

East Kalimantan Regional Economic Transformation: Enhancing Economic Resilience Through Natural Resource Diversification for Sustainable Development



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Abstract: East Kalimantan Province is characterized by a high dependence on extractive sectors, particularly mining and oil and gas. This dependency has resulted in an economic structure that is vulnerable to global commodity price fluctuations and may hinder the transition toward sustainable development. This study aims to analyze the process of regional economic transformation in East Kalimantan by identifying key economic sectors, examining growth dynamics, and assessing diversification opportunities that could strengthen regional economic resilience. The research utilizes Location Quotient (LQ), Shift-Share analysis, and a sectoral assessment of extractive and non-extractive industries across the province's ten districts and municipalities. The findings reveal that although extractive sectors continue to dominate the regional economic structure, several non-extractive sectors such as trade, information and communication, downstream manufacturing, and modern services are exhibiting increasing competitiveness and positive growth trends. These results indicate significant potential for economic diversification, particularly through the expansion of service-based industries, enhancement of value-added activities, and development of innovation-driven economic linkages. The study recommends transformation strategies focused on reducing commodity dependence, strengthening regional value chains, and promoting inclusive sustainable development to support East Kalimantan's long-term vision as an emerging economic growth center in Indonesia.

Keywords: Regional Economic Transformation; Extractive Sectors; Economic Diversification; Regional Economic Resilience; East Kalimantan

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INTRODUCTION

East Kalimantan's economy has long been characterized by the dominance of the extractive sector, particularly coal mining and oil and gas. These two sectors contribute the largest portion to the province's Gross Regional Domestic Product (GRDP), making East Kalimantan one of the regions with the highest GRDP per capita in Indonesia. Growth in an economy may result from the expansion of capital resources, labour input, and employment opportunities (Chin et al., 2021). However, this high dependence on primary commodities creates significant structural vulnerabilities. Fluctuations in global coal and oil prices directly impact economic growth rates, regional income, and the activity of other productive sectors.

The labour factor makes the greatest contribution to the growth of regional economies (Lin, 2019).

This phenomenon demonstrates the characteristics of a resource-dependent region, namely a region experiencing a deep dependence on natural resources, making it vulnerable to the resource curse. This dependence can hinder the formation of a diverse economic structure, trigger sectoral imbalances, create the risk of long-term stagnation, and weaken regional economic resilience in the face of external shocks. Regional economic development contrasts with national development because it deals with subnational spatial areas that have varying geographical and economic diversity (Merrell et al., 2022).

On the other hand, changes in the direction of national development policies over the past decade emphasize the importance of structural transformation towards a high-value-added, low-emission, and sustainable economy. The industrial downsizing agenda, energy transition, and accelerated development of the Indonesian Capital City (IKN) represent a strategic momentum for East Kalimantan to reposition its economy. Indonesia's plan to develop Nusantara City as the new national capital in Penajam Paser Utara, East Kalimantan, stands as one of the most ambitious strategic development projects in modern history (Fauzi et al., 2023).

The presence of the IKN not only has the potential to increase domestic demand, infrastructure, and workforce, but also create new opportunities for the modern services sector, agriculture, the creative industry, and the digital economy. The development of road networks is often considered a major contributor to socio-economic progress. The growth in motor vehicle ownership reflects the important role of road infrastructure in driving economic development (Adugbila et al., 2023).

However, the economic diversification process in East Kalimantan has not been optimal. The identification of leading non-extractive sectors remains partial, not based on comprehensive sectoral analysis, and does not adequately consider regional competitive advantages. Furthermore, innovation capacity, human resource quality, and infrastructure readiness to support the growth of new sectors remain challenges. In the context of sustainable development, continued dependence on the extractive sector must be reduced through planned, measured, and evidence-based structural transformation. In accordance with endogenous growth theory, the expansion of physical capital, particularly through road infrastructure development, serves as an important determinant of sustained economic growth. The externalities arising from road infrastructure, as part of physical capital, substantially contribute to economic growth (Zhang et al., 2019). Transport infrastructure can stimulate economic growth through various channels, one of which is by attracting foreign direct investment (FDI) (Pradhan et al., 2021).

Therefore, this research has a strong urgency to analyze the structural dynamics of the East Kalimantan economy and map potential non-extractive sectors that could become new growth drivers. Through quantitative (LQ, Shift-Share, Klassen Typology) and qualitative (interviews and FGD) approaches, this research aims to produce recommendations for economic transformation strategies that are more resilient, inclusive, and sustainable. This study offers a novel contribution by integrating Location Quotient, Shift-Share, and Klassen Typology analyses to comprehensively examine the structural transformation of a resource-dependent regional economy, while explicitly linking sectoral diversification strategies with regional economic resilience in the context of Indonesia's new capital city (IKN) development.

LITERATURE REVIEW

Regional Economic Transformation Concept

Regional economic transformation refers to the process of shifting a region's economic structure from a dominance of low-value-added sectors, such as extractive or primary industries, toward a more diversified, value-added, technology-driven, and sustainable economic system. This transformation involves not only changes in sectoral composition but also the strengthening of intersectoral linkages, enabling more integrated and efficient economic activities across industries. Furthermore, it encompasses structural adjustments in labor demand patterns and the enhancement of regional innovation capacity, which are essential for improving productivity, competitiveness, and long-term economic resilience.

Several factors that commonly hinder the transformation process at the regional level include dependence on primary commodities, weak institutional and planning capacity, limited infrastructure, low-quality human resources, restricted access to financing for non-extractive sectors, and fiscal as well as regulatory policies that are not sufficiently supportive of downstreaming and diversification. These constraints create structural rigidities that slow the shift toward higher value-added activities and reduce the region's ability to adapt to changing economic conditions. In reality, the central government frequently pays insufficient attention to the development of regional transport infrastructure, which further limits connectivity, market access, and the overall effectiveness of regional economic transformation (Gharehbaghi et al., 2020).

The idea of transformations towards sustainability provides a valuable perspective for guiding both research and policy in fostering systemic changes that support environmental sustainability and enhance human well-being. It emphasizes the need for long-term, integrated approaches that align economic development with ecological balance and social equity. Although many studies acknowledge the importance of governance and political factors in achieving these transformations, these dimensions remain insufficiently explored and require greater attention in future research to ensure more effective and inclusive outcomes (Patterson et al., 2017).

Resource Dependence Theory and Resource Curse

The concept of the resource curse describes a paradox in which regions or countries endowed with abundant natural resources often experience slower economic growth, higher economic volatility, greater vulnerability to corruption, and limited economic diversification. This condition reflects structural imbalances where resource wealth does not translate into broad-based and sustainable development. Common mechanisms underlying this phenomenon include the Dutch disease characterized by real exchange rate appreciation that weakens manufacturing and non-commodity exports income volatility that discourages long-term investment, and policy incentives that prioritize extractive activities over the development of more productive and diversified sectors.

In the long run, foreign investment, infrastructure development, and innovation each have a significant positive effect on economic growth. These factors contribute to increasing productivity, enhancing efficiency, and stimulating broader market expansion across sectors. Together, they promote sustainable development by supporting technological advancement, improving resource allocation, and strengthening the overall competitiveness of the economy (Sobirov et al., 2023).

To address the impacts of the resource curse, the literature emphasizes the importance of economic diversification strategies, strengthening public institutions, implementing countercyclical fiscal policies such as stabilization funds, developing downstream industries, and improving the quality of human resources and technological capabilities. These measures are essential to reduce dependence on extractive sectors and to create a more balanced and sustainable economic structure. At the regional level, such efforts must be tailored to local comparative advantages, infrastructure capacity, and market connectivity, while fiscal decentralization empowers regional governments to manage financial resources more effectively, thereby enhancing their ability to stimulate economic growth and improve public welfare (Wayan et al., 2021).

Natural resource wealth does not automatically lead to economic growth in resource-dependent economies, as weak governance and poor institutional quality can reinforce the resource curse. In such contexts, resource revenues are often misallocated, inefficiently managed, or captured by narrow interests, limiting their contribution to broad-based development. Therefore, strengthening institutions, improving governance quality, and ensuring transparency and accountability are essential to enable resource wealth to support sustainable and inclusive economic development (Fagbemi & Kotey, 2024).

Concepts and Approaches to Economic Diversification

Economic diversification is the process of expanding the range of economic activities so that an economy becomes less dependent on one or a limited number of sectors. This process aims to reduce vulnerability to external shocks, such as fluctuations in commodity prices, while creating more stable and sustainable sources of growth. Diversification can take the form of horizontal expansion by developing new and distinct sectors or vertical expansion, through downstreaming and strengthening value chains within existing industries to increase value added.

place-based innovation policies play an important role in promoting regional industrial diversification and long-term economic growth. Effective policy design must consider regional characteristics, particularly the level of system differentiation and the degree of existing industrial diversification. By understanding regional opportunities and barriers, policymakers can develop targeted strategies that support new industrial path development through entrepreneurship and innovation. Therefore, policy interventions should be adapted to place-specific conditions to strengthen regional competitiveness and enable sustainable structural transformation (Grillitsch & Asheim, 2018).

Diversification strategies include developing sustainable local resource-based sectors such as agro-processing, eco-tourism, and sustainable fisheries, as well as strengthening the service sector, including logistics, ICT, and professional services. These strategies also involve providing incentives for non-extractive investment and fostering stronger linkages between large industries and local MSMEs to create broader economic spillover effects. In addition, enhancing innovation capacity and promoting entrepreneurship are essential to support the emergence of new growth sectors and ensure long-term economic resilience.

The selection of priority sectors typically takes into account several key criteria, including comparative potential based on resource endowments, growth potential, and the capacity to absorb labor. It also considers economic and environmental viability to ensure that sectoral

development is both sustainable and aligned with long-term development goals. In addition, the strength of linkages with other sectors (multiplier effects), as well as market accessibility and infrastructure readiness, play crucial roles in determining the feasibility and impact of sector prioritization.

Regional Economics Resilience

Economic resilience refers to a region's ability to prevent, respond to, and recover from economic shocks both external and internal while maintaining its core economic functions and structural stability, as well as its long-term growth capacity. This concept highlights the importance of adaptability, flexibility, and the capacity to absorb disturbances without experiencing prolonged decline. A resilient regional economy is therefore characterized by diversified economic activities, strong institutions, and the ability to sustain development even in the face of uncertainty and disruption.

Regions with weaker innovation systems were more vulnerable and less able to respond effectively to economic shocks. However, innovation capacity alone does not fully explain regional resilience, indicating that other institutional, structural, and regional factors also influence economic recovery. Therefore, strengthening regional innovation systems is essential for improving long-term economic resilience and development (Bristow & Healy, 2018). The impact of central and local government actions on regional economic growth can be observed in different sectors and activities (Bao et al., 2024).

Indicators of resilience include diversification of revenue sources, GRDP volatility, unemployment rate, per capita income level, regional fiscal capacity, and labor market flexibility. Sector diversification is one of the main strategies for enhancing resilience.

The main questions examined in this research can be formulated as follows:

1. How has the economic structure of East Kalimantan developed over the past two decades, and to what extent does dependence on the extractive sector still dominate the regional economy?
2. What leading non-extractive sectors have strategic potential to be developed as new sources of economic growth in East Kalimantan?
3. What policy strategies can drive East Kalimantan's economic transformation toward a more resilient, inclusive, and sustainable economic structure?

METHOD

Description of Research Location

East Kalimantan Province plays a strategic role in Indonesia's economic development, primarily due to its rich natural resources and its geographic location along regional trade routes. As a province with a significant contribution to national GDP, particularly through the mining, oil and gas, and manufacturing sectors, East Kalimantan is frequently used as a research location to understand the dynamics of the commodity-based regional economic structure. The economic transformation that has occurred over the past two decades has demonstrated that dependence on the extractive sector has complex implications for sustainable growth and public welfare. Therefore, research in this region is crucial to assess the sectors that remain drivers of growth and the potential for development as part of economic diversification.

East Kalimantan Province plays a strategic role in Indonesia's economic development, primarily due to its rich natural resources and its geographic location along regional trade routes. As a province with a significant contribution to national GDP—particularly from mining, oil and gas, and manufacturing—East Kalimantan is frequently used as a case study to understand the dynamics of commodity-based regional economic structures. This study utilizes official data from the Gross Regional Domestic Product (GRDP/PDRB) of East Kalimantan at both the provincial and district/city levels, covering the period from 2017 to 2021.

The economic transformation that has occurred over the past two decades demonstrates that dependence on the extractive sector has complex implications for sustainable growth and public welfare. Fluctuations in global commodity prices have significantly influenced regional economic performance, highlighting structural vulnerabilities in the regional economy. Therefore, research in this region is crucial to assess the sectors that remain key drivers of growth and to identify potential sectors for development as part of a broader economic diversification strategy.

The plan to relocate Indonesia's capital city to East Kalimantan has generated diverse responses from various stakeholders, including local communities, indigenous groups, NGOs, and political actors. While some groups support the project due to expectations of improved socio-economic opportunities and regional development, others strongly oppose it because of concerns about land ownership, environmental impacts, and limited community participation in the planning process (Kodir et al., 2021)

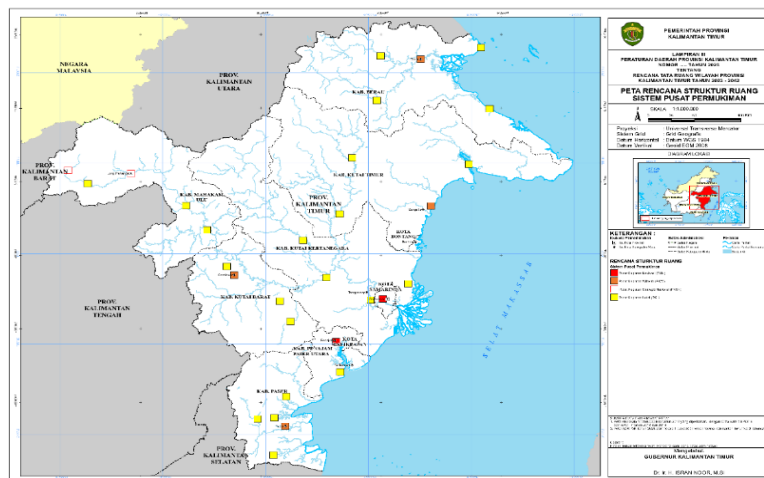


Figure 1. Spatial Structure Map of East Kalimantan Province

Source: East Kalimantan Provincial Government

Finally, research in East Kalimantan Province focuses not only on macroeconomic aspects but also encompasses social and environmental dimensions. Dependence on the extractive sector creates challenges in the form of social vulnerability, commodity price fluctuations, and environmental degradation, which require in-depth analysis. Research findings are expected to provide evidence-based recommendations to encourage a more sustainable, inclusive, and competitive economic transformation. Thus, studies on economic structure, sectoral competitiveness, development distribution, and the challenges of economic transition are highly relevant for East Kalimantan in facing the new era of national and regional development.

Data Analysis Tools

Location Quotient (LQ) Analysis

To identify the leading industrial sectors in a region's GRDP, they are grouped into basic and non-basic sectors. If the LQ value is >1 , it is classified as a basic sector, and conversely, if the LQ value is <1 , it is classified as a non-basic sector (Tarigan, 2007).

$$LQ = \frac{Si/S}{Ni/N} \dots\dots\dots (1)$$

Where :

LQ : *Location Quotient*; Si : PDRB Sector I in district/city; S : PDRB total in district/city; Ni : PDRB Sector I in the province; N : PDRB total di in province.

Shift-Share Analysis

Shift-share analysis is used to compare growth rates across various sectors in a region. This analysis aims to identify the growing sectors in the region.

- a. *Proportional Share (PS)*, where this calculation describes the total growth rate of the sector's added value compared to all sectors at the national level (Arsyad, 2016).
 - a. If $PS > 0$, then the sector grows faster than the same sector at the provincial level.
 - b. If < 0 , then the sector grows slower than the same sector at the provincial level.
- b. *Differential Shift (DS)*, This calculation is used to measure the performance of the local sector against the same sector in the reference economy (Arsyad, 2016).

If $DS > 0$, then the sector is growing faster than the same sector in other regencies/cities (locally).

If $DS < 0$, then the sector is growing slower than the same sector in other regencies/cities (locally).
- c. *Potensial Regional (PR)*, This calculation illustrates changes in the economic structure of regions affected by economic change. (Arsyad, 2016).

If $PR < \Delta Q_{ij}$, then the growth of this sector in the Regency/City will encourage the growth of the same sector in the province.

If $PR > \Delta Q_{ij}$, then the growth of this sector in the Regency/City will hinder the growth of the same sector in the province.

Klassen Typology Analysis

The Klassen Typology is an analytical method used to identify priority or leading sectors, subsectors, businesses, or commodities within a region. This analysis is conducted by comparing the economic growth of a region with the economic growth of a reference region or the national level, and comparing the share of each sector, subsector, business, or commodity with the average at a broader or national level.

The results of the Klassen Typology analysis provide an overview of the growth position and share of sectors or commodities that contribute to the regional economy, aiming to understand the patterns and structure of a region's economic growth. In practice, this method is used by comparing the growth of a region's per capita GRDP with the GRDP per capita of the reference region or the national GDP per capita.

Table 1. Klassen Typology Classification

<i>Sectoral Share</i>	<i>Sectoral Growth</i>	
	$G_i \geq G$	$G_i < G$
$S_i \geq S$	Advanced and Rapidly Growing Sectors	Developing Sector but Under Pressure
$S_i < S$	Potential Sector / can still develop rapidly	Relatively Underdeveloped Sector

Source: Syafrizal, 2003

ANALYSIS AND DISCUSSION

The findings of this study are consistent with previous research highlighting the structural vulnerability of resource-dependent regions and the importance of economic diversification in enhancing regional resilience. Several studies have shown that regions dominated by extractive sectors tend to experience high volatility and limited long-term growth, supporting the relevance of the resource curse theory in explaining East Kalimantan's economic structure. Furthermore, the identification of growing non-extractive sectors such as trade, transportation, and information and communication aligns with prior findings that emphasize the increasing role of service-based industries in driving regional transformation and urban economic development.

In addition, this study reinforces the argument that sectoral competitiveness and regional shift components are critical indicators of local economic strength, as suggested in earlier empirical studies using Shift-Share and Location Quotient analyses. The positive performance of modern service sectors found in this research is in line with studies that highlight the importance of innovation, infrastructure, and urbanization in fostering new growth centers. Moreover, the results also support the notion that economic diversification both horizontal and vertical is a key strategy to reduce dependence on primary commodities and improve long-term economic stability.

However, this study extends previous research by incorporating the specific context of the development of Indonesia's new capital city (IKN), which introduces new dynamics in regional economic transformation. Unlike earlier studies that focus primarily on structural analysis, this research integrates sectoral performance with strategic policy implications, particularly in leveraging the IKN as a catalyst for non-extractive sector growth. Therefore, this study not only confirms existing theories but also contributes new insights into how regional economic transformation can be accelerated through place-based development strategies and emerging national policy frameworks.

Location Quotient (LQ) analysis is used to identify economic sectors that are central to Samarinda City and have the potential to drive regional economic growth. Based on this approach, sectors with an LQ value greater than one are considered to have a comparative advantage because their contribution to Samarinda's economy is higher than their contribution at the provincial level.

Meanwhile, Shift-Share Analysis provides a more dynamic picture of the growth performance of Samarinda's economic sectors compared to growth trends at the provincial and national levels. By separating growth components into national share, industry mix, and regional shift, this analysis can indicate whether a sector's growth is driven by external factors

or strong local competitiveness. In some service sectors, such as information and communication, education, and health, the regional shift component often shows a positive value, indicating that Samarinda has a competitive advantage in providing urban services. Conversely, in more resource-intensive sectors, growth is often more influenced by external conditions, resulting in fluctuating local competitiveness values.

Table 2. Location Quotient (LQ) Analysis of Samarinda City

ANALISIS LOCATION QUOTIENT DI KAWASAN PENYANGGA IKH (KOTA SAMARINDA DAN BALIKPAPAN)										
No	Sektor	PDRB					S/S	N/N	LQ	Keterangan
		2017	2018	2019	2020*	2021**				
Kota Samarinda										
1	Pertanian, Kehutanan, dan Perikanan	Rp1.061.931.40	Rp1.154.895.01	Rp1.180.938.58	Rp1.214.011.93	Rp1.239.515.00	0.017420363	0.084762	0.205521296	Non Basis
2	Pertambangan dan Penggalian	Rp8.125.347.27	Rp8.570.632.47	Rp8.590.835.84	Rp7.302.967.03	Rp8.904.135.94	0.125140304	0.450494	0.277784767	Non Basis
3	Industri Pengolahan	Rp4.720.877.03	Rp5.003.317.50	Rp5.217.439.01	Rp5.133.070.54	Rp5.314.782.59	0.074694896	0.178102	0.419394189	Non Basis
4	Pengadaan Listrik dan Gas	Rp75.987.17	Rp88.269.82	Rp96.214.31	Rp110.305.59	Rp113.155.74	0.001690311	0.056888	0.027955237	Non Basis
5	Pengadaan Air, Pengelolaan Sampah, Limbah, dan Daur Ulang	Rp86.304.68	Rp94.967.78	Rp101.066.97	Rp109.276.03	Rp118.574.77	0.001666471	0.000501	3.32852855	Basis
6	Konstruksi	Rp11.821.236.87	Rp13.382.188.23	Rp14.606.020.35	Rp13.957.503.08	Rp14.764.033.83	0.207496347	0.089515	2.317998176	Basis
7	Perdagangan Besar dan Eceran; Reparasi Mobil dan Sepeda Motor	Rp9.365.386.69	Rp10.191.243.40	Rp11.034.163.25	Rp11.389.251.78	Rp11.825.729.29	0.166200895	0.059653	2.786144134	Basis
8	Transportasi dan Pergudangan	Rp4.023.791.44	Rp4.393.410.11	Rp4.864.779.11	Rp4.824.474.67	Rp5.266.550.57	0.074017035	0.033367	2.216269444	Basis
9	Penyediaan Akomodasi dan Makan	Rp2.253.902.73	Rp2.513.927.73	Rp2.757.113.49	Rp2.688.564.67	Rp2.786.436.46	0.039161072	0.009571	4.09170019	Basis
10	Informasi dan Komunikasi	Rp2.005.840.76	Rp2.121.105.57	Rp2.257.828.51	Rp2.446.101.29	Rp2.688.636.03	0.037786567	0.014649	2.579495437	Basis
11	Jasa Keuangan dan Asuransi	Rp4.252.594.72	Rp4.549.954.51	Rp4.733.536.04	Rp4.967.568.88	Rp5.209.924.52	0.073221202	0.016175	4.536823587	Basis
12	Real Estate	Rp1.456.209.50	Rp1.546.477.76	Rp1.608.785.63	Rp1.652.008.45	Rp1.619.186.78	0.022756338	0.008442	2.695686352	Basis
13	Jasa Perusahaan	Rp504.989.73	Rp537.864.19	Rp549.280.86	Rp533.002.60	Rp540.989.77	0.007603166	0.001985	3.829614557	Basis
14	Administrasi Pemerintahan, Pertahanan, dan Jaminan Sosial Wajib	Rp3.840.257.20	Rp4.084.310.83	Rp4.274.784.62	Rp4.172.283.19	Rp4.324.427.23	0.060776266	0.01899	3.200417533	Basis
15	Jasa Pendidikan	Rp2.396.339.87	Rp2.586.122.64	Rp2.776.028.84	Rp3.015.165.89	Rp3.087.332.99	0.043389925	0.017752	2.444251304	Basis
16	Jasa Kesehatan dan Kegiatan Sosial	Rp809.865.02	Rp891.681.53	Rp949.911.06	Rp1.137.015.71	Rp1.330.631.31	0.018700928	0.008926	2.095067929	Basis
17	Jasa Lainnya	Rp1.642.286.62	Rp1.854.317.67	Rp2.005.834.27	Rp1.954.850.08	Rp2.019.179.98	0.028377913	0.006548	4.333749872	Basis
Total		Rp58,442,748.71	Rp63,564,686.76	Rp67,604,540.74	Rp66,525,011.43	Rp71,153,222.80				

Source: Researcher, 2026

From the Shift-Share Analysis perspective, these sectors also benefit from positive regional shift (RS) components, indicating that Samarinda's sectoral performance not only follows provincial growth but also demonstrates local competitiveness. This is particularly evident in the education, information and communication, and transportation services sectors, three sectors that are growing rapidly in line with the increasing demand for urban services.

Demographic changes, the growth of higher education institutions, and logistics activities that strengthen Samarinda's role as a hub city directly contribute to the growth of these sectors. Thus, both in terms of structure and growth dynamics, the services sector in Samarinda demonstrates consistent competitiveness.

Table 3. Shift Analysis - Share Samarinda City

ANALISIS SHIFT SHARE DI KAWASAN PENYANGGA IKH (KOTA SAMARINDA DAN BALKPAPAN)									
No	Sektor	PR (Mendorong/Menghambat)		</>	ΔQij	PS (Cepat Tumbuh/Lambat Tumbuh)		DS (Mempunyai/Tidak Mempunyai Keuntungan Lokasional)	
		$PR_{ij} = Q_{ij}^* \left\{ \frac{Y_i}{Y_j} - 1 \right\}$				$PS_{ij} = Q_{ij}^* \left\{ \frac{Q_{ij}}{Q_{ij}^*} - \frac{Y_i}{Y_j} \right\}$		$DS_{ij} = Q_{ij}^* \left\{ \frac{Q_{ij}}{Q_{ij}^*} - \frac{Q_{ij}^*}{Q_{ij}^*} \right\}$	
		(Yt/Yo - 1)	Nilai PR			(Yt/Yo)	(Qt - Qo)	Nilai PS	(Qtj / Qoij)
Kota Samarinda									
1	Pertanian, Kehutanan, dan Perikanan	185,249.05	>	177,583.60	1.40	235,151.86	1.17	-242,817.30	
2	Pertambangan dan Penggalian	1,417,429.44	>	778,788.67	1.14	-317,574.97	1.10	-321,265.80	
3	Industri Pengolahan	823,535.27	>	593,905.56	1.10	-329,286.88	1.13	99,657.17	
4	Pengadaan Listrik dan Gas	13,255.61	<	37,168.57	141.13	10,635,199.13	1.49	-10,611,286.18	
5	Pengadaan Air, Pengelolaan Sampah, Limbah, dan Daur Ulang	15,055.45	<	32,270.09	1.27	8,478.17	1.37	8,736.47	
6	Konstruksi	2,062,160.37	<	2,942,796.96	1.33	1,808,822.89	1.25	-928,186.31	
7	Perdagangan Besar dan Eceran; Reparasi Mobil dan Sepeda Motor	1,633,748.61	<	2,460,342.60	1.30	1,130,416.43	1.26	-303,822.44	
8	Transportasi dan Pergudangan	701,931.90	<	1,242,759.13	1.09	-331,932.94	1.31	872,760.17	
9	Penyediaan Akomodasi dan Makan	393,182.96	<	532,533.73	1.22	104,977.72	1.24	34,373.05	
10	Informasi dan Komunikasi	349,909.69	<	682,795.27	1.38	413,637.10	1.34	-80,751.52	
11	Jasa Keuangan dan Asuransi	741,845.58	<	957,329.80	1.24	299,508.95	1.23	-84,024.73	
12	Real Estat	254,029.05	>	162,977.28	1.12	-72,665.26	1.11	-18,386.51	
13	Jasa Perusahaan	88,093.13	>	36,000.04	1.14	-19,640.16	1.07	-32,452.93	
14	Administrasi Pemerintahan, Pertahanan, dan Jaminan Sosial Wajib	669,915.20	>	484,170.03	1.13	-161,817.15	1.13	-23,928.02	
15	Jasa Pendidikan	418,135.13	<	690,393.12	1.36	442,032.29	1.29	-169,774.30	
16	Jasa Kesehatan dan Kegiatan Sosial	141,277.23	<	520,766.29	1.77	482,182.37	1.64	-102,693.31	
17	Jasa Lainnya	286,489.34	<	376,893.36	1.28	167,294.38	1.23	-76,890.37	

Source: Researcher, 2026

The LQ analysis results for Balikpapan City show a different pattern than those of Samarinda. Balikpapan has sectors with high LQ scores, particularly in transportation and warehousing, construction, corporate services, and activities related to the oil and gas and

logistics industries. This aligns with the city's character as a national logistics hub, a gateway to East Kalimantan, and a region that has long developed as a service city for large-scale oil and gas industries. High LQ scores indicate that Balikpapan possesses structural advantages not found in other cities in the province, particularly in logistics services and construction, driven by investment flows and energy industry activity.

Shift-Share Analysis reveals that these leading sectors also exhibit a positive regional shift component, reflecting strong local competitiveness. Growth in the transportation, warehousing, and construction sectors not only follows but exceeds the provincial trend, indicating that Balikpapan has a growing competitive capacity. This can be explained by the modernization of international airport facilities and logistics ports, as well as increased construction sector activity in response to the development of the Indonesian Capital City (IKN). The corporate services sector also demonstrated strong performance, in line with the increasing demand for professional and corporate services from oil and gas companies and energy support services.

Overall, the combined results of the LQ and Shift-Share indicate that Balikpapan has a strong economic structure based on modern services and logistics sectors, which are now further strengthened by the development of the new capital city (IKN). Transportation, warehousing, professional services, and construction are the main drivers of the city's highly competitive economy. Meanwhile, other sectors play complementary roles. These findings reinforce the idea that Balikpapan will play a strategic role as an economic gateway and professional services hub for East Kalimantan and the future new capital city (IKN) region.

Table 4. Results of the Samarinda City Classification Typology

Lapangan Usaha	Provinsi Kalimantan Timur		Kota Samarinda		Keterangan	Kuadran
	Rata-Rata Pertumbuhan (G)	Rata-Rata Distribusi/Kontribusi (S)	Rata-Rata Pertumbuhan (Gi)	Rata-Rata Distribusi/Kontribusi (Si)		
Pertanian, Kehutanan, dan Perikanan	0.04	7%	0.03	2%	Sektor relatif tertinggal	IV
Pertambangan dan Penggalian	0.01	48%	0.00	14%	Sektor relatif tertinggal	IV
Industri Pengolahan	0.00	21%	0.01	8%	Sektor potensial	III
Pengadaan Listrik dan Gas	0.09	0%	0.11	0%	Sektor maju dan tumbuh pesat	I
Pengadaan Air, Pengelolaan Sampah dan Daur Ulang	0.05	0%	0.07	0%	Sektor maju dan tumbuh pesat	I
Konstruksi	0.05	7%	0.03	20%	Sektor maju tapi tertekan	II
Perdagangan Besar dan Eceran; Reparasi Mobil dan Sepeda Motor	0.05	5%	0.05	17%	Sektor maju dan tumbuh pesat	I
Transportasi dan Pergudangan	0.02	3%	0.04	7%	Sektor maju dan tumbuh pesat	I
Penyediaan Akomodasi dan Makan Minum	0.05	1%	0.05	4%	Sektor maju dan tumbuh pesat	I
Informasi dan Komunikasi	0.07	2%	0.07	5%	Sektor maju dan tumbuh pesat	I
Jasa Keuangan dan Asuransi	0.02	1%	0.01	7%	Sektor maju tapi tertekan	II
Real Estat	0.03	1%	0.03	3%	Sektor maju dan tumbuh pesat	I
Jasa Perusahaan	-0.13	0%	0.02	1%	Sektor maju dan tumbuh pesat	I
Administrasi Pemerintahan, Pertahanan dan Jaminan Sosial Wajib	0.00	2%	0.01	6%	Sektor maju dan tumbuh pesat	I
Jasa Pendidikan	0.05	1%	0.06	4%	Sektor maju dan tumbuh pesat	I
Jasa Kesehatan dan Kegiatan Sosial	0.10	1%	0.10	1%	Sektor maju dan tumbuh pesat	I
Jasa Lainnya	0.05	1%	0.06	3%	Sektor maju dan tumbuh pesat	I

Source: Researcher, 2026

The Klassen Typology analysis of Samarinda City's economic structure shows that the city's economy is increasingly shifting toward dominance by the service sector, while natural resource-based and primary sectors are no longer the primary drivers of growth as they were in most parts of East Kalimantan. Comparing Samarinda's growth rate and sectoral contributions to the provincial economy reveals a significant shift in economic orientation. The

city is developing as a center for trade, transportation, and public services, resulting in a shift in economic power from the extractive sector to the more diverse and urbanized non-extractive sector.

The Manufacturing Industry sector falls into Quadrant III a potential sector with higher growth than the provincial economy but still a much smaller contribution (8% compared to 21%). Although not yet a dominant sector, this growth trend indicates an opportunity to increase small- and medium-scale industrial activity, particularly service-based and simple processing industries. Structurally, this sector sits at the intersection of downstream extractive and non-extractive industries.

The most striking finding is found in the modern services sector, which dominates Quadrant I, the advanced and rapidly growing sector. Many service sectors fall into this category, such as Wholesale and Retail Trade, Transportation and Warehousing, Accommodation and Food and Beverages, Information and Communication, Real Estate, and various social and government services. This pattern indicates that the city's economy is maturing and shifting toward complex urban services, with increasing contributions in line with population growth, the role of government bureaucracy, and the dynamics of urban consumption.

CONCLUSION, LIMITATIONS, AND RECOMMENDATION

Conclusion

Based on an analysis of the regional economic structure of East Kalimantan over the past two decades using the Location Quotient (LQ), Shift-Share, and Klassen Typology approaches, the following conclusions are drawn:

1. Development of Economic Structure and Dominance of the Extractive Sector

East Kalimantan's economic structure over the past two decades has been dominated by the extractive sector, particularly coal mining and oil and gas. This dominance makes East Kalimantan a resource-dependent region highly vulnerable to global commodity price shocks, triggering structural vulnerability (the resource curse), and hampering economic diversification.

Nevertheless, the analysis indicates significant structural shifts in urban centers. Cities such as Samarinda and Balikpapan demonstrate strong dominance in non-extractive sectors such as services and trade, transportation and warehousing, and corporate services, reflecting increased local resilience and the city's role as a logistics and urban service hub. Meanwhile, industrial cities like Bontang are shifting from purely extractive activities to energy-based processing industries (downstream) and industrial support services.

2. Non-Extractive Leading Sectors

Non-extractive sectors with strategic potential for development as new sources of economic growth in East Kalimantan are divided into two main groups:

1) Modern and Urban Services Sector

These sectors, particularly in large cities (Samarinda, Balikpapan, Bontang), occupy Quadrant I (Developing and Rapidly Growing) in the Klassen Typology and demonstrate positive local competitiveness (positive Regional Shift). These sectors include (1) Wholesale and Retail Trade; (2) Transportation and Warehousing; (3) Accommodation and Food and Beverages; (4) Information and Communication (ICT); (5) Corporate Services; (6) Real Estate

2) Non-Extractive Primary Sector (Transition)

The Horticulture subsector and several food crop commodities exhibit a positive Regional Shift component. Despite its small contribution to GRDP, this sector has the potential to balance extractive volatility and serve as a "transition sector" towards a more sustainable non-extractive economy, driven by the demand of a large urban consumption market.

3. Economic Transformation Policy Strategy

The policy strategy needed to drive East Kalimantan's economic transformation towards a more resilient, inclusive, and sustainable structure must be comprehensive, evidence-based, and capitalize on the momentum of the development of the Indonesian Capital City (IKN).

1) Strengthening Horizontal and Vertical Diversification

Encourage horizontal diversification (development of the modern services and agribusiness sectors) and vertical diversification (downstreaming of extractive-based industries) to reduce primary dependency and increase added value.

2) Leveraging IKN Momentum

Integrate the development of non-extractive sectors with the needs of the IKN, particularly in logistics, construction, and professional services, to attract non-extractive investment and broaden the growth base.

3) Increasing Competitive Capacity

Invest in improving the quality of human resources (HR), innovation capacity, and developing connectivity infrastructure that supports non-extractive sectors, particularly to strengthen local competitiveness (Regional Shift).

4) Spatial Equity

Develop policies that support the development of alternative sectors (e.g., modern agriculture, tourism, non-oil and gas downstream industries) in districts that still rely on extraction, to reduce inter-regional disparities.

Based on the analysis of the regional economic structure of East Kalimantan in the last two decades using the Location Quotient (LQ), Shift-Share, and Klassen Typology approaches, the conclusions are:

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- b. Transportation and Warehousing
- c. Accommodation and Food and Beverages
- d. Information and Communication (ICT)
- e. Corporate Services
- f. Real Estate

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LIMITATIONS

1. This research uses a quantitative approach based on sectoral analysis, such as Location Quotient (LQ), Shift-Share, and Klassen Typology, which focuses on the structure and performance of economic sectors based on Gross Regional Domestic Product (GRDP) data. This approach is not fully capable of capturing the institutional dynamics, policy factors, and socio-economic interactions that also influence the process of regional economic transformation.
2. The analysis in this study uses sectoral GRDP data at the district/city level, making it still aggregated. This approach cannot describe in detail the economic dynamics at the

subsector, industrial cluster, or business actor levels, which play a crucial role in the process of regional economic diversification.

3. This research focuses more on the analysis of economic structure and sectoral growth, and therefore does not include other variables that also influence economic transformation, such as investment, human resource quality, innovation level, infrastructure, and environmental and sustainability factors.

RECOMMENDATION

Based on the conclusions above, the following are strategic policy recommendations to accelerate the economic transformation of East Kalimantan:

1. Prioritizing Investment in Leading Non-Extractive Sectors
 - a. Development of Regional Service Centers
The Regional Government needs to provide investment incentives and regulatory streamlining for the Modern Services Sector (Logistics, Information and Communication Technology (ICT), and Corporate Services) in Samarinda and Balikpapan. This includes the development of digital infrastructure and integrated logistics areas to support regional connectivity and the new capital city.
 - b. Strengthening the Agribusiness Value Chain
The Horticulture and Food Crops sector should be prioritized for food security and diversification. Policies should focus on:
 - 1) Providing modern agricultural technology and irrigation to increase productivity.
 - 2) Strengthening linkages between production centers in the districts and consumer markets in Samarinda/Balikpapan by improving supply chains and distribution facilities.
2. Downstream and Value-Added Policy
 - a. Downstream Industry Consolidation
Encourage the sustainability and expansion of extractive-based processing industries (gas/petrochemicals) and renewable resource-based industries.
 - b. Incentives for Non-Extractive SMEs
Encourage the growth of the small and medium-scale processing industry (SME) sector in cities that demonstrate potential.

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