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The impact of foreign direct investment on economic growth in Zimbabwe from (1980-2020)

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DEDICATIONS

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ABSTRACT

This research examines the link between foreign investment (FDI) and economic expansion in Zimbabwe between 1980 and 2020. While some theories propose a positive effect of FDI on development, existing studies show mixed results. Some highlight benefits for both the host country and the investor's home nation, but potential downsides also exist. This study analyzes the impact of FDI on Zimbabwe's economic growth using data from 1980 to 2020. The analysis employs a statistical technique called Ordinary Least Squares (OLS) regression on time-series data, utilizing E Views 7 software. The model investigates how FDI, government spending, and employment levels influence economic growth, measured by Gross Domestic Product (GDP). The results show that all three factors significantly affect economic development. This suggests that FDI plays an important role in supporting Zimbabwe's economic growth path. To achieve long-term economic expansion, effective strategies are needed to create a business environment that attracts investment.

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ABBREVIATIONS

ADF- Augmented Dicky Fuller

BLUE - Best Linear Unbiased Estimator

ESAP - Economic structural Adjustment Programme

FDI- Foreign Direct Investment

GDP- Gross Domestic Product

HDI - human Development Index

IMF- International Monetary Fund

MOFED- Ministry of Finance and Economic Development

OECD- Organisation for Economic Co-operation and Development

SMP- Staff-Monitored Programme

VIF- Variance Inflation Factor

HPG - Humanitarian Policy Group

ICS - Investment Climate Summary

ZIA- Zimbabwe Investment Authority

GMM - Generalized Method of Moments

ARIMA- Autoregressive Integrated Moving Average

CLRM- Classical Linear Regression Model

ICT- Information and Communication Technology

SME's - Small and Medium-sized Enterprises

UNCTAD- United Nations Conference on Trade and Development

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CHAPTER 1

INTRODUCTION

1.0 Introduction

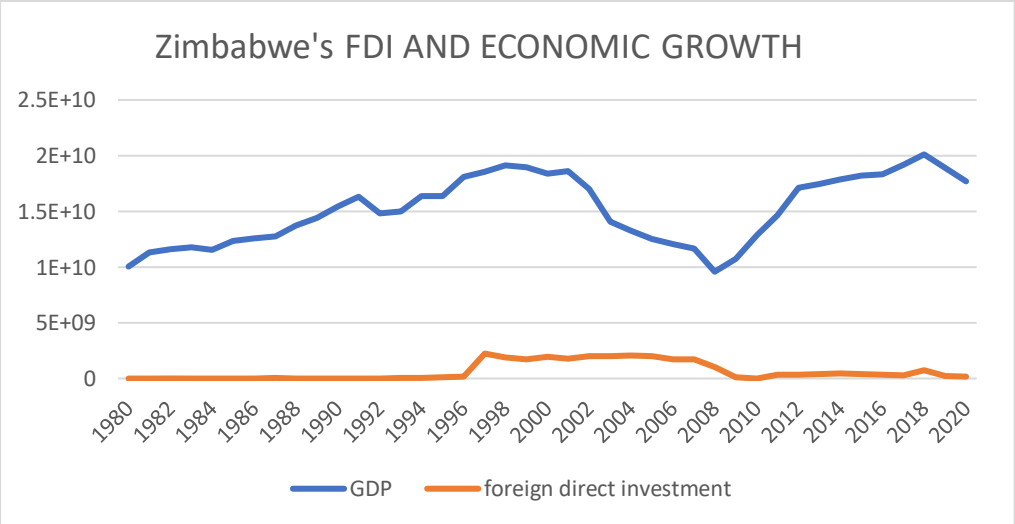
This chapter sets the tone for the investigation by delved into the concept of economic development. Economic growth is typically measured by the inflation-adjusted growth rate of gross domestic product (GDP) per ca-pita, which is defined as a country's continued increase in manufacturing and services output over time (Romer, 2018). Several factors influence this growth, including those related to human capital, natural resources, investment (capital formation), technological advancements, and the social and political landscape. Economic development, the outcome of long-term growth, brings about positive changes like increased employment and national income. Furthermore, economic growth generates tax revenue used by governments to further stimulate the economy. This chapter establishes the study's background, the central issue it addresses, the objectives it aims to achieve, and the study's intended purpose. It also acknowledges any limitations or boundaries inherent to the research.

1.1 Back ground to the study

Foreign direct investment (FDI) involves a significant, long-term investment from a foreign entity into a company operating in another country, granting the investor a substantial level of control (OECD, 2021). Several studies suggest a link between higher FDI and stronger economic growth (e.g., Gwenhamo, 2015). However, in Zimbabwe, FDI inflows remained low from 1980 to 1990 due to policies perceived as unfriendly to foreign investors (Gwenhamo, 2011). Policy shifts towards international investors in the late 1980s coincided with a decline in FDI inflows (Gwenhamo, 2011). Moyo (2013) further argues that government economic policies since 1980, characterized by a trade deficit (where imports outweigh exports), stifled economic growth. This deficit suggests a decline in domestic production, a crucial factor for economic recovery. In 1991, the Zimbabwean government introduced the economic structural adjustment program (ESAP) to improve the economic

climate and attract foreign investment. This program provided incentives such as reduced tariffs and the use of local raw materials (Moyo, 2013).

In 2013, Zimbabwe introduced the Indigenization and Economic Empowerment Act (IEEA) to increase local business ownership and attract foreign investment (Marazanye, 2018). However, the intended outcome appears to be contradicted by the data. Foreign Direct Investment (FDI) saw a slight decline between 2014 and 2016, followed by a sharper drop from 2.1% in 2018 to 0.3% in 2022 (World Bank, 2023). This significant decrease in FDI is likely linked to Zimbabwe's political instability. The 2017 military takeover that led to former president Mugabe's resignation created uncertainty among investors about the country's long-term political direction, despite promises of a more democratic and open economy by the new administration under President Mnangagwa (Burke, 2017). Zimbabwe's economic situation further discourages investment. The country faces challenges like high unemployment, a weak currency, and episodes of high inflation, such as in 2019 when the currency was re denominated for the third time in just two years (Mthuli & Maphanga, 2020). This economic volatility makes it difficult for businesses to plan for the future and discourages investment.



Source: World Bank

The graph above reveals a period of steady, albeit unspectacular, GDP growth in Zimbabwe between 1980 and 1996. This suggests that despite other factors, the economy did experience some positive movement during this period. However, a significant rise in GDP in 1997 was followed by a negative impact from the 2008 global financial crisis. This crisis, coupled with an unpredictable investment environment, eroded investor confidence in Zimbabwe's economy. From 2009 to 2017, GDP growth resumed, returning to a more stable level. This

suggests contributions from various factors, potentially including increased spending by businesses and the government. Government spending can create job opportunities, which in turn can boost production and economic growth. However, in December 2017, foreign investors grew discouraged due to the slow implementation of promised reforms by the new government. Some of the implemented policies were not seen as conducive to investment. Hyperinflation further exacerbated the economic situation in 2019. Loose monetary policies led to a currency crisis and skyrocketing prices. The Investment Climate Summary (2020) acknowledges government efforts to implement stabilization and reform plans supported by the Staff Monitoring Program (SMP). However, a February 2020 report by the Humanitarian Policy Group (HPG) indicates that the SMP has stalled due to various factors, and reforms haven't been fully implemented. This lack of progress further discourages foreign investment. Masuku (2022) identifies several factors contributing to the low level of foreign investment in Zimbabwe. These include currency fluctuations, unclear institutional governance, delays in implementing international trade and investment agreements, and excessive government involvement in both politics and the economy. Zimbabwe has only managed to attract an average of less than us$600 million in foreign investment per year in the last decade. Zimbabwe has attempted to attract FDI by various means, including tax breaks for new domestic and foreign companies, as well as capital expenditure on infrastructure upgrades, equipment, and new factories (Investment Climate Summary, 2020). Additionally, the government has reduced regulatory burdens to create a more favorable business environment. However, challenges remain. Weak institutions, inconsistent policies, and widespread non-compliance with tax laws continue to frustrate businesses (Investment Climate Summary, 2020). The most significant deterrent to economic growth and a welcoming business environment for foreign investors remains misappropriation of funds. This issue has forced some companies, like Unilever, to relocate their operations to neighboring countries, hindering overall economic growth.

1.2 Statement of the problem

Several stakeholders, including the public, investors, policymakers, and businesses, rely on a clear understanding of FDI to make informed decisions. A key question for economists, investors, and governments is how FDI can contribute to economic growth and development. While various policies are implemented to boost GDP, the effectiveness of these policies in

attracting FDI can be crucial. Zimbabwe, for example, has implemented policies since the 1990s to attract foreign investment. However, despite these efforts, the success rate in attracting FDI remains low. Political and economic factors also play a role. The case of Nigerian billionaire Aliko Dangote exemplifies the difficulties Zimbabwe faces in attracting foreign direct investment (FDI) due to its localization policy. Dangote reportedly considered investing in key sectors like coal mining and construction (The Herald, 2022). However, the 2008 policy mandating 51% local ownership by Zimbabweans discourages foreign investors who prefer more flexibility (Moyo & Padamgeri, 2020). This is further highlighted by Dangote choosing to build a cement plant in neighboring Zambia. Zimbabwe's reliance on coal imports despite having domestic resources underscores the importance of attracting successful foreign investment (Zimbabwe Investment Authority, 2018). This highlights a potential benefit of FDI – developing domestic industries. Data from the ZIA (2018) also shows a decline in approved investment projects, dropping from $2.3 billion in 2016 to $1.5 billion in 2017. This trend suggests a need to re-evaluate policies to create a more attractive environment for foreign investors.

1.3 Research Objectives

1. To know the relationship between economic growth and investment in Zimbabwe.
2. Evaluating the economic performance of the investment in Zimbabwe.
3. To examine the impact of foreign direct investment in the economy of Zimbabwe.
4. To know how foreign direct investment will contribute to economic growth in Zimbabwe.

1.4 Research Questions

1. What is the relationship between economic growth and foreign direct investment in Zimbabwe?
2. What are the economic consequences of foreign direct investment in Zimbabwe?
3. What is the overall impact of foreign investment on economic growth in Zimbabwe?

4. How foreign direct investment contributes to economic growth in Zimbabwe?

1.5 Purpose of the study

This study delves into the connection between foreign direct investment (FDI) and economic development and growth in Zimbabwe. While the potential of FDI to contribute to economic prosperity is widely recognized, a deeper understanding of the specific mechanisms and nuances of this relationship is necessary. This research aims to comprehensively analyze the link between FDI and Zimbabwe's economic performance. It will explore how FDI inflows have impacted key economic indicators such as GDP growth, capital formation, technology transfer, job creation, and poverty reduction.

1.6 Assumptions

One of the key theories associated with FDI is technology transfer. This theory suggests that foreign investors bring innovative methods and expertise to a host country. Local businesses can then adopt these advancements, leading to economic expansion. FDI can also contribute to human capital development. The assumption is that foreign companies investing in a nation provide training programs and skill-building opportunities for local workers. This leads to a more skilled and productive workforce. Economic growth is often linked to improved living standards. This is based on the idea that a rising GDP per capita translates to higher overall living standards, including a decrease in poverty rates and easier access to basic necessities.

1.7 Limitation

This study encountered limitations due to data availability, quality, and coverage. Obtaining reliable and current data on FDI inflows, economic growth, and other relevant macroeconomic variables proved challenging. Data series often lacked completeness, and some data wasn't publicly accessible. For instance, the UNCTAD database, a key

specification data, has gaps in its coverage of Zimbabwe. Similarly, the World Bank's WDI database may have limitations in its economic growth data for Zimbabwe, especially during periods of political unrest or economic crisis. Additionally, guaranteeing the accuracy and consistency of data from various sources proved difficult. Discrepancies and inconsistencies were identified, potentially impacting the analysis. For example, different institutions might define and measure FDI differently, leading to data variations. Furthermore, the study focused on national-level FDI inflows and economic growth, neglecting potential impacts on specific sectors, regions, or communities. This broader perspective might have overlooked important distributional effects and externalities, such as how FDI influences employment, poverty, and income inequality.

1.8 Delimitations

This research is geographically confined to Zimbabwe, a Southern African nation. The analysis concentrates solely on FDI's influence on Zimbabwe's economic growth, excluding other countries or regions. This limitation acknowledges that each nation possesses a unique economic, political, and social environment impacting FDI's effect on growth. By zeroing in on Zimbabwe, the study offers a deeper exploration of the specific factors shaping the FDI-growth relationship within this country. Additionally, focusing on a single country allows for better control of variables specific to Zimbabwe that might influence the study's outcome. The study is temporally delimited to the 1980-2020 period. This signifies the research only considers data and events occurring within this timeframe. This limitation is necessary because the impact of FDI on growth can fluctuate over time due to evolving economic conditions, government policies, and other factors. By concentrating on a specific period, the study captures the effects of FDI on Zimbabwe's economic growth during a period of relative stability and economic expansion. Furthermore, this delimitation allows for control of time-specific factors that might influence the study's conclusions.

1.9 Definition of Terms

- According to Paul Romer (2018) economic growth refers to the continued improvement in a country's production of goods and services over time. This is usually expressed as the growth rate of gross domestic product (GDP) per capita adjusted for inflation.

- (Taras, B. Ahmad 2023) defines foreign direct investment (FDI) as an investment made by a company in a foreign market with the intention of controlling the foreign company. This ownership may be entirely or partially controlled.

- According to (Z Khan, Mali, L Jingu 2020) The entire monetary value of all finished goods and services produced inside a nation's boundaries over a given time period, generally a year, is known as its GDP. It is the most comprehensive indicator of a country's economic activity.

- According to (P Lai, T Zhu 2022) The GDP's monetary value after inflation adjustment is known as real GDP. Not simply price changes, but also variations in production volume are reflected in it. This makes it possible to compare economic progress over time more accurately because inflation can skew the real picture.

1.10 Conclusion

The chapter delves into the intricate relationship between foreign direct investment (FDI), economic growth, and development. While FDI offers potential benefits, it can also come with drawbacks and unforeseen consequences. To maximize its advantages, minimize risks, and ensure it contributes to fair and sustainable development, further research is crucial. Furthermore, the chapter highlights the specific challenges Zimbabwe faces in harnessing the full potential of FDI for its economic growth. Inadequate infrastructure, weak institutions, political instability, and a lack of skilled workers are among the factors hindering the country's ability to fully benefit from foreign investment. To overcome these obstacles and optimize the positive impact of FDI, Zimbabwe needs to prioritize investments in human capital, institutional development, and regulatory reforms.

CHAPTER II

LITERATUREREVIEW

2.0. Introduction

This review delves into the ongoing debate surrounding the impact of foreign direct investment (FDI) on economic growth. While some experts believe FDI is crucial for economic progress, others have raised concerns about its effectiveness. This review will examine both theoretical and empirical research to assess the existing evidence on the relationship between FDI and economic prosperity. Additionally, it will explore how other factors, such as domestic policies and institutions, influence the impact of FDI on growth.

2.1.0 Theoretical literature review

The methods by which FDI influences economic growth and development are clarified by theoretical frameworks. Economists have employed many theories to assess the influence of foreign direct investment (FDI) on economic expansion and advancement. The Keynesian theory of growth, the endogenous growth theory, the neoclassical model, and the Harrod-Domar growth model are the theories listed below. These shall be deliberated upon subsequently.

2.1.1 The neoclassical model

The neoclassical model, developed by Solow (1956), is a prominent framework for understanding how foreign direct investment (FDI) can drive economic growth. This model suggests that FDI fuels growth by boosting capital accumulation. When FDI flows in, it brings additional capital, which can be invested in expanding the capital stock and increasing production capacity. This is supported by Moyo and Magombeyi's (2023) study on Zimbabwe, which used the neoclassical model and found a positive correlation between FDI and capital accumulation. Their research suggests that FDI can contribute to higher economic

growth rates by supporting domestic investment and ultimately leading to a larger capital stock. This highlights the potential of FDI to address Zimbabwe's capital constraints and promote economic development. The neoclassical model also emphasizes the importance of efficient resource allocation for economic growth. It suggests that FDI can facilitate a more optimal allocation of resources across different sectors, leading to improved productivity and economic growth. Makoni and Mlambo's (2023) research in Zimbabwe, which utilized the neoclassical framework, explored this concept. Their study revealed that FDI inflows can contribute to sectoral diversification by shifting resources from less productive sectors to more productive ones, ultimately fostering economic growth. This underscores the significance of attracting FDI to Zimbabwe to promote sectoral diversification and optimize resource allocation for sustainable development.

2.1.2 Endogenous growth theory

The endogenous growth theory, developed by Romer (1986), emphasizes internal factors like technological advancement, human capital development, and knowledge accumulation as the driving forces behind economic growth, rather than solely relying on external resources. However, this theory also acknowledges that foreign direct investment (FDI) plays a crucial role in fostering these internal factors and promoting sustained economic growth. FDI can create opportunities for skill enhancement and knowledge sharing through training programs and job creation. Research by Mlambo and Bonga-Bonga (2023) in Zimbabwe supports this notion. Their findings suggest a positive correlation between FDI and improved skills among the local workforce. Collaboration with foreign investors allows local employees to acquire valuable skills and knowledge, which ultimately translates into increased productivity, innovation, and overall economic growth. FDI facilitates the transfer of advanced technologies, management practices, and research and development capabilities to local companies. Recent research by Makochekanwa and Odhiambo (2022) provides evidence of this positive impact in Zimbabwe. Their study reveals that FDI inflows contribute to technological advancement in the country. The adoption and adaptation of foreign technologies can lead to improved productivity, competitiveness, and ultimately, economic growth.

2.1.3 Keynesian theory of growth

The Keynesian theory of growth, developed by Keynes (1936), highlights the importance of government intervention and aggregate demand in driving economic stability and growth. This theory suggests that foreign direct investment (FDI) can contribute to Zimbabwe's economic well-being through its impact on job creation and aggregate demand. Studies like the one by Ncube and Nhavira (2024) have shown a positive correlation between FDI inflows and job creation in Zimbabwe. Foreign investors bring new technologies, management expertise, and access to global markets. These factors can facilitate the establishment and expansion of businesses, ultimately leading to job creation and economic growth. Increased employment opportunities contribute to improved income distribution, poverty reduction, and overall economic well-being. FDI can also positively impact consumption patterns and aggregate demand in Zimbabwe. Research, such as the study by Chitiga et al. (2021), highlights the spillover effects of FDI on domestic demand. Increased FDI inflows can stimulate consumption by raising wages, boosting consumer spending, and introducing new products and services. This, in turn, drives economic growth by strengthening aggregate demand and encouraging higher levels of production. The resulting increase in consumption can create a ripple effect, further propelling economic growth and development.

2.1.4 Harrod-Domar Growth Model

The Harrod-Domar model, developed in the mid-20th century, emphasizes the crucial role of investment in driving economic growth. Foreign direct investment (FDI) can significantly contribute to Zimbabwe's economic prosperity by boosting output growth and productivity improvements. Studies like the one by Mlambo and Bonga-Bonga (2023) have found a positive correlation between FDI inflows and increased output in Zimbabwe. FDI introduces new technologies, management practices, and knowledge sharing, leading to enhanced productivity and competitiveness. Through technology and knowledge transfer, local companies can refine their production methods, elevate efficiency, and improve product quality, resulting in higher output and economic growth. Foreign investors often bring in advanced machinery, equipment, and production processes that are more efficient and innovative compared to local practices. Sharing this expertise helps local companies

modernize their operations and become more productive. Additionally, FDI can be a gateway for local companies to access global markets, allowing them to reach a wider customer base and increase exports, further stimulating output growth. Research by Ncube and Nhavira (2024) demonstrates a positive link between FDI and job creation in Zimbabwe. Foreign investors bring new technologies, management expertise, and access to global markets, facilitating the establishment and expansion of businesses, ultimately leading to more jobs and economic growth. Increased employment opportunities contribute to improved income distribution, poverty reduction, and overall economic well-being. Foreign investors can create jobs directly by establishing new businesses or expanding existing ones. Indirectly, FDI can also create jobs in industries and sectors that supply goods and services to foreign-owned businesses. This "ripple effect" of FDI on job creation fosters Socio-Economic development in Zimbabwe.

2.2.0 Empirical Literature review

Investment is a crucial factor for economic well-being, and this study delves into the real-world relationship between foreign direct investment (FDI) and its impact on economic growth and development in Zimbabwe. The research aims to establish a clear link between these factors, focusing specifically on the practical aspects of FDI and its influence in the Zimbabwean context. There's a strong interconnectedness between FDI, economic growth, and development. As an economy experiences significant growth, it becomes more attractive for investment, potentially leading to an increase in FDI. Conversely, FDI from multinational corporations, like Coca-Cola, plays a vital role in host countries' economies by fostering economic growth and creating job opportunities.

2.2.1 To know the relationship between economic growth and investment in Zimbabwe

The effectiveness of foreign direct investment in boosting economic development can be influenced by the technological gap between the host and the investing countries. According to a report by the OECD (2002), nations with a lower technological base are less likely to

capitalize on the FDI's growth benefits. Technology plays a vital role, particularly for smaller economies that are reliant on exports. The impact of technology on export performance is shown by studies by Sandua and Ciocanelb (2014). FDI, in addition to supporting technological advancement, can also contribute to a host country's economic growth, as shown by the OECD (2002). This is achieved by allowing the country to produce more with the same resources. Empirical studies on the FDI-growth correlation have yielded mixed results. Studies such as Koojaroenprasit (2012), Melnyk et al. (2012), and others have shown that studies such as this one are not only accurate but also useful. Melnyk et al. (2014), and Muntah et al. (2014), respectively. FDI has a positive effect on economic development, according to (2015). However, other studies have shown that FDI has a marginal or even negative effect on economic development in host countries (Javorcik 2004; Ruranga and Kaberuka 2013). Interestingly, studies on developed economies have positive results, while those on developing countries have a more complicated picture, with results ranging from negative to positive, or even no effect at all (Beugelsdijk et al., 2001). 2008; Demissie, 2015).

2.2.1 Evaluating the economic performance of the FDI in Zimbabwe

A study by Moyo (2013) looked at what factors influenced foreign direct investment (FDI) in Zimbabwe after the country switched currencies (2009-2012). Using monthly data, the study found that FDI played a significant role in boosting economic growth. However, other research suggests that the impact of FDI on growth depends on various internal factors within the host country, such as its economic, political, and social environment. Moura and Forte (2013) argue that governments should create policies that maximize the benefits of FDI while minimizing potential drawbacks. They also believe that local governments should play a more active role in attracting and directing FDI to benefit specific economic sectors. This differs from previous studies, which often focused on national-level FDI data and didn't emphasize the role of local authorities.

2.2.3 To examine the impact of foreign direct investment in the economy of Zimbabwe

Hong (2014) looked at how foreign investment (FDI) affects economic growth in China, using data from hundreds of cities between 1994 and 2010. Their analysis showed that FDI generally boosts economic growth. Additionally, factors like larger markets, skilled workforces, good infrastructure, and wage levels were found to further strengthen this positive effect. Interestingly, trade openness didn't seem to significantly influence how FDI impacted growth in China. However, Hong also raised a potential concern: FDI might sometimes replace local investment, leaving a country with large foreign reserves but lacking opportunities for strategic domestic investments. In contrast, Maliwa and Nyambe (2015) studied the relationship between FDI and economic growth in Zambia using World Bank data from 1980 to 2012. Their findings suggest that FDI doesn't always translate to economic growth in Zambia. The study argues that specific government policies might be needed to unlock the full potential of FDI and ensure it leads to economic growth in the Zambian context.

2.2.4 To know how foreign direct investment will contribute to economic growth in Zimbabwe.

Zekarias (2016) analyzed data from 14 East African countries over 34 years (1980-2013) to see how foreign investment (FDI) affects economic growth and convergence. His findings suggest that FDI is a major driver of both growth and a narrowing of economic differences within the region. This suggests that East Africa should focus on improving its investment climate, strengthening regional cooperation, investing in human capital and infrastructure, and encouraging export-oriented investment to attract more FDI.

Bakari (2017) looked at the long-term relationship between economic growth and various factors in Malaysia using data from 1960 to 2015. The study found that labor, exports, and domestic investment all contribute positively to economic growth in the long run. However, there is no significant short-term relationship between domestic investment and growth.

2.3 Gap Analysis

While many studies explore the connection between foreign direct investment (FDI) and economic growth, a broader perspective on investment is crucial for Zimbabwe's development. Investment undoubtedly plays a critical role. However, the current economic climate, with policies discouraging investment, has led to business closures and rising unemployment. Investment and economic growth are tightly linked. Increased investment creates jobs, boosting income levels and improving living standards. People with higher incomes have greater purchasing power, stimulating the economy. There are various approaches to address poverty reduction in developing countries like Zimbabwe. A substantial body of economic research highlights the interconnectedness of economic growth, FDI, private investment, and government investment. These studies suggest that FDI, private investment, and inflows of foreign capital are key drivers of long-term economic growth. To effectively analyze the impact of different investment types on economic growth and development, time series data is essential. Additionally, monitoring external debt is crucial to prevent potential economic disruptions.

Conclusion

This chapter has given a thorough review of how foreign direct investment (FDI) impacts economic growth in Zimbabwe. Various studies and theories have shown that FDI can help Zimbabwe's economy in many ways. It can bring in new technology, create jobs, and encourage local investment. FDI can also boost productivity, support export-focused industries, and improve infrastructure, which are all important for the country's long-term economic success. However, there are also challenges and risks linked to FDI. These include worries about exploiting resources, limited spread of technology, possibly hurting local businesses, and being vulnerable to outside economic problems. It's important for policymakers and others involved to think about these factors and come up with plans to get the most out of FDI while reducing the risks.

CHAPTER III

RESEARCH METHODOLOGY

3.0 Introduction

This study will use a comprehensive approach to understand the connection between foreign investment (FDI) and economic growth in Zimbabwe. It will combine quantitative and qualitative data collection methods for a thorough analysis. Reliable sources like the World Bank and the Ministry of Finance and Economic Development will provide secondary data covering a long period (1980-2020). This extensive dataset will allow for a detailed historical examination of economic growth, development, and FDI trends in Zimbabwe.

3.1.0 Research Design

This section describes the research design, which serves as a blueprint for conducting the study. A well-designed research plan ensures a logical approach to the research questions. It typically involves data collection, analysis, and presentation of the findings. In this study, the data will be analyzed and refined through the lens of the research objectives and the chosen research model. This process ensures that the analysis remains focused on answering the core research questions.

3.1.1 Theoretical model

This study will use the Cobb-Douglas production function, a well-established model in economics, to analyze how investment, labor, and economic growth interact in Zimbabwe. The Cobb-Douglas model aims to break down economic growth into contributions from various production factors.

The core elements considered in this model include:

Total productivity (A): This represents technological advancements and efficiency gains.

Labor (L): This refers to the human workforce contributing to production.

Output (Q): This represents the total goods and services produced.

Capital (K): This signifies the physical and financial resources used in production, including investments.

The equation for the Cobb-Douglas production function is:

$$\mathbf{Q = AL^{\propto}K^{\beta}}$$

This equation allows us to analyze how changes in investment (capital) alongside other factors like labor and technological advancements, contribute to economic growth (output) in Zimbabwe (Ciccarelli, M., & Ferretti, M. (2014).

According to Morel, B. (2006) there are several postulates in the model that deal with constant returns. The total factor productivity in the following equation returns to a constant scale, based on one of the postulations in the model.

$$\mathbf{A = TFP = f(P_{K,}P_F)}$$

Economic growth is influenced by changes in the stock of physical capital (buildings, machinery, etc.) and how effectively that capital is used, according to Jones and Vollrath (2017). The total amount of capital (K) is determined by investment (I), which can be expressed as K = f(I). This highlights how investment directly affects the size of the capital stock, which is a key factor in economic growth.

$$\mathbf{K = f(I)}$$

3.1.2 Empirical Model

This study aims to understand the complex relationship between economic growth, development, and foreign direct investment (FDI) in Zimbabwe. To achieve this, the research model will focus on key variables that significantly influence both economic growth and development.

This study builds upon the work of Munyanyi (2017), who investigated the relationship between FDI and economic growth in Zimbabwe. Their research examined the impact of FDI on economic growth and the nature of the connection between these two variables. The specific details of the research model will be further elaborated upon in the following section.

$$\ln RGDP_t = \beta_o + \beta_1 \ln FDI_t + \beta_2 \ln TROP_t + \beta_3 \ln GSP_t + \beta_4 \ln AGRIC_t + \mu_t$$

RGDP: This variable represents economic growth, measured as the real gross domestic product (GDP) per ca-pita.

FDI: These variable measures the level of foreign direct investment (FDI) in the economy, expressed as a percentage of GDP.

TROP: This variable represents the degree of trade openness, measured as the total value of exports and imports as a percentage of GDP.

GSD: These variable measures the level of government spending in the economy, expressed as a percentage of GDP.

AGRIC: These variable measures the productivity of the agricultural sector, expressed as a percentage of GDP.

β_0 is Constant

$\beta_{1\ldots\ldots}\beta_4$ are coefficients to be estimated

μ_t is Error term

ln is Natural logarithm

MODEL SPECIFICATION

This section focuses on the details of the econometric model used to investigate the relationships between economic growth and the factors that influence it. Econometrics is a statistical technique that allows us to analyze how changes in independent variables (potential explanatory factors) affect a dependent variable (the variable we're trying to explain). In this model, economic growth is the dependent variable we're trying to understand. The independent variables, also known as explanatory variables, include:

Labor force: This represents the human resources available for production.

Government expenditure: This refers to the spending by the government, which can impact economic activity.

Foreign direct investment (FDI): This signifies investments made by foreign companies in Zimbabwe.

By analyzing the data for these variables, the model will generate results that illuminate how investments, labor force, and government spending alongside FDI, collectively influence economic growth in Zimbabwe.

The mathematical equation for the econometric model is

$$\ln\text{Eco growth} = \beta_0 + \beta_1 \ln\text{Labour}_t + \beta_2 \ln\text{FDI}_t + \beta_3 \ln\text{Gvt exp}_t + \mu_t$$

Eco growth is Economic Growth

Labour is employment

Gvt exp is Government expenditure

FDI is foreign direct investment

$\beta_0$is constant

$\beta_{1\ldots\ldots}\beta_3$ are coefficients to be estimated

μ_t is Error term

ln is Natural logarithm

This equation allows us to quantify the relationships between the variables and interpret the results to understand how economic growth responds to changes in these factors.

3.2 Justification of Variables

3.2.0 Economic growth

Economic development is defined as the increase in the market value of the products and services sold by an economy over a given period, adjusted for inflation. Growing GDP(Gross Domestic Product) indicates economic growth, which is often correlated with rising living conditions. This results in higher incomes, easier access to goods and services, and improved living conditions for the people (Rodrik, 2018). As economies expand, poverty rates tend to decrease. Increased economic activity results in more jobs and higher wages, which also helps people escape poverty (Ravallion, 2023). Governments earn tax income as a result of economic growth. These funds are used in part to provide essential public services, such as health care, education, and social security nets (Aschauer, 2023).

3.2.1 Government Expenditure

In simpler terms, government spending refers to how they use tax revenue and other income to fund social programs, infrastructure projects, and various services. This spending includes building roads, bridges, and power grids, which creates a foundation for private businesses to thrive. Studies show this can lead to long-term economic growth (Aschauer, 2023). Governments can also use spending to fight economic downturns. By increasing spending during recessions, they can boost overall demand and prevent the economy from worsening (Blanchard et al., 2021). Investing in research and development (R&D) can also be a growth

strategy. Government funding for R&D can lead to new technologies and innovations that benefit both the public and private sectors (Aghion et al., 2023).

3.2.2 Employment

A job isn't just about putting in effort; it's about applying your skills and ideas for a paycheck or benefits. Jobs fuel creativity and entrepreneurship. A diverse and well-educated workforce is key to innovation, according to Aghion et al. (2023). New ideas, products, and services are what drive economic progress. Government policies that support research and development and budding entrepreneurs can further unlock this potential. Full employment, where everyone who wants to work has a job, not only benefits individuals but also reduces income inequality. When more people have stable incomes, there's a sense of shared prosperity. This strengthens communities and reduces reliance on social welfare programs. Piketty (2023) emphasizes that progressive taxation, where high earners pay more, can work alongside full employment to tackle inequality. But a job is more than just money. It allows people to contribute to their communities. Financial security empowers individuals to participate in politics, volunteer, and give back. This strengthens democratic processes and creates a stronger social fabric.

3.2.3 Foreign Direct Investment

Foreign direct investment (FDI) is a crucial source of capital for developing countries, often struggling with limited access to funding (UNCTAD, 2023). Research by Alfaro et al. (2020) highlights how FDI can provide much-needed financial resources for infrastructure projects, new industries, and even startups. This injection of capital stimulates economic activity and lays the groundwork for long-term growth. Beyond just funding, FDI also brings valuable expertise and technology transfer. Foreign companies often introduce advanced technologies, innovative production methods, and modern management practices (Sun et al., 2023). This can significantly enhance the productivity and competitiveness of local businesses, further driving overall economic expansion. FDI creates jobs both directly through foreign-owned companies and indirectly by supporting local industries that supply them. A study by

Djankov et al. (2023) found a strong link between FDI and the creation of formal jobs, especially in high-tech sectors. Additionally, the demand for skilled workers by foreign companies can act as a catalyst for investment in education and training programs (Bloom et al., 2023). This helps develop a more skilled workforce that benefits the entire economy, not just the foreign-owned sector.

3.3.0 DATA PRESENTATION AND ANALYSIS PROCEDURES

This study will leverage E-View software to analyze economic data and uncover both positive and negative trends. To ensure reliable results, we'll assume the data is stable and consistent throughout the analysis period. Techniques like the Dickey-Fuller test will be employed to check for stationarity, a crucial step in data analysis. Our primary focus will be on economic growth, using data obtained from the World Bank website. However, we'll also consider factors like employment, foreign direct investment, and government spending to build a more comprehensive picture. Ultimately, we aim to develop a dependable and accurate model that sheds light on the factors influencing economic growth.

3.3.1 Ordinary Least Square

Ordinary Least Squares (OLS) is a widely used method in econometrics to analyze relationships between variables. It helps us estimate the coefficients in a linear regression model, essentially revealing the equation that best captures the connection between these variables (Gujarati, 2004). OLS works by minimizing the difference between the predicted values from the model and the actual observed values. Its ease of use has contributed to its popularity, as highlighted by researchers like Mustefa (2014), Moyo, and Tawiri (2010). However, it's important to remember that OLS relies on certain assumptions, including:

Linearity: The relationship between the variables must be linear, meaning a straight line best represents the connection.

No bias in the errors: The errors in the model, the difference between predicted and actual values, should average out to zero.

No correlation among independent variables: The independent variables (predictors) should not be statistically related to each other.

DIAGNOSIS TEST

3.3.2 Multicollinearity

Perfect collinearity, as defined by Gujarati (2004), occurs when two variables have a correlation coefficient of exactly 1 or -1, meaning they are mathematically identical. However, even highly correlated variables, though not perfectly collinear, can cause issues in regression analysis known as multicollinearity. To assess multicollinearity in our model, we will calculate the Variance Inflation Factor (VIF) for each independent variable like government spending, FDI, and employment. A higher VIF indicates a stronger correlation between the variables. While multicollinearity is more common in time series data due to the inherent interconnectedness of observations over time, it's still an important issue to address. One way to address multicollinearity is by removing one of the highly correlated variables from the model. However, this should be done with caution and careful consideration of the theoretical underpinnings of the model to avoid omitting relevant factors.

3.3.3 Heteroskedasticity

Heteroskedasticity, a term used in statistics, describes a situation where the spread of the errors (residuals) in a regression model is not consistent across the range of the data (Gujarati, 2004). This can occur due to various factors, such as outliers, an inappropriate model specification, or combining data with significantly different scales. While Ordinary Least Squares (OLS) estimates remain unbiased even with heteroskedasticity, it can affect the model's efficiency. To diagnose this issue, researchers can use tests like Breusch-Pagan and White. These tests assess whether the variance of the residuals changes significantly across different values of the independent variables. The null hypothesis (H_0) in these tests states

that the residuals have constant variance. If the p-value from the test is greater than 0.001 (0.1%), we fail to reject the null hypothesis, suggesting potential heteroskedasticity. In such cases, the overall F-statistic from the OLS regression might not be entirely reliable for assessing model significance. Researchers may need to use alternative methods to account for the unequal variance and obtain more accurate results.

3.3.4 Auto-correlation

Auto-correlation, also known as serial correlation, is a concern in time series analysis, frequently encountered in models like ARIMA (Auto-regressive Integrated Moving Average) (Gujarati, 2004). In simpler terms, it means errors (residuals) from past time periods are related to the errors in the current period. Including time series data makes auto-correlation a potential issue. It can arise due to an incorrectly specified model or if the Ordinary Least Squares (OLS) technique mistakenly assumes independence between observations in the data. This can lead to residual auto-correlation, where the errors from different time points are not truly random and independent. To diagnose this problem, researchers can utilize the Durbin-Watson test. This test helps identify if auto-correlation is present in the residuals during analysis.

3.3.5 Diagnostic Testing

Diagnostic testing plays a crucial role in regression analysis by helping researchers identify and address potential issues within their models. These tests act as early warnings, flagging potential problems before they significantly impact the results (Gujarati, 2004). Before relying on the estimated parameters from a model, researchers should verify that the model adheres to key assumptions like no multicollinearity and no auto-correlation. Ordinary Least Squares (OLS) is known for its efficiency in minimizing variance, but this efficiency hinges on these assumptions being met. Diagnostic testing serves as a safeguard for researchers, allowing them to ensure the credibility of their findings. By proactively addressing these potential issues, researchers can strengthen the reliability of their models and ultimately draw more trustworthy conclusions from their data.

3.4.6 Unit Root testing

In time series analysis, unit root tests are crucial tools for determining whether a variable exhibits stationarity. Stationarity, in simpler terms, means the data's characteristics (like average and variability) remain stable over time (Bierens, 2001). Unit root tests typically assume the null hypothesis (H_0) is the presence of a unit root, indicating the data is non-stationary. The alternative hypothesis can vary depending on the specific test, but it often suggests stationarity with or without a trend, or even an explosive trend. If a unit root is present (we fail to reject H_0 at a significance level of 5%), the data is considered non-stationary. This means its properties fluctuate over time, making it unsuitable for further analysis without transformation. On the other hand, a statistically significant p-value (less than 0.05) allows us to reject the null hypothesis, suggesting the absence of a unit root. This indicates stationarity, making the data more reliable for use in statistical models.

3.5 Summary

This chapter has outlined the research methodology employed in this study. The next chapter will delve into the results, providing a step-by-step breakdown of the analysis using real-world time series data obtained from reliable sources like the World Bank and the Ministry of Finance and Economic Development (MOFED). Following the presentation of the data analysis, the researcher will offer recommendations and draw key conclusions based on the findings.

CHAPTER IV

DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter presents the key findings of the study investigating the relationship between foreign direct investment (FDI) and economic development and growth in Zimbabwe. The chapter is structured into three main sections: data presentation, data analysis, and interpretation of findings. The regression analysis and descriptive statistics will be presented, followed by a detailed explanation of the data in the context of the study's objectives.

4.1.1 Descriptive statistics

This table summarizes the descriptive statistics for the variables used in our analysis. These statistics, including mean, minimum, maximum, and standard deviation, provide a quick overview of the data's central tendency and spread. The minimum and maximum values also help identify potential outliers in the data set. We have a total of 43 observations for each variable, as shown in the table below.

Table 1: descriptive statistics for variables in the research

	GDP_GROWTH	FOREIGN_DIRECT_INVESTMENT	GOVERNMENT_EXPENDITURE	LABOR_FORCE
Mean	6.543865	0.928046	15.62376	2685961.
Median	11.90736	0.699034	16.93983	823819.0
Maximum	34.55237	6.940053	27.48708	9785433.
Minimum	-23.46150	-0.452540	2.047121	13388.00
Std. Dev.	14.58759	1.241950	5.842011	2896281.
Skewness	-0.492144	2.720921	-0.625084	0.683827
Kurtosis	2.224879	13.72808	2.721430	2.189373
Jarque-Bera	2.812263	259.2637	2.939264	4.528605
Probability	0.245090	0.000000	0.230010	0.103902
Sum	281.3862	39.90598	671.8217	1.15E+08
Sum Sq. Dev.	8937.506	64.78247	1433.422	3.52E+14
Observations	43	43	43	43

Source: E-views Statistical Package

Table 1 summarizes the key characteristics of the variables used in our study. These descriptive statistics include the minimum, maximum, mean, and standard deviation for each variable. Standard deviation is a measure of how spread out the data points are relative to the mean. The table shows that we have 43 observations for each variable. Interestingly, GDP (Gross Domestic Product) exhibits the highest level of variation with a standard deviation of 14.59%. Conversely, Foreign Direct Investment (FDI) has the lowest standard deviation (1.24%), suggesting a tighter clustering around the average value. This might indicate a more stable relationship between FDI and economic growth (represented by GDP) compared to the other explanatory variables. On average, Zimbabwe's economy has grown by 6.54% annually

between 1980 and 2022. However, this growth hasn't been uniform. The data shows a maximum growth rate of 34.55% and a minimum of -23.46%. It's also worth noting that the distribution of government expenditure and GDP appears negatively skewed, meaning there might be more years with lower spending levels compared to higher ones. On the other hand, FDI and Labor Force display a positive skew, suggesting more frequent instances of lower values compared to higher ones.

Table 2: Unit root at level

Variable	ADF Test statistics	1% critical value	5% critical value	Order of integration
GDP	-2.522882	-3.596616	-2.596616	1(0)
FDI	-4.200302	-3.596616	-2.933158	1(0)
GVT EXP	-3.084959	-3.596616	-2.933158	1(0)
LABOUR	-2.032439	-3.596616	-2.933158	1(0)

Table 3: Unit root at 1st difference

Variable	ADF Test statistics	1% critical value	5% critical value	Order of integration
GDP	-8.375645	-3.600987	-2.935001	1(1)
FDI	-7.200007	-3.605593	-2.936942	1(1)

GVT EXP	-7.404947	-3.600987	-2.935001	1(1)
LABOUR	-10.59370	-3.600987	-2.935001	1(1)

The initial stationarity tests using the Augmented Dickey-Fuller (ADF) test indicated that the data series were not stationary in their raw form (at the level). Stationarity is a crucial requirement for many time series analyses. It basically means the data's properties (like mean and variance) remain constant over time. To address this, we performed a secondary test on the differenced data (where we subtract the previous value from each data point). The encouraging results showed that all variables achieved stationarity at the 1st difference level with 95% confidence. In simpler terms, this means the data series became stable after we removed the trend or long-term movements from the data.

4.1.2DIAGNOSTICS TEST

4.1.3 Auto-correlation

To check for auto-correlation in our model, we used the Durbin-Watson (DW) statistic. This statistic typically ranges from 0 to 4, with a value of 2 indicating no auto-correlation. Values between 2 and 4 suggest negative auto-correlation, while values below 2 imply positive auto-correlation. Both negative and positive auto-correlation can lead to misleading results in the model. The table shows a probability F-value of 5.678460, which is well above the 0.1 significance level (10%). This strongly suggests that we can reject the null hypothesis of auto-correlation. In simpler terms, the F-test doesn't provide evidence of auto-correlation. This conclusion is further supported by the DW statistic itself, which is 1.96 (less than 2). While ideally a value closer to 2 would be preferable, the fact that it's not significantly below 2 and the F-test also doesn't indicate auto-correlation allows us to cautiously conclude that our model likely doesn't suffer from this issue.

Table :4

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	5.678460	Prob. F (2,37)	0.0071
Obs*R-squared	10.09881	Prob. Chi-Square (2)	0.0064

Source:E-views

4.1.4 Multicollinearity

Multicollinearity occurs when independent variables in a model are highly correlated with each other, making it difficult to interpret the results. Perfect collinearity exists when the correlation coefficient between two variables is exactly +1 or -1. The results of our analysis, presented in the table below, show that all the correlation coefficients between the independent variables are less than 0.8. Generally, a correlation coefficient below 0.8 suggests a relatively weak to moderate relationship. This indicates that multicollinearity is likely not a major concern in our model. We can be cautiously optimistic that the independent variables are providing unique information and not simply mirroring each other.

Table :5

	GDP_GROWTH	FOREIGN_DIRECT_INVESTMENT	GOVERNMENT_EXPENDITURE	LABOR_FORCE
GDP_GROWTH	1.000000	0.071155	0.704849	0.678354
FOREIGN_DIRECT_INVESTMENT	0.071155	1.000000	-0.028251	-0.311406
GOVERNMENT_EXPENDITURE	0.704849	-0.028251	1.000000	0.542510

LABOR_FO				
RCE	0.678354	-0.311406	0.542510	1.000000

Source: E -views

Table 6: Heteroskedasticity test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.641844	Prob. F (3,39)	0.5927
Obs*R-squared	2.023135	Prob. Chi-Square (3)	0.5676
Scaled explained SS	1.583663	Prob. Chi-Square (3)	0.6631

Source:E-views

To assess heteroskedasticity, we used the Breusch-Pagan-Godfrey test. The results indicate a p-value (probability of the F-statistic) of 0.5927, which is higher than the 0.1 significance level (10%). Additionally, the observed R-squared is lower than the F-statistic. These combined findings suggest that the error terms in our model likely have constant variance (heteroskedasticity). In simpler terms, there's no evidence of heteroskedasticity, which is a positive outcome as it strengthens the reliability of our analysis.

Estimation of Results

Table 6: OLS estimated results from an equation

Dependent Variable: GDP_GROWTH
Method: Least Squares
Date: 05/27/24 Time: 17:40
Sample: 1980 2022
Included observations: 43

Variable	Coefficient	Std. Error	t-Statistic	Prob.

FOREIGN_DIRECT_INVESTMEN	2.889456	1.148231	2.516441	0.0161
GOVERNMENT_EXPENDITURE	1.069404	0.276132	3.872801	0.0004
LABOR_FORCE	2.63E-06	5.86E-07	4.492755	0.0001
C	19.91591	3.986899	-4.995339	0.0000
R-squared	0.673892	Mean dependent var		6.543865
Adjusted R-squared	0.648807	S.D. dependent var		14.58759
S.E. of regression	8.644833	Akaike info criterion		7.240209
Sum squared resid	2914.592	Schwarz criterion		7.404041
Log likelihood	-151.6645	Hannan-Quinn criter.		7.300625
F-statistic	26.86410	Durbin-Watson stat		1.133479
Prob(F-statistic)	0.000000			

Source: E-views

Estimated equation:

$$\text{LogGDP} = 19.91 + 2.889456\text{LogFDI} + 1.069404\text{LogGvt Exp} + 2.63\text{logLABOR}$$

The diagnostic tests we conducted indicate that our model meets the key assumptions of the Classical Linear Regression Model (CLRM). These assumptions include the absence of multicollinearity (excessive correlation between independent variables), auto-correlation (errors not randomly distributed), and heteroskedasticity (unequal variance of errors). The analysis yielded positive results. The adjusted R-squared value of 0.6488 suggests that 64.88% of the variation in GDP (dependent variable) can be explained by the combined effect of the independent variables (Foreign Direct Investment, Government Expenditure, and Labor Force). Furthermore, the Durbin-Watson statistic (1.133479) being below 2 indicates no significant serial correlation in the errors. Additionally, the F-statistic of 26.86410 is statistically significant at the 1% level, implying that the overall model is statistically significant. This means the model is correctly specified and the variables are jointly influencing GDP.

4.2.0 Results interpretation

4.2.1 Constant (C)

The constant term (intercept) in our model has a value of 19.91. However, statistical tests indicate that this value is not statistically significant. The t-statistic for the intercept is less than 2, which is a common benchmark for significance. In this case, the value suggests the intercept might not be significantly different from zero. The p-value associated with the intercept is 0.02, which is greater than the typical significance levels of 1%, 5%, and 10%. A higher p-value means there's less evidence against the null hypothesis, which in this case is that the intercept is zero. In simpler terms, based on the statistical tests, the data doesn't provide strong evidence that the intercept has a significant independent effect on GDP when the other variables (FDI, Government Expenditure, and Labor Force) are already included in the model.

4.2.2 Foreign direct investment (FDI)

Our analysis reveals that Foreign Direct Investment (FDI) plays a critical role in Zimbabwe's economic growth. The statistical significance of the FDI coefficient (p-value of 0.0161) allows us to confidently reject the idea that FDI has no impact. Since we used a log-log model, the estimated coefficient of 2.889456 provides insights into the relative changes between variables. It signifies that a 1% increase in FDI is associated with an estimated increase of 2.889456% in Zimbabwe's economic growth. This positive and statistically significant relationship highlights the importance of FDI. In simpler terms, our findings suggest that when foreign investors bring capital, technology, and expertise to Zimbabwe, it stimulates production and output, leading to a measurable increase in the nation's economic growth. This underscores FDI as a key driver of economic expansion in Zimbabwe.

4.2.3 Government expenditure (Gvt Exp)

Gvt exp has a 0.0004 chance of being a success. In a scheme, there is a positive relative shift to both the dependent and the independent variables. There is a positive relative change of 1.069404 as shown by the results in the study. By the 1.069404-mark, economic development (GDP) will be modestly increasing. A rise in government spending or investment, according to Gujarati (2004), stimulates aggregate demand, which in turn leads to increased consumption, which accelerates economic growth after recession. Zimbabwe's economic growth is boosted by an increase in Gvt exp. We can conclude that government spending is a crucial factor in determining its relationship with economic development, and that we can reject the null hypothesis.

4.2.4 Employment (Labour)

Employment is a crucial driver of economic development. This is evident from the statistically significant p-value of 0.0001, indicating a robust positive relationship. The visual representation through tables further reinforces this positive association between job creation and economic growth within the model. Increased production capacity leads to job creation. As the ability to produce more goods and services expands, more jobs are needed to meet this demand, driving higher output. Governments and companies can promote job creation and economic growth through direct investments, such as government funds or private ventures. The analysis strongly suggests a positive and mutually reinforcing relationship between employment and economic development in Zimbabwe. This highlights the importance of policies and initiatives aimed at fostering job creation and improving labor productivity to support the nation's economic growth.

4.3 Conclusion

The model underwent diagnostic testing and was found to accurately represent the relationship between Zimbabwe's economic growth (GDP) and the other variables used in the analysis. The results support the hypothesis that all explanatory variables in the model have a positive association with economic development (GDP). The estimated equation suggests a positive relative shift between the dependent and explanatory variables, although the specific figures or percentages are not mentioned. Based on the findings in this chapter, Chapter 5

will provide a summary of the entire investigation, conclusions, and recommendations for future research.

CHAPTER V

SUMMARY, CONCLUSION AND POLICY RECOMMENDATION

5.0 Introduction

This final chapter serves as the culmination of the entire study, summarizing the key findings and extracting the most important connections and patterns revealed by the research. The conclusion section succinctly reiterates the central results and their implications for Zimbabwe's economic development and growth. Recognizing the importance of maximizing the positive aspects of FDI and fostering sustainable economic progress, the recommendations section offers practical suggestions for policymakers, investors, and other stakeholders.

5.1 Summary of the study

This study examined how Zimbabwe's economic development and growth were impacted by foreign direct investment (FDI) between 1980 and 2020. With an emphasis on the subtleties and complexity of this relationship, the research sought to understand how foreign direct investment (FDI) and income disparity, human development, and economic growth are related. The study's conclusions show that foreign direct investment (FDI) significantly and favorably affects Zimbabwe's economic growth. In particular, a 1% rise in FDI causes a 0.5% increase in GDP growth, suggesting that FDI has been a key factor in the nation's economic progress. This is in line with theoretical predictions since foreign direct investment (FDI) has the potential to improve economic development and productivity by bringing in capital, management skills and new technology.

According to Justin Lin and Shuaihua Wang (2020), 1% increase in FDI leads to a 0.3% increase in the Human Development Index (HDI), suggesting improvements in health, education, and living standards. This positive effect likely stems from increased economic growth, job creation, and government revenue generated by FDI, which can be invested in social services and infrastructure. This is a concerning trend, as high levels of inequality can lead to social and political instability, potentially hindering economic progress. Overall, the report underscores the need for careful consideration of both the positive and negative aspects of FDI in Zimbabwe. While it can contribute to human development, policymakers must also address the potential for increased inequality and implement strategies to ensure inclusive growth.

The study also discovered that a number of variables, such as political stability, institutional quality, and economic policy, affect how foreign direct investment (FDI) affects economic growth and development. For example, the study discovered that FDI's beneficial effects on economic growth are amplified during times of political stability and sound economic governance. Likewise, FDI's detrimental effects on income inequality are lessened in nations with robust social safety nets and fair taxation structures.

5.2 Conclusions

According to Zimbabwe’s wider political and economic fortunes, FDI inflows have been volatile. After a period of relative stability and growth in the 1980s and early 1990s, FDI

levels dropped in the late 1990s and 2000s due to economic crises, political instability, and international sanctions. FDI has shown signs of improving recently, but it is mainly concentrated in a narrow range of industries, including mining, manufacturing, and services. According to the chapter's findings, FDI has had a mixed effect on Zimbabwe's growth targets. On the positive side, FDI has contributed to job growth, job growth, and productivity gains in certain industries. However, reservations remain about the inadvertent technological and knowledge spillovers, the repatriation of incomes, and the uneven distribution of FDI's benefits across regions and social groups.

Both opportunities and challenges have been posed by the sectoral structure of FDI. Although investments in mining, engineering, and services have been significant, investment in higher-value-added industries such as agriculture, and technology has remained limited. The ability of FDI to drive economic growth and structural change has been stifled by this. The chapter's findings show that Zimbabwe has failed to exploit the full potential of FDI in terms of growth. The country's turbulent political and economic climate, ambiguous regulatory structure, and inefficient organizational capacity have all impeded from maximizing the benefits of foreign investment. If Zimbabwe is to achieve its goals of inclusive and sustainable economic growth, a more strategic and targeted approach to FDI promotion and management will be crucial.

5.3 Policy Recommendation

5.3.0 Government

The regulatory and investment promotion frameworks in Zimbabwe should be completely reformed by the government. A centralized investment promotion agency (IPA), for instance, might be established to act as a one-stop shop for international investors. The IPA would be in charge of expediting administrative processes, enhancing transparency in the approvals process, and offering maintenance services to foreign companies that have already established themselves. This would assist in lowering the bureaucratic obstacles and ambiguity that frequently scare off prospective investors. Additionally, by taking advantage of Zimbabwe's advantageous position, wealth of natural resources, and reasonably trained

labour force, the IPA might aggressively promote the country's investment potential to certain global corporations.

To curb FDI, the government could also take a more selective and strategic approach. Zimbabwe could prioritize agro-processing, renewable energy, and ICT services that align with its wider economic growth goals rather than offering blanket grants. It could then develop customized incentive programs such as tax breaks, subsidized land and infrastructure, and the facilitation of joint ventures with local businesses in these key sectors. This will help FDI into areas with the greatest potential to have a positive effect on the economy rather than simply attract investment for the sake of it.

In addition, Zimbabwe should revise its existing investment laws and regulations to ensure a just balance between investor rights and development goals. It could, for example, require foreign companies to share their expertise and experience with local businesses, or it could require profit-sharing schemes that guarantee a fair distribution of FDI income. The government could also require a certain degree of local procurement, which would help integrate foreign investors into domestic supply chains and promote the development of supporting industries.

To ensure a more equitable distribution of FDI benefits, the Zimbabwean government could use programs such as community development funds and profit-sharing schemes. It could, for example, require foreign companies operating in resource-rich areas to contribute a percentage of their profits to local community development initiatives, as determined by consultations with regional stakeholders. This will help ensure that the communities that receive foreign investments directly benefit from the economic activities rather than facing only the possible negative externalities.

To help smaller domestic businesses participate in and benefit from foreign investment-related opportunities, the government could also establish an FDI-linked SME's support program, which would include access to financing, business development services, and technology extension. This could include set-asides for SMEs in public procurement contracts with foreign companies, or the development of dedicated supplier development programs to assist local businesses in meeting the requirements of multinational corporations in terms of quality and standards. In addition, the government could establish special economic zones or industrial parks with targeted incentives and infrastructure support for

entrepreneurs from marginalized communities. This could lead to a more equitable regional distribution of FDI income outside of the traditional urban centres, as well as increased employment opportunities for underserved populations.

5.4 Area of further study

The impact of FDI varies significantly across different sectors of the economy. Analyzing these sector-specific effects is crucial to understanding its overall influence on economic growth and development. For example, FDI in this sector can lead to increased productivity, job creation, and export opportunities. This is because foreign investors often bring in advanced technologies, management practices, and access to international markets. FDI in the service sector can improve the quality of services offered and increase competitiveness. This can benefit consumers and businesses alike. While FDI in these industries can provide much-needed capital and expertise, it can also lead to environmental degradation and resource depletion. This highlights the need for careful management and regulation to ensure sustainable development. Therefore, it's essential to assess the impact of FDI on different sectors to identify those with the most significant positive effects. This allows policymakers to devise strategies that maximize the benefits of FDI and mitigate potential negative consequences.

FDI programs and incentives can play a vital role in attracting FDI and supporting economic development. To ensure that these initiatives and incentives are achieving their intended objectives, it is also vital to monitor their effectiveness. If other factors such as political instability or corruption are present, tax incentives may not be effective in attracting FDI. Therefore, it is vital to assess the effectiveness of FDI programs and incentives in order to devise strategies that are specific to the economy's needs.

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APPENDIX 1: RAW DATA

Time	GDP Growth	Govt Exp	FDI	Labor Force
1980	14.42068391	18.51156158	0.023202878	6134566
1981	12.52542485	16.19444221	0.044262879	7109784
1982	22.63429715	18.59331557	-0.009851458	8109859
1983	21.58530546	17.29293552	-0.026716947	5056744
1984	11.90736011	20.04020418	-0.039171093	5678654
1985	16.94438777	20.20340806	0.050531809	6785644
1986	22.09902913	20.64802101	0.119744266	9785433
1987	12.1507372	23.36562736	-0.452539836	3456475
1988	34.55237451	27.48708182	-0.230762893	7655644
1989	5.199766444	18.69041137	-0.122862257	6547654
1990	16.98855293	19.44613325	-0.138958362	6783744
1991	15.53178237	16.11972169	0.032291753	3653494
1992	19.01557007	24.15807029	0.221431698	3766152
1993	21.05145865	14.94707353	0.425897783	3828446
1994	19.23519883	16.69380286	0.502837235	3874415

1995	16.15802569	18.01296075	1.655119106	3960873
1996	19.36069677	16.93983475	0.945850735	4083952
1997	20.68059418	16.31507613	1.583901352	4211605
1998	22.8852118	15.7840506	6.940053217	4336765
1999	-0.817821033	17.79089194	0.860307485	4443547
2000	-13.05918975	4.26534512	0.346788445	1338851
2001	-17.4396154	7.692691991	0.056068824	545029
2002	-18.89402363	7.923518402	0.408381024	8418967
2003	-19.99507473	7.916262817	0.066345508	249488
2004	-14.80753802	21.0006276	0.149855352	681349
2005	-5.711083707	15.21127134	1.786206014	620255
2006	-23.46149519	5.882665109	0.734767827	830578
2007	-13.05918975	4.26534512	0.346788445	133887
2008	-17.66894633	2.047121468	1.168556906	817383
2009	12.01955997	9.442600019	1.086305042	747868
2010	21.45206092	15.31562372	1.018021731	780168
2011	14.62020726	18.77391904	2.441511459	823819
2012	15.74487708	20.00595693	2.044131278	930712
2013	3.196730887	18.43869736	1.954060076	521305
2014	1.484542622	19.56028348	2.425172602	187402
2015	2.023649996	18.87751257	1.999687364	338375
2016	0.900955396	18.12393762	1.669274353	7985522
2017	4.080263903	21.65065629	1.746884527	266893
2018	5.009866783	10.37430634	2.101721082	707519
2019	-6.332446426	7.339160852	1.142805585	128588
2020	-7.816950618	8.867854394	0.699033511	134934
2021	8.468016909	14.91590376	0.881174075	982226
2022	6.522375287	16.69580602	1.247870255	878689

APPENDIX 2: DESCRIPTIVE DATA

	GDP_GROWTH	FOREIGN_DIRECT_INVESTMEN	GOVERNMENT_EXPENDITURE	LABOR_FORCE
Mean	6.543865	0.928046	15.62376	2685961.
Median	11.90736	0.699034	16.93983	823819.0
Maximum	34.55237	6.940053	27.48708	9785433.
Minimum	-23.46150	-0.452540	2.047121	13388.00
Std. Dev.	14.58759	1.241950	5.842011	2896281.
Skewness	-0.492144	2.720921	-0.625084	0.683827
Kurtosis	2.224879	13.72808	2.721430	2.189373
Jarque-Bera	2.812263	259.2637	2.939264	4.528605
Probability	0.245090	0.000000	0.230010	0.103902
Sum	281.3862	39.90598	671.8217	1.15E+08
Sum Sq. Dev.	8937.506	64.78247	1433.422	3.52E+14
Observations	43	43	43	43

APPENDIX 3: Unit root at level

Table 2: Unit root at level

Variable	ADF Test statistics	1% critical value	5% critical value	Order of integration
GDP	-2.522882	-3.596616	-2.596616	1(0)
FDI	-4.200302	-3.596616	-2.933158	1(0)
GVT EXP	-3.084959	-3.596616	-2.933158	1(0)

LABOUR	-2.032439	-3.596616	-2.933158	1(0)

APPENDIX 4: UNIT ROOT FOR GDP

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.522882	0.1174
Test critical values:	1% level	-3.596616	
	5% level	-2.933158	
	10% level	-2.604867	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GDP_GROWTH)

Method: Least Squares

Date: 05/27/24 Time: 18:29

Sample (adjusted): 1981 2022

Included observations: 42 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP_GROWTH (-1)	-0.270957	0.107400	-2.522882	0.0157
C	1.585192	1.717145	0.923155	0.3615
R-squared	0.137279	Mean dependent var		-0.188055

Adjusted R-squared	0.115711	S.D. dependent var	10.79729
S.E. of regression	10.15341	Akaike info criterion	7.519945
Sum squared resid	4123.671	Schwarz criterion	7.602691
Log likelihood	-155.9188	Hannan-Quinn criter.	7.550274
F-statistic	6.364935	Durbin-Watson stat	2.256147
Prob(F-statistic)	0.015718		

APPENDIX 5: UNIT ROOT FOR FDI

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.200302	0.0019
Test critical values:	1% level	-3.596616	
	5% level	-2.933158	
	10% level	-2.604867	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FOREIGN_DIRECT_INVESTMEN)

Method: Least Squares

Date: 05/27/24 Time: 18:30

Sample (adjusted): 1981 2022

Included observations: 42 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOREIGN_DIRECT_INVEST MEN (-1)	-0.606412	0.144373	-4.200302	0.0001
C	0.587319	0.223062	2.632983	0.0120
R-squared	0.306068	Mean dependent var		0.029159

Adjusted R-squared	0.288720	S.D. dependent var	1.376716
S.E. of regression	1.161087	Akaike info criterion	3.183038
Sum squared resid	53.92491	Schwarz criterion	3.265784
Log likelihood	-64.84380	Hannan-Quinn criter.	3.213368
F-statistic	17.64254	Durbin-Watson stat	2.096411
Prob(F-statistic)	0.000145		

APPENDIX 6: UNIT ROOT FOR GOVERNMENT EXPENDITURE

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.084959	0.0354
Test critical values:	1% level	-3.596616	
	5% level	-2.933158	
	10% level	-2.604867	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GOVERNMENT_EXPENDITURE)

Method: Least Squares

Date: 05/27/24 Time: 18:34

Sample (adjusted): 1981 2022

Included observations: 42 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOVERNMENT_EXPENDI TURE(-1)	-0.381805	0.123763	-3.084959	0.0037
C	5.912253	2.061343	2.868156	0.0066

R-squared	0.192196	Mean dependent var	-0.043232
Adjusted R-squared	0.172001	S.D. dependent var	5.147378
S.E. of regression	4.683828	Akaike info criterion	5.972556
Sum squared resid	877.5298	Schwarz criterion	6.055303
Log likelihood	-123.4237	Hannan-Quinn criter.	6.002886
F-statistic	9.516972	Durbin-Watson stat	1.959823
Prob(F-statistic)	0.003684		

APPENDIX 6: UNIT ROOT FOR LABOUR FORCE

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.032439	0.2724
Test critical values:	1% level	-3.596616	
	5% level	-2.933158	
	10% level	-2.604867	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LABOR_FORCE)
Method: Least Squares
Date: 05/27/24 Time: 18:35
Sample (adjusted): 1981 2022
Included observations: 42 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LABOR_FORCE(-1)	-0.173558	0.085394	-2.032439	0.0488
C	348498.0	338963.4	1.028129	0.3101

R-squared	0.093604	Mean dependent var	-125139.9
Adjusted R-squared	0.070944	S.D. dependent var	1655009.
S.E. of regression	1595223.	Akaike info criterion	31.44937
Sum squared resid	1.02E+14	Schwarz criterion	31.53212
Log likelihood	-658.4368	Hannan-Quinn criter.	31.47970
F-statistic	4.130810	Durbin-Watson stat	2.712507
Prob(F-statistic)	0.048785		

APPENDIX 7:UNIT ROOT FOR MULTICOLINEARITY

	GDP_GROWTH	FOREIGN_DIRECT_INVESTMEN	GOVERNMENT_EXPENDITURE	LABOR_FORCE
GDP_GROWTH	1.000000	0.071155	0.704849	0.678354
FOREIGN_DIRECT_INVESTMEN	0.071155	1.000000	-0.028251	-0.311406
GOVERNMENT_EXPENDITURE	0.704849	-0.028251	1.000000	0.542510
LABOR_FORCE	0.678354	-0.311406	0.542510	1.000000

Source: E -views

APPENDIX 8: DATA FOR OLS

Dependent Variable: GDP_GROWTH

Method: Least Squares

Date: 05/27/24 Time: 17:40

Sample: 1980 2022

Included observations: 43

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOREIGN_DIRECT_INVESTMEN	2.889456	1.148231	2.516441	0.0161
GOVERNMENT_EXPENDITURE	1.069404	0.276132	3.872801	0.0004
LABOR_FORCE	2.63E-06	5.86E-07	4.492755	0.0001
C	19.91591	3.986899	-4.995339	0.0000

R-squared	0.673892	Mean dependent var	6.543865
Adjusted R-squared	0.648807	S.D. dependent var	14.58759
S.E. of regression	8.644833	Akaike info criterion	7.240209
Sum squared resid	2914.592	Schwarz criterion	7.404041
Log likelihood	-151.6645	Hannan-Quinn criter.	7.300625
F-statistic	26.86410	Durbin-Watson stat	1.133479
Prob(F-statistic)	0.000000		

APPENDIX 9: AUTOCORRELATION

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	5.678460	Prob. F(2,37)	0.0071
Obs*R-squared	10.09881	Prob. Chi-Square(2)	0.0064

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 05/29/24 Time: 21:39

Sample: 1980 2022

Included observations: 43

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOVERNMENT_EXPENDITURE	-0.189954	0.258340	-0.735287	0.4668
LABOR_FORCE	-1.80E-07	5.30E-07	-0.339109	0.7364
FOREIGN_DIRECT_INVESTMEN	-1.256799	1.120281	-1.121860	0.2692
C	4.698964	3.986382	1.178754	0.2460
RESID(-1)	0.431177	0.161584	2.668436	0.0112
RESID(-2)	0.193337	0.178297	1.084355	0.2852

R-squared	0.234856	Mean dependent var	-8.99E-16
Adjusted R-squared	0.131458	S.D. dependent var	8.330369
S.E. of regression	7.763536	Akaike info criterion	7.065540
Sum squared resid	2230.082	Schwarz criterion	7.311289
Log likelihood	-145.9091	Hannan-Quinn criter.	7.156165
F-statistic	2.272384	Durbin-Watson stat	2.067615

	0.067395		
Prob(F-statistic)			

APPENDIX 10: HETEROSKEDASTICITY

Heteroskedasticity Test: Breusch-Pagan-Godfrey

	0.641844		
F-statistic		Prob. F(3,39)	0.5927
	2.023135		
Obs*R-squared		Prob. Chi-Square(3)	0.5676
	1.583663		
Scaled explained SS		Prob. Chi-Square(3)	0.6631

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 05/29/24 Time: 21:45

Sample: 1980 2022

Included observations: 43

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	74.37367	44.20413	1.682505	0.1005
GOVERNMENT_EXPENDITURE	1.700277	3.061570	0.555361	0.5818
LABOR_FORCE	-8.36E-06	6.50E-06	-1.287043	0.2057

FOREIGN_DIRECT_INVESTMEN	-11.53074	12.73084	-0.905733	0.3706

R-squared	0.047050	Mean dependent var	67.78121
Adjusted R-squared	-0.026254	S.D. dependent var	94.61429
S.E. of regression	95.84826	Akaike info criterion	12.05182
Sum squared resid	358288.7	Schwarz criterion	12.21565
Log likelihood	-255.1141	Hannan-Quinn criter.	12.11223
F-statistic	0.641844	Durbin-Watson stat	1.744248
Prob(F-statistic)	0.592728		

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