

Structural Transformation of South Kalimantan's Economy: Analysis of Sectoral Contribution Shifts and Policy Implications

Transformasi Struktural Perekonomian Kalimantan Selatan: Analisis Pergeseran Kontribusi Sektoral dan Implikasi Kebijakan

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[diterima 04-05-2026; revisi 02-06-2026; diterbitkan 31-07-2026]

ABSTRACT

South Kalimantan, one of Indonesia's largest coal-producing provinces, faces a structural paradox in which it remains heavily dependent on the primary sector despite sustained GRDP growth, while industrialization has stagnated. This study analyzes structural transformation during 2010–2024 using Location Quotient and Shift-Share analysis, complemented by sectoral employment data from Sakernas for 2011–2024. The primary sector's output share fell from 43.82 to 36.75 percent and the tertiary sector rose from 34.87 to 42.61 percent, while the secondary sector stagnated at 20 to 21 percent. Location Quotient confirms the primary sector as a base sector ($LQ=1.45$) and the secondary sector as non-base ($LQ=0.63$), with negative Regional Shift in both indicating competitiveness loss. Employment data reinforce this pattern, with the primary sector's labor share falling from 41.45 percent (2011) to 33.71 percent (2024) as the tertiary sector absorbed most of the released labor. Relative to the national structure, primary dependence is higher and the secondary sector weaker. The findings indicate a premature shift from primary to tertiary activity that bypasses industrialization, a "stuck in the middle" condition consistent with resource curse theory. Recommended policies include downstream industrialization, economic diversification, stronger inter-sectoral linkages, and human resource investment to support a just energy transition.

Keywords: *economic diversification; location quotient; resource-based economy; shift-share; structural transformation*

ABSTRAK

Kalimantan Selatan, salah satu provinsi penghasil batu bara terbesar di Indonesia, menghadapi paradoks struktural di mana perekonomiannya tetap bergantung pada sektor primer di tengah pertumbuhan PDRB yang berkelanjutan, sementara industrialisasi stagnan. Penelitian ini menganalisis transformasi struktural periode 2010–2024 menggunakan analisis Location Quotient dan Shift-Share, dilengkapi data tenaga kerja sektoral dari Sakernas periode 2011–2024. Pangsa output sektor primer menurun dari 43,82 menjadi 36,75 persen dan sektor tersier meningkat dari 34,87 menjadi 42,61 persen, sementara sektor sekunder stagnan di 20–21 persen. Location Quotient menegaskan sektor primer sebagai sektor basis ($LQ=1,45$) dan sektor sekunder non-basis ($LQ=0,63$), dengan Regional Shift negatif pada keduanya yang menunjukkan hilangnya daya saing. Pangsa tenaga kerja memperkuat pola ini, dengan pangsa sektor primer turun dari 41,45 persen (2011) menjadi 33,71 persen (2024) sementara sektor tersier menyerap sebagian besar tenaga kerja yang berpindah. Dibandingkan pola nasional, ketergantungan pada sektor primer lebih tinggi dan sektor sekunder lebih lemah. Temuan ini mengindikasikan transformasi prematur dari sektor primer ke tersier yang melewati tahap industrialisasi, kondisi "stuck in the middle" yang konsisten dengan teori resource curse. Rekomendasi kebijakan meliputi hilirisasi industri, diversifikasi ekonomi, penguatan keterkaitan antarsektor, dan investasi SDM untuk mendukung transisi ekonomi yang berkeadilan.

Kata kunci: diversifikasi ekonomi; ekonomi berbasis sumber daya alam; location quotient; shift-share; transformasi struktural

Klasifikasi JEL: R11; O13; O14; Q32

INTRODUCTION

South Kalimantan presents one of Indonesia's clearest cases of an economy caught between its resource-dependent past and an uncertain structural future. The province contributes approximately 40 percent of Indonesia's national coal production, making it one of the country's primary energy suppliers (BPS Kalimantan Selatan, 2024). Yet this resource wealth has not translated into balanced economic development. Over the 2010–2024 period, the province's Gross Regional Domestic Product (GRDP) grew from IDR 85.30 trillion to IDR 156.76 trillion at constant 2010 prices, reflecting an average annual growth rate of 4.41 percent. Beneath this aggregate growth, however, lie structural tensions that cast doubt on the sustainability and quality of South Kalimantan's economic trajectory. The primary sector, dominated by coal mining and agriculture, still accounted for 36.75 percent of GRDP in 2024, far exceeding the national average of 25.36 percent, while the secondary sector has stagnated at around 20 to 21 percent throughout the observation period, compared to the national figure of 32.72 percent (Rinaldi et al., 2022). The tertiary sector, in turn, has expanded from 34.87 to 42.61 percent, overtaking the primary sector as the largest contributor to regional output, not through industrial upgrading but through a direct shift from primary to services that bypasses the manufacturing stage entirely.

Several features of this pattern are troubling. The global coal market has entered a period of sustained uncertainty, driven by the accelerating energy transition and international decarbonization commitments, including Indonesia's participation in the Just Energy Transition Partnership (JETP). South Kalimantan's coal export revenues, which have historically provided fiscal buffers for regional development spending, are exposed to increasing price volatility and long-run demand decline. The province experienced this vulnerability firsthand when coal prices fell sharply during the 2014–2016 commodity slump, triggering an economic slowdown that exposed the fragility of its resource-dependent structure. The COVID-19 shock of 2020 provided a further reminder. GRDP

contracted as both mining activities and service demand collapsed simultaneously, illustrating how an economy without a strong industrial cushion is inherently more susceptible to external shocks. Structurally, the absence of a developed manufacturing sector means that labor released from the primary sector, whether through mine depletion, automation, or energy transition, cannot be absorbed into high-productivity industrial activities, and instead flows into low-productivity informal services. Rodrik (2016) identifies this as the mechanism of premature deindustrialization, a development trap that Christiaensen and Martin (2018) document as a persistent pattern in resource-dependent developing economies.

Structural transformation, the shift of productive resources from low-productivity to higher-productivity sectors accompanied by labor reallocation and rising aggregate productivity, remains one of the most important mechanisms through which developing economies achieve sustained growth (Herrendorf et al., 2014; Gollin & Kaboski, 2023). In the Indonesian national context, this transformation has followed a broadly recognizable pattern in which the tertiary sector has become dominant at 41.92 percent of GDP, while the secondary sector holds a solid 32.72 percent, suggesting that industrialization preceded service sector expansion at the national level (Rinaldi et al., 2022). However, as Sjafrizal (2018) emphasizes, regional transformation trajectories can diverge substantially from national patterns depending on local resource endowments, institutional arrangements, and geographic conditions. McMillan et al. (2014) reinforce this point by showing that structural transformation only contributes positively to growth when labor moves toward sectors with above-average productivity, a condition that is not guaranteed and requires deliberate policy facilitation. The literature on resource-dependent economies adds a further layer of complexity. Shao and Yang (2014) distinguish between resource abundance, which can be a development asset, and resource dependence, which suppresses diversification through Dutch disease effects, rent-seeking behavior, and the crowding out of

tradeable manufacturing. South Kalimantan's trajectory suggests it has fallen into the latter trap.

Despite the growing body of structural transformation literature, empirical research on mining-dependent provinces in Indonesia remains limited. Most existing studies focus either on the national level (Rinaldi et al., 2022; Setyanti et al., 2021) or on agriculture-based regional economies (Alfarabi et al., 2014; Romli et al., 2016). The specific dynamics of coal-producing provinces (where resource rents shape investment patterns, labor markets, and government expenditure in ways quite distinct from agricultural regions) have not been adequately examined. This gap is consequential. As Indonesia advances its energy transition agenda and global demand for coal faces structural decline, understanding how mining-dependent provinces can manage structural transformation has become a pressing policy question rather than an academic one. This study addresses this gap by analyzing South Kalimantan's structural transformation over the 2010–2024 period using Location Quotient and Shift-Share analysis to identify sectoral competitiveness patterns, diagnose structural disparities relative to the national economy, and formulate evidence-based policy directions for sustainable regional economic development.

METHOD

Data Type and Source. This study uses secondary data in the form of South Kalimantan's Gross Regional Domestic Product (GRDP) by business field for 2010-2024 period from South Kalimantan Provincial Statistics Indonesia (BPS). GRDP data is presented on 2010 constant price basis to eliminate inflation effects and enable real comparison between time periods. Data is grouped into three sectors based on standard classification. The primary sector comprises agriculture, forestry, fisheries, and mining; the secondary sector comprises manufacturing industry, construction, and utilities; and the tertiary sector comprises trade, transportation, financial services, and other services. As a comparison, this study uses national sectoral composition data from Rinaldi et al. (2022) study to identify structural

disparities between South Kalimantan and Indonesia.

Analysis Method. Descriptive quantitative analysis describes structural transformation patterns and trends by observing how sectoral contributions to GRDP change over time. Economic and sectoral growth rates are calculated using geometric average growth formula:

$$g = \left[\left(\frac{V_t}{V_0} \right)^{\frac{1}{n}} - 1 \right] \times 100\% \quad (1)$$

where g is average annual growth rate (%), V_t is GRDP value in year t , V_0 is GRDP value in base year, and n is number of years in observation period.

Location Quotient (LQ) analysis identifies base (competitive) and non-base sectors in South Kalimantan by comparing sectoral contribution to regional and national economy. In the context of structural transformation analysis, LQ serves as a proxy measure of sectoral specialization and comparative advantage at the regional level. Sectors with LQ greater than 1 indicate that the regional economy has developed a concentration in that sector beyond what would be expected from national patterns alone, reflecting structural deepening in that activity. This approach to measuring structural change through output composition is grounded in the recognition that GRDP share trajectories capture the realized outcome of resource reallocation across sectors over time, which is one of the two fundamental dimensions, alongside labor reallocation, through which structural transformation manifests (Herrendorf et al., 2014). Output-based measures are well suited to resource-dependent regional economies where capital intensity in the extractive sector makes value-added shares a more consistent indicator of structural weight than employment shares (Gollin & Kaboski, 2023). This method has also been widely applied in regional economic analysis across developing country contexts to identify sectors with comparative advantage (Abadi et al., 2024; Nurriyanti & Setyowati, 2024). While output shares form the primary basis of this analysis, the study complements them with an employment-share analysis by sector using

Sakernas (August) data published by BPS Kalimantan Selatan, reported in the Results section; fully disaggregated sub-sectoral productivity data at the provincial level remains limited, so the output-based measures carry the main analytical weight. LQ formula is:

$$LQ = \frac{\left(\frac{S_i}{GRDP}\right)}{\left(\frac{N_i}{GDP}\right)} \quad (2)$$

where S_i is sector i GRDP in South Kalimantan, $GRDP$ is Total South Kalimantan GRDP, N_i is sector i GDP at national level, and GDP is Total national GDP. These LQ values are interpreted along a three-part scale. An LQ greater than 1 identifies a base sector with comparative advantage and export potential, an LQ equal to 1 identifies a proportional sector balanced with the national structure, and an LQ below 1 identifies a non-base sector that only meets local needs. Higher LQ value above 1 indicates higher specialization level and sectoral comparative advantage.

Shift-Share analysis identifies the sources of economic growth by decomposing sectoral GRDP changes into three components reflecting different growth influences. In the structural transformation context, Shift-Share analysis provides analytical value beyond simple share comparison by isolating whether a region's sectoral performance reflects national momentum, the intrinsic growth characteristics of its specialization mix, or its own regional competitive dynamics. The Regional Shift (RS) component is especially informative. A consistently negative RS in the primary or secondary sector signals that a region is losing ground relative to other provinces in the same sector, which is a meaningful indicator of structural competitiveness decline independent of national trends. The decomposition allows a finer diagnosis of transformation constraints than

output shares alone can provide, and is consistent with the methodological approach used in structural transformation studies at the subnational level in developing countries (Abadi et al., 2024):

$$\Delta E_{ij} = NS_{ij} + IM_{ij} + RS_{ij} \quad (3)$$

where ΔE_{ij} is sector i GRDP Change in South Kalimantan, NS_{ij} is National Share (national growth component), IM_{ij} is Industry Mix (industrial mix component), and RS_{ij} is Regional Shift (regional competitiveness component). Each component is calculated as follows:

$$NS = E_{i0} \times (R_t) \quad (4)$$

$$IM = E_{i0} \times (R_{it} - R_t) \quad (5)$$

$$RS = E_{i0} \times (r_{it} - R_{it}) \quad (6)$$

where E_{i0} is sector i South Kalimantan GRDP in base year, R_t is total national economic growth rate, R_{it} is sector i national growth rate, and r_{it} is sector i South Kalimantan growth rate. Each component carries a distinct interpretation. NS shows the growth that would occur if the sector grew at the national average, IM shows the growth attributable to specialization in nationally fast- or slow-growing sectors, and a positive RS indicates strong regional competitiveness while a negative RS indicates a loss of competitiveness relative to other regional competitors.

RESULT AND DISCUSSION

South Kalimantan's Structural Transformation Pattern

South Kalimantan's GRDP data for 2010-2024 period shows consistent but not yet optimal structural transformation pattern. GRDP grew from IDR 85.30 trillion (2010) to IDR 156.76 trillion (2024), with average growth rate of 4.41 percent per year. Table 1 shows sectoral contribution changes to GRDP during study period.

Table 1. Sectoral Contribution to South Kalimantan GRDP (Selected Years, %)

Year	Primary Sector	Secondary Sector	Tertiary Sector
2010	43.82	21.31	34.87
2015	41.76	20.63	37.61
2020	38.44	20.71	40.84
2024	36.75	20.63	42.61
Change	-7.07	-0.68	+7.74

Source: BPS (2024), processed

Table 2. South Kalimantan Economic Structure Comparison with National

Sector	South Kalimantan 2024 (%)	Indonesia (%)	Gap (percentage points)
Primary Sector	36.75	25.36	+11.39
Secondary Sector	20.63	32.72	-12.09
Tertiary Sector	42.61	41.92	+0.69

Source: BPS and Rinaldi et al. (2022), processed

Significant shift occurred from primary sector (decreased 7.07 percentage points) to tertiary sector (increased 7.74 percentage points). Tertiary sector grew fastest (5.90 percent per year), becoming economic growth engine. However, secondary sector stagnated around 20 to 21 percent, showing weak industrialization. COVID-19 impact in 2020 caused economic contraction, but rapid recovery occurred in 2021-2024 period.

Comparison with National Pattern. Comparing South Kalimantan's structural transformation pattern with national pattern reveals several significant disparities. Based on Rinaldi et al. (2022) study, Indonesia's economic composition in 2000-2020 period shows tertiary sector dominance (41.92 percent), followed by secondary sector (32.72 percent), and primary sector (25.36 percent). Table 2 presents economic structure comparison.

Significant disparity is seen in primary sector (11.39 percentage points higher) and secondary sector (12.09 percentage points lower). High dependence on extractive sector and weak industrialization reflect natural resource-based economic characteristics. Low secondary sector contribution indicates that industrial downstream and value add creation are not yet optimal. Most mining and agricultural products are exported in raw or semi-finished form, limiting economic value that region can enjoy.

Location Quotient Analysis. Location Quotient calculation results show South Kalimantan's sectoral competitiveness dynamics during 2010-2024 period as presented in Table 3.

Primary Sector remains base sector with LQ greater than 1, although experiencing decline from 1.73 (2010) to 1.45 (2024). LQ value still far above 1 indicates that primary sector, especially coal mining, has significant comparative advantage and can meet local needs and export-oriented. LQ decline reflects relative dependence reduction on extractive sector, in line with economic diversification efforts.

Secondary Sector consistently stays in non-base position (LQ less than 1) with stagnant value at 0.63-0.65, confirming weak industrialization in South Kalimantan. This sector has not been able to meet local needs independently and depends on supply from outside region. The non-base position is consistent with the 12.09 percentage point disparity below the national average identified earlier.

Tertiary Sector shows positive development with LQ increasing from 0.83 (2010) to 1.02 (2024), moving from non-base to proportional. However, this tertiary sector growth needs to be watched because it occurs without strong industrialization base (Christiaensen & Martin, 2018).

Table 3. South Kalimantan Location Quotient Analysis

Sector	LQ 2010	LQ 2024	Change	Status
Primary	1.73	1.45	-0.28	Base
Secondary	0.65	0.63	-0.02	Non-Base
Tertiary	0.83	1.02	+0.19	Proportional

Source: South Kalimantan GRDP Data (BPS) and Rinaldi et al. (2022), processed

Table 4. South Kalimantan Shift-Share Analysis 2010-2024

Sector	NS (IDR T)	IM (IDR T)	RS (IDR T)	ΔE (IDR T)	RS Contribution
Primary	+24.33	-3.74	-1.36	+19.23	Negative
Secondary	+11.83	-1.45	-0.96	+9.42	Negative
Tertiary	+19.36	+5.83	+2.14	+27.33	Positive
TOTAL	+55.52	+0.64	-0.18	+55.98	-

Source: South Kalimantan GRDP Data (BPS), processed

On the whole, the LQ pattern shows that South Kalimantan is still in a transition phase from natural resource-based economy to more diverse economy, but structural transformation has not reached optimal stage because secondary sector fails to develop as bridge between primary and tertiary sectors.

Shift-share analysis decomposes South Kalimantan's economic growth for 2010-2024 period into three components, namely national share, industry mix, and regional shift. Analysis results are presented in Table 4.

National Share (NS) component contributes most to growth (IDR 55.52 trillion), showing that South Kalimantan's economic growth is largely reflection of overall national economic growth. This indicates that regional economy moves in line with national macroeconomic trends.

Industry Mix (IM) component shows interesting pattern. Tertiary sector has positive IM (+IDR 5.83 T), indicating that South Kalimantan benefits from specialization in nationally fast-growing service sectors. By contrast, primary sector (-IDR 3.74 T) and secondary sector (-IDR 1.45 T) experience negative IM, showing that both sectors grow slower than national average. That pattern is consistent with the national structural transformation, in which the tertiary sector dominates growth.

Regional Shift (RS) component reveals crucial regional competitiveness issue. Primary and secondary sectors have negative RS (-IDR 1.36 T and -IDR 0.96 T), indicating that both sectors lose competitiveness compared to other provinces in Indonesia. For mining sector, this can be explained by reserve depletion, strict environmental regulations, and competition with other provinces such as East Kalimantan. For secondary sector, negative RS reflects industrialization failure

where other provinces more successfully develop manufacturing sector.

Only tertiary sector has positive RS (+IDR 2.14 T), showing strong regional competitiveness. This indicates that trade, transportation, and service sectors in South Kalimantan grow faster than national average, likely driven by regional city growth, trade expansion, and infrastructure development.

In sum, the Shift-Share analysis confirms that South Kalimantan's structural transformation faces serious challenges in terms of sectoral competitiveness. Dependence on national growth (high NS) without strong regional competitive advantage (negative RS in key sectors) shows regional economic vulnerability to external shocks and need for policy intervention to improve sectoral competitiveness.

Labor Force Reallocation. Output-based structural transformation analysis through LQ and Shift-Share provides a clear picture of sectoral value-added dynamics, but a complete assessment of structural transformation requires examining whether labor has been reallocating across sectors in directions consistent with productivity improvement. Using data from the National Labor Force Survey (Sakernas) published by BPS Kalimantan Selatan for August of each reference year, the employment share trajectory across the three broad sectors over 2011–2024 can be reconstructed, as presented in Table 5. The primary sector's employment share declined markedly from 41.45 percent in 2011 to 33.71 percent in 2024, a contraction of 7.74 percentage points. This decline closely parallels the 7.07 percentage point fall in the primary sector's GRDP share over the same period; although the two measures are not defined identically (the Sakernas classification groups mining with the industrial sector, whereas the GRDP classification groups it

with the primary sector), the parallel reinforces the broader Location Quotient finding that the province's resource-and-agriculture base is shrinking as a share of both output and employment. The secondary sector's employment share also declined, from 15.93 percent in 2011 to 13.29 percent in 2024, fluctuating throughout the period without any sustained upward trend, while the tertiary sector's share expanded substantially from 42.62 percent to 53.00 percent. The labor reallocation pattern is structurally concerning for two reasons. First, it confirms that labor is not moving from the primary sector into manufacturing and industry, the high-productivity pathway that classical structural transformation theory prescribes, but is instead bypassing the secondary sector entirely and flowing into services. Second, the industrial grouping absorbs a declining rather than expanding share of labor and shows no sign of becoming the labor-absorbing engine that structural transformation requires, even as the primary sector sheds workers. McMillan et al. (2014) describe exactly this growth-reducing structural change, in which labor moves toward sectors with below-average

productivity rather than above-average productivity. Several measurement caveats apply to the employment series. The Sakernas three-sector classification places mining and quarrying within the industrial grouping rather than the primary sector, so the labor-side primary sector corresponds to agriculture, forestry, and fisheries, and comparisons with the output-side primary sector should be read with this distinction in mind.

The classification also underwent a transition from KBLI 2015 to KBLI 2020 from 2022 onward, and the 2020 observation coincides with the COVID-19 pandemic and is interpreted with appropriate caution, although its value is consistent with the surrounding trend rather than anomalous.

Consistent provincial Sakernas data prior to 2011 was not available at the required level of detail, so the employment series begins in 2011 while the output series begins in 2010, a one-year difference that does not affect the directional findings. Sectoral labor productivity, measured as GRDP per worker by sector, provides a further dimension of the structural transformation picture.

Table 5. Employment Share by Sector, South Kalimantan (Sakernas, August, %)

Year	Primary Sector	Secondary Sector	Tertiary Sector
2011	41.45	15.93	42.62
2012	41.43	17.65	40.92
2013	40.22	17.41	42.37
2014	39.81	15.91	44.28
2015	36.01	16.16	47.83
2016	36.05	14.67	49.27
2017	34.05	17.18	48.77
2018	33.79	17.89	48.31
2019	30.03	19.03	50.94
2020	33.33	17.89	48.78
2021	34.13	22.53	43.34
2022	36.55	14.11	49.34
2023	34.11	13.90	51.99
2024	33.71	13.29	53.00
Change (2011–2024)	-7.74	-2.64	+10.38

Source: Sakernas (August), BPS Kalimantan Selatan, processed. Primary = agriculture, forestry, and fisheries; secondary = mining, manufacturing, utilities, and construction; tertiary = trade, transport, finance, and other services. Data for 2010 not available; the 2020 figure reflects pandemic-year conditions.

The primary sector's labor productivity remains limited by the capital-intensive nature of coal mining combined with the low-productivity character of smallholder agriculture, which together create a bifurcated primary sector where aggregate productivity figures mask substantial within-sector inequality. The secondary sector, despite its low employment share, contains manufacturing and construction sub-sectors whose productivity levels would need to grow substantially to close South Kalimantan's industrialization gap relative to the national average. The tertiary sector's expanding employment share, while reflecting genuine growth in trade and logistics activities with some productivity potential, is also absorbing workers into low-productivity informal services including small-scale food vending, household services, and unregistered retail, activities that represent disguised underemployment rather than genuine service-sector modernization. The significance of this pattern lies in the well-documented productivity gap between sectors, as Gollin et al. (2014) show that value added per worker in agriculture is markedly lower than in non-agricultural activities across developing economies, which implies that labor shifting out of the primary sector into low-productivity informal services rather than into industry yields only limited gains in aggregate productivity. Taken together, the labor reallocation evidence reinforces rather than contradicts the output-based findings. South Kalimantan's structural change over 2011–2024 has been characterized by labor flowing toward services without industrial intermediation, confirming the structural drift diagnosis and underscoring the urgency of deliberate industrial policy to redirect labor reallocation toward higher-productivity pathways (Herrendorf et al., 2014; Emran & Shilpi, 2018).

Implications and Challenges. The combined findings from LQ and Shift-Share analyses reveal that South Kalimantan is caught in a structural trap that goes beyond mere sectoral imbalance. The province's trajectory (where the primary sector remains dominant despite a declining LQ, the secondary sector stagnates persistently below national levels, and the tertiary sector expands

without industrial underpinning) constitutes what development economists describe as a "stuck in the middle" condition. The pattern mirrors the broader challenge Rodrik (2016) identifies, who warns that many developing economies are experiencing premature deindustrialization, a shift toward services before a robust manufacturing base has been established that ultimately constrains long-run productivity growth. South Kalimantan's case is acute because this bypass of industrialization is not driven by technological advancement or productivity catch-up, but rather by structural inertia rooted in resource dependence.

The persistence of primary sector dominance, despite its declining LQ (from 1.73 to 1.45) and negative Regional Shift (-IDR 1.36 trillion), is consistent with the resource curse mechanism described by Shao and Yang (2014), who distinguish between resource abundance and resource dependence and find that excessive dependence suppresses economic diversification through Dutch disease effects, income volatility, and rent-seeking behavior. In the South Kalimantan context, coal revenues have historically generated fiscal comfort for regional governments without creating strong backward or forward industrial linkages. Adam et al. (2018) identify precisely this dynamic as a structural constraint. When primary commodity extraction is not accompanied by rural-urban productive linkages and supporting infrastructure investment, the multiplier effect of resource income on the broader economy remains limited. The negative Industry Mix (-IDR 3.74 trillion) for the primary sector further confirms that coal mining in South Kalimantan grows slower than the national average for the same sector, suggesting that this structural problem is intensifying rather than self-correcting.

The secondary sector's stagnation at LQ 0.63 throughout the study period is arguably the most critical structural failure in South Kalimantan's economic trajectory. In classical structural transformation theory, the manufacturing sector serves as the engine that absorbs labor released from agriculture, raises productivity, and creates the demand conditions necessary for a vibrant

service economy (Herrendorf et al., 2014). South Kalimantan's inability to develop this engine, evidenced by a negative Regional Shift of -IDR 0.96 trillion, means that other provinces have been more successful in attracting and developing manufacturing activities. Comparative evidence from developing economies reinforces this concern. McMillan et al. (2014) demonstrated that structural transformation only contributes positively to aggregate productivity when labor moves toward sectors with above-average productivity levels. When the manufacturing sector fails to develop, labor released from mining or agriculture tends to be absorbed into low-productivity informal services, as Christiaensen and Martin (2018) document for many developing country contexts. The 12.09 percentage point gap between South Kalimantan's secondary sector contribution and the national average marks a cumulative productivity deficit that compounds over time, not a one-off statistical gap.

The tertiary sector's apparent success, with its LQ rising from 0.83 to 1.02 and its Regional Shift reaching +IDR 2.14 trillion, must therefore be interpreted with caution rather than as evidence of economic maturity. While the growth of trade, transportation, and financial services reflects genuine urbanization dynamics and expanding market activity in South Kalimantan's growing cities, it does not yet signal a high-productivity service transformation. Chakrabarti et al. (2025) emphasize that in developing economies, tertiary sector expansion often precedes rather than follows industrial development when resource rents artificially inflate local demand for consumer and retail services without creating the technological spillovers or export-oriented capabilities associated with mature service economies. The distinction between demand-driven and productivity-driven service growth matters here. The former is inherently fragile and susceptible to commodity price shocks, as South Kalimantan experienced during the coal price downturn of 2014-2016 and the COVID-19 shock in 2020. Gollin and Kaboski (2023) similarly note that genuine structural transformation requires not just sectoral recomposition, but improvement in aggregate productivity, a condition that South

Kalimantan's current trajectory has not yet satisfied.

These structural challenges are further compounded by the spatial and infrastructural constraints that shape South Kalimantan's economic geography. Desmet and Rossi-Hansberg (2014) show that spatial development patterns significantly influence structural transformation trajectories, with regions characterized by high internal transport costs and weak urban-rural integration tending to experience slower industrial takeoff. South Kalimantan's economic activity remains geographically concentrated around Banjarmasin and its immediate corridor, while mining-producing hinterlands remain poorly integrated with downstream industrial and service activities. Kaiser and Barstow (2022) document how inadequate rural transportation infrastructure in low- and middle-income countries perpetuates this fragmentation by limiting market access and factor mobility. The negative Regional Shift in both primary and secondary sectors is therefore not only an outcome of sectoral competitiveness, but also a reflection of spatial inefficiencies that prevent productive structural change from taking root across the province's diverse economic landscape.

Looking ahead, South Kalimantan faces an additional structural pressure that most comparable studies have not yet had to confront, namely the global energy transition. Indonesia's commitment to the Just Energy Transition Partnership (JETP) and the broader global movement away from fossil fuels places coal-dependent provincial economies in an increasingly precarious position. Danquah et al. (2024) find that in natural resource-dependent economies in Sub-Saharan Africa, failure to achieve genuine structural transformation before commodity depletion or demand collapse leads to sustained economic stagnation with disproportionate welfare impacts on low-income populations. The parallel with South Kalimantan is direct. Without accelerating the development of manufacturing and high-value services now, the province risks losing its primary revenue base before alternative economic foundations are in

place. Zhang et al. (2019) demonstrate that natural resource dependence and carbon-intensive manufacturing create compounding vulnerabilities, where transitioning out of fossil fuel extraction becomes simultaneously economically and institutionally more difficult the longer it is deferred. These results give added urgency to the policy imperatives identified in this study. Emran and Shilpi (2018) further caution that market failures and institutional constraints, particularly weak credit markets and inadequate skill formation, can prevent even well-intentioned diversification policies from achieving structural impact, suggesting that South Kalimantan's transformation agenda requires not only investment and incentive policies but also complementary institutional reforms that reduce barriers to industrial entry and labor reallocation.

CONCLUSION

This study set out to examine whether South Kalimantan's economic trajectory over 2010–2024 constitutes genuine structural transformation or merely a surface-level sectoral recomposition. The evidence points unambiguously to the latter. While output shares have shifted, with the primary sector declining from 43.82 percent to 36.75 percent and the tertiary sector rising from 34.87 percent to 42.61 percent, the secondary sector's persistent stagnation at 20 to 21 percent of GRDP reveals that this shift has not been driven by productive industrialization. The province has moved from depending on coal to depending on services, without building the manufacturing base that would make such a transition economically durable. This is not structural transformation in the classical sense; it is structural drift.

The Location Quotient and Shift-Share analyses together tell a consistent story. The primary sector remains the province's only true base sector ($LQ=1.45$), yet it is losing competitive ground ($RS=-IDR\ 1.36$ trillion) as coal reserves deplete and competing provinces grow stronger. The secondary sector is not only non-base ($LQ=0.63$) but also competitively stagnant ($RS=-IDR\ 0.96$ trillion), meaning South Kalimantan is falling further behind other provinces in manufacturing development rather than catching

up. The tertiary sector's positive Regional Shift (+IDR 2.14 trillion) offers a glimmer of competitive strength, but without an industrial foundation beneath it, this service sector dynamism risks being a fragile, demand-driven phenomenon rather than a productivity-led one. The dominant role of National Share in explaining GRDP growth (IDR 55.52 trillion out of IDR 55.98 trillion total growth) further confirms that South Kalimantan's economic expansion has been largely carried by national tide rather than its own structural engines, a vulnerability that will become more exposed as that tide turns with Indonesia's energy transition.

For regional development policy, these findings carry specific implications that go beyond generic diversification prescriptions. First, the secondary sector's structural gap of 12.09 percentage points below the national average represents a concrete and measurable industrialization deficit that provincial policy should target directly. A realistic medium-term benchmark would be closing half this gap, raising secondary sector contribution toward 26 to 27 percent within a decade, anchored by coal and palm oil downstream processing industries that can leverage existing primary sector supply chains. Second, the tertiary sector's genuine competitive strength in trade and logistics (positive RS) suggests that South Kalimantan has a natural advantage in becoming a regional distribution and service hub for Kalimantan Island's growing economy, including supply chain services for the new national capital Nusantara, an opportunity that industrial and infrastructure policy should be deliberately designed to capture. Third, the energy transition timeline is not abstract, since coal demand decline will arrive before South Kalimantan's structural transformation is complete unless the pace of diversification is deliberately accelerated through mining revenue sharing funds redirected toward industrial infrastructure and workforce reskilling programs with measurable sectoral employment targets.

This study contributes to the structural transformation literature in three ways. It provides the first systematic empirical documentation of

transformation dynamics in South Kalimantan across the full 2010–2024 period, establishing a baseline against which future structural change can be measured. It extends the application of resource curse theory to the provincial level in Indonesia, demonstrating that the theoretical mechanisms identified in cross-country studies (Dutch disease, weak inter-sectoral linkages, premature deindustrialization) operate meaningfully within a single resource-dependent province. And it introduces the concept of “structural drift” as a distinct regional development pathology, defined as a condition where sectoral shares shift without the productivity improvements that genuine transformation requires, producing an economy that looks more diversified on paper while remaining structurally fragile in practice. The concept has direct relevance for other coal-producing provinces in Indonesia (East Kalimantan, South Sumatra, and Bangka Belitung) that face similar structural challenges as they confront the global energy transition. Building on the employment-side evidence presented here, future research should incorporate firm-level and sub-sectoral productivity data to more precisely measure whether the observed labor reallocation has been accompanied by the productivity gains that complete structural transformation requires, and apply quasi-experimental methods to assess the causal impact of specific regional policies on sectoral competitiveness.

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