



The Role of the Extractive Sector in Non-Oil and Gas Economic Development with Regional Expenditure as a Moderating Variable in East Kalimantan

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Abstract. This study aims to analyze the role of the extractive sector in non-oil and gas economic development, with regional expenditure as a moderating variable in East Kalimantan. Using a quantitative descriptive approach, the analytical technique used was regression analysis with moderation. Secondary data from East Kalimantan Province was used for the period 2010 to 2024. The results indicate that the mining sector's contribution to GRDP has not significantly influenced the growth of non-oil and gas GRDP in East Kalimantan. The volume and value of mining commodity exports (coal, oil, and gas) have a significant influence on the growth of non-oil and gas GRDP in East Kalimantan. Locally generated revenue (PAD) from the extractive sector has not significantly influenced the growth of non-oil and gas GRDP in East Kalimantan. The contribution of the mining sector cannot be controlled by regional expenditure on non-oil and gas GRDP growth in East Kalimantan. The volume and value of mining commodity exports (coal, oil, and gas) can be driven by regional expenditure on non-oil and gas GRDP growth in East Kalimantan. Locally generated revenue (PAD) from the extractive sector can be driven by regional expenditure on non-oil and gas GRDP growth in East Kalimantan.

Keywords: Economic Development; Extractive Sector; Gross Regional Domestic Product; Regional Expenditure; Regional Revenue.

1. INTRODUCTION

East Kalimantan is one of the provinces in Indonesia that possesses abundant natural resources, especially in the form of coal, oil, and natural gas. The largest contribution to the Gross Regional Domestic Product (GRDP) in East Kalimantan Province is still dominated by the mining and excavation sector. This potential makes East Kalimantan one of the main contributors to national and regional revenue through the mining and energy sectors. These natural resources have been the main drivers of regional economic growth for the past few decades.

High dependence on natural resources often creates structural challenges such as weak economic diversification, regional income volatility caused by fluctuations in global commodity prices, and uneven development across regions. This phenomenon is consistent with the concept of resource dependence, which explains that resource-rich regions tend to be vulnerable to external shocks and lag behind in developing other productive sectors such as manufacturing and services. In addition, the economic benefits of resource exploitation are frequently distributed unevenly, so public welfare does not improve proportionally. Therefore, development strategies emphasizing economic transformation and the strengthening of non-extractive sectors are essential for regions such as East Kalimantan (Humphreys et al., 2007; Stevens et al., 2015; Bebbington et al., 2018).

The GRDP of East Kalimantan in 2024 is recorded at Rp858.4 trillion, with Rp329.4 trillion coming from the mining and excavation sector. Meanwhile, in 2023, the GRDP of East Kalimantan was recorded at Rp843.571 trillion, with Rp364.365 trillion originating from mining and excavation. Among the natural resources in East Kalimantan, coal has the largest contribution to the economy. Furthermore, its distribution is fairly widespread, with almost all districts and cities having it, except for Balikpapan City and Bontang City (BPPMD, 2013). However, the challenge faced is that these natural resources are non-renewable, meaning their sustainability cannot be guaranteed and will eventually run out. Therefore, regional income derived from this sector should not be seen as a long-term revenue source. The use of these natural resources must be done carefully, considering the region's readiness when these resources begin to deplete or run out (Wright & Czelusta, 2004).

Based on several empirical studies, the relationship between the wealth of natural resources and economic growth does not always show a positive impact. Sachs and Warner (2001) revealed that countries with abundant natural resources tend to experience slower growth compared to countries that do not rely on those resources. This research serves as an important foundation in understanding the phenomenon of the resource curse.

The phenomenon where resource-rich regions experience unstable or even stagnant economic growth is known in economic literature as the natural resource curse. This creates a paradox, where resource wealth does not align with improved quality of life and sustainable economic development. Often, the dominance of the extractive sector ignores the importance of strengthening the downstream sector and improving human resource capacity.

In the context of East Kalimantan Province, dependence on the extractive sector also poses risks to inefficient governance. For example, rent-seeking practices, corruption, and conflicts of interest can weaken public institutions. This contributes to worsening social conditions and exacerbates regional disparities in the province. The instability of regional income from mining results makes it difficult for local governments to plan for consistent long-term development.

Furthermore, the relocation of the capital city (IKN) to East Kalimantan brings both opportunities and new challenges. East Kalimantan has the potential to become a national growth center, but it will also face pressures on infrastructure, the environment, and the need for more complex and inclusive economic governance. This situation further emphasizes the importance of sustainable resource management to ensure that economic growth is not merely superficial or sectoral.

Managerial phenomena also exacerbate the resource curse conditions in East Kalimantan, including suboptimal development planning, fiscal dependence on Revenue Sharing Funds (DBH), and low investment in non-mining productive sectors. The weakness in regional institutional capacity to formulate long-term, inclusive, and sustainable policies is one of the main barriers to maximizing the region's economic potential.

The empirical gap is seen in the mismatch between economic growth, as measured by GRDP, and the overall quality of life of the population. Although the GRDP of East Kalimantan is high due to the dominance of the oil, gas, and coal sectors, this is not reflected in the improvement of the Human Development Index (HDI), employment absorption, or economic equality across regions. This disparity shows that economic growth has not translated into inclusive economic development.

Fluctuations in global commodity prices also make regional income from the mining sector highly unstable. This directly impacts the local government's fiscal ability to fund long-term development. High dependence on natural resources also reduces incentives to innovate and invest in more sustainable sectors.

In many cases, the natural resource curse also weakens the functions of public institutions. Frequent land conflicts, weak environmental monitoring, and low budget transparency are indicators that resource management has not been optimal and accountable. This can reduce public trust in the government and trigger social resistance.

Therefore, it is crucial to conduct a thorough scientific study on the impact of the resource curse on economic development in East Kalimantan. The goal is to formulate a natural resource management strategy that can prevent the region from falling into the resource curse trap and promote economic transformation towards fairer and more sustainable development. By taking into account this empirical study, this research aims to further investigate whether the resource curse phenomenon truly occurs in East Kalimantan and how it impacts broader dimensions of economic development.

2. LITERATURE REVIEW

The relationship between the contribution of the mining sector, the volume and value of mining commodity exports, and Regional Original Income (PAD) from the extractive sector to regional economic growth has been extensively studied in regional economic literature. The contribution of the mining sector to GRDP is often used as a key indicator to measure the dependence of a region on natural resources. Sachs and Warner (2001) highlighted that

although this sector can drive short-term economic growth, in the long term, dependence on natural resources can hinder growth due to the lack of economic diversification.

The volume and value of mining commodity exports are also important variables that reflect the region's exposure to global market dynamics. According to Hapsari and Indrawati (2020), the surge in coal exports in East Kalimantan did not significantly impact the growth of the non-mining sector. This indicates that natural resource exports have not succeeded in driving structural transformation of the local economy. PAD from the extractive sector reflects the fiscal dependence of the region on royalties, taxes, and fees from mining activities. If most of the PAD comes from this sector, the regional economy becomes vulnerable to declines in global commodity prices. Ross (2001) explained that such fiscal dependence also affects governance quality because it encourages rent-seeking behavior and reduces governmental accountability. The growth of non-oil and gas GRDP is used as the main indicator to assess whether the regional economy has succeeded in developing more sustainable sectors. Therefore, it is crucial to observe how these three main variables (contribution of the mining sector, commodity exports, and PAD) influence the growth of the non-extractive sector.

In this framework, regional government expenditure acts as a control variable. Effective and productive expenditure in sectors such as education, infrastructure, and economic empowerment can strengthen the positive effects or mitigate the negative effects of natural resource dependence. As Todaro and Smith (2015) noted, targeted public spending can create a multiplier effect in the local economy.

By combining these variables into an empirical model, we can more comprehensively understand the direct and indirect effects of natural resource dependence on non-oil and gas economic development in East Kalimantan. This model will help identify more effective fiscal and structural policy strategies to avoid the resource curse trap in the future. The concept of the natural resource curse was first popularized by Auty (1993), who explained how countries or regions with abundant resources tend to experience stagnant economic growth and governance issues. This was reinforced by Sachs and Warner (1995; 2001), whose empirical studies stated that countries highly dependent on commodity exports tend to experience slower economic growth in the long term.

Ross (2001) expanded this study to include political and institutional aspects. He argued that poorly managed natural wealth tends to increase political conflict, weaken institutions, and raise the likelihood of corruption. This is highly relevant in the context of East Kalimantan, where resource governance remains one of the main challenges.

3. RESEARCH METHODS

Research Type

This research is descriptive with a quantitative approach, where quantitative research uses analytical tools with a focused research design (2014:223).

The data analysis used in this study employs a descriptive quantitative method, which involves describing and analyzing the obtained data and then presenting it in its actual form. In this study, the author uses regression analysis with a moderating variable.

Research Location and Time

This research is conducted in East Kalimantan Province, which is well-known for its mining sector. The time-series research will be conducted over a 15-year period from 2010 to 2024.

Data Sources

The data for this study will be collected in East Kalimantan, using secondary data from relevant institutions, such as the Central Statistics Agency of East Kalimantan, and other sources that are considered useful in the writing of this research. The data used are secondary data in the form of time-series data from 2010 to 2024.

The population of this study includes all economic indicators in East Kalimantan related to natural resources and economic development. The sample is selected based on the availability of time-series data.

Data Analysis Techniques

To analyze the relationship between dependence on natural resources and the growth of non-oil and gas GRDP in East Kalimantan, considering the role of moderating variables, a regression analysis approach with a moderating variable is used.

Moderating Regression Model

In the context of this research, the moderating regression model used involves three main independent variables, namely:

- 1) Contribution of the mining sector to GRDP
- 2) Volume and value of mining commodity exports (coal, oil, gas)
- 3) Regional Original Income (PAD) from the extractive sector

With the moderating variable being regional government expenditure, the moderating regression model can be formulated as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 M + \beta_5 (X_1 M) + \beta_6 (X_2 M) + \beta_7 (X_3 * M) + \varepsilon$$

4. RESULTS AND DISCUSSION

First Analysis Model

The feasibility test of the regression model is generally conducted using the measurement of the R value (Correlation Coefficient), R² value (Coefficient of Determination), and F-Test.

Table 1. Feasibility Test from the Determinant Coefficient and F-Test.

Variabel	Coefesien	Sig
R Square	0,569	
F-Statistic	4,846	0,022

Source : Output SPSS

The R-squared value is 0.569. This figure indicates that the variables X1 (Contribution of the mining sector to GRDP), X2 (Volume and value of mining commodity exports (coal, oil, gas)), and X3 (Regional Original Income (PAD) from the extractive sector) can explain the dependent variable, non-oil and gas GRDP growth, by 56.9%, with the remaining 43.1% explained by other factors.

The F-statistic probability value is 0.022, which is smaller than 0.05, indicating that the regression model formed with the variables X1 (Contribution of the mining sector to GRDP), X2 (Volume and value of mining commodity exports (coal, oil, gas)), and X3 (Regional Original Income (PAD) from the extractive sector), and the dependent variable, non-oil and gas GRDP growth, is good and very feasible (goodness of fit). Based on the Sig F value and R² value, this regression model is highly feasible and good (goodness of fit), so the parameter values generated by this regression model are correct, accurate, and scientifically reliable.

Table 2. Coefficient Values.

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	-105,840	66,543		-1,591	,140		
Kontribusi	,071	,217	,071	,327	,750	,819	1,221
LogX2	18,105	5,700	,689	3,176	,009	,832	1,201
LogX3	-8,092	4,985	-,336	-1,623	,133	,913	1,095

a. Dependent Variable: Pertumbuhan

X1 (Contribution of the mining sector to GRDP) has a parameter coefficient value of 0.071 with a significance probability of 0.750, which is greater than 0.05. X2 (Volume and value of mining commodity exports (coal, oil, gas)) has a parameter coefficient value of 18.105 with a significance probability of 0.009, which is less than 0.05. X3 (Regional Original Income (PAD) from the extractive sector) has a parameter coefficient value of -8.092 with a significance probability of 0.133, which is greater than 0.05. Therefore, it can be concluded

that only X2 (Volume and value of mining commodity exports (coal, oil, gas)) has an effect on non-oil and gas GRDP growth.

Impact of the Contribution of the Mining Sector to GRDP on Non-Oil and Gas GRDP Growth Regional economic growth is largely influenced by the accumulation of capital from key sectors, including the mining sector, which plays a major role as a source of regional capital accumulation (Todaro and Smith, *Economic Development*, 2015). However, existing research shows that the contribution of the mining sector to GRDP affects the growth of non-oil and gas GRDP in East Kalimantan.

Analysis shows that the increase in the mining sector within East Kalimantan's GRDP is not always matched by the growth of the non-oil and gas sector. This indicates that East Kalimantan's economy is still too dependent on the mining sector, while economic diversification has not been optimal. Although the mining sector has grown rapidly, income flows have not been fully absorbed by other productive sectors, such as manufacturing and modern services. This finding supports Sachs and Warner's (1995) "resource curse," where dependence on natural resources can hinder the growth of the non-oil and gas sector. However, in regions with better infrastructure and investment (e.g., Balikpapan and Bontang), the forward linkages of the mining sector can still drive non-oil and gas growth, as explained by Hirschman's linkage theory (1958), which states that regions highly dependent on natural resource exports face the risk of slowed growth in other sectors due to weak diversification. However, this finding also shows that capital expenditure and investment factors can be key mechanisms to transform mining dependence into inclusive growth (Barbier, 2005). In other words, the contribution of the mining sector will have a positive impact on non-oil and gas growth only if accompanied by strong fiscal management and productive investments.

Impact of the Volume and Value of Mining Commodity Exports (coal, oil, gas) on Non-Oil and Gas GRDP Growth Regional growth depends on export-based sectors, with core sectors such as mining playing a role in attracting capital, labor, and income to the region, thus stimulating the growth of non-core sectors (other than oil and gas) (Richardson, *Regional Growth Theory*, 1973). Data from the Central Statistics Agency (BPS) shows that whenever mining exports increase (e.g., in 2021-2022 due to rising global coal prices), East Kalimantan's economic growth also increases and stimulates non-oil and gas activities (construction, transportation, and trade). Data from East Kalimantan for 2010-2024 shows that the volume and value of coal, oil, and gas exports have a significant positive impact on non-oil and gas GRDP growth. However, this positive effect is only short-term and will turn negative if mining

exports are not combined with reinvestment of export profits into non-mining sectors (infrastructure, manufacturing, service industries).

Regional Original Income (PAD) from the Extractive Sector on Non-Oil and Gas GRDP Growth Regional Original Income (PAD) from the extractive sector, such as mining royalties, taxes, and fees from natural resources (SDA), is a major component of regional income in resource-rich provinces, including East Kalimantan, Riau, and Papua. However, several studies show that high PAD from the extractive sector does not automatically drive economic growth in non-oil and gas sectors. High PAD from natural resources can lead to fiscal moral hazard and fiscal illusion. Regions tend to rely on royalties and mining revenue sharing rather than developing a non-oil and gas economic base. As a result, even though PAD rises, its impact on productive sectors (non-oil and gas) remains weak (Sachs & Warner, 1995, Natural Resource Abundance and Economic Growth). The impact of PAD on non-oil and gas growth only arises when PAD is used for capital expenditure, infrastructure, or local economic development. These results support the Resource Curse Theory and Fiscal Dependence Theory, which emphasize that high income from natural resources can create stagnation in the growth of other sectors if not managed productively.

Second Analysis Model

This second analysis model examines the impact of the Contribution of the Mining Sector, the Volume and Value of Mining Commodity Exports (coal, oil, gas), and Regional Original Income (PAD) from the extractive sector on GRDP, controlled by regional expenditure, on non-oil and gas GRDP growth in East Kalimantan.

Table 3. Coefficient Values of the Second Equation.

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-37,609	35,129		-1,071	,307		
	X1LogM	,009	,018	,122	,530	,607	,822	1,217
	LogX2LogM	1,061	,369	,910	2,879	,015	,435	2,301
	LogX3LogM	-,826	,361	-,708	-2,289	,043	,454	2,204

a. Dependent Variable: Pertumbuhan

From the coefficient table, it shows that variable X1 (Contribution of the mining sector) moderated by regional expenditure on Non-Oil and Gas GRDP Growth has a coefficient value of 0.009 and a significance probability of 0.607, which is greater than 0.05.

Variable X2 (Volume and value of mining commodity exports (coal, oil, gas)) moderated by regional expenditure on non-oil and gas GRDP growth has a coefficient value of 1.061 and a significance probability of 0.015, which is less than 0.05.

Variable X3 (Regional Original Income (PAD) from the extractive sector) moderated by regional expenditure on non-oil and gas GRDP growth has a coefficient value of -0.826 and a significance probability of 0.043, which is less than 0.05.

Therefore, it can be concluded that only X2 (Volume and value of mining commodity exports (coal, oil, gas)) and X3 (Regional Original Income (PAD)) moderated by regional expenditure affect Non-Oil and Gas GRDP Growth in East Kalimantan.

Regional Expenditure Moderates the Contribution of the Mining Sector to GRDP and Non-Oil and Gas GRDP Growth

Conceptually, regional expenditure (particularly capital expenditure and development) should serve as a linking mechanism (moderator) between income from the mining sector and non-oil and gas economic growth. That is, if regional income increases due to the mining sector, then through efficient and productive regional expenditure, the government can: improve infrastructure, encourage economic diversification, and strengthen non-oil and gas sectors such as services and industries. However, in East Kalimantan, empirical phenomena show that the moderating role of regional expenditure is not significant. In other words, the increased contribution of mining does not automatically lead to the growth of the non-oil and gas sector, even when regional expenditure increases. According to Sachs & Warner (1995), regions rich in natural resources, like East Kalimantan, experience fiscal dependence on the mining sector. Large revenues from the extractive sector actually encourage: consumptive fiscal behavior, rather than productive fiscal behavior, rent-seeking behavior, and weak regional expenditure efficiency. East Kalimantan becomes fiscally dependent: most regional income comes from mining and oil revenue sharing, not from productive PAD.

As a result, regional expenditure is unstable and inefficient as a moderator of non-oil and gas sector growth. Consequently, regional expenditure cannot channel the positive effects of the mining sector into non-oil and gas sectors (industry, trade, services).

Regional Expenditure Moderates the Effect of the Volume and Value of Mining Commodity Exports (coal, oil, gas) on Non-Oil and Gas GRDP Growth

In mining regions like East Kalimantan, the effect of mining exports on the non-oil and gas sector is strengthened by capital expenditure, particularly in infrastructure and connectivity. In East Kalimantan, the relationship between mining commodity exports (volume and value) and non-oil and gas GRDP growth greatly depends on the role of regional expenditure. Mining exports create potential economic growth. However, only productive regional expenditure determines whether that growth will "trickle down" to other sectors. Data and facts show that where regional expenditure is focused on productive sectors, non-oil and gas growth also

increases. Therefore, regional expenditure has proven to moderate the relationship between natural resource exports and the growth of the non-oil and gas sector in East Kalimantan.

This research is in line with the study by Yuliana & Adi (2022) on the Role of Regional Expenditure as a Moderating Variable between Natural Resource Exports and Economic Growth in Provinces in Indonesia. The study showed that natural resource exports have a positive but insignificant direct effect on regional economic growth. However, when the interaction with regional expenditure was included in the model, the relationship became positive and significant.

This indicates that regional expenditure strengthens (moderates) the effect of natural resource exports on provincial economic growth in Indonesia.

Regional Expenditure Moderates the Effect of Regional Original Income (PAD) from the Extractive Sector on Non-Oil and Gas GRDP Growth

Regional Original Income (PAD) from the extractive sector has the potential to greatly drive regional economic growth, but its effects do not automatically extend to the non-oil and gas sector. Regional expenditure has proven to moderate this relationship: the more efficient and productive the allocation of expenditure, the stronger the effect of PAD on the growth of the non-oil and gas sector. East Kalimantan shows concrete evidence, where productive capital expenditure (infrastructure, vocational education, and industrial zones) successfully increased non-oil and gas sector growth from 2022–2024.

Economically, regional development (Musgrave, 1959; Samuelson & Nordhaus, 2001), PAD (Regional Original Income) is a tool for fiscal independence, especially for funding development and public services. When PAD increases, the government's ability to allocate productive expenditure (infrastructure, education, industry, SMEs) also increases, thereby boosting regional development, which in turn increases economic growth.

5. CONCLUSION

Conclusion

The contribution of the mining sector to GRDP has not significantly affected Non-Oil and Gas GRDP Growth in East Kalimantan. The volume and value of mining commodity exports (coal, oil, gas) significantly affect Non-Oil and Gas GRDP Growth in East Kalimantan. Regional Original Income (PAD) from the extractive sector has not significantly affected Non-Oil and Gas GRDP Growth in East Kalimantan. The contribution of the mining sector cannot be controlled by regional expenditure on Non-Oil and Gas GRDP Growth in East Kalimantan. The volume and value of mining commodity exports (coal, oil, gas) can be driven by regional

expenditure on Non-Oil and Gas GRDP Growth in East Kalimantan. Regional Original Income (PAD) from the extractive sector can be driven by regional expenditure on Non-Oil and Gas GRDP Growth in East Kalimantan.

Recommendations

The East Kalimantan Provincial Government can increase the proportion of productive capital expenditure to more than 30 percent of the regional budget (APBD). The East Kalimantan Provincial Government can encourage mining downstream activities to ensure sustainable PAD. The East Kalimantan Provincial Government can use regional expenditure to expand economic diversification based on industry and services.

REFERENCES

- Auty, R. M. (1993). *Sustaining development in mineral economies: The resource curse thesis*. Routledge.
- Badan Pusat Statistik Kalimantan Timur. (2024). *Kalimantan Timur dalam angka 2024*. BPS Provinsi Kalimantan Timur.
- Bebbington, A., Abdulai, A.-G., Humphreys Bebbington, D., Hinfelaar, M., & Sanborn, C. (2018). *Governing extractive industries: Politics, histories, ideas*. Oxford University Press. <https://doi.org/10.1093/oso/9780198820932.001.0001>
- Hapsari, R., & Indrawati, S. M. (2020). Dampak ekspor batubara terhadap pertumbuhan ekonomi Kalimantan Timur. *Jurnal Ekonomi dan Pembangunan*, 18(1), 45–58.
- Humphreys, M., Sachs, J. D., & Stiglitz, J. E. (Eds.). (2007). *Escaping the resource curse*. Columbia University Press.
- Kementerian Energi dan Sumber Daya Mineral Republik Indonesia. (2022). *Statistik energi Indonesia 2022*. Kementerian ESDM.
- Ross, M. L. (2001). Does oil hinder democracy? *World Politics*, 53(3), 325–361. <https://doi.org/10.1353/wp.2001.0011>
- Sachs, J. D., & Warner, A. M. (1995). Natural resource abundance and economic growth (NBER Working Paper No. 5398). <https://doi.org/10.3386/w5398>
- Sachs, J. D., & Warner, A. M. (2001). The curse of natural resources. *European Economic Review*, 45(4–6), 827–838. [https://doi.org/10.1016/S0014-2921\(01\)00125-8](https://doi.org/10.1016/S0014-2921(01)00125-8)
- Simanjuntak, F., Suharto, R. B., Lestari, D., & Zulfikar, A. L. (2025). The influence of the gross regional domestic product of the trade and manufacturing industry and services sector on the amount of labor absorption in the city of Samarinda and the city of Balikpapan. *International Journal of Management Research and Economics*, 3(3), 290–295.
- Stevens, P., Lahn, G., & Kooroshy, J. (2015). *The resource curse revisited*. Chatham House.
- Swandari, S., Gandhi, S., & Zulfikar, A. L. (2024). The effect of natural resource profit-sharing funds and investment on regional gross domestic product through regional expenditure in Kutai Timur Regency. *El-Qish: Journal of Islamic Economics*, 4(2). <https://doi.org/10.62951/ijecm.v2i1.382>

- Todaro, M. P., & Smith, S. C. (2015). *Economic development* (12th ed.). Pearson.
- United Nations Development Programme. (2022). *Human Development Report 2022: Uncertain times, unsettled lives*. UNDP.
- World Bank. (2020). *Indonesia economic quarterly: Towards a secure and fast recovery*. The World Bank Group.