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## Tax Incentives, Foreign Direct Investment, and Tourism Sector Employment Creation in Botswana

Ndinaye Sekwi Charumbira  
*Walden University*

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# Walden University

College of Health Sciences and Public Policy

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Ndinaye Sekwi Charumbira

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Walden University  
2024

Abstract

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Botswana

by

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MSc, University of London, 2014

BA, University of Botswana, 1999

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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## Abstract

Unemployment is a major challenge for policymakers in Botswana. Past efforts by government officials to create employment have included diversification away from raw diamond mining and export by offering tax incentives to attract foreign direct investment (FDI) in the manufacturing sector, among other strategies. It was unknown whether this strategy might be successful in the tourism sector, which is more labor-intensive than the manufacturing sector. The purpose of this quantitative study was to determine the impact, if any, of tax incentives offered in the tourism sector on FDI and employment. The theoretical foundation for the study was Keynesian economic theory, which asserted that the government has a role to play in boosting the investment spending of private firms and returning the economy to full employment. The research questions addressed (a) the relationship, between tax incentives, FDI, and employment creation in Botswana and (b) the mediating role, of FDI in tax incentives and employment creation in Botswana. A time-series design was applied that featured multiple regression for data analysis, using SPSS software. Findings showed that there was an impact of tax incentives on FDI and/or employment creation in Botswana's tourism sector, but not in the mining sector. The findings were consistent with the Keynesian theory of employment that reducing taxes has a positive effect on employment creation. These results may influence Botswana policymakers to concentrate their efforts on employment creation in tourism and other labor-intensive sectors, particularly considering the expected positive social change impact on individuals who are employed in the tourism sector, and the expected resultant spillover effect into related sectors.

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## Dedication

I dedicate this work to my children, Nyenyedzi, Azhani, and Ludzi as an encouragement that higher education is a quest that must be conquered for the larger benefit to society.

## Acknowledgements

Pursuing a PhD while working is no easy task. I encountered challenges that were seemingly insurmountable and almost gave up several times along this journey. Fortunately, I had a lot of support from family and friends who challenged me to complete this milestone of my life. I cannot mention each of you; nonetheless, I thank you for your immense encouragement. My parents, Musaemura and Baeti Charumbira, have been a constant source of inspiration, always insisting that education is important for one to enjoy a good life. It has been an exciting journey, and I met a lot of phenomenal people along the way who are also now Walden alumni.

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## Chapter 1: Introduction to the Study

Unemployment is a major challenge in developing countries, and efforts to curb the phenomenon have taken various forms. Officials in many developing countries have adopted tax incentives to attract foreign investment for employment creation, poverty alleviation, and economic growth (Li, 2016). Botswana is among the countries whose officials employ tax incentives to attract investment in the manufacturing, mining, and financial sectors of the economy. Tax incentives have not been successful in these sectors owing to various factors such as limited infrastructure development (Moyo, 2016). However, the labor-intensive nature of the tourism sector has the potential to create jobs and reduce the 18% unemployment rate in Botswana (Trading Economics, n.d.). The results of this study may contribute to the reduction of the high unemployment in Botswana, including youth unemployment, by providing insight on the impact of tax incentives on job creation.

In 2019, the youth unemployment rate in Botswana was estimated at 37.8%, with female youth unemployment at 36.4% and male youth unemployment at 39% (International Labor Organization [ILO], n.d.). Poverty is one of the most pressing social ills affecting young people in Botswana. The 2015–2016 Botswana Multi Topic Household Survey estimated the national poverty head count ratio at 16.3%, with large disparities between rural and urban areas (Statistics Botswana, 2018). Statistics Botswana (2018) estimated rural poverty at 24.2%, with rural villages at 13.4% and cities and towns at 9.4%. The Gini coefficient of consumption inequality was estimated at .52 in 2015–2016, indicating the vast and growing inequality in Botswana. This study suggests

solutions to the persistent and endemic poverty and inequality in Botswana through employment creation, with particular emphasis on youth.

In this chapter, I provided a background of the study, defined the problem of the research, and explained the purpose of the study. Further, I stated the research questions (RQs) and hypotheses, provided a synopsis of the theoretical framework, and discussed the nature of the study. The chapter also includes some important definitions that were used in the study and concluded with a discussion of the assumptions, scope and delimitations, limitations, and theoretical and social significance of the study.

### **Background**

The use of tax incentives by developing countries across the world to attract FDI with the intention of creating employment is prominent. For example, government officials in South Africa introduced a pay-as-you-earn tax reduction for the first 24 months of employment for companies that hired people between the ages of 18 and 29 years from January 2014 to February 2019 (KPMG, 2019). According to KPMG (2019), in the case of Rwanda, the government offers a preferential corporate income tax rate of 0% for large-scale international investors with their headquarters or regional office in Rwanda that provide Rwandans with jobs and training. Serbia also extends a 10-year tax holiday to large-scale companies that provide at least 100 jobs and retain the employees for the duration of the tax holiday period (PwC, n.d.). Tax incentives are preferential tax treatments offered by governments to investors to promote a set objective for economic development (United Nations, 2018). Tax incentives include measures such as tax holidays and tax exemptions, used by governments to lure investors to identified sectors

within their economies. United Nations (2018) stated that tax holidays can be an exemption from profit or other tax for a specified period of time or a tax rate reduction. In some instances, tax holidays are a combination of both forms. Some studies have found evidence that tax incentives are effective in attracting FDI only to the extent that they are well coordinated. For instance, in their study of the relationship between FDI inflows and tax incentives in Nigeria, Ndubuisi et al. (2018) concluded that the proper coordination of tax incentives was necessary for attracting FDI inflows into the relevant sectors. Lodhi (2017), in his study of the use of tax incentives in Pakistan, also concluded that the transparent application of tax incentives was more efficient for attracting FDI and achieving economic development. Conversely, Li (2016) found supporting empirical evidence suggesting that tax incentives are potentially harmful for the mobilization of resources by governments.

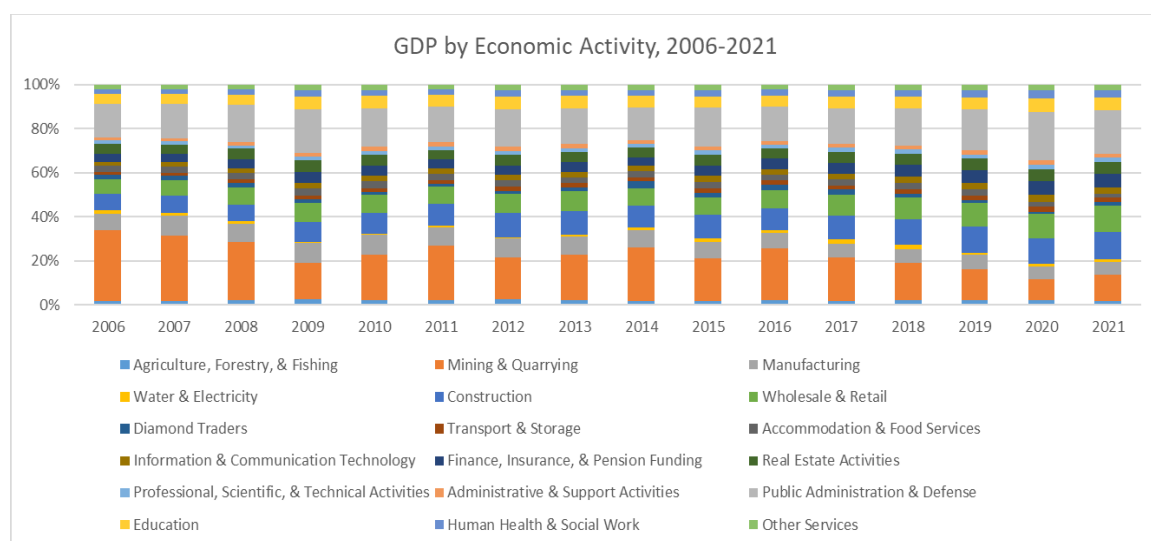
The economy of Botswana is highly reliant on the mineral sector, specifically on diamond production. Diamond mining has been the most dominant sector in terms of exports, revenue source, and gross domestic product (GDP) share in Botswana, with diamonds accounting for 90.6% and 88.2% of total goods exports in 2019 and 2020, respectively (Statistics Botswana, 2021). Preliminary figures from the International Monetary Fund (IMF, 2020a) indicated that the share of diamond exports as a percentage of GDP in Botswana would amount to 23% and 28.7% in 2019 and 2020, respectively. Mineral revenues, composed mainly of diamonds, are expected to contribute approximately 36% to total government revenues in the 2021–2022 financial year (Botlhale, 2021). Figure 1 shows GDP contribution by economic activity in Botswana for



the period 2006 to 2021. The contribution of mining to GDP began declining only in 2017, giving way to public administration and defense as the most dominant sector. According to IMF (2020a), the declining trend in mining receipts was exacerbated by the competition resulting from the increasing consumer demand for synthetic diamonds and higher production costs associated with deep mining.

### Figure 1

*Gross Domestic Product (GDP) by Economic Activity, 2006–2021*



*Note.* Author's compilation. Adapted from Statistics Botswana Data Portal, n.d.

(<https://botswana.opendataforafrica.org/>). In the public domain.

Past efforts aimed at diversifying the Botswana economy have largely been unsuccessful, resulting in low FDI and high unemployment (Government of Botswana, 2008). Some of the efforts to diversify the economy included the setting up of the Business and Economic Advisory Council (BEAC) in 2005 and the adoption of the

Economic Diversification Drive in 2010 (Besada, 2018). The role of the BEAC was to identify the challenges of the country in achieving economic diversification; and to formulate a strategy and action plan; and identify key projects for achieving economic diversification (Government of Botswana, 2008). BEAC produced an action plan and a strategy for economic diversification and sustainable growth that cabinet approved in 2006 and 2008, respectively. According to Bothale (2021), the government diversification efforts cannot be evaluated for efficiency at this stage due to lack of results.

Barczikay et al. (2020) suggested that the proximity of Botswana to South Africa does not bode well for Botswana's diversification efforts. Two factors are relevant in this regard. The first is that South Africa has a large and growing manufacturing sector and is aggressively pursuing its industrialization goals. Second, Botswana belongs to the Southern African Customs Union (SACU), an arrangement that sees the country reaping substantial revenues through an agreed revenue sharing formula among the five member States of the Union, Botswana, Eswatini, Lesotho, Namibia, and South Africa. SACU revenues contribute a significant share to Botswana's government revenues and importing more from the region increases the revenue of the country. As at 2019, the SACU revenue share in the Botswana budget was 32% in 2017–2018, accounting for 9.8% of GDP (IMF, 2020a). According to Barczikay et al. (2020), this reliance on the SACU arrangement is unproductive for the diversification efforts of the country.

In addition, the Government of Botswana (2008) suggested that the ineffectiveness of citizen empowerment policies contributed to the inward-looking

mindset of citizens that was not conducive for private sector development and FDI. The citizen economic empowerment policies of the past did not encourage openness and competition, but a sense of entitlement to government handouts. In 2008, the Government of Botswana adopted a strategy for economic diversification and sustainable growth to reduce dependence on the non-renewable mineral resources and improve private sector participation in the economy. One of the elements of the strategy was to encourage banking and financial services (Government of Botswana, 2008). To that end, the government offered foreign companies that registered with the International Financial Services Center (IFSC) some tax incentives. Specifically, such companies qualify for a reduction in the corporate income tax (Magombeyi et al., 2017). Other tax benefits for IFSC-registered companies include a 200% tax trading rebate, an exemption from value added tax and tax on capital gains and disposal of shares. According to KPMG (2016), for a company to qualify for the tax incentive, preapproval that is dependent on job creation and training of citizens is required. The IFSC was established in 2003 to promote offshore financial investment. In the case of Botswana, tax incentives have traditionally been used to attract investment into the mining and manufacturing sectors, and most recently to the financial sector (Magombeyi et al., 2017). According to Moyo (2016), the World Bank did not find tax incentives useful for the growth of the manufacturing sector in Botswana. Moyo attributed the ineffectiveness of tax incentives to other factors like weak infrastructure. Moussa et al. (2015) applied a quantitative comparison approach to shed light on the differences in developing and developed countries in the implementation of tax incentives to promote investment. Their findings suggested that in

the case of a resource-rich developing country, targeted tax incentives were more useful for generating adequate resources from their tax regimes. Applying targeted tax incentives toward the tourism sector in Botswana might be a relevant strategy to enhance growth and create jobs in that sector.

Garsous et al. (2017) indicated that the use of fiscal incentives in developing countries has been successful in attracting local investment and creating jobs in the tourism sector using a differences-in-differences estimation approach between the treatment and control groups. In their analysis of the impact of tax incentives on job creation in Brazil, Garsous et al. found robust evidence that tax incentives were effective in creating jobs in the Sudene area. Garsous et al. observed that the introduction of a fiscal incentive in Sudene in 2002 led to a 39% increase in direct jobs in the tourism sector between 2002 and 2009. Similarly, in their spatial regression discontinuity design analysis of China's western regions between 2002 and 2010, Deng et al. (2019) found evidence that tax reductions were effective in improving the performance of tourism firms.

Previous researchers have examined the impact of tax incentives on attracting FDI, creating employment, and enhancing the development of economies. For example, Thuita (2017), conducting a survey of 72 firms, found that tax holidays were beneficial for attracting and retaining FDI in Kenya, particularly in the export processing zones that support the manufacturing sector. In contrast, in their study, Etim et al. (2019) observed that, overall, there was no significant relationship between tax policy incentives and FDI in Nigeria using evidence from 1999 to 2017. Hsu et al. (2019) also conducted a study of

the relationship between tax incentives and FDI in China using provincial-level panel data between 1998 and 2008 and found no significant impact.

Several quantitative studies have been done to assess the impact of tax incentives on the tourism sector in developing countries. Ponjan et al. (2016) applied a computable general equilibrium (CGE) model to assess the impact of short-term tax cuts on the performance of the tourism sector in Thailand. Ponjan et al. concluded that tax cuts were efficient for alleviating temporary challenges in the tourism sector. Deng et al. (2019) used a regression discontinuity design in the tourism sector in China's western region, based on the Western Development Strategy, and found a tax burden reduction to be among the factors that influenced the flourishing of the sector. No such quantitative study has been carried out in the case of Botswana. Accordingly, I examined the impact of targeting tax incentives at the tourism sector in Botswana and the resultant expected FDI and job creation by applying the multiple linear regression analysis.

### **Problem Statement**

The unemployment rate in Botswana continues to pose a major challenge to policymakers. According to Trading Economics (n.d.), the unemployment rate averaged approximately 18.87% between 1991 and 2020. In an effort to create employment, the government of Botswana has prioritized economic diversification away from raw diamond extraction and export over the years. This is being done through the use of strategies for promoting industrialization, including good governance, institutional development, and industrial policy (Moyo, 2016). In particular, the government introduced a 15% company tax regime for manufacturing enterprises, which the World

Bank did not find impactful on the growth of the manufacturing sector (Moyo, 2016). A possible explanation for the ineffectiveness of this strategy is that tax incentives are not accompanied by supporting instruments such as infrastructure development. Ndubuisi et al. (2018) observed that developing countries have continued to use tax incentives extensively to attract foreign direct investment (FDI) and generate employment and tax revenues. However, governments have not identified which sectors benefit the economy more by receiving tax incentives.

Several studies have been carried out on the impact of tax exemptions on economic development in developing countries. Sari et al. (2015) noted the effectiveness and efficiency of tax holidays for attracting FDI to the industrial sector in Indonesia, with a positive impact on employment creation and economic development. Studies have found the tourism sector to be more labor-intensive than the manufacturing sector in some developing countries, suggesting that the tourism sector has the potential to reduce unemployment in developing countries (Garsous et al., 2017). Globally, travel and tourism represented 10.3% of the GDP and 10% of direct and indirect jobs in 2019 (World Travel and Tourism Council [WTTC], 2020). In Botswana, the travel and tourism sector contributed 13.4% and 8.9% to GDP and employment, respectively, in 2018 (WTTC, 2019). By attracting FDI to the tourism sector through targeted tax incentives, the government of Botswana might reduce the high unemployment rate in the country, especially the youth unemployment that was estimated at 37.8% in 2019 (ILO, n.d.).

### **Purpose of the Study**

The purpose of this quantitative study was to determine the impact of tax incentives on FDI and employment creation in Botswana, using evidence from the mining and tourism sectors. Findings from this study may be beneficial for the revision of public policy, particularly tax policy, which may lead to economic diversification in Botswana. According to Besada et al. (2018), economic diversification away from heavy reliance on natural resources in Botswana has mostly been unsuccessful. The lack of success can largely be attributed to the heavy concentration of investment in the natural resource sector (Besada et al., 2018; Makoni, 2015). Besada et al. also postulated that the government diversification policy was incoherent and was, therefore, a deterrent to attracting FDI in labor and technology intensive sectors. Likewise, Makoni (2015) suggested an active role for government in supporting policies for other economic sectors, such as tourism and agriculture, to diversify away from diamond mining. Therefore, I examined what impact tax incentives have on attracting FDI and creating employment in the tourism sector. I used one dependent variable; unemployment, and four independent variables: tax incentives, GDP, human capital, and FDI.

### **Research Questions and Hypotheses**

The RQs and null and alternative hypotheses were as follows:

RQ1: What is the impact of tax incentives on FDI and employment creation in Botswana?

$H_{01}$ : There is no impact of tax incentives on FDI and/or employment creation in Botswana.

$H_{a1}$ : There is an impact of tax incentives on FDI and/or employment creation in Botswana.

RQ2: What is the mediating role of FDI in tax incentives and employment creation in Botswana?

$H_{02}$ : FDI plays no role mediating role in tax incentives and employment creation in Botswana.

$H_{a2}$ : FDI plays a mediating role in tax incentives and employment creation in Botswana.

### **Theoretical Foundation for the Study**

The theoretical foundation of this study was premised on the Keynesian economic theory, crafted by John Maynard Keynes in 1936, which states that the government is responsible for generating full employment and economic growth. According to Garcia (2020), Keynesian economics asserts that unemployment is an impediment to economic growth and prosperity. To restore growth and prosperity, the state should boost effective demand to return to full employment of all potential workers in the economy by encouraging the investment spending of private firms (Wolff et al., 2012). According to Wolff et al. (2012), shaping the behavior of investors to boost investment would enhance production, leading to employment creation and income generation.

Several studies have alluded to the strong positive correlation between investment spending and job creation. For instance, Habanabakize et al. (2018) found evidence that aggregate expenditure in general creates jobs in the South African manufacturing sector and concluded that increasing investment spending would result in sustainable job



creation in South Africa. Onodugo et al. (2017) also found that spending and job creation in Nigeria were positively related in the medium and long run, suggesting that government should direct policy toward boosting private sector investment. Private sector investment has the potential to create employment, however, the government should create a conducive environment for the private sector to thrive.

Private sector involvement in job creation should be based on a coherent public policy framework, clearly stating the role of government and other market players. According to Keynesian economic theory, state intervention could correct the effects of capitalism to yield a better equilibrium with less unemployment and more output (Wolff et al., 2012). Keynesians blame unemployment on the failure of capitalism, but believe it is the role of the state to facilitate investment by capitalists (Coddington, 1983). This study addressed the impact of the government of Botswana's intervention to target tax incentives toward the tourism sector on employment and economic diversification. Specifically, the Keynesian economic theory in this context was used to answer the RQs regarding how the government of Botswana can influence investment in the tourism sector using tax incentives to generate employment and income in that sector.

In Chapter 2, I further expounded on the theoretical framework to explain the role of government in ensuring full employment in the economy. I provided examples from the literature to illustrate how the various governments have applied the Keynesian economic theory to generate employment by intervening in the investment decisions of firms.

### **Nature of the Study**

I used the quantitative research method for the study. Quantitative research is useful for understanding relationships between and/or among variables. According to Babbie (2014), quantitative researchers use numerical data for analysis. I used numerical data to test some hypotheses on the impact of tax incentives on FDI and employment creation in Botswana. All data for this study were publicly available from the Government of Botswana, Statistics Botswana, Bank of Botswana, and other international sources, including the World Bank, World Tourism Organization, and WTTC. I collected secondary data on taxes, FDI, and employment in the mining and tourism sectors in Botswana for the study. Additional data included GDP, human capital, and the legislation and regulations on taxes and tax incentives. In addition, I used an internet search to locate data for the study.

I selected a time series design for the study, which is a quasi-experimental model that is appropriate for program evaluation or policy impact (O'Sullivan et al., 2017). Time series provide data on variables periodically over time (Koutsoyiannis, 1977). For this study, I analyzed secondary data on FDI and the employment rate in the tourism sector in Botswana, and made a determination about how the data vary over time. I first plotted the data in graphs to determine the relationship among them. O'Sullivan et al. (2017) suggested that it was important to visually analyze data to note any points of divergence and identify patterns. As discussed in O'Sullivan et al., the types of variations to observe in time-series analysis are long-term, cyclical, seasonal, and irregular variations. Long-term trends are observed as upward or downward movements in the data

over many years. Cyclical variations are recurring changes that are observed within a long-term trend, with cycles lasting between 1 and 5 years. Seasonal variations are observed when some phenomena occur seasonally. Irregular variations are changes that cannot be associated with any trends or variations.

I applied the multiple linear regression analysis to analyze the time series data. Therefore, in this study, the multiple linear regression method was employed using time series secondary data on tax rates, FDI, GDP, human capital, and employment in the mining and tourism sectors. According to Koutsoyiannis (1977), regression analysis works best with data that are randomly selected from a population. However, time series data are not randomly selected and economic phenomena are stochastic in nature (Koutsoyiannis, 1977).

The data range for the study was 1989 to 2021. Time series data for employment in the tourism sector in Botswana were available from 1995, and 2021 was the most recent year available for all variables for this study (see Appendix). For 1989 to 1994, I used proxy data for employment in the tourism sector. This study used one dependent variable; unemployment, and four independent variables; tax incentives, GDP, human capital, and FDI. Accordingly, I employed a multiple linear regression analysis to determine the relationship among these variables. I specified a model based on these variables, which included a random component termed the random variable, stochastic term, or error term. The purpose of the error term in a regression is to take into account the errors in the relationship between the dependent and independent variables (Koutsoyiannis, 1977). These errors include (a) omission of other variables that may

influence the dependent variable from the model (b) unpredictable human patterns of behavior, (c) imperfect model specification, (d) errors of aggregation, and (e) errors of measurement (Koutsoyiannis, 1977). Statistical Package for the Social Sciences (SPSS) software was used to run the regression analysis and compute the relevant statistical tests for this study.

### **Definitions**

*Corporate income tax*: A tax that is levied by government on business profits (Tax Foundation, n.d.).

*Foreign direct investment (FDI)*: “Purchase of a substantial ownership in, or construction of, a factory/operation in a country by an overseas agent” (Miles et al., 2005, p. 590).

*Gross domestic product (GDP)*: “The total value of output produced in a country without any adjustment for the depreciation of capital. GDP also equals the sum of income earned domestically by both nationals and foreign citizens working in the country” (Miles et al., 2005, p. 591).

*Tax incentives*: Tax concessions that are offered to a selection of taxpayers with the objective of attracting investments for the benefit of the economy. Tax incentives can be in the form of tax exemptions for certain economic sectors, tax holidays for a specified time duration, credits and investment allowances for selected projects, preferential tax rates and import tariffs for some goods, and deferral of tax liability in an economic crisis (United Nations, 2018).

*Unemployment rate:* The proportion of the labor force that is actively seeking work and remains out of work (Miles et al., 2005).

*Youth unemployment rate:* The proportion of young people aged between 15 and 35 years who are unemployed (Statistics Botswana, 2020).

### **Assumptions**

To adequately analyze time series data using multiple linear regression, there are some assumptions that should be satisfied, based on the ordinary least squares (OLS) method. The underlying assumption in an OLS model is of independence (Pickett et al., 2005). Several assumptions fall under the assumption of independence and largely address the residuals of the model. According to O'Sullivan et al. (2017), testing for autocorrelation in the residual term is an important step before analyzing time series data. O'Sullivan defined autocorrelation as the nonrandom relationship observed in a variable over time. Autocorrelation presents biases in statistical significance tests, leading to inaccurate results (O'Sullivan et al., 2017). The residuals in the proposed model for the study should, therefore, be free from autocorrelation. Pickett et al. (2005) highlighted additional assumptions regarding the residuals, including that i) the residuals have a constant variance with the mean of residuals as close to 0 as possible. and ii) the residuals are normally and independently distributed. Also, Pickett et al. noted that it was important to ensure that all variables contained in the model are statistically significant, with no essential variables omitted. In this study, the assumption was that all the necessary variables are included in the model. I further assumed that the residuals in the model were normally and independently distributed, with constant variance and a mean

that is not significantly different from 0. Finally, I worked on the assumption that the secondary data used for the research were accurate and reliable.

### **Scope and Delimitations**

The scope of the study was limited to the tourism sector in Botswana due to its potential for growth and its labor-intensive nature. In addition, tax incentives have previously not been applied to the sector despite its employment creation potential. Tax incentives have been used in the manufacturing and mining sectors in the past and they have not yielded the expected results. I also ran regressions using data from the mining sector for purposes of comparison. The specific delimitations of this study included the country, Botswana, and the sectors, mining and tourism. I also specifically targeted FDI and not domestic investment due to the importance of FDI in the economic growth and development of the recipient country. Chiwira et al. (2016) alluded to the value addition aspects of FDI to the economic policies of developing countries, including technology and skills transfer.

I applied the Keynesian theory on unemployment because it advocates for government intervention. Another theory that could be applied is the new classical theory; however, the proponents of this particular theory support free markets (Ogujiuba, 2020). According to the new classical theory, when firms take the decision to increase investment, the resultant productivity increases will lead to increased employment (Ogujiuba, 2020). Therefore, the new classical theory was not applicable for this study because it does not refer to government intervention but to firms' decision to invest.

### **Limitations**

Using different sources of data resulted in a mismatch in the timing of the data. Data for this study were sourced from the Government of Botswana, Statistics Botswana, Bank of Botswana, World Bank, World Tourism Organization, and WTTC. Also, economic variables tend to exhibit the same movement patterns over time and that resulted in slight multicollinearity in the study model. According to Koutsoyiannis (1977), multicollinearity can lead to an inaccurate and unstable model. Another factor that could affect the stability of a model is the number of cases in the study. O'Sullivan et al. (2017) suggested a minimum of 30 cases for stability in the model. While the study had 32 cases, it is considered a bit low, potentially leading to an unstable regression model. However, Laher (2016) suggested using the effect size and confidence interval as measures to determine the significance of the study results as opposed to simply relying on a large sample size. Therefore, I used the effect size and confidence interval to determine the significance of the study results.

I limited the study to the use of FDI to create employment, however, there are other public policies that could be adopted and implemented to reduce unemployment. For example, governments may adopt labor market policies that are geared toward employment creation in the economy. Caponi (2017) provided evidence that the government wage setting policy positively impacts employment in the private sector and creates regional balance in unemployment reduction in Italy.

As a result of the focus on two sectors, generalizability to other sectors of the economy is limited. The results are also not generalizable to other countries because of the focus on Botswana.

I used employment in the accommodation and food sector as a proxy for employment in the tourism sector. Therefore, employment figures in the tourism sector other than accommodation and food were excluded. Employment figures in the informal sector were also excluded due to the difficulty in obtaining data in that sector.

### **Significance**

There has been limited research on the impact of the application of tax incentives on other sectors of the economy of Botswana. Studies carried out in other parts of the world provided insights into the use of tax incentives for investment and economic growth and development. For instance, the government of Canada has applied robust tax policies to attract FDI and encourage economic growth and development (Adebayo, 2018). Adebayo noted that the government of Canada applies one of the lowest corporate taxes in the G7 to attract business investment. Additionally, Canada applies the principles of right of establishment and full national treatment for foreign companies. The lessons from Canada may be applied to the case of Botswana to guide the appropriate implementation of tax incentives.

### **Significance to Practice and/or Policy**

The results of this study provided policymakers in Botswana with insights into sectors that should be targeted for tax incentives. Decisions about targeting the right sectors will lead to the economic diversification that the country needs to create



employment and reduce poverty. The poverty rate in Botswana is defined as the percentage of the population that lives below the poverty datum line (PDL). The PDL is computed by assessing the cost of a basic basket of goods and services necessary to sustain a household (Statistics Botswana, 2018). According to Statistics Botswana, the poverty rate in Botswana is 16.3% nationally, with 24.2% of the rural population living below the PDL.

### **Significance to Social Change**

By specifically observing the trends in tax incentives and their impact on employment creation in Botswana, this study provided solutions to the diversification of the economy of Botswana to create jobs and reduce poverty. Diversifying the economy of Botswana will result in positive social change through reducing the number of unemployed youth and collecting more taxes for better provision of public services. Reducing unemployment results in social cohesion by reducing crime and building productive communities. Khambule et al. (2017) recommended private sector-led job creation as a measure to provide a safety net for people with a view to enhancing social cohesion in South Africa. The current research will benefit the government of Botswana and other stakeholders interested in creating employment and contribute to the literature on public policy to aid our understanding of which sectors of the economy can lead to job creation and an expansion of the tax base.

### **Summary**

Efforts to address the rampant unemployment in Botswana, including economic diversification and citizen economic empowerment, have yielded insignificant results.

The government has previously used tax incentives to attract FDI into certain sectors of the economy such as mining and finance, aimed at creating jobs for the economy.

However, the government has not employed the same tax incentives into other labor-intensive sectors of the economy such as tourism. I investigated the impact of tax incentives on attracting FDI and creating employment in the tourism sector in Botswana through comparison with the mining sector.

In Chapter 1, I provided the background to the study, defined the problem and purpose of the study, and presented the RQs addressed in the study. I also summarized the nature of the study, provided definitions, assumptions, scope and delimitations, and limitations of the study. I also outlined the overview of the theoretical framework underlying the study, which were expounded on in Chapter 2.

In addition to expanding on the theoretical framework in Chapter 2, I delved into an in-depth review of the literature surrounding tax incentives and FDI and how they are used for economic development and employment creation in developed and developing countries. In Chapter 2, I also explored how previous authors on the same subject have utilized the various models and theories into their research and used their results to guide the study. I also provided an overview of Botswana's tax policy and the tourism policy in Botswana and neighboring countries.

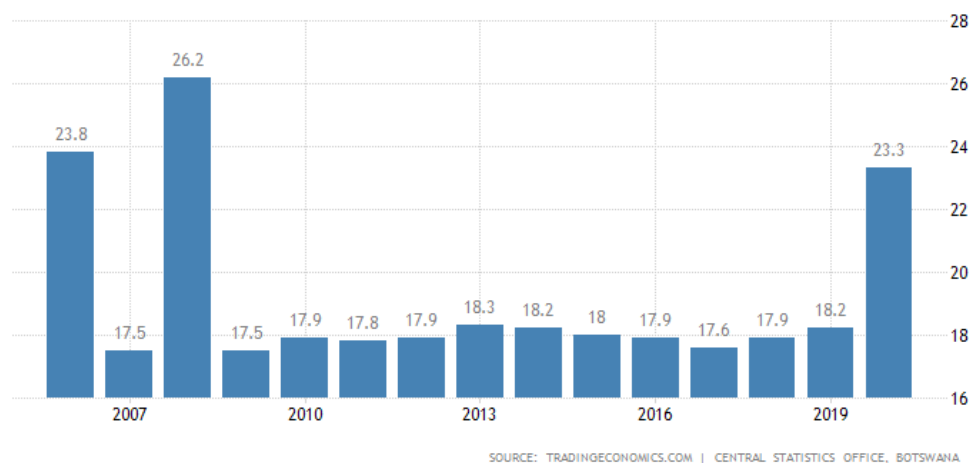
## Chapter 2: Literature Review

### Introduction

Unemployment in Botswana is a continuous problem for policymakers with the rate steadily increasing over the years. According to Trading Economics (n.d.), the unemployment rate in Botswana in the early 1990s was below 14%, gradually increasing to over 20% by the middle of the decade before declining sharply to about 16% at the turn of the century. The unemployment rate increased again and peaked at 26% in 2008 before declining to 17.5% in 2009 and it held steady between 17.9% and 18.3% from 2010 to 2019 (Trading Economics, n.d.). However, the unemployment rate spiked from 18.2% in 2019 to 23.3% in 2020 (Trading Economics, n.d.). Figure 2 presents the unemployment rate for Botswana from 2006 to 2020.

#### Figure 2

*Unemployment Rate for Botswana, 2006–2020*



*Note.* Adapted from Trading Economics, n.d.,

(<https://tradingeconomics.com/botswana/unemployment-rate>). In the public domain.

Presenting the budget speech to Parliament, the Minister of Finance and Economic Development attributed the rise in unemployment in 2020 to measures taken to combat the COVID-19 pandemic that affected the entire world, including lockdowns and border closures (Government of Botswana, 2021a). The government continues to find strategies to deal with the endemic unemployment rate, which is disproportionately affecting the youth. The youth unemployment rate in Botswana in 2020 was estimated at approximately 38% (ILO, n.d.). One of the strategies is the development of a National Employment Policy, which includes a strategic focus on strengthening the capability of the private sector to create employment (Government of Botswana, 2021b).

Previous attempts to create employment included the diversification of the economy away from mining, especially raw diamond exports. The then President Festus Mogae, established a Business and Economic Advisory Council in 2005 and tasked it with defining a strategy and action plan to address constraints to Botswana's diversification efforts (Government of Botswana, 2008). One of the tasks of the BEAC was to ensure a suitable environment for FDI. The government of Botswana recognizes well-structured FDI as an enabler of economic growth and diversification. The strategy for economic diversification, which was adopted by cabinet in 2008, highlighted a competitive tax structure and incentive scheme as a tactic to attract investment (Government of Botswana, 2008). The government sought to review the tax system to simplify it and improve tax administration for attracting both foreign and domestic investment in technology and value-adding service sectors. An incentive scheme with low regulations and relaxed tax rules specifically for free zones was planned for

attracting FDI. Additionally, the approach emphasized added advantages for companies that create new employment and improve staff technical skills. Diversifying the economy by targeting tax incentives toward the tourism sector, which is labor-intensive, might help reduce the unemployment rate in Botswana. Garsous et al. (2017) found evidence that the tourism sector is more labor-intensive than the manufacturing sector in some developing countries. Accordingly, the government of Botswana would benefit more by directing tax incentives at the tourism sector rather than the current dispensation of targeting the manufacturing sector. In fact, evidence suggests that the 15% company tax regime for the manufacturing sector was not effective in growing the sector (Moyo, 2016).

The purpose of this quantitative study was to, therefore, examine the impact of tax incentives on attracting FDI and creating employment in the tourism sector in Botswana. The findings of the study may guide tax policy revision, particularly with the aim of aiding government's diversification efforts. I used multiple linear regression analysis to examine the relationship between tax incentives and FDI and employment in the mining and tourism sectors in Botswana.

In this chapter, I presented the literature search strategy used for the study, the theoretical foundation of the study, and the literature review on the main concepts used in the study. In addition, I presented the literature review specifically related to the variables under study in Botswana.

### **Literature Search Strategy**

I consulted the Walden library extensively for the literature search. I also employed Google Scholar and Google to guide and supplement the literature search. In

the Walden library, I accessed articles through the School of Public Policy and Administration's link. The link had direct access to several databases such as Thoreau, Business Source Complete, and ProQuest. For Google Scholar and Google, I sourced some of the articles directly but accessed others through the Walden library. For the literature on the theoretical foundation and the multiple linear regression analysis method, I used an internet search and textbooks. I accessed resources from the Government of Botswana, including the National Development Plan (NDP) and Budget Speech, through an internet search. The international sources that I consulted include the World Bank and IMF databases, the WTTC, and the World Tourism Organization.

The search focused mainly on the literature between the period 2015 and 2021 and was limited to peer-reviewed work using filters on both Google Scholar and Walden University library. For seminal literature, particularly on theoretical work and methods, I consulted books and articles from as far back as 1977. For government and international sources, there was no time limit.

The key words guiding the literature review were tax incentives, targeted tax incentives, tax holidays, tax exemptions, corporate tax rate, employment, unemployment, youth unemployment, FDI, tourism sector, developing countries, Africa, and Botswana. I also performed searches for the Keynesian theory of employment and the Keynesian general theory. Further, I searched the literature using a combination of key words to narrow down the search. Such combinations included tax incentives and tourism, tax incentives and employment creation, tax incentives and FDI, tax incentives and tourism, corporate tax rate and FDI in Botswana.

### **Theoretical Foundation for the Study**

In analyzing the theoretical foundation of this study, it was important to understand the various types of unemployment that exist. Hardwick et al. (1994) discussed three main causes of unemployment, being, i) natural unemployment – with four types – search unemployment, structural unemployment, seasonal unemployment, and residual unemployment, ii) excessive real wage unemployment, and iii) demand-deficient unemployment. According to Hardwick et al., natural unemployment is the number of unemployed people during a long-run equilibrium in the labor market. Excessive real wage unemployment results from real wages that are higher than the market rate. Demand-deficient unemployment refers to unemployment caused by low demand for labor as a result of the low demand for goods and services. In this study, I placed emphasis on demand-deficient unemployment, also known as Keynesian unemployment.

The main theory that I applied in this study was, therefore, the Keynesian economic theory of employment. Crafted by John Maynard Keynes in 1936, the Keynesian theory of employment apportioned the responsibility of generating full employment and economic growth to the government. The Keynesian theory stated that the level of income and resultant employment in the economy was determined by aggregate demand, with firms cutting back on production and employment where there is inefficient production of goods (Hardwick et al., 1994). Aggregate demand is the combined demand of goods and services by consumers, firms, government, and foreigners and is presented as:

$$AD = C + I + G + X - M$$

where:

AD = aggregate demand

C = household consumption of goods and services

I = firms' demand for investment goods

G = government consumption of goods and services

X = exports

M = imports

The Keynesian theory further stated that solving unemployment, which is caused by inefficient markets, required boosting aggregate demand through state intervention (Wolff et al., 2012). Three ways in which government can intervene to raise effective demand include raising government expenditure, cutting taxes, or lowering interest rates (Miles et al., 2005).

The most important underlying assumption of the Keynesian theory is that wages and prices are fixed. According to Hardwick et al. (1994), this assumption means that in the short-run, firms will adjust the quantity they produce in response to changes in demand, leading to the economy operating at less than full employment. The Keynesian theory postulates that a fall in investment spending by private businesses is the reason for an economy operating at less than full employment (Wolff et al., 2012). According to Wolff et al., the Keynesian theory further postulates that markets cannot adequately increase the aggregate demand in the economy to increase the levels of employment. In this instance, the invisible hand would guide the economy back to full employment by



cutting taxes to stimulate private investment (Wolff et al., 2012). The cut in taxes would be the government intervention necessary to reduce unemployment.

Using the four components of aggregate demand: government consumption, household consumption, total net exports, and total investment, Habanabakize et al. (2018) sought out to investigate the effect of the Keynesian theory of employment in the manufacturing sector in South Africa. The authors found a positive long-run relationship between aggregate expenditure and employment creation in the manufacturing sector in South Africa. Habanabakize et al. concluded that while investment spending contributed less than other components, increasing it would be beneficial for sustainable job creation in South Africa.

RQ1 was, What is the impact of tax incentives on FDI and employment creation in Botswana? The RQ built upon the Keynesian theory of employment by testing how the government intervention of offering tax incentives to foreign investors in the tourism sector can affect the level of FDI and, therefore, employment in the sector.

### **Literature Review Related to Key Variables and/or Concepts**

In this section, I reviewed the main literature related to the key variables of the study. Specifically, I reviewed the economic policy concepts of economic diversification, tax policy and tax incentives, employment, with particular emphasis on youth unemployment and employment creation strategies, and FDI as it relates to economic growth and employment creation. I further described the concepts of interest as they relate to Botswana, including the evolution of tax policy and tax incentives, FDI, the

tourism sector, unemployment trends, and the economic diversification drive in Botswana.

### **Economic Diversification**

Economic diversification is usually pursued by governments in their efforts to facilitate economic growth and employment creation. United Nations (2017) indicated that the lack of economic diversification was the major impediment for commodity-dependent countries to reach their goals of structural transformation for sustainable and inclusive development. Mono-cultural economies like Nigeria, which is highly dependent on oil exports, have adopted economic diversification policies to create jobs. Oil and gas exports contribute 85% to total revenue in Nigeria (Olamide et al., 2019). According to Olamide et al., the government of Nigeria developed and adopted a Strategy for Economic Diversification and National Development in 2008 to help diversify the economy through various institutional and structural measures. Also, the government of Nigeria engaged in protectionist measures such as restriction of agricultural and industrial goods imports with limited success in diversification and labor productivity (IMF, 2021).

Lashitew et al. (2020) also stated that economic diversification away from the extractive sector was important for employment creation, particularly in the manufacturing and services sectors. For example, a rapid expansion of the services and industrial sectors in Laos fueled by foreign and public investment resulted in a 20% increase in employment between 2003 and 2013 (Lashitew et al., 2020). In the case of Oman, the government adopted a diversification strategy, “Tanfeedh” to create

employment through private sector development in the logistics, manufacturing, and tourism sectors (Lashitew et al., 2020).

Some governments opt to use tax policy to facilitate their economic diversification plans. KPMG (2018) found that many African countries offered tax incentives to attract FDI into their manufacturing, agricultural, and industrial sectors, with others like Kenya and Cameroon offering incentives in the financial services sector. Specifically, more countries aimed to diversify their economies from the extractives sector by introducing new and amended incentives to attract investment into manufacturing and services industries.

### **Tax Policy and Tax Incentives**

Tax policy plays a crucial role in the decision of a government to offer tax incentives for reaching a set economic development policy target. Garsous et al. (2017) used the example of the Sudene area in Brazil to demonstrate the effectiveness of targeted tax incentives in creating employment in the tourism sector. The results of the study by Garsous et al. were indicative of the positive implications of the proper use of fiscal policy to drive the economic objective of employment creation. Similarly, Calgano et al. (2018) found compelling evidence in their study on the use of targeted economic incentives that states are more likely to use incentives to influence economic goals such as reducing unemployment and budget deficits. Awunyo-Vitor et al. (2018) also found evidence that targeting incentives to the agricultural sector resulted in the improved performance of the economy of Ghana, with evident overall economic growth. Fiscal

policy can be beneficial for developing countries only to the extent that it is properly applied.

Despite evidence that tax incentives are useful for influencing development in developing countries, some researchers have disclaimed the usefulness of tax incentives for economic targets. For instance, Li (2016) argued that tax incentives were potentially harmful for resource mobilization efforts of developing countries. Li further found evidence of the ineffectiveness of tax incentives for attracting FDI, arguing instead for strong fiscal discipline as a strategy for attracting foreign investment. This argument was consistent with the findings by Munongo et al. (2017) who concluded that stable macroeconomic conditions and other important nontax factors were more suitable for attracting FDI to developing countries. Hsu et al. (2019) also concluded, in their GMM study on the impact of tax incentives on FDI for the period 1998 to 2008, that tax incentives were not a sufficient policy for attracting FDI. Hsu et al. (2019) carried out the study following the decision of the government of China to terminate tax incentives in 2008. The authors found that, rather, market size and geographic location were major determinants of FDI, indicating that the decision of the government to stop extending tax incentives was appropriate. Although tax incentives may be important for economic development, a holistic tax policy that is consistent with other economic policies might be more relevant in attracting FDI and influencing development outcomes in developing countries.

Redonda et al. (2019) also emphasized the improvement in the design of tax incentives within the Group of 20 (G20) for efficiency in their use by companies and

benefits by governments. The authors noted that often, tax incentives were designed to excessively benefit businesses at massive fiscal losses to governments. Siyanbola et al. (2017) highlighted the importance of monitoring and tracking of the administration of tax incentives against the expected economic goals as a means to measure the efficiency of the incentives. The economic targets that tax incentives aim to improve include economic growth, poverty reduction, and employment creation.

## **Employment**

### ***Youth Unemployment***

Youth unemployment is a major challenge of modern times. Omeje et al. (2020) contended that the various social ills facing the youth in Nigeria were directly as a result of the high rates of youth unemployment. Also directly affected by the high youth unemployment rates are the rate of economic growth and diversification. In a study on public employment policies in Italy, Caponi (2017) noted that the youth unemployment rate was four times higher than the general unemployment, a trend also observed in much of Europe. In the case of Oman, youth unemployment was estimated at 50% (Lashitew et al. 2020). Khambule et al. (2017) also noted that the youth unemployment rate in South Africa was over 50%. In East Africa, 60% of the unemployed population are the youth (Alfonsi et al., 2020).

The COVID-19 pandemic that affected the entire world, leading to unprecedented measures to contain the spread of the virus, including lockdowns and various containment measures, resulted in increases in youth unemployment rates. According to ILO (2021), youth employment fell by 8.7% in at the height of the

pandemic in 2020, compared to 3.7% for the adult population, disproportionately affecting young women.

The high youth unemployment rates across the world often result in high poverty and inequality levels and other social ills. WTTC (2019) stated that high unemployment rates had a direct impact on societal outcomes, directly contributing to poverty, inequality, and societal exclusion. As such, it is imperative that governments propose lasting employment creation strategies to address the social ills resulting from high unemployment.

### ***Employment Creation Strategies***

Governments are responsible for setting economic policies that guide employment creation in both the public and private sectors. Caponi (2017) used the case of Italy to demonstrate how the wage setting policy of government influenced private sector employment. In a two region two sector model, Caponi found that homogenous wage setting resulted in long-run reduction in unemployment across the regions in Italy. Tsaurai (2018) used pooled OLS and fixed effects for their study on the impact of FDI on employment creation in Brazil, Russia, India, China, and South Africa (BRICS countries) and found that policies that enhanced financial development, economic growth, and human capital development were more effective in triggering the employment creation benefits of FDI in those countries.

Some governments have supported microcredit schemes as a strategy for creating employment. Tria et al. (2022) undertook a systematic review of the literature from 1998 to 2021 involving microcredit and employment creation. The authors concluded that

microcredit was important for generating employment both in the formal and informal sectors. Other countries have adopted or strengthened their active labor market policies to reduce unemployment risks. ILO (2022) outlined several such policies by both developed and developing countries aimed at increasing the employability of the unemployed. In the United Kingdom, the Kickstart and Restart programs, aimed at supporting employers who create new jobs and getting the unemployed into work (ILO, 2022). In India, the government supports unemployed rural populations through a rural employment scheme.

In the wake of the COVID-19 pandemic and the resultant response required for the economic recovery, governments across the world have employed fiscal and monetary policies and direct support to sectors that were negatively impacted by the pandemic. The most popular response by many governments was to implement fiscal stimulus packages, with developing countries rolling out in excess of 15% of their GDP and developed countries only less than 3% (IMF, 2020b). The IMF indicated that investment was deemed to be crucial in creating jobs in a crisis, with larger short and medium-to-long term fiscal multipliers than public consumptions, taxes, or direct transfers. Therefore, facilitating both public and FDI should be a priority for governments aiming to fast-track economic growth and employment creation.

## **Foreign Direct Investment**

### ***Foreign Direct Investment and Economic Growth***

FDI has been proven to positively impact economic growth in many developing countries. Chiwira et al. (2016) observed a long-term significant relationship between FDI and economic growth in Botswana. Lawal (2018) also observed a strong positive

relationship between FDI and GDP in Nigeria, driven by changes in GDP. Gupta et al. (2016) also examined the link between FDI and economic growth in BRICS countries and confirmed that a long-run causal relationship from GDP to FDI existed in Brazil, India, and China. Awunyo-Vitor et al. (2018) found a positive relationship between FDI in the agricultural sector and economic growth in Ghana, suggesting that government policies and incentives should be directed at attracting FDI.

In contrast, Awolusi et al. (2017) found a negligible impact of FDI on economic growth in some selected African countries. However, Awolusi et al. noted that fiscal incentives played a crucial role in attracting FDI to strengthen economic growth and create employment. Additionally, Gupta et al. found no evidence of a short- or long-run relationship between FDI and economic growth, but rather identified several factors that negatively impact the relationship in Russia and South Africa, including lack of infrastructure and structural weaknesses. In the case of Macedonia, low production costs and subsidies for training and construction of manufacturing plants were instrumental in attracting FDI (Miftari, 2016). It is important for developing countries to create a conducive environment for FDI to positively contribute to economic growth.

Although many developing countries are able to attract FDI into their economies, not many are able to effectively channel it to improve their productive capacity. For instance, Hlavacek et al. (2019) cited the case of the Czech Republic where research and development did not effectively contribute to economic growth. However, in the same study, the authors observed an overall positive influence of FDI and government investment incentives on the economic development of many regions in the Czech



Republic. Research in some selected developing European Union countries showed that countries that had a developed institutional framework were better able to attract FDI (Buterin et al., 2018). Buterin et al. concluded that countries with a good institutional framework attracted foreign investors, resulting in improved economic growth. The key to effectively using FDI to improve economic growth and development lies in the ability of countries to provide a conducive environment for investment to thrive.

### ***Foreign Direct Investment and Employment Creation***

FDI inflows are important for creating employment opportunities in developed and developing countries. In their study of FDI and employment in Japan, Kodama et al. (2018) pointed to increased female labor participation in foreign firms owing from a corporate culture that is gender inclusive. In the case of developing countries, FDI that creates employment is critical given the state of unemployment in that category of countries. In Nigeria, where the unemployment challenge is persistent, Osabohien et al. (2020) observed a significant positive long-run relationship between FDI and employment. Using the Johansen co-integration model and the fully modified ordinary least squares, Osabohien et al. found that a unit increase in FDI led to a .97 increase in employment. The evidence that FDI promotes job creation in developing countries was also supported by Karimov et al. (2020) in their analysis of the impact of FDI in Turkey, which indicated a significant relationship between FDI and reduction of unemployment leading to overall economic stability. In Poland, income and property tax exemptions contributed to the amount of FDI inflows into the special economic zones in the country, with a positive net effect on job creation (Slusarczyk, 2018).

Although FDI flows are increasing, developing countries have to be cautious about the quality of jobs that are created in their economies as a result of the FDI. Basu et al. (2017) found that although FDI significantly contributed to job creation in the services sector in India, the quality of jobs was poor, with a disproportionate contribution to gross value added. Basu et al. recommended that the government of India should reform the labor laws to attract more FDI that can generate jobs, and to engage in massive skills development for creation of better quality jobs. Khodeir (2016) also suggested some policy reforms for African countries to derive maximum benefits from Chinese investments. In particular, Khodeir recommended removal of labor market rigidities through policy transparency in African countries. Khodeir further recommended that African countries' education policies focus on vocational education and training to adequately skill their labor force for Chinese investments.

In the case of emerging market economies, the evidence that FDI supports job creation is not clear. For example, Bayar et al. (2017) found mixed results in their study of selected emerging market economies pointing to a positive long-run influence of FDI on unemployment in some countries, a negative influence in others, and no discernible relationship in additional countries. However, the long-run relationship between FDI and unemployment was positive in the overall panel, indicating the importance of FDI for employment creation in emerging market economies.

## **Economic Policy in Botswana**

### ***Tax Policy***

Tax is an important public resource mobilization tool for most countries, providing the much needed revenue to run the affairs of government. Tax can be used by a government to stimulate production or curb excess aggregate demand. The government of Botswana uses a progressive tax regime that excludes receipts or accruals of a capital nature, with special provisions for the IFSC, manufacturing, and mining companies (Besada et al., 2018). While the regular corporate tax rate is 22% for citizens and 30% for non-citizens, the government of Botswana administers development incentives for manufacturing and financial companies, including a reduced corporate tax rate of 15% at the approval of the minister of finance and economic development (KPMG, 2018).

The government of Botswana recognized that tax reductions could be used to attract domestic and foreign investment through tax reforms aimed at promoting special economic zones and stimulating production and employment creation in the process (Government of Botswana, 2016). Specifically, the government would offer tax exemptions to projects implemented under special economic zones, with emphasis on FDI that brings managerial and technology transfer. The government announced an incentive package for export-oriented businesses, including a 5% corporate tax rate for the first 10 years of operation and 10% thereafter, land and property transfer duty waiver, and property tax exemption for the first 5 years of operation (KPMG, 2021).

### *Foreign Direct Investment*

The Government of Botswana (2016) recognized FDI as a driver of economic growth. Efforts by the government to attract FDI during NDP 10, specifically through the Botswana Investment and Trade Centre (BITC), have yielded success in the past, with FDI increasing almost twofold between 2010 and 2014 (Government of Botswana, 2016). However, the government identified some challenges in attracting investment during NDP 10 that would be addressed during NDP 11. Notably, the lack of a coherent government structure to deal with investors was identified as a major deterrent to foreign investors. FDI inflows to Botswana are mostly targeted toward the mining sector (Chiwira et al., 2016).

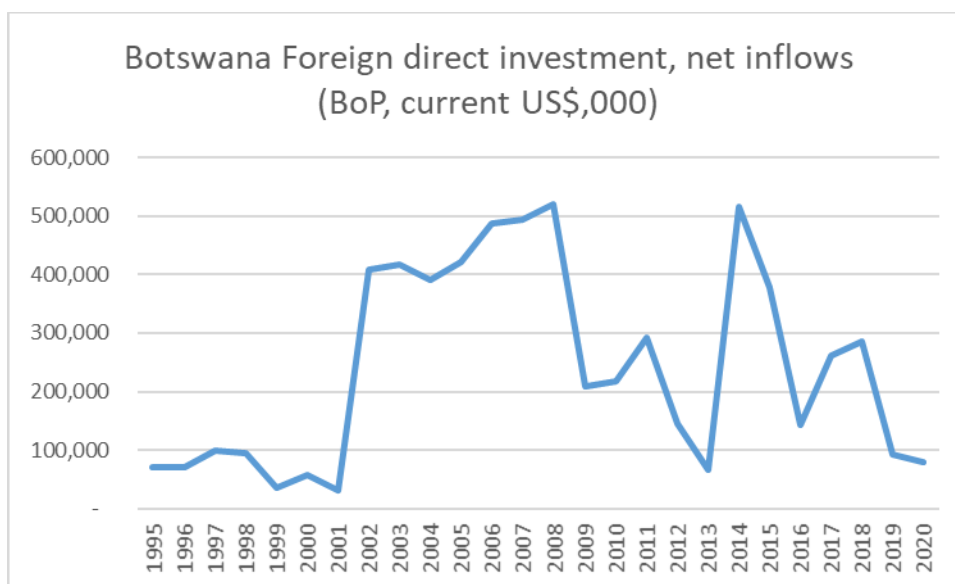
In their multi-model econometric study on the relationship between FDI and economic growth in Botswana, Chiwira et al. (2016) concluded that the government of Botswana should continue to pursue a policy of attracting FDI due to the significant relationship they observed. In their application of the Johansen co-integration test, the authors specifically observed a long-term relationship between FDI and economic growth. With the Granger causality tests, the direction of influence was not clear, however, the existence of a relationship between the two variables was discernable. Musakwa et al. (2019) sought to determine the causal relationship between FDI and poverty in a tri-variate framework using the (Error Correction Model) ECM-based Granger-causality test with data from 1980 to 2017 in Botswana. Using household consumption expenditure, infant mortality rate, and life expectancy as proxies for poverty, Musakwa et al. found that there was a unidirectional flow from FDI to poverty,

particularly on the infant mortality and life expectancy variables. Therefore, Musakwa et al. concluded that the government of Botswana ought to vigorously promote FDI attracting policies as a measure to reduce poverty in the country.

Figure 3 presents FDI net inflows to Botswana from 1995 to 2020. The figure depicts volatility in the FDI inflows, suggesting that a strategy by the government to sustain inflows is of critical importance. The Government of Botswana (2016) attributed the doubling of FDI from approximately U.S. \$250,000,000 to just over U.S. \$500,000,000 between 2010 and 2014 to a conducive macroeconomic environment and targeted investment initiatives that led to an improvement in the ease of doing business in Botswana. FDI inflows dropped between 2014 and 2016, partially attributable to the commodity crash during that period. Generally, Botswana's FDI inflows are susceptible to shocks because it is more targeted to the mineral sector, which is subject to volatility. Magombeyi et al. (2017) indicated that most of the deals between the government and multinational corporations were based on building the capacity of the extractive sector. Overall, FDI inflows were hampered by restrictive investment policies and industrial land access, labor localization policy, and shortage of skilled labor, among others (Mangombeyi et al., 2017).

**Figure 3**

*Foreign Direct Investment for Botswana (Net Inflows), 1995–2020*



*Note.* The currency is U.S. \$ in thousands. Adapted from the World Bank Data Portal, n.d.-a, (<https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?locations=BW>). In the public domain.

### ***Tourism Sector***

The tourism sector has established itself as an important contributor to the economy, both globally and in Botswana. Travel and tourism contributed 10.4% to global GDP in 2019, with 25% of employment created in the sector (WTTC, 2021). WTTC estimated that in Botswana during the same period, travel and tourism contributed 9.6% to total GDP and about 8.4% to total employment. The advent of the COVID-19 pandemic brought about a complete shift in travel and tourism as governments across the world implemented strict lockdowns to contain the spread of the virus. Global GDP was

estimated to have declined by 3.7% in 2020 and in contrast, the travel and tourism GDP change was estimated at -49.1%, a trend that was noticed in most parts of the world (WTTC, 2021). In the case of Botswana, real GDP declined by 8% while travel and tourism saw a decline similar to global trends at 48.6% (WTTC, 2021).

Long before the pandemic, the government of Botswana had adopted a cluster-based agenda that focused on tourism as one of the sectors to diversify the economy (Government of Botswana, 2016). According to the Government of Botswana, the cluster-based model was expected to drive export-led growth and attract FDI and increase employment and labor productivity in the process. In recognition of the important role of tourism in the country, the government sought to provide an enabling environment for tourism businesses. Some of the targeted improvements included simplifying procedures for land access and licensing.

Botswana offers a unique tourism experience, with a largely nature-based tourism offering the wilderness and wildlife. According to Botswana Tourism (2018), 38% of the total land area of the country was devoted to wildlife management areas, allowing animals to roam in the wild. Studies indicated that tourism was concentrated in the north of the country and adopted a low-volume-high-cost model to reduce the number of tourists for preservation and conservation of the climate-sensitive wildlife (IMF, 2018; Nare et al., 2017). Preserving wildlife in Botswana is necessary to promote the tourism sector and nurture it as an important economic sector that contributes to employment creation.

### *Unemployment Trends*

Unemployment is one of the major social challenges that Botswana faces. Hardwick et al. (1994) defined unemployment as the number of people who are willing and able to work but cannot find jobs. Youth unemployment is of particular concern to policymakers in Botswana. The ILO (n.d.) estimated the youth unemployment rate in Botswana at 37.8% in 2020, which is untenable. The youth unemployment rate as measured by the ILO refers to the total labor force of ages 15 to 24 years (Trading Economics, n.d.). The definition of youth in Botswana is people between the ages of 15 and 35 years (Statistics Botswana, 2018). The youth unemployment rate was an estimated 25.1% out of a youth population of 36.1% of the total population surveyed in the 2015–2016 Botswana Multi-Topic Household Survey. There is a clear indication that the youth unemployment rate continues to rise amidst the rising poverty and inequality in the country. The 2015–2016 Botswana Multi-Topic Household Survey indicated that 15.1% of unemployed youth were from poor households, with 43% males and 57% females, and 47% from rural areas, 37.9% from urban villages, and 15.1% from cities and towns (Statistics Botswana, 2018).

While youth unemployment shows growing trends, it is not in isolation from the general unemployment trends in the country. A 2017 survey revealed that 73% of the respondents cited unemployment as the top most challenge that government ought to address (Matandare, 2018). The unemployment rate in Botswana has been persistent over the years, averaging 18.87% between 1991 and 2020 (Trading Economics, n.d.). The Minister of Finance and Economic Development indicated that the unemployment rate in



the last quarter of 2020 had increased to 24.5% up from 23.2% in the first quarter (Government of Botswana, 2021). Matandare (2018) attributed the general high unemployment level to the inability of the economy to create sufficient jobs. In recognition of the long-term deficiency of jobs, the government named the NDP 11, which was adopted in December 2016, “Inclusive Growth for the Realization of Sustainable Employment Creation and Poverty Eradication” to create employment opportunities for the people of Botswana. One of the national priorities for the realization of NDP 11 theme is developing diversified sources of economic growth, encompassing the long sought after economic diversification, among other strategies (Government of Botswana, 2016). Economic diversification has been a strategy of the government of Botswana for many years to create employment and reduce poverty.

### ***Economic Diversification Drive***

Botswana is highly reliant on natural resources extraction as its main revenue source. Efforts to diversify the economy away from natural resources have largely been futile. Besada et al. (2018) attributed the lack of success in diversification to the heavy foreign investment in the natural resources sector, which is capital intensive and does not create much employment. Past efforts aimed at diversifying the economy included the Financial Assistance Policy, which offered grants to small-, medium-, and large-scale productive enterprises to support start-ups and existing businesses in their operations, as part of the government’s industrial development policy (World Bank, 1993). The Financial Assistance Policy and other investment and industrial promotion initiatives were subsequently replaced by the Citizen Entrepreneurial Development Agency

(CEDA) in 2001. The establishment of CEDA was a response to the 1999 National Conference on Citizen Economic Empowerment to streamline the various government financial assistance initiatives and promote citizen-owned businesses to facilitate diversification (CEDA, n.d.).

The Business and Economic Advisory Council was established by then President Festus Mogae in 2005 to proffer recommendations for the successful diversification of the economy. One of the recommendations of the BEAC was for the government to promote affordable high-volume tourism and to attract FDI in highly specialized technology and medical fields through offering incentives in tax, land, and labor (Besada et al., 2018). However, the skills shortages in these fields may frustrate the efforts of government at diversifying the economy into those areas. The Government of Botswana (2016) highlighted the limitation in human skills, especially in technology, as one of the challenges faced by the country in the review of NDP 10. Hence, one of the strategies to accelerate job creation during NDP 11 was to improve skills development. Skills development would be achieved through several measures key among which is the retooling and upgrading of skills to match the wider economy requirements (Government of Botswana, 2016).

### **Data Analysis Methods**

There is clear divergence in the literature on the application of tax incentives for attracting FDI. In this study, I established the application of tax incentives to attract FDI and create employment in Botswana and sought to apply the most relevant data analysis method. Awolusi et al. (2017) applied the Ordinary Least Squares regression analysis,

augmented with the two-stage least squares (2SLS) and a dynamic panel estimation in their study on FDI and economic growth in Africa. The authors used GDP as their dependent variable, measured in current U.S. dollar. The independent variables were gross capital formation and FDI, both measured as a percentage of GDP, HDI as a proxy for labor, ratio of secondary and tertiary school enrolment to the population as a proxy for human capital, import of machinery as a proxy for international technology transfers, and total factor productivity. The authors identified a number of weaknesses in their model specification, including the use of secondary and tertiary enrolment, which may not reflect the true state of human capital in a country. They also indicated that the import of machinery may not be a true reflection of the technology transfer effected by foreign companies. I aligned the choice of variables and model specification to Awolusi et al., with a few modifications based on the Keynesian theory of growth.

Siyanbola et al. (2017) also applied OLS to investigate the impact of tax incentives on economic and industrial growth in Ghana and Nigeria between 2011 and 2014. The authors used GDP, tax revenues, and tax incentives as the variables for the model, including an error term and time. Siyanbola et al. undertook a thorough analysis of the assumptions of the OLS regression analysis. I followed some of the tests used by Siyanbola et al. to carry out the various tests of the assumptions of regression analysis, including the Durbin-Watson statistic to test for serial correlation.

Although Habanabakize et al. (2018) used a Vector Autoregressive model with Johansen co-integration approach to estimate employment in the manufacturing sector in South Africa, some of the variables they selected for their study informed the choice of

variables for this study. Habanabakize et al. used employment as their dependent variable with the independent variables as household consumption, government spending, gross capital formation as a proxy for investment, and net exports.

### **Summary and Conclusions**

The Keynesian theory of employment posits that boosting aggregate demand through government intervention by cutting government expenditure, reducing taxes, or reducing interest rates will result in employment creation. In this study, I investigated the impact of reducing taxes in the tourism sector in Botswana on employment creation. Unemployment, particularly youth unemployment, is a major social challenge that the government of Botswana continues to contend with. Past efforts by the government to deal with the challenge of unemployment included economic diversification away from the mining sector through tax, land, and labor incentives (Besada et al., 2018). Tax and other incentives are important considerations for developing countries that wish to attract FDI as part of their diversification efforts. Although the literature is inconclusive on the impact of tax incentives on FDI, some studies have shown a positive relationship between FDI and some economic indicators such as poverty, economic growth, and employment creation (Karimov et al., 2020; Musakwa et al., 2019; Osabohien et al., 2020; Slusarczyk, 2018).

Several studies have been carried out using various data analysis tools to investigate the impact of FDI on economic growth and employment. Some studies observed a positive relationship between FDI and economic growth (Chiwira et al., 2016; Lawal, 2018), while others found a negligible or non-existent relationship (Awolusi et al.,

2017; Gupta et al., 2016). In studies analyzing the relationship between FDI and employment creation, the results showed a positive relationship between the two variables. The data analysis methods used in the various studies ranged from OLS (Awolusi et al., 2017), pooled OLS (Tsauroi, 2018), Vector Autoregressive model (Habanabakize et al., 2018), fully modified OLS (Osabohien, 2020), and 2SLS (Awolusi et al., 2017), and involving Johansen co-integration (Chiwira et al., 2016; Habanabakize et al., 2018, Osabohien, 2020) and Granger causality tests (Chiwira et al., 2016). I applied the multiple linear regression analysis method, with the Durbin-Watson test and scatterplots to check and eliminate problems associated with time series data like autocorrelation.

The government of Botswana has previously used tax incentives to attract FDI into the mining, manufacturing, and financial sectors of the economy to create employment and some studies have indicated that such efforts have been unsuccessful (Besada et al., 2018; Moyo, 2016). I, therefore, investigated how the use of tax incentives in the tourism sector might help create employment in Botswana. The results of the study may contribute to the correct application of tax incentives and enhance public policymaking in Botswana.

In Chapter 3, I discussed the research design and methodology that was employed in the study. I also discussed the data analysis techniques applied in the study, including the measurement of variables and software used.

## Chapter 3: Research Method

### **Introduction**

The purpose of this quantitative study was to determine the impact of tax incentives on FDI and employment creation in Botswana, using evidence from the tourism sector. I examined the impact of targeting tax incentives at the tourism sector in Botswana and the resultant expected FDI and job creation by applying the multiple linear regression analysis. Findings from this study may be beneficial for the revision of public policy, particularly tax policy, which may lead to economic diversification in Botswana. Economic diversification in Botswana has largely been unsuccessful, mostly as a result of the heavy concentration of investment in the natural resource sector (Besada et al.; 2018, Makoni, 2015).

Structurally, in this chapter, I discussed the research design as it relates to the RQs and the rationale behind the choice. I then described the methodology that the study employed, including the variables investigated and the sampling procedures. I further discussed the econometric model that was used and explained why it was best suited for this study. Additionally, I outlined the sources of data that were used and attested to their reputability and then justified the length of series selected for the study. I also outlined the data analysis plan, including the statistical tests that were performed, the underlying assumptions for the statistical analyses performed, identified the software used in the statistical analysis, and explained how the results were interpreted. I concluded by explaining the threats to validity and ethical procedures as they relate to the study and provided a summary and transition to the next chapter.

### **Research Design and Rationale**

In this study, I applied the quantitative research tradition. Yilmaz (2013) defined quantitative research as empirical research into a social problem that tests an existing theory by use of variables presented in numerical data using statistical analysis to determine if the theory explains or predicts the variables presented. The quantitative research tradition entails developing models to understand the relationships between one or more independent variables and a dependent variable (Dietz et al., 2009). In this study, the dependent variable is the employment rate and the independent variables are tax incentives, FDI, GDP, and human capital. I ran two regressions, with one using the employment rate in the mining sector and the other using the employment rate in the tourism sector. The independent variables are the same in both equations. The rationale for running the two regressions was to make a comparison between the impact of tax incentives on employment in the two sectors and then make a determination of where the tax incentives are more effective.

According to Yilmaz (2013), the purpose of quantitative studies is threefold –to generalize the findings to other settings; for prediction; and for causal explanation of relationships through deduction. In this study, I aimed to explain the cause-effect relationship between employment creation and FDI through reduced corporation tax. The quantitative research tradition allows for an objective analysis of the variables under study (Yilmaz, 2013). The purpose of this study was to, therefore, present an objective explanation of the relationship among the variables under observation.

Specifically, I applied a time series design, which is a quasi-experimental model for program evaluation or policy impact. The estimation technique that was used is the multiple linear regression analysis. The rationale for the selection of the multiple linear regression analysis was that it is an appropriate method for concurrently estimating the effects of many variables (Schroeder et al., 2018). This study had five variables. The multiple linear regression analysis method was adequate to estimate the effects of the four independent variables—tax incentives, GDP, human capital, and FDI—on the dependent variable, the employment rate. The RQs and null and hypotheses of this study were as follows:

RQ1: What is the impact of tax incentives on FDI and employment creation in Botswana?

$H_01$ : There is no impact of tax incentives on FDI and/or employment creation in Botswana.

$H_a1$ : There is an impact of tax incentives on FDI and/or employment creation in Botswana.

RQ2: What is the mediating role of FDI in tax incentives and employment creation in Botswana?

$H_02$ : FDI plays no role mediating role in tax incentives and employment creation in Botswana.

$H_a2$ : FDI plays a mediating role in tax incentives and employment creation in Botswana.



## **Methodology**

### **Population**

For the population of the study, I selected the country Botswana. I used secondary data to assess the impact of tax incentives on FDI and employment in two critical sectors, mining and tourism in Botswana. I applied secondary data on the corporate tax rate, FDI, employment in the mining and tourism sectors, GDP, and human capital over the period 1989 to 2021 to address the RQs under study.

### **Procedures for Recruitment, Participation, and Data Collection**

I used secondary data on the corporate tax rate, FDI, employment in the mining and tourism sectors in Botswana, GDP, and human capital derived from the Government of Botswana, Statistics Botswana, Bank of Botswana, the IMF, the World Bank, WTTC, and World Tourism Organization. All these data sources are open to the public and there are no restrictions nor special requirements for accessing the data. The selected data sources are also highly reputable and internationally acceptable. I used annual data covering the period from 1989 to 2021 (see Appendix). Although data for FDI and corporate tax were available before 1995, data on employment in the tourism sector were only available from 1995. For the period 1989 to 1994, I used a proxy for employment in the tourism sector.

Corporate income tax data were available from the Government of Botswana, specifically from policy statements on the prevailing rate. I sourced the data on FDI inflows for Botswana from the World Bank Data portal at <https://data.worldbank.org> and

were downloaded in Microsoft Excel. I used employment in the hotel and restaurants sector as a proxy for employment in the tourism sector and the data were sourced from the Statistics Botswana Data portal at <https://statsbots.org.bw> and the International Monetary Fund Data portal <https://imf.org>. Employment data in the mining sector included figures for quarrying and was sourced from the Statistics Botswana Data portal and IMF Data portal. GDP data were also obtained from the Statistics Botswana Data portal, while data on human capital, proxied by the human development index, were sourced from the World Bank Data portal.

### **Sampling and Sampling Procedures**

I did not develop a sampling plan since there were no subjects to interview. The choice of country for the study was Botswana. The length of time-series selected was 1989 to 2021 for the five variables that were studied, corporate tax rate, FDI, GDP, human capital, and employment in the tourism sector. All final data for the variables were available. I used existing secondary data from publicly available sources. Specifically, I collected time series data for employment in the tourism sector, corporate tax, GDP, human capital, and FDI in Botswana from 1989 to 2021 for the study.

### ***Data Cleaning and Screening***

No data cleaning was required because the data were from reputable sources and had undergone various data collection methods, including cleaning and screening. There were no missing values in the data. I used SPSS to depict the variables in histograms for a visual display and inspected them for any missing data. I checked the data for normality, randomness of the error term, homoscedasticity, autocorrelation, and multicollinearity

using scatterplots, the Durbin-Watson statistics, and correlation analysis. The data were in violation of some of the assumptions, and I transformed the data into first differences.

### **Instrumentation and Operationalization of Constructs**

#### ***Variables***

I used the employment rate as the dependent variable and two variables—tax incentives and FDI—as the main independent variables. The other independent variables that were added to the model are real GDP growth rate and human capital, which are some of the additional determinants of employment. The employment rate was measured in the mining and tourism sectors separately to run two regressions. I also investigated the mediating role of FDI in tax incentives and employment. Tax incentives are expected to lead to an increase in FDI and, therefore, to employment.

#### ***Operationalization of Constructs***

**Employment Rate.** The employment rate was measured as a percentage of the total employment. The first regression used the employment rate in the mining sector and the second regression measured the employment rate in the tourism sector. The tourism sector used the hotel and restaurants sector as a proxy and the mining sector included quarrying since the sectors are classified that way by Statistics Botswana.

**Tax Incentives.** Tax incentives were proxied by the corporate tax rate that the Government of Botswana applies to the manufacturing, mining, and financial sectors and was measured as a percentage per annum. Tax rates are indicated as a percentage annually. For the regression analysis, the tax incentive will be introduced in the model as

a dummy variable, taking the value 0 prior to the introduction of the incentive from 1990 to 1994, and taking the value 1 from 1995 to 2021.

**Foreign Direct Investment.** FDI was measured as a percentage of GDP annually.

**Gross Domestic Product.** The real GDP annual growth rate is a major determinant of employment in the economy.

**Human Capital.** Human capital, proxied by the human development index (HDI), is a major determinant of employment.

### ***Hypotheses***

I tested the following null and alternative hypotheses:

$H_01$ : There is no impact of tax incentives on FDI and/or employment creation in Botswana.

$H_{a1}$ : There is an impact of tax incentives on FDI and/or employment creation in Botswana.

$H_02$ : FDI plays no role mediating role in tax incentives and employment creation in Botswana.

$H_{a2}$ : FDI plays a mediating role in tax incentives and employment creation in Botswana.

### ***Method***

Awolusi et al. (2017) used multiple linear regression analysis, in particular the Ordinary Least Squares method, to analyze the impact of FDI on economic growth in Central African Republic, Egypt, Kenya, Nigeria, and South Africa using data from 1980

to 2014. Their study was premised on a modified growth model employed by Agrawal et al. (2011) and was specified as follows:

$$Y = f(K, L, FDI, H, ITT)$$

with the multiple linear regression equation specified as follows:

$$Y_{i,t} = \beta_0 + \beta_1 K_{i,t} + \beta_2 L_{i,t} + \beta_3 FDI_{i,t} + \beta_4 H_{i,t} + \beta_5 ITT_{i,t} + \mu_i + \varepsilon_{i,t}$$

where

Y = gross domestic product

K = Gross Capital Formation

L = labor force

FDI = foreign direct investment

H = human capital

ITT = international technology transfer

$\beta_0$  = TFP

$\mu_i$  = country specific effects

$\varepsilon_{i,t}$  = the error term.

For this study, I applied the Awolusi et al. (2017) model with some modifications to take into account the Keynesian theory of growth. Two models were run with employment in the mining and tourism sectors as the dependent variables modelled against corporate tax and FDI in Botswana. Running two models in the two sectors was meant to determine where tax incentives are most effective for creating employment. I applied a dummy to represent the tax incentive from 1995 to 2021 and no tax incentive from 1990 to 1994 to determine the impact on FDI and employment in the mining and

tourism sectors. Specifically, I applied the tax used to incentivize firms in the mining, manufacturing and financial services sectors to determine the effect of a lower tax on FDI and employment in the mining and tourism sectors. The model specification was:

$$LM = f(T, FDI, GDP, H) \text{ and}$$

$$LT = f(T, FDI, GDP, H)$$

with the multiple linear regressions specified as:

$$LM_{i,t} = \beta_0 + \beta_1 T_{i,t} + \beta_2 FDI_{i,t} + \beta_3 GDP_{i,t} + \beta_4 H_{i,t} + \varepsilon_{i,t}$$

$$LT_{i,t} = \beta_0 + \beta_1 T_{i,t} + \beta_2 FDI_{i,t} + \beta_3 GDP_{i,t} + \beta_4 H_{i,t} + \varepsilon_{i,t}$$

where:

LM = employment in the mining sector

LT = employment in the tourism sector

T = tax incentives, proxied by corporate tax rate in the mining, manufacturing and financial services sectors, and introduced as a dummy variable (0=no incentive; 1=tax incentive)

FDI = foreign direct investment

GDP = real gross domestic product growth rate

H = human capital, proxied by the Human Development Index (HDI)

$\varepsilon_{i,t}$  = the error term

In the first regression, employment in the mining sector, the dependent variable, was modelled against four independent variables, tax incentives, FDI, GDP, and human capital. In the second regression, employment in the tourism sector as the dependent variable was modelled against tax incentives, FDI, GDP, and human capital as the

independent variables. I also investigated the mediating role of FDI in tax incentives and employment.

### **Data Analysis Plan**

I used the SPSS software for the data analysis since it is suitable for multiple linear regression analysis. SPSS is a statistical package that has the ability to analyze large data sets with ease (Rahman et al., 2021). SPSS allows for the easy exportation of data from other programs such as Microsoft Excel. After inputting the data into Microsoft Excel, I exported it to SPSS for analysis.

### **Descriptive Statistics**

The data were tabulated for easy presentation. The data were presented in graphs, specifically histograms, to check for normality. O'Sullivan et al. (2017) suggested that it was important to visually analyze data to note any points of divergence and identify patterns. As discussed in O'Sullivan et al., the types of variations to observe in time-series analysis are long-term, cyclical, seasonal, and irregular variations. Long-term trends are observed as upward or downward movements in the data over many years. Cyclical variations are recurring changes that are observed within a long-term trend, with cycles lasting between 1 and 5 years. Seasonal variations are observed when some phenomena occur seasonally. Irregular variations are changes that cannot be associated with any trends or variations.

### **Measures of Central Tendency**

Following the data presentation on graphs, the mean, median, mode, variance, and standard deviation were calculated. The mean of a population is expected to remain

constant from sample to sample. The mean of the error term is expected to be 0 at all times, while the variance is expected to be 0 with a normal distribution (Koutsoyiannis, 1977).

### **Methods of Statistical Evaluation**

To test the hypotheses, I used the correlation coefficient and the standard error of the estimates. According to Koutsoyiannis (1977), the standard error test is the most appropriate for testing the significance of parameter estimates, normally as a two-tail test at the 5% level of significance (p.123). Koutsoyiannis further purported that smaller standard errors implied the statistical significance of the estimates. The correlation coefficient, on the other hand, measures the extent to which the changes in the dependent variable are determined by the changes in the independent variables (Koutsoyiannis, 1977). To test for the overall significance of the model, I computed the F-statistic at the 5% level of significance. If  $F^* > F$ , where  $F^*$  is the computed F-statistic and  $F$  is the theoretical F-statistic, the null hypothesis is rejected. If  $F^* < F$ , the null hypothesis is accepted.

### **Mediation Analysis**

I also tested for the mediating role of FDI in tax incentives and employment using SPSS. According to Warner (2013), mediation in regression analysis is used to determine the influence of one causal variable on a dependent variable through another variable. In the study model, I expected FDI to affect employment through tax incentives and I studied that effect to confirm the relationship. The test for the significance of the model was the same method as for the multiple linear regression analysis.



### **Assumptions of Time Series Data**

However, before running the regressions, I checked the model for the fulfillment of the assumptions of time series data. Some of the assumptions underlying time series data, particularly in reference to the error term, are outlined by Koutsoyiannis (1977) and O'Sullivan et al. (2017). It is to be recalled that the purpose of the error term in a regression is to take into account the errors in the relationship between the dependent and independent variables (Koutsoyiannis, 1977). These errors include: i) omission of other variables that may influence the dependent variable from the model; ii) unpredictable human patterns of behavior, iii) imperfect model specification; iv) errors of aggregation; and v) errors of measurement (Koutsoyiannis, 1977).

The first assumption concerns the randomness of the error term. The errors of measurement of the dependent variable should not exhibit a pattern (Koutsoyiannis, 1977). The second assumption is that of the 0 mean of the error term, where all the error terms drawn from a population are either positive, negative, or 0, and add up to 0. According to Koutsoyiannis, the assumption of a 0 mean is aimed at satisfying the algebraic rules regarding economic phenomena to ensure a good fit of the true line. The first two assumptions about the error term do not have any formal test but should be determined a priori.

The assumption of homoscedasticity is the third one and assumes constant variance of the error term for all values of the explanatory variable. A violation of the assumption of homoscedasticity implies that significance tests and confidence intervals cannot be conducted and the prediction of the regression would be inefficient

(Koutsoyiannis, 1977). I used scatterplots to observe the pattern of the dispersion of the error terms around the regression line. According to Koutsoyiannis, constant distance of the error terms around the regression line indicated homoscedasticity while increasing or decreasing variations indicated heteroscedasticity. The solution to heteroscedasticity is to transform the model to obtain constant variance of the error term (Koutsoyiannis, 1977).

One critical assumption that ought to be satisfied is testing for autocorrelation in the residual term to avoid errors in the regression analysis. According to O'Sullivan et al. (2017), testing for autocorrelation in the residual term is an important step before analyzing time series data. O'Sullivan defined autocorrelation as the nonrandom relationship observed in a variable over time. Autocorrelation presents biases in statistical significance tests, leading to inaccurate results (O'Sullivan et al., 2017). I tested for autocorrelation in the model using scatter diagrams and plotting the residuals against their lagged values as suggested by Koutsoyiannis (1977). Also, I applied the Durbin-Watson (DW) test for a more accurate prediction of autocorrelation in the model. Koutsoyiannis indicated that the DW test was appropriate for small samples. Since the model had only 32 series, the DW test was the appropriate test to apply. Koutsoyiannis outlined the steps for undertaking a DW test and that is the procedure that I followed in this study. Siyanbola et al. (2017) applied the DW test to check for autocorrelation in their sample size of 4 years.

I tested the null hypothesis that the error terms were not correlated at first-order against the alternative hypothesis that the error terms were correlated at first order. I applied the DW-statistic,  $d$ , with a value between 0 and 4, to test the null hypothesis. The

DW –statistic is interpreted as follows: if  $d \approx 2$ , there is no autocorrelation, if  $d = 0$ , there is perfect positive autocorrelation, and if  $d = 4$ , there is perfect negative autocorrelation. I used the sample error terms to compute the empirical value of the DW-statistic,  $d^*$ , and compared the result with the theoretical values of  $d$ , being the values that provide the critical values of the DW test at the upper,  $d_u$ , and lower,  $d_L$ , levels at the 5% level of significance (Koutsoyiannis, 1977). The interpretation is as follows: if  $d^* < d_u$  or  $d^* > (4 - d_u)$ , reject the null hypothesis of no autocorrelation, and if  $d_u < d^* < (4 - d_u)$ , accept the null hypothesis of no autocorrelation.

If autocorrelation is detected in the model, the necessary remedial steps should be taken as suggested by Koutsoyiannis (1977). If the autocorrelation is caused by omitted variables, the missing variables should be identified and added. If it is misspecification of the mathematical form of the regression, the model should be transformed to logarithms or any other appropriate form.

Additionally, the assumption of multicollinearity is crucial in conducting regression analysis. It is important to determine the presence of linear or near linear relationships among the independent variables (Koutsoyiannis, 1977). If there is perfect multicollinearity between the explanatory variables, the estimates of the coefficients are rendered indeterminate and the standard errors of the estimates will be large (Koutsoyiannis, 1977, p. 234). I used the variance inflation factor (VIF) to detect multicollinearity in the regression model. According to Vorosmarty et al. (2020), VIF uses variance to estimate how much the regression coefficient is inflated and it has the advantage of simplicity. There are several corrective measures that can be taken in the

event of multicollinearity, depending on the severity of the effect on the model. If the effect is severe, I should apply extraneous quantitative information or add more time series to the model. Koutsoyiannis (1977) suggested the addition of information to improve a model whose purpose is to estimate the individual coefficients. The threshold for determining multicollinearity was set at 2 as proposed by Vorosmarty et al. (2020).

### **Threats to Validity**

Quasi-experimental designs use existing groups to assign subjects to groups and are, therefore, subject to several threats to validity (Office of Research & Doctoral Services, 2015). When conducting an experimental or quasi-experimental research, it is important to evaluate the threats to validity, including internal and external validity.

#### **Internal Validity**

Internal validity relates to the steps taken to ensure that the outcome of the research is a result of the manipulation of the independent variables and that the effects of other external variables are duly eliminated (Laher, 2016). Some of the threats to internal validity that might be applicable to this study are history and instrumentation.

#### ***History***

Other unrelated events may occur simultaneously with independent variables and cause changes in the dependent variable, posing a threat to the internal validity of the model (Onwuegbuzie, 2000). The threat of history can be eliminated by undertaking a thorough review of the literature to determine the events that might have occurred and had an impact on the dependent variable. Accordingly, I reviewed the literature thoroughly to ensure that the relevant independent variables were included in the

regression analysis. I also acknowledged other independent variables that have an effect on the dependent variable that were excluded from the model. To that end, I carried out tests for the assumptions underlying regression analysis to ensure that the model was rigorous.

### ***Instrumentation***

Onwuegbuzie (2000) explained that the threat of instrumentation to internal validity was the inconsistency of scores from a measure as a result of the inconsistent scoring or observation of data in various situations. In this study, to ensure consistency in the observed scores, I collected data from reputable sources that apply standardized and harmonized measures of statistics.

### **External Validity**

External validity refers to the process of generalizing the results of the study to other circumstances or point in time, usually as a result of a small sample size (Babbie, 2014). According to Laher (2016), external validity implies generalizing study results across people, settings, and times, and is referred to as population validity, ecological validity, and temporal validity, respectively. Since the sample size in this study had just over 30 observations, one of the recommendations would be for other researchers to replicate the study in other jurisdictions.

### **Ethical Procedures**

The study involved carrying out quantitative research that applied archival data from governmental and international sources. Since the research did not include human participants, there was no need for agreements and permissions for access. The ethical

considerations regarding this study were quite limited. The data that I used for the study were publicly available online. However, I followed the relevant procedures to obtain permission from the Institutional Review Board to undertake the study.

### **Summary**

In this chapter, I outlined the research design that I used in the study and how it was relevant for responding to the RQs. I applied multiple linear regression analysis to time series data from 1989 to 2021 to determine the impact of targeted tax incentives on employment creation in Botswana using evidence from the mining and tourism sectors in Botswana. I also determined the mediating role of FDI in tax incentives and employment using SPSS. I outlined the data analysis plan, highlighting that the correlation coefficient and the standard error of estimates were used to test the hypotheses of the regression model. I further set out the assumptions of regressions and how tests were carried out and correction effected for in the model for violation of the assumptions. I outlined the threats to validity that are inherent in quasi-experimental research and concluded by stating the ethical procedures that were followed in undertaking the study. In Chapter 4, I undertook the tests outlined in Chapter 3 and presented the study results.

## Chapter 4: Results

### Introduction

The purpose of this quantitative study was to determine the impact of tax incentives on FDI and employment creation in Botswana, using evidence from the mining and tourism sectors. The RQs and hypotheses were:

RQ1: What is the impact of tax incentives on FDI and employment creation in Botswana?

$H_01$ : There is no impact of tax incentives on FDI and/or employment creation in Botswana.

$H_{a1}$ : There is an impact of tax incentives on FDI and/or employment creation in Botswana.

RQ2: What is the mediating role of FDI in tax incentives and employment creation in Botswana?

$H_02$ : FDI plays no role mediating role in tax incentives and employment creation in Botswana.

$H_{a2}$ : FDI plays a mediating role in tax incentives and employment creation in Botswana.

In the rest of this chapter, I presented the data collection plan and reported the results of the data analysis according to the various RQs and hypotheses, including presenting the descriptive statistics. I concluded by summarizing the results section.

### Data Collection

My main data sources were the Government of Botswana, Statistics Botswana, Bank of Botswana, the IMF Data Portal, and the World Development Indicators from the World Bank. Statistics Botswana data linked to Open Data for Africa, which provided data on the HDI. I collected data from 1989 to 2021. Table 1 summarizes the data sources for all the variables.

**Table 1**

#### *Data Sources*

Variable	Definition	Data source
LM	Employment rate in the mining sector as a percentage of total employment	Statistics Botswana
LT	Employment rate in the tourism sector as a percentage of total employment	Statistics Botswana
T	Corporate tax rate offered in the incentivized sectors, included in the model as a dummy variable taking the value 0 from 1990 to 1994, and the value 1 from 1995 onwards.	Government of Botswana, various publications
GDP	Annual percentage growth rate	World Development Indicators, World Bank
FDI	Net inflows of foreign direct investment as a percentage of GDP	World Development Indicators, World Bank
H	Human Development Index	Our World in Data

### Data Analysis

I depicted the data in histograms on SPSS and ran the descriptive statistics, including the number of observations, and minimum and maximum values, to check for completeness and missing values. I also used the histograms to check for normality of the variables. I further used the Shapiro-Wilk Test to confirm the normality of the data. I used scatterplots and correlation analysis to observe the relationship between the



variables, including testing for randomness of the error term, homoscedasticity, autocorrelation, and multicollinearity.

## Results

Table 2 presents the descriptive statistics of the variables, including the mean, standard deviation, skewness, and kurtosis. The values for skewness lie between -2 and 0. Although the data were slightly skewed, with larger values dominating the data set, the results were acceptable. The kurtosis results, however, indicated that the GDP and FDI were higher than 3 but acceptable as normal distributions, while employment in the mining and tourism sectors and H were all found to be normally distributed.

**Table 2**

### *Descriptive Statistics*

Statistic	Variable					
	LM	LT	T	GDP	FDI	H
Minimum	1.3	3.4	0	-14.1	-6.9	.578
Maximum	3.9	5.1	1	11.4	7.5	.722
<i>M</i>	3.044	4.356	.84	4.066	1.853	.634
<i>SD</i>	.6355	.4008	.369	5.459	2.482	.534
Skewness	-1.122	-.205	-1.988	-1.594	-.828	.464
Kurtosis	1.068	-.018	2.078	3.393	4.396	-1.513
Observations	32	32	32	32	32	32

I then presented the data in graphs for a visual appreciation and to determine the trends over time. Figure 4 presents all the graphs for employment in the mining sector, employment in the tourism sector, GDP growth, FDI, and H.

**Figure 4***Bar Graphs of Data, 1990–2021*

To confirm the distribution of the data, I ran the normality tests on SPSS. The Shapiro-Wilk test is more appropriate for small samples. My population contained 32 cases, therefore, I relied on the Shapiro-Wilk test for the normality test. The results are presented in Table 3. The test results indicated that employment in the tourism sector was

normally distributed while all other variable deviated from a normal distribution at 5% significance level.

**Table 3**

*Shapiro-Wilk Test Results*

Statistic	Variable					
	LM	LT	T	GDP	FDI	H
Shapiro-Wilk statistic	.905	.969	.438	.872	.886	.821
<i>df</i>	32	32	32	32	32	32
<i>p</i>	.008	.475	<.001	.001	.003	<.001

To ensure a normal distribution for all the variables, I transformed all the variables, apart from employment in the tourism sector, into first differences. I re-ran the normality tests for all the transformed variables and employment in the tourism sector.

The results are presented in Table 4.

**Table 4**

*Shapiro-Wilk Test Results for the Transformed Data*

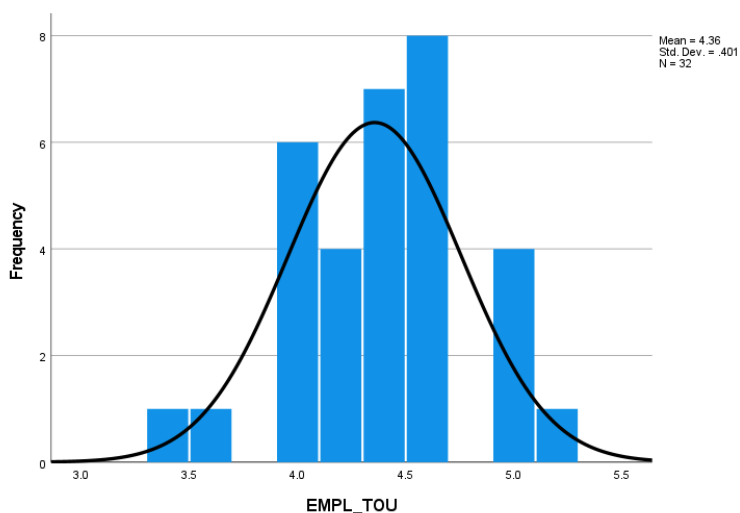
Statistic	Variable					
	LT	T	LM_DIFF	GDP_DIFF	FDI_DIFF	H_DIFF
Shapiro-Wilk statistic	.969	.438	.973	.945	.837	.937
<i>df</i>	32	32	32	32	32	32
<i>p</i>	.475	<.001	.578	.104	<.001	.063

All the variables attained normality following the transformation except for FDI. I did not remove FDI from the variables used in the analysis, given its importance and significance to respond to the RQs. I conducted the descriptive analysis of the transformed data as presented in Table 5.

**Table 5***Descriptive Statistics for the Transformed Data*

Statistic	Variable					
	LT	LM_DIFF	T	GDP_DIFF	FDI_DIFF	H_DIFF
Minimum	3.4	-1.0	0	-17.4	-6.9	-.020
Maximum	5.1	.7	1	24.2	6.9	.014
<i>M</i>	4.356	-.063	.84	.209	-.033	.003
<i>SD</i>	.4008	.3757	.369	8.602	2.417	.007
Skewness	-.205	-.414	-1.98	.833	.668	-.961
Kurtosis	-.018	.441	2.07	1.519	4.363	1.894
Observations	32	32	32	32	32	32

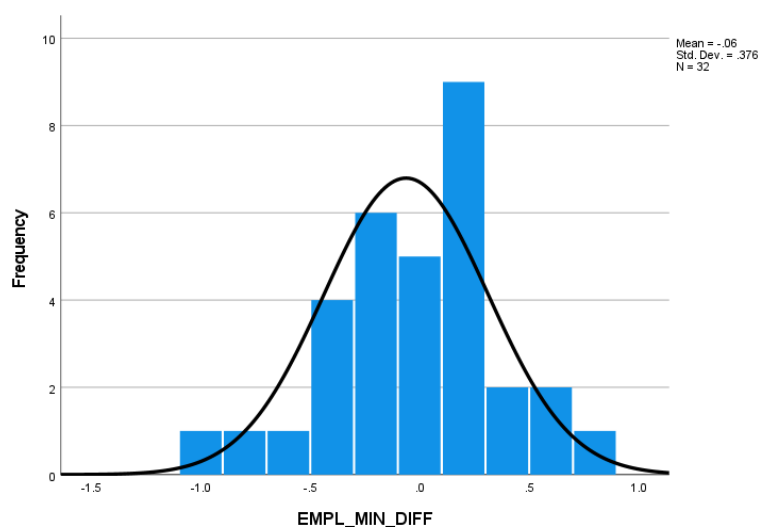
The Kurtosis results showed an improvement, with only FDI (1) indicating a value larger than 2. To confirm the normality assumption and for a visual presentation, I plotted all the variables on graphs. Figure 5 is a normality graph for employment in the tourism sector.

**Figure 5***Histogram of Employment in the Tourism Sector*

The graph in Figure 5 indicates that employment in the tourism sector was normally distributed. Figures 6 and 7, the histograms presenting the data at first difference for employment in the mining sector and GDP, respectively, indicate normal distributions. The histogram for H at first difference, represented in Figure 9, is slightly right skewed but acceptable. For FDI at first differences, in Figure 8, the curve depicts a distribution that is not normal.

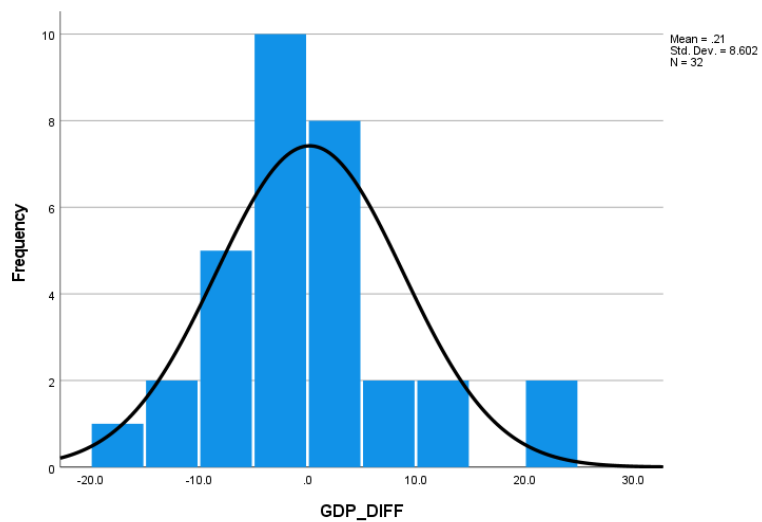
**Figure 6**

*Histogram of LM\_DIFF*

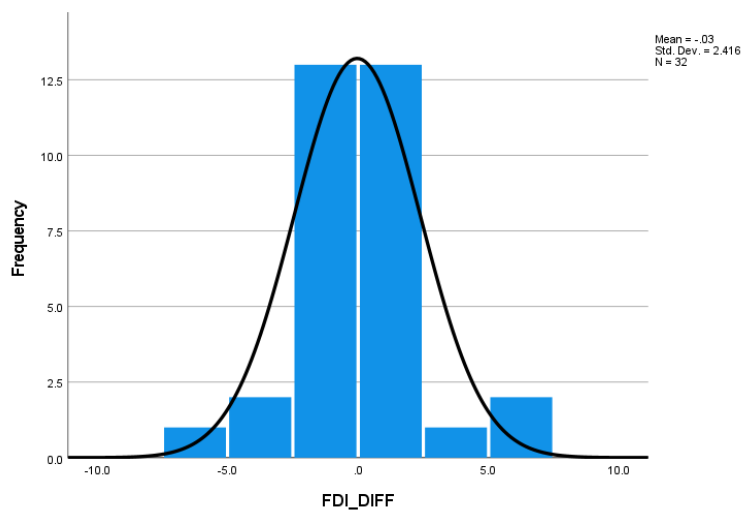


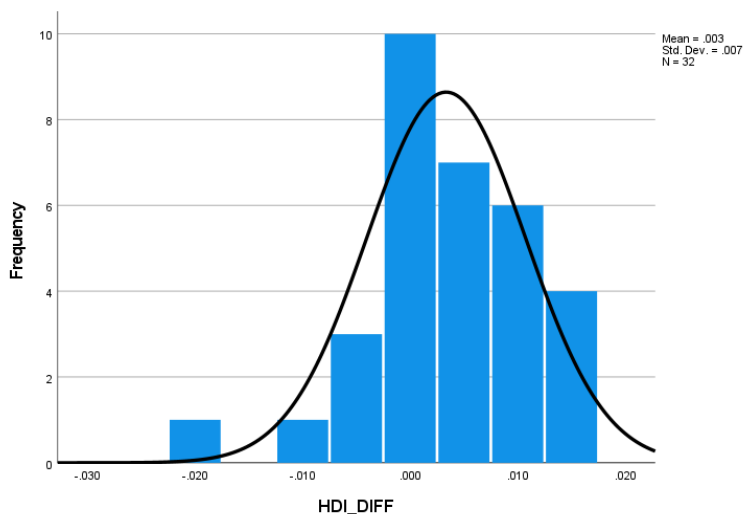
**Figure 7**

*Histogram of Gross Domestic Product (GDP)*

**Figure 8**

*Histogram of FDI\_DIFF*



**Figure 9***Histogram of H\_DIFF*

With these visual presentations of the transformed data, I proceeded to check the data for multicollinearity, an important assumption in regression analysis. I ran the Pearson Correlation to check for the assumption of linearity.

**Table 6***Pearson Correlations*

	LT	LM_DIFF	T	GDP	DIFF	FDI_DIFF	H_DIFF
LT	Pearson <i>r</i>	1	.219	.236	-.030	.014	.534**
	<i>p</i> (2-tailed)		.228	.194	.872	.939	.002
	<i>N</i>	32	32	32	32	32	32
LM_DIFF	Pearson <i>r</i>	.219	1	.137	.230	-.008	-.078
	<i>p</i> (2-tailed)	.228		.455	.205	.963	.671
	<i>N</i>	32	32	32	32	32	32
T	Pearson <i>r</i>	.236	.137	1	.017	.055	.293
	<i>p</i> (2-tailed)	.194	.455		.928	.764	.104
	<i>N</i>	32	32	32	32	32	32
GDP_DIFF	Pearson <i>r</i>	-.030	.230	.017	1	.208	-.060
F	<i>p</i> (2-tailed)	.872	.205	.928		.253	.743
	<i>N</i>	32	32	32	32	32	32
FDI_DIFF	Pearson <i>r</i>	.014	-.008	.055	.208	1	-.235

	<i>p</i> (2-tailed)	.939	.963	.764	.253		.195
	<i>N</i>	32	32	32	32	32	32
H_DIFF	Pearson <i>r</i>	.534**	-.078	.293	-.060	-.235	1
	<i>p</i> (2-tailed)	.002	.671	.104	.743	.195	
	<i>N</i>	32	32	32	32	32	32

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 6 presents the Pearson correlation results. The results indicated a weak negative correlation between employment in the tourism sector and GDP, a weak positive correlation between employment in the tourism sector and FDI, and a moderate positive correlation between employment in the tourism sector and H. The results also indicated a weak positive correlation between employment in the mining sector and GDP, and both FDI and H had a weak negative correlation with employment in the mining sector. Only the correlation between employment in the tourism sector and H was significant at .002.

To further check for the linearity assumption, I produced scatterplots of the residuals. Figure 10 presents the scatterplot for the residuals of employment in the mining sector and indicates that the assumption of homoscedasticity is met.



**Figure 10**

*Scatterplot of Employment in the Mining Sector*

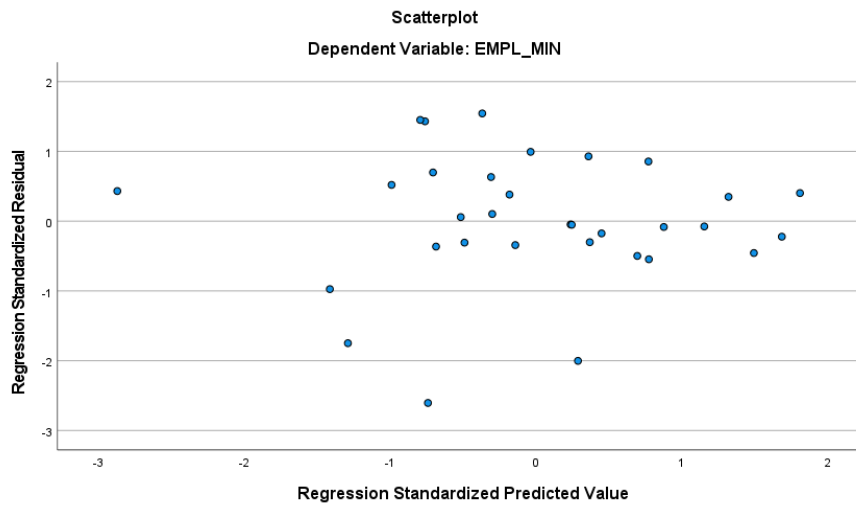
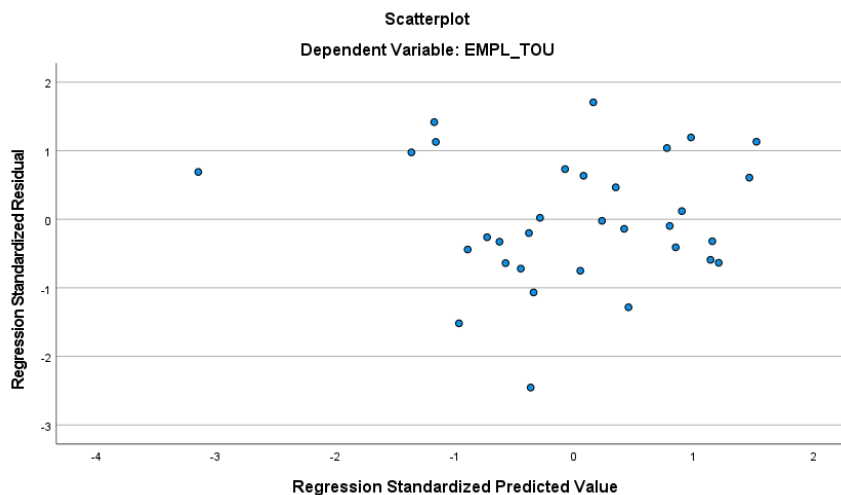


Figure 11 shows the residuals for employment in the tourism sector and that the assumption of homoscedasticity is met. I tested for multicollinearity by using the VIF in SPSS. The VIF values for employment in the tourism sector as the dependent variable and GDP, FDI, and H as the independent variable are all slightly above 1, indicating moderate correlation between the dependent and independent variables. The results are presented in Table 7.

**Figure 11***Scatterplot of Employment in the Tourism Sector***Table 7***Coefficients (LT)*

Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	Collinearity statistic	
		<i>B</i>	SE	$\beta$			Tolerance	VIF
1	(Constant)	4.254	.069		61.986	<.001		
	GDP_DIF	-.001	.007	-.027	-.169	.867	.957	1.045
	F							
	FDI_DIFF	.025	.027	.153	.929	.361	.907	1.103
	H_DIFF	30.833	8.788	.568	3.509	.002	.944	1.059

*Note.* The dependent variable was LT.

Using employment in the mining sector as the dependent variable and GDP, FDI, and H as the independent variables also produced VIF values slightly more than 1, indicating moderate correlation between the variables (see Table 8).

**Table 8***Coefficients (LM\_DIFF)*

Model		Coefficients <sup>a</sup>				Collinearity statistics		
		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	Tolerance	VIF
		<i>B</i>	<i>SE</i>	$\beta$				
1	(Constant)	-.051	.075		-.685	.499		
	GDP_DIF	.011	.008	.241	1.290	.208	.957	1.045
	F							
	FDI_DIF	-.012	.030	-.078	-.406	.688	.907	1.103
	F							
	H_DIFF	-4.162	9.576	-.082	-.435	.667	.944	1.059

<sup>a</sup> The dependent variable was LM\_DIFF.

### Analyses and Results for Research Questions 1 and 2

After conducting all the tests to check for the fulfillment of the assumptions of time series data, I ran the regressions to address RQs 1 and 2. RQ1 was, What is the impact of tax incentives on FDI and employment creation in Botswana? To answer the question, I ran two regressions. In the first regression, I modelled employment in the mining sector, the dependent variable, against tax incentives, GDP, FDI, and H. In the second regression, I used employment in the tourism sector as the dependent variable, with tax incentives, GDP, FDI, and H as the independent variables.

I examined the relationship between employment in the mining sector as the dependent variable and tax incentives, FDI, GDP, and H as the independent variables. Table 9 presents the model summary. The DW-statistic, at 1.769, indicated that there was no autocorrelation in the model. The  $R^2$  of .091 indicates that the independent variables caused about 9% of the changes in the dependent variable.

$$LM_{i,t} = \beta_0 + \beta_1 T_{i,t} + \beta_2 FDI_{i,t} + \beta_3 GDP_{i,t} + \beta_4 H_{i,t} + \varepsilon_{i,t}$$

**Table 9***Model Summary (LM\_DIFF)*

Model summary <sup>a</sup>					
Model	<i>R</i>	<i>R</i> <sup>2</sup>	Adjusted <i>R</i> <sup>2</sup>	<i>SE</i> estimate	Durbin-Watson
1	.302 <sup>b</sup>	.091	-.043	.3837	1.769

<sup>a</sup> The dependent variable was LM\_DIFF.

<sup>b</sup> The predictors: (constant) were H\_DIFF, GDP\_DIFF, T, and FDI\_DIFF.

Table 10 presents the analysis of variance. The F-statistic was .679, and the model was insignificant at .613. My null hypothesis was that there is no impact of tax incentives on FDI and/or employment creation in Botswana and my alternative hypothesis was that there is an impact of tax incentives on FDI and/or employment creation in Botswana. Since the F-statistic was found to be insignificant, I accepted the null hypothesis that there is no impact of tax incentives on FDI and/or employment creation in Botswana.

**Table 10***Analysis of Variance (LM\_DIFF)*

ANOVA <sup>a</sup>						
Model		<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p.</i>
1	Regression	.400	4	.100	.679	.613 <sup>b</sup>
	Residual	3.975	27	.147		
	Total	4.375	31			

a. The dependent variable was LM\_DIFF.

b. The predictors: (constant) were H\_DIFF, GDP\_DIFF, T, and FDI\_DIFF.

**Table 11***Coefficients (LM\_DIFF)*

Model	Coefficients <sup>a</sup>						Collinearity statistics	
	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>	Tolerance	VIF	
	<i>B</i>	<i>SE</i>	$\beta$					
1 (Constant)	-.195	.173		-1.131	.268			
T	.183	.197	.179	.926	.363	.898	1.114	
GDP_DIFF	.010	.008	.240	1.277	.212	.956	1.046	
FDI_DIFF	-.016	.030	-.101	-.521	.607	.892	1.121	
H_DIFF	-7.114	10.116	-.140	-.703	.488	.851	1.175	

<sup>a</sup> The dependent variable was LM\_DIFF.

I ran another regression with employment in the tourism sector as the dependent variable and tax incentives, GDP, FDI, and H. Table 12 presents the model summary and the  $R^2$  indicates that 31% of the variations in the dependent variable are caused by the independent variables. The DW-statistic is 1.594, indicating that there is no autocorrelation in the model.

$$LT_{i,t} = \beta_0 + \beta_1 T_{i,t} + \beta_2 FDI_{i,t} + \beta_3 GDP_{i,t} + \beta_4 H_{i,t} + \varepsilon_{i,t}$$

**Table 12***Model Summary (LT)*

Model	<i>R</i>	$R^2$	Model summary <sup>a</sup>		
			Adjusted $R^2$	<i>SE</i> of the estimate	Durbin-Watson
1	.557 <sup>b</sup>	.311	.208	.3566	1.594

<sup>a</sup> The dependent variable was LT.

<sup>b</sup> The predictors: (constant) were H\_DIFF, GDP\_DIFF, T, and FDI\_DIFF.

Table 13 presents the analysis of variance and the model was significant at 5% level of confidence, with the F-statistic at 3.040,  $p = .034$ , which is less than .05, indicating that at least one independent variable was a predictor of LT, employment in the tourism sector.

**Table 13**

*Analysis of Variance (LT)*

		ANOVA <sup>a</sup>				
Model		SS	df	MS	F	p.
1	Regression	1.546	4	.387	3.040	.034 <sup>b</sup>
	Residual	3.433	27	.127		
	Total	4.979	31			

<sup>a</sup> The dependent variable was LT.

<sup>b</sup> The predictors: (constant) were H\_DIFF, GDP\_DIFF, TAX, and FDI\_DIFF.

The coefficients table indicates that only H at first difference was significant at 5%,  $t=3.152$ ,  $p=.004$ , which shows that it was the only variable that explained the variation in employment in the tourism sector. TAX, GDP\_DIFF, and FDI\_DIFF were all insignificant, indicating that they did not cause the variations in the dependent variable.

**Table 14**

*Coefficients (LT)*

		Coefficients <sup>a</sup>					Collinearity statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	p	Tolerance	VIF
		B	SE	$\beta$				
1	(Constant)	4.195	.161		26.111	<.001		
	TAX	.075	.183	.069	.407	.687	.898	1.114
	GDP_DIF	-.001	.008	-.028	-.170	.866	.956	1.046
	F							
	FDI_DIFF	.024	.028	.145	.854	.400	.892	1.121

H_DIFF	29.628	9.400	.546	3.152	.004	.851	1.175
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<sup>a</sup> The dependent variable was LT.

RQ2 was, What is the mediating role of FDI in tax incentives and employment creation in Botswana? To answer the question, I ran mediation analysis firstly for employment in the mining sector as the dependent variable and secondly for employment in the tourism sector as the dependent variable. Because all the variables were previously presented in graphs, I did not repeat that step.

I ran three regressions to (1) predict the dependent variable, LM, from the independent variable, TAX, (2) predict the mediatory variable, FDI, from the causal variable, TAX, and (3) predict the outcome variable, LM, from both TAX and FDI. Table 15 presents the ANOVA for employment in the mining sector and tax incentives. I found the overall significance of tax incentives on employment in the mining sector to be statistically significant at  $F(1,31)=4.331$ ,  $p=.046$ . The overall significance of TAX on FDI was also found to be statistically significant at  $p=.004$  as presented in Table 16.

**Table 15**

*Analysis of Variance (LM)*

		ANOVA <sup>a</sup>				
	Model	SS	df	MS	F	P
1	Regression	1.579	1	1.579	4.331	.046 <sup>b</sup>
	Residual	10.939	30	.365		
	Total	12.519	31			

<sup>a</sup> The dependent variable was LM.

<sup>b</sup> The predictor: (constant) was TAX.

**Table 16***Analysis of Variance (FDI)*

ANOVA <sup>a</sup>						
	Model	SS	df	MS	F	p.
1	Regression	47.565	1	47.565	9.947	.004 <sup>b</sup>
	Residual	143.455	30	4.782		
	Total	191.020	31			

<sup>a</sup> The dependent variable was FDI.

<sup>b</sup> The predictor: (constant) was TAX.

**Table 17***Model Summary (LM)*

Model summary <sup>a</sup>					
Model	R	R <sup>2</sup>	Adjusted R2	SE of the estimate	Durbin-Watson
1	.438 <sup>b</sup>	.192	.136	.5906	.612

<sup>a</sup> The dependent variable was LM.

<sup>b</sup> The predictors: (constant) were FDI and TAX.

**Table 18***Analysis of Variance (LM)*

ANOVA <sup>a</sup>						
	Model	SS	df	MS	F	P
1	Regression	2.402	2	1.201	3.443	.046 <sup>b</sup>
	Residual	10.117	29	.349		
	Total	12.519	31			

<sup>a</sup> The dependent variable was LM.

<sup>b</sup> The predictors: (constant) were FDI and TAX.



The regression for the outcome variable, LM and both TAX and FDI indicates that only TAX was statistically significant at  $p=.014$ , while FDI was insignificant. From the model summary in Table 17,  $R^2=.192$ , indicating that only 19% of the variation in LM was explained by TAX and FDI. The model was significant at  $F(2, 31)=3.443$ ,  $p=.046$ .

I found the overall effect of TAX on LT to be statistically insignificant. However, the results presented in Table 21 showing the unstandardized coefficients for LT as the dependent variable and TAX and FDI as the independent variables indicated that FDI was statistically significant at  $p=.018$ . The model summary (see Table 19) shows that  $R^2=.223$ , indicating that 22% of the variations in the dependent variables were explained by the independent variables. The ANOVA, presented in Table 20 shows that the model was significant with  $F(2,31)=4.163$ ,  $p=.026$ .

**Table 19**

*Model Summary (LT)*

Model	<i>R</i>	<i>R</i> <sup>2</sup>	Model summary <sup>a</sup>		
			Adjusted <i>R</i> <sup>2</sup>	<i>SE</i> of the estimate	Durbin-Watson
1	.472 <sup>b</sup>	.223	.169	.3652	1.408

<sup>a</sup> The dependent variable was LT.

<sup>b</sup> The predictors: (constant) were FDI and TAX.

**Table 20**

*Analysis of Variance (LT)*

Model	<i>SS</i>	ANOVA <sup>a</sup>			
		<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>

1	Regression	1.110	2	.555	4.163	.026 <sup>b</sup>
	Residual	3.868	29	.133		
	Total	4.979	31			

<sup>a</sup> The dependent variable was LT.

<sup>b</sup> The predictors: (constant) were FDI and TAX.

**Table 21**

*Coefficients (LT)*

Model		Coefficients <sup>a</sup>						
		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	Collinearity statistics	
		<i>B</i>	<i>SE</i>	$\beta$			Tolerance	VIF
1	(Constant)	4.215	.166		25.383	<.001		
	TAX	.000	.205	.000	.002	.999	.751	1.33
	FDI	.076	.030	.472	2.499	.018	.751	1.33

<sup>a</sup> The dependent variable was LT.

### Findings for Research Question 1

RQ1 concerned the impact of tax incentives on FDI and employment creation in Botswana. The null hypothesis was that there is no impact of tax incentives on FDI and/or employment creation in Botswana. The results for the regression with employment in the mining sector as the dependent variable established that there was no impact of tax incentives on FDI and/or employment creation in Botswana. I, therefore, accepted the null hypothesis that there is no impact of tax incentives on FDI and/or employment creation in Botswana using evidence from the mining sector. However, running a regression with employment in the tourism sector as the dependent variable yielded

different results. The results indicated that there was an impact of tax incentives on FDI and/or employment creation in Botswana. I, therefore, rejected the null hypothesis.

### **Findings for Research Question 2**

RQ2 was aimed at finding out the mediating role of FDI in tax incentives and employment creation in Botswana. For the regression with employment in the mining sector as the dependent variable, tax incentives had an impact on the dependent variable and FDI was found to be insignificant. I, therefore, accepted the null hypothesis that FDI plays no mediating role in tax incentives and employment creation in Botswana using evidence from the mining sector. Using employment in the tourism sector, FDI had an impact on the dependent variable and tax incentives had an impact on FDI. In this regard, I rejected the null hypothesis that FDI plays no mediating role in tax incentives and employment creation in Botswana using evidence from the tourism sector.

### **Summary**

I presented the results of my regression analyses in this chapter. I responded to two RQs using secondary data sourced from the Government of Botswana, Statistics Botswana, Bank of Botswana, IMF, and World Bank and Open Data for Africa. I used multiple regression analysis to respond to RQ1 to investigate the impact of tax incentives on FDI and employment creation in Botswana, using employment in the mining and tourism sectors as the dependent variables. I also ran mediation analysis to test for the mediating role of FDI in tax incentives and employment creation in Botswana, again using employment in the mining and tourism sectors as the independent variables.

The regression results for employment in the mining sector indicated that there was no impact of tax incentives on FDI and/or employment creation in Botswana. Running the regression with employment in the tourism sector as the dependent variable yielded significant results and I accepted the alternative hypothesis that there was an impact of tax incentives on FDI and/or employment creation on Botswana. A thorough investigation, however, indicated that only H caused changes in the dependent variable.

To further understand the relation among the variables, I used mediation analysis to determine the mediating role of tax incentives in FDI and employment creation. The results indicated that tax incentives had an influence on employment in the mining sector, while FDI did not. On the other hand, FDI was found to have a positive effect on employment in the tourism sector. Tax incentives had a positive impact on FDI. Therefore, I concluded that tax incentives had a positive impact on FDI, which in turn had a positive impact on employment in the tourism sector. In the next chapter, I discussed the analysis of my results, and presented the conclusion of the study and made recommendations for further research based on my findings. Finally, I discussed the implications of the study for positive social change.

## Chapter 5: Discussion, Conclusions, and Recommendations

### **Introduction**

The purpose of this quantitative study was to determine the impact of tax incentives on FDI and employment creation in Botswana. I used evidence from the mining and tourism sectors to determine where tax incentives are best suited to attract FDI and subsequently create more employment. The study was motivated by the high unemployment rate in Botswana and the need to find a solution to the challenge. Estimated at 18%, the unemployment rate further results in prevalent poverty and inequality in Botswana (Statistics Botswana, 2018). The national poverty head count ratio was estimated at 16.3% in 2015–2016, while the Gini coefficient of consumption inequality was estimated at .52 (Statistics Botswana, 2018). Tax incentives have primarily been used in the mining and financial sectors in Botswana, and in this study, I set out to determine what impact these might have on employment creation if directed to the tourism sector.

The results indicated that there was no impact of tax incentives applied in the mining sector on FDI and/or employment creation. When applied to the tourism sector, the model was significant. However, the results indicated H was a predictor of employment in the tourism sector. Tax, FDI, and GDP were all not good predictors of the variation in employment in the tourism sector.

### **Interpretation of the Findings**

Studies on the use of tax incentives to attract FDI to influence economic outcomes have been carried out over time. Some studies cited in the literature found a positive

relationship between FDI and economic outcomes, including economic growth and employment creation. For instance, Lawal (2018) found a strong positive relationship between FDI and GDP in Nigeria, similar to findings of a positive relationship between FDI in the agricultural sector and economic growth in Ghana by Awunyo-Vitor et al. (2018). Others found a negligible relationship between FDI and some economic outcomes, suggesting that other policies apart from tax incentives could be used to attract FDI for employment creation. An example is Awolusi et al. (2017), who found a negligible impact of FDI on economic growth in some selected African countries. Multiple regression analysis was with employment in the mining sector as the dependent variable and tax incentives, FDI, GDP, and H as the independent variables. No evidence was found that the independent variables have an influence on the dependent variable. However, using employment in the tourism sector as the dependent variable produced significant results, indicating that there was an impact of tax incentives on FDI and/or employment creation in Botswana. The results showed that H had an influence on the dependent variable, employment in the tourism sector. This finding is consistent with recommendations from other studies for governments to adequately skill their labor forces to generate quality jobs (Basu et al., 2017; Khodeir, 2016). The Government of Botswana (2016) also identified skills development as a key strategy to achieve employment creation.

The study was based on the Keynesian theory of employment, which argues that boosting aggregate demand through government intervention by cutting government expenditure, reducing taxes, or reducing interest rates will result in employment creation.

In this study, I sought to investigate the impact of reducing taxes on employment creation using evidence from the mining and tourism sectors. The regression results for employment in the mining sector indicated that there was no impact of tax incentives on FDI and/or employment creation in Botswana. Running the regression with employment in the tourism sector as the dependent variable yielded significant results, and the null hypothesis was accepted that there was an impact of tax incentives on FDI and/or employment creation on Botswana. However, only H was found to be significant in the model. I also carried out mediation analysis to further understand the relationship among the variables. The results indicated that tax incentives had an influence on employment in the mining sector, while FDI did not. On the other hand, FDI was found to have a positive effect on employment in the tourism sector. Tax incentives had a positive impact on FDI. Therefore, I concluded that tax incentives have a positive impact on FDI, which in turn have a positive impact on employment in the tourism sector. The results disconfirmed the null hypothesis that FDI plays no mediating role in tax incentives and employment creation in Botswana. The findings from my study are consistent with the Keynesian theory of employment that reducing taxes has a positive effect on employment creation.

### **Limitations of the Study**

I used archival data from various sources, which might have affected the accuracy of the results. Although the data were from reputable sources like the World Bank, IMF, the Government of Botswana, and other sources, I cannot vouch for the accuracy of the data. In addition, proxy data were used for employment in the tourism sector due to

unavailability of the exact data on that variable. FDI flows were also used when the FDI stock might have been a better indicator of FDI. The choice of employment in the tourism sector might also have yielded results that are not consistent with the theory on employment due to the seasonality of the industry. Perhaps the application of tax incentives to the agricultural sector might have yielded more accurate results. Further, multiple regression analysis was used, which is not robust given its linearity assumption that is rarely applicable in real life data.

### **Recommendations**

The results of the study indicated that H positively impacted on employment in the tourism sector. Further, the findings indicated that FDI played a mediating role in tax incentives and employment in the tourism sector. The government should, therefore, invest in skills development for employment creation. The government of Botswana should also consider using tax incentives in the tourism sector to encourage FDI into the sector. Additionally, the government should consider developing policies aimed at attracting domestic investment into the tourism sector to enhance employment creation in that sector.

Future studies should consider examining the impact of tax incentives and FDI on the agricultural sector, which is also labor intensive. Other labor-intensive sectors may also be studied to assess the impact of applying tax incentives to attract FDI in those sectors. Additionally, future studies may use domestic investments as one of the variables. Future studies may also consider using the FDI stock instead of FDI flows. Also, applying other methodologies apart from multiple regression analysis might yield



better results. For instance, the two stage least squares regression analysis might be a better estimation technique considering the interdependence of the variables in this study. Further, other researchers may replicate this study in other jurisdictions.

## **Implications**

### **Implications for Society**

In this study, I focused on the impact of targeting tax incentives to the tourism sector to attract FDI to that sector and enhance job creation. The results of the regression were significant, indicating that there was an impact of tax incentives on FDI and/or employment in the tourism sector. These results are important for the government of Botswana to create employment, with a positive impact on individuals who are employed in the tourism sector, providing a spillover effect into related sectors. The spillover effect may also be felt in the families of the employed individuals who will provide a social safety net for their various families, with an expected overall benefit to society at large through improved social cohesion.

### **Implications for Practice and/Policy**

Policymakers can also benefit from the results of the study by understanding the impact of tax incentives on the tourism sector. Also they can be alerted to the fact that there is need to invest more in education and skills development to create more jobs. The study results further indicated that H had a positive impact in employment in the tourism sector, influenced by the mediating effect of FDI.

## Conclusion

The findings from the study indicated that the model with employment in the mining sector as the dependent variable yielded insignificant results, with tax incentives, GDP, FDI, and H as the independent variables. However, using employment in the tourism sector yielded significant results. Nevertheless, the results with employment in the tourism sector as the dependent variable indicated that only H was the significant variable, suggesting that it drove the increase in employment in the tourism sector. This link between H and employment creation is consistent with the recommendations from Basu et. al (2017), Khodeir (2016), and Magombeyi et. al. (2017) that it was important to adequately skill the labor force to attract investments aimed at generation of decent jobs.

The finding on the mediating role of FDI in tax incentives and employment creation indicated that FDI plays a mediating role in tax incentives and employment in the tourism sector, while no such effect was found for employment in the mining sector. This finding was consistent with Garsous et al. (2017) that targeted tax incentives were effective in creating employment in the tourism sector of the Brazilian Sudene area. However, this result should be interpreted with caution considering that the findings of RQ1 that only H was a significant indicator of employment in the tourism sector. While tax incentives can be used to attract FDI for employment creation in the tourism sector, skills development should be prioritized to create decent jobs. These combined interventions will ensure that the authorities in Botswana are better able to tackle the challenge of persistent unemployment in Botswana, which stood at 23.6% in 2022 (World Bank, n.d.-c).

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