).</li> </ul>
	C. Manufacturing	D. Electricity & Gas F. Construction G. Trade H. Transportation I. Accommodation J. Information K. Finance L. Real Estate	<ul style="list-style-type: none"> <li>• Supporting factory operations through electricity supply (D) and factory construction (F)</li> <li>• Marketing and distribution of processed products (G, H)</li> <li>• Worker facilities (I)</li> <li>• Provision of communication systems (J)</li> <li>• Capital/funding support (K)</li> <li>• Procurement of factory locations for processing (L).</li> </ul>
North Morowali	A. Agriculture, Forestry, Fisheries	C. Manufacturing G. Trade H. Transportation J. Information K. Finance P. Education	<ul style="list-style-type: none"> <li>• Supporting agricultural product processing (C)</li> <li>• Providing product marketing channels (G)</li> <li>• Supporting commodity distribution logistics (H)</li> <li>• Providing market/agricultural technology information (J)</li> <li>• Providing financing for agriculture (K)</li> <li>• Agricultural business education and training (P)</li> </ul>
	F. Construction	D. Electricity & Gas G. Trade H. Transportation J. Information K. Finance L. Real Estate	<ul style="list-style-type: none"> <li>• Provision of electricity for construction projects (D);</li> <li>• Support for the distribution of building materials (G, H);</li> <li>• Provision of construction information/communication technology support (J);</li> <li>• Provision of project capital access (K);</li> <li>• Provision of project land and housing (L).</li> </ul>

Source: (Talahatu et al, 2025)

#### 4. CONCLUSION

Research findings indicate that regions classified as having high growth and significant contributions to the regional GRDP, such as Morowali and North Morowali Regencies, exhibit extreme dependence, as reflected by high NRDI values. Specifically, while the mining and processing industry serves as the base sector in Morowali, North Morowali remains heavily reliant on the primary sector (Agriculture, Forestry, and Fisheries) as well as construction. Crucially, in North Morowali, the mining sector is recorded as the base sector but lacks a comparative advantage ( $DS < 0$ ), reinforcing indications of a natural resource paradox where abundance fails to generate local competitive efficiency and instead increases the risk of the resource curse.

Research findings indicate that regions classified as having high growth and significant contributions to the regional GRDP, such as Morowali and North Morowali Regencies, exhibit extreme dependence, as reflected by high NRDI values. Specifically, while the mining and processing industry serves as the base sector in Morowali, North Morowali remains heavily reliant on the primary sector (Agriculture, Forestry, and Fisheries) as well as construction. Crucially, in North Morowali, the mining sector is recorded as the base sector but lacks a comparative advantage ( $DS < 0$ ), reinforcing indications of a natural resource paradox where abundance fails to generate local competitive efficiency and instead increases the risk of the resource curse.

From a policy perspective, these findings underscore the urgency of targeted economic diversification strategies to achieve sustainable growth and mitigate the risks of long-term instability. Regional development must prioritize strengthening locally based processing industries, integrating tourism with agriculture, and stimulating investment in the manufacturing and services sectors. Implementing this diversification strategy will not only create jobs and increase value added but also broaden the region's economic base to minimize the negative effects of reliance on a single commodity. Policies promoting institutional reform and investment in human capital remain essential to ensure that natural resources function as a catalyst for growth, not a structural burden.

This study contributes to the broader discourse on the "resource curse" by highlighting how internal sectoral dynamics and levels of dependence shape the success of structural transformation in resource-rich regions. The findings are highly relevant for other developing regions where mineral extraction serves as the primary economic driver yet sectoral and institutional readiness for diversification remains uneven.

Future research should broaden the scope of analysis by incorporating methods such as inter-regional input-output (IRIO) analysis to track the flow of nickel-related value added across provincial and national borders. Longitudinal studies assessing the long-term impacts of downstream processing policies on local fiscal performance and environmental sustainability will also provide valuable insights for further policy refinement.

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