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RECONCILING MINERAL ROYALTY TAX REVENUE AND INWARD FOREIGN DIRECT INVESTMENT

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ABSTRACT

Zambia's mining sector is crucial to its economy, significantly contributing to national revenue and foreign direct investment (FDI). However, the country has struggled to balance mineral royalty tax (MRT) revenue generation with attracting and retaining FDI. This study develops the Taxation and Investment Reconciliation Theory (TIRT) as a strategic framework for balancing taxation policies and investment incentives in resource-rich nations. Using a mixed-methods approach, integrating econometric analysis and qualitative insights from policymakers, investors, and mining firms, the research examines the impact of MRT regimes on FDI inflows in Zambia. The study employs a convergent parallel design and applies an Autoregressive Distributed Lag (ARDL) model to time series data to analyse how changes in royalty tax structures influence investment decisions and government revenue. Additionally, it evaluates policy inconsistencies and investor perceptions of Zambia's fiscal framework. A key outcome is the TIRT model, which incorporates international best practices and empirical data from other resource-rich economies to establish a sustainable taxation-investment balance. Findings highlight that predictable, stable, and flexible tax policies are essential for aligning government revenue objectives with investor confidence. The study emphasises the importance of political stability and stakeholder interests in achieving a sustainable mining sector. It concludes by recommending a policy framework that aligns Zambia's MRT with long-term FDI growth, ensuring a robust and sustainable mining sector. This research contributes to the discourse on mineral taxation in developing economies, offering a practical model for optimizing both revenue generation and foreign investment.

KEYWORDS: Mineral Royalty Tax, Foreign Direct Investment, Taxation and Investment Reconciliation Theory, Resource-Rich Nations, Stakeholders, Political contexts

JEL CLASSIFICATION: H21, H11, H32

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INTRODUCTION

The relationship between natural resource extraction, particularly minerals, and economic development is crucial for resource-rich countries like Zambia. These nations rely on mineral wealth to drive economic growth but face challenges in attracting Foreign Direct Investment (FDI) while ensuring fair tax revenue collection (Boonaiem, 2022). FDI brings capital, technology, and skills, but its benefits depend on effective regulatory frameworks and well-designed mineral royalty taxation (Breisinger et al., 2008). Zambia's experience highlights the tension between attracting FDI and securing state revenue. Frequent tax policy changes, such as the repeal of Development Agreements in 2008 and the shift to a royalty-only tax system in 2014, have deterred investors and undermined revenue collection (Kabala et

al., 2020). Over eight tax reforms since privatization have created instability, weakening investor confidence (Chisakulo & Kambani, 2018).

The "resource curse" and "Dutch disease" further complicate matters, as governance failures and weak institutions hinder effective resource taxation and equitable revenue distribution (Kabala et al., 2020). While countries like Australia and Canada have successfully balanced investor incentives with fiscal benefits, Zambia's tax reforms have failed to generate expected revenues (Magno et al., 2015; Kabala et al., 2020). Stakeholders argue that Zambia's tax regime disproportionately favours foreign corporations, limiting state revenue and contributing to fiscal instability (Breisinger et al., 2008; Chisakulo et al., 2018). Despite contributing 12% to GDP in 2022, Zambia struggles to optimise tax policies that balance investment inflows and equitable revenue distribution (World Bank, 2023; Ndikumana et al., 2024). Recent reforms, such as incremental tax rates based on copper prices and royalty tax deductibility, aim to enhance FDI and revenue collection (Parliamentary Budget Office, 2023). However, concerns persist about their regressive nature and potential to discourage investment (Banda et al., 2019; Mukomba, 2021). The unpredictability of Zambia's tax framework has led to a 33% decline in FDI inflows in 2022, underscoring the adverse effects of inconsistent fiscal policies which shrinks investor confidence and trust (World Bank, 2023; Mukwasa et al., 2010, Mičík & Gangur, 2024).

Among other gaps identifiled in literature review, existing literature lacks a direct focus on the relationship between mineral royalty taxation (MRT) and inward FDI, creating a research gap. Studies like (Ndikumana et al., 2024) and (Boonaiem, 2022) overlook the broader socio-economic impacts of MRT on FDI. This study aims to address this gap by analysing the nexus between MRT and inward FDI, emphasising the need for a harmonised taxation and investment strategy. By examining governance, tax structures, and their long-term economic implications, the research seeks to inform policies that ensure sustainable revenue collection and investment inflows, fostering Zambia's economic growth and diversification.

This article is structured to examine the influence of Zambia's mineral royalty tax on FDI. It starts with an Abstract summarising objectives, methods, recommendations and findings, followed by an Introduction outlining the research context. An Overview discusses taxation and FDI trends, while the Literature Review critically analyses prior studies identifying the research gap. Thereafter, the Aim and Methodology bases defines research goals and analytical framework adopted. Results present findings, with the Discussion section interpreting implications. The Conclusion then summarises insights and recommendations, and finally the References section lists all cited sources, ensuring academic rigor and credibility.

Overview of mineral royalty tax and fdi in zambia

Foreign Direct Investment (FDI) is vital for Zambia's economic development, particularly in the mining sector, where political stability and fiscal policies significantly influence investment flows. Zambia's mining taxation system has evolved through key policy shifts, from colonial-era stability (1920-1966) to nationalisation in the 1970s and privatisation in the 1990s (Lundstol & Isaksen, 2018). Initially reliant on mineral royalties, post-independence reforms introduced taxes like a 40% windfall tax and a 51% mineral tax, later adjusted due to declining profitability (Saasa, 1987). Fiscal incentives, such as tax deductibility and stability clauses, were introduced to attract FDI, though high taxation and stringent policies often hindered competitiveness. The 1992 Privatisation Act marked a significant shift, reducing royalties to 3%, removing import taxes, and offering incentives like lower corporate tax rates (25%), full deductibility of royalties, and 15-20-year stability periods (Simpasa et al, 2013; Banda, 2019). These terms, often confidential, disproportionately favoured private firms due to Zambia's weak bargaining position amid low copper prices and the Zambia Consolidated Copper Mine (ZCCM)'s financial struggles (Simpasa et al, 2013). However, privatisation locked in favourable terms, preventing Zambia from benefiting from mineral price surges (Lombe & Mwakacheya, 2017). Weak transfer

pricing regulations further enabled tax evasion, with profits shifted to low-tax jurisdictions (Chitonge, 2021; Ndikumana et al., 2024).

In 2008, Zambia introduced reforms, raising corporate tax to 30%, mineral royalty tax (MRT) to 3%, and implementing a windfall tax of 25-75% for copper prices above $2.5/lb (Manley, 2017). Industry backlash led to the windfall tax's removal in 2009, while capital allowances were increased. A 2009 audit revealed tax evasion by firms like Glencore (2011; Simpasa et al., 2013). Further reforms in 2015 raised MRT to 20% for opencast and 8% for underground mines, later reduced to 9%, and introduced a price-based royalty of 4-6% in 2016 (Manley, 2017). Mineral royalties, a fixed payment for resource extraction, provide stable revenue but can deter investment due to insensitivity to price fluctuations (Guj, 2012). Sliding-scale royalties, linked to profit or prices, address these inefficiencies (Hogan, 2008). Zambia's ad valorem tax, based on sales value, varies for metals and gemstones (ZRA, 2015). Despite reforms, Zambia's tax regime remains less attractive than peers like Chile and Australia, with frequent policy shifts undermining investor confidence (Mukomba, 2021; Ndikumana et al., 2024). Mining revenues rely heavily on royalties and payroll taxes, with corporate tax contributions remaining modest. Recent reforms (2022-2023) aim to balance revenue and investment by making mineral royalties deductible for corporate tax and introducing sliding royalties based on incremental copper value (Table 1, 2023 Budget). These changes seek to boost investor confidence while increasing government revenue, aligning with Zambia's goal of producing 3 million tons of copper by 2031 (World Bank, 2015; Conrad, 2012).

Table 1 **Mineral royalty tax regime**

PRICE RANGE	***RATE***	***PRICE RANGE***	***RATE***
2019 to 2022		**2023**	
Less than US$4,500 per ton	5.5	Less than US$4,000 per ton (first 4,000)	4
US$4,500 -US$6,000 per ton	6.5	US$4,001 -US$5,000 per ton	6.5
US$6,000 -US$7,500 per ton	7.5	US$5,001 -US$7,000 per ton	8.5
US$7,500 -US$9,000 per ton	8.5	US$7,001 per ton or more	10
US$9,000 per ton or more	10		

Note: Rate denotes the average mineral royalty tax rate for the period

(*Source:* Ministry of Finance 2022/2023 budget reports)

As the country seeks to enhance its mineral royalty tax structure, it is essential to consider how these alterations influence the decision-making processes of prospective investors. Changes in royalty rates could inadvertently deter FDI; however, they also have the potential to generate substantial revenue that, when invested wisely, could stimulate broader economic development. For instance, the existing mining royalty framework often fails to capture adequate returns from resource extraction, as highlighted by the historical dominance of foreign company profits at the expense of local economic benefits (Breisinger et al, 2008). This necessitates a balanced approach, ensuring that the Zambian government implements strategies to optimise tax revenues while providing an inviting environment for foreign investors, crucial for long-term mining project sustainability and economic diversification. With the numerous reforms established so far, the question is whether the dual mandate of revenue and investment has been achieved and to what extent. In other words, it is worth assessing the performance of the sector regarding the two objectives. These considerations necessitate ongoing research to decipher patterns in FDI in response to policy shifts in mineral royalty taxes. This study sought to shed light on this complex question. Specifically, we assess the performance of the sector in terms of attracting foreign direct investment and generating tax revenue.

1 THEORETICAL APPROACH

Several theories attempt to explain the relationship between taxation and FDI. The key ones used in extant literature related to the current study include; Resource Curse theory, taxation theory, Dunning's eclectic paradigm as well as the Laffer curve theory. Much as these theories provide some explanation of the interaction between taxation and FDI inflow in countries like Zambia, they fail to account for the complexities of reconciling taxation and inward FDI. There is no clear consensus as to what factors must be integrated to achieve both objectives of revenue generation and attracting investment. For instance, while Dunning's eclectic theory effectively lays out the framework for understanding FDI through ownership, location, and internalization advantages, it fails to account for the objective of tax revenue generation for the host country as well as the complexities of governance and institutional quality, which are crucial determinants of investor confidence. (Zhang, 2024). Resource curse theory further complicates the narrative by illustrating how natural resource wealth can paradoxically hinder economic growth, often leading to poor governance and corruption, yet it lacks concrete guidance for developing coherent tax regimes that could harness these resources for public benefit (Zhang, 2024).

The inadequacies are further underscored by evidence from (Abdallah, 2018), which critiques Ghana's reliance on tax incentives that do not translate into meaningful economic development, highlighting the necessity for a flexible theoretical approach. Therefore, this study develops a comprehensive theory called **Taxation and Investment Reconciliation Theory (TIRT)** that suggests that an optimal balance between taxation and investor returns can be achieved by integrating both fiscal and non-fiscal determinants of FDI, blending economic models with an awareness of local political contexts and stakeholder interests. The theory emphasises on incorporating stakeholder engagement in the decision-making process to achieve both objectives of tax revenue generation and attracting investment in the host country.

1.1 Foreign Direct Investment (FDI) in Zambia's mining sector

Foreign Direct Investment (FDI) refers to investments made by multinational enterprises (MNEs) in foreign entities where they hold more than 10% of the stock, thus exerting substantial control (UNCTAD, 2002). FDIs are primarily driven by four factors: market access, asset acquisition, natural resources, and efficiency-seeking (Buckley et al., 2007). FDIs can be categorized as either inflows or outflows, and they may involve Greenfield investments (creating new operations) or Brownfield investments (acquiring existing firms) (Kaulu and Haabazoka, 2023). FDI flow is often preferred as an indicator over stock as it reflects immediate investment decisions by MNEs (Bellak et al., 2009). Historically, Zambia has attracted limited FDI despite its rich mineral resources. The mining sector, as the principal recipient of FDI, accounted for 67% of total FDI in 2015, though this proportion decreased to 56% by 2020 (Bank of Zambia, 2016, 2021). FDI levels were low during the state-controlled era (1970s-1990s), reflecting both political instability and low copper prices. FDI began rising in the early 2000s, coinciding with a global commodity boom and copper price surge, and the re-privatization of mines. However, FDI flows have since declined, particularly after 2014, following a sharp drop in copper prices. By 2022, FDI had decreased to $540 million, just a fraction of its peak in 2014 ($2.5 billion) (Chansa et al., 2021). The ratio has declined since then, settling at 56 percent in 2020 (Bank of Zambia 2016, 2021), (Table 2).

Historical data show that, Foreign direct investment (FDI) in Zambia was negligible during the state-controlled mining era (1970s-1990s) due to low international copper prices and restrictive policies (Figure 1). Despite the re-privatisation of mines in the early 1990s, FDI remained low, only rising significantly in the 2000s. This increase aligned with a global commodity boom, particularly the surge in copper prices, rather than solely domestic policy reforms. Additionally, replacement investment was

necessary to sustain production after years of underinvestment during nationalisation. Political stabilisation also played a role in maintaining investor confidence.

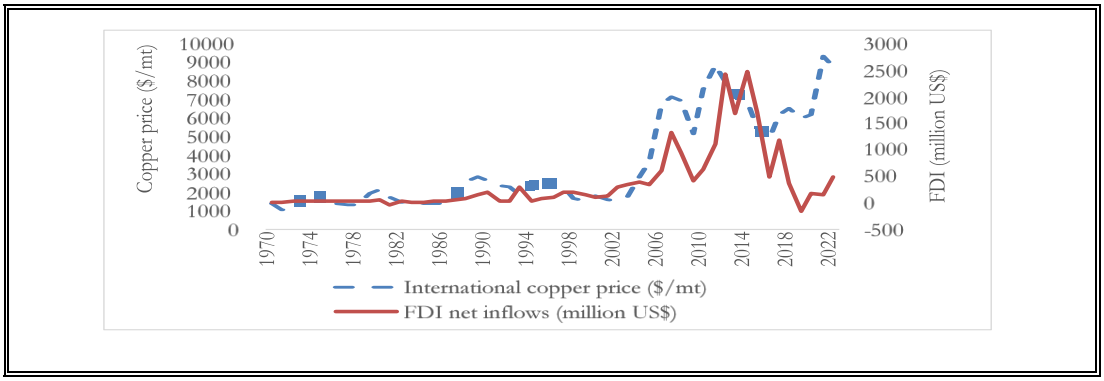
Table 2 **FDI liabilities stock by sector in 2015 and 2020, million US$**

SECTOR	FDI 2015 US$ Million	SHARE OF TOTAL	FDI 2020 US$ million	SHARE OF TOTAL	CHANGE 2015 - 2020
Mining & quarrying	11,132.30	67%	8,513.50	56%	-24%
Manufacturing	2,189.20	13%	2,824.40	19%	29%
Wholesale and retail trade	537.2	3%	959.2	6%	79%
Agriculture	181.9	1%	879.3	6%	383%
Commercial banks	539	3%	735.8	5%	37%
Real estate	382.4	2%	622.5	4%	63%
Construction	99.6	1%	407.3	3%	309%
Electricity	263.1	2%	167	1%	-37%
Accommodation and food	1,236.60	7%	99.4	1%	-92%
Other sectors	147.1	1%	-70	0%	-148%

(*Source:* Bank of Zambia: editions 2016 and 2021.)

The period of rising FDI coincided with significant growth in Zambia's copper production and exports. However, FDI peaked at $2.5 billion in 2014 before declining sharply, turning negative in 2019. This decline began amid falling copper prices (2011–2016). Although copper prices have since recovered to pre-2011 levels, FDI remains subdued, reaching only $540 million in 2022 (one-fifth of its 2014 peak). This indicates that factors beyond commodity prices, such as investor confidence and policy environment, influence FDI trends.

Figure 1 **FDI into Zambia and International copper prices 1970 to 2022**



(Sources: UNCTAD (FDI); World Bank Pink Sheets)

The mineral royalty tax structure in Zambia plays a critical role in attracting FDI. Fluctuations in royalty rates have impacted investor sentiment and FDI decisions. Tax increases can deter investment due to reduced profitability, while more favourable tax regimes stimulate investment (Chansa et al., 2021). Despite challenges with the royalty system, the mining sector remains attractive due to high potential

returns, although foreign firms often retain substantial profits, limiting local economic benefits (Breisinger et al., 2008). The Zambian government has adopted various strategies aiming to harmonise mineral royalty tax revenues with the need to attract consistent FDI, as lessons drawn from countries like Chile underscore the potential for effective industrial policies to concurrently bolster economic growth and job creation (Chansa et al., 2021). Efforts to balance tax revenue and investment attraction have included harmonising mineral royalty tax structures with global best practices, aiming to foster both revenue growth and a conducive investment climate (Chisakulo et al., 2018). Meanwhile, the Zambian government faces challenges in balancing taxation and inward FDI, with the need to encourage sustainable growth while ensuring equitable revenue distribution. A well-structured mineral royalty tax system can enhance state revenues, but excessive taxation may drive investors away, which is particularly concerning for Zambia's capital-intensive mining sector (Mulenga et al., 2023). While the mining sector has significantly contributed to FDI inflows, the royalty tax system needs reform to balance revenue generation with investment attraction. Historical patterns demonstrate that excessive tax rates can deter foreign investment, while a balanced system can promote sustainable economic growth. A comprehensive evaluation of Zambia's tax policies is essential to create a fair and effective framework that promotes both investment and economic development, ensuring that Zambia's mineral wealth translates into long-term prosperity for its people.

1.2 Stakeholders, MRT Revenue, and inward FDI

The relationship between mineral royalty tax (MRT) revenue and foreign direct investment (FDI) in Zambia is influenced by a complex array of stakeholders, including government bodies, multinational corporations, local communities, and civil society organisations. These entities not only shape tax policies but also influence socio-economic conditions, which in turn affect investor perceptions and decisions. Stakeholder interests and power dynamics significantly impact the efficiency of mineral royalties in generating revenue and attracting FDI (Chisakulo et al., 2018). A thorough understanding of these interactions reveals the mechanisms by which stakeholders influence the allocation of mineral royalty revenues and inward FDI, providing valuable insights into Zambia's economic trajectory.

Government stakeholders play a key role in determining Zambia's fiscal landscape, which influences both MRT revenue and FDI. Their policies, particularly those aimed at fostering local input in mining operations, have aimed to enhance value addition in the sector (Mulenga et al., 2023). However, the effectiveness of these policies is often undermined by illegal tax practices by foreign firms, which deplete local financial resources (Mulenga et al., 2023). Moreover, the complexity of tax regulations and international treaty negotiations often hampers optimal tax collection. A strategic alignment between government stakeholders and multinational firms is necessary for fostering a sustainable mining sector that benefits both the economy and local businesses.

Private sector stakeholders too, particularly multinational mining companies, play a crucial role in influencing tax regimes. Their profit-driven interests often lead to lobbying for tax incentives that prioritise flexibility over optimal revenue capture (Chisakulo et al., 2018). The influence of these private interests compromises the government's ability to monitor and enforce tax obligations effectively (Rosenblum et al., 2011). Compliance with tax obligations affects investment decisions, as it signals regulatory stability and investor confidence. A robust relationship between tax compliance and perceptions of governmental trustworthiness can enhance the investment climate and attract FDI (Kwame and Appiah, 2022; Shimonde and Chiyaba, 2021). The interplay between government and private sector stakeholders shapes the effectiveness of MRT revenue generation and FDI attraction in Zambia. Poorly designed tax frameworks and insufficient stakeholder engagement have hindered optimal tax capture, undermining the country's economic potential (Chisakulo et al., 2018). A cohesive strategy that prioritises collaboration among stakeholders is essential for improving mineral royalty tax revenue and increasing FDI inflow.

1.3 Political contexts, MRT Revenue, and inward FDI

The political environment in Zambia plays a crucial role in shaping the country's mineral royalty taxation and FDI frameworks, balancing national interests and global capital. Government mandates as revenue collectors often conflict with their role as custodians of natural resources, creating tensions in the implementation of tax instruments like ad valorem royalties and cash flow taxes (Conrad et al.). Transparent political contexts foster investor confidence, while political instability or inconsistent policies deter potential investors (Farooq et al., 2024), as seen in Zambia's history of fluctuating mining policies. The political landscape in Zambia, marked by shifts in governance styles and policies, significantly impacts FDI. For instance, Zambia's liberalisation in the 1990s led to an influx of foreign investment, but the tax concessions offered to private investors highlighted the tensions between resource nationalism and investment attraction (Kabala et al., 2020). Political dynamics, such as fluctuations in royalty rates, create an unpredictable fiscal environment, which deters potential investors. Despite growing FDI, Zambia has struggled to convert this into broad economic benefits due to a lack of a coherent mineral royalty tax strategy (Ngubo et al., 2016).

Political regimes in Zambia have shaped economic policies regarding mineral royalty tax and FDI. The privatisation of Zambia Consolidated Copper Mines (ZCCM) in the 1990s illustrated how neoliberal policies facilitated foreign investment but led to tax concessions that limited revenue capture. A shift in 2008 saw President Mwanawasa abrogate development agreements with foreign investors, restructuring mining taxes in a move towards resource nationalism (Kabala et al., 2020). These shifts reveal the tension between attracting foreign investment and ensuring fair revenue capture from Zambia's mineral resources.The challenges within Zambia's Mineral Royalty Tax framework reflect the intersection of political context and FDI. Multinational companies often engage in tax avoidance strategies that undermine the local economy, reducing the impact of the royalty regime on development (Mulenga et al., 2023). This aligns with the resource curse literature, where natural wealth does not automatically lead to national prosperity (Edwards et al., 2016). Thus, Zambia's political environment plays a critical role in shaping the efficacy of its tax system and its ability to attract sustainable FDI. Political stability and sound governance are critical for fostering a favourable investment climate. The tax regime must be designed to both maximise revenue and maintain investor confidence. Effective policy formulation requires aligning political dynamics with the needs of all stakeholders to enhance both domestic investment and FDI in Zambia's mining sector.

1.4 Empirical review of literature

The relationship between mineral royalty tax (MRT) revenue and foreign direct investment (FDI) in Zambia is critical to understanding the country's fiscal and economic challenges. Zambia's mining sector, a key revenue source, has struggled to generate substantial MRT revenue, often contributing less than 4% of GDP (Chisakulo et al., 2018). This limits the government's ability to leverage mineral wealth for broader economic development. While low royalty rates may encourage FDI, they can also lead to capital flight and reduced domestic reinvestment (Ndikumana et al., 2024). Conversely, excessive taxation risks deterring investment and slowing economic growth (Nkole et al., 2019). Governance and transparency issues further complicate royalty collection, undermining potential FDI benefits (Boonaiem, 2022). Studies suggest that moderate tax regimes can attract FDI, but Zambia's high MRT rates and regulatory uncertainties often discourage investors (Ndikumana et al., 2024, Dobrovič, 2018). Research highlights the importance of aligning tax frameworks with national economic goals to stimulate growth (Balasubramanyam and Mahambare, 2015).

Meanwhile, a number of methodological, contextual and theoretical gaps exist in extant literature. Methodological gaps such as reliance on panel data and inconsistent data sources hinder a comprehensive understanding of how MRT impacts FDI (Ghebremusse et al., 2020; Ahmed et al., 2011). Additionally, broader factors like political instability and governance deficiencies significantly

influence investor decisions, yet these are often overlooked in econometric models (Ndikumana et al., 2024; Marina et al., 2023). The literature also lacks a nuanced analysis of Zambia's unique context, including its historical governance and mineral wealth distribution (Chawatama et al., 2020). Many studies focus on aggregate tax regimes rather than isolating MRT's sector-specific impacts, obscuring its role in FDI dynamics (Boonaiem, 2022). Moreover, theoretical frameworks, such as Dunning's eclectic paradigm, often fail to incorporate governance and institutional factors critical to Zambia's mining sector (Mulenga et al., 2023). To address these gaps, this study employs mixed-methods approaches, integrating quantitative and qualitative data to develop a TIRT model which provides a more holistic understanding of how Zambia's tax policies can balance revenue generation with sustainable FDI attraction.

2 THE AIM AND METHODOLOGICAL BASES

The aim of this study is to investigate the relationship between Zambia's mineral royalty tax (MRT) revenue generation policy and its ability to attract and sustain inward Foreign Direct Investment (FDI) in the mining sector with the intent of developing a Taxation and Investment Reconciliation Theory (TIRT). This study adopts a mixed-methods approach using a convergent parallel design. Both quantitative (QUAN) and qualitative (QUAL) data are collected and analysed simultaneously, as described by (Edmonds and Kennedy, 2017). In this concurrent triangulation design, the data is collected independently but at the same time, and the results are later compared and integrated into a cohesive framework. Qualitative data was analysed using NVivo, while quantitative data was stored and analysed using EViews and Stata, facilitating concurrent analysis.

2.1 Quantitative data analysis

The quantitative data in this research comprises annual time series data on MRT revenue (with a proxy of effective average MRT rate) and FDI inflows into Zambia (expressed as a percentage of GDP). To assess both the short and long-term effects of MRT revenue on inward FDI, the study employed an Autoregressive Distributed Lag (ARDL) model. Before applying the ARDL model, descriptive statistical tests were conducted to examine various measures of central tendency and dispersion within the dataset. Additionally, correlation analysis and unit root tests were performed to evaluate preliminary relationships and data stationarity. Specifically, stationarity was tested using the Phillips-Perron (PP) test and the Augmented Dickey-Fuller (ADF) test. Since the data exhibited a mixed order of integration, the ARDL model was applied, following the approach outlined by (Shrestha and Bhatta, 2018). Furthermore, the Bounds test and Johansen cointegration test were used to identify and confirm any long-term relationships between the variables. Hypothesis testing was conducted by presenting the results of the ARDL model, which also went through a series of diagnostic tests to ensure its reliability. The statistical hypotheses tested in this study are summarised below.

$H1_a$: MRT revenue has a short run relationship with inward FDI.
$H2_a$: MRT revenue has a long run relationship with inward FDI.
$H3_a$: Stakeholders' influence has a short run relationship with inward FDI.
$H4_a$: Stakeholders' influence has a long run relationship with inward FDI.
$H5_a$: Local political contexts has a short run relationship with inward FDI.
$H6_a$: Local political contexts has a long run relationship with inward FDI.

2.2 Qualitative data analysis

This study primarily gathered qualitative data through focus group discussions. According to recommendations in literature, effective focus groups should comprise six to twelve participants with diverse perspectives and knowledge (Lazar et al., 2017; Wilson, 2014). The collected data was analysed

using a combination of thematic analysis, content analysis, and grounded analysis within the NVivo software environment. Thematic analysis focused on identifying recurring themes and patterns (Lester et al., 2020; Morgan, 2022) related to the influence of MRT revenue on inward FDI. This method was adapted from existing literature (Saad, 2014). Content analysis was applied to examine the frequency and distribution of specific concepts and ideas (Bengtsson, 2016; Erlingsson and Brysiewicz, 2017). This approach provided insights into the factors influencing the relationship between MRT revenue and inward FDI, as well as the mechanisms and reasons behind these influences. Grounded analysis was utilised to derive new theoretical insights (Charmaz and Thornberg, 2021; Timmermans and Tavory, 2012) regarding the relationship between the variables. This method emphasises theory-building from the collected data. The mixed-methods approach was well-suited for this study as it facilitated the collection and integration of both qualitative and quantitative data (Tashakkori and Newman, 2010). By combining these two types of data, the study achieves a more detailed and multidimensional understanding of the complex relationship between MRT revenue and inward FDI (Schoonenboom and Johnson, 2017). This study employed secondary time series data, which is particularly beneficial for identifying trends and patterns. Time series data allows researchers to analyse past events and forecast future trends. Recent advancements have also enabled causal analysis using time series data. As this study sought to explore the impact of MRT revenue on inward FDI, while examining both short-term and long-term causal relationships, time series data was considered the most suitable option.

2.3 Choice of data and justification

This study employed secondary time series data, which is particularly beneficial for identifying trends and patterns. Time series data allows researchers to analyse past events and forecast future trends (Kaulu and Habazoka, 2023). Recent advancements have also enabled causal analysis using time series data. Given that this study sought to explore the reconciling MRT revenue and inward FDI, while examining both short-term and long-term causal relationships, time series data was considered the most suitable option. For this study, MRT revenue data from 1965 to 2023 was sourced from the Zambia Revenue Authority (ZRA), which is a credible source given its role as Zambia's tax regulator and enforcer. Additionally, inward FDI data for Zambia was obtained from the World Bank's open data repository, which provides comprehensive, systematically collected, and regularly updated global economic and development data sourced from national governments, international organisations, and using rigorous methodologies, ensuring accuracy, transparency and reliability (World bank, 2023). Table 4 provides a summary of the data sources.

Table 3 **Variables in the study**

VARIABLE	DESCRIPTION	SOURCE
MRT	Mineral Royalty Tax revenue (Effective average MRT rate)	ZambiaRevenue Authority
FDI	Foreign Direct Investment in mining sector, net inflows (% of GDP)	World Bank – WDI
RQ	Stakeholders' interests (Institutional Regulatory Quality)	World Bank – WGI
POL	Local Political Contexts (political stability and absence of violence and terrorism)	World Bank – WGI

(Source: Author, 2025)

2.4 Measurement of the variables and justification

Measuring variables is a critical aspect of any research study. In this study, the **independent variable** (MRT revenue) was measured as the effective average MRT rate. This approach aligns with existing literature on tax revenue (Mkonyi, 2022, Castro and Camarillo, 2014; Gwaindepi, 2021; Kwesi et al., 2018). Research in this area often uses terms such as tax revenue effort, tax revenue mobilisation, and tax revenue collection, but these concepts are generally measured in the same manner. The **dependent variable** (FDI inflows) was measured as Foreign Direct Investment net inflows expressed as a percentage of GDP. To get a better outcome of the fitting other variables considered include Stakeholders' interests with a proxy of institutional regulatory quality measured in index of -2.5 to 2.5 and Political contexts with a proxy of political stability and absence of violence and terrorism measured in index of -2.5 to 2.5 in line with extant literature (Ali and Yusop, 2022, Mkonyi; 2022, Rahman and Mamun, 2020).

Table 4 **Measurement of variables**

TYPE OF VARIABLE	VARIABLE	PROXY	CODE	UNIT	REFERENCE	DATA SOURCE
Dependant	Foreign direct investment	FDI net inflow (% of GDP)	FDI	Percentage	Mahmood & Chaudhary,2023; Kaulu and Habazoka, 2023	World bank
Independent	Mineral royalty tax revenue	Effective average MRT rate	MRT	Percentage	Mkonyi, 2022, Gwaindepi, 2021; Kwesi Ofori et al., 2018	Zambia Revenue Authority
Independent	Stakeholders	Institutional regulatory quality	RQ	Index of 2.5 to 2.5	Ali and Yusop, 2022; Rahman and Mamun, 2020	World Bank
Independent	Political contexts	Political stability and absence of violence/ terrorism	POL	Index of 2.5 to 2.5	Mkonyi, 2022	World Bank

(*Source*: Author, 2025)

2.5 Descriptive Statistics

Descriptive statistics involved analysing measures of central tendency and dispersion. Specifically, the study examined the mean, median, standard deviation, skewness, kurtosis, and other relevant statistical measures. Additionally, graphical representations of the data were utilised to provide further insights.

2.6 Unit Root Tests and Optimal Lag Selection

Unit root tests were conducted using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. The Akaike Information Criterion (AIC) was employed for optimal lag selection in the ADF test, while the Schwarz Information Criterion (SIC) was used for the PP test. The null hypothesis assumed that the series contained a unit root or were non-stationary. The ARDL model was applied to variables with a mixed order of integration, meaning some variables were integrated of order 1 (I(1)), requiring first differencing to become stationary, while others were integrated of order 0 (I(0)), indicating stationarity at level.

2.7 Model Specification, Short and Long Run Dynamics

The primary model employed in this study is the ARDL model, which offers several advantages. It is particularly useful for analysing time series data with a mixed order of integration, as well as for non-stationary time series (Shrestha & Bhatta, 2018). The model is applicable when some variables are integrated of order 1 (I(1)) and others of order 0 (I(0)), provided that none are integrated of order 2 (I(2)) or higher. Therefore, the ARDL model is well-suited for the analysis conducted in this study. The model to investigate the influence of MRT, RQ and POL on FDI for the period 1965 to 2023 can be specified as:

$$FDI_t = f(MRT_t, RQ_t, POL_t) \quad (1)$$

In equation 1, FDI refers to foreign direct investment inflows (measured as a percentage of GDP) while MRT is Mineral Royalty tax revenue (measured as average MRT rate), RQ is Regulatory quality a proxy for stakeholders measured (measured as index of - 2.5 to 2.5) and POL refers to Political stability a proxy for Local Political contexts (measured as index of -2.5 to 2.5). Equation 1 can also be written as follows:

$$FDI_t = \lambda_0 + \lambda_1 MRT_t + \lambda_2 RQt + \lambda_3 POLt + \mu_t \quad (2)$$

The logs of each variable were taken in order to minimise the volatility and multi collinearity of the time series data. The following log linear model is therefore obtained by applying logs to equation 2:

$$log\ FDI_t = \lambda_0 + \lambda_1 log MRT_t + \lambda_2 log RQ_t + \lambda_3 log POL_t + \mu_t \quad (3)$$

Analysis in the ARDL model can be done in two steps. Step one looks at long run associations in the model while step two looks at the short run. Equation 4 represents the ARDL model specification for this study.

$$\begin{aligned}\Delta \log FDI_t \; = \; & \alpha_0 \sum_{i=1}^{p} \beta_{1j} \Delta \log FDI_{t-k} \; + \; \sum_{i=1}^{p} \beta_{2j} \Delta \log MRT_{t-k} \; + \\ & \sum_{i=1}^{p} \beta_{3j} \Delta \log RQ_{t-k} + \sum_{i=1}^{p} \beta_{4j} \Delta \log \mathrm{POL}_{t-k} \; + \; \lambda_1 \log FDI_{t-1} + \\ & \lambda_2 \log MRT_{t-1} + \lambda_3 \log RQ_{t-1} + \lambda_4 \log \mathrm{POL}_{t-1} + \; \varepsilon_t \end{aligned} \quad (4)$$

In this equation; α_0 is the intercept, Δ is the first difference operator, p is the lag order and ε_t is the error term. The bounds test was used to check for long run equilibrium in the relationships amongst MRT, RQ, POL and FDI. In this test, the null hypothesis is Ho: $\delta_1 = \delta_2 = \delta_3 = \delta_4 = 0$ (that is, there is no cointegration) and the alternative is H1: $\delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq 0$ (there is cointegration). If the calculated F statistic or absolute t-statistic is greater than the upper level bound or absolute upper level bound respectively, H0 is rejected (Pesaran et al., 2001). The conclusion is that there is cointegration in the relationship amongst MRT, RQ, POL and FDI. If the statistics are below the lower bound, there is no cointegration. If the calculated statistics are between the upper and lower bounds, the result is inconclusive.

The JJ test (Johansen and Juselius, 1990), "cumulative sum recursive residuals (CUSUM) and cumulative of square of recursive residuals (CUSUMSQ)" can be used to check the robustness of the cointegration (Brown et al., 1975; Chandio et al., 2020).
The short run relationships between MRT revenue and FDI were assessed using the following ECM form of the ARDL model.

$$\Delta \log FDI_t \; = \alpha_0 \sum_{i=1}^{p} \beta_{1j} \Delta FDI_{t-k} + \sum_{i=1}^{p} \beta_{2j} \Delta MRT_{t-k} + \sum_{i=1}^{p} \beta_{3j} \Delta RQ_{t-k} + \sum_{i=1}^{p} \beta_{4j} \Delta POL_{t-k} \alpha ECM_{t-1} + \; \varepsilon_t \quad (5)$$

2.8 Diagnostics Tests

Model fit was checked using the R^2. This value ranges from 0 to 1. The higher the value, the better the fit with 1 implying perfect fit and 0 implying no fit at all. Breusch-Godfrey test was used to check serial correlation. Jarque-Bera test of normality, ARCH and white test of heteroscedasticity, RESET test of linearity and CUSUM of square tests of model stability were the other diagnostic tests carried out to check the respective characteristics.

3 RESULTS

3.1 Qualitative findings of the Study

Qualitative data analysis revealed that the relationship between changes in mineral royalty tax rates and fluctuations in Foreign Direct Investment (FDI) inflows often reveals nuanced patterns influenced by several contextual factors. The qualitative data revealed that the correlation between changes in mineral royalty tax rates and FDI inflows is shaped by a complex interplay of fiscal policies, market conditions, and governance factors. According to this analysis, while lower rates generally attract more investment, policy consistency, economic stability, and global market trends play equally critical roles in influencing investor decisions. Answering the research question; qualitative data suggests that, the existing Mineral Royalty Tax (MRT) structure in Zambia significantly influences the decision-making process of foreign direct investors (FDIs) by shaping their perceptions of risk, profitability, and the regulatory environment. Investors often weigh the stability, predictability, and competitiveness of the tax regime when evaluating investment opportunities. Conversely, a well-calibrated MRT system, offering competitive rates relative to regional peers, can make Zambia a more attractive destination for investors, particularly in an industry where global competition is fierce. Further analysis also points out that, consistency and transparency of tax administration also play a crucial role in shaping investor sentiment. On inconsistency policies, qualitative data suggests that, investors typically favour environments with clear and stable tax policies, as this facilitates long-term strategic planning. In Zambia's case, past instances of abrupt changes to the MRT framework have fuelled perceptions of policy instability, potentially deterring some FDIs.

Another aspect revealed by qualitative data analysis is the MRT's role in shaping stakeholder relationships. Investors weigh the potential for reputational risks linked to disputes with governments over tax obligations or revenue-sharing arrangements. Conversely, discussions emphasised that, it is important to note that a well-designed MRT system that aligns with broader economic objectives, such as promoting value addition or local content development, can serve as a catalyst for diversified and sustained investment inflows. Overall qualitative findings suggest that, the MRT framework remains a critical determinant in shaping investor decisions and Zambia's positioning in the global mining investment landscape. The study shows that the reasons why mineral royalty tax revenue influences inward FDI are that MRT shapes the financial, regulatory, and socio-political landscape within which investors operate. Its effects are mediated by profitability considerations, fiscal stability, government revenue utilization, and the host country's competitive positioning in the global resource market.

Regarding how the Zambian government can attain the objectives of maximizing mineral royalty tax revenue while attracting and retaining foreign direct investment in the mining sector, there were several views as represented by the voices from focus discussion groups that suggested that the Zambian government can balance the twin objectives of maximizing mineral royalty tax revenue and attracting foreign direct investment (FDI) in the mining sector by adopting a multifaceted approach that addresses fiscal policy, regulatory stability, and investor confidence. By pursuing these strategies in a coordinated manner, Zambia can enhance its capacity to generate substantial mineral royalty revenues while creating an investment climate that attracts and retains foreign investors, ensuring the long-term sustainability of its mining sector. Meanwhile qualitative data also indicates that stakeholders

significantly influence the relationship between mineral royalty tax revenue and foreign direct investment (FDI) inflows through various mechanisms that shape both policy and perception. Government entities, as key stakeholders, play a pivotal role in setting mineral royalty rates, designing tax regimes, and enforcing regulations. Their policies can either attract or deter FDI depending on the perceived fairness, transparency, and stability of the tax system.

The relationship between mineral royalty tax revenue and FDI inflows is mediated by the complex and interconnected actions of stakeholders. Their roles in shaping fiscal policies, influencing social dynamics, and determining the broader investment climate significantly affect how these two factors interact, often tipping the balance of attracting or repelling foreign investment. Qualitative data also showed that the relationship between mineral royalty tax revenue and foreign direct investment (FDI) inflows is deeply influenced by local political contexts. They indicate that political stability, policy consistency, and governance quality play pivotal roles in shaping investor perceptions and decisions. As such the qualitative data proposes that; local political contexts serve as a lens through which the dynamics of mineral royalty tax revenue and FDI inflows are mediated, with stability, governance quality, policy alignment, and stakeholder influence shaping the strength and direction of this relationship.

3.2 Quantitative findings of the study

This section presents the study's findings based on quantitative data analysis particularly the ARDL model. It starts with descriptive statistics, followed by inferential statistical results. Next, the outcomes of stationarity tests are discussed. The findings related to the long-run hypothesis are then examined, followed by testing of the short-run hypothesis. Finally, a summary of the diagnostic test results is provided.

3.2.1 Descriptive statistics

The summary statistics are shown in Table 5. This consists of mainly the measures of central tendency and dispersion in the FDI, MRT, RQ and POL data. The average MRT tax rate is 6.94% . The maximum was 13.5% while the minimum was 0.6%. A standard deviation of (2.634) suggests that the various FDI inflows figures are close to the mean. The kurtosis value of 2.45 (less than 3) indicates that the distribution of MRT is less peaked than a normal distribution. This suggests that data has fewer extreme outliers than expected in a normal distribution and the variability in MRT rates is relatively moderate, with no extreme clustering around the mean. The Jarque-Bera test statistic of (3.45) is relatively low. This suggests that the data does not significantly deviate from a normal distribution. In other words, the tax rates over the 32-year period are somewhat normally distributed, with a slight right skew making the data set reliable for further analysis. Meanwhile the positive skewness (0.414) in FDI inflows indicates a slight right skew, meaning FDI inflows distribution has a longer tail on the right hand side. In terms of Kurtosis, FDI inflow was found to be approximately mesokurtic, meaning it has a similar tail behaviour to a normal distribution as the value of 0.123 is close to 0 and suggests that FDI inflow is mesokurtic; that is, has a standard normal distribution. The kurtosis value of 0.123 indicates that the FDI data is approximately normally distributed with no significant outliers. This makes the dataset reliable for further statistical analysis. (For more on Kurtosis, see (Kallner, 2018; Zhiqiang et al., 2008)). The Jarque-Bera test statistic had a p-value above 0.05. This implies that FDI inflow is normally distributed.

Table 5 **Descriptive statistics**

MEASURE	FDI INFLOWS	MRT	RQ	POL
Mean	3.255	6.94	-0.515	0.213

Median	2.351	6.00	-0.521	0.159
Maximum	8.633	13.50	-0.293	0.661
Minimum	-0.958	0.60	0.688	-0.159
Std. Dev	2.634	3.56	0.078	0.245
Skewness	0.414	0.56	0.646	0.12
Kurtosis	0.123	2.45	2.795	2.5
Jarque-Bera	1.789	3.45	7.109	1.2
Observations	27	32	18	18

(*Source*: Author computations, 2025)

3.2.2 Correlation among FDI, MRT, RQ and POL

The correlations among MRT, RQ, POL and FDI are shown in Table 6. The findings suggest existence of a statistically significant negative correlation between MRT and FDI suggesting that that the higher the MRT revenue the country mobilises, the lower the FDI inflow and vice versa. A strong positive correlation between Stakeholder influence (RQ) and FDI was also found. Moreover, a strong positive correlation between Local political contexts (POL) and FDI was found suggesting that the more politically stable the nation is, the high the FDI inflow it receives and vice versa.

Table 6 **Correlations among MRT, RQ, POL and FDI**

	LOG FDI INFLOW	**LOG MRT**	**LOG RQ**	**LOG POL**
Log FDI	1.0000			
Log MRT	-0.6526	1.0000		
Log RQ	0.7483	0.0041	1.0000	
Log POL	0.6033	0.0341	0.0600	1.0000

(Source: Author computations, 2025)

3.2.3 Stationarity tests

Before carrying out time series analysis, stationarity tests must be done. This is particularly essential for ARDL models which require that none of the variables be integrated of order I (2). They can however be I (0) or I (1) or both. The ADF test was used with the PP test for robustness. Stationarity test results are shown in Table 7. These indicate that the variables are all I (1) and I (0). This outcome makes it possible to use the ARDL model.

Table 7 **Stationarity Tests**

	WITH CONSTANT T-STATISTIC	**PROB.**	**WITH CONSTANT AND TREND T-STATISTIC**	**PROB.**	**WITHOUT CONSTANT AND TREND T-STATISTIC**	**PROB.**
Panel 1: ADF						
Log FDI	-2.1710	0.2710	-2.0390	0.5360	-0.2430	0.5150
Log MRT	12.905**	0.0530	-2.8910	0.1640	-0.6420	0.3980
Log RQ	0.2940	0.9430	-0.3720	0.8940	1.0970	1.0980

Log POL	-0.9750	0.8940	-1.6760	0.6580	0.6750	0.9200
ΔLog FDI	-6.1640***	0.0000	-3.5070*	0.0630	-4.9230***	0.0000
ΔLog MRT	-7.3240***	0.0000	-7.6700***	0.0000	-7.2650***	0.0000
ΔLog RQ	-2.9910**	0.0340	-2.9900**	0.0430	-2.9880***	0.0220
ΔLog POL	-4.0180**	0.0440	-4.0230*	0.0490	-3.0980***	0.0320
Panel 2: PP						
Log FDI	-2.1713	0.2716	-2.0317	0.7362	-0.2943	0.6156
Log MRT	-3.0138*	0.0609	-2.8199	0.0999	-0.3998	0.3998
Log RQ	-0.1509	0.9981	-0.2998	0.9927	0.9825	0.9845
Log POL	-1.1243	0.8423	-2.0898	0.5678	0.5235	0.9871
ΔLog FDI	-5.9895***	0.0000	-10.9986***	0.0000	5.8989**	0.0000
ΔLog MRT	-7.9157***	0.0000	-12.5175***	0.0000	8.2343**	0.0000
ΔLog RQ	-2.9000**	0.3660	-2.9756**	0.0398	-3.1253**	0.0034
ΔLog POL	-2.9901**	0.0343	-2.8790*	0.0641	-3.5762**	0.0012

Note: Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests with 10% (*), 5% (**) and 1%(***) significant levels.

(*Source*: Author computations, 2025)

3.2.4 Optimal Lag selection

In order to assess the long and short run relationships amongst MRT, RQ, POL and FDI inflow, the ARDL approach is used. This necessitates finding the optimum lag structure. All the information criteria show that the best length is lag one as shown in Table 8.

Table 8 **VAR Optimal Lag Selection**

LAG	LOGL	LR	FPE	AIC	SC	HQ
0	-24.43560	NA	0.00001	2.43570	2.75460	2.34570
1	43.98760	108.2654*	1.43e-07*	-1.98542	-1.09564*	-1.89756*
2	59.14380	17.15740	0.00000	-1.78956	-0.13240	-1.38730

Note: Lag chosen by criteria

(Source: Author computations)

3.2.5 Bounds Test

The bounds test results are shown in Table 9. When FDI, MRT and POL are used as outcome variables respectively, the F statistics are 5.4716, 5.3421 and 4.8371. Two of these are higher than the upper bound critical value at 5% suggesting the existence of two cointegration vectors.

Table 9 **Bounds Test Results**

VARIABLE	LOG FDI	LOG MRT	LOG RQ	LOG POL
F-Statistic	5.47160*	5.3421*	2.76543	4.8371
Optimal lags	(1,0,1,0)	(1,0,1,0)	(1,1,1,1)	(1,1,1,1)

Best trend specifications	Constant & trend	Constant & trend	Constant & trend	Constant & trend
Critical values	10%	5%	1%	
Lower Bound (0)	3.38	3.99	5.09	
Upper Bound (1)	4.38	4.98	5.97	
Diagnostics:				
R2	0.8243	0.4123	0.896	0.895
Adj. R2	0.567	0.2974	0.897	0.879

Note 1: Note: 5% (*) significant levels.

(Source: Author computations, 2025*)*

For robustness, the Johansen cointegration test was also run and the results are in Table 10. These indicate the presence of at least one cointegration equation. This suggests that long run association exists between FDI inflow and the studied antecedents (MRT revenue, Stakeholder influence and Local political contexts).

Table 10 **Johansen cointegration test**

COINTEGRATION EQUATIONS	EIGENVALUE	STATISTIC	CRITICAL VALUE AT 5%	PROB.
Trace statistic				
None	0.870040	54.38765	48.76534	0.0342
At most 1	0.326870	18.27324	27.94320	0.7231
At most 2	0.156745	3.85463	15.38765	0.7323
At most 3	0.034763	0.76548	3.97630	0.3934
Maximum Eigenvalue				
None	0.78654	33.2456	26.5643	0.0065
At most 1	0.48761	12.9345	22.1342	0.4756
At most 2	0.23450	3.8765	14.3456	0.9786
At most 3	0.04524	0.8432	3.9763	0.5643

(Source: Author Computations, 2025)

3.2.6 The Long-Run model results

The results of the long and short run estimates are shown in Table 11. The findings show that in the long run, MRT revenue has a negative relationship with FDI at the 5% level (β= -0.1687, p=0.001). Stakeholder influence and local political contexts were found to have a positive relationship with FDI inflow at the 5% level (β=0.1820, p=0.0054 and β=0.1779, p=0.0023 respectively).

3.2.7 Short Run Dynamics

The short run results are also shown in panel two of Table 11. Similar to the long run results, MRT revenue was found to have negative short run relationship with FDI inflow at the 5% level. The estimated coefficient for MRT revenue was -0.1892 while that of Stakeholder influence and local political contexts were 0.1680 and 0.1342 respectively. The cointegration coefficient was found to be -0.7265 (p=0.000). This means that in the short run, when there is a shock in the model, there is a

72.65% speed of adjustment to equilibrium. Overall, this model is able to explain 69.83% (R^2) of changes in FDI inflow.

Table 11 **ARDL (1, 0, 1, 0) Regressing determinants on FDI using AIC**

VARIABLE	COEFICIENT	SE	T-STATISTIC	P-VALUE
Panel 1: Long run estimates				
Log MRT	-0.1687	0.0608	-3.2435	0.0014
Log RQ	0.1820	0.0904	1.9430	0.0054
Log POL	0.1779	0.0978	2.1765	0.0023
Panel 2: Short run estimates				
ΔLog MRT	-0.1892	0.0395	-3.9670	0.0006
ΔLog RQ	0.1680	0.0543	0.1876	0.0036
ΔLog POL	0.1342	0.0371	2.7500	0.0180
ECM (-1)	-0.7265	0.2134	-5.1238	0.0001
Diagnostic tests (p-value in brackets)				
Durbin-Whiteson statistic	1.7342			
Adjusted R^2	0.6983			
R^2	0.7234			
X^2 SERIAL Breusch-Godfrey LM test	1.4098 (0.3124)			
X^2 White	24 (0.3945)			
X^2 NORMAL	3.0399 (0.23116)			
X^2 ARCH	1.8768 (0.0386)			
X^2 RESET	3.97 (0.0386)			
F-statistic	12.0856 (0.0001)			

(Source: Author computations, 2025*)*

3.2.8 Results of Hypothesis Testing

Table 12 summarises the results of hypothesis testing. All the hypotheses were supported.

Table 12 **Results of hypothesis tests**

HYPOTHESES	OUTCOME
$H1_a$: MRT revenue has a short run relationship with inward FDI.	Supported
$H2_a$: MRT revenue has a long run relationship with inward FDI.	Supported
$H3_a$: Stakeholders' influence has a short run relationship with inward FDI.	Supported
$H4_a$: Stakeholders' influence has a long run relationship with inward FDI.	Supported
$H5_a$: Local political contexts has a short run relationship with inward FDI.	Supported
$H6_a$: Local political contexts has a long run relationship with inward FDI.	Supported

(Source: Author, 2025)

These are; MRT revenue has no short run relationship with inward FDI, MRT revenue has a short run relationship with inward FDI, MRT revenue has a long run relationship with inward FDI, Stakeholder influence has a short run relationship with inward FDI, Stakeholder influence has a long run

relationship with inward FDI, Local political contexts has a short run relationship with inward FDI and Local political contexts has a long run relationship with inward FDI.

3.2.9 Diagnostic Tests

Diagnostic tests are summarised in panel three of Table 12. The model passed various diagnostic tests including Breusch-Godfrey test of serial correlation, Jarque-Bera test of normality, ARCH and white test of heteroscedasticity, RESET test of linearity and CUSUM and CUSUM of square tests of model stability. In terms of model stability, the results of the CUSUM and CUSUM of square tests indicated that all the plots fall with the 5% critical boundaries confirming stability of the estimated model parameters over the period estimated.

4 DISCUSSION

The study has examined the influence of Mineral Royalty Tax revenue on inward FDI in the mining sector in Zambia. Influence of stakeholder interests and local political contexts on this relationship has also been investigated. The research findings suggest a significant correlation between changes in mineral royalty tax rates and fluctuations in foreign direct investment (FDI) inflows in Zambia's mining sector. Higher mineral royalty tax rates deter FDI inflows by increasing the cost of doing business for investors, particularly in extractive industries where profit margins are heavily influenced by tax policies. Conversely, reductions in mineral royalty tax rates tend to attract greater FDI inflows, as they signal a more favourable investment climate and lower financial burdens for multinational corporations. However, further analysis has indicated that the extent of this correlation varies depending on the broader economic, political, and regulatory contexts of individual countries. For example, nations that have adopted global investment trends with stable governance, clear legal frameworks, and effective infrastructure often experience less volatility in FDI inflows even amidst tax rate changes, suggesting that non-tax factors play a moderating role, "The effectiveness of tax policies in attracting FDI depends on their alignment with global investment trends and the competitive tax regimes of neighboring countries." (Kubicová & Záhumenská, 2017). These findings also align with the conclusions of other international studies, such as those by (Otto et al., 2021) and (Mansour, 2020), which emphasise the importance of balancing competitive tax policies with fiscal sustainability.

The study findings highlighted that stakeholders and local political contexts significantly influence the relationship between MRT revenue and FDI inflows. While quantitative data emphasised the direct economic impacts of tax rates and revenue use, qualitative insights provided a deeper understanding of how institutional dynamics, perceptions, and stakeholder engagement shape the broader investment environment. Meanwhile, stable and transparent political systems mitigate the negative effects of taxation on investment, while weak governance amplifies them. Extant literature reports similar findings (Eshun and Mireku, 2020, Fraser & Lungu, 2022). This interplay is well-supported by theories such as the obsolescing bargain model and the resource curse, which emphasise the importance of institutional quality and governance in fostering a conducive environment for FDI. This study's findings suggest that policymakers should focus on strengthening institutions and ensuring consistency in tax policies to balance revenue generation with sustained investment attraction. This result is consistent with (James, 2015) who found that transparent and predictable tax regimes, coupled with constructive stakeholder engagement, often lead to a more favourable investment climate, thus moderating the adverse impact of MRT and also (Dobrovič, 2018) who concluded that, the design of tax systems, including royalty taxes, must balance revenue generation for the state with the need to maintain an attractive environment for foreign investors.

This study has developed a Taxation and Investment Reconciliation Theory (TIRT) for resource rich nations. The theory argues that an optimal balance between taxation and investor returns can be achieved by integrating both fiscal and non-fiscal determinants of FDI, blending economic models with an awareness of local political contexts and stakeholder interests. Further, the theory emphasises on incorporating stakeholder engagement in the decision-making process to achieve both objectives of tax revenue generation and attracting investment in the host country. The taxation and investment reconciliation theory for resource rich nations is a useful tool for tax scholars, policymakers and practitioners. It can aid in the understanding of the factors that influence FDI inflow and most importantly help in developing policies that can increase tax revenue while attracting significant FDI inflows in resource rich nations.

CONCLUSION

The study highlights the significant influence of Zambia's Mineral Royalty Tax (MRT) structure on Foreign Direct Investment (FDI) decisions, emphasising its direct economic impact and the perception of risk it creates. Stable, transparent, and predictable tax policies are crucial for fostering an investment-friendly environment while meeting domestic revenue needs. The research underscores the complexity of balancing investor interests with national economic goals, proposing a balanced approach informed by the Taxation and Investment Reconciliation Theory (TIRT). This approach aims to optimise the relationship between MRT revenues and FDI inflows, enabling Zambia to maximise Mineral Royalty Tax revenue while attracting FDI. However, the study acknowledges limitations, including challenges in assessing MRT revenue data due to limited published data, leading to reliance on tax rates data only. Additionally, the research focuses solely on aggregate FDI inflows, as they are the most relevant to Zambia, with other forms of FDI, such as outflows, being less significant in the local context. These limitations highlight areas for further investigation to refine understanding of taxation's role in attracting FDI. A progressive and stable tax regime, supported by strong institutions and transparent governance, is essential for achieving the dual objectives of revenue generation and attracting investment. Addressing policy inconsistencies and fostering stakeholder collaboration can enhance Zambia's position as a competitive and sustainable mining investment destination. Policymakers are urged to consider these dynamics to ensure tax reforms promote long-term economic growth without undermining revenue collection or discouraging investment. Future research could explore the interaction between mineral taxation and other FDI determinants, such as transparency and market size, to provide deeper insights into optimal tax regime design.

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