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ASSESSING ZIMBABWE'S TOURISM SECTOR AS A DRIVER OF ECONOMIC GROWTH: AN ECONOMETRIC MODELLING APPROACH

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Abstract

Tourism plays a vital role in the economic development of both developed and developing countries, serving as a significant driver of growth. In Zimbabwe, tourism is one of the fastest-growing sectors after mining and agriculture. To capitalize on this potential, investments are sought in various tourism sub-sectors, including accommodation, conference facilities, restaurants, theme parks, and other tourism facilities. The Zimbabwean government have created an enabling environment to boost tourism revenue as it is key to the development of the country. This was done through providing incentives such as duty rebates, tax breaks, and tax exemptions in designated Tourism Development Zones to support investors. These efforts aim to diversify the tourism product base, enhance competitiveness, and attract more visitors. This study sought to analyse the contribution of tourism revenue towards economic growth. The research employed a quantitative approach, utilizing secondary data and time-series analysis through Simple Linear Regression Model and ordinary least squares. Findings revealed a positive correlation between tourism revenue, trade openness, and government expenditure, while inflation exhibited a negative impact. This indicates that tourism revenue significantly contributes to economic growth. The findings of the research will inform policy decisions and strategies aimed at enhancing the tourism sector's contribution to Zimbabwe's economic growth. By prioritizing tourism development, Zimbabwe can unlock its full potential and reap the benefits of this vital sector.

Keywords

Gross Domestic Product, Foreign Direct Investment, Tourism Revenue, Infrastructure Development, Policy Development, Sustainable Development

1. Introduction and Background

1.1 Introduction

Tourism plays a crucial role in Zimbabwe's economic growth and development, emerging as a leading sector in 2024, surpassing mining and agriculture (Chirisa, Mpahlo, Chirisa, and Machipisa, 2024). The tourism industry contributes to the economic development of the country, employment, and foreign currency earnings. In 2022, the sector generated $911 million, a substantial increase from $397 million in 2021 (UNWTO, 2022). This growth is attributed to the recovery of overseas markets following the end of COVID-19 lockdowns. Tourist arrivals to Zimbabwe rose by 174% in 2022, reaching 1,043,781 visitors, with the majority coming from within Africa (UNWTO, 2022). The sector's contribution to GDP is substantial, making it the country's third-largest sector after mining and agriculture. To put this into perspective, in 2020, international tourism receipts were $66 million, a decline from $285 million in 2019 (ZTA, 2022). However, the sector has shown resilience and potential for growth. The government has also implemented measures to create an enabling environment to support the sector.

Understanding tourism's contribution to GDP is vital for policymakers and stakeholders, facilitating informed decisions about development, investment, and marketing strategies. The Zimbabwean government actively promotes tourism, recognizing its potential as an economic driver (Musasa, and Mago, 2014). Investment in infrastructure and marketing has led to a record 2.6 million visitors in 2018, generating over $1 billion in revenue and contributing approximately 5.2% of total employment (Zimbabwe Tourism Authority, ZTA, 2019). Despite its

potential, the tourism sector faces significant challenges, including economic instability, natural disasters, political uncertainties, and infrastructure limitations (Rosselló, Becken, and Santana-Gallego, 2020). The COVID-19 pandemic further exacerbated these issues, leading to a decline in tourist arrivals. The World Travel & Tourism Council (WTTC, 2020) noted that the sector's direct contribution to GDP was 5.1% in 2019, projected to rise to 5.2% in 2020 before the pandemic disrupted travel. By 2021, tourism's contribution dropped to around 4%, with spending in the travel sector decreasing from approximately $1 billion in 2019 to $880 million in 2021(Sharma and Paudel, 2021). Employment in the industry also declined to about 147,000 jobs, an 18% drop from 2019 (ZTA, 2022).

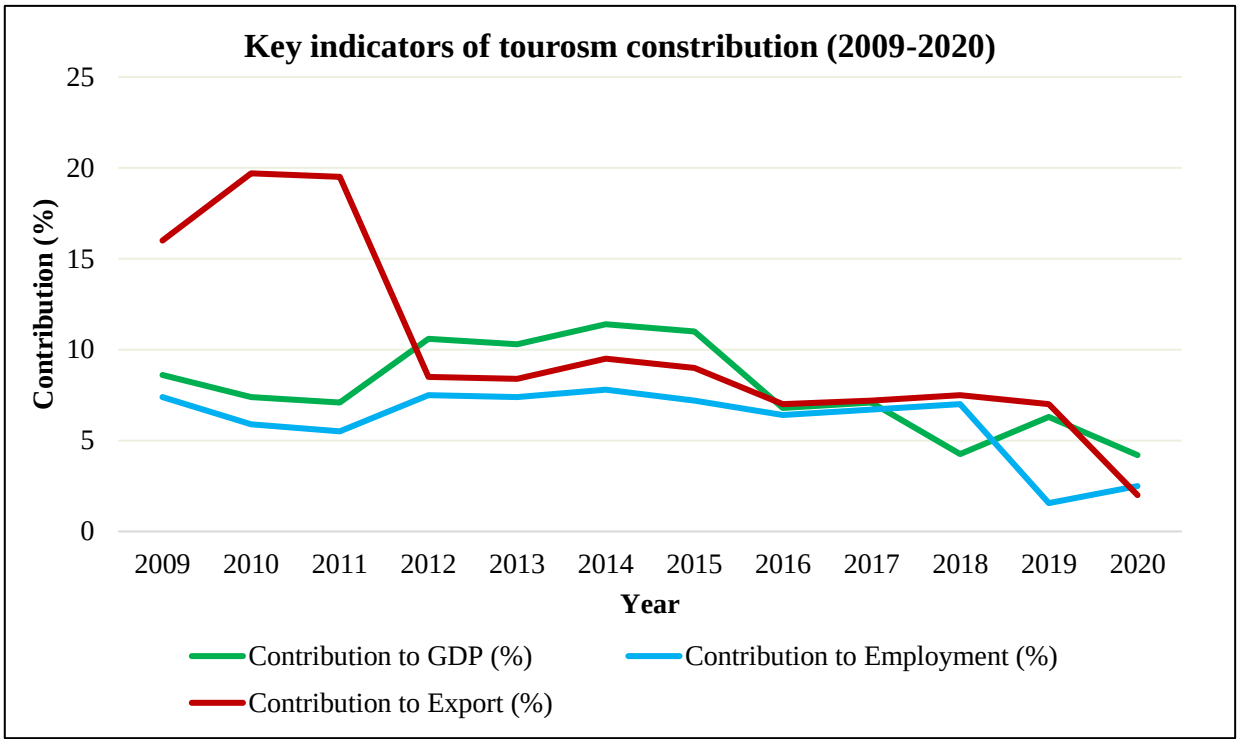

Figure 1: Tourism contribution to GDP, Employment and Exports (2009-2020)
Source: Zimbabwe Tourism Authority ZTA)

Figure 1 shows that between the years 2009 and 2020, Zimbabwe's tourism sector exhibited volatile trends, reflecting the country's economic instability and external factors. The sector's contribution to GDP fluctuated significantly, peaking at 11.4% in 2014 and plummeting to 4.2% in 2020. This decline can be attributed to various factors, including the 2019 economic downturn, COVID-19 pandemic, and lingering effects of the 2008 global financial crisis. Tourism's employment contribution remained relatively stable, albeit with fluctuations, highlighting its crucial role in providing livelihoods for Zimbabweans. However, the notable decline in employment contribution in 2019 (from 8.5% to 6.2%) signals potential labor market challenges within the sector. This downturn may be linked to the 2019 economic contraction, which led to reduced consumer spending and business closures. Despite these challenges, tourism continued to contribute to exports, albeit with a gradual decline from 14.5% in 2014 to 10.3% in 2020. This decline may be attributed to increased competition from regional tourism destinations, such as South Africa and Botswana, and Zimbabwe's deteriorating infrastructure. The analysis underscores the need for targeted policy interventions to enhance the sector's resilience and competitiveness. Key strategies may include: Infrastructure development, Promotion of tourism products, promoting an enabling environment through policies, and providing training and skills development programs for tourism professionals to improve service quality and enhance the sector's competitiveness. By addressing these challenges and leveraging opportunities, Zimbabwe can revitalize its tourism sector, maximizing its contribution to economic growth, employment, and export earnings.

Nevertheless, tourism remains a resilient pillar of Zimbabwe's economy, with the Zimbabwe Tourism Authority (ZTA) reporting a significant recovery in tourist arrivals, which surged by 174% from 380,820 in 2021 to 1,043,781 in 2022, following the easing of COVID-19 lockdowns. The majority of visitors (66%) were from Africa, while 10% came from the Americas, 17% from Europe, and 5% from Asia. The Tourism Satellite Account (TSA) highlights the sector's considerable impact on the economy, revealing that tourism contributed 4.25% to the National GDP, valued at USD 1.03 billion in 2018, and increased to 6.3% with a value of USD 1.23 billion in

2019. Additionally, tourism supported approximately 100,000 jobs, accounting for 1.56% of national employment levels in 2018.

This study aims to develop a model to assess tourism's contribution to Zimbabwe's GDP by analysing various indicators, including direct and indirect contributions, employment generation, foreign exchange earnings, and infrastructure investment. The objectives include providing a comprehensive evaluation of tourism's economic impact and offering recommendations to promote sustainable growth in Zimbabwe's tourism sector.

1.2 Statement of the Problem

Despite tourism's recognized potential as a key driver of economic growth in Zimbabwe, there is a significant gap in understanding its specific contributions to the GDP. The tourism sector plays a vital role in global economies by fostering growth, creating jobs, and generating foreign currency earnings. However, the lack of comprehensive and reliable data on tourism's economic impact hampers effective policy formulation and resource allocation. Additionally, the sector has faced severe disruptions due to the COVID-19 pandemic and ongoing political and economic instability, further complicating efforts to assess its true value. Existing models for evaluating tourism's contribution to GDP are often inadequate, failing to capture the complex dynamics and multi-dimensional effects of the industry. This knowledge gap hinders informed decision-making regarding investment, infrastructure development, and marketing strategies essential for maximizing the sector's benefits. Therefore, this research aims to develop a robust model to accurately assess the tourism sector's contribution to Zimbabwe's GDP, thereby providing valuable insights that can enhance the country's economic performance and inform sustainable development strategies.

1.3 Study Hypothesis

The study follows the hypothesis that tourism revenue positively impact economic growth in Zimbabwe.

1.4 Justification of the research

Assessing the contribution of the tourism sector to Zimbabwe's economic growth requires up-to-date research, as existing literature is out-dated and fails to account for recent changes in the economic climate. The tourism industry has become one of the fastest-growing sectors globally, contributing significantly to GDP and employment opportunities. However, previous studies on Zimbabwe's tourism sector are limited, and most have focused on specific regions or periods, neglecting the broader national perspective. A comprehensive study is necessary to develop a model that captures the complex relationships between tourism and economic growth in Zimbabwe. This model would facilitate informed decision-making and policy development, crucial for industrialization and economic diversification. By investigating the impact of tourism on Zimbabwe's economy, policy makers can identify key drivers of growth, optimize resource allocation, and promote sustainable development.

2. Literature Review

This chapter reviews literature focusing on the impact of tourism on economic growth in Zimbabwe. It highlights key conceptual and theoretical frameworks, as well as relevant empirical investigations.

2.1 Conceptual Framework

Tourism serves as a critical medium for generating foreign currency, significantly contributing to Zimbabwe's economic development, especially as traditional sectors diminish in their GDP contributions. The economic impacts of tourism are extensive, influenced by globalization, and encompass direct, indirect, and induced multiplier effects. To fully understand tourism's economic contribution, it is essential to measure not only direct impacts but also the broader economic ramifications of tourist expenditures. Karambakuwa (2019) notes that tourism's economic significance enhances its respect within the business community and among public officials, leading to favorable policies. Community support is vital, as tourism affects local populations, and businesses rely on interconnections within the community. Economic impact analyses reveal the interdependencies and roles of tourism across various sectors, from lodging and restaurants to transportation and retail (Sinclair and Stabler, 1997; Crouch, 1996).

Technological advancements, particularly the internet, have transformed tourism marketing, information dissemination, and booking processes, increasing competition among destinations. While political risks can deter tourists, the attractiveness of a destination can sometimes outweigh concerns about political instability (Christie and Crompton, 2001). However, significant events like terrorism or civil unrest can drastically reduce tourist numbers (Ioannides, 1999; Wall, 1996).

In the micro environment, tourism products are unique, non-transferable, and perishable, requiring consumers to travel to experience them. Various financial, social, and environmental factors influence international tourism flows (Coshall, 2000). Tourism is crucial for economic development through its impacts on employment, exports, infrastructure, tax revenue, and overall stability (Eilat and Einav, 2004). Overvalued currencies can deter

tourists, while infrastructure quality affects both prices and products. Demand for tourism is influenced by the travel costs and income levels in tourists' home countries, adhering to the law of demand, where price increases typically reduce demand.

2.2 Empirical Literature Review

The role of tourism in economic development and employment is a topic of ongoing debate among scholars. While majority of scholars acknowledge tourism's potential as a driving force for economic growth, generating foreign exchange, job opportunities, and local revenue (Ayeni & Ebohon, 2012; Lanza & Pigliaru, 2002), others highlight complexities in its relationship with economic growth (Katz & Murphy, 1992). Research by Makoni et al. (2021) demonstrates tourism's capacity to alleviate foreign currency shortages in Zimbabwe through a seasonal autoregressive integrated moving average (SARIMA) model. Several studies have consistently shown that tourism revenue contributes significantly to economic growth, particularly in developing countries. The sector promotes economic diversification, job creation, and infrastructure development (Richardson, 2010). For instance, a study by Seetanah et al. (2011) found a positive correlation between tourism development and economic growth in small island economies. However, some scholars argue that economic growth can also drive tourism development, indicating a bidirectional relationship (Dritsakis, 2004). Additionally, the tourism-led growth hypothesis has been contested, with some studies suggesting that tourism income can decline amid export-led growth (Cortés-Jiménez & Pulina, 2010). In Zimbabwe's context, where the recession of the tourism sector has affected many sectors especially during the COVID 19 period, careful evaluation of tourism's potential contribution to economic recovery is crucial. Previous studies affirm tourism's positive impacts on revenue, employment, and economic growth, with secondary effects extending to various sectors, including foreign currency inflows, job creation, trade promotion, and infrastructure development (Manyara & Jones, 2007). A study by Wijesekara et al. (2022) on the relationship between tourism and economic growth using a panel data cointegration test, highlights that there is a positive relationship. The findings indicated that in most regions of the world, tourism contributes significantly to economic growth. Makochekanwa, 2013 carried out a study on the tourism industry acting as an engine in enhancing economic growth for SADC member countries. Findings show that contribution of tourism to GDP, employment, export receipts and investment was significant. Further research is necessary to fully understand the dynamics between tourism and economic growth in Zimbabwe.

2.3 Theoretical Literature Review

Tourism–Economic Growth Nexus Hypothesis:

The relationship between tourism and economic growth is debated through two primary frameworks: the Tourism-Led Growth Hypothesis (TLGH) and the Economic-Driven Tourism Growth Hypothesis (EDTGH). The TLGH, was propounded by (Balaguer & Cantavella-Jorda, 2002). It posits that tourism drives long-term economic growth. If this hypothesis holds for Zimbabwe, promoting tourism should stimulate economic expansion. On the other hand, the EDTGH asserts that there is a reverse causation, indicating that economic growth enhances tourism revenues. Additionally, the Reciprocal Hypothesis (RH) acknowledges a bi-directional relationship, where both tourism and economic growth influence each other (Eyuboglu & Eyuboglu, 2020). The Neutrality Hypothesis (NRH) suggests that in certain cases, no significant relationship exists between tourism and economic growth, implying that tourism improvement strategies may be ineffective. Policymakers should base their strategies on empirical validation of these hypotheses.

Endogenous Growth Theory:

The theory asserts that economic growth is perceived as an internally generated outcome, driven by factors such as technology, human capital, physical capital, and labor. By incorporating international tourism into the production function, this theory suggests that tourism can contribute to economic development through its impact on productivity and growth. According to Seetanah et al. (2011), tourism specialization can still enhance growth even if technological progress lags behind manufacturing, provided it narrows the technological gap. The Solow model has evolved to accommodate tourism alongside labor, capital, and technology, lending support to the Tourism-Led Growth Hypothesis.

Export-Led Growth Theory:

Tourism functions as a vital component of Export-Led Growth (ELG), serving as an invisible export that stimulates economic activity and drives development. By generating foreign exchange through tourist expenditures, tourism fosters job creation, infrastructure growth, and domestic industry expansion. This, in turn, injects foreign currency into the economy, supporting investments in infrastructure and technology, and creating jobs across various sectors such as hospitality and retail. Moreover, tourism drives infrastructure improvements, enhancing the business environment and benefiting both locals and tourists. Interaction with international tourists also exposes local workforces to new technologies and practices, promoting efficiency and cultural exchange. When well-managed,

tourism can encourage the preservation of natural and cultural heritage, ensuring long-term benefits and solidifying its position as a key driver of economic growth and development.

2.4 Analytical Framework

Tourism significantly contributes to Zimbabwe's economic development through various channels, including GDP growth, employment generation, foreign exchange earnings, infrastructure development, and multiplier effects. In 2019, tourism accounted for 5.6% of Zimbabwe's GDP, with projected 5.3% annual growth from 2020-2029. The sector creates jobs across hospitality, transportation, and crafts, accounting for 8.1% of total employment in 2019. Tourism also generates foreign exchange, strengthens the balance of payments, and drives infrastructure development, benefiting other sectors and enhancing Zimbabwe's competitiveness. Additionally, tourist spending has multiplier effects, stimulating demand in agriculture, manufacturing, and other sectors, while promoting economic diversification and reducing reliance on traditional sectors like agriculture and mining, ultimately enhancing Zimbabwe's resilience against economic shocks.

2.5 Critique of Literature

While existing literature provides insights into tourism's role in Zimbabwe's economy, it often lacks a comprehensive framework for assessing its contributions. Many studies describe impacts without quantifying them through robust models. A significant critique is the failure to account for external factors—such as political instability and global economic trends—that can influence tourism performance and its economic impact. Additionally, inconsistencies in defining and measuring key variables, such as tourism revenue and economic growth, hinder the comparability of findings across studies. This lack of uniformity impedes the development of a unified model to assess tourism's impact effectively. Overall, while the literature lays a valuable foundation, further research is needed to create a robust model that accurately evaluates tourism's contributions. By addressing data limitations and incorporating a broader range of indicators, such a model can offer essential insights for policymakers seeking to maximize tourism's potential for sustainable economic growth in Zimbabwe.

2.6 Conclusion

The existing literature establishes a solid foundation for understanding tourism's importance in Zimbabwe's economy. It acknowledges the sector's significance, explores its diverse impacts, and highlights the need for supportive policies. However, further research is essential to develop a model that accurately assesses tourism's contributions. By addressing data limitations and broadening the scope of indicators, such a model can provide valuable insights for policymakers aiming to leverage tourism for sustainable economic growth. The next chapter will detail the research methodology, highlighting its strengths and limitations, and explaining data analysis to answer the research questions, thus enhancing the study's transparency and credibility.

3. Research Methodology

3.1 Research Design

This study utilised a quantitative research approach making use of secondary data as a strategic method. As such the researcher had no control over the data as this was used as it was. This study will employ secondary data analysis, utilizing existing data from reputable sources such as government reports, academic studies, and statistical databases, including the Zimbabwe Tourism Authority (ZTA), Ministry of Finance, and ZIMSTATS. This approach offers several advantages, including time and resource efficiency, access to vast amounts of data, historical context, and enhanced credibility and reliability. By leveraging existing data, this study overcame logistical challenges associated with primary data collection in Zimbabwe, enabling a robust analysis of the tourism sector's contribution to economic growth. This methodology aligns with the research design, allowing for an in-depth understanding of the complex relationship between tourism and economic growth, and providing valuable insights into trends and sector evolution over time.

3.2 Model Specification

This study employs a Simple Linear Regression Model, building on Shrikant I. Bangdiwala's (2018) study on investigating the dynamic relationship between tourism and Zimbabwe's economic growth. The model examines how tourism directly contributes to economic growth through revenue generated from tourist expenditures on accommodation, transportation, food, souvenirs, and other goods and services. Over the years, economists and policymakers have increasingly utilized advanced econometric techniques to analyze complex economic systems, uncovering causal relationships between variables. To extend this analysis, additional variables; Foreign Direct Investment (FDI), employment, and government expenditure will be integrated into the model. The basic simple linear regression model is represented by the following formula

$$\boldsymbol{Y = \beta_0 + \beta_1 x_t + e_t} \dots\dots\dots\dots\dots\dots\dots\dots (\mathbf{1})$$

Where:
y is the dependent variable, in this case the annual growth rate of Zimbabwe's GDP or Economic growth; x represents the independent variables, the annual revenue generated from tourism in Zimbabwe and other variables; $\beta 0$ is the intercept (the value of y when x is 0), growth rate when tourism revenue is zero; $\beta 1$ is the slope (the change in y for a one-unit change in x), change in GDP growth rate for a one unit change in tourism revenue; ε is the error term, representing the difference between the detected value of y and the value that will be predicted by the model.

Since the research incorporated additional variables apart from tourism revenue, the updated model will look like the following:

$$\boldsymbol{GDPG_t = \beta_0 + \beta_1 TR_t + \beta_2 Infl_t + \beta_3 GS_t + \beta_4 TO_t + \varepsilon_t} \ldots\ldots\ldots\ldots\ldots (2)$$

Where, GDPG represent economic growth, TR represents tourism revenue, INFL for Inflation rate, GVS represents government spending, TO represent trade openness, ε_t represents a white noise error term and $\beta o \ldots, \beta_4$ are coefficients.

3.3 Justification of variables

Economic Growth (GDPG):

Economic growth was used as the dependent variable in this study. Economic growth is referred to as the total increase in the quantity of goods and services produced in a nation over a period of time. The growth in GDP is beneficial to the economy because it leads to the decrease in unemployment rate, government borrowing and it increases people's living standards. According to Mankiw (2014), economic growth refers to an overall increase in the inflation-adjusted market value of goods and services produced by an economy over a period of time usually a year. In this study economic growth was proxied by Gross Domestic Product Growth in accordance with the study by Yousefi (2010).

Tourism Revenue (TR):

Tourism revenue is measured as a percentage of Gross Domestic Product (GDP) to assess its contribution to economic growth. This calculation provides valuable insights into tourism's economic significance. To determine tourism revenue, one has to add international tourism receipts and domestic tourism expenditure. International tourism receipts include foreign exchange earnings from tourism, while domestic tourism expenditure encompasses spending by residents within their own country. Finally, tourism revenue as a percentage of GDP is calculated by dividing total tourism revenue by GDP and multiplying by 100. A positive relationship is expected between Tourism Revenue (TR) and GDP

Inflation (Infl):

Pettinger (2021) defines inflation as a sustained increase in the general price level in an economy. Generally, inflation is often defined as an overall increase in levels of prices in an economy. According to Bruno (1995) inflation has a negative influence on real GDP per capita. Higher inflate rates lead to fall in economic activities since it erodes the levels of income thus lowering aggregate demand. Therefore, the expected sign for this variable is a negative.

Government Spending (GS):

Government spending refers to the allocation of funds by the government to produce and purchase essential goods and services that cater to public needs, such as defense, healthcare, education, and resource redistribution [1]. This fiscal activity has a profound impact on the economy, often leading to a crowding-out effect. However, according to Keynes' theory (1936), government spending plays a vital role in stimulating aggregate demand, thereby boosting economic growth. In the context of Zimbabwe, research has explored the relationship between government spending and economic growth. For instance, a study by Mukoka (2018) employed government spending as an independent variable to analyze its effect on inflation and economic growth in Zimbabwe, anticipating a positive correlation.

Trade openness (TO):

Trade openness refers to the degree upon which a nation opens its boarders for trade. If a country open its borders for trade it result in a free trade environment through which it can be able to absorb the rapid technological advances of the developed economies. As a result, this will improve production and output, and hence leading to improved economic growth. A positive coefficient sign is expected for this variable.

3.4 Model Specification Technique

The study employed the Ordinary Least Square technique in analyzing the impact of tourism revenue on economic growth in Zimbabwe from 2000 to 2023. The reason for using this technique over other methods like the General Methods of Moments (GMM) was because of its ability to produce Best Linear Unbiased Estimators in linear regression as eluded by Gujarati (2004).

Model Diagnostics test

Stationarity test:

Time series data must exhibit stationarity, meaning its statistical properties remain constant over time (Palachy, 2019). The study made use of the Augmented Dickey-Fuller (ADF) test to test for stationarity of data. Using non-stationary data in regression analysis yields misleading results, producing unreliable estimates and potentially incorrect policy recommendations. To address this, non-stationary data underwent differencing until stationarity was achieved.

Multicollinearity:

Multicollinearity occurs when independent variables in a regression model exhibit a strong linear relationship (Gujarati, 2004). To detect potential issues, a pairwise correlation matrix was analyzed. Results showed that correlations above an absolute value of 0.8 indicated significant multicollinearity, prompting the removal of one explanatory variable to ensure model integrity.

Heteroskedasticity:

Gujarati (2004) highlighted that heteroskedasticity is a scenario where the variance of the error term is constant over time. As such, the presence of heteroskedasticity entails that OLS estimator are no longer BLUE. In addition, standard errors will be inflated hence providing wrong confidence intervals and significance results. Therefore, Breusch-Pagan-Godfrey test was used to test for the presence of homoscedasticity.

Model specification and normality test:

Ramsey-RESET test was used to test for model specification in order to ensure that the model is correctly specified. More importantly, normality test was also carried out using the JB test of normality test.

3.5 Data Sources

The study made use of data covering the period of 2000 to 2023. Annual data was used in this study obtained from the World Bank development indicators data base for all the variables (inflation, trade openness, government spending, and real GDP) and ZTA for tourism revenue.

3.6 Conclusion

The purpose of this chapter was to give an insight on the methodology used in developing a model on the impact of tourism revenue towards the economic growth of Zimbabwe. The chapter indicated on data sources, period of study, diagnostic tests. Therefore, the following chapter will be focusing on estimation and interpretation of study findings.

4. Study Findings

4.1 Introduction

This section presents and interprets the results of the Ordinary Least Squares (OLS) analysis, providing a comprehensive overview of the empirical findings. The results encompass descriptive statistics, unit root tests, Granger causality analysis, autocorrelation modeling, and diagnostic tests, offering insights into the relationships between variables. These findings are thoroughly examined to elucidate the dynamics between tourism and economic growth in Zimbabwe.

4.2 Model Specification and Diagnostic Tests

The Augmented Dickey-Fuller (ADF) test revealed that inflation (INF) was stationary at its level, whereas real gross domestic product (RGDP), trade openness (TO), government spending (GS), and tourism revenue achieved stationarity after first differencing. Correlation analysis indicated no perfect multicollinearity among the variables, with coefficients below the absolute value of 0.8 thresholds, although a notable relationship existed between RGDP and total revenue (TR) but small. The Breusch-Pagan Godfrey test showed no evidence of heteroskedasticity with a p-value of 0.5518), indicating homoskedasticity. However, the Durbin-Watson test yielded an ambiguous result which prompted further clarification through the Breusch-Godfrey Serial Correlation test, revealing no serial correlation among the errors with a p-value of 0.1313. Furthermore, the study tested for model specification using the Ramsey Reset test and it confirmed the model was correctly specified (p-value = 0.6463). Finally, the Jarque-

Bera (JB) test indicated normality of the errors (JB statistic = 1.046672, p-value = 0.592540), confirming that the assumptions for reliable estimation were met.

4.3 Regression results

Table 4 shows an analysis of results.

Variable	Coefficient	Standard. error	T - Statistic	Prob
C	4.594969	7.245309	-0.634199	0.5322
DTR	0.259578	0.079986	3.245280	0.0036
DTO	0.231595	0.099146	2.335900	0.0286
DGS	4.307720	2.169103	1.985945	0.0591
INFL	-0.176852	0.065116	-2.715945	0.1023

R-squared = 0.685510 *F-statistic = 5.414988*
Adjusted R-squared = 0.657383 *Prob (F-statistic) = 0.001293*
Durbin Watson stat =2.085462

Table 1: Regression Results

The regression analysis yielded robust results, with an R-squared value of 0.6855, indicating that approximately 68.5% of the variability in GDP growth (GDPG) is attributable to fluctuations in the explanatory variables. The adjusted R-squared value of 0.65738 further substantiates the model's high predictive power, given the minimal difference (less than 10%) between the two metrics. The F-test revealed statistically significant results. The study rejected the null hypothesis and concluded that the model is significant.

4.4 Interpretation of findings

The empirical analysis reveals that the coefficient of tourism revenue (TR) has a statistically significant positive relationship with economic performance at the 5% level. If tourism revenue increases by 1%, economic growth will increase by 25.9%. This finding aligns with existing literature. The supply-leading hypothesis underscores the tourism sector's critical role in driving economic growth. This huge increase in GDP is due to the multiplier effect. Tourism spending generates direct, indirect, and induced economic activity, creating a ripple effect. Local businesses benefit, and residents experience increased economic activity. Notably, the coefficient of government spending exhibits a favorable and statistically significant influence on economic growth at the 5% level. An increase in government spending by a unit is expected to boost manufacturing output by 4.3 units, supporting the notion that government expenditure (GS) positively impacts economic growth in Zimbabwe. This variable serves as a proxy for investment, highlighting the positive correlation between economic output and GS, consistent with Eze et al.'s (2019) findings. In contrast, the coefficient of inflation demonstrates a negative and statistically significant relationship with economic growth at the 1% level. Rising inflation alters labor supply and demand, reduces aggregate employment, and diminishes capital's marginal productivity. Trade openness emerges as a key driver of long-term economic development, fostering access to products and services, efficient resource allocation, and technological diffusion. The coefficient value of 0.231595 indicates that trade openness promotes economic growth, with a 23% increase expected as a country opens up its borders to trade. These findings contribute to the ongoing discussion on the importance of Zimbabwe's tourism sector on the growth and development of the country.

4.5 Chapter Summary

This chapter presented the empirical findings and corresponding interpretations derived from the regression analysis. The results indicate that tourism revenue, trade openness, and government expenditure have a positive impact on economic performance, whereas inflation rate exerts a negative influence.

5. Conclusion and Recommendations

5.1 Introduction

This chapter provides a comprehensive summary, conclusion, and key recommendations of the study on the effects of tourism revenue on economic growth in Zimbabwe. The findings presented in the previous chapter serve as a building block for the policy recommendations and areas for further research discussed herein.

5.2 Study Summary

This study utilised an in-depth analysis in coming up with a model on the impact of tourism revenue on economic growth in Zimbabwe, spanning from 2000 to 2023. Utilizing time series data and Ordinary Least Squares (OLS) regression, the study revealed a positive correlation between tourism revenue, trade openness, and government

expenditure, while inflation exhibited a negative impact. Notably, the results indicate that tourism revenue contributes significantly to economic growth, underscoring its vital role in Zimbabwe's economic development.

5.3 Study Findings

This study's empirical analysis yielded significant insights into the relationship between tourism revenue and economic growth in Zimbabwe. The Ordinary Least Squares (OLS) regression results indicate a positive and statistically significant positive relationship tourism revenue and economic growth, suggesting that tourism revenue contributes substantially to Zimbabwe's economic development. Notably, the study found that an increase in tourism revenue corresponds to an increase in economic growth, underscoring the sector's potential as a driver of economic expansion. Furthermore, trade openness emerged as a significant predictor of economic growth. Conversely, inflation exhibited a negative and statistically significant relationship with economic growth, indicating that high inflation rates hinder economic development. Government expenditure also demonstrated a positive and statistically significant impact on economic growth, suggesting that strategic government spending can stimulate economic activity. The study's findings support the notion that tourism revenue, trade openness, and government expenditure are essential factors contributing to Zimbabwe's economic growth.

5.4 Policy Recommendations

To harness the potential of tourism on economic growth in Zimbabwe, the government should prioritize strategic investments in tourism infrastructure, thereby attracting more visitors and stimulating economic activity. Furthermore, implementing policies to reduce inflation through monetary policy adjustments, such as reducing money supply, will create a conducive environment for investment and economic growth. Enhancing trade openness by reducing trade barriers will encourage foreign investment, increase exports, and foster economic development. Additionally, increasing government expenditure in key sectors like agriculture will boost productivity and contribute to overall economic growth.

5.5 Areas of Further Research

Future studies can build upon this research by exploring the impact of tourism revenue on economic growth using alternative models, such as the Autoregressive Distributed Lag (ARDL) model, to examine both short- and long-term effects. Incorporating additional variables, such as foreign aid and financial fragility, will provide a more comprehensive understanding of Zimbabwe's economic growth dynamics. By expanding the scope of research, policymakers can develop more effective strategies to promote sustainable economic development in Zimbabwe.

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