



## An analysis of the correlation between external debt and economic growth (GDP) In Zambia

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### Abstract

This desk research study analyses the relationship between external debt and economic growth (GDP) in Zambia from 2020 to 2024. The correlation analysis reveals a strong positive relationship ( $r = 0.909$ ), suggesting that external debt inflows have been associated with increased GDP, particularly in critical sectors like infrastructure, energy, and mining. While excessive external debt is often linked to negative economic outcomes, Zambia's reliance on external financing to support key industries, such as copper mining, may have contributed to its economic growth despite the debt burden. In contrast, the analysis between external debt and debt repayment reveals a negative correlation ( $-0.652$ ), indicating that rising debt repayment obligations are becoming an increasing challenge. This growing debt servicing burden could crowd out public investments in essential sectors like health and education, potentially limiting long-term sustainable development. Lastly, the correlation between external debt and economic policies ( $r = 0.709$ ) highlights the influence of debt on Zambia's fiscal decisions, with the government adjusting policies to manage debt levels and service obligations. The study underscores the complex dynamics of external debt in developing economies, emphasizing the need for effective debt management strategies and policy adjustments to balance growth with long-term fiscal sustainability. Based on these findings, several recommendations are made. First, Zambia should consider diversifying its debt sources by exploring alternative financing options such as public-private partnerships (PPPs) and increasing domestic savings and investments to reduce dependency on foreign debt. Second, strengthening debt management frameworks is critical by enhancing transparency in debt contracts, setting clear debt limits, and maintaining accurate debt reporting. Third, focusing on economic diversification into sectors like agriculture, manufacturing, and technology is essential to reduce vulnerability to global commodity price fluctuations and improve resilience against external debt shocks.

**Keywords:** External debt, growth, domestic product, economy, debt management

### Introduction

External debt has become a critical component in financing the development agendas of many developing economies, including Zambia. As a resource, external debt plays a significant role in supporting infrastructural projects, energy production, and other key sectors such as mining. However, while it has the potential to stimulate economic growth, it also comes with risks, especially when the burden of repayment escalates. Zambia, like many other nations, has increasingly relied on external debt to finance its economic development, particularly in sectors crucial to its economic growth. However, the consequences of relying heavily on external borrowing, especially when coupled with growing debt repayment obligations, pose significant challenges to the country's fiscal health and long-term development. This chapter aims to introduce the key areas of the study, offering a comprehensive overview of the research and its importance in understanding the dynamics between external debt and economic growth in Zambia.

### Background

External debt has played a central role in Zambia's economic development strategies, particularly since the country gained independence in 1964. Initially, Zambia relied on external borrowing to finance its industrialization projects, infrastructure, and socio-economic development. During the 1970s, external debt grew considerably as Zambia sought to finance its ambitious development agenda, especially in the mining sector, which is the backbone of the Zambian economy (Harrison, 2014). However, by the 1980s, Zambia faced significant challenges with external debt as global copper prices fell, leading to a

sharp decline in revenues. This situation exacerbated Zambia's debt burden, resulting in a default on external debt in the early 1990s and necessitating restructuring efforts (IMF, 2004).

In the years following, Zambia engaged in several debt relief programs, including the Heavily Indebted Poor Countries (HIPC) Initiative, which significantly reduced the national debt stock. Despite these efforts, external debt levels began to rise again, particularly after 2005, when Zambia experienced a period of sustained economic growth driven by high copper prices. This growth was supported by foreign borrowing, including loans from international markets and bilateral creditors, which increased Zambia's reliance on external debt (World Bank, 2019).

As of recent years, Zambia's external debt has once again become a major point of concern, especially in light of the country's growing debt servicing obligations. By the end of 2020, Zambia's external debt had reached approximately \$12.74 billion, representing a significant portion of the country's GDP. The debt servicing costs have escalated, and the country is now one of the most highly indebted nations in Sub-Saharan Africa (World Bank, 2020). This has led to concerns over the country's ability to service its debt while ensuring adequate public investment in critical sectors like health, education, and infrastructure (IMF, 2020).

The current challenges related to external debt in Zambia are multifaceted. First, the rising costs of servicing external debt have placed significant pressure on the country's fiscal space. According to the Bank of Zambia (2021), the government spent more than 25% of its budget on debt servicing in 2020 alone, with a large portion going toward external debt repayment. This crowding out of public

investment has raised concerns about Zambia's ability to maintain its economic growth trajectory and improve key social indicators.

Second, Zambia's reliance on copper exports, which account for over 70% of its export earnings, exposes the country to significant economic volatility. Fluctuations in global copper prices can lead to unexpected drops in revenue, making it difficult for the government to meet its external debt obligations. For instance, in 2020, global copper prices plummeted, affecting Zambia's foreign exchange reserves and fiscal revenue, and intensifying the country's debt servicing challenges (Zambia Statistics Agency, 2020). Furthermore, the sharp depreciation of the Zambian kwacha against major currencies, including the US dollar, has increased the real cost of external debt repayments, worsening the fiscal outlook (Central Statistical Office, 2020).

Third, Zambia's economic policies have been influenced heavily by the need to manage external debt. The IMF and World Bank have urged the Zambian government to implement fiscal consolidation measures, such as cutting public spending and increasing revenue collection. However, such measures often come at the expense of social spending, which can have long-term negative effects on human capital development (IMF, 2020). The government has also been in negotiations with international creditors for debt restructuring, seeking to extend repayment terms and reduce interest rates to ease the fiscal burden (IMF, 2021).

### Statement of The Problem

Zambia's reliance on external debt as a primary source of financing for its economic development has raised significant concerns regarding its long-term fiscal sustainability. Over the years, external debt has been utilized to fund key sectors, particularly infrastructure, energy, and mining. However, while external debt has played a role in fostering economic growth, it has also placed considerable pressure on Zambia's fiscal health. By the end of 2024, Zambia's total external debt is projected to reach approximately \$15 billion, accounting for over 60% of the country's Gross Domestic Product (GDP) (World Bank, 2024). The escalation of external debt, coupled with rising debt servicing costs, has become a major challenge, as the government spent more than 30% of its annual budget on debt repayment in 2024 alone (Bank of Zambia, 2024).

This growing debt burden has sparked concerns about Zambia's ability to balance the need for economic growth with the capacity to meet its debt obligations. Although the country has witnessed periods of economic growth, driven largely by sectors like copper mining, the increased debt servicing requirements have limited the government's ability to invest in essential sectors such as healthcare, education, and infrastructure, which are crucial for sustainable development (IMF, 2024). Furthermore, the Zambian economy remains highly vulnerable to external shocks, particularly fluctuations in global copper prices, which account for over 70% of the country's export earnings (Zambia Statistics Agency, 2024). This dependency on a single commodity has compounded the challenges of managing external debt, making it difficult for Zambia to generate consistent revenue streams to service its debt.

Moreover, the rising external debt has led to discussions regarding the need for debt restructuring. In 2024, Zambia faced increased pressure to renegotiate its sovereign debt

due to escalating repayment obligations, raising concerns about its ability to maintain economic stability without jeopardizing future development (IMF, 2024). Despite this, little research has been conducted to specifically analyze the correlation between Zambia's external debt and its GDP growth over the past few years, especially as it relates to the government's fiscal policies and the long-term sustainability of debt.

Thus, this study seeks to fill this gap by examining the relationship between external debt and economic growth (GDP) in Zambia from 2020 to 2024, identifying the challenges faced by the government in balancing debt management with economic development goals. Through this analysis, the research aims to provide valuable insights that could guide policy recommendations to ensure a more sustainable and effective approach to external borrowing and economic growth in Zambia.

### Objectives of the research

#### Research Objectives

1. To analyze the correlation between external debt and GDP growth in Zambia.
2. To examine the impact of rising external debt servicing obligations on Zambia's fiscal space.
3. To provide policy recommendations for effective debt management and sustainable economic growth in Zambia.

### Significance of the study

This study will be very beneficial, specifically, to the Ministry of Finance, vis-à-vis, the International Debt Management Department (IDM), as it will highlight the different ways and approaches of managing the contracted foreign debt. From the economic growth point of view, the study will also benefit government wings with the focus on issues to do with social and economic growth.

Above all, this study will also contribute or add knowledge to the academic world or the body of academician by producing transparent strategies for managing the level of debt and establishing appropriate institutional frameworks that will support effective implementation.

### Literature Review

#### Global Perspective

External debt has been a significant issue for many countries, especially developing ones. Numerous studies have focused on understanding the relationship between external debt and economic growth globally. According to Khan and Zahid (2020), external debt plays a dual role in developing economies: it can serve as a tool for financing development when used properly, but excessive borrowing can lead to debt crises, as seen in several Latin American and African nations. These authors argue that external debt has both direct and indirect effects on economic growth, where productive use of debt increases capital formation and fosters economic development, but mismanagement can lead to fiscal pressures that inhibit growth.

Checherita-Westphal and Rother (2019) <sup>[6]</sup> examined the effects of external debt on the economic growth of advanced and developing countries, finding that high debt burdens can hinder economic growth beyond a certain threshold. They observed that while external debt could provide temporary economic stimulation through increased investments, it might result in unsustainable fiscal practices if debt

servicing demands exceed national capacity. This research is vital in understanding how Zambia's debt situation might be reflective of a broader global trend in developing countries.

On a global scale, Clemens *et al.* (2021) [8] found that countries with higher levels of external debt tend to face slower GDP growth due to higher debt service payments, which can crowd out investment in productive sectors such as infrastructure, health, and education. In line with this, the World Bank (2020) reported that debt servicing for low-income countries reached unprecedented levels, diverting significant resources from developmental goals.

**Continental Perspective (Africa)**

On the African continent, the relationship between external debt and economic growth has been widely researched, particularly as many African countries are heavily reliant on external financing. Munyukwi and Dube (2020) [19] found that external debt in sub-Saharan Africa has both positive and negative impacts on economic growth. They argued that while debt has financed major infrastructure projects that contributed to short-term growth, it has also led to fiscal pressures in the long run. The study shows a general upward trend in Africa's debt-to-GDP ratios, particularly after the 2008 financial crisis, which resulted in many countries increasing their borrowing.

Sloan *et al.* (2021) [24] focused on African countries and explored the impact of debt servicing on fiscal space. They concluded that rising debt servicing costs have limited the fiscal flexibility of governments, especially in resource-dependent countries. In their study, the rising debt servicing obligations resulted in reduced public expenditure on development projects, thus hampering economic growth and poverty reduction efforts.

Additionally, Adeniran (2020) [1] analyzed the fiscal constraints induced by rising external debt in the African continent and emphasized that increasing debt levels can reduce governments' ability to invest in public services and infrastructure, which are essential for long-term growth. The growing debt burden in many African countries is often exacerbated by the depreciation of local currencies, leading to higher debt servicing costs in foreign currencies.

**Regional Perspective (Southern Africa)**

In the Southern African region, Zambia's case is not unique. Many of the countries in this region face similar challenges regarding external debt management. Chirwa and Odhiambo (2019) [7] examined Southern Africa's growing external debt and its impact on economic growth, particularly focusing on Zambia, Zimbabwe, and Mozambique. Their findings indicated that while debt could contribute to GDP growth, it became a significant hindrance once debt servicing demands surged, with limited fiscal space for developmental spending. The study found that Zambia's rapid increase in external debt in the past decade was linked to its declining fiscal health, affecting its economic performance.

Moreover, Hanke and Schuler (2021) [13] investigated the relationship between external debt and fiscal policy in Southern Africa, concluding that the debt service-to-revenue ratio for many Southern African nations, including Zambia, has been rising steadily. They argued that this leads to an unsustainable fiscal environment, reducing economic resilience and hindering long-term growth prospects. Their research also suggested that some Southern African

countries, including Zambia, might face a "debt trap" situation if external debt is not managed prudently.

**National Level (Zambia)**

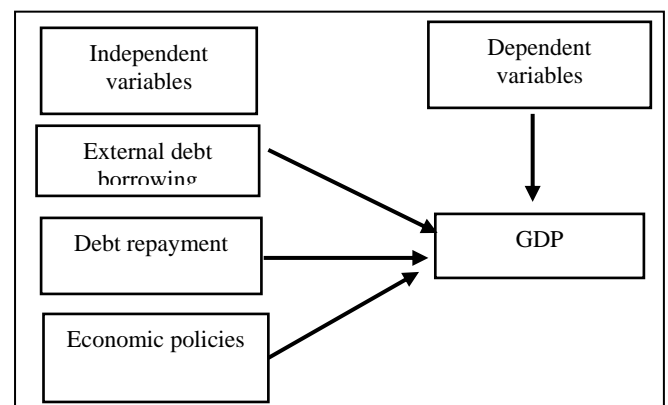
At the national level, numerous studies have focused on Zambia's external debt dynamics. Kalinda (2020) [14] explored the correlation between external debt and GDP growth in Zambia. The study highlighted that while external debt was initially beneficial in terms of financing infrastructure projects, it increasingly became a burden due to the high interest rates associated with external borrowing. Kalinda (2020) [14] further pointed out that the rising debt servicing obligations had limited the government's ability to invest in crucial sectors like health and education, thereby stalling long-term economic growth.

Kaunda and Sondashi (2022) [15] analyzed the impact of external debt on Zambia's fiscal space. They reported that the country's growing debt burden limited fiscal flexibility, particularly after 2015, when the debt-to-GDP ratio began to increase sharply. As Zambia spent more on debt servicing, its ability to finance key development projects was reduced. Kaunda and Sondashi (2022) [15] also observed that Zambia's external debt servicing costs reached unsustainable levels, leading to fiscal deficits and increased borrowing costs.

Further, Nkhoma and Banda (2021) [20] studied the role of external debt in Zambia's economic development and found a negative correlation between debt servicing costs and economic growth. Their analysis concluded that high levels of external debt servicing diverted resources from productive investments, thus stifling economic expansion. They also noted that Zambia's reliance on external debt financing, particularly Eurobonds and loans from commercial lenders, has made the country vulnerable to global financial market fluctuations.

**Conceptual framework**

The conceptual framework provides a clear understanding of the study's independent and dependent variables.



Source: Author

Fig 1: Conceptual framework

**Research Methodology**

**Research Philosophy**

The pragmatic research philosophy provides a practical and flexible approach to conducting research, emphasizing the use of multiple methods to address real-world problems. This philosophy is grounded in the belief that the most effective way to understand a research problem is by using a variety of methods and tools that are best suited to address

the specific issues at hand, rather than strictly adhering to a particular philosophical tradition such as positivism or interpretivism. The pragmatic approach values practical outcomes and solutions, allowing researchers to combine methods based on the research question and context, rather than being confined to one specific research tradition (Creswell, 2014) <sup>[9]</sup>.

In the case of the relationship between external debt and GDP growth in Zambia, a pragmatic approach allows for the integration of both qualitative and quantitative methods to capture the complexity of the issue. This approach supports the use of different tools, such as statistical models to analyze economic data and qualitative interviews with policymakers to understand the real-world impacts of external debt. The flexibility inherent in the pragmatic approach is particularly useful when investigating multifaceted topics like the one under consideration, where different angles and data sources contribute to a fuller understanding of the research problem.

### Correlational Research Design

To explore the relationship between external debt and GDP growth in Zambia, a correlational research design was adopted. This design is commonly used when researchers aim to assess the strength and direction of relationships between two or more variables (Field, 2013) <sup>[12]</sup>. In this case, the study used existing datasets, such as those provided by the World Bank, Zambia's Ministry of Finance, and the International Monetary Fund (IMF), to identify patterns and correlations between external debt levels and GDP growth over time.

Correlational research design is appropriate for this study because it does not require manipulation of variables but instead analyzes pre-existing data to determine if changes in one variable (external debt) are associated with changes in another variable (GDP growth). While this design cannot establish causality, it provides valuable insights into the direction and strength of the relationship between the two variables. By analyzing the data, the research can highlight whether external debt has a positive or negative impact on economic growth in Zambia and the extent to which these variables are linked.

### Research Approach: Mixed-Methods Approach

The research employed a mixed-methods approach, combining both quantitative and qualitative research techniques. This approach was chosen to provide a more comprehensive understanding of the relationship between external debt and GDP growth in Zambia. A mixed-methods approach integrates the strengths of both methodologies, allowing the researcher to gather numerical data (quantitative) to measure the strength of the correlation between external debt and GDP growth, while also incorporating qualitative data to capture the nuances, experiences, and perspectives of key stakeholders such as policymakers, economists, and financial experts (Tashakkori & Teddlie, 2003) <sup>[26]</sup>.

### Quantitative Techniques

The quantitative component of the research involved analyzing numerical data, particularly time-series data on Zambia's external debt levels and GDP growth over a specific period of 2020 to 2024. Statistical techniques which are the Pearson's correlation coefficients, were applied to assess the relationship between the two variables.

This method allows the researcher to identify patterns and determine whether fluctuations in external debt correspond with changes in GDP growth (Field, 2013) <sup>[12]</sup>.

Correlation refers to a statistical relationship or association between two or more variables, indicating whether and how strongly they are related. In a correlation, the movement or change in one variable is reflected by a corresponding change in another, though it is important to note that correlation does not imply causation. For instance, when two variables show a positive correlation, an increase in one variable is associated with an increase in the other, while a negative correlation means that as one variable increases, the other decreases. Correlations can be measured using a variety of statistical techniques, including Pearson's correlation coefficient, which quantifies the strength and direction of the relationship between variables (Field, 2013) <sup>[12]</sup>.

### Qualitative Techniques

On the qualitative side, the research integrated interviews, expert opinions, and policy documents to provide context for the quantitative findings. Qualitative data helped explain why the relationship between external debt and GDP growth might exist, offering insights into the decision-making processes that lead to debt accumulation and its perceived effects on Zambia's economy. This approach also helped to explore the broader economic context, such as government policies, external factors (e.g., global commodity prices), and the role of institutions in managing debt (Creswell, 2014) <sup>[9]</sup>. By using qualitative data, the research provided deeper insights into the factors that influence the relationship between debt and economic growth.

### Data collection

Data for this study was collected through a comprehensive approach using a combination of secondary sources, which included government reports, publications from international organizations, and statistical databases. The primary national sources of data included the Ministry of Finance, the Bank of Zambia (BOZ), and the Zambia Statistics Agency (ZamStats). These institutions provided key information on external debt levels and GDP growth, which were central to the analysis of Zambia's economic performance over the study period (2020-2024). Specifically, reports from the Ministry of Finance offered details on national debt management strategies, borrowing patterns, and fiscal policies, while the BOZ provided data on monetary policy and economic indicators, including inflation rates and exchange rates. ZamStats contributed national statistics on GDP growth and other socio-economic variables.

In addition to national data, international organizations such as the World Bank, International Monetary Fund (IMF), and African Development Bank (AfDB) provided valuable supplementary data. These organizations offer global and regional perspectives on Zambia's debt sustainability and economic growth, allowing for a comparative analysis with other countries. Their publications include country-specific reports, economic outlooks, and debt sustainability assessments, which helped to verify and contextualize national data. These international sources also provided projections and macroeconomic forecasts that were useful for assessing future trends and potential risks related to Zambia's external debt.

Furthermore, to deepen the understanding of Zambia's debt management strategies and their broader economic impacts,

a range of academic journal articles, policy briefs, and research papers were reviewed. These qualitative sources offered insights into Zambia's debt management policies, the political and institutional frameworks surrounding debt, and the long-term effects of external debt on economic growth and development. They also highlighted various perspectives on the effectiveness of Zambia's debt management practices, shedding light on the challenges and opportunities the country faces in balancing debt accumulation with sustainable economic growth.

The statistical data collected from both national and international sources was meticulously organized and analyzed. Descriptive statistical techniques were applied to summarize key economic indicators, such as debt-to-GDP ratios, GDP growth rates, and debt servicing levels. Correlation analysis was then used to examine the relationships between external debt and GDP growth, providing insights into the strength and direction of the relationship between these two variables. This analysis helped to identify trends, patterns, and potential causal links between debt accumulation and economic performance over the five-year period under review.

Overall, the combination of quantitative data from official national and international sources, along with qualitative insights from relevant literature, provided a comprehensive foundation for assessing the impact of external debt on Zambia's economic growth. This multi-source approach ensured a well-rounded analysis, addressing both the statistical relationships and the underlying policy and institutional factors that influence Zambia's debt dynamics.

### Data analysis

SPSS (Statistical Package for the Social Sciences): In this study, SPSS was employed as the primary tool for statistical analysis due to its powerful capabilities in handling large datasets and conducting both descriptive and inferential statistics. SPSS is widely used in social sciences and economic research for data management, statistical analysis, and reporting. For the purpose of this study, SPSS facilitated the organization and manipulation of data collected from various sources, such as government reports, international organizations, and academic literature, allowing for efficient data analysis. It was particularly useful in processing and analyzing complex datasets related to Zambia's external debt, debt repayment schedules, and GDP growth.

### Descriptive Statistics

The initial step in the analysis involved the use of descriptive statistics, which helped to summarize and present the basic features of the data in a more digestible format. Descriptive statistics, such as means, medians, standard deviations, and frequency distributions, were employed to describe the key variables under consideration, including external debt levels, debt servicing costs, and GDP growth rates. These statistics provided a foundational understanding of the data and helped to identify trends and patterns over the study period (2020–2024). For example, the mean external debt levels and GDP growth rates were calculated to establish an overall picture of the economic environment in Zambia during these years.

### Inferential Statistics (Correlation)

To explore the relationships between key variables, inferential statistics were used, with Pearson's correlation coefficient being the primary method for measuring the strength and direction of the relationships. Pearson's correlation is a statistical technique that quantifies the linear relationship between two continuous variables. In this study, Pearson correlation was applied to assess the association between external debt, debt repayment obligations, economic policies, and Gross Domestic Product (GDP).

For instance, the analysis aimed to measure how changes in Zambia's external debt levels relate to fluctuations in GDP growth over the study period. A positive correlation would suggest that as external debt increases, GDP growth tends to rise, while a negative correlation would indicate that higher debt levels might be associated with slower economic growth. Similarly, the relationship between debt repayment and economic performance was examined, as debt servicing costs can impact the government's fiscal space, potentially crowding out productive investments that could stimulate economic growth.

Pearson's correlation coefficient was computed to give a numerical value between -1 and +1, where values close to +1 indicate a strong positive correlation, values close to -1 indicate a strong negative correlation, and values close to 0 suggest little or no linear relationship. By calculating these correlation coefficients, the study was able to assess how closely linked changes in external debt and debt servicing are with changes in economic growth, as measured by GDP, during the specified period.

Additionally, SPSS allowed for the generation of visual aids such as scatter plots and correlation matrices, which helped to further illustrate and interpret the relationships between the variables. These visualizations provided a clear and intuitive representation of the correlations, making it easier to communicate the findings to policymakers, researchers, and other stakeholders.

Overall, the use of SPSS for both descriptive and inferential statistics allowed for a thorough and rigorous analysis of the data, helping to identify key relationships and providing evidence to support conclusions about the impact of external debt on economic growth in Zambia.

## Results

### Zambia's GDP from 2020 – 2024

Zambia's Gross Domestic Product (GDP) has experienced fluctuations between 2020 and 2024. In 2020, the GDP was approximately \$18.14 billion, reflecting a contraction of 22.18% compared to 2019. The economy rebounded in 2021, with GDP reaching \$22.10 billion, a 21.83% increase from the previous year. This growth continued in 2022, with GDP rising to \$29.16 billion, marking a 31.98% year-on-year increase. However, in 2023, GDP slightly declined to \$28.16 billion, a 3.43% decrease from 2022. Projections for 2024 estimate the GDP to be around \$28 billion in real terms (Macrotrends, 2025; World Economics, 2025) <sup>[29]</sup>.

These figures indicate a period of economic volatility, with significant growth in 2021 and 2022, followed by a slight contraction in 2023 and a stabilization in 2024. The fluctuations can be attributed to various factors, including global economic conditions, domestic policy changes, and sector-specific challenges.

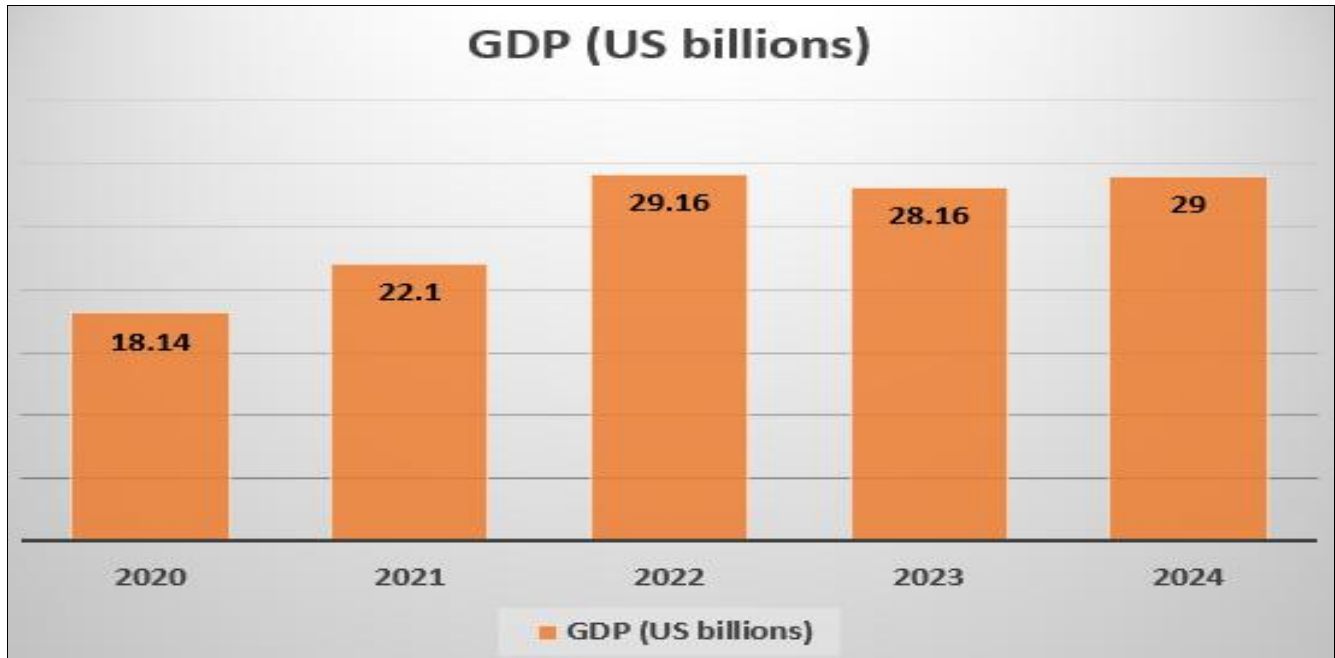


Fig 2: Zambia’s GDP for the period 2020-2024.

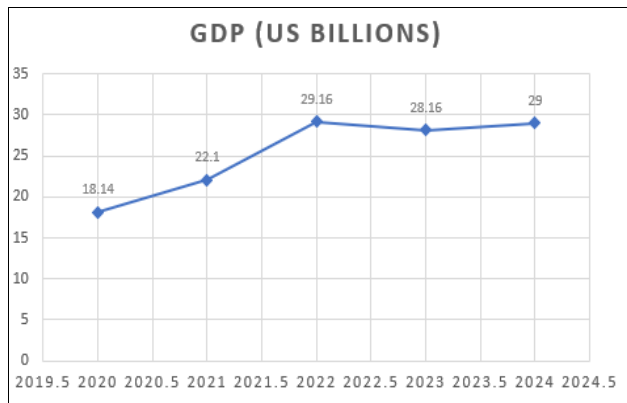


Fig 3: Trend analysis of Zambia’s GDP in USP billions from 2020-2024.

**Correlation between External Debt and GDP**

The correlation analysis between external debt and GDP in Zambia during the period from 2020 to 2024 reveals a strong positive correlation of 0.909, indicating a substantial relationship between the two variables. A positive correlation of this magnitude suggests that as Zambia’s external debt rises, its GDP tends to increase correspondingly. This finding implies that the growth in external debt might be associated with improvements in the country’s economic output, potentially reflecting investments made through borrowing that stimulate economic growth. The correlation is statistically significant, with a p-value of 0.032, which is lower than the conventional significance threshold of 0.05. This indicates that the observed relationship is not due to random chance, reinforcing the idea that there is a real, positive link between external debt and GDP growth in Zambia during this period. The statistically significant result suggests that external debt could be playing a role in Zambia’s economic growth, either through facilitating necessary investments in infrastructure, capital, or other key sectors of the economy that contribute to GDP expansion. However, this does not imply causality, as other external and internal factors might also influence the relationship between external debt and GDP.

Nonetheless, the strong positive correlation offers valuable insight into the potential impact of external debt on Zambia’s economic development.

| Correlations  |                     |               |       |
|---------------|---------------------|---------------|-------|
|               |                     | External Debt | GDP   |
| External Debt | Pearson Correlation | 1             | .909* |
|               | Sig. (2-tailed)     |               | .032  |
|               | N                   | 5             | 5     |
| GDP           | Pearson Correlation | .909*         | 1     |
|               | Sig. (2-tailed)     | .032          |       |
|               | N                   | 5             | 5     |

\*Correlation is significant at the 0.05 level

**Correlation between External Debt and Debt Repayment**

The correlation analysis between external debt and debt repayment in Zambia reveals a negative correlation of -0.652, suggesting an inverse relationship between the two variables. This means that as Zambia’s external debt increases, the amount of debt repayment tends to rise, but at a decreasing rate. Essentially, while higher external debt leads to higher debt repayment obligations, the relationship between the two is not linear. In other words, each additional unit of external debt results in a smaller incremental increase in debt repayment. This phenomenon could indicate that Zambia’s debt servicing costs grow at a slower pace as the debt burden increases, possibly due to factors such as restructuring, refinancing, or the composition of debt (e.g., longer repayment terms or lower interest rates). The correlation is statistically significant, with a p-value of 0.032, which is well below the 0.05 significance threshold, suggesting that the observed relationship is unlikely to have occurred by random chance. This finding

underscores the financial burden Zambia faces in servicing its external debt, with debt repayments rising as external borrowing increases, placing increasing pressure on the country’s fiscal resources. The inverse relationship suggests that while Zambia’s debt repayment obligations are growing, they do so at a diminishing rate, which may reflect efforts to manage or restructure debt more efficiently over time. This trend highlights the ongoing challenges Zambia faces in managing its debt sustainability, as the rising external debt creates a substantial long-term financial obligation that needs careful handling to avoid potential fiscal crises.

| Correlations   |                     |               |                |
|----------------|---------------------|---------------|----------------|
|                |                     | External Debt | Debt repayment |
| External Debt  | Pearson Correlation | 1             | -.652*         |
|                | Sig. (2-tailed)     |               | .032           |
|                | N                   | 5             | 5              |
| Debt repayment | Pearson Correlation | -.652*        | 1              |
|                | Sig. (2-tailed)     | .032          |                |
|                | N                   | 5             | 5              |

\*Correlation is significant at the 0.05 level.

**Correlation economic policies and External Debt**

The correlation analysis between external debt and economic policies in Zambia reveals a positive correlation of 0.709, indicating a moderate to strong relationship between the two variables. This suggests that as Zambia’s external debt increases, the effectiveness or focus of its economic policies tends to improve or intensify. The positive correlation could reflect that the rising debt burden prompts the government to adopt more focused and stringent economic policies, possibly aimed at managing and mitigating the financial pressures associated with servicing external debt. For example, the government might introduce policies that prioritize debt management, fiscal consolidation, or economic reforms to address the challenges posed by the growing debt load. This relationship may also indicate that external debt serves as a catalyst for policy adjustments, with the government responding to the increasing debt burden by implementing strategies that aim to stabilize the economy and ensure debt sustainability.

The correlation is statistically significant, with a p-value of 0.012, which is below the 0.05 significance threshold, confirming that the observed relationship is unlikely to be due to random chance. This statistical significance reinforces the notion that the increase in external debt is linked to a more pronounced or responsive focus on economic policies in Zambia. The significance of this correlation implies that the country’s external debt may be influencing or driving changes in the formulation and implementation of economic policy decisions. It suggests that Zambia's policymakers might be adjusting their economic strategies as a direct response to the rising debt levels, which could involve measures such as austerity, restructuring, seeking debt relief, or pursuing growth-enhancing policies to ensure that the country can continue meeting its debt obligations while striving for sustainable economic growth. This analysis highlights the critical role

that external debt plays in shaping Zambia’s economic policy landscape, driving important policy shifts to manage the country's financial challenges.

| Correlations      |                     |               |                   |
|-------------------|---------------------|---------------|-------------------|
|                   |                     | External Debt | Economic policies |
| External Debt     | Pearson Correlation | 1             | .709*             |
|                   | Sig. (2-tailed)     |               | .012              |
|                   | N                   | 5             | 5                 |
| Economic policies | Pearson Correlation | .709*         | 1                 |
|                   | Sig. (2-tailed)     | .012          |                   |
|                   | N                   | 5             | 5                 |

\*Correlation is significant at the 0.05 level

**Recommendations**

Based on the findings of this study, the following recommendations are made to help Zambia manage its external debt more effectively and promote sustainable economic growth:

- 1. Strengthen Debt Management Frameworks:** The government should continue to enhance its debt management strategies by establishing a robust framework that includes better tracking, forecasting, and monitoring of debt levels. This will enable Zambia to avoid excessive borrowing and ensure that external debt is used for productive investments that generate returns, particularly in key sectors like infrastructure, energy, and mining. Developing a comprehensive debt sustainability framework will help mitigate the risks associated with rising debt repayment obligations.
- 2. Diversify Sources of Financing:** To reduce reliance on external debt, Zambia should explore alternative financing sources such as public-private partnerships, domestic savings, and multilateral funding. Diversifying financing sources can help minimize vulnerability to global economic fluctuations and reduce the burden of servicing foreign debt. Strengthening domestic revenue generation mechanisms will also be essential to reduce dependence on external borrowing.
- 3. Prioritize Productive Investments:** Zambia should prioritize investments in sectors that yield high economic returns, such as infrastructure, agriculture, and energy, ensuring that external debt is directed towards projects that stimulate economic growth and enhance productivity. This will help generate the necessary income to service debt while fostering sustainable growth and development.
- 4. Implement Fiscal Consolidation and Structural Reforms:** Given the negative correlation between debt repayment and development, Zambia needs to focus on fiscal consolidation measures that reduce budget

deficits while enhancing fiscal discipline. Structural reforms aimed at improving tax collection, reducing inefficiencies, and curbing public sector wastage will be crucial in creating fiscal space for productive investments and debt servicing.

5. **Enhance Debt Transparency and Accountability:** It is important for the government to ensure greater transparency in the management of external debt. Regular reporting on debt levels, sources of financing, and the allocation of funds will enhance accountability and build public trust. This will also enable stakeholders to better assess the implications of external debt on Zambia's fiscal health and long-term sustainability.
6. **Strengthen Debt Restructuring and Negotiation Capacity:** Given the rising burden of debt repayment, Zambia should invest in strengthening its debt restructuring and negotiation capacity. Engaging with international creditors to restructure unsustainable debt or negotiate more favorable terms can provide the country with the necessary fiscal space to prioritize critical social and development projects.
7. **Develop Contingency Plans for Economic Shocks:** Zambia should develop contingency plans to manage potential economic shocks that could negatively impact debt servicing and growth. Strengthening its economic resilience by building buffers and diversifying its economy will be essential in ensuring that Zambia can withstand global economic downturns or fluctuations in commodity prices.
8. **Focus on Debt Transparency and Public Engagement:** Public engagement and awareness regarding the implications of external debt are vital. The government should involve civil society organizations and the public in debt-related decision-making processes. This will ensure broader support for policies aimed at managing external debt and securing long-term economic stability.

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