



Resource Rents and Institutional Quality: Exploring Global Corruption's Paradox

Billie Dwipayana ¹⁾; Yohanna Magdalena Lydia Gultom ²⁾

¹⁾ *Financial and Development Supervisory Board, Republik of Indonesia*

²⁾ *Faculty of Economics and Business, University of Indonesia*

Email: ¹⁾ billiedwipayana.bd@gmail.com

How to Cite :

Dwipayana, B., Gultom, Y, M, L (2026). Resources Rents and Institutional Quality: Exploring Global Corruption's Paradox. EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis, 14(4). DOI: <https://doi.org/10.37676/ekombis.v14i4>

ARTICLE HISTORY

Received [23 December 2025]

Revised [15 October 2026]

Accepted [19 October 2026]

KEYWORDS

Corruption, Natural Resources Rents; Institutional Quality, Resource Curse, Fixed Effect.

This is an open access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license



ABSTRACT

This study explores the complex relationship between natural resource rents, institutional quality, and corruption, stemming from the "natural resource curse" paradox. Employing a fixed-effects methodology with data from 175 countries, the research reveals that the interaction between natural resource rents and institutional quality significantly escalates corruption. A noteworthy finding is that while institutional quality is generally presumed to mitigate corruption, in the context of natural resource rents over the past two decades, it has paradoxically exacerbated corrupt practices. This suggests the potential ineffectiveness of institutional policies. These findings challenge the conventional assumption that robust institutions invariably control corruption. Instead, they indicate the suboptimal role of institutional reforms and the presence of more covert forms of corruption within specific natural resource sectors. This research enriches the discourse on the resource curse and underscores the critical importance of strengthening substantive institutional effectiveness beyond mere formal structures.

INTRODUCTION

The paradox of natural resources is a prominent phenomenon where countries rich in natural resources like gas, oil, and minerals tend to exhibit lower economic growth and development outcomes, alongside higher poverty rates, compared to nations less endowed with similar resources (Karl, 2005). This condition is identified as the "resource curse" (Auty, 1993). While natural resources possess the potential to serve as a foundation for development and a primary path to sustainable economic growth (Badeeb et al., 2017), this potential is often hampered by opportunistic behavior from both individuals and governments. Collier (2010) emphasizes the crucial role of government in managing natural resources fairly, efficiently, and sustainably by creating a conducive economic environment with legal certainty and property rights. However, governments can also impede productivity (Hall & Jones, 1999), as the availability of exogenous revenue from natural resources can incentivize corrupt practices as a

means of retaining power (Isham et al., 2003). This situation is exacerbated by the fact that the majority of the world's population resides in countries with below-average global corruption perception levels (Transparency International, 2023).

The primary objective of this research is to explore the impact of natural resource rents and institutional quality on corruption. Currently, there is a gap in the literature concerning studies that simultaneously examine the influence of natural resource rents and institutional quality on corruption. Existing research on the "resource curse" primarily focuses on the effect of natural resources on economic growth, often viewing corruption as a reflection of institutional quality. This study will incorporate both variables due to their distinct perspectives. Furthermore, this research will analyze a large cross-country dataset over an extended period to draw its conclusions. It will also explore correlations based on global income classifications and various dimensions of institutional quality.

In the literature on natural resources and economic growth, the role of institutions in mediating how natural resources impact economic growth has been a point of divergence. Some researchers emphasize that natural resource revenues significantly influence a country's institutional quality or the likelihood of transitioning to a more growth-supportive system. Other studies, however, find no mediating role for institutions in the resource curse hypothesis, instead stressing that exogenous institutional quality determines whether resource revenues will boost the economy (Badeeb et al., 2017). Efficient allocation of investments in infrastructure and social programs has the potential to improve living standards. However, the success of these efforts heavily depends on the quality of government governance. Fair distribution mechanisms, transparency in budget management, and effective law enforcement can minimize corruption and rent-seeking practices. Conversely, institutional weaknesses, weak law enforcement, and low transparency tend to foster rent-seeking behavior. Strong institutions that support a healthy business climate can suppress rent-seeking practices and encourage productivity gains (Pendergast, 2011; Ploeg, 2011). Nevertheless, the impact of natural resources on corruption is highly dependent on a country's existing level of corruption; natural resource income does not inherently increase corruption, but rather depends on the specific corruption context of the country concerned (Tyburski et al., 2020).

The results indicate that the interaction between natural resource rents and institutional quality significantly influences the increase in corruption. This outcome potentially stems from government intervention in economic processes or imperfect economic liberalization. Furthermore, among the types of natural resources within the scope of this study, coal resources show a significant positive correlation with corruption, while other types do not. The third regression result reveals that the interaction between natural resource income and institutional quality is only positively significant in countries classified as Lower Middle Income. When examining the coal sector specifically, an improvement in institutional quality is shown to reduce corruption alongside an increase in national income. Finally, this study uncovers a paradox: the interaction between natural resource rents and three dimensions of institutional quality suggests that natural resource rents actually increase corruption, even as citizen compliance with regulations and anti-corruption efforts also improve.

This research is significant because no prior empirical study has specifically examined the combined impact of natural resource income and institutional quality on corruption. The findings highlight the importance of caution in improving institutional quality to curb corruption and highlight the need to consider appropriate government intervention strategies for owned natural resource sectors. Crucially, governments must also consider corruption prevention across various types of natural resource sectors, tailored to their distinct characteristics, including addressing intervention from elite and oligarchic groups.

LITERATURE REVIEW

Jain (2001) synthesizes the determinants of corruption into three key factors. First, the discretionary power held by an individual, encompassing the authority to formulate and implement regulations. Second, this discretionary power's connection to economic gains attainable by identified groups. Third, the legal/judicial system must offer a sufficiently low probability of detecting and punishing corrupt behavior. The first two factors act as incentives for corruption, while the third serves as a deterrent. Corruption thrives when higher benefits are associated with the abuse of discretionary power, minus illicit payments and the penalties linked to such abuse.

Natural capital, as defined by Gyfalson (2002), is a pillar of development encompassing diverse resources such as vegetation, marine wealth, minerals, and energy. It is categorized into renewable resources (agriculture and forestry) and non-renewable resources (extractive sectors), based on their scarcity and impact on the supply curve (Sachs and Warner, 2001). While the agricultural sector generally yields relatively small and risky incomes (Sachs & Warner, 2001), the forestry sector holds the potential for more attractive surpluses for rent-seekers, though it becomes less appealing compared to land conversion while awaiting harvest (De Soto, 2000). The extractive sector, with its finite reserves (Hartwick & Olewiler, 1986), presents a greater potential for rent-seeking (De Soto, 2000) and is crucial for many developing countries (Havranek et al., 2016). However, this natural resource wealth also carries risks of price fluctuations and the potential neglect of other capital accumulation (Gyfalsón, 2002, 2001). This forms the basis for the scope of this research focusing on extractive natural resources.

Collier (2010) emphasizes the government's role in managing natural resources as a common asset. The government must ensure fair, efficient, and sustainable exploitation of natural resources by creating a supportive economic environment, including guaranteeing legal certainty and property rights. Paradoxically, the abundance of natural resources can negatively impact a nation's economic growth and social stability. This is attributed to an increase in rent-seeking behavior, where individuals or groups attempt to gain economic advantages through the manipulation of public policy, such as acquiring exclusive access to natural resources or obtaining preferential treatment from the government. Such rent-seeking activities foster corruption, leading to inefficient resource allocation and ultimately hindering economic growth and social justice. Countries rich in natural resources tend to be more vulnerable to rent-seeking and corruption due to the competition for economic rents generated by these resources (Gyfalsón, 2002).

METHODS

This research will examine corruption using the Corruption Perception Index (CPI), an output of the non-governmental organization Transparency International. Lancaster and Montinola (1997) highlight several key advantages of the CPI: it facilitates quantitative corruption research, its broad comparative coverage enables macro-level comparative analysis, and its robust methodology enhances the reliability of corruption measurement. However, Robertson and Watson (2004) note that the CPI's construction contains endogeneity and is limited to general perceptions of corruption, thus overlooking the actual behavioral dimensions and activities of corruption. Direct measurement of corrupt behavior, for example, through national crime statistics, faces significant challenges due to stark disparities in law enforcement and judicial systems across countries.

The natural resource variable is constructed from natural resource revenue based on natural resource rents. Mehlum et al. (2006) emphasize the significance of the portion of resource revenue available at the decision-making point. Based on this argument, this study will assess a country's natural resource abundance using the World Bank's Natural Resources Rents

measure. These estimates are calculated as the difference between the quantity and price of commodities and the average cost of production, multiplied by the physical quantity extracted or harvested by a country (World Bank, 2023). Consistent with the scope of this research, only data pertaining to extractive resources—specifically Mineral Rents, Coal Rents, Gas Rents, and Oil Rents—will be included. The use of Natural Rents as a proxy for natural resources is also consistent with prior research by Alkinson & Hamilton (2003), Stijns (2006), Bhattacharyya & Hodler (2008), and Erum & Hussain (2019).

To construct institutional quality, this study utilizes the World Governance Indicators (WGI) dataset as a proxy for institutional quality. This variable is derived from the World Bank's dataset, which encompasses six dimensions of governance. Brunnschweiler (2008) categorizes these six indicators into three groups: the first group pertains to the selection and replacement of authorities (Voice and Accountability, Political Stability and Absence of Violence/Terrorism), the second relates to the government's capacity to implement sound policies (Government Effectiveness and Regulatory Quality), and the third measures the respect of citizens and the state for rules and regulations (Rule of Law and Control of Corruption). These six indices are combined using an equal weighted average, mirroring the approach taken by Hall & Jones (1999) in constructing composite indices.

Control variables include government quality in managing natural resource revenue dependence and the level of economic diversification, represented by per capita income (Ana & Kweon, 2017; Saha & Ben Ali, 2017; Sharma & Mishra, 2022). Open trade, serving as a proxy for efficiency across all sectors and a revenue generator, is also included (Damette & Seghir, 2018; Sharma & Mishra, 2022), along with a proxy for the value of physical investment as a form of national income allocation. The empirical analysis will control for individual fixed effects, accounting for differences in governance systems (presidential and other systems), which Neudorfer (2018) correlates with corruption levels. Time fixed effects will also be incorporated to accommodate the impact of global events, such as the 2008 financial crisis and the COVID-19 pandemic (2020-2021), on the demand for natural resource revenue. The proxy variables are detailed in Table 1.

Table 1 Variable and Data Sources

Variable	Proxy Variable	Data Source
Corruption (<i>Corr</i>)	Corruption Perception Index (CPI)	Transparency International
Natural Resources Rent (<i>Total_Rents</i>)	The share of non-renewable natural resource rents in GDP	World Development Indicator (WDI)
Institutional Quality (<i>Inst</i>)	Average of the six Worldwide Governance Indicators	World Governance Indicator (World Bank)
GDP Per Capita (<i>GDP</i>)	GDP Per Capita (Constant 2015 US\$), in natural Log	World Development Indicators (World Bank)
Trade Openness (<i>Trade</i>)	Proportion of exports and imports as a share of GDP	World Governance Indicator (World Bank)
Capital Formation (<i>Capital</i>)	Gross Capital Formation as a proportion of GDP	World Governance Indicator (World Bank)
<i>Individual Fixed Effect</i>	<i>Dummy Variable</i> . 1 = Presidential System, 0 = non-Presidential System	Database Politics Institution World Bank
<i>Time Fixed Effect</i>	<i>Dummy Variable</i> , Year 2008, 2020 dan 2021.	-

This study's encompass 175 countries over a 22-year period, from 2000 to 2021. The total number of observations in the study is 3,850. However, some data for the variables used were unavailable for the entire specified timeframe.

The research model utilizes a fixed-effects approach, with the general equation as follows:

$$Corr_{it} = \beta_0 + \beta_1 Total_Rents_{it} + \beta_2 Inst_{it} + \beta_3 Total_Rents_{it} \times Inst_{it} + x_{it} + \mu_i + \alpha_t + \varepsilon_{it}$$

where $Corr_{it}$ represents the Corruption Perception Index, $Total_Rents_{it}$ denotes the natural resource rent as a proportion of GDP, $Inst_{it}$ is the average institutional quality index, and x_{it} comprises all control variables. μ_i represents the individual fixed effect, and α_t is the time fixed effect included.

RESULTS

The test will involve three strategies. The first test will examine the global correlation between the interaction of natural resource rents and institutional quality on the perception of corruption. The results will indicate whether institutional quality can be a reliable global predictor of the correlation between natural resource rents and corruption. The second test will investigate this correlation based on countries'. Finally, institutional quality will be decomposed into three governance dimensions as per Brunnschweiler (2008), to test which governance dimension most influences the relationship between natural resource rents and corruption, also examined by country income level.

The first test will yield the correlation between natural resource rents, institutional quality, and corruption. Table 2 presents the regression results for the impact of natural resources and institutions on corruption.

Table 2 Regression Results of Natural Resources and Institutions on Corruption

Dependent Variable : Corruption				
Independent Variable	Model 1	Model 2	Model 3	Model 4
Natural Resources Rent	0.111** (0.0472)	0.121** (0.0492)	0.123** (0.0494)	0.106** (0.0482)
Institutional Quality	-16.88*** (1.628)	-14.15*** (1.648)	-14.19*** (1.647)	-14.34*** (1.633)
<i>Natural Resources Rent x Institutional Quality</i>	0.0932** (0.0379)	0.112** (0.0430)	0.113** (0.0444)	0.107** (0.0441)
Control Variables				
GDP Per Capita		-8.247*** (1.188)	-8.145*** (1.198)	-7.735*** (1.202)
Trade Openness		-0.0188 (0.0132)	-0.0192 (0.0132)	-0.0221 (0.0135)
Capital Formation		0.0394 (0.0298)	0.0383 (0.0296)	0.0300 (0.0286)
<i>Control Variable</i>	No	Yes	Yes	Yes
<i>Individual Fixed Effect</i>	No	No	Yes	Yes
<i>Time Fixed Effect</i>	No	No	No	Yes
Observation	3258	2896	2896	2896
R-sq	0.248	0.328	0.329	0.335
adj. R-sq	0.247	0.326	0.327	0.332

Significance level: ***1%, **5%

The interaction coefficient is greater than the natural resource rent coefficient. This implies that higher institutional quality correlates with a greater increase in corruption as natural resource rents rise. While improved institutional quality generally has positive effects, this finding underscores the need for caution in countries with high natural resource rents. Institutional strengthening in such contexts could potentially exacerbate the impact of natural resource rents on corruption.

The second test, examining the correlation between natural resource rents, institutional quality, and corruption, based on country income classifications, is presented in Table 3.

Table 3 Regression Results on the Influence of Natural Resources and Institutions on Corruption, by Income Classification

Dependent Variable : Corruption				
Income Classification	Low Income	Lower Middle Income	Upper Middle Income	High Income
Natural Resources Rent	0.0176 (0.178)	0.128** (0.0614)	0.243*** (0.0564)	0.176 (0.0835)
Institutional Quality	-4.549 (3.217)	-16.40*** (3.108)	-13.18*** (1.896)	-18.11*** (3.199)
<i>Natural Resources Rent x Institutional Quality</i>	-0.0989 (0.165)	0.204*** (0.0580)	0.118 (0.0367)	-0.170 (0.146)
<i>Control Variable</i>	Yes	Yes	Yes	Yes
<i>Individual Fixed Effect</i>	Yes	Yes	Yes	Yes
<i>Time Fixed Effect</i>	Yes	Yes	Yes	Yes
Observation	520	790	714	869
R-sq	0.325	0.416	0.315	0.245
adj. R-sq	0.312	0.408	0.305	0.236

Significance level: ***1%, **5%

Table 3 presents results examining the impact of natural resources and institutions on corruption, categorized by national income levels. The findings indicate that the influence of natural resources and institutions is significant only for corruption in Lower Middle-Income countries. The interaction variable between natural resource rents and institutional quality in the lower-middle-income group tends to increase corruption, reflected in the increased coefficient towards corruption. Several countries, including Algeria, Angola, Azerbaijan, Iraq, Nigeria, Sudan, Timor-Leste, and Yemen, recorded natural resource exports exceeding 90% of their total exports. All these nations exhibited institutional quality indices below the observed median, signifying suboptimal institutional reforms that tend to exacerbate corruption.

This aligns with research by Saha & Gounder (2013), who found that middle-income countries exhibit higher corruption levels compared to low-income countries, implying that corruption escalates during the initial stages of economic development and only significantly declines once a nation reaches higher income levels and more mature development. Corroborating this, Saha & Ben Ali (2017) argue that low-income countries lack the resources to combat corruption, while Rontos et al. (2023) discovered a correlation between increased income in developed countries and a decrease in corruption perception, underscoring the role of economic development in mitigating corruption.

Complementing these perspectives, Koeswayo et al. (2024) highlight that stricter rule of law and anti-corruption measures are more effective in wealthier nations, demonstrating the importance of adequate resources and infrastructure in anti-corruption efforts. The third test proceeded to examine the institutional quality dimensions that most significantly influence natural resource rents and corruption. The results are presented in the following table.

Table 4 Regression Results of Natural Resource Rents and Institutional Quality Dimensions on Corruption

Dependent Variable : Corruption			
Independent Variable	Coefficient (Standard Error)		
Natural Resource Rent	0.0600 (0.0474)	0.0956 (0.0541)	0.0719 (0.0449)
Replacement of The Authority	-4.390*** (1.019)		
Sound Policies		-10.43*** (1.276)	
Respect of Rules and Regulation			-15.35*** (1.169)
Interaction Variable			
<i>Natural Resource Rent x Replacement of Authority</i>	0.0475 (0.0408)		
<i>Natural Resource Rent x Sound Policies</i>		0.0986 (0.0531)	
<i>Natural Resource Rent x Respect of Rules and Regulation</i>			0.0838** (0.0392)
Control Variable	Yes	Yes	Yes
Individual Fixed Effect	Yes	Yes	Yes
Time Fixed Effect	Yes	Yes	Yes
Observation	2896	2896	2896
R-sq	0.221	0.294	0.399
adj. R-sq	0.217	0.291	0.396
Significance level: *** 1%, ** 5%			

Table 4 presents intriguing results. Of the three dimensions of institutional quality, the dimension representing citizens' respect for prevailing laws and regulations is the only one significantly correlated with perceptions of corruption. The table illustrates that the coefficient for natural resource rents in relation to corruption increases with interaction from this third dimension. This finding indicates that natural resource rents escalate corruption as citizens' compliance with regulations and corruption control improves. This suggests a new paradox.

Further tests were conducted to identify differences in the interaction patterns between natural resource rents and institutional quality dimensions across low, middle, and high-income countries. This aimed to ascertain the effectiveness of institutional reforms in various developmental contexts. The results will be presented on table 5.

Table 5 Regression Results on the Influence of Natural Resource Rents and Institutional Quality Dimensions on Corruption, by Global Country Income Classification

Dependent Variable : Corruption												
Independent Variable	Coefficient (Standard Error)											
Income Classification	Low Income Countries			Lower-Middle Income Countries			Upper-Middle Income Countries			High Income Countries		
Natural Resource Rent	0.0391 (0.154)	0.344 (0.218)	-0.0172 (0.160)	0.0405 (0.378)	0.314* (0.0904)	0.118* (0.0473)	0.131 (0.0603)	0.175* (0.0606)	0.254* (0.0589)	0.211 (0.112)	0.161 (0.101)	0.128 (0.113)
Replacement of Authority	-0.472 (1.398)			-5.942* (1.962)			-4.345* (1.593)			-7.372* (2.711)		
Sound Policies		-6.097 (3.517)			-13.38*** (2.753)			-9.163*** (2.159)			-9.606*** (2.190)	
Respect of Rules and Regulation			-8.126* (2.980)			-15.78*** (2.604)			-15.85*** (1.922)			-16.72*** (2.454)
<u>Variable Interaksi</u>												
Natural Resource Rent x Replacement of Authority	-0.136 (0.130)			0.0942** (0.0376)			0.0425 (0.0397)			-0.0297 (0.124)		
Natural Resource Rent x Sound Policies		0.169 (0.197)			0.324*** (0.0793)			0.0890 (0.0483)			-0.286*** (0.141)	
Natural Resource Rent x Respect of Rules and Regulation			-0.0788 (0.135)			0.153*** (0.0449)			0.155* (0.0477)			-0.0613 (0.155)
Control Variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observation	520	520	520	790	790	790	714	714	714	869	869	869
R-sq	0.311	0.338	0.384	0.283	0.411	0.439	0.220	0.297	0.384	0.084	0.179	0.320
adj. R-sq	0.292	0.320	0.367	0.271	0.401	0.430	0.204	0.283	0.372	0.069	0.166	0.309

Significance level: *** 1%, ** 5%

Based on observational data, lower-middle income countries tend to exhibit poor institutional quality indices (values below zero) and can have very high natural rents, exceeding 50% of GDP, as seen in Iraq, Turkmenistan, Angola, and Azerbaijan. In contrast, among high-income countries, while some wealthy nations like Kuwait and Saudi Arabia possess high natural resource rents, many high-income countries with good institutional quality (values above zero) have very low rents (approaching 0), such as Norway, Denmark, or Finland. Regression results indicate that the interaction between natural resource rents and institutional quality dimensions yields varied outcomes. In lower-middle income countries, the interaction of natural resource rents and "Replacement of Authority" strengthens the likelihood of corruption. We posit that when there is a rotation of power, an increase in natural resource rents exacerbates corruption, potentially leading to the emergence of new elites who "access the rents." Similar results are observed for the interaction of natural resource rents and "Sound Policies," suggesting that even with relatively good policies, increased natural resource rents lead to higher corruption. This indicates that formal policies alone are insufficient to curb corruption in the natural resource sector. Furthermore, the interaction with "Respect of Rules and Regulation" increasing corruption suggests the presence of normatively strong but substantively weak institutions, as previously discussed.

DISCUSSION

In Test 1 (Table 2), while improvements in institutional quality generally have a positive impact, the results underscore the need for caution, particularly in countries heavily reliant on natural resource rents. Strengthening institutions can inadvertently exacerbate the impact of these rents on corruption. This is because well-developed institutions may lead to the proliferation of regulations aimed at overseeing and managing the economy, especially the natural resource sector. However, Bardhan (1997) posits that excessive government intervention through convoluted rules can create fertile ground for corruption. Nations with overly complex and burdensome regulations tend to exhibit higher levels of corruption due to broad discretionary powers and the substantial regulatory load, which inherently provide ample opportunities for bribery (Mauro, 1995). Ironically, research by Kaufmann & Wei (1999) indicates

that companies engaging in bribery spend more, not less, time interacting with bureaucrats, suggesting that corruption doesn't streamline processes but rather operates as a parallel institution that thrives on regulatory complexity. Therefore, enhancing institutional quality must be balanced with transparent and accountable governance simplification (Johnson et al., 2014) to effectively prevent corruption (Pendergast et al., 2011).

The second test reveals that natural resource rents and institutional quality positively influence corruption specifically in lower-middle income countries. We attribute this differing interaction to several factors prevalent in this group: suboptimal institutional development, fragile political and economic power balances, high economic dependence on natural resources, immature internalisation of transparency and accountability, and varying external influences.

The third test result introduces a new paradox. We argue that corruption "innovates," where an increase in the Rule of Law and Control of Corruption indices actually encourages perpetrators to develop more subtle *modi operandi*, such as regulatory manipulation and the phenomenon of state capture. This view is reinforced by studies from Kolstad and Søreide (2009), who highlight elite dominance over formal institutions, and findings from Ross (2001) and Van der Ploeg (2011), who link natural resource wealth to democratic decay and increased corruption due to elite influence.

Furthermore, Mungiu-Pippidi (2015), Hellman et al. (2000), and Grzymała-Busse (2008) explain that state capture, being legalistic and institutionalized, is difficult to detect by standard governance indicators. These indices may reflect institutional presence but fail to capture true political independence or law enforcement, thus allowing selective law enforcement to occur under the guise of legality. Examples such as the control of the energy sector by oligarchs in Russia (Guriev, 2013) and the 1MDB scandal in Malaysia (Jomo & Wee, 2014) demonstrate how even strong legal and oversight systems can be neutralized by corrupt political elites. This proves that the resource curse stems not only from institutional weaknesses but also from the co-optation of institutions by corrupt elites. These findings indicate that while assessing the quality of institutional governance is important, equally crucial are substantial structural reforms to minimize the presence of rent-seekers from elite groups who seek to extract natural resource rents. This highlights the need for prudence, simplified procedures, policy specialization by natural resource sector, transparency, and substantial institutional governance reform to minimize corruption in resource-rich countries.

Moreover, the three dimensions of institutional quality that yield different results based on income classification show a distinct outcome for High-Income countries. It is only in high-income countries that the rule of law and corruption prevention can suppress the negative effects of natural resource rents on corruption. This result supports the argument that developed countries can leverage institutional quality to mitigate corruption arising from natural resource rents. This finding strengthens the argument that in the context of developing countries, institutional reforms often only address procedural aspects and fail to achieve substantive improvements such as institutional independence, legal effectiveness, and vertical accountability. Additionally, overlapping regulations and complex bureaucracies often create incentives for covert corruption ("grease-the-wheels"), even if institutional quality indices show improvement. Meanwhile, high-income countries tend to have mature institutions, allowing the negative impacts of natural resources to be minimized or avoided, reflecting effective governance and the utilization of development capital.

CONCLUSION

This research indicates that natural resource rents and institutional quality significantly influence an increase in the perception of corruption. This supports the argument that complex regulations create more opportunities for corrupt practices. Furthermore, the impact of natural

resource rents and institutions on rising corruption is only statistically significant in lower-middle-income countries.

The use of a subsample of lower-middle-income countries reveals interesting findings. Interaction variables for coal and oil rents show contrasting results: improved institutional quality in the coal sector can reduce corruption, but it continues to fuel corruption in the oil sector. We suggest that institutional reforms in lower-middle-income countries are not yet optimally curbing corruption, especially when linked to the economic rents from oil and other multidimensional factors.

However, when comparing the influence of natural resource types across different income levels globally, the findings suggest that the higher a country's income, the more effective institutional reforms become in combating corruption, particularly in the coal sector. Finally, the interaction between natural resource rents and three dimensions of institutional quality presents a paradox: natural resource rents increase corruption even as citizen compliance with regulations and corruption control improve. This phenomenon is significant in lower-middle-income countries but acts as a deterrent to corruption in high-income countries.

This study explores an under-researched relationship between natural resources, institutional quality, and corruption, aiming to serve as an initial reference for future research. However, the researchers recommend that subsequent studies utilize actual data on the exploitation value and reserves of natural resources to obtain more relevant data for defining government effectiveness and a country's natural resource abundance. It is also suggested that future research include variables such as social capital and the influence of ethnicity or nationality, which may have an indirect impact on corruption.

REFERENCES

- Abdellatif, MM, Tran-Nam, B, & Ranga, M. (2022). Diversification, Entrepreneurship, and Natural Resources: The Case of Qatar. *Innovation, Technology, and Knowledge Management*. Pp. 159-183.
- Amado, DAC & Loaiza, ya (2019). The Extractive Corruption in Colombia 2000 to 2011. *Apuntes del Cenes*
- Auty R. (1993). Sustaining development in mineral economies: the resource curse thesis. *Oxford University Press, New York*
- Auty R (2001) Resource abundance and economic development. *World Institute for Development Economics Research, Oxford University Press, New York*
- Barbier, EB. 2003. The role of natural resources in economic development. *Australian Economic Papers* 42(2): 253-72
- Bardhan, Pranab. (1997). Corruption and Development: A Review of Issues. *Journal of Economic Literature*. Vol. XXXV (September 1997). Pp. 1320-1346.
- Badeeb RA, Lean HH, & Clark J (2017) The evolution of the natural resource curse thesis: a critical literature survey. *Resource Policy* 51:123-134
- Bhattacharya, S. and Hodler, R. (2010). Natural resources, democracy and corruption. *European Economic Review* vol 54. Pp. 608-621. doi:10.1016/j.eurocorev.2009.10.004
- Brunnschweiler. CN (2008) Cursing the blessings? natural resource abundance, institutions, and economic growth. *World Develop* 36(3):399-419

- Caripis,, Shaw, A., & Skok, A. (2019) Using risk assessments to address corruption in mining, *Mineral economies*.Vol. 32. Short communication. Pp 251-253
- Collier, P. (2010). The Political Economy of Natural Resources. *Social Research*, Vol 77 No 4, pp 1105-1132
- Database of Political Institutions (World Bank Development Research Group).
<https://datacatalog.worldbank.org/search/dataset/0039819/Database-of-Political-Institutions>.
Diakses tanggal 23 April 2025.
- De Soto, H. (2000). The Mystery of Capital Why Capitalism Triumphs in the West and Fails Everywhere Else. *New York: Basic Books*.
- Grzymała-Busse, A. (2008). Beyond Clientelism: Incumbent State Capture and State Formation. *Comparative Political Studies*, 41(4-5), 638–673
- Guriev, S. (2013). *Corruption in Russia: What everyone needs to know*. In M. Alexeev & S. Weber (Eds.), The Oxford Handbook of the Russian Economy
- Gylfason, T. (2001). Natural resources and economic growth: What is the connection? *Center for Economic Studies: Ifo Institute for Economic Research. WP no. 530. Munich, Germany*.
- Gylfason, T. (2002). Mother earth: Ally or adversary?. *World Economic* 3(1): 7-24
- Hartwick, J. M. & Olewiler, N. D. (1986). The Economics of Natural Resource Use. *Harper & Row, Publishers, New York*.
- Havranek, T., Horvath, R., & Zeynalov, A., (2016). Natural resources and economic growth: A meta-analysis. *World Dev.* 88, 134–151.
- Hellman, J. S., Jones, G., & Kaufmann, D. (2000). Seize the State, Seize the Day: State Capture, Corruption, and Influence in Transition Economies. *World Bank Policy Research Working Paper No. 2444*.
- IMF (2012) Macroeconomic policy frameworks for resource rich developing countries—background paper 1—supplement 1. International Monetary Fund, Washington, DC
- Isham, J., Woolcock, M., Pritchett, L., & Busby, G. (2003). The varieties of natural resource experience: how national resource export structures affect the political economy of economic growth. *Middlebury College Economic Discussion Paper, M.C. Department of Economics, Middlebury, Vermont*
- Johnson ND, Ruger W, Sorens J, & Yamarik S (2014) Corruption, regulation and growth: an empirical study of the United States. *Economics Governance* 15(1):51–69
- Jomo, KS., & Wee, CH. (2014). *Malaysia's Political Economy: Politics, Patronage and Profits*. Cambridge University Press
- Kaddachi, H. & Ben Zina, N. (2019). The Impact of corruption on economic growth in Tunisia: application of ARDL approach. *MPRA Paper No. 114869*.
- Karl, TL. (2005). Understanding the resource curse. In: *Tsalik, S., Schiffrin, A. (Eds.), Covering Oil: A Reporter's Guide to Energy and Development. Open Society Institute, New York, 21–27*

- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2010). Response to 'What do the Worldwide Governance Indicators Measure?'. *The European Journal of Development Research*, 22(1), 55–58. <https://doi.org/10.1057/ejdr.2009.49>
- Kaufmann, D., & Wei, S.-J. (1999). Does 'Grease Money' Speed Up the Wheels of Commerce? *IMF Working Paper No. 99/64*
- Koeswayo, PS, Handoyo, D, & Hasyir, DA. (2024). Investigating the relationship between public governance the corruption perception index. *Law, Criminology & Criminal Justice Vol. 10 (1) 2342513*. <https://doi.org/10.1080/23311886.2024.2342513>
- Kolstad, I. & Søreide, T. (2009). Corruption in natural resource management: Implications for policy makers. *Resources Policy* 34. Pp 214-226
- Lancaster, T. D., & Montinola, G. R. (1997). Toward a methodology for the comparative study of political corruption. *Crime, Law, and Social Change*, 27 (3–4), 185–206. <https://doi.org/10.1023/A:1008274416350>
- Le Clech (2024). Policy market orientation, property rights, and corruption effects on the rent of non-renewable resources in Latin America and the Carribean. *Journal Resources Policy* (91). p.1-12. <https://doi.org/10.1016/j.resourpol.2024.104841>
- Marcolongo, G. & Zambiasi, D. (2024). Offshore finance and corruption in oil licensing. *Energy Economics* 137. 107787.
- Mauro, P. (1995). Corruption and Growth. *Quarterly Journal of Economics*, 110(3), 681–712
- McFerson, Hazel M (2009) Governance and Hyper-corruption in Resource-rich African Countries. *Third World Quarterly* 30:8. Pp 1529-1547.
- Mehlum, H., Moene, K., & Torvik, R. (2006). Institutions and the resource curse. *Economics Journal*.116 (508), 1–20.
- Mohtadi, H, Ross, ML, Jarrett, U, & Ruediger, S. (2018) Kleptocracy and tax evasion under resource abundance. *Wiley Economics & Politics. Economic Research Forum*. DOI: 10.1111/ecpo.12130
- Mungiu-Pippidi, A. (2015). The Quest for Good Governance: How Societies Develop Control of Corruption. *Cambridge University Press*
- Neudorfer, NS. (2018). Commodities and corruption – How the middle class and democratic institutions lead to less corruption in resource-rich countries. *Resources Policy* (58). Pp. 175–191. <https://doi.org/10.1016/j.resourpol.2018.05.003>
- North, D. C., Wallis, J. J., & Weingast, B. R. (2009). Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History. *Cambridge University Press*
- O'toole, C. & Tarp, F. (2014). Corruption and The Efficiency of Capital Investment in Developing Countries. *Journal of International Development*. 26. 567-597. DOI: 10.1002/jid.2997
- Opong, R, Klaas, O, & Abdul-Latif BL. (2016). Mismanagement of Oil and Gas Rents in "Oil and Gas Rich Countries: Lessons for Ghana's Nascent Industry – Case Study: Norway and Angola. Paper presented at the SPE Annual Technical Conference and Exhibition, Dubai, UAE, September 2016. doi: <https://doi.org/10.2118/181350-MS>

- Pendergast, SM., Clarke, JA., & Van Kooten, GC. (2011). Corruption, Development and the Curse of Natural Resources. *Canadian Journal of Political Science / Revue canadienne de science politique*, Vol.44, No. 2, pp. 411-437. <https://www.jstor.org/stable/41300548>
- Petermann A, Guzmán, JI, & Tilton, JE. (2007). Mining and corruption. *Resources Policy*, 32(3), 91–103
- Ploeg, FV. (2011). Natural Resources: Curse or Blessing?. *Journal of Economic Literature*. Vol. 49, No. 2, pp. 366-420
- Robertson, JC. & Watson, A. (2004) Corruption and Change: The Impact of Foreign Direct Investment. *Strategic Management Journal*. 25: 385-396. DOI: 10.1002/smj.382
- Rontos, K, Syrmali, ME, Salvati, L & Vavouras, I. (2023). Socioeconomic development and corruption A global panel regression analysis, 2005-2019. *Regional Statistics*, Vol. 13. No. 4. 2023: 617–633; DOI: 10.15196/RS130402
- Rose-Ackerman, S. (1975). The Economics of corruption. *Journal of Public Economics* 4. Pp 187-203.
- Ross, M. L. (2001). *Does oil hinder democracy?* World Politics, 53(3), 325–361
- Sachs J. & Warner AM (1995) Natural Resources Abundance and economic growth. *National bureau for Economic Research. NBER, (Working Paper 5398)*.
- Sachs, J. & Warner, AM (1997). Natural resource abundance and economic growth. *Center for International Development and Harvard Institute for International Development*.
- Saha, S & Ben Ali, M. (2017). Corruption and economic development: New evidence from the middle eastern and north african countries. *Economic Analysis and Policy*, 54, 83-95.
- Saha, S & Gounder, R. (2013). Corruption and economic development nexus: Variations across income levels in a non-linear framework. *Economic Modelling* Vol 31. Pp 70-79. <http://dx.doi.org/10.1016/j.econmod.2012.11.012>
- Shabbir, G. & Anwar, M. (2007) Determinants of Corruption in Developing Countries. *The Pakistan Development Review*, Winter 2007, Vol. 46, No. 4, Papers and Proceedings PARTS I and II Twenty-third Annual General Meeting and Conference of the Pakistan Society of Development Economists Islamabad, March 12-14, 2008 (Winter 2007), pp. 751-764
- Sharma, C & Mishra, RK. (2022). On the Good and Bad Natural Resources, Corruption, and Economic Growth Nexus. *Environmental and Resource Economics*. Vol 82. Pp 889-922. <https://doi.org/10.1007/s10640-022-00694-x>
- Sharma, C & Paramati, SR. (2020). Does financial development reduce the level of corruption? Evidence from global sample of 140 countries. *Int J Fin Econ*. 2021;26:5093–5109. DOI: 10.1002/ijfe.2056.
- Shleifer A. & Vishny RW (1993). Corruption. *The Quarterly Journal of Economics*, Aug., 1993, Vol. 108, No. 3 (Aug., 1993), pp. 599-617
- Spyromitros, E., & Panagiotidis, M. (2022). The Impact of Corruption on Economic Growth in Developing Countries and A Comparative Analysis of Corruption Measurement Indicators. *Cogent Economics & Finance*, 10(1). <https://doi.org/10.1080/23322039.2022.2129368>

- Stijns, J.C. (2005). Natural Resources abundance and economic growth revisited. *Resources Policy* 30. Pp 107-130. doi:10.1016/j.resourpol.2005.05.001
- Transparency International (2023). "CPI 2023: Highlights and insights". <https://www.transparency.org/en/news/cpi-2023-highlights-insights-corruption-injustice>. Diakses tanggal 10 Januari 2025
- Transparency International (2023). Corruption Perception Index. <https://www.transparency.org/en/cpi/>. diakses tanggal 20 November 2024
- Tyburski, M, Egan, P, & Schneider, A. (2020). Deep determinants of corruptions? A subnational analysis of resource curse dynamics in America States. *Political Research Quarterly*. 73(1). Pp 111-125.
- UNCOMTRADE (2023). International Trade Statistics Database (Online). <https://comtradeplus.un.org/TradeFlow>. Diakses tanggal 26 November 2024
- Van der Ploeg, F. (2011). *Natural Resources: Curse or Blessing?* Journal of Economic Literature, 49(2), 366-420
- World Bank, (2023) World Development Indicator. <https://databank.worldbank.org/source/world-development-indicators>. Diakses tanggal 21 November 2024
- World Bank, (2023) World Governance Indicator. <https://databank.worldbank.org/source/worldwide-governance-indicators>. Diakses tanggal 18 November 2024
- Williams, Andrew. (2011). Shining a Light on the Resource Curse: An Empirical Analysis of the Relationship between Natural Resources, Transparency, and Economic Growth. *World Development*, Vol. 39, No. 4, p. 495