



Z C A S U N I V E R S I T Y

MASTER'S DISSERTATION

Effects of Foreign Direct Investment on Zambia's Exports

(State the complete research title exactly as approved by your supervisor)

Student Number: 202402818

Programme: MSc Economics and Finance

Student Name: Khondwani Mbewe

Supervisor: Dr Sepo Imasiku

A dissertation submitted to ZCAS University in partial fulfilment of the requirements
for the award of Master of Science in Economics and Finance

June 2026

Presented to the Panel of Examiners • Directorate of Postgraduate Studies

COPYRIGHT NOTICE

The copyright of this dissertation is the property of the author, in accordance with the Copyright Policy of ZCAS University. Copying, reproducing, or using any part of this dissertation without the prior written consent of the author is prohibited. Due acknowledgement must always be given whenever any part of this dissertation is used or cited.

© Khondwani Mbewe, 2026

All rights reserved.

DECLARATION

I, Khondwani Mbewe, declare that this dissertation is a result of my own original research work, and that during the period of registered study, I have not used the information contained in this document for any other academic award or qualification, nor has any part of this material been submitted, solely or in part, for any other award. Where the work of other researchers has been used, it has been duly acknowledged and referenced.

Candidate Name: Khondwani Mbewe

Signature:



Date:

24/07/2026

Supervisor Name: Dr Sepo Imasiku

Signature:

Date:

CERTIFICATE OF APPROVAL

This dissertation by Khondwani Mbewe, Student Number 202402818, entitled "EFFECTS OF FOREIGN DIRECT INVESTMENT ON ZAMBIA'S EXPORTS" has been read and approved as meeting the requirements of ZCAS University for the award of Master of Science in Economics and Finance.

Examination Panel

Supervisor: Dr Sepo Imasiku

Internal Examiner: _____

External Examiner: _____

Director of Postgraduate Studies: _____

Date of Approval: _____

DEDICATION

I dedicate my dissertation to my mom Mrs. Given Spiwe Maliwa who taught me that hard work and self-belief is the only way to be successful. May you keep supporting me in everything I will do. This is for you!

ACKNOWLEDGEMENTS

I would first and foremost like to thank God Almighty for granting me the strength, wisdom, and opportunity to successfully undertake and complete this research study. His guidance and blessings enabled me to persevere throughout this academic journey. I am deeply grateful to my family for their unwavering support, encouragement, and motivation during the course of this study. Their belief in my abilities gave me the strength to remain committed to achieving this goal. I would also like to sincerely thank my supervisor, Dr Sepo Imasiku, for the valuable guidance, constructive feedback, and academic mentorship provided throughout the research process. Your support greatly contributed to the successful completion of this study.

My sincere appreciation further goes to ZCAS University for providing a conducive academic environment that facilitated the completion of this research. I am equally thankful to Bank of Zambia, Zambia Statistics Agency, and Ministry of Finance for making available the macroeconomic data that formed the basis of this study. Special thanks also go to my colleagues in the MSc Economics and Finance program for their academic support, insightful discussions, and encouragement throughout this research journey.

Lastly, I acknowledge the contributions of various scholars whose published works provided the theoretical and empirical foundation for this study and continue to inspire research in development economics and macroeconomic policy.

ABSTRACT

Foreign Direct Investment (FDI) is commonly viewed as an important contributor to export growth in host countries. It promotes human capital development by improving worker's skills as well as managerial and technical expertise, thereby increasing productivity and efficiency. These improvements enhance a country's competitiveness in international markets. In addition, FDI provides access to global production networks and foreign markets, which can stimulate export growth. Due to these potential benefits, Zambia has continued to attract FDI as part of its export-led growth strategy. This study examined the effect of Foreign Direct Investment on Zambia's export performance over the period 1993 to 2024. The study employed the Autoregressive Distributed Lag (ARDL) approach, while the Augmented Dickey-Fuller (ADF) test was used to test for unit roots. The results indicated that the variables became stationary at first difference, $I(1)$. The Bounds test further confirmed the existence of cointegration and a long-run relationship among exports, FDI, Gross Domestic Product, and inflation. The Error Correction Model (ECM) was applied to estimate the short-run effects. The findings revealed that FDI had a negative and statistically insignificant effect on exports in the long run, but a negative and significant effect in the short run. This may suggest that Zambia mainly attracts market-seeking and efficiency-seeking FDI, which focuses more on domestic demand and low-cost production structures rather than export expansion. The study further recommends the diversification of FDI into sectors beyond mining in order to expand export opportunities in other international markets. Additionally, policies aimed at attracting export-oriented FDI should be strengthened through the provision of appropriate infrastructure, specialized services, and skilled human capital required by export-oriented firms.

Keywords: Foreign Direct Investment, Exports, Zambia, ARDL, Economic Growth

TABLE OF CONTENTS

Copyright Notice.....	i
Declaration.....	ii
Certificate of Approval	iii
Examination Panel	iii
Dedication	iv
Acknowledgements.....	v
Abstract.....	vi
Table of Contents.....	vii
List of Tables	x
List of Figures	xi
List of Abbreviations and Acronyms	xii
Chapter One: Introduction and Background	13
1.1. BACKGROUND.....	13
1.1.1 OVERVIEW OF ZAMBIA’S EXPORTS.....	14
1.1.2. OVERVIEW OF FOREIGN DIRECT INVESTMENT IN ZAMBIA	17
1.2 PROBLEM STATEMENT	19
1.3 PURPOSE OF THE STUDY	20
1.4 RESEARCH OBJECTIVES	20
1.4.1 GENERAL OBJECTIVE	20
1.4.2 SPECIFIC OBJECTIVES	20
1.5 RESEARCH QUESTION	20
1.6. RESEARCH HYPOTHESIS	21
1.7. JUSTIFICATION FOR THE EFFECT OF FDI ON EXPORTS IN ZAMBIA.....	21
1.8. SCOPE OF THE STUDY	23
1.9 . THE RESEARCH CONCEPTS.....	23
1.10. DISSERTATION OUTLINE.....	23
1.11. CHAPTER SUMMERY	24
Chapter Two: Literature Review	26
2.1. INTRODUCTION.....	26
2.2 LONG-TERM EFFECTS OF FDI INFLOWS	26
2.3 SHORT-TERM EFFECTS OF FDI INFLOWS	27
2.4. KEY SECTORS WHERE FDI HAS CONTRIBUTED MOST SIGNIFICANTLY TO EXPORT GROWTH	28
2.5. THEORETICAL LITERATURE.....	29
2.5.1. New Trade Theory.....	30
2.5.2. Flying Geese Model	30
2.6. EMPIRICAL LITERATURE.....	31
2.7. SYNTHESIS OF THE LITERATURE.....	33
2.8. GAPS IN THE LITERATURE	35
2.9. THEORETICAL FRAMEWORK	36
2.10. THE CONCEPTUAL FRAMEWORK.....	37
2.11. SUMMARY	38
Chapter Three: Research Methodology	40
3.1. INTRODUCTION.....	40
3.2. RESEARCH DESIGN	40
3.3. MODEL SPECIFICATION	40
3.4. DEFINITION AND MEASUREMENT OF VARIABLES	41

3.4.1. DEPENDENT VARIABLE	41
3.4.2. INDEPENDENT VARIABLES	41
3.5 RESEARCH PHILOSOPHY	43
3.6. RESEARCH APPROACH.....	43
3.7. RESEARCH METHODOLOGICAL CHOICE	44
3.8. DATA COLLECTION.....	44
3.9. DATA PROCESSING AND ANALYSIS	45
3.9.1. Augmented Dickey Fuller Test (ADF).....	45
3.9.2. AUTOREGRESSIVE DISTRIBUTIVE LAG MODEL SPECIFICATION	45
3.9.3. ERROR CORRECTION MODEL	46
3.9.4. HETEROSCEDASTICITY	46
3.9.5. RAMSEY RESET TEST.....	46
3.9.6. MULTICOLLINEARITY	46
3.10. SAMPLING FRAME AND SIZE	46
3.11. TIME HORIZON	47
3.12. DATA COLLECTION TOOLS.....	47
3.13. PILOT TESTING OF DATA COLLECTION TOOLS.....	48
3.14. DATA INSTRUMENTS AND MEASUREMENT.....	49
3.14.1 SECONDARY DATA EXTRACTION SHEET (CORE INSTRUMENT)	50
3.14.2. VARIABLE DEFINITION AND OPERATIONALIZATION INSTRUMENT	51
3.14.3 DATA PREPARATION AND ECONOMETRIC PROCESSING INSTRUMENT	52
3.14.4 SECTORAL FDI-EXPORT LINKAGE INSTRUMENT.....	52
3.15. RESEARCH PARADIGM AND STRATEGY JUSTIFICATION.....	53
3.16. ETHICAL CONSIDERATIONS AND ACCESSIBILITY	53
3.17. RELIABILITY	54
3.18. VALIDITY.....	54
3.19. GENERALISABILITY OF RESEARCH FINDINGS	54
3.20. SUMMARY	55
Chapter Four: Research Findings and Analysis.....	56
4.1. INTRODUCTION.....	56
4.2. DESCRIPTIVE STATISTICS	56
4.2.1 MEAN (AVERAGE VALUES).....	56
4.2.2. STANDARD DEVIATION (VOLATILITY / STABILITY).....	57
4.2.3. MINIMUM AND MAXIMUM (RANGE OF VALUES)	57
4.3 UNIT ROOT TEST RESULTS (ADF TEST)	60
4.4. NATURAL LOGARITHM TRANSFORMATION (OLS).....	63
4.5. ARDL BOUNDS TEST	65
4.6 Error Correction Model (ECM)	71
4.7. RAMSEY RESET TEST	73
4.8. MULTICOLLINEARITY TEST	74
4.9. HETEROSCEDASTICITY TEST	75
4.10. SUMMARY	76
Chapter Five: Discussion, Conclusions and Recommendations.....	77
5.1. INTRODUCTION.....	77
5.2 DISCUSSION OF EMPIRICAL FINDINGS	77
5.2.1 Long-Run Effects of FDI on Export Performance	77
5.2.2 Short-Run Dynamics of FDI and Exports	79
5.2.3 Error Correction Term and Speed of Adjustment	80

5.2.4 Role of Control Variables.....	80
5.2.5 Diagnostic Tests and Model Validity	80
5.3 POLICY RECOMMENDATIONS.....	81
5.4 THEORETICAL IMPLICATIONS	82
5.5 LIMITATIONS OF THE STUDY	82
5.6 AREAS FOR FURTHER RESEARCH.....	83
5.7 CHAPTER SUMMARY	84
References.....	86
Appendices.....	90
APPENDIX I: DATA SET	90
APPENDIX II: ARDL BOUNDS TEST	92
APPENDIX III: LONG RUN AND SHORT ARDL TEST	93
APPENDIX IV: RAMSEY RESET TEST	94
APPENDIX V: ERROR CORRECTION MODEL	94
APPENDIX VI: MULTICOLLINEARITY	95

LIST OF TABLES

Table 1: Export product type by main destination.....	16
Table 2: Secondary Data Extraction Sheet (1993–2024).....	50
Table 3: Definition and Measurement of Variables.....	51
Table 4: Data Processing and Diagnostic Preparation.....	52
Table 5: Sectoral FDI and Export Contribution Matrix 2024.....	52
Table 6: Descriptive Statistics	56
Table 7: Data Summary	60
Table 8: ADF test at level and first difference.....	61
Table 9: Summary of results	61
Table 10: Ordinary Least Squares (OLS) Regression Results for Export Model.....	63
Table 11: ARDL Long-run Results.....	66
Table 12: ARDL Short-run Results	69
Table 13: Error Correction Model (ECM) Results	71
Table 14: Ramsey Reset Test.....	73
Table 15: Multicollinearity Test	75

LIST OF FIGURES

Figure 1: Earnings by Destination	15
Figure 2: Conceptual Framework	37

LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation	Meaning
ADF	Augmented Dickey-Fuller
ARDL	Autoregressive Distributed Lag
ECM	Error Correction Model
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IMF	International Monetary Fund
MFEZ	Multi-Facility Economic Zone
MNC	Multinational Corporation
OECD	Organisation for Economic Co-operation and Development
UNCTAD	United Nations Conference on Trade and Development
VIF	Variance Inflation Factor
ZDA	Zambia Development Agency

CHAPTER ONE: INTRODUCTION AND BACKGROUND

1.1. BACKGROUND

Foreign Direct Investment (FDI) plays a significant role in supporting economic growth in developing economies by providing capital inflows and improving access to global markets. However, the extent of its effect is influenced by factors such as the strength of institutions, quality of governance, and the country's ability to effectively absorb and utilize these investments especially in resource-driven sectors like mining (World Bank, 2024).

For Zambia, an economy heavily reliant on natural resource exports especially copper. Foreign Direct Investment (FDI) has played a central role in stimulating industrial activity and expanding participation in global trade. Over time, the country has drawn substantial foreign investment into key sectors including mining, agriculture, and manufacturing, each of which has made a notable contribution to export earnings (UNCTAD, 2023). Exports of goods and services continue to serve as a major source of foreign exchange, contributing to the reduction of balance of payments constraints while also supporting job creation (World Bank, 2024). As a result, many nations including Zambia prioritize export expansion as a strategy for economic development and view FDI as an essential instrument in advancing this goal (Organisation for Economic Co-operation and Development, 2022).

Foreign Direct Investment (FDI) refers to a long-term investment relationship where an investor from one country obtains a lasting interest and significant influence in a business enterprise operating in another country (International Monetary Fund, 2009). In addition to financial resources, FDI often brings managerial skills, technological knowledge, and access to global markets. These factors contribute to capital accumulation, improved productivity, and enhanced efficiency, which ultimately increase a country's ability to promote and expand exports (UNCTAD, 2006).

As Multinational Corporations (MNCs) serve as the main vehicles for FDI, there is continuing debate over whether their investments are primarily export-oriented or focused on serving domestic markets (World Bank, 2023). MNCs generally possess stronger export capabilities than local firms, and when their activities are geared toward external markets, they can influence domestic firms to follow suit. Such effects may arise through demonstration, partnerships, or

competitive dynamics, ultimately contributing to the development of export capabilities among local enterprises (Görg, 2003).

Saddimbah (2014), highlights several concerns regarding the potential negative effects of FDI. Critics contend that it can lead to the transfer of obsolete technologies, crowd out domestic investment, or concentrate on supplying the local market rather than promoting export growth. In certain instances, FDI may also hinder the development of local firms that have the potential to evolve into competitive exporters. Additionally, it may do little to strengthen a country's comparative advantage, particularly when investments are based largely on low-cost labor and the export of unprocessed raw materials.

1.1.1 OVERVIEW OF ZAMBIA'S EXPORTS

In the years following independence, Zambia recorded strong economic growth, largely supported by its abundant copper resources, which dominated the country's export base (World Bank, 2022). However, this momentum was disrupted in the 1970s as increases in global oil prices, coupled with declining copper prices, weakened economic stability (Chitonge, 2024). Over the subsequent two decades, conditions worsened due to rising public debt and declining investment in the mining sector (UNCTAD, 2006).

According to the United Nations Conference on Trade and Development (2006), Zambia implemented extensive economic reforms in the early 1990s with support from the World Bank and the International Monetary Fund (IMF). The reforms aimed to transform the economy from a state-led system into a market-oriented economy. Key measures introduced included the removal of price controls, exchange rate reforms, elimination of capital controls, and liberalization of agricultural markets in order to promote private sector participation. Trade reforms also led to the reduction of import restrictions. The overall objective of these reforms was to open the economy and promote diversification through the growth of sectors such as agriculture, manufacturing, and energy (World Bank, 2008).

Following these structural reforms, Zambia experienced improvements in export performance between 1999 and 2005. During this period, the export-to-GDP ratio increased from 27.4% in 1999 to 33.5% in 2000, before reaching 42.6% in 2004 (World Bank, 2024). Nevertheless, the

global financial crisis of 2008 negatively affected macroeconomic stability and contributed to a decline in exports as a share of GDP (International Monetary Fund, 2009).

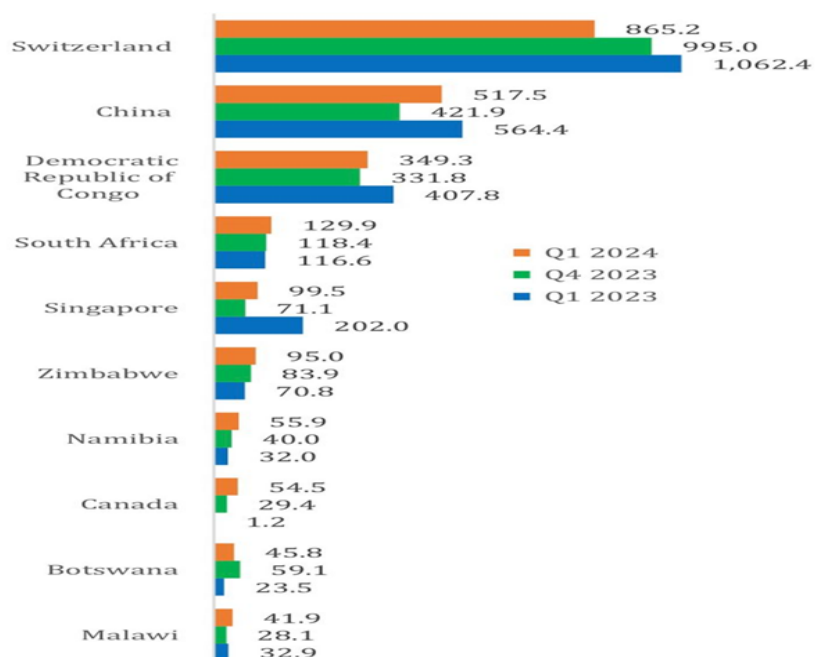
Since that period, Zambia's export growth has remained relatively moderate, with exports contributing an average of about 37.5% to GDP after 2005 (UNCTAD, 2016).

According to the United Nations Conference on Trade and Development (2016), copper remains the backbone of Zambia's exports, contributing about 77% of total export earnings. Although non-traditional exports have grown, their share is still relatively small, underscoring persistent challenges related to international competitiveness.

In recent years, Zambia has expanded its export portfolio beyond traditional commodities to include products such as tobacco, gemstones, iron, steel, and inorganic chemicals (World Bank, 2023). By 2024, earnings from non-traditional exports had increased significantly, contributing 34.9% of total export revenues, with major export destinations including Switzerland, China, and the United Arab Emirates (Bank of Zambia, 2024). Despite this progress, total export earnings declined during the first quarter of 2024 mainly due to reduced copper export revenues caused by lower export volumes and operational challenges within the mining sector (Bank of Zambia, 2024).

The figure below shows earnings by destination country

Figure 1: Earnings by Destination



The table below shows the export product type by main destination (US\$ million)

Table 1: Export product type by main destination

Top Product	Main Destination	Q1 2023	Q1 2024	% Change
Copper	Switzerland	1030.6	842.8	(18.2)
Mineral fuels and oils	Namibia	25.8	49.0	89.9
Salt, Sulphur, earth and stone	Canada	—	54.4	—
Ores, slag and ash	Democratic Republic of Congo	125.9	52.7	58.1
Inorganic chemicals	Democratic Republic of Congo	38.7	32.1	17.1

SOURCE: (ZamStats and Bank of Zambia 2024)

Switzerland recorded the highest trade values across all three quarters, although there was a declining trend from Q1 2023 (US \$1,062.4 million) to Q4 2023 (US \$995.0 million) and further in Q1 2024 (US \$865.2 million), mainly due to reduced trade volumes, changing demand, and policy adjustments (ZamStats, 2024). China exhibited fluctuating trends, falling in Q4 2023 (US \$421.9 million) before recovering in Q1 2024 (US \$517.5 million), suggesting seasonal economic effects on trade (Trading Economics, 2024). The Democratic Republic of Congo followed a similar pattern to China, with a Q4 2023 dip and a partial rebound in Q1 2024, likely reflecting shifts in commodity prices, export restrictions, and production levels, (World Bank, 2024).

South Africa, however, showed consistent growth from Q1 2023 (US \$116.6 million) to Q1 2024 (US \$129.9 million), indicating resilience in economic activity (ZamStats, 2024). Singapore experienced a significant decline between Q1 2023 (US \$202.0 million) and Q4 2023 (US \$71.1 million), with a slight recovery in Q1 2024 (US \$99.5 million), likely due to trade policy changes and supply chain disruptions (UNCTAD, 2024). Zimbabwe showed steady growth from Q1 2023 (US \$70.8 million) to Q1 2024 (US \$95.0 million), reflecting improved macroeconomic conditions and investment inflows (World Bank, 2024). Similarly, Namibia's upward trajectory from Q1 2023 (US \$32.0 million) to Q1 2024 (US \$55.9 million) suggests stronger export performance (Trading Economics, 2024).

Canada experienced rapid trade expansion, rising from US \$1.2 million in Q1 2023 to US \$54.5 million in Q1 2024, possibly due to new agreements or policy shifts (OECD, 2024). Botswana's fluctuations between Q1 2023 (US \$23.5 million), Q4 2023 (US \$59.1 million), and Q1 2024 (US \$45.8 million) reflect changes in mining output and export demand (IMF, 2024). Lastly, Malawi's mixed pattern a Q4 2023 dip followed by a Q1 2024 recovery aligns with its agricultural export cycles (World Bank, 2024).

1.1.2. OVERVIEW OF FOREIGN DIRECT INVESTMENT IN ZAMBIA

Zambia has turned more and more to Foreign Direct Investment (FDI) over the years to make up for its scarce domestic capital (UNCTAD, 2016). Hoping to draw in foreign firms, the Zambian government introduced policies such as reduced import tariffs and tax breaks, all designed to foster an investor-friendly environment. Underpinning these efforts is the expectation that

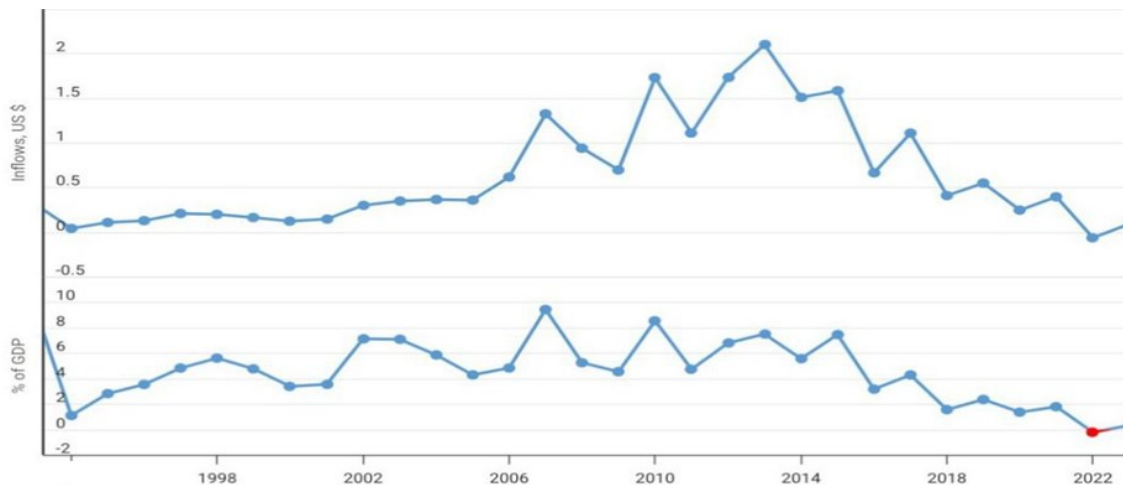
stronger FDI flows will boost the country's export performance and overall trade position (UNCTAD, 2016).

According to the UNCTAD World Investment Report (2023), Zambia's FDI inflows rebounded from a negative USD 352 million in 2021 to a positive USD 116 million in 2022, though this figure remained under the average inflow of USD 504.3 million recorded from 2018 to 2020. As of the end of 2022, the nation's total FDI stock was estimated at USD 15.2 billion, equating to about 53.5% of GDP. The mining sector keeps attracting the largest portion of investments, with major contributions coming from countries including Canada, Australia, China, and the United States. Moreover, Chinese firms have sustained a strong presence in infrastructure and construction, greatly shaping Zambia's investment landscape (World Bank Investment Report, 2023). However, infrastructure limitations continue to be a major obstacle to attracting and retaining investment. Inadequate road networks and restricted railway capacity keep hindering economic activity (UNCTAD, 2023). In response, Zambia launched an ambitious USD 11 billion standard gauge railway project in 2021 aimed at enhancing regional connectivity. The country has also taken part in the World Bank's Scaling Solar Program, which facilitates the development of large-scale solar energy projects through competitive procurement, technical assistance, and financial guarantees (UNCTAD, 2023).

Acknowledging the risks of overreliance on mining, particularly copper, the Zambian government has made economic diversification a priority (World Bank, 2023). To this end, the Zambia Development Agency (ZDA) launched a Strategic Plan (2022–2026) targeting roughly USD 36 billion in combined FDI and domestic investment (ZDA, 2022). This is consistent with the Eighth National Development Plan (8NDP), which backs Vision 2030's aim of turning Zambia into an industrialized upper-middle-income economy (Ministry of Finance and National Planning, 2022).

Although Zambia is generally open to foreign investment, restrictions remain in areas such as land ownership, and investors continue to face regulatory challenges including high licensing costs and inconsistent enforcement of rules (UNCTAD, 2023). The investment climate is also harmed by inadequate safeguards for property rights and contract enforcement. Consequently, Zambia performs poorly in international rankings, placing 118th out of 132 on the Global Innovation Index and 152nd out of 184 on the Index of Economic Freedom (UNCTAD, 2023).

The figure below illustrates FDI inflows and Percentage of GDP (millions of dollars) from 1993 to 2024



Source: (World Bank 2024)

Zambia's economy experienced significant strain during the oil crisis of the 1980s, resulting in an extended period of weak investment performance (UNCTAD, 2006). In the early 1990s, a new government came into power and implemented a series of economic reforms aimed at stabilizing the economy.

Nevertheless, these reforms coincided with a substantial decline in foreign direct investment (FDI), which dropped sharply from \$202.8 million in 1990 to \$34.3 million in 1991 (UNCTAD, 2006). This decline can largely be attributed to investor uncertainty regarding the country's economic environment. Despite the initial downturn, FDI inflows gradually recovered over the period 1995 to 2000, reaching an average of approximately \$161 million annually (UNCTAD, 2006).

1.2 PROBLEM STATEMENT

The Government of Zambia identifies Foreign Direct Investment (FDI) as a critical mechanism for boosting the production and exportation of goods and services (UNCTAD, 2006). In the aftermath of the country's transition to a liberalized and privatized economic system in the early 1990s, policymakers introduced a range of reforms aimed at attracting foreign capital to support

export-oriented growth (World Bank, 2024). These initiatives have included fiscal incentives such as tax exemptions, investment allowances, and other concessions intended to create a more conducive business environment (Zambia Development Agency, 2023). In addition, the development of Multi-Facility Economic Zones (MFEZs) and industrial parks in key sectors has played a significant role in encouraging FDI inflows and fostering industrial diversification (Ministry of Commerce, Trade and Industry, 2022). Consequently, Zambia's export earnings rose markedly, increasing from approximately US\$1.2 billion in 1994 to a peak of US\$11.72 billion in 2022, reflecting substantial economic growth (UNCTAD, 2024).

While Zambia has experienced a growth in investments over time, between 1993 and 2024, Zambia's economic growth averaged about 5.07%, showing strong expansion during the mid-2000s to early 2010s when foreign direct investment (FDI) inflows rose significantly, peaking at approximately US \$2.1 billion in 2013 before declining and later rebounding to about US \$1.24 billion in 2024, suggesting a positive but volatile relationship between FDI and economic growth in the country's natural resource-dependent economy (Trading Economics, 2024). The precise effect of FDI on export performance remains uncertain. Despite the widely acknowledged importance of FDI, limited empirical research has examined its direct effect on exports within the Zambian context, underscoring the relevance and timeliness of this study (World Bank, 2024). Studies in other countries suggest that FDI does not automatically translate into higher exports. Tsaurai (2023), analyzed emerging markets from 2004 to 2019, and found that inward FDI must surpass a certain threshold before it significantly influences export growth, indicating that FDI alone may be insufficient to drive exports.

1.3 PURPOSE OF THE STUDY

This study aims to investigate the effect of Foreign Direct Investment (FDI) on Zambia's export performance by evaluating its influence on key factors such as productive capacity, integration into international markets, technological advancement, and export diversification. Particular attention is given to major sectors including mining, agriculture, and manufacturing. The research seeks to provide deeper insight into how FDI contributes to the expansion and structural transformation of Zambia's export base, ultimately enhancing the country's competitiveness in the global marketplace.

1.4 RESEARCH OBJECTIVES

1.4.1 GENERAL OBJECTIVE

This study seeks to assess how FDI inflows have influenced Zambia's export performance over the period from 1993 to 2024.

1.4.2 SPECIFIC OBJECTIVES

The specific objectives of the study are:

- I) To explore the possible long-term effects of FDI inflows on the performance of Zambia's exports.
- II) To analyze the short-term linkage between FDI inflows and export performance.
- III) To identify key sectors where FDI has contributed most significantly to export growth.

1.5 RESEARCH QUESTION

- I) What is the long-term effect of FDI inflows on export performance in Zambia?
- II) How do foreign direct investment (FDI) inflows influence Zambia's export performance in the short run?
- III) To what extent does FDI contribute to export diversification across key sectors such as mining, agriculture, and manufacturing?

1.6. RESEARCH HYPOTHESIS

The following hypothesis are stated in null (H0) and alternative (H1) forms and are tested in the course of this study.

Hypothesis 1:

- **H₀:** Foreign direct investment (FDI) does not have a long-run relationship with exports.
- **H₁:** Foreign direct investment (FDI) have a long-run relationship with exports.

Hypothesis 2:

- **H₀:** Foreign direct investment (FDI) does not have a short-run effect on exports.
- **H₁:** Foreign direct investment (FDI) have a short-run effect on exports.

1.7. JUSTIFICATION FOR THE EFFECT OF FDI ON EXPORTS IN ZAMBIA

The study aims to evaluate how FDI inflows have influenced the export performance of Zambia between 1993 and 2024.

Increased Production Capacity

Foreign Direct Investment contributes to the expansion and modernization of Zambia's productive capacity through the injection of capital into key sectors. In the mining industry, which remains the backbone of the country's export sector, multinational corporations such as First Quantum Minerals and Barrick Gold have made substantial investments in extraction and processing activities. These capital inflows have significantly enhanced copper output, which continues to be Zambia's leading export commodity (Bank of Zambia, 2024).

Technology and Skills Transfer

In Zambia, FDI acts as a major conduit for transferring technology (UNCTAD, 2020). Through multinational corporations, the economy gains access to advanced equipment, production techniques, and managerial know-how. Investments in areas including mining, manufacturing, and agriculture have led to greater efficiency and higher production levels, especially within the copper sector. Foreign companies have likewise brought mechanized systems, cold-chain storage, and better seed varieties to agro-processing, which in turn boosts export potential and contributes to food security (ZDA, 2021).

Many multinational enterprises provide on-the-job training, technical education, and management development programs for Zambian employees (World Bank, 2023). These capacity-building efforts have improved skills in engineering, ICT, and industrial management. Within the mining sector, foreign firms have contributed to human capital development through organized apprenticeship and graduate training programs (World Bank, 2023). In addition, the Zambia Industrial Training Academy, together with partners such as Huawei, has offered ICT training for students and professionals, thereby promoting the development of digital skills (Ministry of Technology and Science, 2022).

Access to Global Markets and Networks

Multinational corporations bring established trade networks into host economies. Through FDI, local firms in Zambia are able to access international markets through the distribution channels of parent companies (World Bank, 2023). For instance, investments from China in Zambia's infrastructure and industrial zones have enhanced trade logistics and created export opportunities to Asian markets and other regions (World Bank, 2023).

Diversification of Export Base

Foreign Direct Investment has contributed to the diversification of Zambia's export base by supporting growth in non-traditional sectors (ZDA, 2021). Although the economy has historically relied on copper exports, foreign investment in agriculture, energy, and tourism is gradually expanding the country's export structure. For example, investments in floriculture and horticulture have allowed Zambia to penetrate export markets in Europe (ZDA, 2021).

Improved Infrastructure

Foreign investment in infrastructure, including roads, railways, and electricity supply, indirectly promotes export growth by lowering costs and improving efficiency and reliability (ZDA, 2021). Projects financed through FDI, such as road networks connecting Zambia with neighboring countries, have also strengthened regional trade opportunities (ZDA, 2021).

1.8. SCOPE OF THE STUDY

Given the increase in Foreign Direct Investment (FDI) driven by policy reforms aimed at attracting international capital, this study investigates the effect of FDI on Zambia's export performance. The analysis uses time series data spanning the period from 1993 to 2024. For a focused examination, the study includes four key variables: export performance, FDI inflows, gross domestic product (GDP), and inflation.

1.9 . THE RESEARCH CONCEPTS

This study is grounded in several core theoretical constructs that help clarify the link between foreign direct investment and export performance in Zambia. The primary construct is FDI, which is presumed to affect export outcomes measured in terms of export value and growth. The transmission of FDI's influence on exports takes place through trade openness and the real effective exchange rate, both of which reflect Zambia's level of global market integration and its international cost competitiveness. To separate the distinct role of FDI, gross domestic product and inflation are introduced as control variables, representing the country's overall economic scale and price stability. Moreover, the research explores the sectoral dimension of FDI specifically in mining, agriculture, and manufacturing viewing these sectors as pathways for achieving export growth and diversification.

1.10. DISSERTATION OUTLINE

This dissertation comprises five chapters. The first chapter introduces the study, offering context on foreign direct investment and export performance in Zambia. It includes the statement of the problem, research aims and questions, hypotheses, justification for the study, delimitations, and an overview of the methodological approach. Chapter two surveys relevant theoretical and empirical work on the linkage between FDI and exports, outlines the theoretical and conceptual models that inform the study, and identifies shortcomings in prior research. The third chapter details the research methodology, covering the design of the study, data sources, specification of the empirical model, measurement of variables, and the econometric procedures employed. Chapter four reports and interprets the empirical results, providing descriptive statistics, outcomes from diagnostic tests, and an analysis of both short-term and long-term relationships. Finally, chapter five summarizes the principal findings, offers conclusions and policy recommendations, acknowledges the study's limitations, and suggests directions for future research.

1.11. CHAPTER SUMMERY

The chapter introduces the study by providing a comprehensive background on the role of Foreign Direct Investment (FDI) in Zambia's export performance within a natural resource dependent economy. It highlights the importance of exports as a key source of foreign exchange and economic growth, emphasizing Zambia's heavy reliance on copper exports, and the government's long-standing efforts to attract FDI as a strategy for export-led development. The chapter reviews the evolution of Zambia's export sector, noting periods of growth following economic liberalization in the early 1990s, as well as persistent challenges such as export concentration, limited diversification, and vulnerability to external shocks. Despite some progress in non-traditional exports, copper continues to dominate export earnings, raising concerns about sustainability and competitiveness. An overview of FDI trends in Zambia is also presented, showing fluctuating inflows largely concentrated in the mining sector, alongside policy reforms and incentives aimed at improving the investment climate.

The problem statement identifies a critical gap in existing literature, although FDI is widely promoted as a catalyst for export growth, its actual effect on Zambia's export performance remains unclear and under-researched. This uncertainty is compounded by mixed empirical evidence from other developing countries, suggesting that FDI does not automatically translate into improved export outcomes.

Finally it justifies the study by outlining key channels through which FDI can influence exports, including increased production capacity, technology and skills transfer, access to global markets, infrastructure development, and export diversification. Based on this foundation, the research aim, objectives, questions, and hypotheses are clearly stated, focusing on both the short-run and long-run effects of FDI on exports between 1993 and 2024.

CHAPTER TWO: LITERATURE REVIEW

2.1. INTRODUCTION

This chapter examines existing literature on the relationship between foreign direct investment and export performance. It starts by presenting relevant theoretical frameworks, followed by a review of empirical studies. The empirical section draws on research from different regions, with particular attention to Europe, Africa, and Zambia.

Zambia's export structure is largely driven by mineral commodities, with copper representing the dominant source of export revenue (World Bank, 2024). In 2024, the country's total export earnings were estimated at about US\$11.28 billion, based on UNCTAD data, of which copper contributed the largest share at approximately US\$7.59 billion (Trading Economics, 2025). This heavy reliance on copper highlights Zambia's position as one of the leading copper-producing and exporting countries in Africa.

Other important export categories include ores, slag and ash, salt and related mineral products, mineral fuels, precious stones and metals, and tobacco and its substitutes (Trading Economics, 2025). Together, these sectors illustrate a resource-intensive export profile, where raw and semi-processed commodities predominate.

In terms of export destinations, Zambia's exports in 2024 were concentrated in a relatively small set of countries. The largest single export partner was Switzerland, receiving an estimated US\$4.80 billion in goods, followed by China with US\$2.34 billion and Congo around US\$1.20 billion (Trading Economics, 2025). This distribution highlights the global integration of Zambia's mining sector, particularly in trade with key industrial markets.

Despite periodic fluctuations in trade balance data such as short-term trade deficits in specific months of 2024, overall export trends have remained essential to Zambia's external sector performance and broader economic activity (Zambia Statistics Agency, 2025).

2.2 LONG-TERM EFFECTS OF FDI INFLOWS

This focuses on the long term relationship between FDI and exports. It seeks to determine whether FDI contributes to sustained export growth over time, not just temporary changes. According to Dahal (2024), FDI inflows can significantly influence host economies over the long

term by supplementing domestic capital, enhancing productivity, and fostering sustainable economic growth. Empirical studies show that FDI inflows are positively associated with long-run GDP growth in many developing countries, indicating that FDI contributes to economic expansion and technological advancement when the host economy possesses adequate human capital and institutional frameworks (Alfaro et al., 2004).

Moreover, FDI often brings technology spillovers, which help domestic firms improve their efficiency and competitiveness through demonstration effects and knowledge diffusion (Aitken, 1999). Although the magnitude of these spillovers depends on the host country's capacity to absorb new technologies (Borensztein, 1998). However, the long-term effect of FDI is not uniformly positive, its benefits can vary by region and economic context and some studies find that without conducive policies and sufficient human capital development (Lensink, 2003). FDI may have limited or even ambiguous effects on growth underscoring the importance of strategic policy frameworks to maximize the developmental benefits of foreign investment (Carkovic, 2005).

Zambia's long-term national development strategy is focused on achieving middle-income country status by the year 2030 (Government of the Republic of Zambia, 2006). To support this objective, the government has introduced various economic reforms and policy measures since gaining independence in 1964, aimed at fostering sustainable economic growth (Chansa et al., 2019; Chirwa & Odhiambo, 2017; Musonda & Adams, 1997). During the early 2000s, the country experienced notable economic expansion, with real GDP growth averaging 4.6 percent between 2000 and 2005 before increasing to approximately 6.4 percent from 2006 to 2014 (World Bank, 2024). This growth was largely driven by rising investment in the mining industry after privatisation, favourable international copper prices, adoption of private sector-oriented development policies, and relatively stable macroeconomic management (World Bank, 2024). Consequently, Zambia emerged as one of the stronger economic performers in Sub-Saharan Africa and was subsequently upgraded from low-income to lower-middle-income status in 2011 (World Bank, 2017).

2.3 SHORT-TERM EFFECTS OF FDI INFLOWS

Foreign Direct Investment (FDI) inflows can generate several positive short-term effects on host economies, particularly in developing countries (Borensztein, De Gregorio, & Lee, 1998; UNCTAD, 2023). In the short run, FDI contributes to increased capital formation, helping to bridge domestic savings gaps and stimulate economic activity (World Bank, 2020). It also creates employment opportunities, especially during the establishment phase of foreign firms, which can raise household incomes and boost aggregate demand (UNCTAD, 2022). Additionally, FDI inflows often improve foreign exchange availability, easing balance of payments constraints and supporting currency stability (OECD, 2019). However, short-term challenges may also arise, including profit repatriation pressures and potential crowding out of local firms if domestic industries are not sufficiently competitive (Borensztein, De Gregorio, & Lee, 1998).

In Zambia, short-term inflows of Foreign Direct Investment (FDI) generate several immediate economic effects, particularly given the country's dependence on imported capital and its resource-based economic structure (Bank of Zambia, 2024). FDI provides essential foreign capital that helps finance investment projects which may not be feasible through limited domestic savings, making it a critical source of external financing relative to local investment capacity (Bank of Zambia, 2024). In the short run, these inflows tend to support the development of infrastructure and expansion in key sectors such as mining, energy, and transport, thereby stimulating economic activity and increasing aggregate demand (Bank of Zambia, 2024).

2.4. KEY SECTORS WHERE FDI HAS CONTRIBUTED MOST SIGNIFICANTLY TO EXPORT GROWTH

Foreign Direct Investment (FDI) plays an important role in promoting export growth by providing capital, technology, and access to international markets (UNCTAD, 2023). Globally, certain sectors tend to benefit most from FDI inflows in terms of export performance (World Bank, 2023). One of the main sectors is mining and natural resources, including minerals, oil, and gas, where foreign investment helps increase production and generates significant export earnings (UNCTAD, 2023). Manufacturing is another key sector, as FDI supports the production

of goods such as electronics, machinery, automobiles, and textiles for international markets (World Bank, 2023).

FDI also contributes to agriculture and agro-processing, helping improve the quality and quantity of cash crops and processed food products for export (UNCTAD, 2023). In addition, energy and utilities, such as electricity and renewable energy projects, often benefit from FDI, which indirectly supports exports by enabling industrial growth and reliable production capacity (World Bank, 2023). Finally, services, including finance, telecommunications, and tourism, can strengthen export-oriented businesses by improving infrastructure, trade facilitation, and connectivity (World Bank, 2023).

In Zambia, the key sectors where FDI has contributed most significantly to export growth are primarily those that attract substantial foreign investment and have strong linkages to international markets (UNCTAD, 2023). Mining in Zambia especially copper and cobalt, remains the largest recipient of FDI and the main driver of export revenue. Foreign investors have funded large-scale mining operations, modernized production, and increased output, directly boosting exports. Mining accounts for over 70% of Zambia's total export earnings (UNCTAD, 2023; Zambia Chamber of Mines, 2024).

Investments in power generation (hydropower plants and renewable energy projects) attract FDI to support infrastructure for mining and industrial activities. While energy itself is not a major export, FDI in this sector enables export-oriented industrial growth, indirectly supporting other sectors' export capacity (World Bank, 2024).

FDI has increasingly targeted commercial farming, processing plants, and export crops like maize, sugar, and tobacco. Such investments enhance production quality and linkages to regional and international markets, contributing to export diversification beyond mining (World Bank, 2022).

FDI in manufacturing especially food and beverage processing, textiles, and cement has been slower but is gradually improving export performance. Investments focus on producing goods for regional markets (SADC, COMESA), helping Zambia reduce reliance on imports and increase value-added exports (UNCTAD, 2023).

2.5. THEORETICAL LITERATURE

Kutan and Vusić (2007), explain that multinational corporation (MNC) theories suggest firms undertake foreign investment when they hold specific competitive advantages. These advantages include ownership-related benefits, such as exclusive technologies, products, or production methods that strengthen a firm's position in global markets. The theories also highlight location advantages, which arise when producing within a host country offers firms greater competitiveness, as well as internalization advantages, where companies choose to utilize their assets through their own operations instead of external partnerships or contractual arrangements.

2.5.1. New Trade Theory

According to Ndoricimpa (2009), the New Trade Theory connects FDI with international trade by differentiating between vertical and horizontal FDI. Vertical FDI, often termed export-oriented FDI, arises when firms set up production operations abroad but continue to export intermediate goods from their home country. These inputs are subsequently used in the host nation to assemble or manufacture final products.

In this model, multinational corporations (MNCs) break their production chain into separate stages across different locations, driven by considerations such as disparities in labor costs and location-specific benefits. This approach allows firms to lower overall production expenses by exploiting cost differences among countries, thereby boosting trade in intermediate goods as production becomes geographically fragmented. The primary aim of vertical FDI is cost reduction (Bouras & Raggad, 2015). On the other hand, horizontal FDI occurs when the advantages of being close to customers outweigh the benefits of producing in a single location. In this case, firms set up operations in several countries to cater to local markets, seeking to gain economies of scale, cut transportation expenses, and broaden their market reach. This form of FDI, often called market-seeking investment, can act as a substitute for exports by moving production nearer to end users and circumventing trade obstacles like tariffs and high freight costs. While vertical FDI generally boosts trade flows, horizontal FDI may reduce international trade because production is shifted to foreign markets (Bouras & Raggad, 2015).

2.5.2. Flying Geese Model

According to Sultan (2013), the Flying Geese model provides an important framework for explaining the complementary relationship between FDI and international trade. The model argues that multinational corporations (MNCs) tend to shift production activities from high-cost labour economies to countries with lower labour costs in order to improve global competitiveness. By taking advantage of the host country's resource endowments, these firms contribute to strengthening export capacity in the recipient economy (Sultan, 2013). Furthermore, FDI inflows facilitate the transfer of capital, advanced technology, managerial expertise, and specialized skills, which enhance the productivity and competitiveness of domestic firms, thereby supporting export growth (Sultan, 2013).

2.6. EMPIRICAL LITERATURE

A substantial body of empirical literature has explored the relationship between FDI and export performance at both country and regional levels. Bouras & Raggad (2015), for instance, investigated the role of FDI in influencing export performance in twelve Central and Eastern European countries. Their findings identified two key channels, the supply capacity effect, whereby FDI enhances host country productive capacity and stimulates exports, and the FDI-specific effect, which involves the transfer of advanced technology, superior market knowledge, and integration into global production networks by multinational enterprises (MNEs).

The findings indicated that although FDI generally promoted production and export growth, the more advanced spillover effects were mainly observed in newer European Union member states, likely due to stronger diffusion of competitive advantages into domestic industries.

In the Zambian context, Ndlovu & Haabazoka, (2024) examined the impact of FDI on economic growth between 1996 and 2020 using time series econometric methods. The findings revealed that FDI positively influenced economic growth, particularly through its effect on inflation. However, its effect on other macroeconomic variables such as interest rates, unemployment, and national savings was statistically insignificant. The authors concluded that FDI alone is insufficient to drive broad macroeconomic transformation without complementary policy support.

Similarly, Mumena & Lusaya (2020), examined the sectoral impact of FDI on economic growth in Zambia within an endogenous growth framework, with particular attention given to the agriculture, manufacturing, mining, and construction sectors. Using the Autoregressive Distributed Lag Error Correction Model (ARDL-ECM), the study confirmed that the variables were integrated at varying levels, reflecting a combination of $I(0)$ and $I(1)$ processes. The findings emphasized the significance of sector-specific FDI in shaping economic growth outcomes.

Ndaba (2015), investigated the effect of FDI on economic growth in Zambia as a resource-dependent economy using data covering the period 1990 to 2013. The research applied time-series econometric techniques to evaluate the relationship between FDI inflows and GDP growth. The results indicated that FDI exerted a positive and statistically significant influence on growth during the 1990s. However, this relationship weakened after 2000 when over half of total FDI inflows became concentrated in the mining industry. The study argued that this concentration reduced the wider developmental benefits of FDI by reinforcing reliance on copper exports and heightening exposure to fluctuations in global commodity prices. It concluded that FDI alone cannot guarantee sustainable economic growth unless investments are diversified across sectors and backed by effective domestic policies.

In Malaysia, Kogid et al. (2014), examined the relationship between FDI and economic growth using time series data from 1971 to 2009. The study found that FDI had a significant effect on economic growth. However, the use of net FDI flows as a proxy may have introduced bias since the impact depends on the balance between inflows and outflows. While the methodology established causality between FDI and GDP, long-term effects weren't clearly shown.

Goswami & Saikia (2012), investigated the relationship between FDI and exports in India using a Vector Error Correction Model (VECM). Their findings revealed a bi-directional causality between FDI and manufactured exports, indicating that FDI contributes to export growth while increasing exports also attract additional FDI inflows. The study therefore highlighted the existence of important sectoral differences within the FDI-export relationship.

In Ethiopia, Tessema (2012), used a Vector Autoregressive (VAR) model to analyze the relationship between FDI, GDP, and exports. The study found a long-run equilibrium among the variables, but the Error Correction Model results indicated that FDI had a negative impact on

exports, mainly due to structural weaknesses and the concentration of investment in non-export sectors.

Similarly, Msoni (2012), applied a Single Equation Error Correction Model to examine the effect of FDI on export performance in Zambia from 1970 to 2012. The results showed a significant negative short-run effect and an insignificant long-run relationship between FDI and exports. In a subsequent study, Msoni (2016) attributed this weak impact to Zambia's dependence on mining-related FDI, which has limited linkages with the wider economy. The study recommended attracting FDI into more diversified and export-oriented sectors such as agriculture and manufacturing to improve export performance.

2.7. SYNTHESIS OF THE LITERATURE

Previous studies examining the relationship between Foreign Direct Investment (FDI) and export performance present inconsistent and context-specific findings, largely shaped by variations in economic structures, institutional conditions, sectoral distribution, and research methodologies. Existing theoretical and empirical literature indicates that while FDI has the potential to improve export performance, the magnitude and direction of its effect depend on factors such as the nature of investment, the host country's absorptive capacity, and the sectors that attract foreign capital inflows (Blomström & Kokko, 1998; UNCTAD, 2023). From a theoretical perspective, models such as the New Trade Theory and the Flying Geese Model support the argument that FDI can stimulate export growth. The New Trade Theory explains that multinational corporations expand production across borders in order to exploit economies of scale and improve efficiency, thereby encouraging industrial specialization and export expansion (Helpman & Krugman, 1985; Markusen, 1995).

Likewise, the Flying Geese Model suggests that FDI supports industrial upgrading and export growth in developing countries by relocating production from advanced economies to less developed ones (Kojima, 1978).

The Export-Led Growth hypothesis also argues that FDI can promote export performance by increasing production capacity, improving efficiency, and facilitating technological advancement (Balassa, 1985). Similarly, the OLI (Eclectic) Paradigm provides an explanation for multinational enterprises' investment decisions in host economies such as Zambia, emphasizing ownership, location, and internalization advantages as key determinants that may support export expansion (Dunning, 1988). Taken together, these theoretical perspectives imply that FDI is likely to enhance export performance, especially when it is oriented toward efficiency-seeking activities and integrated into export-driven production systems (Dunning & Lundan, 2008; Markusen & Maskus, 2002).

Empirical findings, however, do not present a uniform conclusion. A number of cross-country studies, particularly in emerging and middle-income economies, report a positive association between Foreign Direct Investment (FDI) and export performance. For instance, Bouras & Raggad (2015), and Goswami & Saikia (2012), show that FDI can enhance exports by expanding production capacity, facilitating technology transfer, and integrating host economies into global value chains. These studies also highlight the possibility of two-way causality; whereby stronger export performance can attract additional FDI inflows. Such results support the view that FDI and exports may be mutually reinforcing, particularly in manufacturing-driven economies with well-developed institutions.

In contrast, other empirical studies have found weak, insignificant, or even negative relationships between FDI and export performance. Evidence from Ethiopia (Tessema, 2012), Tanzania (Msoni, 2012; 2016), and Sri Lanka (Samantha & Liu, 2018) indicates that FDI does not necessarily lead to export expansion.

In such instances, FDI has typically been market-seeking or heavily concentrated in extractive industries with weak linkages to other sectors of the economy. These outcomes suggest that sectoral concentration, limited domestic value addition, and structural constraints can weaken the extent to which FDI translates into export growth.

Within the Zambian context, the existing literature remains relatively sparse and is largely centred on the relationship between FDI and economic growth rather than export performance.

Studies such as Ndaba (2015), Msoni (2012), and Mumena & Lusaya (2020), generally indicate that while FDI has supported economic growth, its effect is constrained by its strong concentration in the mining sector. Ndaba (2015), further argues that this structural bias reinforces dependence on copper exports and increases vulnerability to external shocks, thereby limiting export diversification. In a similar vein, Msoni (2016), finds that FDI in Zambia exerts a negative short-run effect and an insignificant long-run effect on exports, mainly due to weak sectoral linkages and limited spillover effects.

Across the literature, a consistent finding is that the effectiveness of FDI in promoting exports is influenced by several mediating factors, including trade openness, exchange rate competitiveness, macroeconomic stability, and institutional quality. Ndaba (2015), emphasizes that in the absence of supportive domestic policies, FDI may lead to enclave-type development, rely heavily on imported inputs, or crowd out local firms, particularly in resource-dependent economies such as Zambia. This highlights the importance of incorporating macroeconomic variables such as GDP, inflation, and the real effective exchange rate when analyzing the FDI-export relationship.

Overall, the literature reveals notable gaps. Empirical studies focusing specifically on the FDI-export nexus in Zambia using recent data and rigorous econometric approaches remain limited. Most existing research emphasizes economic growth rather than export performance, and few studies distinguish clearly between short-run and long-run effects. In addition, sectoral and export diversification dimensions have not been adequately explored.

This study seeks to address these gaps by empirically investigating both the short-run and long-run effects of FDI on Zambia's export performance over the period 1993-2024, while controlling for key macroeconomic variables. By applying an ARDL modelling framework, the study contributes country-specific evidence on whether FDI has facilitated export growth and diversification in a resource-dependent economy.

2.8. GAPS IN THE LITERATURE

While FDI is widely recognized for enhancing productivity and facilitating technology transfer (Alfaro et al., 2004), limited empirical evidence exists on whether these benefits have translated into higher or more diversified export outcomes in Zambia.

Although a considerable body of research has examined the relationship between Foreign Direct Investment (FDI) and economic growth in developing regions, including Sub-Saharan Africa, important gaps remain within the Zambian context.

One major limitation within the literature is the strong concentration on specific sectors. Most existing studies mainly examine the mining industry, reflecting Zambia's long-standing reliance on copper exports (World Bank, 2023). A significant share of FDI inflows is concentrated in copper mining, which still accounts for the largest proportion of export earnings. This overdependence increases the country's vulnerability to external economic shocks and demonstrates the importance of diversifying both export activities and the allocation of FDI across sectors (World Bank, 2023). Nevertheless, limited empirical research has explored the effects of FDI in non-traditional sectors such as manufacturing and agriculture. This gap limits understanding of the extent to which FDI can contribute to wider export diversification and economic stability. Consequently, policymakers have insufficient evidence to effectively utilize FDI as an instrument for inclusive and sustainable export-led growth (World Bank, 2023). Additionally, the literature reveals a methodological weakness, as many studies mainly depend on quantitative econometric methods while giving limited attention to qualitative techniques such as interviews with investors and policymakers. The adoption of a mixed-methods approach could provide broader insights into the institutional and contextual factors influencing FDI outcomes in Zambia.

Addressing these gaps is essential for enhancing understanding of how FDI can be more effectively utilized to strengthen Zambia's export sector and support wider development goals. Therefore, this study aims to contribute to existing knowledge by combining theoretical perspectives with empirical analysis focused on the response of Zambia's export performance to foreign investment inflows.

2.9. THEORETICAL FRAMEWORK

To effectively examine the relationship between Foreign Direct Investment (FDI) and export performance in Zambia, it is important to anchor the study within a strong theoretical framework. Such a framework offers a conceptual foundation for the research problem and facilitates a

structured analysis of how FDI inflows influence export growth over time. A number of theories have been developed to explain the determinants of FDI and its effect on host economies, particularly in developing countries. This study is guided by two closely related theoretical perspectives. The first is the OLI Model, also known as Dunning's Eclectic Paradigm, which provides a comprehensive framework for explaining the conditions under which firms engage in foreign direct investment. According to Dunning (1980, 1993), firms invest abroad when they possess three types of advantages: ownership, location, and internalization advantages.

- Ownership advantages (O): refer to firm-specific assets such as proprietary technology, managerial expertise, and brand strength.
- Location advantages (L): relate to country-specific factors such as resource endowments, market size, availability of skilled labour, and a favourable policy environment.
- Internalization advantages (I): arise when firms prefer to manage operations internally rather than through external arrangements such as licensing or outsourcing.

In Zambia's case, the availability of abundant natural resources, particularly copper and cobalt, together with its strategic location in Southern Africa and continued policy reforms, creates significant location-specific advantages for foreign investors (World Bank, 2023). Consequently, many multinational corporations prefer to internalize their operations within Zambia, especially in sectors such as mining and agriculture, to retain control over production standards, logistics, and technological activities (World Bank, 2023). The OLI framework is therefore relevant in explaining the factors that attract foreign investment into Zambia, particularly within export-oriented industries.

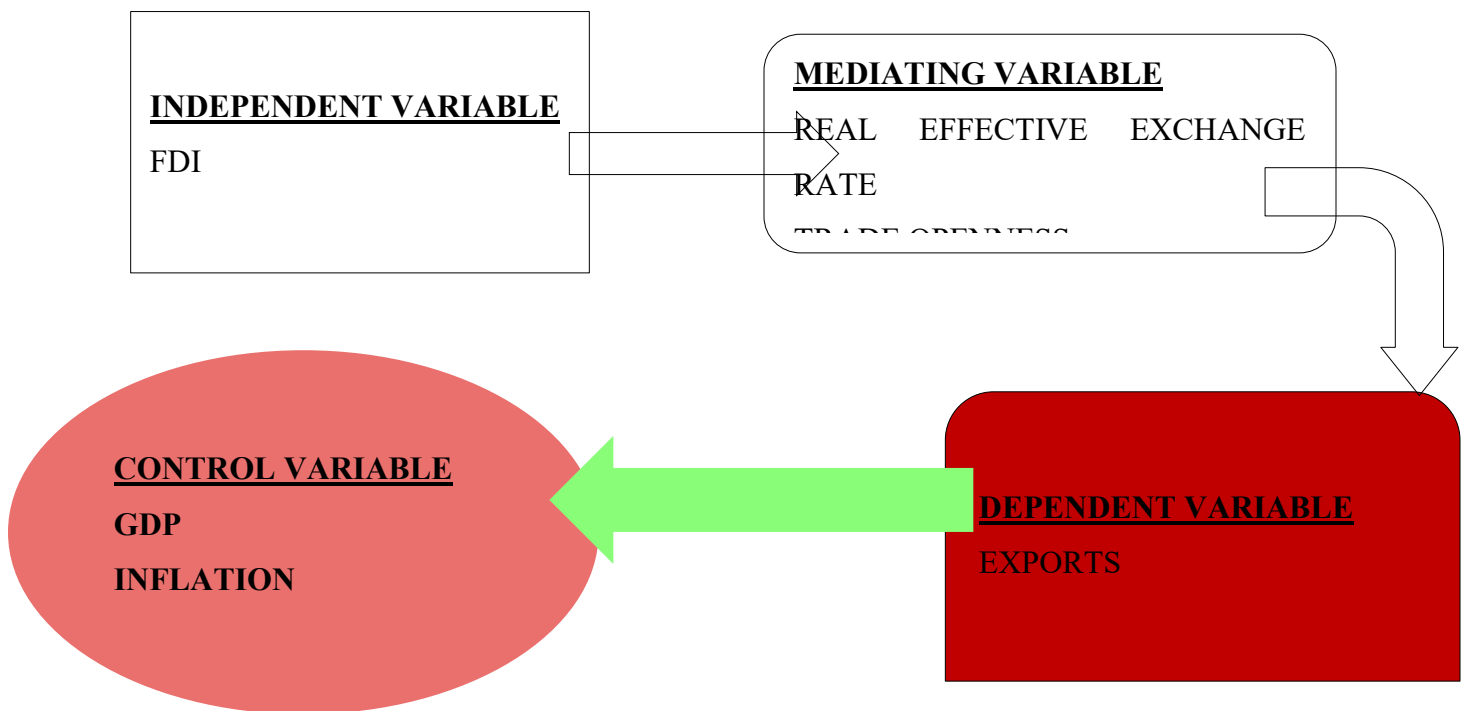
The Export-Led Growth (ELG) theory maintains that export expansion is an important engine of economic growth. The theory proposes that increased exports enable countries to achieve economies of scale, enhance productive efficiency, generate foreign exchange, and encourage technological advancement (Balassa, 1978; Tyler, 1981). Zambia has pursued export-oriented policies, particularly in the mining and agricultural sectors, which also attract substantial FDI inflows. According to the Zambia Development Agency (2022), foreign investment in mineral production and agro-processing has improved the country's export potential. From the ELG

perspective, these FDI inflows support economic development through employment creation, infrastructure improvement, and increased foreign exchange earnings.

2.10. THE CONCEPTUAL FRAMEWORK

The figure below illustrates the conceptual framework.

Figure 2: Conceptual Framework



This study investigates the relationship between FDI and export performance in Zambia. The conceptual framework proposes that the effect of FDI on exports operates through two mediating variables, namely Trade Openness and the Real Effective Exchange Rate. In this context, FDI inflows may affect the exchange rate as well as the level of trade integration, which in turn influence export performance. Higher FDI inflows are anticipated to improve export performance through increased productive capacity, infrastructure development, and technology transfer. Furthermore, macroeconomic variables such as inflation and GDP are incorporated as

control variables because of their possible influence on export outcomes. The framework is intended to determine the specific effect of FDI on exports while accounting for these additional economic factors.

2.11. SUMMARY

An examination of both country-specific and cross-country studies indicates that the relationship between Foreign Direct Investment and export performance is not consistent across economies. The findings differ according to the methodologies applied, the analytical models adopted, and the variables considered in each study. Furthermore, the existing literature demonstrates considerable variation in results across different geographical settings. Consequently, conducting multiple studies using diverse methodological approaches is important for achieving a clearer understanding of the country-specific relationship between FDI and export performance.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. INTRODUCTION

This chapter presents the methodology applied in the study. It describes the process of data collection, the variables used in the analysis, and the methods employed for data examination process.

3.2. RESEARCH DESIGN

This study adopts a longitudinal research design based on secondary data covering the period from 1993 to 2024. The design is appropriate for examining relationships and changing interactions among macroeconomic variables over time. It assesses the extent to which changes in Foreign Direct Investment influence export performance in both the short run and the long run.

The study employs econometric techniques, particularly the Autoregressive Distributed Lag (ARDL) model and the Error Correction Model (ECM), to estimate both long-run equilibrium relationships and short-run dynamics among the variables. The ARDL approach is considered suitable because it can be applied when variables are integrated at level $I(0)$ or first difference $I(1)$, provided that none of the variables is integrated of order two.

This methodological approach is consistent with previous empirical studies. For instance, Mailoni & Saviour (2020), in their study on sectoral foreign direct investment and economic growth in Zambia, used an endogenous growth framework together with the ARDL-ECM technique to analyze the effects of FDI inflows in sectors such as mining, manufacturing, agriculture, and construction.

3.3. MODEL SPECIFICATION

This study adapts the model proposed by Kutan & Vuksic (2007), to suit the Zambian context. The framework is designed to incorporate additional determinants of exports, allowing for a more precise evaluation of the effect of FDI on export performance. The study applies the following model specifications:

$$EXR_{it} = \alpha_i + \beta REER_{it} + \beta_2 PDGP_{it} - 1 + \beta_3 TO_{it} + \beta_4 EXR_{it}(t-1) + \beta_5 FSR_{it} - 1 + \varepsilon_{it}$$

In this analysis, EXR denotes the natural logarithm of real exports, REER refers to the natural logarithm of the real effective exchange rate index, PGDP represents the natural logarithm of the real GDP trend, and TO indicates the natural logarithm of trade openness. To better capture the principal drivers of export performance, the study includes additional relevant variables. The model, adapted from Msoni (2012), specifies all variables in logarithmic form to ensure consistency and improve interpretability.

$$\ln EXP_t = \beta_0 + \beta_1 \ln FDI + \beta_2 \ln GDP + \beta_3 \ln INF + \beta_4 \ln REER + \beta_5 \ln TO + \varepsilon_t \text{ Where:}$$

EXP = Exports

FDI = Foreign Direct Investment

REER = Real Effective Exchange Rate

TO = Trade Openness

GD = Gross Domestic Product

INF = Inflation

3.4. DEFINITION AND MEASUREMENT OF VARIABLES

3.4.1. DEPENDENT VARIABLE

Exports

In this study, exports are used as the dependent variable, consistent with the main objective of evaluating the extent to which they are influenced by the key independent variable, FDI (World Bank, 2024).

3.4.2. INDEPENDENT VARIABLES

Foreign direct investment

World Bank (2024), indicates that FDI is the primary variable in this study, as the analysis focuses on evaluating its effect on exports. To isolate the specific contribution of FDI, the natural logarithm of FDI stock is applied, enabling an assessment of its effect on exports while controlling for other factors that influence export performance.

Since FDI is widely considered to strengthen a country's export capacity through multiple channels, a positive relationship is expected.

Gross Domestic Product

According to the World Bank (2024), Gross Domestic Product (GDP) measures the overall level of economic activity and growth within a country. Continuous growth in GDP generally signals a favorable environment for attracting Foreign Direct Investment (FDI), as it reflects economic expansion and market potential. In this study, GDP is included to capture the influence of FDI on productive capacity within the economy. An increase in productive capacity is expected to raise export volumes, holding other factors constant. Therefore, a positive relationship is expected between GDP and export performance (World Bank, 2024).

Inflation

Inflation refers to the general increase in prices within an economy. Rising domestic inflation often results in higher prices for exported goods, which can reduce external demand as foreign buyers may switch to relatively cheaper products from competing countries. Consequently, inflation is expected to have a negative relationship with export performance (World Bank, 2024).

Real effective Exchange Rate

The real effective exchange rate (REER) is incorporated as an intervening variable since it reflects the competitiveness of Zambia's currency against those of major trading partners. FDI inflows can affect the exchange rate by altering the supply and demand for foreign currency, which subsequently influences export prices and competitiveness. A favorable REER supports exports, while an overvalued currency may hinder them. Thus, REER explains the channels through which FDI affects exports (World Bank, 2024).

Trade Openness

As noted by the World Bank (2024), trade openness measures the degree to which Zambia's economy is integrated into the global trading system. It is included as a mediating variable because FDI often promotes increased participation in international trade through improved infrastructure, production linkages, and technology transfer. A more open economy benefits from

easier market access and export diversification, thereby reinforcing the relationship between FDI and export growth.

3.5 RESEARCH PHILOSOPHY

This study is grounded in the positivist research philosophy, which holds that economic phenomena are objective, observable, and capable of being measured empirically through quantitative methods (Saunders, Lewis & Thornhill, 2019; Creswell, 2014). Positivism is based on the assumption that reality exists independently of the researcher and that dependable knowledge is obtained from observable evidence and statistical relationships rather than subjective interpretation (Bryman, 2016; Cohen, Manion & Morrison, 2018). Consistent with this perspective, the study investigates the relationship between Foreign Direct Investment (FDI) and export performance in Zambia using quantifiable macroeconomic variables such as exports, FDI inflows, GDP, inflation, trade openness, and the real effective exchange rate. These variables are examined through time-series econometric techniques to test hypotheses and identify both short-run and long-run relationships using empirical evidence (Porter, 2009; Wooldridge, 2016).

The positivist philosophy is suitable for this study because the research seeks to determine causal relationships, measure the extent of FDI's influence on exports, and test hypotheses derived from theory using statistical models such as the Autoregressive Distributed Lag (ARDL) model and the Error Correction Model (ECM) (Pesaran, Shin & Smith, 2001; Nkoro & Anthony, 2016). Through the use of secondary data obtained from credible institutions including the World Bank and the Bank of Zambia, the study strengthens objectivity and improves the reliability and validity of the findings (Saunders et al., 2019).

3.6. RESEARCH APPROACH

The study adopts an integrative approach in which qualitative insights are used to complement and explain the quantitative findings obtained from econometric analysis. While the ARDL and ECM models provide statistical evidence on the existence and nature of relationships between variables, qualitative evidence defined as non-numerical, descriptive information drawn from policy documents, existing literature, institutional reports, and sectoral analyses is used to interpret these results within Zambia's broader economic and institutional context. For example,

if the findings reveal a weak or negative relationship between FDI and exports, qualitative evidence may clarify whether this outcome arises from factors such as the dominance of market-seeking FDI, concentration of investment in the mining sector, weak domestic linkages, or policy and infrastructure constraints.

This combined approach improves the validity, depth, and contextual relevance of the study. The inclusion of qualitative elements is motivated by gaps identified in existing literature, as many prior studies on the FDI-export relationship in developing countries, including Zambia, rely heavily on quantitative techniques while overlooking contextual and institutional dynamics. By incorporating qualitative analysis, this study partially addresses this limitation and offers a more comprehensive understanding of how and why FDI influences export performance. This approach strengthens the explanatory power of the research and ensures that the findings are not only statistically sound but also economically meaningful and policy-relevant.

3.7. RESEARCH METHODOLOGICAL CHOICE

This study primarily adopts a quantitative methodological approach, as it seeks to empirically examine the relationship between foreign direct investment (FDI) and export performance in Zambia using measurable macroeconomic variables (Saunders et al., 2019; Creswell, 2014). Quantitative methods allow for objective analysis, hypothesis testing, and the estimation of both short-run and long-run effects through econometric techniques such as the ARDL model and the ECM (Gujarati & Porter, 2009; Wooldridge, 2016).

However, to provide a more comprehensive and context-sensitive analysis, the study also incorporates limited qualitative components. These elements complement the quantitative findings by offering deeper insights into structural, institutional, and policy-related factors shaping the relationship between FDI and export performance in Zambia. Although the study does not involve primary qualitative data collection methods such as interviews, it relies on secondary qualitative sources to enrich interpretation.

3.8. DATA COLLECTION

This study employs time-series data for Zambia, covering the period from 1993 to 2024, based on secondary data obtained from the World Development Indicators (WDI) database, yielding a sample size of 32 observations for each variable. The sampling frame corresponds directly to the population, as it includes all available annual macroeconomic data for Zambia within the specified period. The analysis focuses on variables such as exports, FDI inflows, GDP, and inflation, with complete annual data available for all variables over the study period.

3.9. DATA PROCESSING AND ANALYSIS

3.9.1. Augmented Dickey Fuller Test (ADF)

Since the study uses time-series data, the Augmented Dickey-Fuller (ADF) test is applied to determine whether each variable contains a unit root, thereby avoiding spurious regression results. The test is conducted on the logarithmic form of each series. The hypotheses are specified as follows:

- $H_0: \delta = 1$ (indicating the presence of a unit root)
- $H_1: \delta < 1$ (indicating stationarity)

The results of this test provide insight into the time-series properties of the variables and guide the selection of an appropriate estimation technique.

3.9.2. AUTOREGRESSIVE DISTRIBUTIVE LAG MODEL SPECIFICATION

After establishing the order of integration, the study proceeds to analyze both the long-run and short-run dynamic relationships among the variables. Co-integration refers to the existence of a long-term equilibrium relationship among two or more time-series variables. Several approaches are commonly used to test for co-integration, including the Engle-Granger technique, the Johansen-Juselius method, and the ARDL bounds testing approach.

This study adopts the ARDL bounds testing approach proposed by Pesaran et al. (2001) within the ARDL framework. The method is preferred because it allows the use of variables with different orders of integration and is appropriate for studies with relatively small sample sizes (Udoh et al., 2015).

The bounds testing procedure evaluates the joint significance of lagged level variables, where the F-statistic acts as the main indicator of a long-run relationship. The null hypothesis states that no long-run relationship exists among the variables. The calculated F-statistic is then compared with the critical bounds, where the lower bound assumes the variables are integrated at level $I(0)$ and the upper bound assumes integration at first difference $I(1)$. If the computed statistic is greater than the upper bound, the null hypothesis is rejected, if it is below the lower bound, the null hypothesis cannot be rejected, and if it falls between the two bounds, the findings remain inconclusive.

3.9.3. ERROR CORRECTION MODEL

The Error Correction Model (ECM) is applied to capture short-run dynamics and adjustment processes within the system. A negative and statistically significant error correction coefficient confirms the existence of a stable long-run relationship among co-integrated variables. The ECM explains how short-run deviations from long-run equilibrium are gradually corrected over time, thereby restoring the system back to equilibrium (Khan, 2015).

3.9.4. HETEROSCEDASTICITY

The Breusch-Pagan test is employed to assess whether the assumption of homoscedasticity is satisfied in the OLS regression model. Homoscedasticity refers to the condition where the variance of residuals remains constant across observations. The test is therefore used to detect the presence of heteroscedasticity in the residuals of the ARDL model.

3.9.5. RAMSEY RESET TEST

The RESET (Regression Specification Error Test) is used as a diagnostic tool to assess whether the regression model is correctly specified.

3.9.6. MULTICOLLINEARITY

A key assumption of Ordinary Least Squares (OLS) estimation is the absence of multicollinearity among independent variables. Violations of this assumption can produce unreliable coefficient estimates. The Variance Inflation Factor (VIF) is used to assess

multicollinearity. Additional diagnostic tests include the Breusch-Godfrey Serial Correlation LM test and the Jarque-Bera test.

3.10. SAMPLING FRAME AND SIZE

The study uses secondary time-series data covering the period from 1993 to 2024, resulting in 32 observations for each variable. The sampling frame is identical to the population, as all annual data for the variables of interest are included over the study period. Consequently, the dataset provides full coverage of the population under investigation.

- Annual time-series data for Zambia
- Time period: 1993–2024

- Variables included:

Exports (dependent variable)

Foreign Direct Investment (FDI)

Gross Domestic Product (GDP)

Inflation

The data are obtained from the World Bank's World Development Indicators database, which provides comprehensive macroeconomic data for Zambia over the study period.

3.11. TIME HORIZON

The study adopts a longitudinal time horizon, involving the analysis of variables over an extended period to identify trends, patterns, and dynamic relationships. Annual time-series data from 1993 to 2024 are used to examine the relationship between FDI and export performance in Zambia.

This approach is appropriate because the effect of FDI on exports are not immediate and may differ between the short run and long run. By analyzing data across multiple years, the study captures both immediate effects and long-term adjustments, consistent with the use of ARDL and ECM techniques. This enhances the reliability of the findings by accounting for structural

changes, policy reforms, and external economic shocks experienced in Zambia during the study period.

3.12. DATA COLLECTION TOOLS

The study relies on secondary data collection tools, utilizing established international and national statistical databases to obtain quantitative macroeconomic data. These tools consist of structured repositories and published datasets containing previously recorded information relevant to the study variables.

The main data sources include:

- World Bank – World Development Indicators (WDI)
- UNCTAD Statistics Database
- Bank of Zambia publications
- International Monetary Fund databases

These sources provide annual time-series data covering the period from 1993 to 2024. The WDI database serves as the primary source for standardized macroeconomic indicators such as exports, FDI inflows, GDP, inflation, trade openness, and the real effective exchange rate, selected for its credibility and comprehensive coverage.

UNCTAD data are used to supplement and cross-check FDI figures, particularly for sectoral insights. Bank of Zambia publications support the validation of inflation and macroeconomic stability indicators within the local context, while IMF databases provide additional consistency checks where necessary.

3.13. PILOT TESTING OF DATA COLLECTION TOOLS

In this study, pilot testing focused on assessing the suitability, reliability, and consistency of the selected secondary data collection tools prior to full econometric estimation.

The pilot testing process involved several stages, selected databases namely the World Bank World Development Indicators (WDI), UNCTAD Statistics Database, Bank of Zambia publications, and International Monetary Fund (IMF) datasets were evaluated for data completeness and continuity. Time-series econometric analysis requires uninterrupted

observations, therefore the datasets were examined for missing values, structural gaps, and inconsistencies across the study period (1993–2024). This step ensured that the tools provided sufficiently robust data for empirical modelling.

Cross-validation procedures were conducted to assess data consistency across sources. Key variables, particularly Foreign Direct Investment (FDI) inflows and inflation, were compared across multiple databases to verify measurement accuracy and definitional alignment. This process minimized potential biases arising from reporting discrepancies.

Preliminary descriptive statistical analysis was performed using the extracted data. Summary statistics and trend inspections were generated to identify abnormal values, extreme outliers, or irregular patterns that could distort regression estimates. This stage helped confirm that the data reflected plausible macroeconomic behavior.

The pilot phase included pre-estimation diagnostic testing. The Augmented Dickey-Fuller (ADF) unit root test was conducted to evaluate the stationarity properties of each variable. Early identification of integration orders was essential for confirming the appropriateness of the Autoregressive Distributed Lag (ARDL) modelling approach.

Exploratory estimations runs were undertaken to evaluate model feasibility and stability. These preliminary regressions were not used for interpretation but served to ensure that the data set obtained, as obtained from selected tool, produced statistically coherent results consistent with theoretical expectations.

The pilot testing of the data collection tools enhanced the methodological rigor of the study by ensuring:

- Adequate data coverage across the study period
- Consistency and reliability of macroeconomic indicators
- Suitability of econometric techniques
- Reduction of potential estimation errors

3.14. DATA INSTRUMENTS AND MEASUREMENT

Given the quantitative nature of the study and reliance on secondary time-series data, the primary data instrument employed is a Secondary Data Extraction and Compilation Sheet. This

instrument is designed to systematically collect, harmonize, and prepare macroeconomic data for econometric analysis. The data instruments ensure consistency, reliability, and validity in measuring the relationship between foreign direct investment and export performance in Zambia. The instruments are structured in a logical sequence consistent with the research objectives, hypotheses, and econometric methodology adopted in the study.

3.14.1 SECONDARY DATA EXTRACTION SHEET (CORE INSTRUMENT)

The Secondary Data Extraction Sheet captures annual macroeconomic data for Zambia from 1993 to 2024. Data was sourced from internationally recognized institutions, including the World Bank World Development Indicators (WDI), UNCTAD, the Bank of Zambia, and the IMF.

Table 2: Secondary Data Extraction Sheet (1993–2024)

Variable Category	Variable Name	Unit of Measurement	Transformation	Data Source	Frequency	Expected Sign
Dependent Variable	Exports of Goods and Services	(% of GDP)	Natural Log (lnEXP)	World Bank Development Indicators	Annual	–
Independent Variable	Foreign Direct Investment Inflows	(% of GDP)	Natural Log (lnFDI)	World Bank Development Indicators	Annual	+/–
Control Variable	Gross Domestic Product	Percentage (%)	Natural Log (lnGDP)	UNCTAD/ World Bank Development Indicators	Annual	+
Control Variable	Inflation	Percentage (%)	Natural Log (lnINF)	BANK OF ZAMBIA	Annual	–
Mediating Variable	Real Effective Exchange Rate	Index (2010 = 100)	Natural Log (lnREER)	IMF/ World Bank	Annual	–

				Development	
				Indicators	
Mediating	Trade	(Exports	+	Natural Log	World Bank
Variable	Openness	Imports)/GD	(lnTO)	Development	Annual
		P		Indicators	–

3.14.2. VARIABLE DEFINITION AND OPERATIONALIZATION INSTRUMENT

To ensure construct validity, each variable was clearly defined and operationalized in line with existing empirical literature and economic theory in the table below.

Table 3: Definition and Measurement of Variables

Variable	Conceptual Definition	Operational Definition	Justification
Exports (EXP)	Total value of goods and services sold abroad	Annual export value in US dollars	Measures Zambia’s export performance
Foreign Direct Investment (FDI)	Long-term cross-border investment	Net annual FDI inflows in US dollars	Captures capital inflows affecting production and exports
Gross Domestic Product (GDP)	Aggregate economic output	Real GDP at constant prices	Controls for domestic productive capacity
Inflation (INF)	General price level changes	Consumer Price Index (%)	Reflects cost competitiveness

Real Effective Exchange Rate (REER)	Currency competitiveness	Trade-weighted exchange rate index	Captures export price competitiveness
Trade Openness (TO)	Degree of global trade integration	Ratio of total trade to GDP	Reflects market access and liberalization

3.14.3 DATA PREPARATION AND ECONOMETRIC PROCESSING INSTRUMENT

Before estimation, the data will be subjected to several transformation and diagnostic procedures to ensure robustness and suitability for ARDL analysis.

Table 4: Data Processing and Diagnostic Preparation

STEP	PROCEDURE	PURPOSE
1	Conversion to annual time series	Ensure temporal consistency
2	Natural logarithm transformation	Stabilize variance and interpret elasticity
3	Augmented Dickey-Fuller (ADF) Test	Test for stationarity
4	ARDL Bounds Test	Establish long-run cointegration
5	Error Correction Model (ECM)	Capture short-run dynamics
6	Diagnostic Tests (VIF, RESET, Breusch-Pagan)	Validate model assumptions

3.14.4 SECTORAL FDI–EXPORT LINKAGE INSTRUMENT

To address the third research objective on export diversification, a sectoral mapping instrument was developed. This instrument links FDI inflows by sector to export contributions.

Table 5: Sectoral FDI and Export Contribution Matrix 2024

Sector	FDI Inflows (US\$ million)	Share of Total FDI (%)	Major Export Products	Export Contribution (%)	Data Source
Mining	780	62.9	Copper, Cobalt	77	Bank of Zambia
Manufacturing	211	17.2	Cement, Processed Foods	15	UNCTAD
Agriculture	80	6.3	Tobacco, Sugar, Horticulture	10	ZDA

3.15. RESEARCH PARADIGM AND STRATEGY JUSTIFICATION

This study is based on the positivist research paradigm, which holds that reality is objective and can be investigated through observable and measurable phenomena. The study adopts a quantitative research approach grounded in time-series analysis, utilizing secondary data from 1993 to 2024 to examine the causal relationship between Foreign Direct Investment (FDI) and exports in Zambia’s resource-dependent economy. This approach is consistent with the study’s objective of identifying causal relationships and measuring the effect of FDI on export performance, thereby making quantitative methods the most suitable technique for the analysis.

3.16. ETHICAL CONSIDERATIONS AND ACCESSIBILITY

The study follows established academic standards of honesty and integrity throughout the research process. All secondary data sources are appropriately acknowledged, and no

information was manipulated to achieve predetermined results. The research also avoids all forms of plagiarism and misrepresentation. Because the study did not involve the collection of primary data, issues related to informed consent and confidentiality were not applicable. However, the study complies with general ethical principles governing empirical economic research, including transparency regarding data limitations and adherence to data usage requirements. Access to the data was unrestricted, as the analysis relied entirely on publicly available secondary sources obtained from reputable international databases such as the World Bank World Development Indicators (WDI).

3.17. RELIABILITY

Reliability in this study is enhanced through the use of standardized and reputable secondary data sources, particularly the World Bank World Development Indicators (WDI). These datasets are extensively used in empirical economic research and are compiled using rigorous data collection and reporting standards. Furthermore, the application of econometric methods such as the ARDL and ECM promotes methodological consistency, implying that replicating the analysis using the same data and model specifications would likely yield comparable results, thereby strengthening the reliability of the study.

3.18. VALIDITY

Construct validity is achieved through the clear definition and measurement of key variables, including exports, FDI, GDP, and inflation, which are widely accepted indicators in economic analysis. Internal validity is strengthened by applying stationarity tests such as the ADF and by controlling for other macroeconomic variables that may influence export performance. External validity is addressed by selecting a study period (1993–2024) that captures significant economic reforms and global developments, providing a comprehensive representation of Zambia’s economic environment.

3.19. GENERALISABILITY OF RESEARCH FINDINGS

The study utilizes Zambia's macroeconomic data covering a period of three decades; consequently, the findings are primarily applicable to Zambia and to economies with similar structural and investment characteristics. Although caution should be exercised when generalizing the results beyond the Zambian context, the methodological framework and analytical techniques adopted in the study can be applied to other developing countries to investigate similar relationships. Furthermore, the consistency of this study with existing international literature enhances its comparative generalisability.

3.20. SUMMARY

The study employs a systematic and transparent set of data instruments that are aligned with its objectives and econometric framework. Instruments such as the secondary data extraction sheet, variable operationalization matrix, econometric preparation instrument, and sectoral linkage matrix collectively facilitate accurate measurement and comprehensive analysis of the effect of Foreign Direct Investment (FDI) on Zambia's export performance. The chapter has outlined the overall methodological framework, including the research paradigm, research approach, strategy, and design, while also explaining the model specification and analytical methods applied to examine the relationship between FDI and export performance. The following chapter presents the empirical findings and provides an interpretation of the results.

CHAPTER FOUR: RESEARCH FINDINGS AND ANALYSIS

4.1. INTRODUCTION

This chapter discusses and interprets the empirical findings on the effect of Foreign Direct Investment on Zambia's export performance based on annual time-series data covering the period from 1993 to 2024. The analysis includes descriptive statistics, stationarity testing through the Augmented Dickey-Fuller (ADF) approach, the ARDL bounds testing procedure for cointegration, and both long-run and short-run ARDL estimations together with diagnostic evaluations. The results are analysed in relation to the study objectives and hypotheses and are presented using regression outputs and tables.

4.2. DESCRIPTIVE STATISTICS

The table below shows the descriptive statistics of the data. The table reports the mean, standard deviation, minimum and maximum values of the data included in the study.

Table 6: Descriptive Statistics

Variables	Mean	Std. Deviation	Minimum	Maximum
Exports	33.921	6.649	23.92	52.22
FDI	4.665	2.437	-0.223	9.604
Inflation	21.059	26.265	5.441	143.7
Reer	78.785	18.534	49.18	112.6
Trade	68.080	7.911	56.12	86.21
GDP	4.697	3.604	-8.625	10.30

Source: Authors Estimation Using Stata 16

4.2.1 MEAN (AVERAGE VALUES)

This represents the typical level of each variable over the study period (1993-2024).

FDI has a mean of (4.665), which means on average, FDI inflows were moderate (4.7%) across the period of 1993 to 1994.

Exports had a mean value of (33.92), meaning Zambia's exports averaged about 33.9%.

Inflation records a relatively high mean of 21.06% this shows high average inflation, indicating macroeconomic instability over the period.

The real effective exchange rate has a mean of 78.79 this suggests moderate external competitiveness of 78.79%.

Trade openness has a mean of 68.08 which is relatively high, showing Zambia is strongly engaged in international trade with a 68.08 increase.

GDP has a mean of 4.697 which means average economic growth of about 4.7%, which is reasonable for a developing economy.

4.2.2. STANDARD DEVIATION (VOLATILITY / STABILITY)

The standard deviation results reveal different levels of volatility across variables. Inflation and REER exhibit high volatility, reflecting Zambia's history of macroeconomic instability and exchange rate fluctuations. FDI, exports, trade openness, and GDP growth display moderate variability, indicating that although these variables fluctuate over time, their movements are not excessively erratic. The high volatility of inflation in particular suggests an unstable macroeconomic environment, which may undermine investment confidence and long-term economic growth. Inflation has a standard deviation of 26.26 which indicates very high volatility. Inflation in Zambia has been highly unstable. GDP has a standard deviation of 3.604 which indicates moderate volatility meaning economic growth fluctuates but not excessively. FDI has a standard deviation of 2.437 which indicate moderate fluctuations meaning FDI inflows vary but not extremely. Exports have a standard deviation of 6.649 and Trade is 7.911 showing that external sector indicators fluctuate moderately. REER has a standard deviation of 18.53, meaning exchange rate competitiveness has changed significantly over time.

4.2.3. MINIMUM AND MAXIMUM (RANGE OF VALUES)

The minimum and maximum values illustrate the degree of variation across each variable, indicating the occurrence of both favorable and unfavorable economic conditions over the study period. The existence of extreme values in inflation, GDP growth, and FDI indicates that Zambia has been exposed to notable macroeconomic shocks over time. These fluctuations further support

the application of econometric techniques to analyze the dynamic relationship between FDI and economic growth.

Foreign Direct Investment (FDI)

Minimum = -0.223

Maximum = 9.604

The minimum value indicates that in some years Zambia experienced negative net FDI inflows, meaning foreign investors withdrew more capital than they invested. This may be attributed to periods of economic uncertainty, policy inconsistency, or external shocks. The maximum value represents periods of strong investor confidence and increased foreign investment, suggesting that Zambia occasionally benefited from favorable investment conditions. Meaning, FDI inflows have not been stable and are sensitive to economic and political conditions.

Exports

Minimum = 23.92

Maximum = 52.22

The minimum value reflects years of weaker export performance, possibly due to low global demand or declining commodity prices. The maximum value represents years of strong export performance, likely driven by higher commodity prices, improved production, or favorable external conditions. Meaning export earnings fluctuate depending on external market conditions and domestic productive capacity.

Inflation

Minimum = 5.441%

Maximum = 143.7%

The minimum inflation rate reflects periods of relative price stability, which is conducive to economic growth. The extremely high maximum value indicates periods of severe inflationary pressure, which likely resulted from macroeconomic imbalances such as excessive money supply growth, fiscal deficits, and exchange rate depreciation. Meaning the economy has experienced both stability and severe instability in price levels over time.

Real Effective Exchange Rate (REER)

Minimum = 49.18

Maximum = 112.6

The minimum value indicates periods of real exchange rate depreciation, which may enhance export competitiveness. The maximum value reflects periods of real appreciation, which can make exports more expensive and reduce international competitiveness. Meaning Zambia's external competitiveness has changed significantly over time.

Trade Openness (TRADE)

Minimum = 56.12

Maximum = 86.21

The minimum value suggests periods of lower integration into international trade, possibly due to weak trade volumes or restrictive trade conditions. The maximum value indicates periods of greater openness and stronger trade engagement. Meaning Zambia's participation in global trade has varied over time.

Gross Domestic Product (GDP)

Minimum = -8.625

Maximum = 10.30

The minimum value reflects periods of economic contraction or recession, where overall economic output declined. The maximum value represents periods of rapid economic expansion, possibly due to favorable commodity prices, increased investment, or improved macroeconomic management. Meaning economic growth in Zambia has alternated between downturns and strong performance. The minimum and maximum values highlight the extent of fluctuations in each variable, confirming the presence of both favourable and adverse economic conditions during the study period. The presence of extreme values in inflation, GDP growth, and FDI suggests that Zambia has experienced significant macroeconomic shocks over time. These variations further justify the use of econometric techniques to examine the dynamic relationship between FDI and economic growth.

4.3 UNIT ROOT TEST RESULTS (ADF TEST)

The Augmented Dickey-Fuller (ADF) test was used to assess the stationarity of variables at both level and first difference. It accounts for serial correlation by including lagged terms.

The null hypothesis states that a variable has a unit root (non-stationary), while the alternative indicates stationarity. The null is rejected when the test statistic exceeds the critical value in absolute terms at the 5% level, or when the p-value is below 0.05.

Table 7: Data Summary

Variable	Sample Size	ADF LEVEL FORM			ADF FIRST DIFFERENCE			Order of Integration
		ADF-T stat	p-value	Critical Value	ADF-T stat	p-value	Critical Value	
Exports	1993 - 2024	-2.959	0.143	-0.488	-5.693	0.000006153	-1.124	I(1)
FDI	1993 - 2024	-4.117	0.005867	-0.708	-5.973	0.000001343	-1.840	I(0)
Inflation	1993 - 2024	-10.922	0.000001234	-0.569	-5.044	0.000148	-0.624	I(0)

REER	1993 - 2024	-1.451	0.8458	-0.172	-5.578	0.00001119	-1.0804	I(1)
Trade	1993 - 2024	-0.149	0.0803	-0.0026	-7.162	0.0000000008335	-1.4081	I(1)
GDP	1993 - 2024	-4.117	0.00587	-0.747	-6.468	0.00000007418	-1.64829	I(0)

Table 8: ADF test at level and first difference.

Source: Authors Estimation Using Stata 16

Table 9: Summary of results

Variable	Stationary at Level	Stationary after First Difference
Exports	No	Yes
FDI	Yes	Yes
Inflation	Yes	Yes
REER	No	Yes
Trade	No	Yes
GDP	Yes	Yes

Source: Authors Estimation Using Stata 16

Conditions

Unit root is present when the p- value is greater than 5%, null hypothesis.

There is no unit root when the p-value is less than 5%, alternate hypothesis.

Exports

The ADF results reveal that exports are non-stationary at level ($p = 0.143$), indicating the existence of a unit root and suggesting that shocks have long-lasting effects. After taking the first difference, the series becomes stationary ($p < 0.01$), showing that short-term movements revert to the mean. Hence, exports are integrated of order one, $I(1)$.

Foreign Direct Investment (FDI)

FDI is stationary at level ($p = 0.0059$), which implies the absence of a unit root in the series. This means that any shocks to FDI inflows are temporary, and the variable naturally returns to its long-run equilibrium without differencing. Therefore, FDI is integrated of order zero, $I(0)$.

Inflation

The inflation rate is also found to be stationary at level ($p < 0.01$), indicating that it fluctuates around a consistent average over time. This suggests that price level changes are mean-reverting and not permanently influenced by shocks. As a result, inflation is classified as $I(0)$.

Real Effective Exchange Rate (REER)

The REER variable is non-stationary at level ($p = 0.8458$), pointing to a unit root and persistent exchange rate dynamics. However, after first differencing, the series becomes stationary ($p < 0.01$), indicating stability in short-run variations. Thus, REER is integrated of order one, $I(1)$.

Trade Openness

Trade openness is non-stationary at level ($p = 0.0803$), reflecting a trending pattern over time. Once transformed through first differencing, it becomes stationary ($p < 0.01$), suggesting that short-run changes are stable. Therefore, trade openness is integrated of order one, $I(1)$.

Gross Domestic Product (GDP)

GDP is stationary at level ($p = 0.0059$), indicating that output moves around a long-run equilibrium without the need for differencing. This implies that shocks do not have permanent effects, and the series is mean-reverting. Consequently, GDP is integrated of order zero, $I(0)$.

4.4. NATURAL LOGARITHM TRANSFORMATION (OLS)

All continuous variables in the study were converted into their natural logarithmic form to enhance the robustness of the econometric analysis. This transformation helps stabilise variance, minimise the effect of outliers, and correct potential heteroskedasticity often present in time-series data. Additionally, using logarithms enables the estimated coefficients to be interpreted as

elasticities, providing clearer economic insight into the relationship between exports and their explanatory variables.

Table 10: Ordinary Least Squares (OLS) Regression Results for Export Model

Variable	Coefficient	Std. Error	T-Ratio	P-Value
ln(FDI)	−0.0621096	0.0428371	−1.450	0.1612
ln(INFLATION)	0.0445570	0.0443838	1.004	0.3263
ln(REER)	0.322387	0.133447	2.416	0.0244
ln(TRADE)	1.25657	0.170175	7.384	0.000000217
ln(GDP)	0.0540761	0.0514195	1.052	0.3044

Source: Authors Estimation Using Stata 16

The results suggest that the model fits the data well, as reflected by an R-squared of 0.7969 and an adjusted R-squared of 0.7508. This implies that about 75 per cent of the variation in exports is accounted for by the explanatory variables included in the model. In addition, the F-statistic is significant at the 1 per cent level, indicating that the model is jointly significant and appropriate for statistical inference.

Foreign Direct Investment (FDI)

The coefficient of foreign direct investment is negative (−0.062) and statistically insignificant at conventional levels of significance ($p > 0.05$). This suggests that FDI inflows have not had a significant effect on export performance over the study period. The finding implies that foreign investments in Zambia may have been largely resource-seeking, for example mining. With limited spillover effects on export expansion and diversification. Consequently, FDI has not played a decisive role in driving export growth.

Inflation

Inflation exhibits a positive but statistically insignificant coefficient (0.045). This indicates that inflation has not had a meaningful influence on export performance during the period under review. The insignificance of inflation suggests that price level fluctuations were not a major

determinant of export competitiveness in Zambia. Among the explanatory variables, inflation recorded the highest p-value, indicating the weakest explanatory power in the model.

Real Effective Exchange Rate (REER)

The real effective exchange rate exhibits a positive and statistically significant coefficient of 0.322 at the 5 per cent significance level. This indicates that a 1 per cent rise in the REER leads to an estimated 0.32 per cent increase in exports. The finding highlights the critical role of exchange rate fluctuations in influencing export performance and suggests that maintaining exchange rate competitiveness is essential for enhancing exports in a commodity-based economy such as Zambia.

Trade Openness

Trade openness has a strong positive and statistically significant effect on exports, with a coefficient of 1.257 significant at the 1 per cent level. This indicates that a 1 per cent rise in trade openness leads to about a 1.26 per cent increase in exports. Among all variables, trade openness emerges as the most influential determinant, highlighting the importance of liberal trade policies, regional integration, and access to global markets in fostering export growth.

Gross Domestic Product (GDP)

The coefficient for GDP is positive (0.054) but statistically insignificant, suggesting that economic growth has not significantly translated into increased export performance. This may imply that Zambia's growth during the study period was driven more by domestic demand and imports rather than by export expansion.

Overall, the findings indicate that trade openness and the real effective exchange rate are the key drivers of export performance, while FDI, inflation, and GDP do not have statistically significant effects. The insignificance of FDI points to structural limitations in converting foreign investment into export growth, including weak linkages and low levels of value addition. The strong role of trade openness further emphasizes the importance of external sector policies in enhancing exports. Although the model demonstrates good explanatory power and overall

significance, the lack of significance of FDI and GDP suggests that export-led growth has not been fully achieved.

4.5. ARDL BOUNDS TEST

The study applies the Autoregressive Distributed Lag (ARDL) modelling technique to examine the factors influencing export performance. The ARDL framework is considered appropriate because it can accommodate variables integrated at different levels, specifically I(0) and I(1), while also producing reliable estimates in studies with relatively small sample sizes. In addition, the model is capable of capturing both the short-run adjustments and long-run equilibrium relationships between exports and selected macroeconomic indicators such as Foreign Direct Investment (FDI), inflation, the real effective exchange rate, trade openness, and GDP.

In the model specification, exports are expressed in natural logarithmic form as the dependent variable, while the explanatory variables are similarly transformed into logarithms. This transformation allows the estimated coefficients to be interpreted as elasticities. The selected ARDL (1,1,2,0,2,1) specification was determined using appropriate lag selection criteria, and the analysis covers the period from 1993 to 2024 depending on data availability.

The estimated F-statistic of 4.404 and t-statistic of −3.884 were compared against the relevant critical bounds values at the 5 per cent significance level. The upper bound critical values are 3.79 for the F-test and −4.19 for the t-test. Since the calculated F-statistic is greater than the upper critical bound, while the t-statistic satisfies the required threshold condition, the null hypothesis of no long-run association is rejected. This outcome confirms the presence of a stable long-run cointegrating relationship between exports and the explanatory variables included in the model. The regression results reported in the table provide coefficient estimates, standard errors, t-values, and probability values. These are used to assess the statistical significance and economic relevance of each explanatory variable in accounting for variations in export performance in the short run.

Table 11: ARDL Long-run Results

Variables	Coefficient	Std. Err	t-Statistic	P-value	95% Conf. Interval
ln(exports)	-0.636	0.164	-3.88	0.003	-1.001 -0.271
ln(FDI)	-0.294	0.868	-3.38	0.007	-0.487 -0.100

ln(Inflation)	-0.070	0.700	-1.00	0.343	-0.226	0.862
ln(reer)	-0.038	0.165	-0.23	0.822	-0.406	0.330
ln(trade)	1.983	0.373	5.30	0.000	1.148	2.812
ln(gdp)	0.543	0.145	3.76	0.004	0.221	0.865

Source: Authors Estimation Using Stata 16

The long-run results obtained from the ARDL estimation offer important insights into the equilibrium relationship between exports and the selected macroeconomic indicators. Since all variables were transformed into their natural logarithmic forms, the estimated coefficients are interpreted as long-run elasticities, reflecting the percentage change in exports resulting from a one per cent change in each explanatory variable.

Foreign Direct Investment (FDI)

The long-run coefficient for foreign direct investment is negative and statistically significant ($\beta = -0.294$, $p < 0.01$). This suggests that a 1 percent rise in FDI is associated with a 0.29 percent decline in exports over the long run. The result indicates that FDI in the economy may largely be market-oriented rather than export-driven, with foreign firms focusing more on domestic market opportunities instead of enhancing export capacity. It also points to weak integration of FDI into export-producing sectors, especially within a resource-dependent economy. According to Dunning's Eclectic Paradigm, the effect of FDI on exports depends on its underlying motivation whether it is efficiency-seeking, resource-seeking, or market-seeking. In many Sub-Saharan African countries, FDI is concentrated in extractive industries and services, with limited linkages to export-oriented manufacturing.

Empirical evidence, including studies by Asiedu (2002) and Adams (2009), shows that FDI does not necessarily improve export performance in environments with weak infrastructure, limited technological spillovers, and low absorptive capacity. Research on resource-rich economies further suggests that FDI may crowd out domestic export-oriented firms or reinforce dependence on primary commodities.

Thus, the negative coefficient found in this study supports the argument that FDI in Zambia has not been effectively aligned with export diversification and industrial development goals.

Inflation

Inflation records a negative but statistically insignificant coefficient in the long run ($\beta = -0.070$, $p > 0.10$), suggesting that it has no substantial long-term effect on export performance. Although inflation is generally expected to influence external competitiveness through changes in domestic prices, the findings imply that it is not a major determinant of export outcomes over time. This may indicate that exporters adapt to inflationary pressures, while structural and non-price factors exert a stronger influence on export performance.

This finding is consistent with empirical literature indicating that macroeconomic instability tends to affect exports more in the short run, while long-run export performance is driven by structural and institutional factors. Although theory suggests that high inflation reduces competitiveness, empirical results in developing economies often show weak long-run effects. Studies such as those by Iyoha (2003), and Bourdon et al. (2018), highlight that firms may respond to inflation through productivity gains, cost adjustments, or pricing strategies. Therefore, inflation does not appear to be a binding long-run constraint on exports.

Real Effective Exchange Rate (REER)

The real effective exchange rate has a negative but statistically insignificant long-run coefficient ($\beta = -0.039$, $p > 0.10$), suggesting that exchange rate changes do not significantly affect exports over time. This may be explained by structural limitations such as low export diversification and reliance on primary commodities, which reduce responsiveness to exchange rate movements. The weak effect aligns with studies emphasizing low exchange rate elasticity in commodity-dependent economies. Traditional trade theory predicts that depreciation should boost exports by improving price competitiveness; however, this effect is often limited in economies with narrow export bases. Research by Rodrik (2008) and Elbadawi (2012) argues that exchange rate changes have minimal long-run effect when exports are largely commodity-based and priced on international markets.

In such cases, supply-side constraints, infrastructure gaps, and institutional quality play a more dominant role. Hence, the insignificance of REER is consistent with evidence from Sub-Saharan Africa.

Trade Openness

Trade openness records a positive and strongly significant long-run coefficient ($\beta = 1.98$, $p < 0.01$), implying that a 1 per cent increase in trade openness results in an approximate 1.98 per cent rise in exports. The magnitude of this elasticity highlights the critical contribution of trade liberalization to export expansion. Increased openness facilitates greater access to international markets, promotes productive efficiency, and supports the development of export-oriented industries.

This result strongly supports both neoclassical trade theory and empirical findings. Trade openness is widely recognized as a key driver of export expansion through improved market access and competition. Studies by Frankel & Romer (1999), as well as Wacziarg & Welch (2008), show that more open economies tend to experience stronger export growth and deeper integration into global markets. Evidence from developing countries also confirms that trade liberalization significantly boosts export performance, especially when supported by appropriate policies and institutions.

Economic Growth (GDP)

Economic growth, proxied by GDP, has a positive and statistically significant long-run effect on exports ($\beta = 0.54$, $p < 0.01$). This implies that a 1 percent increase in GDP results in approximately a 0.54 percent increase in exports. The finding suggests that increased production capacity, improved infrastructure, and higher economic activity contribute to export expansion. Growth therefore strengthens the export sector through supply-side improvements.

This result aligns with the supply-side perspective of export growth, which emphasizes productive capacity as a key determinant. Higher economic growth supports industrialization, infrastructure development, and technological progress, all of which enhance export capability. Empirical studies by Helpman & Krugman (1985), as well as Awokuse (2007), document a strong relationship between economic growth and export performance in developing economies. The findings suggest that sustained growth enables firms to generate surplus output for international markets, thereby strengthening export capacity in the long run.

Table 12: ARDL Short-run Results

Variables	Coefficient	Std. Err	t-Statistic	P-value	95% Conf. Interval	
ln(exports)	-0.636	0.164	-3.88	0.003	-1.001	-0.271
ln(FDI)	0.978	0.350	2.76	0.020	0.188	0.175

ln(Inflation)	0.651	0.318	2.05	0.067	-0.006	0.136
ln(trade)	-0.209	0.272	-0.81	0.438	-0.828	0.388
ln(gdp)	-3.144	0.067	-3.65	0.004	-0.336	-0.081

Source: Authors Estimation Using Stata 16

Foreign Direct Investment (FDI)

In the short run, the first difference of foreign direct investment shows a positive and statistically significant effect on exports ($\beta = 0.097$, $p < 0.05$). This suggests that short-term increases in FDI support export growth, possibly through immediate capital inflows, technology transfer, and enhanced production capacity. However, this short-run improvement contrasts with the negative long-run relationship, indicating that although FDI may initially boost export activity, its sustained contribution remains limited due to structural weaknesses and weak integration with export-oriented industries. The positive short-run effects aligns with the view that FDI can generate immediate supply-side gains by easing capital constraints and improving productive efficiency. Under Endogenous Growth Theory, foreign investment can temporarily raise output and export capacity.

Empirical evidence, including studies by Borensztein et al. (1998) and Alfaro et al. (2004), shows that FDI can stimulate exports in the short run, particularly in developing economies. However, the contrast between short-run gains and long-run decline is consistent with findings by Adams (2009), who argues that without strong domestic linkages and absorptive capacity, the long-term export benefits of FDI diminish.

Inflation

The short-run coefficient of the first difference of inflation is positive and weakly significant ($\beta = 0.065$, $p < 0.10$), while its lagged term remains insignificant. This mixed outcome suggests that inflation has a limited and unstable short-run effect on exports. Moderate inflation may reflect increased economic activity that temporarily supports export production; however, persistent inflation does not translate into sustained export growth.

This finding is consistent with studies that highlight short-lived and non-linear effects of price instability. While high inflation is often linked to macroeconomic instability, moderate levels may coincide with increased demand and production.

Research by Fischer (1993) and Iyoha (2003), indicates that inflation influences exports mainly through short-term cost and pricing channels rather than long-term competitiveness. The insignificance of the lagged term further confirms that the effect of inflation on exports is temporary and diminishes over time.

Trade Openness

The short-run effect of trade openness is mixed. The contemporaneous change is statistically insignificant, while its lagged first difference is negative and significant ($\beta = -0.369$, $p < 0.05$). This suggests that increases in trade openness may initially reduce exports, possibly due to adjustment costs or stronger import competition faced by domestic firms. Over time, however, these short-term pressures are outweighed by the strong positive effects observed in the long run. The negative lagged effect is consistent with literature emphasizing transitional costs of trade liberalization. In the short run, greater openness exposes domestic producers to competition, which may temporarily reduce export supply as firms adjust.

Empirical studies by Francisco & Dani (2001), as well as Romain & Karen (2008), show that while trade liberalization promotes exports in the long run, it can generate short-term disruptions, especially in economies with limited industrial capacity. The findings here support this gradual adjustment process.

Economic Growth (GDP)

The first difference of GDP has a negative and statistically significant short-run effect on exports ($\beta = -0.209$, $p < 0.01$). This indicates that, in the short run, economic expansion may increase domestic consumption, thereby diverting output away from export markets. This supports the absorption hypothesis, which suggests that rising domestic demand during growth periods can reduce export supply, particularly in developing economies where growth is consumption-driven. Empirical evidence from Titus (2007) and Cheng (2011), supports this mechanism, showing that short-run growth may suppress exports, while long-run growth enhances export capacity through investment and productivity improvements. The result reflects the transitional nature of growth and export adjustment.

Real Effective Exchange Rate (REER)

The real effective exchange rate does not feature in the short-run dynamics, as its coefficients were statistically insignificant and excluded during the ARDL lag selection process. This suggests that short-term exchange rate fluctuations do not significantly influence exports. In a commodity-dependent economy, export prices are largely determined in global markets and are subject to rigidities such as contracts and production constraints, limiting responsiveness to exchange rate changes in the short run.

4.6 Error Correction Model (ECM)

The Error Correction Model, estimated within the ARDL framework, explains both the short-run dynamics and the rate at which deviations from long-run equilibrium are corrected. The error correction term (ECT), represented by the lagged value of exports, is negative and statistically significant (-0.636 , $p < 0.01$), thereby confirming the existence of a stable long-run relationship among the variables included in the model. The coefficient further suggests that nearly 63.6 per cent of short-run disequilibrium in exports is adjusted within a single period.

The short-run results reveal that foreign direct investment and inflation have positive effects on exports, while trade openness and GDP exhibit negative and statistically significant effects. The negative and highly significant ECT coefficient validates the ECM specification and indicates that the system adjusts relatively quickly toward long-run equilibrium after experiencing short-term shocks or imbalances. The detailed ECM estimation results are presented in the table below.

Table 13: Error Correction Model (ECM) Results

Variable	Coefficient	Std. Error	t-Statistic	P-value
ERROR CORRECTION TERM				
ECT(-1)	-0.6362***	0.1638	-3.88	0.003
SHORT-RUN DYNAMICS				
$\Delta \log(\text{FDI})$	0.0968**	0.0350	2.76	0.020

$\Delta\log(\text{Inflation})$	0.0651*	0.0318	2.05	0.067
$\Delta\log(\text{Inflation})(-1)$	0.0314	0.0286	1.10	0.297
$\Delta\log(\text{Trade})$	-0.2201	0.2727	-0.81	0.438
$\Delta\log(\text{Trade})(-1)$	-0.3691**	0.1596	-2.31	0.043
$\Delta\log(\text{GDP})$	-0.2088***	0.0572	-3.65	0.004
Constant	-3.1442**	1.2034	-2.61	0.026

Source: Authors Estimation Using Stata 16

Observations **33**
R-squared **0.9153**
Adjusted R-squared **0.8136**
Root MSE **0.0462**

In the short run, changes in foreign direct investment are statistically significant, with a probability value of 0.020, indicating a positive effect on exports at the 5 percent significance level. Inflation changes are weakly significant ($p = 0.067$), suggesting a short-run effect at the 10 percent level, although the lagged inflation term is not statistically significant ($p = 0.297$).

Trade openness has an insignificant contemporaneous effect ($p = 0.438$), but its lagged value is significant at the 5 percent level ($p = 0.043$), indicating delayed short-run adjustments. Meanwhile, changes in GDP have a negative and statistically significant effect on exports ($p = 0.004$), confirming significance at the 1 percent level.

With regard to model performance, the R-squared value of 0.9153 shows that about 91.5 percent of the variation in exports is explained by the ECM. The adjusted R-squared of 0.8136 remains relatively high after adjusting for the number of explanatory variables, suggesting that the model is well specified and not over-fitted. In addition, the Root Mean Square Error (Root MSE) of 0.0462 is low, indicating minimal residual variation and a good overall fit, thereby supporting the reliability of the short-run estimates.

4.7. RAMSEY RESET TEST

The Ramsey Regression Specification Error Test (RESET) is applied to assess whether the regression model is correctly specified. It primarily checks for functional form misspecification and the omission of relevant variables within a linear regression framework. The test is conducted by introducing higher-order powers of the fitted values of the dependent variable into the model and examining whether these additional terms are jointly significant. The results of the Ramsey RESET test are presented in the table below.

Table 14: Ramsey Reset Test

Exports	Coefficient	Std. Error	t-Statistic	P-value
FDI	-0.636	0.280	-2.20	0.037
Inflation	0.040	0.027	1.46	0.115
Reer	0.109	0.042	2.58	0.016
Trade	0.661	0.768	8.61	0.000
Gdp	0.126	0.207	0.61	0.547

Source: Authors Estimation Using Stata 16

Number of observation: 32

Prob > F: 1.40

F (3, 23): 0.2693

The Ramsey RESET test, based on the inclusion of powers of the fitted values of exports, is employed to evaluate whether the estimated regression model suffers from specification errors. Specifically, the test examines whether the functional form of the model is appropriate and whether any relevant explanatory variables have been omitted. In other words, it assesses the overall adequacy of the model in capturing the true relationship between the dependent and independent variables.

Formally, the hypotheses for the Ramsey RESET test are stated as follows:

- H_0 : The model is correctly specified, implying no omitted variables and an appropriate functional form.

- H_1 : The model is misspecified, indicating the presence of omitted variables or an incorrect functional form.

The Ramsey RESET test conducted in this study produces an F-statistic of 1.40 with an associated probability value of 0.2693. Because the p-value is greater than the standard 5 per cent significance level, the null hypothesis is not rejected. This finding suggests that there is no significant evidence of model misspecification. Therefore, the adopted functional form is considered appropriate, and the explanatory variables included in the model adequately explain variations in exports.

In addition, failure to reject the null hypothesis enhances confidence in the reliability of the estimated coefficients, as it indicates the absence of serious specification problems such as omitted variable bias or improper variable transformation. This outcome supports the credibility of the regression estimates and strengthens the suitability of the model for policy interpretation and inference. Overall, the Ramsey RESET test confirms that the estimated model appropriately captures the relationship between exports and their key determinants.

4.8. MULTICOLLINEARITY TEST

To examine the existence of multicollinearity among the explanatory variables, the study utilizes the Variance Inflation Factor (VIF) method. Multicollinearity occurs when independent variables are highly linearly correlated with one another, a condition that may increase the standard errors of the estimated coefficients and consequently weaken the accuracy, stability, and reliability of the regression estimates. The VIF measures how much the variance of an estimated coefficient is increased due to multicollinearity. A commonly used rule of thumb is that a VIF value greater than 10 indicates a high degree of multicollinearity, while values between 5 and 10 suggest moderate correlation among regressors.

Values below 5 generally imply that multicollinearity is not a serious concern.

By computing the VIF for each explanatory variable, the study is able to determine whether strong linear relationships exist among the regressors. This diagnostic test is important because excessive multicollinearity can make it difficult to isolate the individual effect of each variable on exports and may lead to unstable coefficient estimates. Therefore, the VIF analysis provides an essential check on the robustness and credibility of the estimated model.

Table 15: Multicollinearity Test

Variable	VIF	1/VIF
Exports	4.44	0.225036
Reer	2.12	0.472710
Gdp	1.40	0.711961
Inflation	1.42	0.703222
Trade	4.05	0.247197
Mean VIF	2.69	

Source: Authors Estimation Using Stata 16

Given that none of the variables have a coefficient variance greater than 10. Hence the relationship between the independent variables does not exhibit multicollinearity.

4.9. HETEROSCEDASTICITY TEST

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of exports

$\chi^2(1) = 0.66$

Prob > $\chi^2 = 0.4153$

The Breusch–Pagan/Cook–Weisberg test was applied to determine whether heteroskedasticity is present in the regression model. This diagnostic procedure examines whether the variance of the error terms remains constant across observations, which is a fundamental assumption for obtaining reliable regression estimates. The test generated a chi-square statistic of 0.66 with an associated probability value of 0.4153. Since the p-value is greater than the conventional 5 per cent significance threshold, the null hypothesis of homoskedasticity is not rejected. This result suggests that there is no significant evidence of heteroskedasticity in the residuals.

The absence of heteroskedasticity indicates that the error terms maintain constant variance, thereby satisfying an important assumption of the classical linear regression model. Consequently, the estimated standard errors are considered efficient and unbiased, while the corresponding t-statistics and confidence intervals remain dependable for statistical inference. This outcome enhances the credibility of the regression findings and reinforces the robustness of the conclusions derived from the model.

4.10. SUMMARY

Chapter Four analyzed the empirical results concerning the relationship between Foreign Direct Investment (FDI) and export performance in Zambia. The chapter commenced with descriptive statistical analysis and proceeded to unit root testing, which revealed that the variables were integrated at different orders. This finding justified the adoption of the ARDL modelling framework, given its suitability for handling a combination of $I(0)$ and $I(1)$ variables.

The ARDL bounds testing approach established the existence of a long-run cointegrating relationship between exports and the selected macroeconomic variables. Thereafter, both the long-run and short-run estimations were analyzed. The long-run findings emphasized the importance of trade openness and economic growth in influencing exports, whereas Foreign Direct Investment produced a negative effect, implying the presence of structural constraints that limit its contribution to export growth. In the short run, several variables displayed temporary and dynamic influences, reflecting ongoing adjustment mechanisms within the economy. The Error Correction Model (ECM) further validated the presence of a stable long-run equilibrium relationship, with the error correction term being negative, statistically significant, and correctly signed, indicating a relatively rapid adjustment toward equilibrium after short-term disturbances. In addition, diagnostic tests, including the Ramsey RESET test, the multicollinearity test, and the Breusch–Pagan test, confirmed that the estimated model is properly specified, free from severe multicollinearity problems, and does not exhibit heteroskedasticity.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1. INTRODUCTION

This chapter interprets the empirical results presented in Chapter Four in line with the study objectives, hypotheses, and underlying theoretical framework. It brings together the ARDL long-run estimates, short-run Error Correction Model (ECM) results, and diagnostic test outcomes to develop a coherent explanation of the FDI-export relationship in Zambia over the period 1993–2024.

The study was guided by two main hypotheses:

- H_{01} : Foreign direct investment has no long-run relationship with exports
- H_{02} : Foreign direct investment has no short-run effect on exports

The ARDL bounds test results established the existence of cointegration among exports, FDI, GDP, and inflation, indicating the presence of a stable long-run equilibrium relationship among the variables (Pesaran, Shin & Smith, 2001). Nevertheless, the magnitude and direction of the effect of FDI were not consistent across different time horizons, as the variable exhibited differing effects in the long run compared to the short run.

5.2 DISCUSSION OF EMPIRICAL FINDINGS

5.2.1 Long-Run Effects of FDI on Export Performance

The long-run ARDL findings reported in Table 10 (Chapter Four) indicate that foreign direct investment carries a negative but statistically insignificant coefficient. Although the bounds testing procedure confirmed the existence of cointegration among the variables, the estimated long-run elasticity of exports in relation to FDI remains statistically indistinguishable from zero. This implies that although exports and FDI move together over time, FDI has not been a statistically significant driver of sustained export expansion in Zambia during the study period.

This outcome aligns with findings from:

Msoni (2012; 2016), who reported insignificant long-run export effects in Tanzania.

Ndaba (2015), who observed that Zambia's FDI concentration in extractive industries limits structural transformation.

Tessema (2012), who found weak export responses where FDI is not efficiency-seeking.

Interpretation Within Zambia's Structural Context

Several structural explanations support the negative and insignificant long-run result:

Sectoral Concentration in Mining

UNCTAD (2023) and the World Bank (2024), indicate that over 70% of Zambia's export earnings originate from copper. FDI inflows have largely targeted mining, creating what Auty (2001), describes as an "enclave economy" where foreign firms operate with limited domestic production linkages.

Because mining exports are capital-intensive and import-dependent, the broader spillover effects into manufacturing and agro-processing remain weak (Mumena & Lusaya, 2020). As a result, aggregate FDI does not significantly raise total export capacity beyond copper.

Market-Seeking (Horizontal) FDI

According to New Trade Theory (Helpman & Krugman, 1985), horizontal FDI substitutes exports by relocating production closer to domestic markets. If foreign firms invest to serve Zambia's internal or regional markets (SADC/COMESA), export expansion may not occur.

The insignificant coefficient suggests that a substantial share of FDI in Zambia may be market-seeking rather than export-oriented, which is consistent with findings in other resource-dependent economies (Bouras & Raggad, 2015).

Limited Absorptive Capacity

According to Borensztein, De Gregorio & Lee (1998), the positive contribution of FDI to growth and trade depends largely on the availability of sufficient human capital and strong institutional quality within the host economy. In the case of Zambia, limitations associated with a weak industrial structure and inadequate infrastructure (World Bank, 2023) may have constrained the ability of FDI to generate meaningful export-promoting spillover effects.

5.2.2 Short-Run Dynamics of FDI and Exports

The ECM results presented in Table 12 show that FDI exerts a negative and statistically significant effect in the short run. This finding leads to rejection of H_02 and confirms that short-term changes in FDI affect export performance.

The negative short-run coefficient suggests that immediate FDI inflows may temporarily reduce export performance before long-run adjustments occur.

This result is consistent with:

Msoni (2012), who found short-run negative export effects.

Tessema (2012), who attributed short-run declines to structural rigidities.

OECD (2019), which notes that short-run FDI inflows often increase imports before boosting exports.

Possible Short-Run Transmission Channels

Import-Intensive Investment Phase

FDI projects typically involve the importation of machinery, intermediate goods, and foreign expertise during initial establishment phases (UNCTAD, 2022). This increases imports relative to exports in the short run, potentially worsening trade performance.

Adjustment and Production Lags

Export production requires time to scale. Infrastructure construction, plant development, and workforce training create time lags between capital inflows and export realization (World Bank, 2020).

Exchange Rate Pressures

Substantial capital inflows can lead to an appreciation of the real exchange rate, thereby weakening export competitiveness, a situation commonly associated with Dutch Disease effects in resource-dependent economies (Corden & Neary, 1982).

5.2.3 Error Correction Term and Speed of Adjustment

The ECM coefficient presented in Table 12 is negative and statistically significant, thereby confirming the existence of long-run stability within the model. This finding indicates the presence of a self-adjusting mechanism through which short-run disequilibria gradually return to long-run equilibrium. This finding is consistent with Engle & Granger (1987), who emphasize that a significant ECM term validates cointegration and system stability.

5.2.4 Role of Control Variables

GDP

GDP recorded a positive and statistically significant coefficient in the long run, as shown in Table 10. This suggests that domestic productive capacity contributes more substantially to export growth than foreign direct investment inflows. This result aligns with Export-Led Growth theory (Balassa, 1978) and studies emphasizing that output growth enhances export supply potential (Tyler, 1981).

Inflation

Inflation showed a negative relationship with exports, suggesting that macroeconomic instability undermines competitiveness. This supports theoretical expectations that high inflation raises domestic production costs and reduces export price competitiveness (IMF, 2023).

5.2.5 Diagnostic Tests and Model Validity

The Breusch-Pagan test results suggested the absence of heteroscedasticity, implying that the residuals maintained constant variance throughout the model. In addition, the Variance Inflation Factor (VIF) analysis revealed no serious multicollinearity among the explanatory variables, while the Ramsey RESET test confirmed that the model was properly specified. Collectively, these diagnostic tests support the reliability and robustness of the estimated coefficients (Gujarati & Porter, 2009; Wooldridge, 2016).

5.3 POLICY RECOMMENDATIONS

Based on the empirical findings, the following policy recommendations are proposed.

Reorient FDI Toward Export-Driven Sectors

Government policy should prioritize efficiency-seeking FDI rather than purely resource-seeking investment. Incentive structures under the Zambia Development Agency (ZDA) framework should be redesigned to favor:

Agro-processing

Manufacturing for export

Value-added mineral processing

This aligns with UNCTAD (2023), which emphasizes export-oriented industrial policy.

Promote Export Diversification

Heavy copper dependence exposes Zambia to price volatility. Diversification into horticulture, textiles, and processed foods would stabilize export earnings (World Bank, 2024).

Strengthen Local Linkages

Backward linkages between multinational corporations and domestic firms should be institutionalized through:

Local content policies

Supplier development programs

Technology transfer agreements

This would enhance spillover effects (Borensztein et al., 1998).

Maintain Macroeconomic Stability

Since inflation negatively affects exports, prudent monetary and fiscal management is essential. Exchange rate stability enhances competitiveness and reduces uncertainty (IMF, 2023).

Improve Institutional Quality

Reducing regulatory uncertainty and strengthening contract enforcement will attract higher-quality FDI (OECD, 2022).

5.4 THEORETICAL IMPLICATIONS

The findings partially contradict the Flying Geese Model (Sultan, 2013), which predicts complementary FDI-export dynamics. Instead, the results suggest Zambia predominantly attracts horizontal, resource-seeking FDI rather than vertical export-oriented FDI.

Thus, the OLI paradigm, Dunning (1993), holds in explaining why firms invest in Zambia (location advantages), but export spillovers remain limited.

5.5 LIMITATIONS OF THE STUDY

Although this study provides valuable evidence on the relationship between Foreign Direct Investment (FDI) and export performance in Zambia, a number of limitations should be acknowledged.

The analysis relies entirely on aggregate macroeconomic time-series data. While this approach is appropriate for examining economy-wide trends, it may conceal important sector-specific variations. FDI inflows differ substantially across industries such as mining, manufacturing, and agriculture, and their effects on export performance are unlikely to be uniform. As a result, the findings may not adequately capture the sectoral effect of FDI on exports.

The study is also constrained by issues related to data availability and measurement. The analysis uses secondary data obtained from international databases which, despite being widely accepted, may be subject to revisions, inconsistencies, and variations in reporting practices. Furthermore, FDI was considered in its aggregated form without separating investment categories such as resource-seeking, market-seeking, and efficiency-seeking FDI, each of which may influence export performance differently.

The sample period from 1993 to 2024 provides a relatively limited number of observations, which may affect the precision of the estimations. Although the ARDL approach is considered suitable for small sample studies, Pesaran et al. (2001), noted that limited observations can still weaken estimation accuracy and reduce the ability to identify subtle long-run relationships.

The study is largely based on a quantitative econometric approach, which may not fully account for institutional, structural, and policy-related influences on the FDI-export relationship. Factors such as governance quality, regulatory efficiency, investor behavior, and firm level decision making are difficult to quantify but may significantly affect export outcomes.

Finally, the analysis focuses on selected macroeconomic variables and excludes other potentially important determinants of exports, including trade policy shifts, infrastructure development, global commodity price movements, and exchange rate volatility. The omission of these variables may lead to some degree of omitted variable bias, although diagnostic tests and model specification were used to minimize this risk.

Despite these limitations, the study still provides valuable empirical evidence and contributes to a stronger understanding of the FDI-export relationship in Zambia, forming a useful basis for future research.

5.6 AREAS FOR FURTHER RESEARCH

While this study contributes to the understanding of the relationship between FDI and export performance in Zambia, a number of important areas warrant further investigation.

Future studies could focus on sector specific investigations. Since FDI inflows in Zambia are largely concentrated in the mining sector, it would be useful to assess how FDI influences exports within individual sectors such as manufacturing, agriculture, and services. Such disaggregated analysis may reveal heterogeneous effects that are not captured in aggregate macroeconomic models.

Subsequent research may also differentiate between types of FDI, including resource-seeking, market-seeking, and efficiency-seeking investments. Separating FDI by motive or sector classification could help explain why foreign investment does not consistently translate into export growth, particularly in developing and resource-dependent economies.

Future work could further incorporate additional explanatory variables that affect export performance. Factors such as infrastructure quality, trade policy changes, institutional strength, exchange rate volatility, and fluctuations in global commodity prices may provide a more comprehensive and robust analytical framework.

Researchers may also explore the influence of institutional and governance factors in greater depth. The effectiveness of FDI in promoting exports is often shaped by regulatory quality, policy stability, protection of property rights, and overall ease of doing business. Including such institutional indicators could improve understanding of the FDI-export relationship.

In addition, future studies may adopt mixed-methods approaches. Combining econometric modelling with qualitative techniques such as interviews with policymakers, investors, and industry stakeholders could help capture institutional and behavioral factors that are not easily measurable through quantitative data alone.

Comparative studies across countries or within the Southern African or broader Sub-Saharan African region may also be valuable. Such analyses would help determine whether Zambia's experience is unique or reflects wider regional trends and structural characteristics.

Overall, these suggested research directions could provide deeper insights into how FDI can be more effectively harnessed to promote export growth and economic diversification.

5.7 CHAPTER SUMMARY

This chapter analyzed the empirical findings and established that while FDI and exports share a long-run equilibrium relationship, FDI has not significantly enhanced Zambia's export performance in the long run and exerts a negative effect in the short run. These findings highlight structural weaknesses, sectoral concentration, and limited diversification as key constraints in transforming FDI into a driver of export growth.

Strategic reforms aimed at export-oriented diversification, macroeconomic stability, and stronger domestic linkages are essential for improving the developmental effect of FDI in Zambia.

REFERENCES

- Aitken, B. J., & Harrison, A. E. (1999). Do domestic firms benefit from direct foreign investment? Evidence from Venezuela. *American Economic Review*, 89(3), 605–618.
- Alfaro, L. (2003). *Foreign direct investment and growth: Does the sector matter?* Harvard Business School Working Paper, 1–31.
- Balasubramanyam, V. N., Salisu, M., & Sapsford, D. (1996). Foreign direct investment and growth in EP and IS countries. *Economic Journal*, 106(434), 92–105.
- Bank of Zambia. (2018). *Direction of trade report: Fourth quarter*.
- Bank of Zambia. (2019). *Foreign private investment and investor perceptions survey report: Enhancing investment for export promotion and industrialization towards inclusive growth*. Bank of Zambia Report
- Bank of Zambia. (2023). *Private capital flows report 2023*. Bank of Zambia Private Capital Flows
- Bank of Zambia. (2024). *Direction of trade report: First quarter*.
- Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, 45(1), 115–135.
- Bouras, H., & Raggad, B. (2015). Foreign direct investment and exports: Complementarity or substitutability? An empirical investigation. *International Journal of Economics and Financial Issues*, 5(4), 933–941.
- Caves, R. E. (1996). *Multinational enterprise and economic analysis* (2nd ed.). Cambridge University Press.
- CEIC Data. (2024). *Zambia foreign direct investment, 1993–2025*. CEIC Data Zambia FDI

- Draper, P., Freytag, A., & Voll, S. (2009). *Global financial crisis, protectionism and current account deficit: South Africa on the brink?* (Working Papers on Global Financial Markets No. 8).
- Dunning, J. H. (1988). The eclectic paradigm of international production: A restatement and some possible extensions. *Journal of International Business Studies*, 19(1), 1–31.
- Dunning, J. H. (1993). *Multinational enterprises and the global economy*. Addison-Wesley.
- Enders, W. (2015). *Applied econometric time series* (4th ed.). Wiley.
- Enhanced Integrated Framework. (2023). *Zambia diagnostic trade integration study update 2023*.
- Goswami, G., & Saikia, K. (2012). FDI and its relation with exports in India: Status and prospect in North East region. In *International Conference on Emerging Economies: Prospects and Challenges*.
- Gururaj, B., Satishkumar, M., & Kumar, M. K. A. (2016). Analysis of factors affecting the performance of exports in India. *International Journal of Agriculture, Environment and Biotechnology*, 9(4), 613–616.
- Görg, H., & Greenaway, D. (2004). Much ado about nothing? Do domestic firms really benefit from foreign direct investment? *World Bank Research Observer*, 19(2), 171–197.
- Helpman, E., Melitz, M. J., & Yeaple, S. R. (2004). Export versus FDI with heterogeneous firms. *American Economic Review*, 94(1), 300–316.
- International Finance Corporation. (2024). *Zambia country private sector diagnostic*. World Bank Group.
- International Trade Portal. (2023). *Foreign direct investment (FDI) in Zambia*.
- Khan, A. (2015). *Empirical link between foreign direct investment and economic growth: An ARDL co-integration approach for Pakistan* (Master's thesis, Near East University).

- Kutan, A. M., & Vuksic, G. (2007). Foreign direct investment and export performance: Empirical evidence. *Comparative Economic Studies*, 49(3), 430–445.
- Mabeta, J. (2015). *Determinants of non-traditional agricultural exports growth in Zambia: A case of cotton and tobacco* (Master's thesis, Egerton University).
- Makki, S. S., & Somwaru, A. (2004). Impact of foreign direct investment and trade on economic growth: Evidence from developing countries. *American Journal of Agricultural Economics*, 86(3), 795–801.
- Narayan, P. K. (2005). The saving and investment nexus for China: Evidence from cointegration tests. *Applied Economics*, 37(17), 1979–1990.
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326.
- ResearchGate. (2025). *The effects of financial sector development on foreign direct investment (FDI) inflows in Zambia*.
- Sachs, J. D., & Warner, A. (1995). Economic reform and the process of global integration. *Brookings Papers on Economic Activity*, 1995(1), 1–118.
- Todaro, M. P., & Smith, S. C. (2020). *Economic development* (13th ed.). Pearson.
- UNCTAD. (2023). *World investment report 2023: Investing in sustainable energy for all*.
- UNCTAD. (2024). *World investment report 2024: Investment facilitation and development*. United Nations Conference on Trade and Development.
- World Bank. (2002). *Globalization, growth, and poverty: Building an inclusive world economy*. World Bank Group.
- World Bank. (2017). *Global investment competitiveness report 2017/2018: Foreign investor perspectives and policy implications*. World Bank Group.

- World Bank. (2018). *World development report 2018: Learning to realize education's promise*. World Bank Group.
- World Bank. (2019). *World development report 2019: The changing nature of work*. World Bank Group.
- World Bank. (2021). *World development report 2021: Data for better lives*. World Bank Group.
- World Bank. (2022). *World development report 2022: Finance for an equitable recovery*. World Bank Group.
- World Bank. (2023a). *Zambia economic outlook: Building resilience and recovery*. World Bank Group.
- World Bank. (2023b). *Foreign direct investment, net inflows (% of GDP) – Zambia*.
- World Bank. (2023c). *World development indicators database*. World Bank Group.
- World Bank. (2024). *Africa's pulse: An analysis of issues shaping Africa's economic future*. World Bank Group.
- World Bank. (2024). *Global economic prospects: Accelerating growth through structural reforms*. World Bank Group.
- World Bank. (2024). *World development report 2024: The middle-income trap and structural transformation*. World Bank Group.
- Zhang, K. H. (2001). Does foreign direct investment promote economic growth? Evidence from East Asia and Latin America. *Contemporary Economic Policy*, 19(2), 175–185.

APPENDICES

APPENDIX I: DATA SET

	LNFI	LNEXP	LNINFLATION	LNER	LNTRADE	LN GDP
	9.604			53.35	65.675	6.797
1993	383	31.86796	143.6583	992	88	274
						-
	1.093			51.23	66.650	8.625
1994	851	32.9504	80.7422	57	59	44
	2.810			49.18	69.226	2.897
1995	624	32.90103	30.61112	396	77	669
	3.533			53.69	63.821	6.218
1996	283	28.47891	24.34926	168	48	546
	4.819			62.17	58.272	3.814
1997	57	27.37126	25.40254	81	86	007
						-
	5.596			58.11	56.250	0.385
1998	79	24.61776	16.90687	719	31	75
	4.758			58.20	59.767	4.650
1999	709	25.03722	17.92387	36	53	19
	3.379			59.74	60.387	3.897
2000	962	23.92386	32.61387	976	47	323
	3.541			68.33	64.668	5.316
2001	387	25.1097	25.33126	499	28	868
2002	7.114	27.13368	19.39092	69.95	64.916	4.506

	941			923	5	014
	7.078			61.92	62.312	6.944
2003	931	25.68396	17.60772	292	84	974
	5.851			65.11	70.813	7.032
2004	689	33.53998	19.71682	222	07	395
	4.284			80.38	62.200	7.235
2005	032	30.61071	16.6502	924	28	599
	4.827			105.5	57.856	7.903
2006	129	32.59296	14.54225	886	82	694
	9.418			97.58	65.771	8.352
2007	112	33.59119	12.97021	68	46	436
	5.240			112.5	59.454	7.773
2008	508	28.91936	10.64024	958	89	896
	4.532			95.61	56.121	9.220
2009	78	29.251	5.559686	653	38	348
	8.533				65.014	10.29
2010	196	37.02593	13.95091	100	7	822
	4.725			97.15	72.795	5.569
2011	162	40.47122	11.10741	479	43	252
	6.789			99.70	75.367	7.597
2012	381	40.08291	6.992227	899	71	381
	7.489			103.0	80.456	5.057
2013	325	40.48272	9.730891	269	24	537
	5.555			98.43	76.193	4.693
2014	428	38.82229	5.440525	009	5	283
	7.447			86.74	79.865	2.920
2015	417	37.13853	6.659292	327	27	375
	3.162			85.66	73.958	3.755
2016	52	35.32468	13.5761	055	56	1
	4.280			94.19	71.585	3.525
2017	501	34.99286	10.07284	962	69	863

	1.552			88.52	74.888	4.034
2018	319	37.9574	7.411571	225	37	494
	2.350			79.80	68.791	1.441
2019	919	34.63619	7.63347	996	2	306
						-
	1.351			66.45	79.206	2.785
2020	906	46.72019	13.91387	205	85	06
	1.784			69.77	86.208	6.234
2021	078	52.21609	25.14278	262	51	922
	-					
	0.223			91.00	69.297	5.211
2022	29	40.194	6.140318	88	32	224
	2.324			84.52	78.241	5.367
2023	653	40.84612	7.09463	518	89	943
	4.656			73.27	62.534	3.820
2024	003	34.98187	14.41066	973	89	048

APPENDIX II: ARDL BOUNDS TEST

The Autoregressive Distributed Lag (ARDL) model specifies a regression framework that incorporates lagged values of both the dependent and independent variables to capture dynamic relationships in the data.

```
. ardl log_exports log_fdi log_inflation log_reer log_trade log_gdp, maxlags (2) aic
```

ARDL(1,1,2,0,2,1) regression

```
Sample:      1997 -      2019, but with a gap      Number of obs      =      20
F( 12,      7)      =      12.98
Prob > F      =      0.0012
R-squared      =      0.9570
Adj R-squared   =      0.8832
Root MSE      =      0.0528

Log likelihood = 40.948354
```

log_exports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
log_exports						
L1.	.3579464	.2399271	1.49	0.179	-.2093912	.9252839
log_fdi						
--.	-.0887814	.0393045	-2.26	0.058	-.1817219	.0041591
L1.	-.0951232	.0525234	-1.81	0.113	-.2193214	.029075
log_inflation						
--.	.0282291	.0441628	0.64	0.543	-.0761993	.1326576
L1.	-.0428188	.0420302	-1.02	0.342	-.1422045	.0565669
L2.	-.0424679	.0432064	-0.98	0.358	-.1446348	.0596989
log_reer						
--.	-.0417428	.1467111	-0.28	0.784	-.3886593	.3051738
log_trade						
--.	.9951768	.1850596	5.38	0.001	.5575804	1.432773
L1.	-.1402436	.3760161	-0.37	0.720	-1.02938	.7488933
L2.	.327507	.1913658	1.71	0.131	-.1250012	.7800153
log_gdp						
--.	.1294624	.063934	2.02	0.083	-.0217175	.2806422
L1.	.2072829	.0749351	2.77	0.028	.0300894	.3844763
_cons	-2.67503	1.541419	-1.74	0.126	-6.319907	.9698472

APPENDIX III: LONG RUN AND SHORT ARDL TEST

The Autoregressive Distributed Lag (ARDL) model estimates both short-run dynamics and long-run relationships between variables by incorporating their lagged values within a single regression framework.

```
. ardl log_exports log_fdi log_inflation log_reer log_trade log_gdp, lags(1 1 2 0 2 1) ec btest
```

ARDL(1,1,2,0,2,1) regression

```
Sample:      1996 -      2024, but with gaps      Number of obs      =      23
R-squared      =      0.9153
Adj R-squared   =      0.8136
Root MSE      =      0.0462

Log likelihood = 47.667367
```

D.log_exports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ADJ						
log_exports						
L1.	-.6361638	.1637802	-3.88	0.003	-1.001089	-.2712388
LR						
log_fdi	-.2937151	.0868007	-3.38	0.007	-.4871191	-.1003111
log_inflation	-.0696317	.0699493	-1.00	0.343	-.2254885	.0862251
log_reer	-.0380519	.1651122	-0.23	0.822	-.4059449	.3298411
log_trade	1.900378	.3733935	5.30	0.000	1.148406	2.812351
log_gdp	.5428831	.144507	3.76	0.004	.2209015	.8648648
SR						
log_fdi						
D1.	.0968078	.035025	2.76	0.020	.0187674	.1748483
log_inflation						
D1.	.0651263	.031764	2.05	0.067	-.0056482	.1359008
LD.	.0314461	.0285894	1.10	0.297	-.032255	.0951473
log_trade						
D1.	-.220061	.2727269	-0.81	0.438	-.8277343	.3876123
LD.	-.3691143	.1595998	-2.31	0.043	-.7247248	-.0135038
log_gdp						
D1.	-.2087823	.05717	-3.65	0.004	-.3361651	-.0813995
_cons	-3.144225	1.203403	-2.61	0.026	-5.825574	-.4628747

APPENDIX IV: RAMSEY RESET TEST

The Ramsey RESET test evaluates whether a regression model suffers from functional form misspecification by checking if additional nonlinear combinations of the fitted values improve the model. In Stata output, it is reported as an F-statistic with a corresponding probability value used to determine whether the model is correctly specified.

```
. regress exports fdi inflation reer gdp
```

Source	SS	df	MS	Number of obs	=	32
Model	369.981808	4	92.4954519	F(4, 27)	=	2.50
Residual	1000.33462	27	37.0494305	Prob > F	=	0.0664
				R-squared	=	0.2700
				Adj R-squared	=	0.1618
Total	1370.31643	31	44.2037558	Root MSE	=	6.0868

exports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
fdi	-.9217483	.5528203	-1.67	0.107	-2.056042 .2125452
inflation	.0418291	.0529299	0.79	0.436	-.066774 .1504323
reer	.2057191	.0780766	2.63	0.014	.0455191 .3659191
gdp	-.2294486	.3903703	-0.59	0.562	-1.030422 .571525
_cons	22.20978	6.289995	3.53	0.002	9.303775 35.11578

APPENDIX V: ERROR CORRECTION MODEL

The Error Correction Model (ECM) derived from the ARDL specification captures the short-run dynamics and the speed at which deviations from the long-run equilibrium are corrected.

SR	log_fdi					
	D1.	.0968078	.035025	2.76	0.020	.0187674 .1748483
log_inflation	D1.	.0651263	.031764	2.05	0.067	-.0056482 .1359008
	LD.	.0314461	.0285894	1.10	0.297	-.032255 .0951473
log_trade	D1.	-.220061	.2727269	-0.81	0.438	-.8277343 .3876123
	LD.	-.3691143	.1595998	-2.31	0.043	-.7247248 -.0135038
log_gdp	D1.	-.2087823	.05717	-3.65	0.004	-.3361651 -.0813995
	_cons	-3.144225	1.203403	-2.61	0.026	-5.825574 -.4628747

APPENDIX VI: MULTICOLLINEARITY

The study used the VIF to draw a conclusion if there exists a strong linear relationship between the regressors.

Variable	VIF	1/VIF
exports	4.44	0.225036
trade	4.05	0.247197
reer	2.12	0.472710
inflation	1.42	0.703222
gdp	1.40	0.711961
Mean VIF	2.69	