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# Fiscal Dependence, Institutional Quality, and Environmental Policy: Rethinking the Resource Curse through the Fiscal Structural Resource Curse in Timor-Leste

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## ABSTRACT

Dependence on natural resources not only causes economic challenges but can also influence fiscal systems that affect governmental capacity, institutional quality, and environmental governance. However, the resource curse literature still positions resource availability and political behavior as the key explanation, while the importance of fiscal dependency as a structural factor has not been empirically examined. This paper explores the influence of Fiscal Dependence on Oil on Institutional-Environmental Governance Outcomes in Timor-Leste and examines whether Political Short-Termism plays a role as an intervening mechanism. The study used a quantitative method with Partial Least Squares–Structural Equation Modelling (PLS-SEM) based on annual secondary data for Timor-Leste over the period 2010–2025 (n = 16). Fiscal Dependence on Oil is quantified by dependence on oil income and the Petroleum Fund, while governance results are represented by Government Effectiveness, Regulatory Quality, Control of Corruption, Environmental Budget Ratio, and Environmental Integration Score. The results showed that Fiscal Dependence on Oil had a negative and substantial effect on Institutional-Environmental Governance Outcomes ($\beta = -0.710$; $p < 0.001$), with a clear power of the model of $R^2 = 0.807$. Fiscal Dependence on Oil is likewise highly associated with Political Short-Termism ($\beta = -0.664$; $p < 0.001$), although the reverse is the hypothesized direction. In contrast, Political Short-Termism had no significant effect on governance outcomes ($\beta = 0.253$; $p = 0.236$), and its indirect effect was equally minor ($\beta = -0.168$; $p = 0.326$). These findings show that the erosion of governance in Timor-Leste is more fundamental than being caused by short-term political factors. This research expands the notion of Fiscal Structural Resource Curse (FSRC) by identifying fiscal structure as a key mechanism that relates resource dependency with state capability and governance. The result is that reforms need to be geared toward fiscal diversification, enhancing the management of the Petroleum Fund, and incorporating the environmental agenda in public planning and budgeting.

**Keywords:** *Resource Curse; Fiscal Dependence; Fiscal Structural Resource Curse; Political Short-Termism; Institutional Quality; Environmental Governance; Timor-Leste.*

## INTRODUCION

In the last two decades, natural resource management has become one of the fundamental concerns in the study of political economy, public administration, and sustainable development. Increasing challenges owing to climate change, the transition to a low-carbon economy, and the expectations of meeting the Sustainable Development Goals (SDGs) have transformed the way development success is judged. The state is no longer considered successful merely because it can earn enormous income from the exploitation of natural resources, but also because it is able to translate these riches into effective institutions, excellent governance, and sustainability-oriented development strategies (Peng et al., 2023; Usman et al., 2026). Thus, the quality of governance is an increasingly critical aspect in understanding why some resource-rich countries are able to achieve equitable development, while others confront economic stagnation, institutional weakness, and environmental deterioration.

The argument regarding this occurrence gave birth to one of the most famous theories in the development literature, namely the Resource Curse Theory. Auty (2002) and Sachs & Warner (2001) demonstrate that the availability of natural resources is often connected with low economic growth, heavy dependency on primary commodities, inadequate economic diversification, and low-quality governance (Dauvin & Guerreiro, 2017; Li & Tong, 2024a). At the outset of its development, this theory was described more through macroeconomic causes such as the Dutch Disease, commodity price volatility, and dependency on resource exports. However, later research has demonstrated that economic explanations alone may not fully explain why countries with very equal levels of resource wealth can create substantially diverse development results (Alssadek & Benhin, 2021; Bunte, 2016). The researchers' attention subsequently switched from the economic issue to the quality of institutions and governance as a more critical determinant.

From an institutional perspective, natural resources are not considered a direct cause of development failure, but rather a factor whose impact is strongly influenced by the quality of institutions. Countries that have a professional bureaucracy, effective regulations, strong supervisory mechanisms, and a good accountability system tend to be able to allocate resource revenues to productive investment, infrastructure development, improving the quality of human resources, and diversifying the economy (Bergougui & Murshed, 2023a). In contrast, countries with limited institutional capability are more susceptible to rent-based practices, corruption, fiscal inefficiencies, and short-term oriented development plans. Therefore, institutional quality is a key aspect in explaining why natural resources might be a resource blessing or a resource curse (Destek et al., 2023; Lashitew & Werker, 2020).

As the literature evolves, attention to the resource curse no longer relies just on economic growth and the quality of democracy, but also on the ability of the state to integrate sustainability concerns into public policy (Feng & Li, 2024; Li & Tong, 2024a, 2024b). In this setting, environmental governance has earned an increasingly significant position since it shows the government's capacity to manage the link between economic development, natural resource management, and environmental protection. Countries that depend on the extractive sector face a tough situation. On the one hand, oil and gas are the key sources of governmental revenue that preserve budgetary stability. On the other hand, this dependence has the potential to restrict economic diversification, reduce investment in non-extractive productive sectors, and weaken commitments to the

sustainability agenda (McNabb, 2023a). Thus, the effectiveness of natural resource management is no longer assessed solely by the quantity of state revenue, but also by the government's ability to construct governance that is able to balance economic, social, and environmental goals.

Nevertheless, the majority of studies about the resource curse predominantly emphasize resource affluence, democratic quality, or political stability as the fundamental elements of their examination. Explanations of the impact of fiscal reliance on oil income on institutional quality and environmental governance remain comparatively scarce. Indeed, in numerous rentier nations, the primary issue lies not solely in the magnitude of oil reserves or the worth of commodity exports, but also in the substantial share of governmental income derived from these industries (Barma, 2021a; Farzanegan, 2025a). This revenue framework can influence the trajectory of governmental expenditure, affect developmental agendas, and establish long-term institutional motivations. In essence, fiscal structure is a crucial attribute that can influence a nation's capabilities more profoundly than variations in production and oil prices (A. S. Hassan, 2021).

This theoretical disparity gains significance as it pertains to the advancement of Fiscal Capacity Theory. This viewpoint asserts that a state's capability is influenced not solely by its revenue quantity, but also by the methods of acquisition. Nations that establish their economic frameworks on a domestic tax foundation generally foster more robust connections with citizens, enhance governmental accountability, fortify bureaucratic structures, and promote more efficient public service provision (Masi et al., 2024a; Ricciuti et al., 2019). Conversely, nations that depend significantly on natural resource revenues exhibit diminished motivation to broaden the tax base and enhance their administrative capabilities (Debonheur, 2025a). Recent advancements have presented the notion of the Fiscal Resource Curse, indicating that dependence on resource rents may impede the establishment of sustainable fiscal capacity. However, these studies still focus on the relationship between resource rents and fiscal capacity, but their implications for institutional quality and environmental governance have not been fully investigated (Narh, 2025).

At the same time, the literature on the Political Resource Curse shows that the high income from the extractive industry leads the government to adopt a more short-term policy orientation (political short-termism). Oil revenues lessen the government's need to construct fiscal contracts through the tax system, making the pressure on public accountability lower. This circumstance is believed to encourage the government to prioritize rent distribution and short-term political objectives over institutional change and long-term development investment (Desierto, 2018; Laniran & Adeleke, 2024; Zubikova, 2019). Nevertheless, scientific research surrounding this process still displays varied results. In some nations, short-term political orientation has been demonstrated to have an effect on the quality of institutions, while in others it has very little influence compared to structural characteristics such as bureaucratic capability and fiscal system design. These disparities in findings show that political mechanisms may not be the only explanation capable of explaining the relationship between resource dependency and the quality of governance (Krieger, 2022).

Timor-Leste is a very important empirical framework to test the dispute. Since attaining independence, the country's economic development has relied mainly on oil earnings administered through the Petroleum Fund, which for many years has been the main source of finance for the country's budget. The development model succeeds in giving a large fiscal flexibility for the

government, but at the same time produces a very high level of dependence on the extractive sector. The fall in production of the Bayu-Undan Field, the increase in withdrawals over the Estimated Sustainable Income (ESI), and the sluggish diversification of the economy imply that Timor-Leste's fiscal sustainability confronts increasingly serious issues. In these conditions, the key challenge is no longer merely how the government manages oil income, but how the structure of fiscal dependency impacts the quality of institutions and the state's ability to develop sustainable environmental governance.

The features of Timor-Leste as a small post-conflict country constitute an important empirical contribution to international literature. Most past studies have concentrated on large rentier countries such as Nigeria, Angola, Kazakhstan, or Middle Eastern countries. In contrast, Timor-Leste has a rising administrative capacity, a poor level of economic diversification, and a very heavy dependency on the Petroleum Fund. These conditions allow for testing of a more fundamental question, namely whether the weakening of institutional quality is primarily influenced by short-term political dynamics as described in the Political Resource Curse Theory, or is more determined by the structure of fiscal dependence that makes up the overall capacity of the state.

Based on these theoretical and empirical shortcomings, this study departs from the idea that the structure of fiscal dependency is a mechanism that has not received appropriate attention in the resource curse literature (Abdelkawy, 2026a; Farzanegan, 2025b; Sigman et al., 2022). In contrast to previous research that placed political behavior as the main mechanism, this study argues that fiscal dependence on oil revenues directly shapes the quality of institutions and environmental governance, while short-term political orientation is more a consequence of such fiscal structure than its primary cause. Thus, this study switches the focus of analysis from resource availability to fiscal dependency as a structural process that determines state capacity.

To explain this reasoning, this paper advances the idea of Fiscal Structural Resource Curse (FSRC). In contrast to the Resource Curse Theory, which places resource abundance as the main cause of development failure, and the Political Resource Curse Theory, which emphasizes changes in political incentives, the FSRC views the root of the problem as lying in the state revenue structure that is too dependent on natural resource rents. When most government revenues originate from the oil sector, incentives to expand tax capacity, increase bureaucratic performance, diversify the economy, and integrate environmental agendas into development strategies grow increasingly weak. Thus, the key difficulty is not the existence of natural resources themselves, but how the fiscal structure determines the institutional capacity of the state in the long term.

Based on these ideas, this study attempts to assess the influence of Fiscal Dependence on Oil on Institutional Quality and Environmental Governance, as well as test whether Political Short-Termism plays a role as a mediation mechanism in this relationship. For this reason, the research constructed a conceptual model that examines two opposing theoretical explanations, namely the Political Resource Curse and the Fiscal Structural Resource Curse. With this method, this study not only examines the relationship between factors, but also evaluates theoretical mechanisms that are better equipped to explain the dynamics of governance in rentier countries.

This research makes three important contributions. First, creating the Fiscal Structural Resource Curse (FSRC) as a theoretical refinement of the Resource Curse Theory by emphasizing the structure of fiscal dependency as the fundamental mechanism for state capacity creation. Second, enhancing the Fiscal Capacity Theory by explicitly tying it to institutional quality and environmental governance. Third, it presents new empirical data on Timor-Leste as a small post-conflict country that is still infrequently treated in the international literature on resource reliance. Through this contribution, this research is expected to enrich the literature on public administration, political economy, and natural resource governance while providing a conceptual basis for Petroleum Fund management reform, fiscal diversification, and strengthening sustainable development policies in rentier countries.

## THEORETICAL FRAMEWORK

### The Unresolved Debate on Resource Dependence: Why Do Resource-Rich Countries Experience Institutional Failure?

The paradox that countries with rich natural resources often endure slow economic growth, poor institutional quality, and weak governance has been one of the most significant disputes in the development political economy literature for more than three decades (Gerelmaa & Kotani, 2016; Murshed, 2018). This phenomenon is known as the Resource Curse, which is a condition in which the abundance of natural resources does not automatically result in better development, but instead correlates with increasing economic dependence, weak institutional capacity, and low quality of public governance (Auty, 2002; Sachs & Warner, 2001). Although this idea has been the prevailing framework in understanding development failures in resource-rich nations, there is still no consensus on the main mechanism relating resource dependency to development quality. These contrasts reveal that the resource dependence literature evolves not as an accumulation of complementary hypotheses, but as a series of conflicting theoretical explanations. Each approach gives a different causal explanation as to why resource-rich countries face development setbacks. Therefore, the fundamental concern in the contemporary literature is no longer whether the resource curse really exists, but which mechanism is best equipped to explain how resource reliance translates into institutional weakness and public governance. Thus, this study positions itself not to introduce a new variable, but to examine the rivalry between different explanatory processes.

The first discussion was dominated by an economic approach that put resource availability as the fundamental cause of development failure. Auty (2001)stated that resource richness promotes disproportionate dependency on the extractive sector, hence impeding economic diversification and diminishing the competitiveness of other productive sectors. This argument was then strengthened by Sachs & Warner (2001) through the concept of the Dutch Disease, which explained that increasing revenues from the resource sector lead to real exchange rate appreciation, weaken the manufacturing sector, and increase vulnerability to fluctuations in global commodity prices. In this perspective, development failures are regarded as a direct consequence of an economic structure that is unduly dependent on the exploitation of natural resources.

However, this economic theory began to garner criticism as several studies indicated that not all resource-rich countries experienced a resource curse. Norway has successfully transformed oil

income into long-term public investment through the management of the Global Government Pension Fund, while Botswana has been able to utilize the mining sector to boost institutional development and social investment. On the other hand, several countries with very similar resource characteristics continue to face economic stagnation, weak government quality, and high dependency on primary commodities. These changes show that resource abundance cannot be seen as a deterministic cause, but rather is influenced by other, more fundamental variables (Mehlum et al., 2002).

This critique fostered the emergence of Institutional Theory as a substitute explanation. North (1990) articulated that the determinants of economic development are not chiefly the quantity of resources available to a nation, but rather the caliber of the institutions that regulate political, economic, and social engagements. This viewpoint was further expanded upon by (Mehlum et al., 2002), who differentiate between institutions that favor producers and those that benefit grabbers. They assert that a nation with robust institutions can channel resource rents into productive investments, whereas a nation with feeble institutions fosters rent-seeking behavior and corruption. Acemoglu & Robinson (2012) elaborate on this notion by introducing the idea of inclusive institutions, which are frameworks that foster innovation, investment, and public accountability. From this viewpoint, the caliber of institutions is regarded as a crucial element for the efficacy of natural resource governance.

Despite offering a more thorough elucidation than the economic viewpoint, institutional theory remains deficient in addressing essential inquiries. If the quality of institutions is the primary determinant of developmental success, why do nations with comparably stable formal institutions exhibit significant disparities in governance quality and sustainable development? Institutional theory elucidates the significance of institutions; nevertheless, it has yet to comprehensively account for the factors that influence or undermine them, particularly in nations reliant on natural resource income (Bergougui & Murshed, 2023b).

The discussion subsequently transitioned to the political aspect via the formulation of the Political Resource Curse Theory. Ross (2015) contends that the detrimental impact of natural resources does not largely originate from economic attributes or institutional quality alone, but from changes in political incentives produced by significant state revenues from the extractive sector. When the government obtains most of its revenue from oil or minerals, its dependency on the domestic tax system decreases. As a result, the fiscal relationship between the state and society is weakened, the pressure on public accountability weakens, and the government has a larger incentive to retain legitimacy through rent distribution than through increasing the quality of public services (De La Cuesta et al., 2019). In this approach, Political Short-Termism is the fundamental mechanism that explains why resource-rich countries tend to endure a loss of institutional quality.

However, empirical research on the influence of political mechanisms also provides conflicting outcomes. Some countries with high levels of dependence on natural resources are nevertheless able to preserve bureaucratic quality and government effectiveness, while others see a considerably more dramatic reduction in institutional capability. The findings show that short-term political orientation may not be a universal mechanism, but is impacted by more fundamental structural

traits (Anthonsen et al., 2012; Koziuk & Dluhopolskyi, 2018). Thus, both Resource Curse Theory, Institutional Theory, and Political Resource Curse Theory still leave issues regarding the fundamental mechanisms that explain the link between natural resource dependency, state capability, and quality of governance.

Recent advancements in the literature on public administration and political economics have begun to focus attention on the budgetary structure of the state as a mechanism that has received relatively little attention. In contrast to prior methods that focused on natural resources, institutions, or political behavior, this perspective considers that the way the state acquires and manages public income is the foundation of institutional capacity building. This argument opens up scope for a new question: is the major problem of rentier countries truly not in the quantity of resources, but in the structure of fiscal dependency constructed on those resources? This question is the starting point of this research as well as opening up space for the creation of the Fiscal Structural Resource Curse (FSRC) perspective as a theoretical refinement of the resource curse literature.

Consequently, this study does not seek to refute Resource Curse Theory, Institutional Theory, or Political Resource Curse Theory. This research aims to reassess the connection among the three viewpoints by investigating whether the framework of fiscal reliance on oil income serves as a more essential factor in elucidating Political Short-Termism, Institutional Quality, and Environmental Governance. This methodology is anticipated to enhance the theoretical discourse surrounding resource-abundant nations while also establishing a conceptual framework for the advancement of the Fiscal Structural Resource Curse (FSRC) as a theoretical extension that amalgamates political economy, fiscal capacity, and public administration viewpoints.

**Fiscal Capacity as the Missing Mechanism: Reconsidering the Foundation of State Capacity**

The discourse surrounding the Resource Curse has transitioned from an economic rationale to one rooted in institutional and political factors. Nonetheless, these three viewpoints have a singular trait: they regard the nation's economic framework as a result of reliance on natural resources rather than as the primary causative process influencing state capacity. To put it differently, the majority of studies concentrate on the impact of resource revenues on development, although only a limited number elucidate how a state's revenue generation methods influence the caliber of institutions, bureaucracy, and public governance. This disparity then fosters the emergence of Fiscal Capacity Theory as a different viewpoint in comprehending state growth.

In the literature on public administration and political economy, fiscal capacity is understood as the ability of the state to collect, manage, and allocate financial resources effectively to support the administration of government and long-term development (Masi et al., 2024b). In contrast to the classical economic approach that emphasizes the amount of state revenue, this theory emphasizes that **the origins of state revenues** have very different consequences for institutional capacity building. Countries that build their revenues through domestic taxation systems tend to have stronger relationships with society because the sustainability of state revenues depends on the economic activities of citizens. This condition creates incentives for the government to increase accountability, strengthen the bureaucracy, improve public services, and build institutions that are more responsive to the needs of the community (de la Cuesta et al., 2023; Sjursen, 2023).

Conversely, nations that obtain the majority of their income from natural resource rents encounter distinct dynamics. Reliance on oil or mineral income diminishes the necessity for the government to broaden its domestic tax base. In the immediate future, this situation affords the administration considerable fiscal latitude. Nonetheless, over time, this reliance may undermine the fiscal bond between the state and its citizens (fiscal contract), resulting in diminished public demand for transparency, bureaucratic efficiency, and governmental accountability (Arzaghi & Balthrop, 2018; Debonheur, 2025b). Consequently, the primary issue faced by rentier nations is not merely the presence of natural resources, but rather the economic framework established around these earnings.

This viewpoint broadens the comprehension of state capability that has been predominantly examined within the institutional framework. According to Fukuyama (2013), the capacity of the state is not only dictated by the architecture of formal institutions, but also by the administrative ability of the government to devise policies, manage public resources, and implement decisions efficiently. This skill necessitates consistent and enduring financial backing. Therefore, fiscal capacity can be considered as the basis that allows the development of bureaucratic capacity, regulatory effectiveness, and the quality of governance.

In recent years, attention to the relationship between natural resources and fiscal capability has intensified. Research byMasi et al. 2024a) reveals that nations that rely substantially on resource rents see a slowdown in domestic fiscal capacity building because governments have reduced incentives to grow the tax system. They call this phenomenon the Fiscal Resource Curse, which is a state in which dependence on resource receipts hampers the development of fiscal capacity necessary for long-term development. These findings offer an important addition because they move attention from the problem of the magnitude of state revenue to the structure of state revenue.

However, the literature on **the Fiscal Resource Curse** still has conceptual limitations. Most research stops at the relationship between resource dependence and fiscal capacity without explaining how that fiscal capacity subsequently affects the quality of institutions and environmental governance. In other words, fiscal structure is still treated as an economic variable, not as a mechanism that explains the formation of **state capacity** more broadly. In fact, from a public administration perspective, the state's ability to develop effective institutions and sustainable environmental governance is highly dependent on fiscal capacity that is able to support long-term investment, bureaucratic professionalization, and consistency in policy implementation (Besley & Persson, 2009; Zheng et al., 2026).

Keterbatasan tersebut menjadi semakin relevan dalam konteks negara-negara pasca-konflik dan negara berkembang yang bergantung pada sumber daya alam, termasuk Timor-Leste. Sejak memperoleh kemerdekaan, pembangunan ekonomi Timor-Leste sangat ditopang oleh penerimaan minyak yang dikelola melalui *Petroleum Fund*. Pendapatan tersebut berhasil meningkatkan kapasitas fiskal pemerintah dalam jangka pendek dan membiayai berbagai program pembangunan. Namun, pada saat yang sama, tingginya ketergantungan terhadap sektor minyak juga menimbulkan tantangan serius ketika produksi minyak mengalami penurunan dan diversifikasi ekonomi belum berkembang secara memadai. Dalam situasi demikian, pertanyaan yang lebih mendasar bukan lagi bagaimana pemerintah mengelola pendapatan minyak, tetapi bagaimana struktur ketergantungan

fiskal tersebut memengaruhi kemampuan negara membangun institusi yang kuat dan tata kelola lingkungan yang berkelanjutan setelah era minyak berakhir.

This research posits that Fiscal Dependence on Oil should not be perceived solely as a metric of governmental revenue composition. They embody the essential traits of a state's ability to establish fiscal connections with society, enhance public institutions, and cultivate governance focused on long-term growth. Consequently, the connection between reliance on oil revenues and the caliber of institutions beyond mere economic concerns, encompassing a public administration challenge tied to the enhancement of state capacity (*state capacity*) (Abdelkawy, 2026b; Barma, 2021b; Farzanegan, 2025c).

While Institutional Theory effectively redirects focus from resource abundance to institutional excellence, it nonetheless raises significant inquiries regarding the origins of the institution itself. This theory elucidates the significance of institutions for development; nevertheless, it fails to account for the varying institutional quality observed in nations with comparable resource reliance. This constraint propels the evolution of the subsequent viewpoint that redirects the analytical emphasis from institutions to the political motivations that influence those institutions.

The discourse additionally offers a novel viewpoint on the Political Resource Curse Theory. If Ross (2015) identifies Political Short-Termism as the primary factor contributing to institutional deterioration, then Fiscal Capacity Theory suggests that a short-term political focus may stem from a fiscal framework excessively reliant on resource rents. Politics may not be the fundamental reason; rather, it is a reaction to established financial incentives. This viewpoint offers a conceptual framework for examining whether Fiscal Dependence on Oil directly affects Institutional Quality and Environmental Governance, or if the entire association is mediated by Political Short-Termism as posited in earlier studies.

Therefore, this study presents Fiscal Capacity Theory as a conceptual bridge that integrates the Resource Course literature, institutional theory, and public administration theory. This approach allows this research not only to evaluate the validity of various perspectives that have developed, but also to open up space for the development of new theoretical synthesis regarding the relationship between fiscal structure, state capacity, institutional quality, and environmental governance. The synthesis will be expanded in the next part through the concept of Fiscal Structural Resource Curse (FSRC) as a theoretical refinement of the resource curse literature.

## Toward Fiscal Structural Resource Curse (FSRC): A Theoretical Refinement of Resource Curse Theory

The argument over the resource curse illustrates that there is no single perspective that can effectively explain the relationship between natural resource dependency, institutional quality, and development governance. The economic perspective places the excess of resources as the main cause of development failure through the mechanisms of economic distortion and Dutch Disease (Auty, 2001; Sachs & Warner, 2001). The institutional viewpoint then corrects this idea by saying that the success of development is governed more by the quality of institutions than by the existence of the natural resources themselves (Acemoglu & Robinson, 2012). Furthermore, the

Political Resource Curse Theory indicates that changes in political incentives due to large resource rents drive the government to be more oriented towards short-term political goals than sustainable institutional growth (Ross, 2015).

Nevertheless, although the Political Resource Curse Theory provides a more dynamic account of the shift in elite behavior, it still maintains that politics is the fundamental factor that causes the loss of institutional capacity. This premise is beginning to be put into question by recent discoveries in the political economy literature demonstrating that political behavior is likely a consequence of pre-formed fiscal incentive structures. Thus, an alternate theoretical explanation evolved that places fiscal capacity as the foundation for state capacity formation.

Thus, this paper proposes that the structure of fiscal dependency should be positioned as an antecedent mechanism for changes in political conduct and institutional quality. In this paradigm, Political Short-Termism is not considered the major source of institutional weakness, but rather a byproduct of the fiscal structure that provides particular political incentives. Similarly, institutional quality and environmental governance are regarded as a result of the state's ability to establish sustainable fiscal capacity, not just as a result of the existence of natural resources.

This argument has crucial consequences for the development of the Resource Curse theory. So far, causal linkages in the literature are widely understood as follows:

**Resource Abundance → Political Behaviour → Institutional Quality**

or

**Resource Abundance → Institutional Quality → Development**

This research indicates that this relationship has to be refined by establishing Fiscal Dependence on Oil as a structural mechanism that determines the capacity of the state. Thus, the postulated causal pathway becomes:

**Resource Abundance → Fiscal Dependence → State Capacity → Institutional Quality → Environmental Governance**

In this perspective, Fiscal Dependence is not merely a macroeconomic statistic, but indicates the essential character of the fiscal interaction between the state and society. Countries that rely largely on oil income have weaker incentives to construct comprehensive tax systems, expand bureaucracy, and develop public accountability measures. In contrast, governments that successfully minimize budgetary dependency on resources tend to have higher capacity to construct adaptable institutions and long-term-oriented environmental policies (Keller, 2022).

If the Resource Curse Theory places resources as the main cause, Institutional Theory places institutions as the explanatory factor, and Political Resource Curse Theory views political orientation as the main mechanism, then Fiscal Capacity Theory offers a different perspective by placing the state revenue structure as the foundation of institutional capacity. The four perspectives do not directly refute each other, but illustrate the different steps of the mechanism. The challenge

is that the literature has not supplied a conceptual framework that unifies these four mechanisms into a single complete explanatory model.

Based on these considerations, this paper proposes the concept of the Fiscal Structural Resource Curse (FSRC). In contrast to the Fiscal Resource Curse idea, which focuses on delays in fiscal capacity creation (Masi et al., 2024a), the FSRC positions the structure of fiscal dependency as the basis that forms institutional capacity and environmental governance. Thus, the FSRC not only explains why the state fails to construct an effective tax system, but also shows how the fiscal structure impacts the quality of the bureaucracy, the effectiveness of laws, and the ability of the state to manage environmental sustainability.

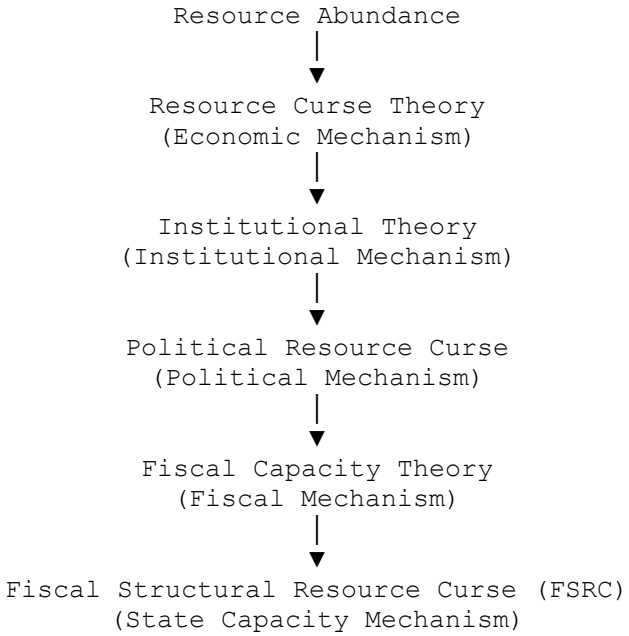
The key theoretical contribution of this research resides in the refinement of causal mechanisms in the Resource Curse literature. This research does not dismiss earlier theories, but merges Resource Curse Theory, Institutional Theory, Political Resource Curse Theory, and Fiscal Capacity Theory into a more comprehensive conceptual framework. Within this perspective, natural resources remain the initial condition, but their impact on institutional quality and environmental governance is mediated by the fiscal dependency structure that forms the state's capability. Thus, the focus of the research turns from the question of whether natural resources cause development failure to how the fiscal framework developed from natural resources determines the capacity of the state to manage development sustainably.

The ramifications of this theoretical refinement are particularly crucial for developing countries that depend on natural resources, including Timor-Leste. In this setting, the success of development is defined not just by the volume of oil revenues, but by the state's ability to translate those funds into a more diverse fiscal system, stronger institutions, and more sustainable environmental governance. Therefore, the Fiscal Structural Resource Curse (FSRC) offers a more appropriate approach to explain the development issues of rentier countries that are entering the transition phase to a post-resource economy.

On the basis of this theoretical synthesis, this study presents five research hypotheses. The first hypothesis evaluates whether Fiscal Dependence on Oil enhances Political Short-Termism as anticipated by the Political Resource Curse Theory. The second and third hypotheses evaluate whether Fiscal Dependence directly affects Institutional Quality and Environmental Governance, as predicted by Fiscal Capacity Theory. Furthermore, the fourth and fifth hypotheses analyze whether Political Short-Termism is still the key mechanism that explains the quality of institutions and environmental governance, or whether these influences are more accurately understood as a consequence of the country's fiscal structure. Thus, the hypothesis in this study not only examines the relationship between variables, but also evaluates the conflicting theoretical interpretations that evolve in the resource dependency literature.

Overall, the five hypotheses not only assess the correlations between variables, but also analyze two conflicting theoretical mechanisms, namely the Political Resource Curse and the Fiscal Structural Resource Curse.

## Evolution of Theoretical Perspectives on Resource Dependence




Thus, this study views the argument in the literature as not about whether economic, institutional, political, or fiscal perspectives are the most valid theories. Instead, this study argues that the four perspectives explain distinct levels of analysis. Resource Curse Theory describes the beginning condition, Institutional Theory explains institutional capacity, Political Resource Curse Theory explains the dynamics of elite conduct, and Fiscal Capacity Theory explains the incentive structure that drives the entire process. Based on this synthesis, this research presents the Fiscal Structural Resource Curse (FSRC) as a theoretical refinement that unifies the four viewpoints into a more thorough explanatory mechanism.

**Hypothesis Development: Testing Competing Theoretical Explanations**

The theoretical disputes discussed in the previous section reveal that the relationship between natural resource dependency, institutional quality, and environmental governance has not yet been convincingly explained. Resource Curse Theory, Institutional Theory, Political Resource Curse Theory, and Fiscal Ability Theory give diverse explanations of how natural resources affect the ability of a state. Therefore, this study not only studies the relationship between factors, but also evaluates conflicting theories surrounding the establishment of institutional quality and environmental governance in countries depending on natural resources.

In this paradigm, the Political Resource Curse Theory posits that the shift in political orientation owing to dependency on resource rents is the main mechanism that explains the erosion of institutional quality. On the other hand, Fiscal Capacity Theory contends that the state revenue structure is the foundation of state capacity construction, so that changes in political conduct are truly a consequence of the fiscal structure that has been developed. Based on this synthesis, this paper introduces the Fiscal Structural Resource Curse (FSRC) as a theoretical refinement that

establishes Fiscal Dependence on Oil as a structural mechanism that precedes the creation of institutional capacity and environmental governance.

Thus, the hypothesis of this study is not meant only to assess the statistical significance of the link between variables, but to examine whether political or fiscal mechanisms give a stronger explanation for institutional quality and environmental governance. The following five hypotheses are empirical representations of the theoretical discussion.

**Fiscal Dependence on Oil and Political Short-Termism**

According to the Political Resource Curse Theory, reliance on oil revenues diminishes the government's need to build fiscal obligations through a domestic tax system. Reduced reliance on tax income undermines government accountability to the community, so that political elites have a larger incentive to allocate resource rents to retain short-term political support than to create institutional capacity in the long term (Ross, 2015). From the perspective of Fiscal Capacity Theory, the link is considered a logical result of the country's fiscal structure being unduly dependent on the extractive sector.
Based on these arguments, this study suggests the first hypothesis.

**H1. Fiscal Dependence on Oil has a positive effect on Political Short-Termism.**

**Fiscal Dependence on Oil and Institutional Quality**

The institutional approach indicates that institutional quality is the fundamental prerequisite for effective development (Acemoglu & Robinson, 2012). However, the theory has not adequately articulated the variables that affect the quality of institutions. On the other hand, Fiscal Capacity Theory views the state revenue system as the foundation for the establishment of a professional bureaucracy, effective public administration, and robust accountability mechanisms (Besley & Persson, 2009). Based on this perspective, the paper contends that the larger the fiscal dependency on oil revenues, the lesser the state's ability to construct effective institutions.

Thus, a second hypothesis is proposed.

**H2. Fiscal Dependence on Oil hurts Institutional Quality.**

**Fiscal Dependence on Oil and Environmental Governance**

Environmental governance involves administrative capability, regulatory uniformity, and long-term oriented public investment. Countries that rely largely on oil rents tend to have higher incentives to sustain resource exploitation than to enhance environmental protection legislation. Therefore, the FSRC contends that the structure of fiscal dependency not only affects institutional capacity, but also defines the state's ability to implement sustainable environmental governance.

Based on these arguments, this study suggests a third possibility.

**H3. Fiscal Dependence on Oil hurts Environmental Governance.**

**Political Short-Termism and Institutional Quality**

The Political Resource Curse Theory emphasizes that short-term political orientation encourages the government to prioritize rent distribution over institutional improvement. As a result, the professionalism of the bureaucracy, the efficiency of rules, and the quality of public administration are compromised (Ross, 2015). However, from the FSRC's perspective, the relationship is not regarded as the fundamental mechanism, but rather as an intervening mechanism influenced by the country's fiscal structure.

Thus, the relationship between Political Short-Termism and Institutional Quality needs to be investigated empirically.

**H4. Political Short-Termism has a detrimental effect on Institutional Quality.**

**Political Short-Termism and Environmental Governance**

Sustainable environmental development involves long-term policy orientation, cross-sectoral collaboration, and sustainability of public investment. On the other hand, short-term political orientations tend to urge governments to embrace policies that yield economic gains fast over long-term environmental protection. Therefore, the Political Resource Curse Theory predicts that Political Short-Termism will lower the effectiveness of Environmental Governance. However, based on the FSRC's position, this influence is not projected to be bigger than the direct influence of the fiscal reliance structure.

Thus, this investigation proposes the last hypothesis.

**H5. Political Short-Termism has a detrimental effect on Environmental Governance.**

## METHODOLOGY

**Research Design and Justification of Approach**

This study applies a quantitative technique based on Partial Least Squares–Structural Equation Modelling (PLS-SEM) with annual time-series data for the period 2010–2025. The selection of the PLS-SEM method is based on methodological and epistemological concerns.

First, the sample size is rather small (n = 16 yearly observations), and the covariance-based SEM (CB-SEM) technique is less than desirable because it requires large sample sizes and rigorous multivariate normality assumptions. PLS-SEM is more suitable for investigations with small samples and data distributions that are not totally normal.

Second, this research is predictive and theoretically exploratory. PLS-SEM is aimed at maximising explained variance ($R^2$) in endogenous constructs and provides advantages in the setting of complex models with many latent constructs. In the study of political economy with multidimensional constructs such as oil reliance, institutional quality, and environmental commitment, the variance-based method is more relevant than the covariance-based approach.

Third, PLS-SEM permits reflective model estimation with composite indicators and national aggregate time-series, as recommended for macro governance studies (Hair et al., 2022). Thus, this method enables flexibility as well as precision in assessing the structural links between latent items.

The unit of analysis of this study is the national aggregate of Timor-Leste each year. Each observation indicates the annual value of fiscal, institutional, and environmental policy variables based on official data from:
1. Petroleum Fund Annual Reports (Banco Central de Timor-Leste, 2015–2024)
2. IMF Article IV Consultation Reports (IMF, 2019; 2023)
3. Worldwide Governance Indicators (World Bank, 2024)
4. Climate Public Expenditure and Institutional Review (UNDP, 2022)
5. Timor-Leste State Budget Report

The use of official secondary data follows a typical approach in macropolitical economy studies.

**Oil Revenue Dependence (X)**

The Oil Revenue Dependence construct evaluates the intensity of fiscal dependence on the oil and gas sector. The resource curse research reveals that the ratio of oil income to total state revenues is the major indicator of the rentier structure (Ross, 2015). This construct is operationalised through two reflecting indicators.

**(a) Ratio of Oil Revenue to Total State Revenue**

$$X_{1t} = \frac{\text{Oil Revenue}_t}{\text{Total State Revenue}_t}$$

Oil revenue includes royalties, oil and gas taxes, and Petroleum Fund transfers in t.
This ratio represents the level of structural fiscal dependency. The literature demonstrates that values above 50% often indicate the characteristics of a rentier state (McNabb, 2023b)

**(b) Ratio of Petroleum Fund Withdrawals to GDP**

$$X_{2t} = \frac{\text{Total Withdrawal Petroleum Fund}_t}{\text{Nominal PDB}_t}$$

Withdrawal from the Petroleum Fund is the total funds withdrawn in the same year. This ratio reflects the intensity of rent use in relation to the size of the national economy. The IMF (2019) uses comparable indicators to evaluate Timor-Leste's budgetary sustainability.

These two indicators are normalised and incorporated in a latent construct using PLS outer loading estimation.

**Political Short-Termism (M)**

The idea of political short-termism refers to the inclination of policies that are directed towards short-term advantages rather than long-term stability (Jacobs, 2016). In the context of rentier countries, fiscal indicators are commonly utilised as short-term behavioural proxies.
This construct is produced using two reflective indicators.

**(a) Excess Withdrawal over Estimated Sustainable Income (ESI)**

$$M_{1t} = \frac{\text{Actual Withdrawal}_t - \text{ESI}_t}{\text{ESI}_t}$$

If the value is positive, it signifies that the withdrawal exceeds the budgetary sustainability limit. The IMF (2019) warned that continuous withdrawals from ESIs increase the risk of long-term instability.

**(b) Ratio of Routine Expenditure to Capital Expenditure**

$$M_{2t} = \frac{\text{Routine Expenditure}_t}{\text{Capital Expenditure}_t}$$

Routine spending reflects consumptive expenditure, while capital expenditure reflects long-term investment. The fiscal literature demonstrates that the dominance of routine spending generally coincides with pro-cyclical policies and short-term bias(M. Hassan & Kandil, 2014)

These two indicators are merged through PLS weight estimation to generate the Political Short-Termism construct.

**Institutional–Environmental Outcome (Y)**

This design integrates the quality of public institutions and environmental policy commitments. The literature demonstrates that governance quality is a crucial driver of the effectiveness of environmental initiatives (Colgan et al., 2021).

This construct is built using five reflective indicators.

**(a) Government Effectiveness**

WGI index (-2.5 to +2.5) (World Bank, 2024).

**(b) Regulatory Quality**

The WGI index reflects the capacity of public regulation.

**(c) Control of Corruption**

The WGI index is related to the control of abuse of power.

These three indicators are used directly in comparative governance studies.

**(d) Environmental Budget Ratio**

$$Y_{4t} = \frac{\text{Ministry of Environment Budget}_t}{\text{Total Expenditure State}_t}$$

UNDP (2022) utilised a similar technique in the Climate Public Expenditure Review to analyse fiscal priorities against the climate agenda.

**(e) Environmental Policy Integration Score**

$$Y_{4t} = \frac{\text{Number of Environmental Clauses}_t}{\text{Total Policy Clause}_t}$$

This score was determined through the content analysis of national planning papers, following the content-based policy scoring method.

The five indicators were normalised and estimated as latent constructs using the PLS technique.

**Construct Estimation in PLS-SEM**

The latent construct score is calculated as a linear combination of indicators:

$$\eta t = \sum_{i=1}^{k} \mathcal{W}i\mathcal{X}it$$

ηt = latent construct score of *t* year
Wi= outer weight indicator to *i*
Xi = value of indicator *i* in year *t*

## RESULTS AND DISCUSSION

The findings of the evaluation of the measurement model demonstrated that all indicators utilized in the study had a good ability to reflect latent components. All exterior loading values are above the suggested limit, which is 0.70. The Fiscal Dependence on Oil construct is represented by two indicators, namely Oil Revenue with an outer loading value of 0.916 and the Petroleum Fund-to-GDP Ratio of 0.865. The Political Short-Termism construct also displays a high outer loading value, 0.914 for Excess ESI and 0.880 for Ratio of Withdrawal to Revenue, respectively. Meanwhile, the Institutional-Environmental Governance Outcomes construct comprises five indicators with outer loading values of 0.949 to 0.979.

**Figure 1. Outer Loading - Graphic**

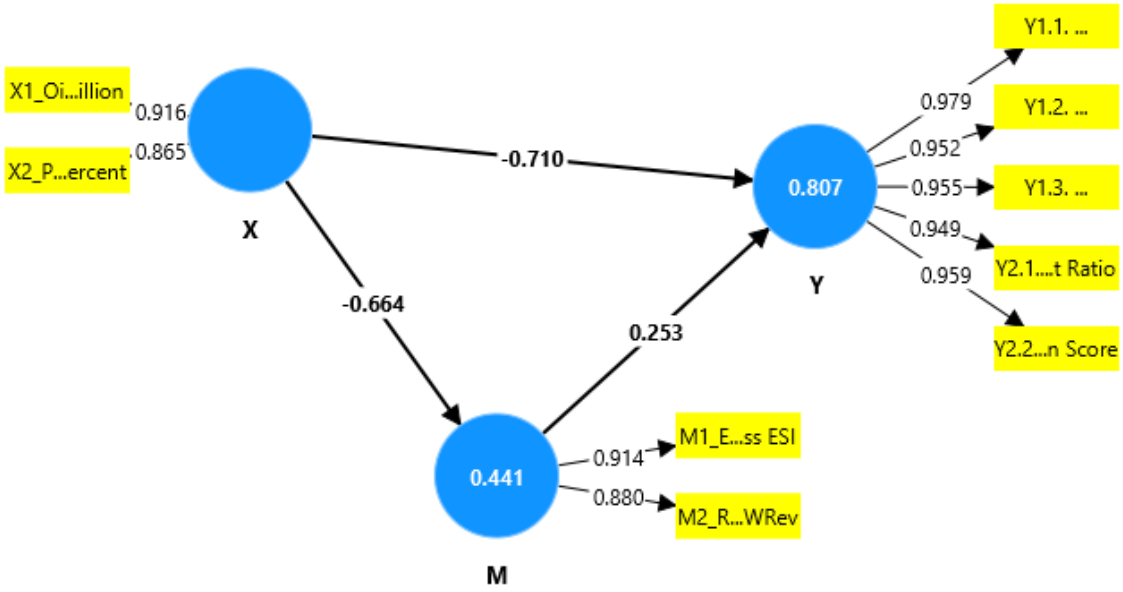



**Table 1. Constructs and Indicators Profile**

| Construct | Indicator | Description |
|---|---|---|
| Fiscal Dependence on Oil (X) | X1 | Oil Revenue |
| | X2 | Petroleum Fund to GDP |
| Political Short-Termism (M) | M1 | Excess ESI |
| | M2 | Withdrawal/Revenue Ratio |
| Institutional–Environmental Governance (Y) | Y1 | Government Effectiveness |

| Construct | Indicator | Description |
|---|---|---|
| | Y2 | Regulatory Quality |
| | Y3 | Control of Corruption |
| | Y4 | Environmental Budget Ratio |
| | Y5 | Environmental Integration Score |

These results suggest that the indicators utilized have significant convergent validity. This is corroborated by the findings of the construct reliability test. Cronbach's Alpha value for Fiscal Dependence on Oil is 0.742, and Political Short-Termism is 0.759, while Institutional-Environmental Governance Outcomes is 0.978. The Composite Reliability values are 0.885, 0.892, and 0.983, respectively, while the AVE value is in the range of 0.793–0.919. Thus, the constructs in the model have acceptable internal consistency and convergent validity.

**Table 2. Outer Loading dan Signifikansi Indikator**

| Construct | Indicator | Loading | T-statistic | p-value |
|---|---|---|---|---|
| Fiscal Dependence | Oil Revenue | 0.916 | 9.788 | <0.001 |
| Fiscal Dependence | Petroleum Fund/GDP | 0.865 | 4.746 | <0.001 |
| Political Short-Termism | Excess ESI | 0.914 | 14.773 | <0.001 |
| Political Short-Termism | Withdrawal/Revenue | 0.880 | 7.527 | <0.001 |
| Governance | Government Effectiveness | 0.979 | 115.611 | <0.001 |
| Governance | Regulatory Quality | 0.952 | 41.491 | <0.001 |
| Governance | Control of Corruption | 0.955 | 50.458 | <0.001 |
| Governance | Environmental Budget Ratio | 0.949 | 37.399 | <0.001 |
| Governance | Environmental Integration Score | 0.959 | 67.583 | <0.001 |

In terms of multicollinearity, the VIF value in the inner model is rather low, namely 1,000 for X→M links and 1,788 for X→Y and M→Y relationships. The value is still much below the typical limit used to diagnose collinearity problems. Thus, the structural relationships in the model do not reveal major multicollinearity concerns.

However, there is one significant note linked to discriminant validity. The HTMT score between Fiscal Dependence on Oil and Institutional–Environmental Governance Outcomes was 1.036, which was over the general limit of 0.90. These data show that the two conceptions have a very strong empirical connection. These conditions need to be acknowledged in interpretation, especially because theoretically the research places fiscal structure as a factor that directly impacts institutional capacity and environmental governance. In other words, the empirical proximity can also be taken as an indicator that budgetary dependence and governance quality are actually

fundamentally interrelated in the situation of Timor-Leste. However, HTMT's findings still need to be recognized as a limitation of measurement in the article.

**Table 3. Discriminant Validity: HTMT**

| Construct | FDO | PST | IEGO |
|---|---|---|---|
| Fiscal Dependence on Oil | — | 0.854 | **1.036** |
| Political Short-Termism | 0.854 | — | 0.829 |
| Institutional–Environmental Governance | **1.036** | 0.829 | — |

The structural model displays a reasonably significant explanatory capacity. Fiscal Dependence on Oil was able to explain 44.1% of the variation in Political Short-Termism ($R^2 = 0.441$; adjusted $R^2 = 0.394$). Meanwhile, Fiscal Dependence on Oil coupled with Political Short-Termism was able to explain 80.7% of the variation in Institutional-Environmental Governance Outcomes ($R^2 = 0.807$; adjusted $R^2 = 0.772$).

**Table 4. Coefficient of Determination ($R^2$)**

| Endogenous Construct | $R^2$ | Adjusted $R^2$ |
|---|---|---|
| Political Short-Termism | 0.441 | 0.394 |
| Institutional–Environmental Governance Outcomes | **0.807** | **0.772** |

The $R^2$ value of 0.807 is an important finding since it suggests that most of the variation in the institutional quality and environmental governance examined in the study can be explained by fiscal dependency structures and short-term political orientation. However, the contribution of the two variables is not equally large.

The effect size results showed that Fiscal Dependence on Oil had a big influence on Institutional-Environmental Governance Outcomes ($f^2 = 1.460$) and also had a strong influence on Political Short-Termism ($f^2 = 0.788$). In contrast, the influence of Political Short-Termism on Institutional–Environmental Governance Outcomes was less ($f^2 = 0.186$).

**Table 5. Effect Size ($f^2$)**

| Structural Relationship | $f^2$ | Interpretation |
|---|---|---|
| Fiscal Dependence → Political Short-Termism | 0.788 | Large |
| Fiscal Dependence → Governance Outcomes | **1.460** | Very large |
| Political Short-Termism → Governance Outcomes | 0.186 | Medium |

These discrepancies are crucial in answering the theoretical problems of the investigation. If the Political Resource Curse Theory places political behavior change as the major mechanism, then the results of this study actually demonstrate that Fiscal Dependence on Oil has a larger explanatory power than Political Short-Termism. Thus, Timor-Leste's governance challenges are better understood through budgetary structure rather than through short-term changes in political conduct.

## Fiscal Dependence on Oil and Political Short-Termism: H1 Testing

H1 states that Fiscal Dependence on Oil has a positive effect on Political Short-Termism. This concept was established based on the Political Resource Curse Theory, which claims that dependency on oil revenues decreases the government's need to establish fiscal connections through domestic taxation. This condition is likely to weaken public accountability requirements and boost the temptation of political elites to use resource rents for short-term objectives.

The results of SEM-PLS demonstrate that Fiscal Dependence on Oil does have a significant association with Political Short-Termism, with a path coefficient of $\beta = -0.664$, a t-value of 5.156, and $p < 0.001$. The confidence interval also does not include zero, i.e., −0.931 to −0. 481.

**Table 6. Structural Path Coefficients and Hypothesis Testing**

| Hypothesis | Path | β | t | p | Decision |
|---|---|---|---|---|---|
| H1 | FDO → PST | **−0.664** | **5.156** | **<0.001** | Not supported |
| H2/H3 | FDO → IEGO | **−0.710** | **3.823** | **<0.001** | Supported* |
| H4/H5 | PST → IEGO | 0.253 | 1.184 | 0.236 | Not supported* |

However, the direction of the relationship is negative, while H1 suggests a positive association. Therefore, H1 cannot be called supported in the hypothetical direction.

These findings are interesting because they reveal that the relationship between budgetary dependency on oil and short-term political orientation in Timor-Leste is not as simple as suggested by the Political Resource Curse Theory. Increasing fiscal dependency does not automatically result in an increase in Political Short-Termism in the positive direction as indicated in the hypothesis.

One interpretation that may be made is that Timor-Leste's dependency on oil has become part of the country's relatively durable fiscal structure. The Petroleum Fund, the Estimated Sustainable Income (ESI) mechanism, and the withdrawal decision have been integrated into the country's budgeting process. Thus, the implications of fiscal dependency do not have to show in the form of short-term political orientation changes every year. Instead, its influence might work through established organizations and budget systems.

These findings provide essential nuances for the development of the FSRC. Political Short-Termism may not be the main source of governance difficulties, but it is one of the results formed

by a more fundamental fiscal framework. Thus, the H1 results actually urge this study to move from an explanation focusing on political conduct to an explanation centered on fiscal structure.

**Fiscal Dependence on Oil and Institutional–Environmental Governance: H2 and H3 Testing**

H2 argues that Fiscal Dependence on Oil has a negative influence on Institutional Quality, while H3 states that Fiscal Dependence on Oil has a negative effect on Environmental Governance. Both hypotheses are built from the standpoint of Fiscal Capacity Theory and FSRC, which identify the state revenue structure as one of the cornerstones of institutional capacity building and sustainable governance.

In the latest empirical model, Institutional Quality and Environmental Governance are not investigated as two independent endogenous variables, but are merged into one construct of Institutional–Environmental Governance Outcomes (Y). This concept is represented by five metrics, namely Government Effectiveness, Regulatory Quality, Control of Corruption, Environmental Budget Ratio, and Environmental Integration Score. The five indicators show a relatively high outer loading, between 0.949 and 0.979.

The test findings showed that Fiscal Dependence on Oil had a negative and substantial effect on Institutional–Environmental Governance Outcomes, with $\beta = -0.710$, $t = 3.823$, and $p < 0.001$ (As show table 6). The confidence interval is in the range of −1.160 to −0.465; therefore, it does not include zero.

Thus, the results provide strong empirical evidence for the chemicals H2 and H3, although technically both were examined through a mixed construct. This indicates that the larger the government's budgetary dependency on oil income and the Petroleum Fund, the lower the quality of institutional and environmental governance portrayed in the model.

This discovery has significance from the perspective of public administration. Dependence on oil revenues is not simply a macroeconomic issue, but also related to the state's capacity to develop sustainable bureaucracy, regulation, accountability, and environmental laws. When most of the state's revenue sources come from natural resource rents, the incentives to extend the domestic tax base and develop strong fiscal relationships with communities can become weaker.

These factors can further impair the quality of bureaucracy and rules. Government Effectiveness, Regulatory Quality, and Control of Corruption require long-term institutional investment. Similarly, environmental governance requires budget capacity, regulatory coherence, policy integration, and bureaucratic ability to support the environmental agenda under the demands of development needs.

Thus, the institutional quality and environmental governance in the context of Timor-Leste can be understood as two dimensions generated from the same basis of fiscal capability. This explains why institutional indicators and environmental indicators move in the same construct in the study model.

The findings corroborate the FSRC's view that the major problem is not just the existence of oil, but the fiscal structure that is established owing to dependence on oil. When oil becomes the dominant source of development financing, countries gain fiscal flexibility in the near term, but at the same time may encounter difficulty in establishing more diverse and sustainable fiscal capacity.

In the context of Timor-Leste, the issue is particularly critical when oil output is dropping, and economic diversification has not been adequately implemented. Therefore, the government's fundamental problem is not merely to retain revenues, but to restructure the fiscal architecture so that institutional capacity and environmental policies do not continue to depend on the maintenance of oil rents.

## Political Short-Termism and Governance Outcomes: H4 and H5 Testing

H4 argues that Political Short-Termism has a negative effect on Institutional Quality, while H5 states that Political Short-Termism has a negative effect on Environmental Governance. Both ideas depart from the Political Resource Curse Theory, which holds that short-term political orientation can drive the government to prioritize the distribution of rents and political gains over institutional development and long-term environmental conservation.

However, the outcomes of the investigation do not support both assumptions. The effect of Political Short-Termism on Institutional–Environmental Governance Outcomes was favorable but not significant, with $\beta = 0.253$, $t = 1.184$, and $p = 0.236$ (as indicated in Table 6). The confidence interval −0.302 to 0.570 also includes zero. Thus, H4 and H5 are not supported.

The findings are one of the most noteworthy outcomes in the study because they directly question the premise that short-term political orientation shifts are the major mechanism that causes inadequate governance in resource-dependent countries.

If Political Short-Termism is the fundamental mechanism, then an increase in short-term political orientation should be followed by a reduction in the quality of institutions and environmental governance. However, such a tendency was not detected in our investigation. In contrast, when Fiscal Dependence on Oil is included explicitly in the model, the effect of Political Short-Termism on governance results becomes minimal.

These results are also compatible with indirect effects testing. The indirect influence of Fiscal Dependence on Oil on Institutional-Environmental Governance Outcomes through Political Short-Termism was $\beta = -0.168$, $t = 0.982$, and $p = 0.326$. The confidence interval −0.440 to 0.268 contains zero. Thus, Political Short-Termism has not been proven to be a mediator in the relationship between Fiscal Dependence on Oil and governance results.

The findings are essential for the theoretical reasoning of the research. The direct influence of Fiscal Dependence on Oil on governance outcomes is very high, but the indirect channel through

Political Short-Termism is not significant. The cumulative effect of Fiscal Dependence on Oil on governance outcomes reached $\beta = -0.878$, with $t = 15.776$ and $p < 0.001$.

In other words, fiscal structure has a more basic position than short-term political dynamics in explaining variances in governance outcomes in Timor-Leste.

**Mediation Analysis of Political Short-Termism**

Mediation testing was conducted to evaluate whether Political Short-Termism serves as a mechanism that bridges the influence of Fiscal Dependence on Oil on Institutional-Environmental Governance Outcomes. This testing is a crucial part of the study since the relationship between natural resource dependency and governance quality is not only understood based on the presence or absence of direct effects, but also on the mechanisms that explain how those influences take place. Within the framework of the Political Resource Curse Theory, dependency on natural resource revenues is projected to influence government political incentives. When governments get relatively large sources of financing from natural resource rents, dependence on domestic taxes can be lessened and incentives to establish long-term accountability can also be diminished. These conditions are then predicted to induce a more short-term political orientation and ultimately decrease the quality of institutions and environmental governance. This study methodology specifically places Political Short-Termism as an intervening variable that facilitates testing of the mechanism.
Empirically, the test findings showed that the indirect relationship of Fiscal Dependence on Oil → Political Short-Termism → Institutional-Environmental Governance Outcomes had a coefficient of $\beta = -0.168$, with a t-value of 0.982 and a p-value of 0.326. The bootstrap confidence interval is in the range of −0.440 to 0.268; therefore, it contains zero. Thus, these indirect effects are not statistically significant.

**Table 7. Direct, Indirect, and Total Effects**

| Types of Influences | Relation | β | t-value | p-value | Conclusion |
|---|---|---|---|---|---|
| Direct Effect | Fiscal Dependence → Governance Outcomes | −0,710 | 3,823 | <0,001 | Significant |
| Indirect Effect | Fiscal Dependence → Political Short-Termism → Governance Outcomes | −0,168 | 0,982 | 0,326 | Insignificant |
| Total Effect | Fiscal Dependence → Governance Outcomes | −0,878 | 15,776 | <0,001 | Significant |

These results demonstrate a very important pattern. The direct influence of Fiscal Dependence on Oil on governance outcomes has proven to be large and powerful, but the indirect influence through Political Short-Termism is not significant. In other words, the relationship between fiscal dependency on oil and the quality of governance does not primarily take place through short-term changes in political orientation. Instead, most of those effects take place through direct pathways tied to the fiscal framework itself.

This discovery needs to be clearly separated from the results of X→M association testing. Previously, it was discovered that Fiscal Dependence on Oil had a substantial influence on Political Short-Termism, with $\beta = -0.664$; $t = 5.156$; $p < 0.001$. This suggests that increases in fiscal dependency are indeed highly related to Political Short-Termism. However, Political Short-Termism itself did not have a significant influence on governance outcomes, with $\beta = 0.253$; $t = 1.184$; $p = 0.236$.

In simple terms, the results can be described as follows:

**Fiscal Dependence on Oil**

↓
**Political Short-Termism**

↓
**Institutional–Environmental Governance**

In the first line, there is an important relationship. However, in the second line, there was no substantial influence. As a result, when the two paths were multiplied to generate an indirect effect, the results were also minor. This is the major reason why Political Short-Termism cannot be presented as a mediator in the relationship between Fiscal Dependence on Oil and Institutional–Environmental Governance Outcomes.

These findings are crucial since the research does not merely prove that Political Short-Termism is "insignificant", but shows where the theoretical process stops working. Fiscal Dependence on Oil is undoubtedly tied to Political Short-Termism, but these changes are not subsequently passed on to a decline in the quality of governance through the Political Short-Termism pathway. Thus, Political Short-Termism is not the key transmission route from budgetary dependence to governance outcomes.

## Comparison of Direct Effects and Indirect Effects

The contrast between direct effects and indirect effects further confirms this conclusion. The direct effect of Fiscal Dependence on Oil on Institutional-Environmental Governance Outcomes was $\beta = -0.710$ and significant at $p < 0.001$. In comparison, the indirect effect was merely $\beta = -0.168$ and negligible at $p = 0.326$.

These discrepancies suggest that the influence of Fiscal Dependence on Oil on governance outcomes is substantially stronger through direct pathways than through Political Short-Termism. In reality, the impact size demonstrates that the influence of Fiscal Dependence on Oil on governance outcomes reaches $f^2 = 1.460$, while the effect of Political Short-Termism on governance outcomes is only $f^2 = 0.186$.

These findings give a strong empirical basis for saying that fiscal structure has stronger explanatory power than short-term political dynamics. Thus, the governance flaws that occur in

the context of dependency on oil cannot be effectively addressed merely by claiming that the political class is becoming increasingly short-term oriented.

Rather, there is evidence that the country's own revenue structure has established conditions that shape institutional capability and incentives in the long run. Reliance on oil earnings and the Petroleum Fund can alter how governments acquire, allocate, and manage public resources. When such a framework has been established in the budgeting system, its influence can take place even without a dramatic change in the annual political perspective.

This explains why the total effect of Fiscal Dependence on Oil on governance outcomes remains quite substantial, namely $\beta = -0.878$, with $t = 15.776$ and $p < 0.001$. The entire effect implies that overall higher fiscal dependency on oil is related to a decrease in governance outcomes, but the path through Political Short-Termism is not able to explain the relationship considerably.

## What does no mediation mean?

The insignificance of Political Short-Termism mediation has far-reaching theoretical repercussions. This outcome does not suggest that politics is not relevant in the management of natural resources in Timor-Leste. A more acceptable conclusion is that Political Short-Termism is not the major mechanism that explains the association between fiscal dependency on oil and governance quality in this research model.

This distinction is essential. Political Resource Curse Theory tends to identify changes in elite behavior and political orientation as factors that link resource dependency to institutional deterioration. In this research model, the mechanism did not obtain significant empirical evidence. On the other hand, the data suggest that budgetary dependency has a considerably stronger direct influence on governance outcomes.

Thus, the challenge facing Timor-Leste can be regarded not primarily as a problem of "too short-term oriented politicians", but as a problem of "a fiscal structure that results in a long-term dependence on oil rents."

This divergence in perspective is fundamental in comprehending the case of Timor-Leste. When decisions regarding development funding, public spending, and fiscal sustainability are substantially influenced by oil income and the Petroleum Fund, the ramifications for state capacity might be fundamental. Even if the government's political attitude does not vary substantially from one period to the next, the fiscal framework might nonetheless result in very similar spending patterns and development priorities.

In this framework, Political Short-Termism is more accurately positioned as a variable related to fiscal structure, but not as a mediating mechanism that empirically continues the influence of fiscal dependency on governance. The results of the study even demonstrated that Fiscal Dependence on Oil had a strong association with Political Short-Termism, but Political Short-Termism did not have a significant influence on governance outcomes.

## Implications for the Fiscal Structural Resource Curse

The results of this mediation constituted a very essential empirical foundation for the idea of the Fiscal Structural Resource Curse (FSRC) presented in this study. The FSRC departs from criticism of the resource curse theory that overemphasizes political behavior change as the major mechanism. Within the framework of the FSRC, the basic problem lies in the state revenue structure that is unduly dependent on natural resource rents. This dependence then impacts fiscal incentives, administrative capacity, and development decision-making patterns in the long term.

The outcomes of the mediation provide concrete support for the argument. If Political Short-Termism is the major mechanism, then the indirect influence of Fiscal Dependence on Oil through Political Short-Termism should be large. However, the outcomes of the study reveal otherwise. Indirect pathways are minor, but direct paths are very strong and significant. Thus, the empirical evidence is more consistent with the Fiscal Structural Resource Curse mechanism than the Political Resource Curse mechanism.

Conceptually, these findings allow the *resource curse mechanism* in the context of Timor-Leste to be reformulated from:

**Resource Dependence → Political Short-Termism → Institutional and Environmental Governance Weakness**

to:

**Resource Dependence → Fiscal Dependence → Structural Constraints on State Capacity → Institutional and Environmental Governance Outcomes**

This approach is a significant contribution to research because it redirects attention from short-term political conduct to the budgetary architecture of the state. In other words, the study does not dispute the relevance of politics, but proposes that in the case of Timor-Leste, fiscal structure appears to be a more fundamental factor in developing state capacity and governance quality.

The findings also explain why governance reforms that focus merely on enhancing openness, strengthening democracy, or limiting elite conduct may not be enough to overcome the difficulties posed by resource reliance. If the source of the problem lies in the fiscal structure, then reform must be directed at diversifying state revenue sources, strengthening domestic tax capacity, discipline in the management of the Petroleum Fund, developing the non-oil sector, and integrating environmental policies into the budgeting and development planning system.

Thus, the results of mediation do not simply suggest that Political Short-Termism does not mediate the relationship between Fiscal Dependence on Oil and governance outcomes. Furthermore, these results give empirical evidence that the role of fiscal dependency on governance is more structural than political. This is the basic premise for the claim that the case of Timor-Leste needs to be examined through the viewpoint of the Fiscal Structural Resource Curse.

## Conclusion of the Mediation Testing

Overall, the mediation test generated three major findings. First, Fiscal Dependence on Oil has a direct negative and significant effect on Institutional-Environmental Governance Outcomes ($\beta = -0.710$; $p < 0.001$). Second, Political Short-Termism did not have a significant effect on governance outcomes ($\beta = 0.253$; $p = 0.236$). Third, the indirect effect through Political Short-Termism was also inconsequential ($\beta = -0.168$; $p = 0.326$), while the total effect remained very strong and significant ($\beta = -0.878$; $p < 0.001$).

Therefore, Political Short-Termism has not been shown to be a mediator. On the contrary, the pattern of empirical correlations demonstrates that Fiscal Dependence on Oil has a relatively direct and structural influence on the quality of institutions and environmental governance. These findings strengthen the FSRC's position as an alternate explanation that places fiscal architecture as a basic mechanism in the link between resource dependency, state capacity, and governance outcomes.

## Towards a Fiscal Structural Resource Curse (FSRC)

If all the hypothesis test results are read together, a rather consistent pattern appears. First, Fiscal Dependence on Oil has a very high association with Political Short-Termism, but the direction is the opposite of the H1 prediction. Second, Fiscal Dependence on Oil has a negative and considerable influence on Institutional-Environmental Governance Outcomes. Third, Political Short-Termism does not have a major influence on governance results. Fourth, Political Short-Termism has also not been shown to be a mediator.

This trend gives better evidence for the Fiscal Structural Resource Curse perspective than the explanation based purely on the Political Resource Curse Theory.

The FSRC's fundamental contribution resides in the change in the focus of analysis: from resource abundance to fiscal dependency. The Resource Curse Theory regards the abundance of resources as a necessity; the Institutional Theory emphasizes the capability of the institution, while the Political Resource Curse Theory places changes in political incentives as the major mechanism. This study adds that, between the existence of resources and governance competence, there is a very essential mechanism, namely the country's fiscal structure.

Thus, the original relationship can be described as:

**Resource Dependence → Political Short-Termism → Governance Weakness**

It is more reasonable to reformulate based on the outcomes of this study to:

**Resource Dependence → Fiscal Dependence → State Capacity Constraints → Institutional and Environmental Governance Outcomes.**

Political Short-Termism remains relevant, but the results of the study suggest that it is not the major mechanism in the relationship. Politics is more appropriately understood as part of the response or repercussions to the budgetary system that has been constructed.

In the context of Timor-Leste, this has substantial policy implications. It is not enough to overcome the resource curse problem with political reform, openness, or the eradication of corruption. Reforms must touch the country's economic structure through diversification of revenue sources, enhancing tax administration, more disciplined management of the Petroleum Fund, growing the non-oil industry, and incorporating the environmental agenda into the state's planning and budgeting system.

Thus, our study reveals that the Fiscal Structural Resource Curse is not merely a matter of economic dependence on oil, but a concern of how this dependence impacts the capability of the country in the long term. When the country's income structure is unduly dependent on natural resource rents, the country's ability to generate sustainable fiscal capacity, strengthen institutions, and integrate the environmental agenda into development might become progressively limited.

Overall, the results give significant support for the thesis that fiscal structure is a more fundamental mechanism than Political Short-Termism in explaining the quality of governance in Timor-Leste. These findings also give an empirical basis for the development of the Fiscal Structural Resource Curse as an improvement on the Resource Curse Theory and as a bridge between Resource Curse Theory, Fiscal Capacity Theory, Institutional Theory, and environmental governance views.

**Conclusion**

This analysis reveals that Fiscal Dependence on Oil is a more basic factor in predicting the quality of governance in Timor-Leste than Political Short-Termism. Fiscal dependence on oil has a negative and significant effect on Institutional–Environmental Governance Outcomes ($\beta = -0.710$; $p < 0.001$), indicating that the greater the country's dependence on oil revenues and the Petroleum Fund, the weaker the institutional capacity and environmental governance reflected in the research model. These findings give empirical support for the substance of H2 and H3, albeit both were assessed through the combined concept of Institutional–Environmental Governance Outcomes.

In contrast, H1 is not supported in the hypothetical direction. Fiscal Dependence on Oil is indeed highly connected to Political Short-Termism ($\beta = -0.664$; $p < 0.001$), but the direction of the association is negative, contrary to the H1 forecast. More importantly, H4 and H5 were not supported, as Political Short-Termism had no significant effect on Institutional–Environmental Governance Outcomes ($\beta = 0.253$; $p = 0.236$). Thus, short-term political orientation has not proven to be the major mechanism that explains the weakening of governance in the context of Timor-Leste.

The mediation's findings corroborate that notion. The indirect effect of Fiscal Dependence on Oil on Institutional-Environmental Governance Outcomes through Political Short-Termism was not significant ($\beta = -0.168$; $p = 0.326$), whereas the direct effect remained high and significant, with a total effect of $\beta = -0.878$ ($p < 0.001$). Thus, Political Short-Termism has not been shown to mitigate the link. This pattern shows that the relationship between oil dependency and governance quality is more structural than political.

The findings provide an empirical basis for the development of the Fiscal Structural Resource Curse (FSRC) as an improvement on the Resource Curse Theory. The FSRC redirects attention

from resource availability and political behavior to fiscal structure as a mechanism that changes the capacity of the state. In the context of Timor-Leste, the major concern is not only the existence of oil, but the dependency of the state revenue structure on oil rents, which might impede fiscal diversification, institutional capacity, and the integration of the environmental agenda in growth. Thus, this study advances the Resource Curse Theory by combining fiscal dependency, state capability, institutional quality, and environmental governance in one analytical framework.

The implication is that the resource curse in Timor-Leste is not enough through political reform or enhanced transparency. Reforms should be directed at the transformation of the fiscal structure, especially through the diversification of state revenue sources, the strengthening of tax administration, the discipline of the management of the Petroleum Fund, the development of the non-oil sector, and the integration of the environmental agenda into the public planning and budgeting system. Thus, Timor-Leste's fundamental issue is not only to lessen dependency on oil, but to develop a fiscal structure capable of sustaining the country's capability after the oil age.

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