AN ANALYSIS OF THE IMPACT OF INTERNATIONAL FINANCIAL FLOWS ON KEY MACROECONOMIC PERFORMANCE INDICATORS IN SADC COUNTRIES

Thamaga Edwin Letsoalo

[redacted]

Thesis submitted for the requirements for the degree of

DOCTOR OF COMMERCE IN ECONOMICS

in

FACULTY OF MANAGEMENT & LAW

(School of Economics and Management)

at the

UNIVERSITY OF LIMPOPO

SUPERVISOR: Prof T. Ncanywa

2024

DECLARATION

I declare that **AN ANALYSIS OF THE IMPACT OF INTERNATIONAL FINANCIAL FLOWS ON KEY MACROECONOMIC PERFORMANCE INDICATORS IN SADC COUNTRIES** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

Thamaga Edwin Letsoalo	**2024**
Full names	**Date**

ACKNOWLEDGEMENTS

I wish to acknowledge a considerable number of people who contributed to the completion of this work. Although inclusive acknowledgement is an impossibility, I would like to foremost thank the God of Mount Zion who enabled me to complete this thesis.

My greatest appreciations are extended to my supervisor, Professor Thobeka Ncanywa, for being patient with me throughout this study until its ultimate complete. I am mostly grateful, Prof.

I also acknowledge the contribution made by the external examiners who were too kind and helpful with their insightful comments to the study.

I acknowledge the emotional support provided by my family; my wife, Sewela Mahaliah and son, Lekau Blessing. Thank you for being my support structure, encouraging me to study hard and for granting me the time and space to focus on my work.

I also acknowledge the contribution made by the reviewers of *Africa's Public Service Delivery & Performance Review*, which resulted in the publication of the paper: "Effects of external financial flows on income inequality in selected Southern African Development Community member states".

I also appreciate the contribution of the colleagues in the Department of Economics at the University of Limpopo.

DEDICATION

I dedicate this study to my deceased parents Maria Raesetja Letsoalo and Jan Mahlasela Letsoalo.

ABSTRACT

The Southern African Development Community (SADC) finds itself at a critical juncture, contending with several macroeconomic instabilities that present considerable challenges for the region. Notable among these are elevated unemployment rates, significant disparities in income, high levels of inflation, and a lack of robust economic growth. Within this context, the role of various forms of international financial flows merits close examination for their potential to mitigate poverty within developing economies, facilitate globalization, and ameliorate income inequality. Specifically, remittances, foreign direct investment (FDI), and foreign aid emerge as pivotal elements in fostering economic development. These financial inflows not only play a crucial role in poverty alleviation but also in the advancement of skills, the acceleration of cross-border technological and knowledge transfers, and the development of more sophisticated financial markets. Therefore, an in-depth analysis of these international financial flows reveals their indispensable role in promoting economic development, globalization, and income equalization in the context of the SADC.

This study explores the effects of international financial flows on critical economic performance indicators to identify policy solutions to achieve macroeconomic stability in the region. The study contributes to the relatively scarce body of research examining the relationship between financial flows and macroeconomic indicators within the Southern African Development Community (SADC) region by developing four unique models. The theoretical models employed include the Endogenous Growth Model, the Quantity Theory of Money, the Generalized Harris-Todaro Model, and the Cobb-Douglas Production Function. This multifaceted approach represents a novel endeavour, as an extensive analysis had not been undertaken.

The study aims to inform policymakers and empirically contribute to the identified knowledge gap. Specifically, it investigates the impact of international financial flows, namely remittances, foreign aid, and FDI, on key macroeconomic performance indicators, including economic growth, income inequality, inflation, and unemployment, in selected SADC countries (Angola, Botswana, Democratic Republic of Congo, Madagascar,

Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, and Zambia) over the period from 1995 to 2022.

The empirical inquiry utilizes four distinct macroeconomic models grounded in well-established economic theories to achieve the aim. The Economic Growth Model is based on the Endogenous Growth Model, the Inflation Model is rooted in the Quantity Theory of Money, and the income inequality and unemployment models are based on the Generalized Harris-Todaro Model and the Cobb-Douglas Production Function, respectively. An intensive literature review was conducted to identify appropriate financial flow variables for the investigation, ensuring a robust empirical analysis.

The study employed the Cross-Sectionally Augmented IPS (CIPS) Unit Root Test to address the dependencies. Additionally, the study utilised the Pedroni's Panel cointegration techniques to examine the long-run relationships among variables. The Panel ARDL Model captures short-term and long-term estimates, providing a comprehensive view of the relationships studied. Finally, the Wald Test for Causality enhances understanding of causal relationships among the variables, contributing to the strength of the findings.

The results from the panel ARDL model make several significant contributions to understanding the economic dynamics in the SADC region. The study finds that remittances significantly reduce income inequality, contrary to the anticipated negative impact on unemployment, underlining the need for policies that channel remittances into productive investments. Secondly, foreign aid positively affects inflation, emphasizing the necessity for effective aid management to avoid inflationary pressures while promoting human capital and infrastructure development to reduce income inequality.

Thirdly, the analysis demonstrates that FDI contributes to reducing unemployment but does not significantly influence income inequality, suggesting a need for policies that enhance absorptive capacity and align FDI with broader development goals. Lastly, the study emphasises the complex relationship between financial development and unemployment. It suggests that financial development can stimulate economic growth but may also increase unemployment if not adequately managed. These findings collectively offer a comprehensive understanding of how various financial flows impact economic

growth, inflation, income inequality, and unemployment, providing valuable insights for policymakers in the SADC region to design more effective economic policies.

This study emphasised the diverse impacts of international financial flows on key macroeconomic indicators in the SADC region. Remittances boost economic growth but increase unemployment; thus, the study recommends that policies encourage productive investments. Foreign aid shows minimal impact on growth but reduces income inequality; therefore, the study recommends effective utilization of foreign aid. FDI stimulates growth and reduces unemployment. Thus, the analysis recommends a business-friendly environment to attract FDI. Financial development enhances growth but may increase income inequality and unemployment, stressing the need for inclusive financial policies. Domestic investment's positive link with growth and unexpected rise in unemployment calls for improved investment climates and structural reforms.

.

KEY CONCEPTS: **Income Inequality, Economic Growth, Inflation, Unemployment Panel ARDL, international financial flows.**

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS

ADF: Augmented Dickey Fuller

ARDL: Autoregressive Distribution Lag Model

DSP: Differenced Stationarity Process

FAO: Food and Agriculture Organization of the United Nations

FDI: Foreign Direct Investment

GDP: Gross Domestic Product

ILO: International Labour Organization

IMF: International Monetary Fund

IPS: Im, Pesaran and Shin

LLC: Levin, Lin, and chu

PP: Philips Perron test

SADC : Southern African Development Community

SWIID : Standardized World Income Inequality Database

TSP: Trend Stationarity Process

UNCTAD: United Nations Conference on Trade and Development

UNDP: United Nations Development Programme

UNIDO: United Nations Industrial Development Organization

USGS: United States Geological Survey

CHAPTER ONE (1)

ORIENTATION TO THE STUDY

1.1 Introduction and Background

A considerable debate persists among economists and policy-oriented researchers regarding the absolute impact of international financial flows on economic performance indicators in less developed and developing markets (Alami, Alves, Bonizzi, Kaltenbrunner, Koddenbrock, Kvangraven, & Powell, 2023). Recent studies confirm that international financial flows, including remittances, foreign direct investment (FDI), and foreign aid, predominantly move from developed markets to emerging ones (Nguea et al., 2024). According to the World Bank (2019), remittances are becoming a crucial source of foreign capital for developing countries, surpassing FDI and foreign aid in many cases. Furthermore, international financial flows can directly influence the economic performance of recipient countries by alleviating local resource constraints (Combes, Kinda, Ouedraogo, and Plane, 2019).

International financial flows have proven crucial for the development of recipient countries, enhancing skill advancement, cross-border technology transfer, knowledge dissemination, and the development of advanced financial markets. Recent studies confirm that these benefits remain significant in the context of developing countries. The World Bank's recent analysis indicates that international financial flows continue to play a vital role in the economic development of low- and middle-income countries, contributing to infrastructure development, job creation, and economic diversification (World Bank, 2022). Additionally, the OECD's 2023 Global Outlook on Financing for Sustainable Development reports that FDI and other forms of capital, are integral to closing the financing gaps in developing countries. These flows support sustainable development goals (SDGs) by enabling investments in critical sectors such as education, healthcare, and sustainable infrastructure (OECD, 2023). However, Combes et al. (2019) argued that the impact of international flows may harm the recipient country due to appreciation of the real exchange rate. Furthermore, the short-run capital inflows can undermine the productive sectors of the recipient countries (Combes et al., 2019).

Since the 1990s, the leading financial flows to Africa have risen significantly, especially in terms of foreign direct investment (FDI) and remittances. Recent data show that FDI inflows to Africa reached a record $83 billion in 2021, rebounding strongly after the COVID-19 pandemic (UNCTAD, 2022). Similarly, remittances to Africa were substantial, amounting to $96 billion in 2021 (OECD, 2023). Recently, remittance inflows have been recorded to have surpassed the FDI as a source of international finance (Rosa, 2020; Suranovic, 2023). The recipient economies require fundamental economic factors, such as human capital, trade openness, good infrastructure, and financial development, to enhance their absorptive capacity to harness the benefits of international financial flows (Dhrifi, 2022; Gupta, Yadav, & Jain, 2022). The study's primary interest is in what can be done to address the economic performance of the SADC economy to address the escalating inequalities while concurrently promoting inclusive economic growth and maintaining a low inflation rate.

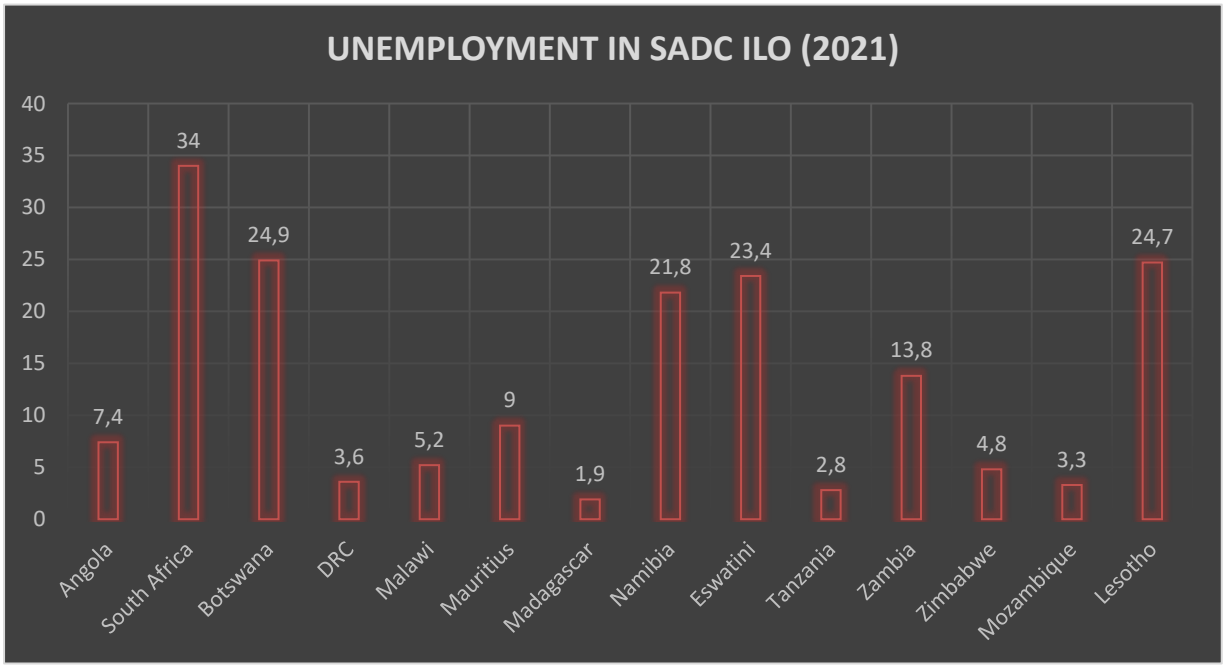
Notably, the SADC region has a high-income inequality that harms governments (Linardi & Rudra, 2016). Income inequality is higher in the SADC region than in other regions worldwide (World Bank, 2021). This is due to past policy failures of the post-colonial governments, despite a recent rapid increase in economic growth (Ostry, Berg, & Tsangarides, 2014). On the other hand, the inflation rate remains higher in the SADC region than in all other regions around the globe (World Bank, 2020). According to the SADC report (2022), most member states lack adequate economic infrastructure, contributing to the volatility of inflation in the region. Furthermore, the reports assert that crucial factors contributing to inflation in the region include food and energy costs, higher wages, elevated utility rates, and exchange rate movements against the US dollar.

In 2018, the inflation rate in the SADC economy averaged approximately 7.1%, showing a decline from 10.1% in 2017, in contrast to the global rates of 3.6% and 3.2% for the respective years. Elevated inflation rates diminish the anticipated rate of return on investments, thereby reducing SADC's competitiveness in attracting international capital. According to the SADC Harmonised Consumer Price Index (HCPI) of 2022, Zimbabwe is the primary contributor, with a triple-digit inflation rate of 261.4%. Additionally, six other member states significantly contributed to the region's high

inflation rate in 2022, including Angola (21.4%), Botswana (12.6%), Lesotho (10.9%), Malawi (31.4%), Mozambique (11.8%), and South Africa (10.7%) (World Bank, 2023).

According to the 2030 Agenda of the United Nations, the least-developed countries are expected to achieve an annual economic growth rate of at least 7%; however, this is still a puzzle for most SADC member states (Mbulawa, 2017; Nguea, Noula, Noumba, 2024). The average annual growth rate for the SADC region 2019 was 1.8%. Almost all SADC member states have, in the past or recent years, experienced a negative growth rate. South Africa had the highest negative annual growth rate of -10% in 1993. Moreover, unemployment is surging in several SADC member states. South Africa, Botswana, Eswatini, Lesotho, and Namibia pose real threats to political, social, and economic stability with a higher unemployment rate worldwide (World Bank, 2020). These countries recorded an unemployment rate of 34%, 24.9%, 23.4%, 24.7%, and 21.8%, respectively (figure 1.1). According to the International Labour Organization (2020) (ILO), the youth is the most affected population of unemployed persons in the SADC member state.

Figure 1.1 Unemployment rates for SADC countries



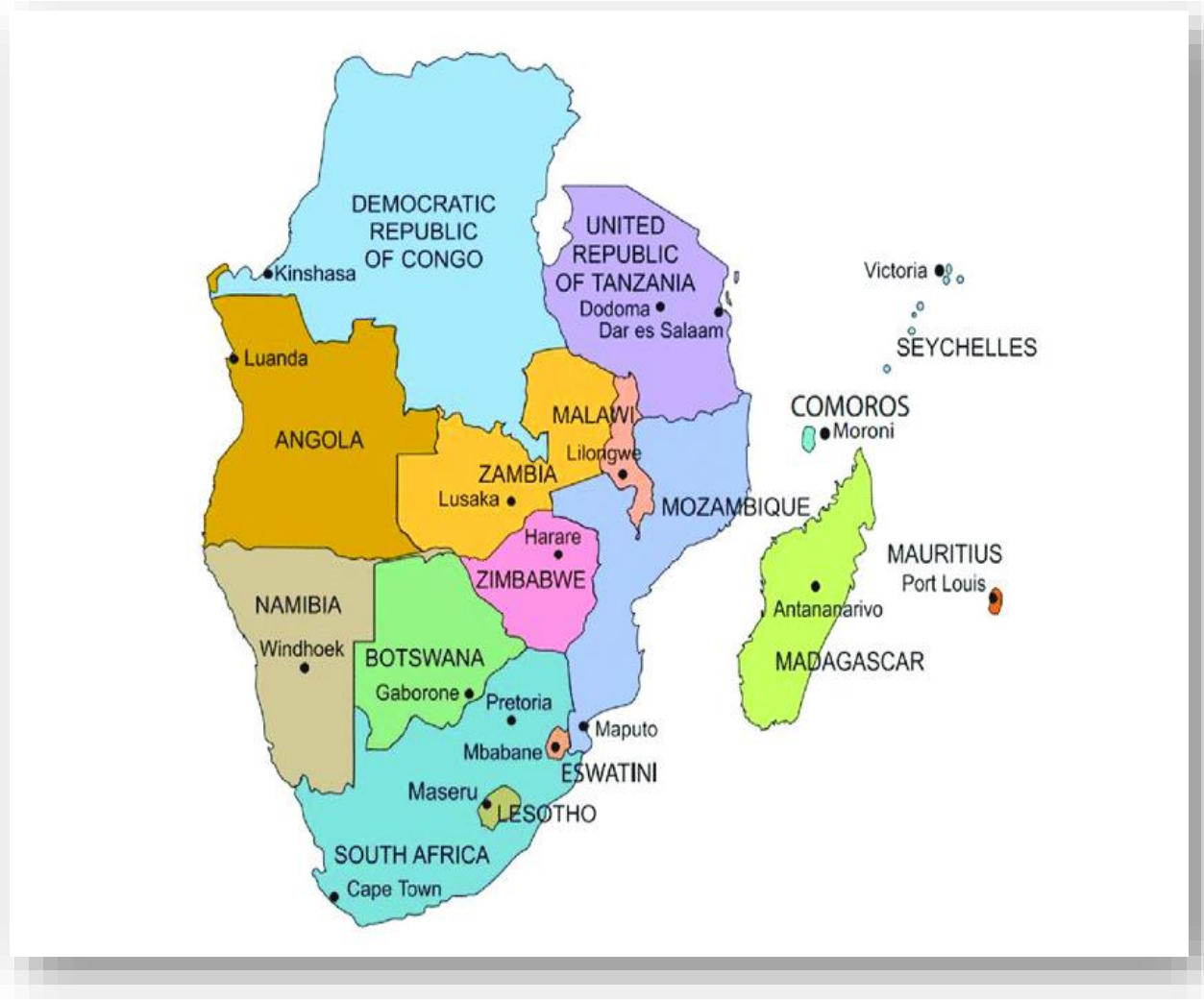
Source: ILO (2022)

Despite the macroeconomic challenges the SADC region is confronted with, there is a general belief that financial flows into a country could enhance economic growth,

alleviate poverty, improve welfare, reduce income inequality, and correct other economic-related problems (Nguea et al., 2024). Apart from monetary gains, financial flows contribute significantly to human development in recipient countries by improving various areas such as housing, health, education, and equality. The financial flows can strengthen the SADC region's prospects of attaining accelerated economic growth, poverty alleviation, boosted healthcare, and reduced inequality, amongst other prospects (Nguea et al., 2024).

The stipulated performance requirements by developed countries in providing financial resources play a pivotal role in shaping the policy formulation of the least developed countries (Suranovic, 2023). This is essential for addressing macroeconomic instabilities faced by developing countries (Bansal, 2014). Within the SADC, the regional collaborative strategic plan endorses savings and investments as fundamental factors of the rate and patterns of economic performance (Mingiri et al., 2016). Due to the failure of past policies to drastically increase economic performance in the SADC region, many emerging states embarked on market reforms to attract international financial flows (Adams & Klobodu, 2017). Figure 1.2 displays the SADC countries.

Figure 1.2 Southern African Development Community (SADC) map.



Source: Konstantinus, Zuidgeest, Christodoulou, Raza and Woxenius (2019)

Figure 1.2 displays the SADC countries; the following were selected for the study: Angola, Botswana, Democratic Republic of Congo, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, and Zambia. The literature indicates that international financial flows exert dual effects, influencing the macroeconomic performance of least-developed countries both positively and negatively. Hence, policymakers must recognise the true impact of international capital to formulate policies conducive to the interests of the SADC region. For instance, Azis and Shin (2015) argue that the volatility of global liquidity and international financial flows possess some unfavourable effects on economic performance indicators. Despite the positive effects of international financial flows, Adams and Klobodu (2017)

contrastively pinpoint that “these flows may have negative effects on the African economies through the Dutch diseases.” The Dutch diseases are the effects of rising foreign capital inflows, which trigger currency demand in the host countries and, as a result, hamper the competitiveness of the export industry and deter the host country’s external position (Adams & Klobodu 2017).

This empirical study, therefore, examines the relationships between macroeconomic objectives and the variables of significant selected international financial flows in the SADC territory. As a result, four macroeconomic models, namely, economic growth, inflation, income inequality, and unemployment models, are developed to capture the effects of the significant selected international financial flows. Furthermore, the causal relationships between the macroeconomic objectives and international financial flows are conducted and discussed. This is vital for policymakers to formulate sound economic policies that will enhance inclusivity and establish a stable macroeconomic environment (Suranovic, 2023). Figure 1.1 displays the geographical map of all SADC countries randomly discussed in the empirical analysis of this study.

1.2 Statement of the problem

Nations, in general, formulate achievable macroeconomic goals to help them evaluate the economic performance of their respective economies (Adeseye, 2021; Alami et al., 2023). To achieve macroeconomic stability, the general norm is that sound economic policies are highly important. Macroeconomic stability within SADC member states is vital to eradicate uncertainty in economic activities, increase the attractiveness of foreign investment and skills, and ultimately increase productivity and living standards in the region (Obazee, 2020; Suranovic, 2023). Furthermore, people must access financial resources and quality food, housing, and job security. However, the SADC economies are characterised by high-income inequality, low productivity, volatile currencies, and high unemployment, amongst other macroeconomic instabilities.

According to the World Income Inequality Database (WIID) (2019), South Africa, Namibia, Zambia, Angola, and Botswana are amongst the world’s most unequal countries in terms of income distribution. The recent 2019 Gini index shows Gini coefficients of 69.9, 60, 55.3, 55, and 50 for the countries mentioned above,

respectively, with South Africa being the sorriest in the world at the Gini coefficient of 69.9. High income inequality leads to many socioeconomic problems, including poverty traps, unequal economic and social opportunities, wastage of human potential and capital, and the development of a less dynamic society (Anyanwu, Anyanwu & Cieślik, 2021).

The real economic growth rate in the SADC region averaged as little as 1.8% in 2018 compared to 5.1% in 2008 (SADC Annual Report, 2018). Oloyede, Osabuohien and Ejemeyovwi (2021) point out that SADC economies are experiencing a slow growth and low productivity. Low growth rates and low productivity within SADC as a developing region result in low tax revenue collected by the respective SADC governments (Oleyede et al., 2021). This might increase the governments' borrowings and reduce public service delivery, which is not ideal in the poor countries of the region. Slow growth has led to a high unemployment rate in many SADC countries, with South Africa having the highest unemployment rate in the region and the world (Oleyede et al., 2021).

A high inflation remains a challenge in the region, as some member states, such as Mozambique and Mauritius, have instituted price controls to curb high rising prices (SADC Annual Report, 2019). High inflation rates coupled with high volatility of currencies are some of the macroeconomic factors which continue to hinder development in some SADC member states. Angola, Democratic Republic of Congo, Malawi, Zambia, and Zimbabwe are SADC member states which struggle to meet the regional target of 3,7 percent (SADC, 2021). According to the SADC regional economic performance report for 2020, Zimbabwe battled a high inflation of 654.9 per cent in 2020. The strategic goal of SADC member states is to, amongst other things, promote inclusive and sustainable economic growth, socio-economic development through efficient productive systems, deeper co-operation and integration, good governance, durable peace, and security among all Southern African Member States (SADC, 2020). The isolation of nations delays the development of knowledge, skills, habits, and experiences that are vital for economic growth.

The recent empirical evidence confirms that financial flows lead to improved domestic investment, large size of aggregate stock and fuel productivity in host countries (Letsoalo & Ncanywa, 2019; Alami et al., 2023; Yılmaz & Şensoy, 2023). The

international financial flows are significant for the development process of host countries in terms of skill development, accelerating cross-border transfer of technology, knowledge, and advanced financial markets (Suranovic, 2023). Furthermore, Golini and Gualandris (2018) acknowledge that financial flows can be a channel to transfer managerial skills, for integrating into international marketing, distribution, and production networks. This leads to improved international competitiveness of firms and ultimately the economic performance of countries. However, the advantages and benefits of the financial flows are not automatic. Sound policies and good implementation are essential to realise an improved economic performance, especially in SADC countries (Nguea et al., 2024). Hence, it was imperative to investigate how international financial flows can influence economic performance indicators in the SADC region to formulate sound and effective policies. This study, therefore, investigated the impact of remittances, foreign aid and FDI on economic growth, inflation, income inequality and unemployment in the SADC region to advise on policy development and implementation in the region.

1.3 Research aim and objectives

1.3.1 Aim

The study aimed to investigate the impact of international financial flows, namely, remittances, foreign aid, and FDI on key economic performance indicators, specifically economic growth, inflation, income inequality, and unemployment in selected SADC countries (Angola, Botswana, Democratic Republic of Congo, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, Zambia) for the period 1994 to 2021.

1.3.2 Objectives

- To analyse the impact of the different forms of financial flows on economic growth in the SADC region.
- To examine the extent to which the different forms of financial flows may contribute to inflation in the SADC region.
- To determine if the different forms of financial flows contribute to inequality in the SADC region.

- To explore the link between the different forms of financial flows and unemployment in the SADC region.

1.4 Research Questions

- How do different forms of financial flows impact on economic growth in the SADC region?
- What is the extent to which the different forms of financial flows may contribute to inflation in the SADC region?
- Do different types of financial flows contribute to income inequality within the SADC region?
- What is the link between the different forms of financial flows and unemployment in the SADC region?

1.5 Definition of concepts

Financial flows refer to the movement of money for the purpose of investment, trade, or business production, including the flow of capital within corporations or states in the form of investment capital (Adams & Klobodu, 2017). The empirical analysis adopted remittances, foreign direct investment, and foreign aid as the main three international financial flow variables.

Remittances: Transfers of money from international migrants to family members in their country of origin (Barajas, Gapen, Chami, Montiel & Fullenkamp, 2009; Rosa, 2020).

Foreign aid: Refers to money that one country voluntarily transfers to another, which can take the form of a gift, a grant, or a loan (Easterly, 2008; Suranovic, 2023).

Foreign direct investment: Refers to an investment in a business by an investor from another country for which the foreign investor has control over the company purchased (Moran, Görg, Seric & Krieger-Boden, 2012; Rosa, 2020).

Economic performance indicators refer to key statistics about diverse sectors of the economy that are used to evaluate past performance and estimate the health and future of the economy (Dedrick, Gurbaxani & Kraemer, 2003). The study adapted economic growth, inflation, income inequality, and unemployment as economic performance indicators.

Real Economic Growth: is the rate at which a nation's Gross Domestic Product (GDP) changes or grows from one year to another (Moran, Görg, Seric, & Krieger-Boden, 2012; Oleyede et al., 2021).

Income Inequality: refers to the extent to which income is distributed in an uneven manner amongst the population (Easterly, 2008).

Inflation: a persistent, substantial rise in the general level of prices related to an increase in the volume of money and resulting in the loss of value of currency (Easterly, 2008).

Unemployment: refers to individuals who are employable and actively seeking a job but are unable to find a job (Brandolini, Cipollone & Viviano, 2006; Oleyede et al., 2021).

1.6 Ethical considerations

This study did not reproduce any work that has been submitted before. The study used secondary data and acknowledged all sources used. The analysis is executed considering the plagiarism policy of the University of Limpopo to maintain and uphold academic standards. The information presented is handled with honesty and integrity.

1.7 Significance of the study

The contribution of this study is five-fold. Firstly, the study extends the AK framework to incorporate international financial flows in the SADC region, addressing a significant gap in the literature. This study includes market capitalization and domestic investment in the growth model as control variables, thereby capturing a more comprehensive picture of financial development. The inclusion of market capitalization specifically allows for an analysis of financial development, which has been underexplored in the SADC context.

Secondly, the empirical analysis builds on the Quantity Theory of Money framework utilized by Rashid and Husai (2013) to analyse the effects of international financial flows on inflation in the SADC region. To the best of the author's knowledge, this approach has not been previously applied in the context of SADC. The inclusion of money supply as a control variable allows for a comprehensive examination of the

inflationary effects of financial flows. This innovative application of the Quantity Theory of Money addresses a significant gap in the literature and offers robust insights into the relationship between financial flows and inflation. The study's findings have critical policy implications, suggesting strategies for SADC policymakers to manage international financial flows effectively and control inflation, thereby contributing to regional financial stability and growth.

Thirdly, the study extends the Generalized Harris-Todaro model to assess how different forms of international financial flows contribute to income inequality in the SADC region. This model allows for a comprehensive analysis of how these financial flows impact income inequality in both urban and rural sectors, which has not been explored in previous studies. By incorporating financial development as a key variable, the model captures the role of financial institutions and markets in enhancing or mitigating the effects of capital flows on income inequality.

Fourthly, the study uses the extended Cobb-Douglas production function to examine the link between different forms of financial flows and unemployment in the SADC region. The model distinguishes between the effects of international capital on employment in the private sector, public sector, and informal sector. This multi-sectoral approach provides a complete understanding of how different financial flows impact employment across various segments of the economy. Furthermore, by separately identifying and incorporating the effects of remittances, foreign direct investment, and foreign aid, the model captures the distinctive ways each type of financial flow influences employment in the SADC region.

Lastly, the study offers practical policy implications for enhancing economic growth, promoting financial stability, creating employment, and reducing income inequality in the SADC region. These empirical findings not only advance academic understanding but also serves as a valuable tool for policymakers in the member states.

It is notable that a plethora of empirical literature on the relationship between international financial flows and key macroeconomic performance indicators provides contradictory results. Empirical studies that found international financial flows bring forth problems to the host countries include works by Albuquerque, (2003); Ventura (2002), Eichengreen (2004), Caballero and Krishnamurthy (2006), Baharumshah and

Thanoon (2006), Edwards (2007), Mendoza and Terrones (2008), Reinhart and Reinhart (2008), Hegerty (2009), Kim and Yang (2011), Cecen and Xiao (2012), and Sethi et al. (2020). The negative economic adversities associated with international financial flows from these studies include a high rate of inflation, undermining monetary stability by affecting the exchange rate, undermining the competitiveness of the local export industry, and leading to asset market bubbles in the recipient countries.

On the other hand, several empirical studies note that international financial flows help promote investment, stimulate economic growth, improve income inequality, access financial resources, and integrate financial markets, among other benefits (Adams, 2009; Wang & Wong, 2009; Choong et al., 2010; Azman-Saini et al., 2010; Anyanwu, 2011). These studies conclude that developing countries should enact policies supporting free trade, low remitting costs, and low-interest rates to promote inclusive economic growth and development, with the sole aim of eradicating poverty and overcoming social and economic challenges.

Hence, it was essential to undertake this study to establish relationships that would inform policies favourable to the SADC region. Moreover, it was important to conduct the study to understand the role of international financial flows in the recipient's countries. The study can serve as a basis for future research on the effects of international financial flows or outflows on other key economic indicators, both macroeconomic and microeconomic. The public can also consume the content of the study to voice their opinions based on the empirical findings or critique the study. Additionally, the study will contribute to the limited empirical literature available in the SADC member states.

1.8 Structure of the Thesis

The thesis is divided into six chapters, where Chapter 1 discusses the introduction and background of the thesis. Chapter 2 presents an overview of the macroeconomics performance indicators and key variables of the study. Chapter 3 provides a literature review, opening with an original theoretical literature and subsequently discusses the empirical evidence. Chapter 4 deliberates on the panel methodologies adopted and utilised by the empirical analysis. Chapter 5 presents the findings and interpretations

of the econometrics models. Chapter 6 presents the summary, conclusions, limitations, and recommendations of the study.

1.9 Summary

This chapter provides a broader introduction and background to the study, outlining the problem statement that underpins the investigation. It discusses the research aim and objectives, which guide the formulation of key research questions. Additionally, the chapter defines essential concepts and discusses the significance of the study, underlining its potential contributions. Ethical considerations relevant to the study are addressed, ensuring adherence to academic standards. The chapter concludes by presenting the overall structure of the thesis, offering a roadmap for the subsequent chapters.

CHAPTER TWO (2)

TRENDS AND ANALYSIS

2.1 Introduction

This chapter examines the primary factors, sectors, and drivers that influence key macroeconomic indicators within the SADC region. The objective is to provide an overview of the elements that predominantly affect economic growth, inflation, unemployment, and income inequality. Additionally, this chapter aims to highlight the region's position in these aspects compared to the rest of the world. By understanding these dynamics, we can better grasp the economic challenges and opportunities faced by the SADC countries.

2.2 Economic growth

According to Jordan (2013), economic growth is one of the primary indicators to determine the economic performance of the country's economy. The SADC region has witnessed significant advancements in economic infrastructure, as well as notable progress in governance, democracy, peace, security, and trade (Salomão, 2005). These developments are conducive to fostering economic growth. However, most of the countries in the region are amongst the poorest in the world today (World Bank, 2021). Madagascar, Mozambique, and Democratic Republic of Congo are the poorest countries in the SADC and the world (World Bank, 2022). The core objectives of the SADC include promoting inclusive and sustainable economic growth as well as enhancing the socio-economic development as a process to eradicate poverty absolutely (SADC Treaty, 2009; Nguea et al., 2024). However, SADC has recorded an estimated annual economic growth of just $721.3 billion in 2018, which accounts to less than 2% of the share of the World GDP.

2.2.1 Main sectors that contribute to the GDP of SADC countries

The main sectors contributing sizeably to the GDP of SADC countries are agriculture, mining, and services, including finance and tourism (World Bank, 2020; SADC, 2019). Therefore, this study discusses what contribute to the literature by discussing the major sectors that contribute significantly to each country GDP in the SADC region.

- **Angola**

Angola, with the third largest economy in sub-Saharan Africa, owes much of its GDP to the significant contributions from its oil and gas sector (Hackenesch & Hackenesch, 2018). However, the economic growth of Angola is vulnerable to any significant fluctuations of global prices (Akinsola & Odhiambo, 2020). Angola's oil industry, the second largest in Africa, produces about 1.1 million barrels per day. This sector account about 50% to its GDP and 90% to its exports (Akinsola & Odhiambo, 2020). While not as dominant as the oil sector, agriculture is an important part of Angola's economy (Ufimtseva, 2019). According to Ufimtseva (2019) Key agricultural products include coffee, maize, cassava, and bananas. Besides the oil and agricultural sector which massively influence GDP, Angola also has significant mining resources including diamonds, iron ore, phosphates, and copper (Rapanyane, 2023). The other key industry which contributes to the GDP of Angola is the construction and infrastructure development. Infrastructure development including roads, housing, and public buildings, has also contributed significantly to economic activities

- **Botswana**

According to Malema, (2013) before gaining independence Botswana’s economy was agricultural-based, with this sector contributing roughly 43% of the country’s GDP, mainly from its cattle rearing and beef production. Botswana's economy is characterized by several key sectors that contribute significantly to its GDP. These sectors include the tourism, agriculture, manufacturing and service industry. However, after the discovery of diamonds, the mining sector is the backbone of Botswana's economy, contributing about 16 percent of the country’s total GDP (Makoni, 2015). Diamonds are the most crucial mineral, making Botswana one of the world's leading diamond producers in the African continent.

- **Comoros**

Comoros is a small island nation in the Indian Ocean, and the economic growth of the country relies on several sectors. However, it's worth noting that Comoros is one of the poorest countries in the world, and its economy faces numerous challenges. The agriculture sector is the most significant contributor to Comoros' GDP. The country faces climate challenges which affect the agricultural sector. According to Bourgoin, Louis, Martínez Valle, Mwongera, and Läderach, (2016) note that the Comorian economy, contributing around 40% of GDP and employing roughly 80% of the labour force. Remittances also play a fundamental part in the Comoros economic growth as it contributes 25% if the GDP. Furthermore, the fishing industry is also an important sector in Comoros. The country's location in the Indian Ocean provides opportunities for fishing, and marine resources contribute to both domestic consumption and exports.

- **Democratic Republic of Congo**

The Democratic Republic of Congo (DRC) is endowed with vast natural resources, including minerals such as copper, cobalt, diamonds, and gold, which have been the backbone of its economy. The mining sector contributes significantly to the GDP and provides substantial export revenue. However, political instability, poor infrastructure, and corruption have hindered the full potential of economic growth in the DRC (Mwanza et al, 2020). The agricultural sector also plays a crucial role, with the production of crops like cassava, maize, and plantains supporting both local consumption and exports. The DRC has potential for growth if these issues are addressed and investments are made in infrastructure and governance.

- **Eswatini**

Eswatini, a landlocked country, has a diversified economy with significant contributions from agriculture, manufacturing, and services. The sugar industry is a major agricultural sector, contributing to both GDP and exports. Eswatini also benefits from textile manufacturing, which is a key driver of economic growth due to preferential trade agreements with the United States and Europe (Dlamini, 2017). The service sector, including tourism, also plays a vital role in the economy. However, the country

faces challenges such as high unemployment rates and dependency on South Africa for trade and investment

- **Malawi**

The Malawian economy is agriculturally based. However, there are some several key sectors which contributed to the GDP. The agricultural sector in Malawi contributed about 22.1% of the country ‘s GDP in 2023. The country's agricultural activities include the production of crops such as maize, tobacco, tea, sugarcane, cotton, and various other food and cash crops (Gourichon, Cameron, & Pernechele, 2017). Agriculture in Malawi is a crucial source of employment and income for a significant portion of the population (Rafael, 2023). Subsequent to the agricultural sector, the wholesale and retail trade sector serves as a vital engine of economic growth in Malawi, contributing approximately 12.6% to the country's GDP. Real estate and construction constitute another key sector bolstering Malawi's economic growth, accounting for approximately 6.5% of the GDP.

- **Mauritius**

Mauritius is an island nation located in the Indian ocean with several sectors contributing to its GDP. However, the service sector in Mauritius consists of tourism, financial service and Information and Communication Technology contributor enormously to Mauritius' GDP. The service sector in Mauritius contributes about 65% of the GDP and employ about 73% of the workforce (IMF 2020). The agricultural sector in Mauritius is relatively small, accounting for 3.6% of GDP and around 5% of total employment in the island country. The manufacturing sector is estimated to account for at least 12% of the GDP (World Bank, 2022).

- **Madagascar**

Madagascar is the fifth largest island in the world. The country is gifted with considerable natural resources and unparalleled biodiversity. Therefore, agricultural sector is a significant contributor to Madagascar's economy. According to the World bank (2020), the agricultural sector is Madagascar’s largest industry which includes fishing and forestry. Furthermore, the sector employs 82% of the labour force. Madagascar is known for its mineral resources, including nickel, cobalt, and ilmenite.

With the mining sector contributing to the country GDP. However, it’s of paramount important to note that Madagascar's economy faces challenges, including political instability, a high poverty rate, and limited infrastructure.

- **Mozambique**

Mozambique's economy has been growing steadily, driven primarily by natural resources (World Bank, 2023). The discovery of vast natural gas reserves has the potential to transform the economy (IMF, 2022). The agricultural sector remains important, with key products including cashews, sugarcane, and cotton. The country also has significant mineral resources, including coal and titanium (USGS, 2023). Infrastructure development and foreign direct investment (FDI) in the energy sector are crucial for sustained growth. However, challenges such as political instability, corruption, and climate-related disasters pose risks to economic progress (IMF, 2022).

- **Namibia**

Namibia's economy is largely driven by mining, particularly diamonds, uranium, and gold (Chamber of Mines of Namibia, 2023). The mining sector is a significant contributor to GDP and export revenue (Bank of Namibia, 2022). Agriculture, including livestock farming and crop production, also plays an important role. Tourism, driven by Namibia's unique landscapes and wildlife, is another key sector. Namibia faces challenges such as high-income inequality and unemployment, but sound economic policies and investments in infrastructure and education could drive future growth (World Bank, 2023).

- **Seychelles**

Seychelles, an island nation, has a small but high-income economy (World Bank, 2023). The tourism sector is the primary driver of economic growth, attracting visitors to its beautiful beaches and marine life (World Travel & Tourism Council, 2023). The fishing industry, particularly tuna fishing, also contributes significantly to GDP. The government has focused on diversifying the economy by promoting financial services and ICT (UNCTAD, 2022). Seychelles has made progress in sustainable development and environmental protection, which are crucial for its tourism-dependent economy (UNDP, 2023).

- **South Africa**

South Africa has the most advanced and diversified economy in Africa (World Bank, 2023). Key sectors include mining, manufacturing, agriculture, and services (IMF, 2022). The mining sector, with resources such as gold, platinum, and coal, remains a significant contributor to GDP and exports (Chamber of Mines of South Africa, 2023). Manufacturing includes automotive, chemicals, and textiles (UNIDO, 2023). The agricultural sector produces a variety of crops and livestock (FAO, 2022). The services sector, including finance, retail, and tourism, is a major driver of growth (World Travel & Tourism Council, 2023). Despite its strengths, South Africa faces challenges such as high unemployment, inequality, and political instability.

- **United Republic of Tanzania**

Tanzania's economy is one of the fastest-growing in the SADC region, driven by agriculture, mining, and services (World Bank, 2023). Agriculture is the backbone of the economy, employing a large portion of the population and producing crops such as coffee, tea, and tobacco (FAO, 2022). The mining sector, particularly gold mining, contributes significantly to GDP and export revenue (IMF, 2022). The services sector, including tourism, plays a vital role in economic growth (World Travel & Tourism Council, 2023). Tanzania has made progress in infrastructure development and attracting FDI, but challenges such as poverty, corruption, and inadequate healthcare and education systems remain (Transparency International, 2023).

- **Zambia**

Zambia's economy is heavily reliant on mining, particularly copper, which is the main export and a significant contributor to GDP (Chamber of Mines of Zambia, 2023). Agriculture, including maize, tobacco, and cotton production, also plays a crucial role (FAO, 2022). The services sector, including banking, retail, and tourism, is growing in importance (World Bank, 2023). Zambia faces challenges such as high poverty rates, unemployment, and economic diversification (UNCTAD, 2022). Investments in infrastructure, education, and healthcare are essential for sustainable growth (IMF, 2022).

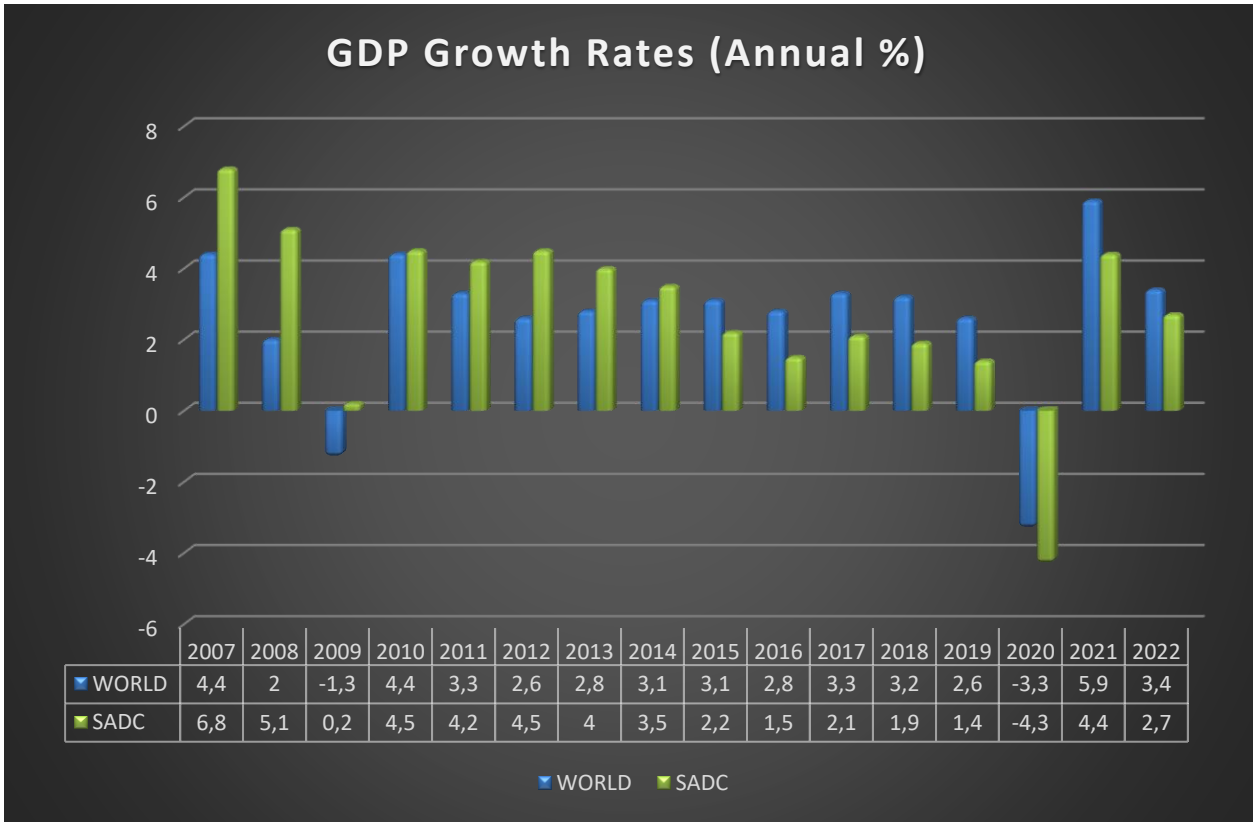
- **Zimbabwe**

Zimbabwe's economy has faced numerous challenges, including hyperinflation, political instability, and economic sanctions (IMF, 2022). The agricultural sector, once the backbone of the economy, has struggled but remains important, with key products including tobacco, maize, and cotton (FAO, 2022). The mining sector, particularly gold and platinum, contributes significantly to GDP and export revenue (Chamber of Mines of Zimbabwe, 2023). The services sector, including tourism and retail, is also crucial (World Travel & Tourism Council, 2023). Zimbabwe's economic growth depends on political stability, sound economic policies, and investment in infrastructure and human capital (World Bank, 2023).

2.2.2 SADC GDP growth rates compared to the World Average

Figure 2.1 shows the estimated annual growth rate of the SADC region and World GDP average from 2007 to 2022.

Figure 2.1 GDP growth SADC VS WORLD (Annual %)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
WORLD	4,4	2	-1,3	4,4	3,3	2,6	2,8	3,1	3,1	2,8	3,3	3,2	2,6	-3,3	5,9	3,4
SADC	6,8	5,1	0,2	4,5	4,2	4,5	4	3,5	2,2	1,5	2,1	1,9	1,4	-4,3	4,4	2,7

Source: World Bank (2023)

As shown in figure 2.1, the SADC region consistently exhibited higher growth rates compared to the world average from 2007 to 2013. This indicates a period of robust economic performance in the region, driven by various factors such as investments in infrastructure, natural resource exploitation, and improvements in governance and trade (World Bank, 2014). During the global financial crisis in 2008-2009, the world GDP growth rate dropped to -1.3% in 2009, while the SADC region managed to maintain positive growth at 0.2%. This resilience can be attributed to the relative isolation of some SADC economies from global financial markets and the continued demand for natural resources from the region (SADC, 2015).

Following the financial crisis, both the world and SADC showed signs of recovery, but the SADC region experienced more consistent and higher growth rates until 2014. This suggests that the region was able to capitalize on global recovery trends while leveraging regional strengths (IMF, 2016). From 2015 onwards, the SADC region's growth rates began to converge with global rates, and in some years, from 2015 to 2019, they fell below the world average. This period likely reflects the challenges faced by the region, such as declining commodity prices, political instability, and structural economic issues (African Development Bank, 2017).

The COVID-19 pandemic in 2020 had a significant negative impact globally, with the world GDP growth rate dropping to -3.3%. The SADC region also experienced a substantial reduction, with a growth rate of -4.3%. This reflects the global nature of the pandemic's economic disruption, affecting trade, investment, and overall economic activity (World Bank, 2021). In 2021, both the world and the SADC region showed strong signs of recovery, with growth rates of 5.9% and 4.4%, respectively. This recovery indicates a rebound in economic activity as countries adapted to the pandemic and implemented recovery measures (IMF, 2022). However, the SADC region's growth rate in 2022 of 2.7% was below the world average of 3.4%, suggesting ongoing challenges in achieving sustained high growth (African Development Bank, 2023).

2.3 Inflation rate

In the SADC region and Africa, the relentless escalation of general prices, commonly referred to as inflation, remains a formidable challenge. A high unpredictable inflation rate in the SADC member states has been a great challenge for many countries (Seleteng et al, 2013). According to the SADC report (2021), the inflation rate has been unstable in the region for many decades. Zimbabwe, Zambia, and Angola have all recorded a double figure in the annual inflation rate of 2021 by 55.6%, 30.4%, and 29.3%, respectively. Lower manageable rates of inflation are essential for the macroeconomic stability of prices in the economy and allow small businesses to grow. According to Mahayiwa (2015), an inflation rate above the threshold of 14.5% is detrimental to the growth of the economy and particularly, for small businesses.

However, SADC countries have established the “memorandum of understanding on macroeconomic convergence in 2002”. According to the memorandum, member states have agreed to curb inflation to lower stable levels. The considerable decline in inflation rate in the SADC region from an average of 29% in 2002 to 7.1% in 2018 resulted in high costs of borrowing because of direct monetary policy intervention by central banks. The cost of curbing inflation through direct monetary policy intervention resulted in higher interest rates, which are evidently clear in the SADC economies.

2.3.1 The major drivers of inflation in the SADC region

The study discusses briefly the major drivers of inflation in the SADC members state in the recent past. In the SADC region, several countries have historically experienced high inflation rates, driven by a variety of factors. This study identifies major factors contributing significantly to high inflation in the region.

- **Oil and Food Prices**

Many SADC countries are net importers of oil and heavily reliant on petroleum products. According to Moyo (2019), fluctuations in global oil prices directly impact transportation and production costs, leading to inflation. Sek et al. (2015) showed a strong correlation between global oil price fluctuations and inflation, especially during significant price shocks. When oil prices rise, the cost of fuel and transportation increases, affecting prices of goods and services across the economy. Moyo (2018)

highlights countries like Mauritius, Mozambique, Tanzania, and Zambia are most adversely affected by oil price increases, facing higher transportation costs that translate into increased costs for various goods and services, intensifying inflationary pressures.

The SADC report on inflation (2022) notes that food and energy constitute a substantial portion of the GDP in the region. The annual inflation for food spiked from 11.3% in 2019 to 44.7% in 2020, demonstrating the region's sensitivity to price changes in essential commodities. This increase in food prices contributed significantly to the overall inflation rate, which surged from 11.0% in 2019 to 37.0% in 2020, as reported in the SADC Macroeconomic Bulletin (2021). The substantial portion of GDP spent on food and energy in the SADC region makes it more vulnerable to inflation from price increases in these sectors compared to developed countries (Alami et al., 2023).

- **Currency Depreciation**

Several SADC countries have experienced significant currency depreciation against major currencies like the US dollar. Akinsola and Odhiambo (2017) emphasize that many SADC countries faced considerable exchange rate instability from 2000 to 2018, including Zimbabwe, Angola, Malawi, Zambia, the Democratic Republic of the Congo, and South Africa. This depreciation increases the cost of imports, which is passed on to consumers as higher prices. According to Franses and Janssens (2018), from 1960 to 2015, Angola, the Democratic Republic of Congo, and Zimbabwe encountered instances of hyperinflation.

Zimbabwe faced severe currency depreciation during the hyperinflation period of the late 2000s, leading to the adoption of multiple foreign currencies in 2009 (Hanke & Kwok, 2009). Gelb et al. (2014) linked the significant depreciation of the Angolan kwanza to fluctuations in global oil prices. Lower oil prices reduce government revenue, leading to currency devaluation, this translates in higher prices for the citizens.

Chilima and Banda (2014) discuss the challenges faced by Malawi in maintaining currency stability, linking the Malawian kwacha depreciation to trade imbalances and

reliance on agricultural exports. This depreciation has led to higher import costs and inflation in Malawi. Similarly, the Zambian kwacha has depreciated due to fluctuations in copper prices, large fiscal deficits, and external debt (Cheelo & Shula, 2019).

- **Agricultural Dependency**

The region's dependency on agriculture makes it vulnerable to climatic conditions. According to the SADC report on inflation (2022), unreliable rainfall and frequent droughts greatly impact food production, contributing to unpredictable and fluctuating food prices. Droughts, floods, and other adverse weather conditions can reduce food production, leading to higher food prices and overall inflation. Malawi, Tanzania, Zambia, and Zimbabwe are among the SADC member states heavily dependent on agriculture and have experienced food inflation due to negative climatic conditions.

Hemming et al. (2018) systematically reviewed the effects of agricultural input subsidies on productivity and food security, highlighting how dependency on the agriculture sector influences food prices. Chilonda (2017) emphasizes that Malawi has experienced food inflation due to droughts and floods, which adversely affected maize production, demonstrating the vulnerability of the agricultural sector. The IMF (2017) provides empirical findings on how agricultural output fluctuations due to climate change contribute to food inflation in Malawi.

Tanzania's economy is heavily reliant on agriculture, which employs a large portion of its population. Droughts and erratic rainfall patterns have led to reduced crop yields and increased food prices. Nkwengulila (2019) examines the impact of drought on food prices in Tanzania, noting the significant contribution of climatic conditions to food inflation. Seyuba and Garcia (2020) argue that frequent droughts and other climate-related events worsen food insecurity and disrupt livelihoods across southern Africa, including Malawi, Tanzania, Zambia, and Zimbabwe, contributing to high food inflation rates in these countries.

The examination of inflation dynamics in Zambia demonstrates a direct link between agricultural dependency and food price inflation (AERC, 2019). Despite a significant mining sector, agriculture remains crucial for food security and employment. Droughts

and inconsistent rainfall have affected maize production, leading to higher food prices in Zambia (Banda & Mudenda, 2018).

Agriculture plays a vital role in Zimbabwe's economy, with many people dependent on farming for their livelihoods. Moyo (2016) analysed the impact of drought on food prices in Zimbabwe, highlighting the challenges faced by the agricultural sector. The heavy reliance on agriculture makes these countries vulnerable to food price hikes due to negative climatic conditions.

- **Political and Economic Stability**

Political instability and economic mismanagement have been significant contributors to inflation. In countries like Mozambique, Democratic Republic of the Congo and Zimbabwe political turmoil has led to economic disruptions, which in turn have driven up prices. Economic mismanagement, characterized by excessive government spending, lack of fiscal discipline, and inadequate monetary policies, exacerbates these issues``

Political instability and economic mismanagement have been central issues in Zimbabwe, leading to severe economic disruptions and inflation. Zimbabwe's government engaged in excessive money printing to finance fiscal deficits, causing hyperinflation. In 2008, Zimbabwe experienced one of the worst episodes of hyperinflation in history, with an annual inflation rate peaking at 89.7 sextillion percent (Hanke & Kwok, 2009). The economy remains vulnerable to external shocks and domestic policy failures, resulting in persistent inflationary pressures (Cheelo & Shula, 2019)

Mozambique has faced significant political and economic instability, particularly due to the civil war that lasted from 1977 to 1992, and more recently, the insurgency in the Cabo Delgado province. The discovery of hidden debts in 2016, amounting to over $2 billion USA dollars, revealed large-scale corruption and economic mismanagement, leading to a financial crisis. This scandal resulted in the suspension of international aid and a deterioration in investor confidence, causing severe economic disruptions and high inflation (Hanlon, 2016). The political instability has hampered economic reforms and led to fluctuating economic performance. Additionally, natural disasters,

such as cyclones in 2019, have further strained the economy, destroyed infrastructure and agricultural output, and worsened inflationary pressures due to supply shortages (World Bank, 2020).

The Democratic Republic of the Congo (DRC) has experienced prolonged political instability and conflict, which have severely impacted its economic stability. Decades of civil war and ongoing conflicts in the eastern regions of the country have disrupted economic activities, displaced populations, and destroyed infrastructure. These conditions have created an environment of uncertainty and hindered economic development (Nzongola-Ntalaja, 2002). Economic mismanagement has been another critical issue. The DRC's rich mineral resources have not translated into economic prosperity for the majority of its population due to corruption and poor governance. The lack of effective economic policies and fiscal discipline has led to inflationary pressures. For instance, during the 1990s, hyperinflation was rampant due to excessive money printing and fiscal mismanagement (De Herdt & Titeca, 2019).

- **Imported Inflation**

Olamide, Ogujiuba, and Maredza (2022) highlight that many SADC countries are highly reliant on imports, making them vulnerable to global price changes. Specifically, Zimbabwe, Mozambique, and Namibia are significantly affected by imported inflation. According to Olamide et al. (2022), Zimbabwe's high dependency on imports for essential goods, including fuel, food, and pharmaceuticals, exposes it to external price shocks. The volatility of the Zimbabwean currency intensifies this issue, leading to high inflation rates driven by increased import costs.

Mozambique and Zambia also rely heavily on imported goods, especially fuel and food, which contribute to imported inflation (Olamide et al., 2022). In Mozambique, the devaluation of the local currency against the US dollar further increases the cost of imports, impacting domestic prices. Similarly, in Zambia, fluctuations in global oil prices and exchange rates have a direct impact on domestic prices (SADC, 2022).

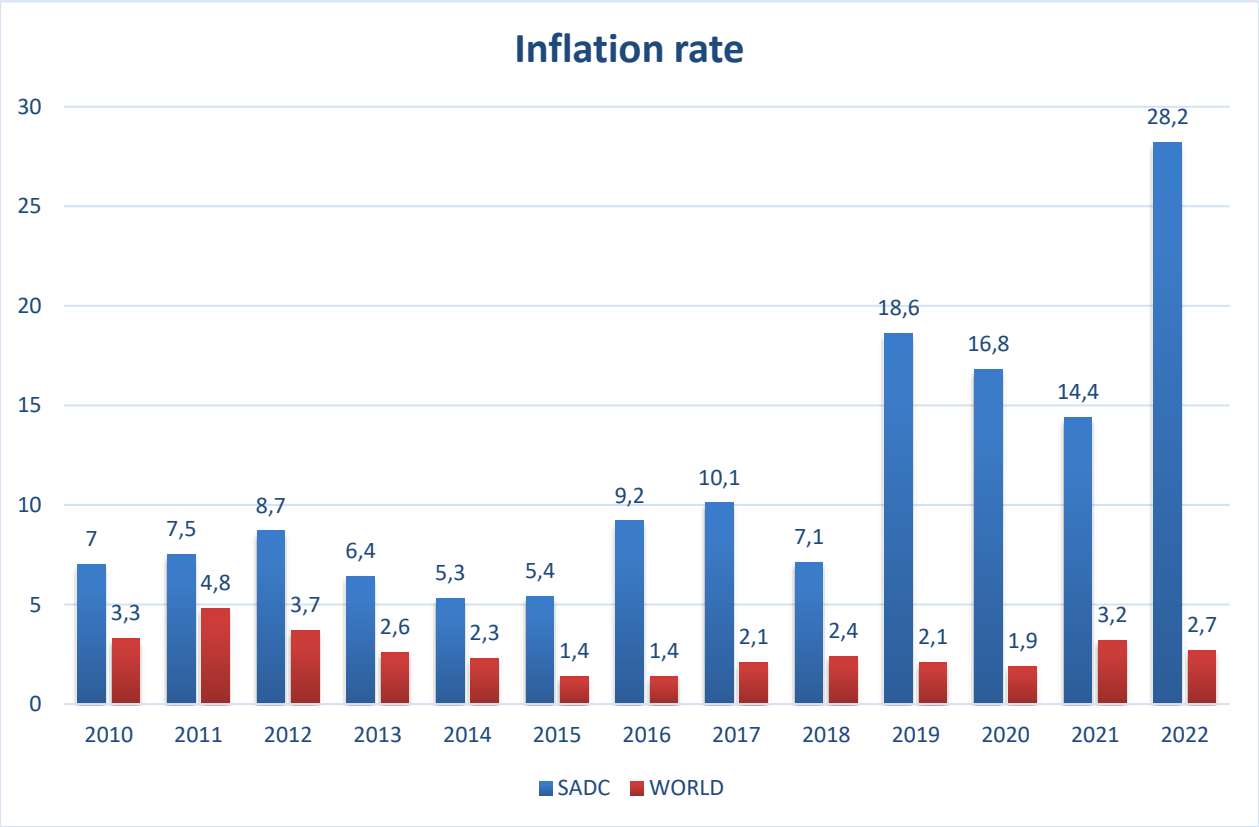
Moreover, Namibia, Botswana, Lesotho, and Eswatini import a significant portion of their goods and services from South Africa. Therefore, any increase in prices from South Africa or fluctuations in the South African currency directly impacts the cost of living in these countries. These trends emphasise that imported inflation is a significant

factor across many SADC countries, driven by dependencies on imported goods and currency volatilities.

2.3.2 Inflation in SADC compared to the global average

The figure 2.2 illustrates the SADC inflation rate compared to the global average for over a decade. The illustration shows the financial instability in the SADC region as compared to the rest of the world.

Figure 2.2 Inflation rate in SADC vs World (%)



Source: World Bank (2023)

The SADC region exhibited higher inflation rates compared to the global average from 2010 to 2020, reflecting vulnerabilities to economic shocks and structural issues like reliance on commodity exports and political instability (World Bank, 2020). For instance, the SADC inflation rate surged to 18.6% in 2019, far above the global average of 2.1%, indicating the region's economic volatility.

Globally, inflation rates remained relatively stable and low during this period, benefiting from stable financial markets and diversified economic structures (World Bank, 2020). The divergence in inflation rates between SADC and the world emphasizes the challenges faced by the SADC region, such as currency depreciation and supply chain disruptions, which contributed to inflationary pressures.

In 2021, the SADC region's average inflation rate was 14.4%, rising dramatically to 28.2% in 2022 due to factors like the Russia-Ukraine war, global supply chain disruptions, and post-pandemic commodity demand (International Labour Organization, 2021). In contrast, the global average inflation rates were 3.2% in 2021 and 2.7% in 2022, reflecting recovery challenges and ongoing global economic pressures, yet remaining significantly lower than SADC's inflation, highlighting the region's unique economic vulnerabilities (World Bank, 2022)

2.4 Unemployment

Unemployment and underemployment are major macroeconomic challenges facing the majority of the SADC member states. According to the SADC report (2021), lower employment rates and productivity in the region are directly linked to social and human development difficulties. The high rate of unemployment presents many undesirable socio-economic effects, including the loss of skills, low productivity, low consumption rates, high crime rates, and health-related problems, among others (World Bank, 2020).

The general and specific principles of the SADC Protocol on Labour and Employment state that all member states should recognize the challenges of both unemployment and underemployment and the need to provide decent employment opportunities for their citizens (SADC, 2014). Improving employment rates and productivity is essential for enhancing social and human development within the SADC region. However, high unemployment rates in the SADC region are influenced by various economic and structural factors. This study discusses major economic and structural drivers of unemployment in the SADC.

2.4.1 Major Drivers of Unemployment in the SADC Region

- **Economic Growth**

Economic growth rates significantly impact employment levels. Low or negative economic growth rates or productivity significantly impact unemployment in the SADC region. When economic growth is slow or declining, it limits the ability of economies to generate sufficient jobs, thereby, increasing unemployment rates. Moilwa-Motsatsi (2019) found a negative correlation between real GDP growth and unemployment in the SADC region, indicating that higher economic growth can help reduce unemployment levels in the region.

According to the World Bank, (2021) South Africa, Zimbabwe, and Angola are the most affected countries by low GDP growth leading to high unemployment rates in the SADC region. South Africa, in particular, faces substantial unemployment due to its slow economic growth and structural economic challenges, such as rigid labour markets and inadequate investment in key sectors (World Bank, 2021). Zimbabwe's prolonged economic instability, characterized by hyperinflation and political turmoil, has severely hindered economic growth, resulting in persistently high unemployment rates (Makochekanwa, 2020).

Angola, despite being rich in natural resources, suffers from an over-reliance on oil exports and inadequate diversification of its economy, which has led to economic vulnerability and high unemployment, especially among the youth (World Bank, 2019). Therefore, low or negative economic growth in South Africa, Zimbabwe, and Angola is a significant driver of high unemployment rates in these countries, as economic stagnation restricts job creation and deteriorates labour market challenges. These highlight the fact that inclusive economic growth is a major determinants o unemployment.

- **Foreign Direct Investment (FDI)**

FDI is crucial for job creation, particularly in developing economies. The influx of foreign capital can spur industrial BVgrowth, infrastructure development, and new business ventures, leading to increased employment opportunities. The study by Moilwa-Motsatsi (2019) also showed a negative relationship between FDI and

unemployment, suggesting that higher levels of FDI can help reduce unemployment in the SAD region. However, several countries in the SADC region face challenges in attracting adequate FDI, which in turn increase unemployment issues their respective economies.

Gonese, Sibanda, and Ngonisa, (2023) identified Zimbabwe, Malawi, and Mozambique as the SADC countries which still struggle to attract FDI sufficient for their respective economies. The authors argued that due to political instability and economic mismanagement, Zimbabwe has struggled to attract and retain FDI. The country's inconsistent policy environment and history of expropriations have discouraged foreign investors. Consequently, unemployment remains high, and the lack of foreign capital further supresses economic growth and job creation.

Gonese, et al., (2023) further identified that Malawi in the region has also faced difficulties in attracting significant levels of FDI. Issues such as inadequate domestic infrastructure, bureaucratic hurdles, and political instability have hindered investment as a result, the country suffers from high unemployment rates and limited economic opportunities. Despite its natural resource wealth, Mozambique has faced challenges in leveraging FDI effectively. Political instability and corruption have been mentioned to create an uncertain investment climate, deterring foreign investors. This has contributed to high unemployment rates, particularly among the youth and in rural areas where economic opportunities are scarce (Gonese et al., 2023).

- **Educational and Skills Mismatch**

Another significant factor driving unemployment in the SADC region is the mismatch between the skills provided by the education systems and those demanded by the job market. Many SADC countries have education systems that do not equip students with the practical skills needed for available jobs, leading to high unemployment among graduates. Moilwa Motsatsi (2019) highlighted the necessity of reforming education systems to focus more on entrepreneurial and practical skills to address this mismatch.

The skills mismatch is particularly pronounced in several SADC countries. For instance, in South Africa, the education system has been criticized for not adequately preparing students for the job market. According to Van der Berg and Spaull (2020), there is a significant gap between the skills students acquire and the skills employers

need, leading to high levels of youth unemployment. This mismatch results in a labour force that is not aligned with the needs of a modern economy, worsening unemployment rates.

Mozambique also faces challenges related to the skills mismatch. A study by Fox et al. (2016) revealed that the Mozambican education system fails to provide students with the technical and vocational skills required by the labour market. This gap leads to a scenario where many graduates are unable to secure jobs in their fields of study, contributing to the high unemployment rates observed in the country.

Moreover, Tanzania experiences a significant mismatch between education and market demands. According to Mwasaga et al. (2017), the Tanzanian education system does not sufficiently prepare students for employment, particularly in technical and vocational fields. This inadequacy in the education system results in a high unemployment rate among graduates, as they lack the necessary skills to meet the demands of employers.

- **Trade Openness**

Trade openness, while generally beneficial for economic growth, can also contribute to structural unemployment if domestic industries fail to compete with imports. This phenomenon often leads to job losses in sectors that are not competitive on a global scale. Moilwa Motsatsi (2019) found that trade openness has a positive association with unemployment in the SADC region, indicating that increased exposure to global markets can sometimes worsen unemployment rates if local industries do not adapt quickly. This is evident in countries like South Africa, where certain manufacturing sectors have struggled to compete with cheaper imports, resulting in job losses and higher unemployment rates (Chibba, 2011).

Similarly, in Zambia, the influx of cheaper imported goods, particularly from China, has adversely affected local manufacturing industries, leading to increased unemployment. Tembo and Simuchimba (2017) accentuates how trade liberalization in Zambia has resulted in significant job losses in the textile and clothing industries, which have struggled to compete with imported products.

Moreover, in Mozambique, trade openness has exposed the country to fluctuations in global commodity prices, particularly for agricultural products, leading to instability in employment in the agricultural sector (Arndt et al., 2016). This has further exacerbated unemployment rates, as the local economy adjusts to the changing global market dynamics.

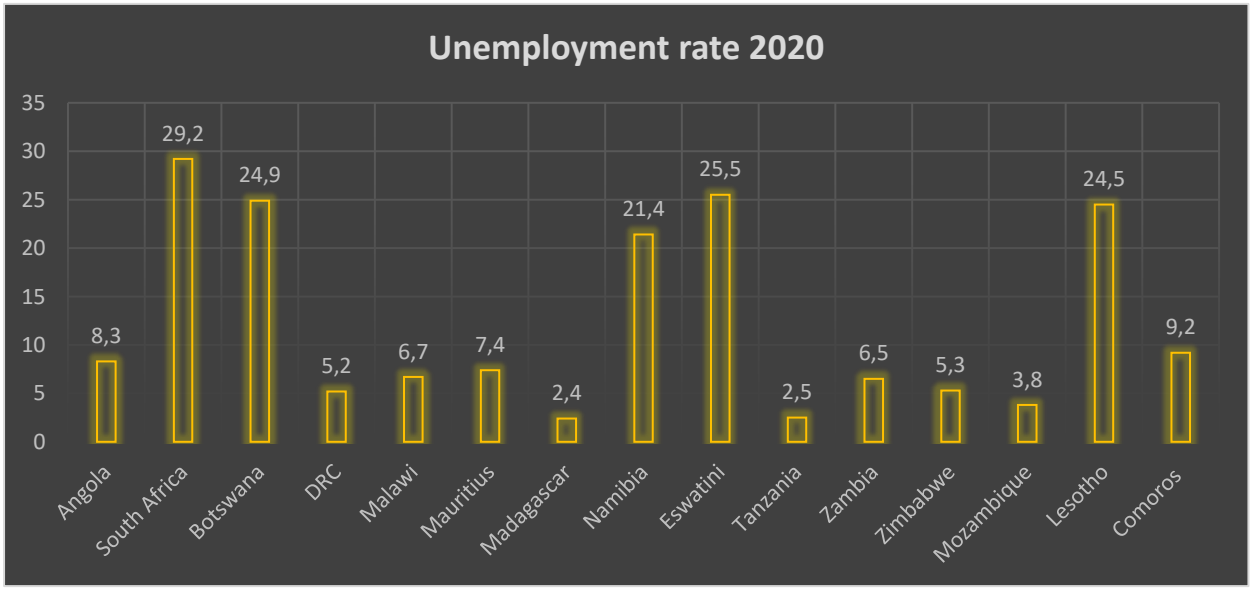
- **Labour Market Structure**

The dualistic nature of labour markets in the SADC region, characterized by a significant informal sector alongside a smaller formal sector, contributes to high unemployment rates. The informal sector often provides low-paying, insecure jobs without benefits, increasing income inequality and limiting formal employment opportunities (Arndt et al., 2016). In South Africa, the informal sector's large size hampers overall employment quality and security, as a substantial portion of the workforce is engaged in low-productivity, informal jobs with little to no job security or benefits (Bhorat et al., 2016).

In Tanzania, the informal sector dominates the labour market, accounting for a significant portion of employment. This sector is characterized by low wages and poor working conditions, contributing to high levels of underemployment and job insecurity (Wuyts, 2011). The prevalence of informal employment limits opportunities for formal sector job growth. Furthermore, in Zimbabwe, the informal sector has expanded significantly due to economic instability and the collapse of formal employment opportunities. This shift has resulted in a labour market where the majority of workers are engaged in informal activities, which are typically low-paying and insecure, thereby intensifying unemployment and underemployment issues (Jones, 2010).

2.4.2 Unemployment as a percentage (%) of labour force

Figure 2.3 Unemployment rate as % Labour Force



Source: World Bank, (2021)

Figure 2.4 parades the unemployment rate as a percentage of the labour force in the SADC region for the year 2020. South Africa, Eswatini, Botswana, Lesotho, and Namibia reported the highest levels of unemployment rate in the world. According to Sowell (2014), developing countries should not implement minimum wages as they affect the youth, uneducated, and low skilled workers the most. Sowell (2014) argues that minimum wages artificially raise the price of labour without increasing their productivity, thereby causing unemployment. High unemployment causes less consumption of goods and services and less tax payments result in higher government borrowing requirements.

Madagascar, Tanzania and Mozambique, on the other hand, display the lowest unemployment rate in the region with 2.4%, 2.5% and 3.8%, respectively. Low levels of unemployment reduce the strain on government administrations and taxpayers by decreasing the need for extensive social welfare program. Less money will be directed to welfare programmes as a result of the low unemployment rates. The revenues collected by the states with less unemployment rates are focused on productive investment to promote an inclusive economy. A very low unemployment rate; however, in poor countries, can lead to lower productivity and inflation.

2.4.3 Youth Unemployment rate

According to ILO (2019), the level of youth participation in the labour market has deteriorated Worldwide.

Table 2.1 Youth Unemployment rate (% ages 15–24) in SADC

SADC Member States	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Angola	19.4	16.9	17	17	17	16.9	18	19.1	16.6	16.5	18.0
South Africa	51.2	50.3	51.7	51.4	51.3	50.1	53.4	57.3	53.4	57.0	59.3
Botswana	35.3	32.3	35.4	35.6	35.4	35.3	35.7	35.7	36.2	37.8	46.1
DRC	7.3	7.8	8.4	8.4	8.4	8.4	8.5	8.5	8.5	8.5	9.7
Malawi	14.3	14.4	14.6	14.9	14.8	15.2	15.4	15.4	15.3	15.2	17.2
Mauritius	23.2	22.1	24.4	23.4	24.6	26	23.6	23.3	23.9	21.8	24.5
Madagascar	6.4	3.8	1.0	1.5	2.0	3.2	3.3	3.4	3.7	3.5	4.6
Namibia	45.3	42.6	34.3	40.8	38.7	40.1	45.2	45.5	37.8	38.8	40.2
Eswatini	53.1	53.1	53.3	53.4	53.5	53.5	46.1	46.3	46.4	46.5	50.9
Tanzania	5.9	7.1	6.5	5.8	3.7	3.7	3.7	3.8	3.9	3.9	4.3
Zambia	26.8	20.1	15.3	17.0	18.3	19.4	20.5	21.5	22.6	25.4	26.0
Zimbabwe	8.4	8.5	11.5	11.5	11.4	11.4	11.4	11.4	6.8	7.0	7.6
Mozambique	6.9	6.9	7.0	7.1	7.1	7.1	7.2	7.2	7.2	7.2	7.7
Lesotho	37.8	37.0	35.1	35.1	35.0	35.0	35.1	35.1	35.0	34.9	37.8

Source: World Bank (2020)

Table 2.1 displays the youth unemployment rate between the ages of 15 to 24 years from 2010 to 2020 among the SADC countries. According to the data from table 2.1, South Africa, Eswatini, Botswana, Namibia and Lesotho recorded the highest number of youth unemployment with 59.3%, 50.9%, 46.1%, 40.2% and 37.8%, respectively. The unemployment faced by the youth has attracted attention from the sustainable development goals. Youth development is critical for the socio-economic development and success of the economy. Youth employment globally remains a challenge, with around 30% of employed young people still experiencing absolute and moderate poverty, as reported by the ILO in 2019. In many cases, youth employment is characterized by low wages, underemployment, insufficient legal and social protections, and poor working conditions. The economies of SADC countries with high youth unemployment rates, including South Africa, Botswana, Eswatini, and Namibia, have yet to fully leverage the potential of their young workforce.

2.5 Income inequality

With reference to global income inequality, Gini coefficients vary from 0.55 to 0.77 depending on the measures employed (Ostry, Berg & Tsangarides, 2014). These coefficients illustrate significant per capita income inequality across nations. According to the World Bank, countries such as Slovakia, Slovenia, Belarus, Armenia, and the Czech Republic have some of the lowest income inequalities in the world, with Gini coefficients of 23.2, 24.4, 24.4, 25, and 25.3, respectively. Low-income inequality reduces social tensions and decreases government expenditure on social welfare programs.

The World Bank (2020) disclosed that the SADC region hosts some of the most unequal countries in terms of income inequality in the world by any measure. The level of income inequality in the region is on the perpetual rise, exacerbated by the COVID-19 pandemic. Dabla-Norris, Kochhar, Suphaphiphat, Ricka, and Tsounta (2015) observed that income inequality in both advanced and emerging markets has increased in recent times. However, a Gini coefficient of zero, which signifies the lack of income inequality, has been reported to negatively affect economic development and the sustainability of a country (Ostry et al., 2014).

2.5.1 Major drivers of Income Inequality in the SADC region

- **Educational Differences**

Educational inequality is a significant driver of income inequality in the SADC region. Lam and Leibbrandt (2013) demonstrated a strong relationship between better education and higher income levels. This correlation emphasises the impact of educational disparities on income inequality. Access to quality education varies widely across the SADC region, leading to disproportions in skills and employment opportunities. Grant (2020) identified Mozambique and Angola as the most affected countries in his analysis of global educational inequalities.

In Mozambique as Grant (2020) argues, there are stark differences in educational access and quality between urban and rural areas. Grant (2020) attributes this disparity to limited infrastructure, insufficient teaching materials, and a shortage of trained teachers in rural areas. These deficiencies hinder the educational attainment of rural students, limiting their future employment opportunities and perpetuating income inequality in Mozambique.

In Angola, educational inequality is driven by socioeconomic disparities and regional imbalances. The educational system suffers from prolonged underfunding, resulting in inadequate school facilities and high student-to-teacher ratios, particularly in less developed provinces (Grant, 2020). These issues contribute to lower educational attainment and perpetuate income inequalities.

Malawi also experiences significant educational inequality, driven by high poverty levels and limited resources. Rural areas are particularly disadvantaged, with fewer schools, higher dropout rates, and lower educational attainment compared to urban areas (Haelermans, Korthals, Jacobs, de Leeuw, Vermeulen, van Vugt, Aarts, Prokic-Breuer, Van der Velden, van Wetten, & de Wolf, 2019). Gender disparities exacerbate the situation, with girls facing more barriers to education than boys. These inequalities, influenced by economic, social, and geographic factors, create significant barriers to achieving equitable educational outcomes and perpetuate escalating income inequality in the region (Haelermans et al., 2022).

- **Labour Market Structure**

The dualistic nature of labour markets in the SADC region, characterized by a significant informal sector alongside a smaller formal sector, is a key driver of income inequality (World Bank, 2021). The informal sector often lacks job security and benefits, leading to lower incomes (Arndt et al., 2016). Countries most affected by this phenomenon include South Africa, Zimbabwe, and Zambia in the SADC region. Shimeles and Nabassaga, (2017) states that spatial inequalities, also referred as rural-urban disparities explain over 60% of total income inequality in African countries such as Angola and Madagascar, moreover about 40% in Zambia.

In South Africa, the informal sector comprises a large portion of the workforce, contributing to significant income inequalities. Workers in the informal sector typically earn less, lack benefits such as health insurance and pensions, and face greater job insecurity compared to those in the formal sector (World Bank, 2021). This situation intensifies income inequality as it limits opportunities for upward mobility and stable employment for workers in the informal sector (Arndt et al., 2016). According to the United Nations Department of Economic and Social Affairs (2021) Furthermore, the dualistic nature of the labour market in South Africa creates substantial barriers to inclusive development.

Dube and Casale, (2019) express that Zimbabwe also experiences high levels of informality, driven by economic instability and a lack of formal job opportunities. The informal sector has become a survival strategy for many, but it offers limited income and job security, further entrenching income inequality (Dube & Casale, 2019). The universal nature of informal employment means that a large segment of the population remains trapped in low-wage, unstable jobs. The informal sector's dominance can hinder economic development and exacerbate income inequality by providing fewer opportunities for stable, well-paid employment

Zambia faces similar challenges, where the informal sector is a significant source of employment due to limited formal job creation. This sector is characterized by low productivity and earnings, contributing to substantial income inequality. Informal

workers often lack access to social protections and benefits, reinforcing economic disparities (African Development Bank, 2020)

- **Agricultural Dependence**

In the SADC region, several countries rely heavily on agriculture, which often results in high levels of income inequality due to the sector's vulnerability to climatic changes. Therefore, countries such as Malawi, Tanzania, and Mozambique are particularly affected. (IMF, 2017).

Agriculture is the backbone of Malawi's economy, employing over 80% of the workforce. However, the sector is predominantly smallholder farming with low productivity and high susceptibility to weather-related shocks. This dependence on agriculture increases income inequality as rural areas remain impoverished due to limited diversification and market access (Chilonda, 2017).

Similar to Malawi, Tanzania's economy is heavily reliant on agriculture, which contributes around one-quarter of the GDP and employs about 65% of the population (Nkwengulila, 2019). The sector's vulnerability to climate variability and lack of infrastructure in rural areas contribute to significant income disparities between urban and rural populations (Seyuba & Garcia, 2020).

Mozambique also relies extensively on agriculture, which employs approximately 70% of the population. The agricultural sector is marked by low productivity, subsistence farming, and frequent exposure to natural disasters such as cyclones and droughts. These factors significantly hinder economic stability and perpetuate income inequality (UN DESA, 2021; Mutengwa, 2023)

- **Economic Policies and Taxation**

Economic policies, including taxation and social spending, affect income distribution. Progressive taxation and social welfare programs can reduce inequality, but these are often inadequately implemented in SADC countries (Davis et al., 2018). According to Davis et al. (2018), South Africa struggles with implementing effective progressive taxation and redistributive social policies. Despite high taxation rates, the revenue is often insufficiently allocated to social welfare programs, worsening income inequality.

Kabandula and Seekings (2016) highlight that Zambia's tax system is regressive, with a greater burden on lower-income individuals. This ineffective taxation policy, coupled with limited social spending, fails to address the country's significant income inequalities. Oxfam (2022) argued that In Zimbabwe, austerity measures and economic mismanagement have further deepened income inequality. The government's failure to implement equitable tax policies and social spending programs has led to increased poverty and economic inequality (Oxfam, 2022).

Furthermore, Mozambique faces similar challenges. While the country has made advances in tax reforms, the benefits are undermined by inadequate social welfare programs. The lack of efficient redistribution mechanisms perpetuates income inequality, particularly in rural areas (IMF, 2019).

- **Generational Wealth Transfer**

The intergenerational transfer of wealth perpetuates income inequality in the member states. Wealthy families can pass on assets and opportunities, while poorer families remain disadvantaged, lacking access to capital and education (Bowles & Gintis, 2002). In South Africa, wealth inheritance plays a major role in maintaining economic inequality. According to Leibbrandt et al. (2010), historical inequalities have allowed certain families to accumulate and transfer significant wealth across generations, leaving a large portion of the population disadvantaged.

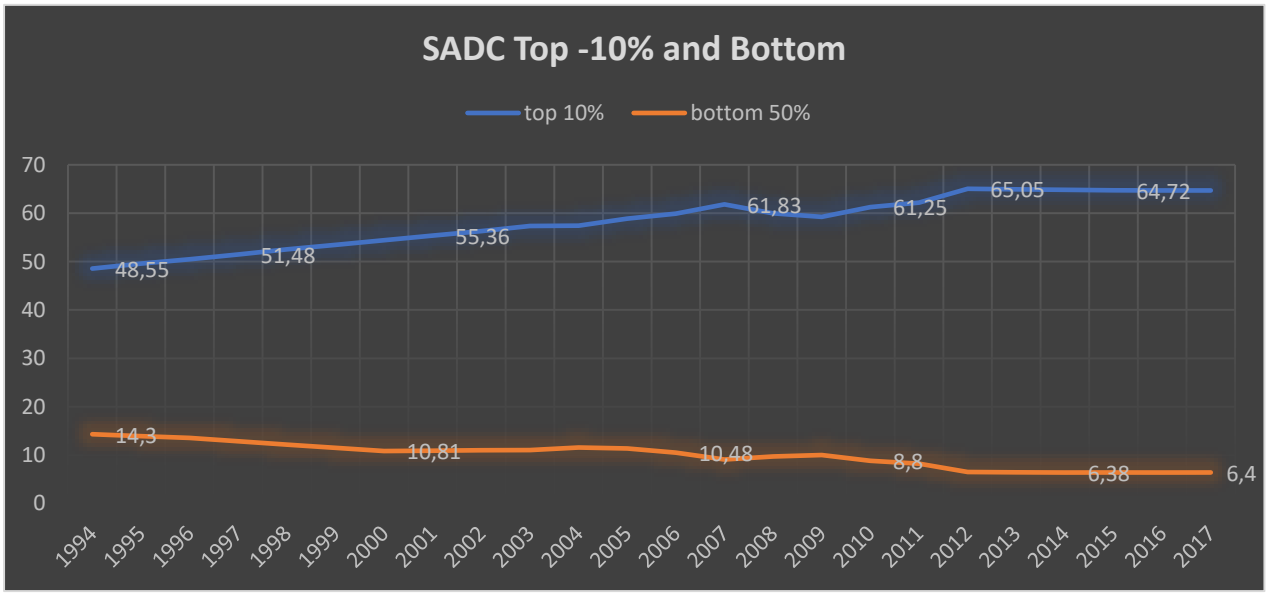
Amavilah (2009) discusses how historical factors, such as apartheid and colonialism, have led to a concentration of wealth within certain groups in Namibia. This wealth is often transferred intergenerationally, perpetuating income inequality and limiting social mobility for the majority. This pattern is not unique to Namibia; in Zimbabwe, Moyo (2017) indicates that land ownership and other assets are often passed down within families, particularly among the elite. This generational transfer of wealth increases economic inequalities, as those without inherited assets remain trapped in poverty.

In Zambia, the concentration of wealth within certain families limits access to capital for poorer households. Kalinda and Floro (2020) show that wealth transfer practices contribute to the persistent economic divide, as wealthy families can afford better education and opportunities for their children, reinforcing the cycle of inequality. These

discussions highlight how intergenerational wealth transfer across different SADC countries perpetuates income inequalities, limiting social mobility and economic opportunities for a significant portion of the population.

2.5.2 Total income share in SADC top 10% and bottom 50% SADC

Figure 2.4 Total income share in between top 10% and bottom 50% SADC

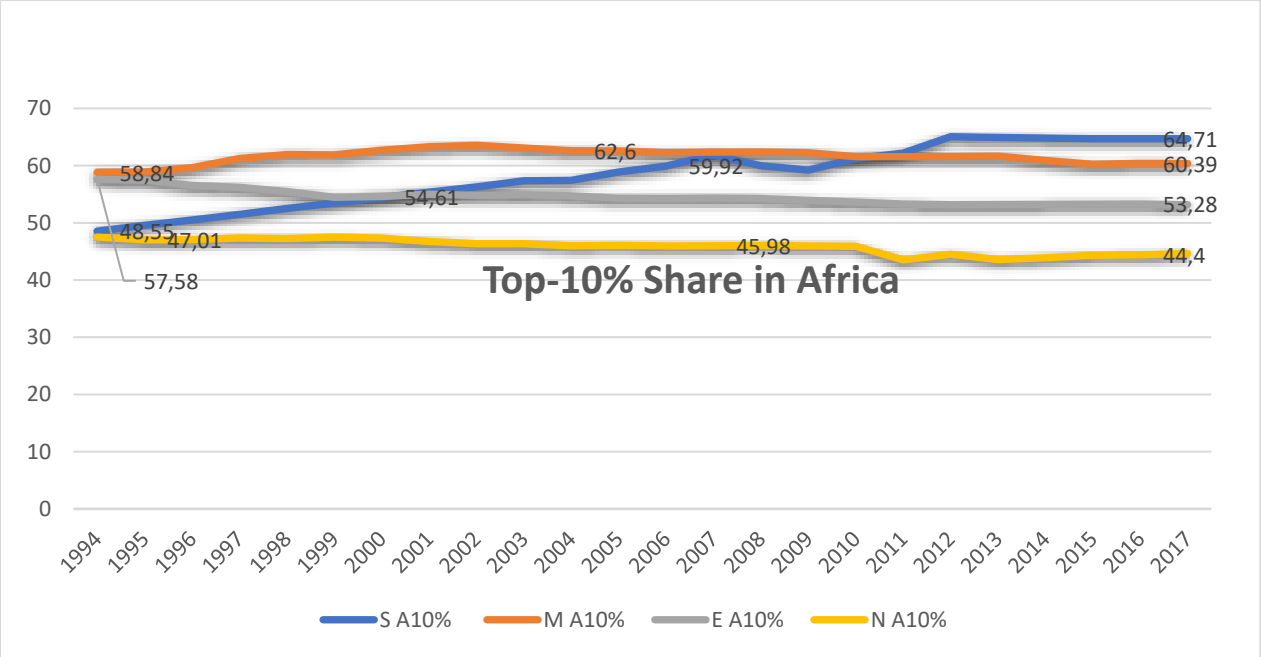


Source: (Author)

Figure 2.5 depicts trends for the top 10% share and the bottom 50% share of total income in SADC member states between 1994 and 2017. The top 10% share of income has increased by almost 15%, as trends illustrate a continuous rise since 1994. However, higher income earners coupled with financial liberation in the region are associated with substantially a larger number of external debts (Kumholf et al., 2012). The income growth in top 10% comes at the expense of the bottom 50% share and the middle 40% share. The top 10% of the population in SADC states shared about 65% of the total income as of 2017 (SADC, 2019). On the other hand, the bottom 50% share has since suffered a perpetual decline in income share. The bottom 50% share has lost approximately 7.9% share in income between 1995 and 2017 in the SADC region, in the process, making it the most unequal region in the world.

2.5.3 Top 10 % income share in all four African regions

Figure: 2.5 Income share in Africa of top 10%

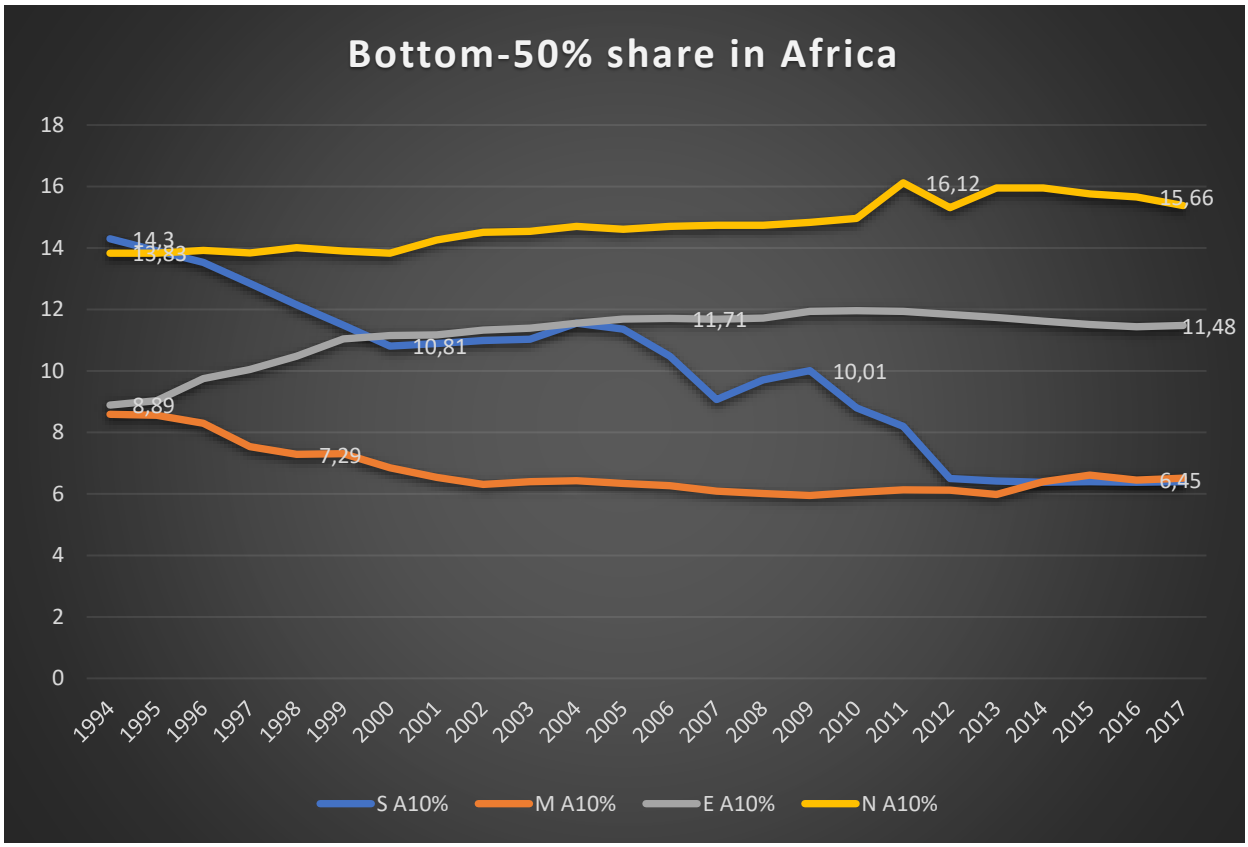


Source: (Author)

Figure 2.6 shows the top 10% share of total income for North Africa, Middle Africa, East Africa, and Southern Africa. In 1994, Southern Africa's and North Africa's top 10% were not far apart from each other in terms of total income share, with an income share of 48.8% and 47%, respectively. The Middle and East Africa concurrently shared about 58.8% and 57.5% of the total income, respectively. The Southern African top 10% has gained a significant increase in income share since 1994, with a 5.8% increase compared to other regions. Only Middle Africa's top 10% during the same period has managed to make an increase of 1.5%. In East Africa and North Africa, the top 10% share of income declined by 4,3% and 2,61 percent, respectively between 1994 and 2017.

2.5.4 Income Share bottom 50% in four African regions

Figure 2.6 Income Share bottom 50% in Africa



Source: (Author)

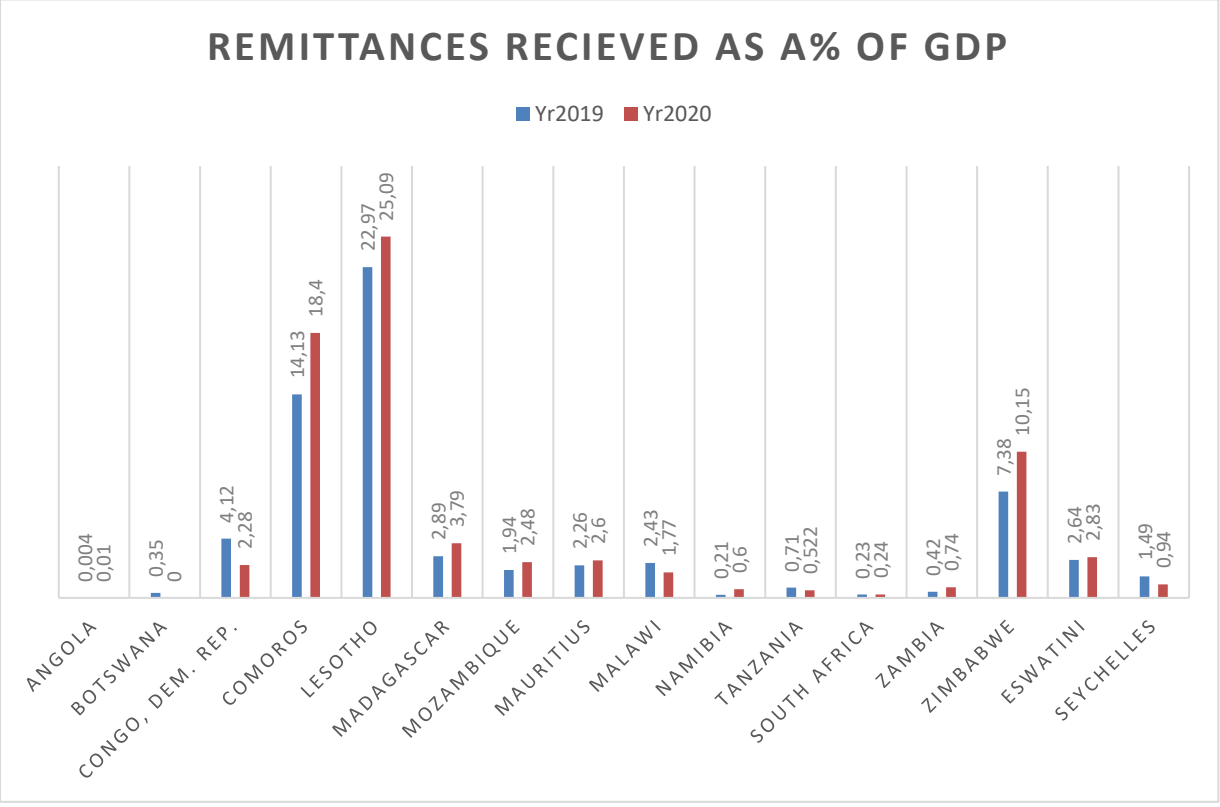
Figure 2.7 illustrates the income share for the bottom 50% of the population in Southern Africa, Middle Africa, Eastern Africa, and North Africa from 1994 to 2017. The bottom 50% of the population of the Southern African and Middle African region became poor and have been poor since 1994 to 2017, while improvement in income share is visible in East Africa and North Africa. Southern Africa's bottom 50% lost the biggest percentage since 1994 as compared to other regions in Africa. Both Southern Africa and Middle Africa bottom 50% lost 7.8% and 1.6% of total income, while East Africa and North Africa gained 2.5% and 2.13%, respectively.

2.6 Remittances received as a % of GDP

According to Letsoalo and Ncanywa (2020), remittances represent major international financial flows of resources to eradicate absolute poverty, particularly in the low and middle-income economies. Ratha (2013) avers that migrant remittances are fast-

increasing in the 21st century and they represent a major financial vehicle for poverty alleviation. For the last decades, member states remittances received surpass the foreign aid (Ratha, 2013). Song, Paramati, Ummalla, Zakari and Kummitha (2021) note that for the past decade, remittances in developing states have been increasing rapidly and have become an important source of international flows. Song et al. (2021) state that an increase in remittances boosts the balance of payment through consumption and investment channel. Kóczán and Loyola (2018) record that at a macroeconomic level, remittance constituted a substantial international financial flow for many emerging markets. The authors further established that remittances lower inequality in emerging states.

Figure 2.7 Remittances received as a % of GDP



Source: World Bank (2021)

Figure 2.7 illustrates remittances received by SADC member states as a percentage of GDP for the year 2019 and 2020, respectively. Lesotho received the highest remittances as a percentage of GDP amongst SADC member states of 22.9% and 25. % in 2019 and 2020, respectively. Following Lesotho is Comoros, which received an

estimated 14.1% and 18.4% in 2019 and 2020, respectively. High levels of remittances have been documented to increase economic development, favourable balance of payment and increased economic growth. As noted by the World Bank Migration and Remittances briefings, the remittances make up a significant share.

Zimbabwe is another SADC member state which benefits from high remittances received of 7.3% and 10.1% as a percentage of GDP for 2019 and 2020, respectively. Ratha (2013) observed that high remittances received increase the consumption level of rural economy, which might have material multiplier effects, because of the chance of spending on locally manufactured goods. Barajas et al. (2010) identified that a high level of remittances received increases the flow of funds in the banking system. This results in increased economies of scale in the financial intermediaries, which may lead to financial development and ultimately economic growth.

Figure 2.7 shows that Angola and Botswana have received the lowest remittances as a percentage of GPD of 0.004% and 0.01%, and 0.35% and 0.0% in 2019 and 2020. According to Mayer and Shera (2016), the remittances received are important as they provide the incentives for financial markets development and monetary policy development in emerging states. According to the study from international Organization for Migration (IOM) (2018), the cost of remitting in Angola averaged about 10% of the amount transferred**.**

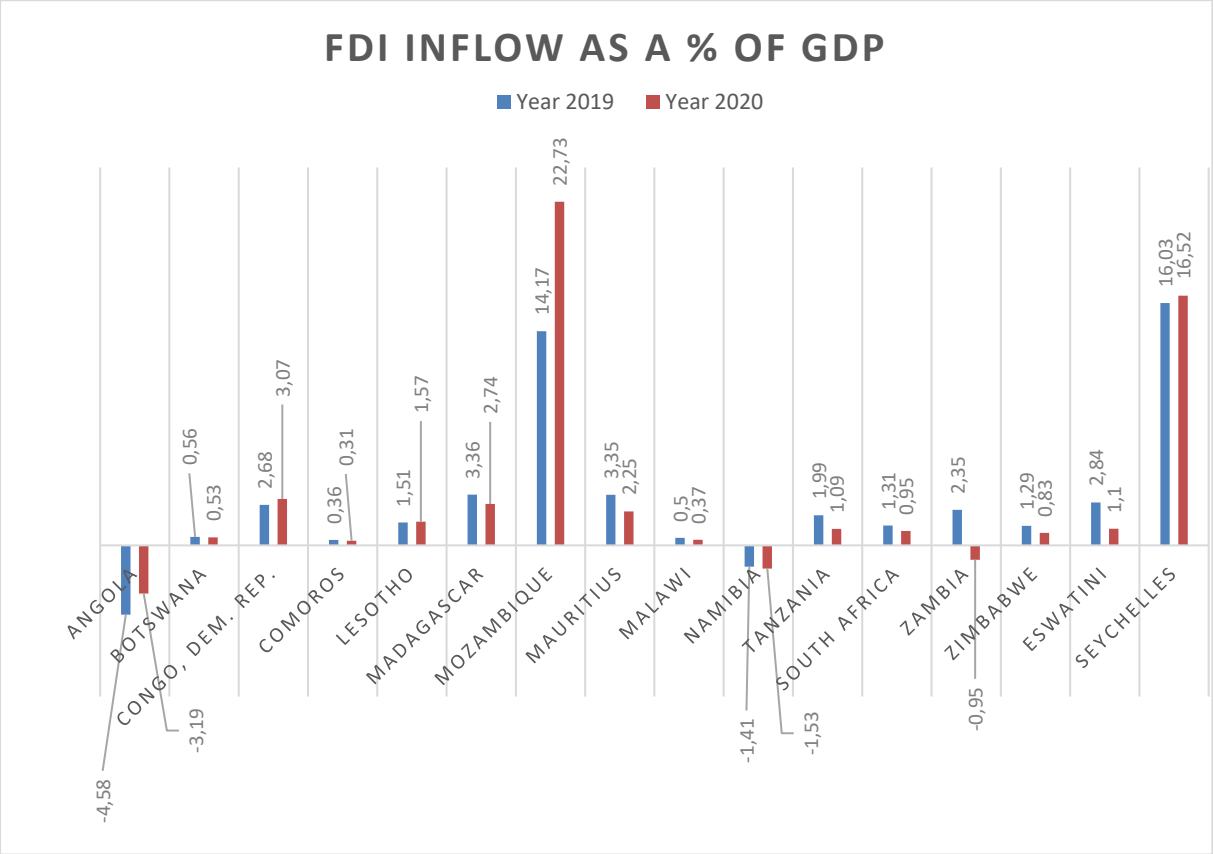
According to the World Bank (2020), on average, the cost to transfer money to Africa was about 9.4% in 2018. Ratha (2014) argues that nations, financial institutions, and developmental agencies should lower the cost of remitting, so, families receive more of the transferred money. As noted by literature, one important aspect of remittances is that, unlike development aid, they flow directly into the pockets of the household, which becomes available to use immediately.

2.7 FDI received as a % of GDP

FDI is considered to increase employment opportunities in recipient countries and promotes economic growth. Mhlanga, Blalock and Christy (2009) state that SADC countries are actively and diversely looking for FDI to boost economic growth, entrepreneurial opportunities, and domestic competition. According to the SADC (2021), both security and political issues in the region have kept the FDI at a minimum.

However, the SADC needs foreign investment to further promote their mandate of regional integration, economic development, and productive capacity of local businesses (SADC, 2021). The SADC also recognises that attracting FDI to the region means competing with the world.

Figure 2.8 FDI inflow as a % of GDP



Source: World Bank (2021)

Figure 2.9 illustrates the inflow of foreign direct investment as a percentage of GDP for SADC member states. According to the World Bank (2021), Mozambique and Seychelles recorded the highest percentage of FDI as a percentage of GDP within the SADC countries in both 2019 and 2020, respectively. According to the data, Mozambique, Seychelles, Democratic Republic of Congo, and Lesotho are the only member states which realised an actual increase in FDI in 2020. Although, Seychelles and Mozambique have managed to attract the highest foreign direct investment, their GDPs are relatively low in monetary terms at 1.125 billion USD and 14.02 billion USD, respectively in 2020. Adams et al. (2014) specify that due to recent political stability

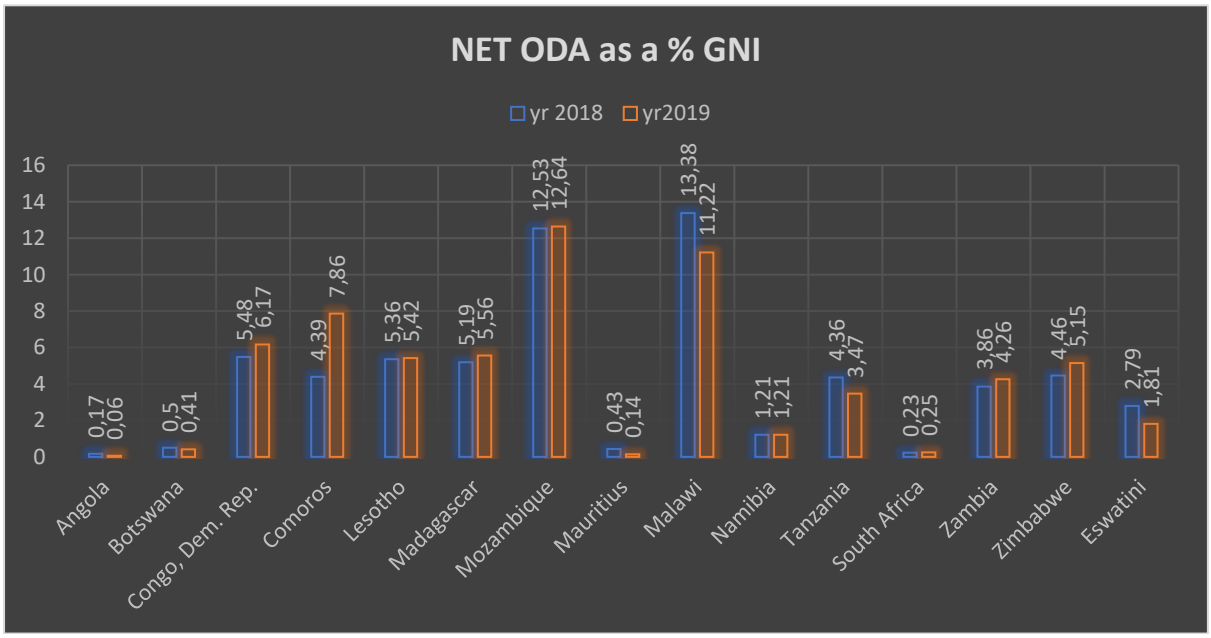
and natural gas availability, Mozambique continues to attract large foreign direct investment.

Figure 2.9 further shows that Angola and Namibia in 2019 and 2020 correspondingly, and Zambia only in 2020, faced a disinvestment of FDI inflow. Angola faced the largest disinvestment in the SADC region of -4.58% and -3.19% in 2019 and 2020 amid the COVID-19 crisis. The trend for FDI as depicted by figure 4.9 shows a general decline by foreign investors as a result of the dual shock of the pandemic (UNCTAD, 2020). According to Investment Climate Statement of Angola (2020), factors such as bank ranking, limited access to credit, inadequate basic infrastructure, slow inefficient institutions, and corruption continue to discourage investment. This statement is against the SADC protocol on finance and investment, which purports a stable macroeconomic environment as well as favourable regulations, quality economic infrastructure, amongst other attract external investment.

2.8 Foreign aid received as a % of GNI

Official development assistance (ODA), generally known as foreign aid, takes the form of loans and grants at favourable financial terms, often from well-established countries to poorer countries. Nadeem, Abbas and Mehmood (2021) argue that it is imperative for developing countries to source foreign aid as they often face many social and economic challenges of poverty, high unemployment, inadequate infrastructure, and other emergency needs. Chikowore (2004) notes that foreign aid can boost economic development by promoting industrialisation in developing countries through an assembling of both economic and human infrastructure.

Figure 2.9 Net foreign aid received as a % of Gross National Income



Source: World Bank (2021)

Figure 2.10 illustrates the annual net foreign aid received as a percentage of gross national income for SADC member states in 2018 and 2019. Angola, Botswana, Mauritius, and South Africa all received aid amounting to less than 1% of their respective gross national income in 2018 and 2019, respectively. Niño and Le Billon (2013) note that the absence of official development aid in the state of Angola has contributed to Angolan elites seeking tenure extension through various mechanisms. Angola is the only state with a GDP income per capita of less than $5000 amongst economics which received less than 1% of foreign aid as a percentage of gross national product (World Bank, 2021).

According to the World Bank data (2021), Angola averaged $1772, income per capita in 2020. As noted by Niño and Le Billon (2013), considerable reserves of oil and diverse sources of finance have led to a higher degree of autonomy and self-confidence for the Angolan state as opposed to a donor-driven liberalisation process in Mozambique. Mozambique and Malawi are the only countries in SADC that receive a foreign aid of more than 10% as a percentage of their respective gross national incomes. Figure 2.10 shows that Mozambique received an estimated 12.53% and

12.64% while Malawi received 13.38% and 11.22% of net foreign aid in 2018 and 2019, respectively.

2.9 Summary

This chapter provides a comprehensive summary of key sectors contributing to GDP in each SADC country and compares SADC GDP growth rates to the global average. It discusses the major drivers of inflation in the SADC region and compares inflation rates in SADC to the global average. The chapter also identifies the primary factors influencing unemployment in the SADC region, presenting unemployment as a percentage of the labour force and the youth unemployment rate for ages 15 to 24. Additionally, it examines the major drivers of income inequality within the SADC region, offering a detailed analysis of the underlying causes and their impact on economic stability and social well-being. Furthermore, the international financial flows are illustrated as percentage of GDP and GNI.

CHPATER THREE (3)

3. LITERATURE REVIEW

3.1 Introduction

This chapter discusses both the theoretical and empirical literature concerning the relationship between macroeconomics performance indicators and international financial flows. Theoretical frameworks are essential for developing econometric models that analyse the macroeconomic performance of the SADC region. The theories provide a foundation for constructing models that can effectively explain the complex economic issues in the region. Moreover, the study conducts an extensive literature review related to the impact of international financial variables on the selected macroeconomic indicators. The purpose was to review several studies to help in selecting the appropriate variables, choosing suitable estimation methods, and identifying the best data to use for the analysis.

3.2 Theoretical Literature

This section elaborates on the theoretical models used to establish a link between international financial flows and macroeconomic indicators. The study draws on several key frameworks: the Endogenous Growth Model by Frankel (1962) to examine economic growth, the Quantity Theory of Money from Rashid and Husai (2013) to analyses inflation, the Generalized Harris-Todaro Model proposed by Khan (1980) and expanded by Liu, Spiegel, and Zhang (2022) for income inequality, and the Cobb-Douglas production function by Fitzgerald and Mavrotas (1997) to explore unemployment dynamics**.**

3.2.1 The Endogenous Growth Theory

To assess the different forms of financial flows on economic growth in the SADC region, it is useful to reconsider the deductions that underlies Pagano's (1993)'s analysis. This empirical investigation relied heavily on the endogenous growth model which was coined earlier by Frankel in 1962 (Chang, Wu, & Zhang, 2024). The endogenous growth framework emphasises the steady state growth which is influenced by the accumulation of capital and technological progress, rather than the exogenous factors. Furthermore, this recent approach is based on the information that

capital investment yields increasing returns to scale, especially in the fields of infrastructure, education, health, and telecommunications (Chang et al., 2024). Therefore, to capture potential effects of the financial flows on economic growth in the SADC region this study extends the endogenous growth framework used by (Pagano, 1993). The endogenous growth model is therefore, constructed as follows:

$$Y_t = AK_t \quad 3.1$$

Where the total production Y_t in the simple economy is a linear function of the aggregate capital stock. Bailliu (2000) pinpoints that the K_t in this production function is composed of the physical and human capital and the economy is competitive with other international economies. For simplicity, the model assumes that the population growth is fixed and the economy produces and consumes one good (Guerron-Quintana et al., 2023). The depreciation of capital stock per period δ, is accounted for in case of any investments. Therefore, the total investment of the economy will equate to the following:

$$I_t = K_{t+1} - (1-\delta)K_t \quad 3.2$$

In a simple closed economy with no government, the stability in the capital market entails that the total savings S_t equals to the total investment I_t. In this framework financial intermediaries are responsible for converting savings into investment. Therefore, the financial intermediaries absorb resources so that savings by household generates less return than investment in capital (Guerron-Quintana et al., 2023). The model assumes that a percentage of savings $1-\phi$ is held by the financial intermediaries. Therefore, the market clearing conditions after bank charges and service rendered net savings equals total investment. Therefore:

$$\phi S_t = I_t \quad 3.3$$

Therefore, from equation 4.1, the growth rate at time $t+1$ is:

$$g_{t-1} = \frac{Y_{t+1}}{Y_{t-1}} = K_{t+1}/K_{t-1} \quad 3.4$$

Using equation 2 and leaving out the time indices, the steady state growth can be written as thus:

$$g = A\frac{I}{Y} - \delta = A\phi s - \delta \quad 3.5$$

Therefore, equation 3.5 represents the steady state equilibrium with the financial intermediaries in a closed economy. This equation reveals the two main channels through which the financial development can affect economic growth. The first channel relates to the fact that financial development is a consequence of the spread of the financial intermediaries. This channel involves the efficiency of the intermediaries in which savings are allocated to investment. If the financial institution reduces the cost of borrowing and lending as they become more proficient then, ϕ is affected effected in equation 3.5. Thus, ϕ represents the leakage of resources that can alternatively be available for investment. The reduction of ϕ in the form of low reserve requirement, lower lending rate and transaction cost enhances economic growth (Chang et al., 2024).

The second channel through which financial intermediaries can affect economic growth is through the allocation of resources. The important function of the intermediaries is the distribution of funds to projects where the marginal product of capital is the highest. The endogenous growth model assumes that an improvement in allocation of capital enhances economic growth.

This AK framework is adopted to incorporate the international financial flows selected by the study. The study assumes that foreign companies and governments can now invest in the economy. For simplicity, the model assumes that foreign governments and companies invest through the local financial intermediaries. Then, international financial flows will constitute resources that was not readily available for investment. Therefore, international financial flows and the capital market equilibrium becomes:

$$\phi^*(S_t + IFF_t) = I_t^* \quad 3.6$$

Where IFF, represents international financial flows, therefore the steady-state growth rate is now represented by the following:

$$g^* = A^*\frac{I^*}{Y} - \delta = A^*\phi^*\frac{(S+IFF)}{Y} - \delta = A^*\phi^*S^* - \delta \quad 3.7$$

Equation 3.7 shows the steady-state growth of the AK framework incorporation the financial intermediary and the international financial flows. This simple endogenous-

growth models shows various channels through which international financial flows may influence economic growth. The first channel through which international financial flow can promote economic growth is if they lead to an expansion of the investment rate in the recipient country. Thus, economic growth g^* will be higher than the initial growth g , if S^* is larger than s, keeping all other factor constant. International financial flows must be directed to finance investment which will not crowd out domestically financed investment. Hence, $IFF_t > 0$.

The second channel over which international financial flows may influence economic growth in the recipients' countries is if they are associated with investment which encloses positive externalities. There is plethora of literature detailing how foreign direct investment and foreign aid may have a positive spill overs effect on recipients' countries (see Blomström,1991; De Vita & Kyaw 2009). The increase in competition in the recipient countries, increase productivity in the local firms, industrialization and human capital investment. The AK framework confirms that if international financial flows lead to investment with positive externality, it will advance the social marginal productivity of capital, thus, A^* will be higher than A keeping all other factors constant.

The third channel through which international financial flows can foster growth in the recipients' states is through the increase of financial intermediaries. The AK framework presented by this study reveals how an increase in financial intermediation in the context of a closed economy influences economic growth. Financial intermediaries play the important role of allocating funds to profitable and productive projects and turning savings into fruitful investments. Thus: $\phi^* > \phi$. The simple framework also shows how the level of domestic financial development plays a key part in the process linking international capital flows and economic growth.

Thus, the theoretical framework in equation 3.7 is express in linear equation to assess the different forms of financial flows on economic growth in the SADC region as follows:

$$g^* = \alpha_0 + \alpha_1\left(\frac{I^*}{Y}\right) + \alpha_2\left(\frac{S+IFF}{Y}\right)\alpha_3 S^* \qquad 3.8$$

Where g* represents the economic growth of all the selected SACD. I and $S*$ represent the financial inflows and control variables. Y is a scaling factor. $\alpha_0, \alpha_1, \alpha_2,$

and α_3 are coefficients to be estimated. Accordingly, to absolutely fit the panel data setting for SADC countries the equation 3.8 can be modified as:

$$g_{it}^{*} = \alpha_0 + \alpha_1 \left(\frac{I_{it}^{*}}{Y_{it}}\right) + \alpha_2 \left(\frac{S_{it}+IFF_{it}}{Y_{it}}\right) \alpha_3 {S_{it}}^{*} + \varepsilon_{it} \qquad 3.9$$

The i in the panel model represents the selected SADC member states and the t denotes the time trend. The I_{it}^{*} and S_{it}^{*} represent the financial flows variables and control variables respectively for the SADC countries i at time period t. Y_{it} is a scaling factor specific for the SADC countries i at time period t. ε_{it} represents the error term, capturing unobserved factors and measurement error. Where $\alpha_0, \alpha_1, \alpha_2,$ and α_3 are coefficients to be estimated.

3.2.2 Extended Generalised Harris-Todaro model

To determine if different forms of financial flows contribute to income inequality in the SADC region, the study builds on and more recently by Liu, Spiegel, and Zhang, (2022). Khan (1980) proposed the Generalized Harris-Todaro model, which serves as the basis for this study. Liu et al., (2022) provide a framework for analysing financial flows and income inequality. The model is constructed in a small open economy with a population and two types of economic drivers: entrepreneurs and households. To link the external capital flow and income inequality in a country setting the models separate between the urban and rural sector employment (Koepke & Paetzold, 2024). The theoretical framework assumes that the population size is reduced to one, and the share of household is therefore $\theta \epsilon (0,1)$. Furthermore, the model assumes the economy sell one homogeneous product, produced by competitive firms using capital and labour supplied by the two types of agents: entrepreneurs and households. Entrepreneurs, in this case they supply their labour to various firms to accumulate capital, and moreover they can borrow from both the domestic banks and foreign investors, subject to their various limited budgets. Household on the other hand, supply the unskilled and skilled labour to firms; however, they do not have access to capital investment technology. The household can save their money in domestic bank and foreign banks. The model separates the time of both entrepreneurs and households in two periods- young and old.

Therefore, let U and R represent the urban and rural sectors, K_i, W_i and L_I represent the capital-labour ratio, wage-rate, and the level of employment in the ith sector, for $i = U, R$. Where r_i and $f_i(.)$ stand for the rate of interest and the intensive production function in the ith sector. $\bar{K}$, $\bar{L}$, and $K_{foreign}$ stand for the domestic capital endowment, labour endowment, and the stock of foreign capital. Therefore, the stock of foreign capital in the context of the study includes remittances, foreign aid and foreign direct investment. To incorporate international financial flows into the capital input for both urban and rural sectors. Let, $K_{i,foreign}$ represent the stock of international financial flows as foreign capital in sector i.

$$K_i = K_{i,domestic} + k_{i,foreign} \quad 3.10$$

Where $K_{i,domestic}$ represents domestic capital $k_{i,foreign}$ represents foreign capital which includes remittances, foreign aid, and FDI. Thus, the production function becomes:

$$f_i(k_i) = f_i(K_{i,domestic} + K_{i,foreign}) \quad 3.11$$

The inclusion international financial flows will directly affect the capital labour ration in each sector $K_i = \frac{K_i}{L_i}$. The study includes the financial development as a factor that affects the efficiency of capital utilization, potentially improving the productivity of both domestic and foreign capital. Furthermore, GDP is included as a control variable to reflect the overall economic environment. Thus:

$$f_i(K_i, FD, GDP) = f_i(K_{i,domestic} + K_{i,foreign,} FD, GDP) \quad 3.12$$

Therefore, the new capital ratio will then become:

$$K_i = \frac{K_{i,domestic} + K_{i,foreign}}{L_i} \quad 3.13$$

The interest rates in these sectors will still be determined by the law of marginal productivity pricing, but now the marginal productivity of capital will include both domestic and foreign capital

$$f_i'(K_i, FD.GDP) = r_i \; for \; i = U, R \quad 3.14$$

The equation that makes the generalised Harris-Todaro model of Khan (1980) different from the Corden-Findlay (1975) model is due to perfect capital mobility, thus the following:

$$r_U = r_R = r \qquad 3.15$$

The wage rate equations are derived from the marginal productivity of labour. Thus, the modified wage equation is given by the following equation:

$$f_i(K_i, FD, GDP) - f_i'(K_i, FD, GDP) * K_i = W_i \; for \; i = U.R \qquad 3.16$$

The migration equilibrium condition is given by:

$$(1 + v) = \frac{W_U}{W_R} \qquad 3.17$$

The model assumes international financial flows can affect both urban and rural wages differently, depending on their allocation in the recipients' countries. Remittances may predominantly go to the rural areas, while FDI might be more significant in urban sectors. Therefore, to incorporate the international financial flows into the migration equilibrium condition. The urban sector wage determination equation is modified to include the effects of international financial flows and financial development.

$$W_U = W_U(W_R, r, u, K_{U,foreign,} FD, GDP) \qquad 3.18$$

Therefore, full employment of accumulated capital stock is given by the following equation:

$$K_U * L_U + K_R * L_R = \overline{K} + K_F \qquad 3.19$$

With the introduction of international financial flows and financial development the income distribution equation becomes:

$$\text{Income } W_U + r * \overline{K}, \; W_R + r * \overline{K}, \; 0 + r * \overline{K} \qquad 3.20$$

$$\text{Frequency } \; L_U, \; L_{R,} \; u * L_U \qquad 3.21$$

The Welfare measure in the theory is given by Sen's index:

$$H = y(1 - G) \qquad 3.22$$

$$y = W_R + r * \overline{K} \quad 3.23$$

$$yG = L_U * L_R(W_U - W_R) + u(L_U)^2 * W_U + L_R * uL_U * W_R \quad 3.24$$

Since W_R and r are independent of K_F, y does not change with changes in K_F. However, G which donates income inequality is affected by K_F , FD and GDP. Since income inequality is affected by the only changes in international financial flows, financial development and economic growth. The empirical model for the study to empirically test the impact of international financial flows, financial development, and GDP on income inequality is set up as follows:

$$GINI = \alpha + \beta_1 REM_{it} + \beta_2 FAID_{it} + \beta_3 FDI_{it} + \beta_4 FDEV_{it} + \beta_5 GDP_{it} + \varepsilon_{it} \quad 3.25$$

3.2.3 The Quantity Theory of Money

To explore the extent to which the different forms of financial flows may contribute to inflation in the SADC region the study develops on the framework utilised by (Rashid & Husai, 2013). According to Ejaz, Shahzad and Khan (2021) the theoretical framework incorporates the Quantity Theory of Money. The theory supports the idea that an increase inflation is caused by an increase in the money supply. Therefore, the model assumes that in normal circumstances, governments prohibit the private sector or individuals in their own countries to use foreign currencies in the domestic markets. However, individuals and private firms often receive financial gifts in the form of foreign currencies. The study assumes that remittances, foreign aid, and foreign direct investments are the foreign currencies received. The foreign currencies are subsequently purchased by governments in recipient's countries at their prevailing current exchange rates. The total expenditure can, therefore, be explained as follows:

$$E = M + eD \quad 3.26$$

Where e refers to the nominal expenditure on goods and services. M denotes the nominal money stock prior to receiving foreign currencies. e is the exchange rate while eD refers to foreign currency.

The total expenditure also represents the demand for money

$$Md = M = eD \quad 3.27$$

The “money market equilibrium condition” is given by

$$M^d = M^s = M + eD \quad 3.28$$

The equilibrium condition for the nominal prices (P_N) is presented as follows

$$P_N = \frac{V \times M^S}{Y} = \frac{V \times M + eD}{Y} \quad 3.29$$

The equation illustrates a positive relationship between external financial flows and price level in the recipient countries. The V denotes the velocity of money and Y represents the total production. The empirical study in question adopted this framework to link the international financial flow and inflation in the SADC region. Thus, the steady state equilibrium in this model can be modified as follows:

$$P_N = \frac{V \times M^S}{Y} = \frac{V \times M + eIFF}{Y} \quad 3.30$$

Where the IFF, represents the international financial flows, namely the remittances, foreign aid, and FDI. Equation 3.31 confirms the positive relationship between international financial flows and local inflation level which is given by:

$$\frac{\partial P_N}{\partial IFF} > 0 \quad 3.31$$

The increase of international flows, expand the foreign exchange reserves which are used to buy the local currency. Therefore, the increase in domestic monetary base without a corresponding increase in production leads to inflation. Furthermore, equation 3.32 shows the negative relationship between the level of output and domestic prices, thus:

$$\frac{\partial P_N}{\partial Y} < 0 \quad 3.32$$

Therefore, if the government adds the international financial flows to its reserves and does not allow it to be absorbed in the economy, it will produce only an inflationary effect. The study considers two channels through which surging international financial flows can affect inflation rate. The first channel which is direct, is that financial flows can directly affect the assets price in the domestic market causing the assets price to hike. The second indirect channel exists through the increase in money supply in the recipient countries. The international financial flow increases the value of the domestic

currency, this leads to intervention of the monetary authority in the foreign exchange market to avoid currency appreciation which can undermine exports industries. Therefore, the result is the accumulation of foreign reserve and increased money supply unless fully sterilized causes inflation.

Integrating the international financial flows into the Quantity Theory of Money involves expanding the traditional equation to account for the additional factors. Thus, to represent the relationship described in equation 3.30 as a linear function, the analysis rearranges the equation as follows:

$$P_N = \frac{V+M^S}{Y} + \frac{eIFF}{Y} \qquad 3.33$$

If α is equal to $\frac{V}{Y}$ which represents the velocity of money per unit of real output and β is equal to $\frac{M^S}{Y}$ which is defined as the money supply per unit of real output. With these new parameters defined in the Quantity Theory framework, equation 3.16 can be rewritten in as:

$$P_N = \alpha \times M^S + \frac{eIFF}{Y} \qquad 3.34$$

Equation 3.34 resembles a linear function, where P_N is a function of $M^S$and $eIFF$. It's linear with respect to M^S because it appears with a constant coefficient (α), and it's also linear with respect to eIFF because it appears without any transformation. Therefore, to modify the linear function to incorporate panel data is presented as follows:

$$P_{N,it} = \alpha \times M_{it}^S + \frac{eIFF_{it}}{Y_{it}} + \delta_i + \gamma_t + \varepsilon_{it} \qquad 3.35$$

The ε_{it} is the error term, representing unobserved factors or random shocks in the model. The δ_i represents country fixed effects, capturing unobserved heterogeneity across SADC countries in the panel, while γ_t represents time fixed effects, capturing time-specific factors affecting the price level (Fendel, & Neugebauer, 2020). The inclusion of fixed effects $\delta_i \, and \, \gamma_t$ allows us to control for country-specific and time-specific effects, respectively. This helps address potential sources of bias and

improves the estimation of the parameters of interest (Bista & Khan, 2023; Fendel, & Neugebauer, 2020).

3.2.4 The Extended Cobb-Douglass Production Function

To examine the link between different forms of financial flows and unemployment in SADC region the study builds on the Cobb-Douglas production function proposed earlier by Fitzgerald and Mavrotas in 1997 (Fitzgerald & Mavrotas, 1997; Chang et al., 2024). The core intention is to construct an unsophisticated model which capture vividly the effects of financial flows on unemployment. Therefore, the adopted model distinguishes between the effects of international capital on employment in the private sector, public sector, and the informal sector. Thus, the production function is represented as:

$$Y = AL^{a}K^{b} \qquad 3.36$$

Where Y represents total output, K signify capital stock, L denotes employment and A symbolises total factor productivity. The a and b are the constants determined by available technology in the economy. The cost function is given by the following equation:

$$C = wL + rK \qquad 3.37$$

Where C expresses production cost, w refers to wage, r represents the user cost of capital. The firm will maximize profits by minimizing cost with capital and labour being mutually substitutable along a continuous concave production function. The profit maximizing procedure generate the following equilibrium condition:

$$\frac{w}{r} = \frac{aK}{bL} \qquad 3.38$$

The model assumes labour is freely available at the prevailing market wage (w), however, the capital stock is influenced by earlier decisions at a given user cost (r). The capital stock is exogenous, then the employment is determined by:

$$L = \left(\frac{a}{b}\right)\left(\frac{r}{w}\right)K \qquad 3.39$$

Employment is determined based on the capital stock and the ratios of capital to labour in the production function. Consequently, to link the different forms of financial flows to unemployment, a simple model can be constructed such that different international financial flows (IFF) can create new employments by adding to capital stock, therefore:

$$\Delta L = \left(\frac{a}{b}\right)\left(\frac{r}{w}\right) IFF \qquad 3.40$$

This equation shows how different forms of international financial flows (IFF) contribute to changes in employment by affecting the capital stock. This study employed three different forms of international financial flows, namely, remittances, foreign direct investment, and foreign aid as exogenous in the sense that they are determined outside the model. Various international financial flows separately identified in the model affect the recipient's countries differently, to the level necessitated by the economic activities and policy regime. Thus, equation 3.29 confirms that as financial flows increase, additional capital stock rises, thereby creating new employment. However, this model does not consider ways in which different financial flows affect private consumption and it only considers only the private sector effect. Furthermore, it allows no constraints on the achievement of the equilibrium position other than the shortage of capital (Chang et al., 2024).

Therefore, Let's denote the change in employment ΔL simply as L, international financial flows as IFF, the coefficient $\left(\frac{a}{b}\right)\left(\frac{r}{w}\right)$ as β. Hence, the equation becomes:

$$L = \beta . IFF \qquad 3.41$$

The study incorporates controls variables in equation 3.30 to make the model more realistic. Therefore, to incorporate financial development and domestic investment into the equation for the impact of financial flows on unemployment, we can extend the existing equation to include these additional factors. Thus:

$$L = \beta . IFF + \alpha_1 FD + \alpha_2 DI + \varepsilon \qquad 3.42$$

From equation 3.42 the study formulates a panel data model for the impact of financial flows on employment in the SADC region by incorporating financial development, domestic investment in the model.

$$UNM_{it} = \delta_i + \gamma_t + \beta_0 + \beta_1 REM_{it} + \beta_2 FDI_{it} + \beta_3 FAID_{it+}\beta_4 FD_{it} + \beta_5 DI_{it} + \varepsilon_{it} \quad 3.43$$

Where UNM donates unemployment, β_0 represents the intercept in the theoretical model $\beta_1 - \beta_5$ represent the coefficients measuring the impact of international financial flows, financial development, and domestic investment on employment. $\delta_i + \gamma_t$ represents country-specific fixed effects and time-specific fixed effects respectively.

3.3 Empirical Literature

To explore how various financial flows influence macroeconomic indicators in the SADC region, this study scrutinises empirical findings from different authors across diverse countries. A systematic literature review is conducted to identify research gaps and contribute to the existing body of knowledge. This section provides a comprehensive overview of the empirical literature, focusing on four selected macroeconomic indicators and their relationship with international financial flows.

3.3.1 Economic growth and international financial flows

The nexus between international financial flows and economic growth has been a focal point of scholarly attention for an extended period. Consequently, a plethora of empirical investigations spanning from the early 1950s onward have contributed to our understanding of this complicated relationship (Chorn & Siek, 2017). Therefore, the abundance of empirical observations presents mixed results, primarily attributable to the differing nature of each conducted study. The World Development Report (1985) established how countries, at their distinctive periods of development, used external finance productively to promote economic growth. On the other hand, empirical findings still indicate a negative relationship between several international financial flows and economic growth (Doucouliagos & Paldam, 2009; Kosack, 2008; Easterly & Williamson, 2011; Subramanian, 2011).

The recent surge in examining the relationship between international capital flows and economic growth in developing countries is tied to the movement of capital from poorer to wealthier economies. This trend, combined with surprising empirical findings, has drawn significant attention to this area of study (Prasad et al., 2007). As a result, Curwin and Mahutga (2014) noted that the growing share of international capital flows to Central, Eastern Europe, and the Former Soviet Union countries. This aligns with

the Lucas Paradox (1989), which observed that international capital does not flow to developing countries despite the emerging economies' lower level of capital per worker. This phenomenon of the Lucas Paradox goes to the core of the failure of financial globalization to achieve its benefits and economic development as predicted by the neoclassical theory. The negative relationship and the Lucas Paradox established in a plethora of studies negate the overall positive effects of capital flow to developing nations and this influence policy concerns (Blair, 2003; Lucas, 1990; Azémar & Desbordes, 2013)

3.3.1.1 The effects of remittances and economic growth

The prevailing effects of remittances on economic growth remain a subject of debate in recent literature, particularly in developing countries. As noted by Cazachevici, Havranek, and Horvath (2020), in a quantitative survey of 589 estimates from 95 various studies, the analysis results revealed that 40 percent of the empirical studies demonstrated a positive relationship, another 40 percent indicated no significant effects, and the remaining 20 percent showcased a negative correlation. Therefore, the true nature of the effects of remittances on economic growth is still an open debate, especially in less developed and developing markets. Cazachevici, et al (2020) utilized a meta-analysis approach to examine the relationship between remittances and economic growth. In their study, they collected and systematically analysed results from multiple studies to draw broader conclusions about this relationship. Meta-analysis is a statistical method used to aggregate findings from different studies to identify patterns or common effects, which can provide more robust results than individual studies alone

In developing countries, remittances represent a major flow of foreign exchange earnings, which has even surpassed FDI in recent years (Fayissa & Nsiah, 2010). Therefore, they have turned out to be an important source of international financial flow in developing economies due to their size and continuous growth (Buch & Kuckulenz, 2010). Most of the literature points out that remittances stimulate economic growth in developing countries through increased consumption and savings channels (Meyer & Shera, 2017). On the other hand, Giuliano and Ruiz-Arranz (2009) note that remittances increase economic growth through the investment channel.

Russell (2003) pinpoints that remittances constitute a major transfer of wealth from developed countries to developing countries. According to Jude, Chrysost, and Gervasio (2019), in developing countries, remittances are responsible for poverty alleviation, enhancing human capital, improving labour supply, and smoothing internal shocks. Through remittances, recipient countries experience increases in consumption essentials such as food, shelter, medicine, and clothing (Barajas et al., 2009). This is a crucial source of income to help in the fight to eradicate poverty in less developed and developing countries.

Furthermore, analysts have identified that, as a significant source of external finance to developing countries, remittances can contribute to financial development and ultimately spur economic growth (Aggarwal, Demirgüç-Kunt, & Peria, 2011). The empirical literature extensively supports the positive impact of financial development on economic growth, as substantiated by studies such as those conducted by Rajan and Zingale (1998), Levine (1997, 2004), and Levine et al. (2000). Karikari, Mensah, and Harvey (2016) observed that private individuals and businesses resort to formal ways of remitting through the services of financial institutions. This observation necessitates the creation of sound financial institutions to fully absorb the benefits of remittances. As Aggarwal et al. (2010) specified, remittances amount to a substantial amount of money which can be saved for later consumption and channelled into investments to boost the financial industry.

However, studies also point to the detrimental effect of remittances in recipient economies. On a microeconomic level of analysis, remittance receipts can promote a culture of dependency in the recipient's country that hampers economic growth (Amuedo-Dorantes, 2014). Moreover, at the macroeconomic level, it has been observed that remittances can adversely affect the exchange rate in recipient countries. This influence may manifest through increased consumption of non-tradable goods, resulting in domestic price escalation and, consequently, posing a threat to the dominance of the domestic export market. In the macroeconomic context, Amuedo-Dorantes (2014) highlights two areas of concern: the moral hazards associated with remittances and their potential impact on domestic prices.

In contrast, Barajas, Chami, Fullenkamp, Gapen, and Montiel (2009) discovered that remittance contributions are insignificant and, to some extent, impede growth. The

negative effects of remittances on economic growth are due to the reason that remittances serve as family income insurance, which is not invested but used to buy family necessities (Barajas et al., 2009). Remittances serve as poverty alleviators; however, they do not transfer entrepreneurial skills to the recipient family members. The absence of key institutions to channel remittances to achieve economic growth is, therefore, a necessity to achieve inclusive economic growth (Barajas et al., 2009). Meyer and Shera (2017) investigated the effects of remittances on economic growth and further stated that remittances in the world amount to one of the significant international financial resources, and also exceeded the flows of FDI. The study observed the impact of remittances on economic growth using panel data and econometric modelling based on six top-receiving countries. Remittances contribute more than 10% to the growth of the economy of many countries.

3.3.1.2 The effect of FDI on economic growth

The direct role of FDI in economic growth has been intensively studied in the literature and is generally considered a factor of economic growth for all open economies (Forte & Moura, 2013). FDI directly affects the total capital formation of the recipient countries. The influx of capital can be used for investment in physical infrastructure, such as factories, machinery, and technology, which enhances productivity and increases output in the economy.

Shen, Lee, and Lee (2010) re-examined the role of international financial flows on economic growth within the context of conditional factors that can affect the relationship. The authors achieved the objective by employing panel data from 80 countries for the period 1976 to 2007. FDI and foreign portfolio investments were employed as proxies for international capital. The panel assessment included 17 European, 25 American, 16 Asian and Oceanian, and 22 African and Middle Eastern countries. The results showed that FDI has a positive effect on economic growth, while foreign portfolio investments have an inverse relationship with economic growth. Furthermore, the conditional factors of banking liberalization, high-income level, twin crises, lower corruption, and human capital mitigated the positive impacts of FDI on economic growth. However, on the contrary, human capital and twin crises did not influence foreign portfolio investments.

In accordance with the FDI findings of Shen et al. (2010), Pegkas (2015) studied both the impact and effects of FDI in industrialized countries. The empirical study employed panel data over the period 2000 to 2012. The Fully Modified OLS (FMOLS) and Dynamic OLS (DOLS) methods were employed to test the relationships. The study revealed a positive and long-run relationship between FDI and economic growth in Eurozone countries. Most empirical findings from panel and cross-sectional data analysis reveal a positive and statistically significant relationship between economic growth and FDI (Mingiri et al., 2016; Driffield & Jones, 2013; Carkovic & Levine, 2002; Borensztein, De Gregorio & Lee, 1998). While the majority of studies which are time series analyses indicate a negative or insignificant relationship (Dinga et al., 2020; Jawaid & Saleem, 2017; Ayanwale, 2007; Khaliq & Noy, 2007; Atique, Ahmad, Azhar & Khan, 2004).

In an inclusive panel analysis, Dinga, Fonchamnyo, Nginyu, and Njuh (2020) re-examined the correlation effects of external capital inflows on economic growth in Sub-Saharan African (SSA) countries. The empirical study is justified by the neoclassical growth theory, particularly the Solow growth model. The study employed the recent common correlation effect technique of Chudik and Pesaran (2015) that accounts for cross-sectional dependence to examine the short- and long-run effects of various external capital flows on economic growth in SSA. The panel review revealed that external debt and foreign aid negatively affect economic growth in both the long and short run while foreign direct investment is positive but insignificant in the long run.

In contrast to the findings of Dinga et al. (2020), Driffield and Jones (2013) also examined the effects of external capital on economic growth in developing countries. The authors also applied the Solow models to reason the link between external financial flows and economic growth. However, Driffield and Jones (2013) employed a fixed effects model for their regression. In contrast to the findings of Dinga et al. (2020), the authors found a positive relationship between international financial flows and economic growth in emerging markets.

Borensztein, De Gregorio, and Lee (1998) examined the effects of FDI on economic growth in a cross-country regression. The inquiry utilized data from 69 developing countries over two decades. The results confirmed a positive and statistically significant long-run relationship between growth and foreign direct investment.

Borensztein et al. (1998) argue that the effects of foreign direct investment, among others, include important vehicles for transfer, technology, and growth in domestic economies. However, the higher the degree of productivity of FDI holds, the more the recipient country has a minimum required threshold stock of human capital.

3.3.1.3 The effects of Foreign Aid on Economic Growth

The relationship between foreign aid and economic growth is complex, with various empirical studies providing mixed results. Foreign aid is theoretically beneficial for economic growth by supplementing domestic financial resources like savings and investments, especially in less developed and developing countries (Alemu & Lee, 2015). For instance, Morrissey (2001) highlights three primary mechanisms through which foreign aid can promote growth: increasing investment in physical and human capital, enhancing the ability to import capital goods and technology, and boosting government spending on infrastructure.

Despite these theoretical benefits, there is significant debate over the actual impact of foreign aid. Some studies suggest that foreign aid can negatively affect economic development by fostering corruption, civil conflicts, and dependency syndrome (Easterly, 2003; Djankov et al., 2008). The heterogeneity in the effects of foreign aid is influenced by factors such as recipient countries' characteristics, donors' motives, and aid modalities (Mekasha & Tarp, 2013). Pedersen (1996) even argues that it is difficult to conclusively determine whether foreign aid positively impacts economic growth.

The impact of foreign aid on economic growth remains a colossal task to explain due to its various types, sources, and objectives. On the positive side, foreign aid has been shown to reduce poverty levels and boost economic growth under certain conditions. Studies indicate that foreign aid can be crucial for humanitarian needs and poverty alleviation (Alvi & Senbeta, 2012; Kaya et al., 2013). Sachs (2005) and Stiglitz (2007) also support the view that foreign aid can be an effective tool for reducing poverty and fostering development.

However, the contribution by McGillivray (2004) reports that foreign aid is often criticised for not fuelling economic growth in developing countries. Therefore, some literature argues that foreign aid has a negative effect on economic development

through deepening corruption, civil conflicts, and creating dependency syndrome in less developed countries (Easterly, 2003; Djankov et al., 2008). The effectiveness of foreign aid on reduction of poverty and boosting economic growth has been probed for many decades. According to Mekasha and Tarp (2013), at macroeconomic, foreign aid possess heterogenous effects conditional to recipients' country's characteristics, donor's motives, and foreign aid modalities. Furthermore, Pedersen (1996) maintains that it is not possible to conclude that the foreign aid has a positive effect on economic growth.

Apart from being the important external finance mostly at crucial time of modern development to cater for humanitarian needs, foreign aid has been found to reduce poverty level (Alvi & Senbeta 2012; Kaya, Kaya, & Gunter 2013; Jones, & Tarp, 2010; Sachs, 2005; Stiglitz, 2007). While foreign aid has the potential to enhance economic growth by supplementing domestic resources and reducing poverty, its effectiveness is heavily influenced by the specific conditions and governance quality in recipient countries. The relationship between foreign aid and inflation adds another layer of complexity, highlighting the need for careful management and allocation of aid to ensure it contributes positively to economic development.

3.3.1.4 Summary table of economic growth and international flows

Table 3.1 Summarizing the findings on the effects of Remittances, FDI, and foreign aid on economic growth.

Authors	**Relationship Studied**	**Techniques Used**	**Results**	**Data Used**
Cazachevici, Havranek, & Horvath (2020)	Remittances and Economic Growth	Meta-analysis	Mixed: 40% positive, 40% no significant effect, 20% negative	Panel, cross-sectional

Fayissa & Nsiah (2010)	Remittances and Economic Growth and Development	Fixed-Effects & Random-Effects	Positive: Remittances enhance economic growth significantly	Time series
Meyer & Shera (2017)	Remittances and Economic Growth	Fixed-Effects & Random-Effects	Positive: Remittances contribute to GDP growth	Panel
Giuliano & Ruiz-Arranz (2009)	Remittances and Economic Growth through Investment	OLS	Positive: Remittances promote growth through financial development	Cross-sectional
Russell (2003)	Remittances and Transfer of Wealth	OLS	Positive: Remittances serve as a significant transfer of wealth	Various
Jude, Chrysost, & Gervasio (2019)	Remittances and Economic Growth	Panel Smooth Transition Regression & GMM	Positive: Remittances boost economic growth	Cross-sectional

Barajas et al. (2009)	Remittances and Economic Growth	OLS & Fixed Effects	Mixed: Positive in some contexts, no effect in others	Cross-sectional
Aggarwal, Demirgüç-Kunt, & Peria (2011)	Remittances and Financial Development	Generalized Methods of Moment	Positive: Remittances significantly enhance financial development	Cross-sectional
Amuedo-Dorantes (2014)	Remittances and Assets Accumulation	Tobit model	Negative: Remittances do not lead to significant asset accumulation	Cross-sectional
Barajas et al. (2009)	Remittances and Economic Growth	OLS-IV	Negative: Remittances do not significantly contribute to growth	Cross-sectional
Alemu & Lee (2015)	Foreign Aid and Economic Growth	Generalized Methods of Moment	Positive: Aid significantly boosts growth in the short term	Various
Morrissey (2001)	Foreign Aid and Economic	OLS	Positive: Aid leads to	Various

	Growth Mechanisms		growth through investment and savings	
Mekasha & Tarp (2013)	Foreign Aid and Heterogeneous Effects	Fixed Effects, Random Effects, System GMM	Mixed: Positive in some contexts, negative in others	Cross-sectional, Panel
Easterly (2003)	Foreign Aid and Corruption, Conflicts	OLS	Negative: Aid associated with increased corruption and conflict	Cross-sectional
Djankov et al. (2008)	Foreign Aid and Dependency Syndrome	OLS	Negative: Aid increases dependency and reduces growth	Cross-sectional
Alvi & Senbeta (2012)	Foreign Aid and Poverty Reduction	Fixed Effects, Random Effects, System GMM	Positive: Aid reduces poverty significantly	Cross-sectional
Kaya et al. (2013)	Foreign Aid and Economic Growth	OLS	Positive: Aid enhances economic growth	Cross-sectional

Sachs (2005)	Foreign Aid and Poverty Alleviation	Various (case studies, empirical analysis)	Positive: Aid helps in poverty alleviation and growth	Various
Stiglitz (2007)	Foreign Aid and Economic Development	Various (case studies, empirical analysis)	Positive: Aid supports economic development	Various
Forte & Moura (2013)	FDI and Economic Growth	Fixed Effects, Random Effects, System GMM	Positive: FDI significantly enhances economic growth	Various
Shen, Lee, & Lee (2010)	FDI and Economic Growth with Conditional Factors	Fixed Effects, Random Effects, System GMM	Positive for FDI, negative for foreign portfolio investments	Panel
Pegkas (2015)	FDI and Economic Growth in Industrialized Countries	FMOLS and DOLS methods	Positive: FDI contributes significantly to growth	Panel
Mingiri et al. (2016)	FDI and Economic Growth	Fixed Effects, Random Effects, System GMM	Positive: FDI enhances economic growth	Panel, Cross-sectional

Dinga et al. (2020)	External Capital Inflows and Economic Growth in SSA	Fixed Effects, Random Effects, System GMM	Negative for FDI in long run	Panel
Cazachevici, Havranek, & Horvath (2020)	Remittances and Economic Growth	Meta-analysis	Mixed: 40% positive, 40% no significant effect, 20% negative	Panel, cross-sectional
Fayissa & Nsiah (2010)	Remittances and Economic Growth and Development	Fixed-Effects & Random-Effects	Positive: Remittances enhance economic growth significantly	Time series
Meyer & Shera (2017)	Remittances and Economic Growth	Fixed-Effects & Random-Effects	Positive: Remittances contribute to GDP growth	Panel

Source: Authors compilation (2024)

3.3.2. Inflation and international financial flows

The correlation between inflation and the money supply has undergone distortion due to the financial crisis of 2007/8 and subsequent policy changes within the Federal Reserve System, as highlighted by (Williams 2012). According to Williams (2012), the currency in circulation, *ceteris paribus*, has no effect on inflation as it is entirely influenced by the demand of only households and business. The argument is that a banking system with access reserve tends to advance credit, thereby creating inflation. This is behind the formation of classical theories of the money multiplier, which propose that a rise in monetary base increases the money stock. However, as noted

by William (2012), the Federal reserve's policy change to pay the interest rate on access reserve breaks the money multiplier. Therefore, an inquiry into indicators such as inflation in response to international financial flows is of paramount importance to fully uncover their role in recipient countries (Rashid & Husain, 2013). As argued by recent literature that various financial flows increase the monetary base in recipient's countries and ultimately increase money stock (Rosa, 2020).

3.3.2.1 The influence of FDI on Inflation

In developing markets, as mentioned by Mustafa, (2019) the dynamic interaction of FDI and inflation is of vital importance to be scrutinised due to the developmental effects of FDI in any economy. According to Mansoor and Bibi (2018), lower rates of inflation increase the returns on FDI. The low inflation rate lessens the interest rate which eventually reduces the cost to acquire and accumulating capital. However, on the other hand, higher inflation rates negatively affect the nominal return on investment, export industry, and ultimately shrinks the international competitiveness of the country. While continues inflation is mitigated with high interest rates and therefore affecting the cost of accumulating capital.

Tsaurai (2018) observed three distinctive theoretical rational from various empirical studies on the relationship between inflation and FDI. (1) Nnadi and Soobaroyen (2015) noted that higher rates of inflation as measure of macroeconomic performance and monetary stability of a country can chase out existing and potential foreign investors. (2) Obiamaka, Onwumere, and Okpara (2011) observed that lower positive inflation rate leads to accumulation of capital at lower interest rates. While Obiamaka et al., (2011) stated that lower inflation rate which is within defined and targeted thresholds encourages the inflow of FDI. (3) Sayek (2009), observed that an increase in inflation erodes the profits value made by FDI in host countries.

The relationship between inflation and FDI is therefore not straightforward (Alshamsi, & Azam, 2015). This is because high inflation rate erodes the assets value of foreign investors attached to the local currency and the credibility of the exchange rate (Kregel, 2022). This has direct negative consequence on the domestic exports industry. Ukangwa (2022) noted that high prices in the domestic currency leads to increase in imported goods. As the prices rise continuously at a rate faster than the

world rate, exports market losses the international attractiveness and demand for those goods diminishes on the international market (Wright, 2012). Furthermore, the Organisation for Economic Co-Operation and Development (OECD) (2002) note that possible problems include a deterioration of the balance of payments as profits made by foreign investors are repatriated. While on the other hand, moderate inflation boosts the foreign direct investment through lower debt repayment and its positive implications on domestic economic growth (Rahman, 2015).

In a simple time-series analysis, Mustafa (2019) analysed the relationship between FDI and inflation in the case of Sir Lanka for the period 1978 to 2017. The econometric analysis employed the Johansen cointegration test, the OLS and granger causality test to uncover the dynamic relationship between FDI and inflation. The results of the time series analysis exhibited that inflation is inversely related with FDI in Sir Lanka and unidirectional causality running from FDI to inflation is confirmed.

In another time-series analysis, the role of inward FDI and macroeconomic variables were examined in Norway by (Boateng, Hua, Nisar, & Wu, 2015). The empirical analyses employed the Fully Modified OLS, vector autoregressive technique and the quarterly data to achieve their main aim. The results of the study confirmed that, inward FDI negatively affected money supply, inflation, unemployment, and interest rate in the Norway economy in the same period. The study further recommended emphasis on the macr6oeconomic policies of host countries to promote dynamic competitive edge over other counties. The results means that inward FDI increased inflation, money supply, unemployment, and interest rate in Norway. In contrast to the negative time series conclusions by Mustafa, (2019) and Boateng et al., (2015) no significant relationship between FDI and inflation was realised by Alshamsi, and Azam, (2015). The authors reassessed the relationship in the United Arab Emirates. The empirical scrutiny utilised the ARDL method and time series data fro1980 to 2013. The study found that inflation had no significant effect on inflow of FDI in the United Arab Emirates.

Sekmen, and Gökırmak, (2020) also executed a time series analysis of inflation and FDI in Turkey. The analysis employed yearly data from 1974 to 2018 to examine the short and long run relationship between the variables in consideration. The study utilised the Johansen cointegration approach and the VECM to estimate the

relationship. The authors revealed that in short run the is no causality between FDI and inflation. However, in the long run there is a positive relationship between inflation and FDI. The increase in FDI may lead to a moderate rise in inflation over a long term in the state of Turkey.

In comparison with the time series findings discussed above, a panel setting by Tsaurai (2018) examined the impact of inflation on FDI in Southern Africa with the inclusion of financial development. The study used both the panel fixed effects and panel OLS to study the impact of the inflation on FDI in the Southern African. The fascinating results disclosed that under the random effects approach, inflation had a negative but statistically insignificant results on FDI, which was also found by (Boateng et al., 2015). Furthermore, the panel OLS results found the negative and statistically significant results impact of inflation and financial development on FDI in southern Africa separately. These findings are in accordance with the finding of (Mustafa, 2019). However, the interaction of FDI and financial development has statistically insignificant on inflation.

In another panel analysis, Agudze and Ibhagui (2021) made an inquiry into developed and developing countries' inflation and foreign direct investment. Agudze and Ibhagui (2021) disputed that, due to unobserved threshold effects, the empirical literature between inflation and FDI present mixed results. The panel analysis argues that the link between inflation and FDI is non-linear. According to Agudze and Ibhagui (2021), inflation threshold is five times higher in emerging countries than in established markets. The 74 countries analysis showed that inflation tends to reduce FDI in established markets after surpassing its threshold. Contrary to the developed markets, the impact of inflation on FDI is negative even before the threshold

3.3.2.2 The influence of foreign aid on inflation

Asem and Gupta, (1999) notes that the correlation between foreign aid and welfare cost of inflation has been neglected in literature due to the less obvious relationship. However, for least-developed countries which rely heavily on the foreign aid, or for which aid form a substantial proportion of international inflows are likely to relay on inflation tax to finance their public expenditure (Asem & Gupta, 1999). The infusion of foreign aid augments the net assets of the central bank, consequently increasing the

money supply. This dynamic aligns with Friedman's assertion that inflation was and always is a monetary phenomenon.

The impact of foreign aid on inflation in the recipient country is mediated through multiple channels, as noted by (Roy & Rahman, 2014). One such channel involves the influence of foreign aid on the exchange rate of the local currency. When foreign aid is converted into domestic currency, this conversion can lead to the appreciation of the local currency, consequently contributing to inflationary pressures.

The recent scrutiny between foreign aid, inflation, and exchange rate was considered in the 35 Sub-Sahara African (SSA) countries by (Ikpesu, 2020). The author noted that developing countries lack the funds to embark on long term projects for economic development. As results, they try to formulate favourable policies to attract aid and other financial flows. Ikpesu (2020) investigated the effects of foreign aid on inflation and exchange rate using the panel vector error correction model (PVECM). The study employed the panel data analysis from 2000 to 2016. The results of the study showed that the flow of foreign aid is associated with inflationary pressure in the region, while exchange rate depreciate.

Otoo (2003) assessed impact of the foreign aid on both the output growth and inflation in the economic state of Ghana. The importance of foreign aid was articulated to fill the foreign exchange gap and encourage emerging states to maintain inclusive growth and development. The notion that foreign aid rises output while concurrently raising general prices, was tested using the ordinary least square methods. The finding disclosed that foreign aid is deflationary in the state of Ghana. The study, therefore, recommended that aid monies should be directed to investment in areas where there are productive returns where further aid will reduce already overburdened, overall debt of Ghana.

If foreign aid is directed towards consumption-related programs, it can lead to an increase in consumer spending, potentially driving up demand for goods and services and putting upward pressure on prices. The effects of foreign aid were also explored on the food price inflation in another time series study. Awan and Imran (2015) probed the demand pull and cost push variable that affect food price inflation in Pakistan. The authors focused on the food price inflation due to welfare effects it has on poor

households. The study used the times series annual data from 1980-2013. The Johansen cointegration and the VECM techniques were utilised to achieve the study aim. The results of the study showed that most significant demand pull, and cost push variables are fertilizer prices, fuel prices, money supply, per capita GDP and foreign aid are positively related to food price inflation. These results signify that foreign aid, ceteris paribus, increased the prices of food in the state of Pakistan.

The other channel through which foreign aid can influence the inflation rate is the increase in money supply. In contrast to the time series finding of Otoo, (2003), Dönmez, (2005) examined the effects on foreign aid on inflation considering the effects of financial market development. The study used 30 developing and developed markets to check if the aid has a significant positive effect on inflation. To accommodate the use of the unbalanced data and achieve the aim of the study, the analysis utilised the Generalised Methods of Moments (GMM). Moreover, the study employed 60 different countries and used panel data for the period of 1975-2004. The results showed that inflation has a positive and statistically significant relationship with foreign aid, however in the presents of financial market development, foreign aid becomes less inflationary.

3.3.2.3 The influence of Remittances and inflation

Form the macroeconomic perspective, several studies established that remittances are inflationary because they drive up consumption spending of the households through an increase income (Rivera & Tullao, 2020). In opposing views, the authors noted that from the consumer perspective, remittances received can reduces consumption variations and lessen the inflation pressure. In a time-series report, Rivera and Tullao, (2020) probed whether the increase in inflation triggers sending of the remittances in recipient countries. However, remittances can influence inflation in the recipients' countries through various means. In what is called fresh evidence from emerging markets, Narayan, Narayan, and Mishra (2011) examined determinates of inflation in both short and long run in 54 developing states. The empirical study employed panel data covering the period 1995 to 2004 to model the effects of remittances and institution variables on inflation. Narayan et al. (2011) utilised the Arellano & Bond Panel Dynamic Estimator, the Arellano & Bover, and Blundell & Bond system Generalised Method of Moments. The findings of the study revealed that

remittances cause inflation in emerging states. The study also divulged that the remittance and positive inflation rate nexus is more noticeable in the long run.

In accordance with findings of Narayan et al. (2011), Khan and Islam (2013) studied the effects of remittances on inflation on the economy of Bangladesh for the period 1972 to 2010. The authors incorporated remittances as an external variable in the standard inflation function. To estimate the effects of remittances on inflation, the time series Vector Autoregressive technique was employed. The findings showed that there is a long run positive and statistically significant relationship and remittance in the state of Bangladesh. However, in the short run, the analysis found no significant relationship between the two variables in question.

The different channels of remittances pose some economic threats to the host country in terms of both Dutch diseases and ultimately inflation (Nisar & Tufail, 2013). Nisar and Tufail (2013) analysed the relationship between remittances and inflation in the economy of Pakistan. The Johansen and Juselius (1990) cointegration technique and the vector error correction model were employed to achieve the aim of the analysis. The results confirmed the long run relationship between remittances and inflation. Furthermore, the study confirmed that remittances affect food inflation mostly, whilst housing and construction inflation remain least affected. The study recommended policies which will drive remittances into productive assets other than food due to its inflationary pressure.

Rashid and Husain (2013) empirically examined the link between international financial inflows on domestic price levels, monetary expansion, and the exchange rate volatility for Pakistan using linear and nonlinear causality techniques. The causality study covering the period 1990 to 2012 in two sub-periods between 1990 to 2000 and 2001 and 2012 was conducted. The empirical evidence revealed several important findings between international financial flows and inflation. The study found the positive and statistically signification relationship between international financial flow and inflation in sub-period between 2001 and 2012. The study recommended policies to manage the inflow of capital in such a way that they would not cause inflationary pressure nor stimulate exchange rate volatility.

Muinhos (2000) studied the causality link between capital inflows and inflation. Mexico, Brazil, and Argentina were used as study areas for the analysis. Bidirectional causality from capital inflow to appreciation of real exchange rate were confirmed by the study. The study found that capital inflow is negatively related with inflation and that the former helps to predict the latter (Granger Causality). The study showed that econometric evidence in terms of impulse response function and Granger Causality are strong for the relationship between capital inflows and inflation, and weak for the relationship between the international interest rate and capital inflows. Calvo et al. (1993) examined the causal link between capital inflows and real exchange rate appreciation in Latin America. The empirical analysis found that the surging capital inflow contributed to the accumulation reserves and appreciation of real exchange rate, thereby hurting the exports sector.

3.3.2.4 Summary table of inflation and international financial flows

Table 3.2 Summarizing the findings on the effects of remittances, FDI, and foreign aid on inflation.

Author(s)	Title	Technique/Approach	Results	Data Used
Mustafa (2019)	Relationship between FDI and Inflation	Johansen cointegration test,	Inverse relationship between FDI	Time Series

		OLS, Granger causality test	and inflation, unidirectional causality from FDI to inflation	
Boateng et al. (2015)	Inward FDI and Macroeconomic Variables	Fully Modified OLS, Vector Autoregressive	Inward FDI negatively affected money supply, inflation, unemployment, and interest rates	Time Series
Alshamsi & Azam (2015)	FDI and Inflation Relationship	ARDL method	No significant effect of inflation on FDI	Time Series
Sekmen & Gökırmak (2020)	Short and Long Run Relationship between Inflation and FDI	Johansen cointegration approach, VECM	No short-run causality, positive long-run relationship	Time Series
Tsaurai (2018)	Impact of Inflation on FDI in Southern Africa	Panel Fixed Effects, Panel OLS	Negative but statistically insignificant impact of inflation on FDI	Panel
Agudze & Ibhagui (2021)	Inflation and FDI in Developed and Developing Countries	Panel analysis	Non-linear relationship; higher threshold of inflation in developing countries	Panel

Ikpesu (2020)	Foreign Aid, Inflation, and Exchange Rate	Panel Vector Error Correction Model (PVECM)	Foreign aid associated with inflationary pressure	Panel
Otoo (2003)	Foreign Aid, Output Growth, and Inflation in Ghana	OLS method	Foreign aid is deflationary	Time Series
Awan & Imran (2015)	Demand Pull and Cost Push Variables on Food Price Inflation	Johansen cointegration, VECM	Fertilizer prices, fuel prices, money supply, per capita GDP, and foreign aid positively related to food price inflation	Time Series
Dönmez (2005)	Effects of Foreign Aid on Inflation Considering Financial Market Development	GMM	Positive relationship between foreign aid and inflation; less inflationary with financial market development	Panel
Narayan et al. (2011)	Determinants of Inflation in Developing States	Panel Dynamic Estimator, GMM	Remittances cause inflation in emerging states, more noticeable in the long run	Panel

Khan & Islam (2013)	Effects of Remittances on Inflation in Bangladesh	Vector Autoregressive technique	Long run positive relationship between remittances and inflation	Time Series
Nisar & Tufail (2013)	Remittances and Inflation in Pakistan	Johansen and Juselius cointegration, VECM	Long run relationship between remittances and inflation, affects food inflation mostly	Time Series
Rashid & Husain (2013)	International Financial Inflows and Domestic Price Levels	Linear and Nonlinear Causality Techniques	Positive relationship between international financial flows and inflation	Time Series
Muinhos (2000)	Capital Inflows and Inflation	Granger Causality	Capital inflow negatively related to inflation	Time Series
Calvo et al. (1993)	Capital Inflows and Real Exchange Rate Appreciation		Capital inflow contributed to real exchange rate appreciation, hurting the exports sector	Time Series

Source: Authors compilation (2024)

3.3.3. Income Inequality and International Financial Flows

The impact of international financial flows on income inequality is complicated and supported by various scholarly evidence. Empirical studies suggest that foreign direct investment (FDI) can lead to technology transfer, skill enhancement, and higher productivity, which can uplift low-income segments of the population (Borensztein, De Gregorio, & Lee, 1998). However, other analyses highlights that these benefits are often unevenly distributed, with capital flows disproportionately favouring the skilled workforce and urban areas, thereby exacerbating income inequality (Feenstra & Hanson, 1997). Furthermore, liberalization of financial markets can sometimes lead to financial instability, adversely affecting the poor (Stiglitz, 2000). Thus, while international financial flows can stimulate economic growth, their impact on income inequality is complex and depends on the existing economic and institutional framework of the recipient country (Claessens & Perotti, 2007).

As observed in the literature, the inflow of international financial flows can lower the cost of capital, thereby raising investment and reducing unemployment in the host country. Moreover, income earned by labour is the primary source of income for low-income households (Beer, 2015; Lin, Kim & Wu, 2013). The continuous inflow of international capital into economies with limited resources can expand the middle class, increase employment, and boost the savings rate among needy individuals, resulting in reduced income inequality (Beer, 2015). International financial flows can effectively reduce income inequality when they are channelled to lower-income and unskilled labour (Choi, 2006).

Adams and Klobodu (2017) argue that the inflow of capital could aid in reducing the cost of capital and as a result, increase investment and reduce dire unemployment rate in developing countries. Furthermore, labour and households are regarded as the first beneficiaries of the international capital inflows, and this improves the income distributed on abundant low-skilled labour in the recipient countries. However, the literature available on the effects of international financial flows on income inequality remains largely inconclusive across diverse empirical studies.

3.3.3.1 The relationship between FDI and Income Inequality

Herzer et al. (2014) used panel cointegration techniques to analyse the long-term effects of FDI on income inequality. The study covered a sample of developing and developed countries over several decades. The results indicated that FDI could reduce income inequality in the long run. The authors argue that FDI fosters economic growth, which benefits the entire population, including the lower-income groups. They recommend that policymakers in developing countries should create an environment conducive to attracting FDI.

Jensen and Rosas (2007) conducted a cross-country analysis using a dataset that included both developing and developed nations. They employed econometric models to examine the relationship between FDI and income inequality. The study found a negative relationship between FDI and income inequality, meaning that higher levels of FDI were associated with lower income inequality. This was more pronounced in developing countries. The authors suggest that developing countries should focus on policies that attract FDI, such as tax incentives and easing regulatory barriers, to harness its benefits for reducing income inequality.

In according with the panel and cross country studied by Herzer et al. (2014) and Jensen & Rosas (2007), Te Velde (2003) utilized a case study approach. The author examined specific instances of FDI inflows and their impacts on income distribution in Latin America. The study incorporated qualitative and quantitative method from both developing and developed nations. The findings reinforced the view that FDI tends to reduce income inequality. The study underlined that those countries with better absorption capacity, such as higher education levels and robust economic development, benefited more from FDI.

A panel data analysis by Wu and Hsu (2012) focused on Asian countries. They examined the role of FDI in income distribution while considering factors like education and economic development. The study concluded that FDI reduces income inequality in countries with high absorption capacity. The positive impact of FDI was less pronounced or even negative in countries with low education levels and economic development.

Both Bhandari (2007) and Sylwester (2005) employed econometric models to assess the impact of FDI on income inequality in a variety of countries. Contrary to other

studies, they found that in some countries, FDI had no significant effect on income inequality. These results were attributed to differences in institutional quality and economic structures among the countries studied. The authors emphasize the need for complementary policies, such as improving governance and regulatory frameworks, to ensure that FDI can effectively contribute to reducing income inequality.

3.3.3.2 The relationship between Remittances and Income Inequality

Adams, Cuecuecha, and Page (2010) investigated the impact of both internal and international remittances on poverty and inequality in Ghana. The study utilized a two-stage multinomial logit model to examine variations in migration networks and remittances. They found that both internal and international remittances reduce absolute poverty in Ghana, with international remittances having a more significant impact. Additionally, the study revealed that both types of remittances negatively affect income distribution, meaning they reduce income inequality.

Bang, Mitra, and Wunnava (2016) assessed the impact of remittances on household expenditures in Kenya, addressing potential biases from unobserved differences in migration ability. Bang, et al., (2016) argued that the negative distributional impact of remittances published by plethora of studies may be due to the failure to control for existing differential in the ability to migrate. Similar to the findings of Adams et al. (2010), this study found that remittances improve both poverty levels and income distribution in Kenya. The analysis suggested that remittances positively impact household expenditures, thereby reducing income inequality.

In contrast to Bang, et al., (2016) and Adams et al. (2010), in a panel data investigation Koechlin and Leon (2007) examined the relationship between external remittances and income inequality in 78 countries. The study employed cross-sectional regression using ordinary least squares and dynamic panel methods. he results confirmed that remittances tend to increase income inequality. The study also highlighted those improvements in education and the financial sector can help mitigate this effect, enabling countries to reduce income inequality more effectively.

In accordance with Koechlin and Leon (2007), Barham and Boucher (1998) examined the impact of remittances on income inequality in Nicaragua. They used household survey data and econometric models to analyses the distributional effects of remittances. The study found that remittances increase income inequality in Nicaragua. This outcome was attributed to the fact that wealthier households are more likely to have members who migrate and send remittances.

Adger (1999) investigated the impact of remittances on income inequality within the context of rural communities in Vietnam. The study employed qualitative and quantitative methods, including household surveys and regression analysis. Similar to Barham and Boucher (1998), Adger (1999) found that remittances increased income inequality. The mixed method investigation revealed that households with better social and economic networks were more likely to receive remittances, leading to a widening income gap between these households and those without such networks.

3.3.3.3 The relationship between Foreign Aid and Income Inequality

There is generally a weak link between foreign aid and income inequality, and even when it is significant, it does not convincingly reduce income inequality (Saidon et al., 2013; Shafiullah, 2011). It has been found in Shafiullah (2011) that as much as there is a negative relationship between the two, some results were insignificant. Chong, Gradstein and Calderon (2009) mentioned that this weak link is attributed to the quality of institutions, which lead to inefficient associations. Bjørnskov (2010) established that income inequality can be reduced by foreign aid in democratic countries. However, some studies found a positive relationship between the inflow of foreign aid and income inequality (Ali & Ahmed, 2013; Herzer & Nunnenkamp, 2012). Chong et al. (2009) did not realise any role that foreign aid could play on income inequality.

Both Saiduon et al. (2013) and Shafiullah (2011) examined the impact of foreign aid on income inequality using cross-country datasets. Both studies found a generally weak link between foreign aid and income inequality. While Shafiullah (2011) identified a negative relationship, indicating that foreign aid can reduce income inequality, many of the results were statistically insignificant, suggesting that foreign aid does not convincingly reduce income inequality.

In another cross-country study Chong, Gradstein, and Calderon (2009) concluded that the weak link between foreign aid and income inequality is primarily due to the quality of institutions in recipient countries. Poor institutional quality leads to inefficient use of aid, which diminishes its potential impact on reducing income inequality. In a different approach, Bjørnskov (2010) conducted a comparative analysis of democratic and non-democratic countries, using cross-sectional data to assess the impact of foreign aid on income inequality. The study found that foreign aid can reduce income inequality in democratic countries where institutions are generally stronger and more transparent. This positive effect was not observed in non-democratic countries.

Contrast to cross sectional studied, Ali & Ahmed (2013) and Herzer & Nunnenkamp (2012) examined the relationship between foreign aid and income inequality using panel data. Both studies found a positive relationship between the inflow of foreign aid and income inequality, indicating that in some cases, foreign aid can intensify income inequalities. The authors attributed this to misallocation of aid and corruption, which can lead to the benefits of aid being captured by the elite rather than reaching the intended low-income populations.

3.3.3.4 Summary table of income inequality and international financial flows

Author(s)	**Title**	**Technique**	**Results**	**Data Used**

Herzer et al. (2014)	The Long-Term Effects of FDI on Income Inequality	Panel cointegration techniques	FDI reduces income inequality in the long run	Sample of developing and developed countries
Jensen & Rosas (2007)	Foreign Direct Investment and Income Inequality	Cross-country analysis using econometric models	Negative relationship; higher FDI associated with lower income inequality	Dataset including both developing and developed countries
Te Velde (2003)	Foreign Direct Investment and Income Inequality in Latin America	Case study approach, qualitative and quantitative methods	FDI tends to reduce income inequality	Specific instances of FDI inflows in Latin America
Wu & Hsu (2012)	Foreign Direct Investment and Income Distribution in Asian Countries	Panel data analysis	FDI reduces income inequality in countries with high absorption capacity	Panel data from Asian countries
Bhandari (2007)	Foreign Direct Investment and Income Inequality: An	Econometric models	No significant effect of FDI on income inequality in	Various countries

	Econometric Analysis		some countries	
Sylwester (2005)	Foreign Direct Investment and Inequality: A Case Study of Income Inequality in Developing Countries	Econometric models	No significant effect of FDI on income inequality in some countries	Various countries
Adams, Cuecuecha, & Page (2010)	The Impact of Remittances on Poverty and Inequality in Ghana	Two-stage multinomial logit model	Both internal and international remittances reduce income inequality	Data from Ghana
Bang, Mitra, & Wunnava (2016)	Remittances and Income Distribution: The Case of Kenya	Econometric models, addressing migration ability biases	Remittances reduce income inequality	Data from Kenya
Koechlin & Leon (2007)	External Remittances and Income Inequality in 78 Countries	Cross-sectional regression, ordinary least squares, and dynamic panel methods	Remittances increase income inequality	Data from 78 countries

Barham & Boucher (1998)	Migration, Remittances, and Inequality: Estimating the Net Effects of Migration on Income Distribution	Household survey data and econometric models	Remittances increase income inequality in Nicaragua	Household survey data from Nicaragua
Adger (1999)	Remittances and Income Inequality in Rural Vietnam	Qualitative and quantitative methods, household surveys, regression analysis	Remittances increase income inequality in rural Vietnam	Data from rural communities in Vietnam
Saiduon et al. (2013)	Foreign Aid and Income Inequality: A Weak Link	Cross-country analysis using econometric models	Weak link; foreign aid does not convincingly reduce income inequality	Cross-country datasets
Shafiullah (2011)	Foreign Aid and Income Inequality: An Econometric Investigation	Cross-country analysis using econometric models	Weak link; some negative relationships, many insignificant	Cross-country datasets

Chong, Gradstein, & Calderon (2009)	Does Foreign Aid Reduce Income Inequality?	Cross-country analysis, econometric techniques controlling for institutional quality	Weak link due to poor institutional quality	Cross-country datasets
Bjørnskov (2010)	Foreign Aid, Institutional Quality, and Income Inequality	Comparative analysis of democratic and non-democratic countries using cross-sectional data	Foreign aid reduces income inequality in democratic countries	Cross-sectional data from democratic and non-democratic countries
Ali & Ahmed (2013)	Foreign Aid, Corruption, and Income Inequality: Panel Data Evidence from Developing Countries	Panel data analysis using econometric models	Positive relationship; foreign aid can increase income inequality	Panel data from developing countries

Source: Authors compilation (2024)

3.3.4 Unemployment and international ffinancial flows

The relationship of different international financial flows and unemployment has already been an intensive subject of numerous studies, especially during the period of transition of countries in Central and Eastern European (CEE) (Grahovac & Softić, 2017). However, the overabundance of literature available on this relationship in questions is yet to reach a decisive consensus. Plethora of these studies contains strict, yet diverse theoretical and empirical attributes. Apart from being inconsistent many studies with various econometrics techniques and theoretical models display results which are divergent, convergent, and quite mixed. The lack of sound theoretical backgrounds in many of these studies also contributes to puzzling conclusion between the various financial flows and unemployment. This leads to the overall conclusion that the effects of various international financial flows differ or can change from one economy to another and on time periods. Furthermore, Balcerzak and Zurek, (2011) point out that these effects can depend on a country characteristics and specific forms of investment.

3.3.4.1 The effects of FDI on Unemployment

Starting with the scrutiny of the FDI on unemployment in highly industrialised countries, Hisarciklilar, Gultekin-Karakas, and Asici, (2014) scrutinised the role of FDI inflows in job creation in Turkey at a sectoral level for the period 2000-2008. The authors note that FDI has both the positive and negative effects as well as direct and indirect effects on unemployment in receiving country. FDI can positively affect unemployment through the rise in demand for labour in newly established firms and through the multiplier effect. On the other hand, the negative effect of FDI on unemployment can be through closure of the acquired firm, and displacement domestic companies via rising competition and importation. Hisarciklilar, (2014) found positive but statistically weak relationship between FDI an employment in the Turkish economy.

Kornecki and Ekanayake (2012) investigated factors affecting the inward FDI flow among fifty states of the United States of America (USA) using annual data from 1997 to 2007. Amongst major determinants of foreign direct investment, the real per capita income, real per capita expenditure on education, employment, research & development expenditure, and capital expenditure are found to have a significant positive impact on FDI inflows. Furthermore, According to US Bureau of Labour

Statistics (2014) a swift inflow of foreign investment in the USA economy increases productivity growth, suggesting a positive link between the employment and foreign capital. This positive relationship signifies that foreign direct investment reduces unemployment in the USA.

Perić (2020) examined the impact of FDI inflow on average wage and employment rate in Serbia. The study considered the fact that developed countries benefit more from foreign direct investment due to productivity of local institution. The ordinary least square regression revealed that FDI inflow had a very low and positive insignificant impact on the average wage and employment in Serbia, the results were in line with the findings of (Stojadinovic & Todorovi, 2014; Radojevic, Sarac, Radovanovic, & Stanisic, 2015; and Hanic, Kalicanin, & Bodroza, 2017). Even though the results were positive the insignificant results confirms that FDI is effective in reducing unemployment in a developed country.

As another panel study in the developed European countries conducted by Perić and Stanišić (2020) who assessed the effects of FDI inflow on the employment rate and average net wages. The empirical analysis was conducted in Western Balkan economies for the period 2003–2017. Albania, Bosnia and Herzegovina, Croatia, North Macedonia, Montenegro, and Serbia were selected in the empirical examination due to high legacy of FDI and unsaturated labour markets. Perić and Stanišić (2020) applied the linear mixed-effects models (LMM) to test the empirical relationship. The results revealed a low but positive significant relationship on both employment rate and net wages.

In contrast to positive effects of FDI on unemployment in developed countries, Jude and Silaghi, (2016) scrutinised the role of FDI as a determinant of employment in CEE Countries during the period 1995–2012. The panel analysis employed the dynamic labour demand model to capture the effects of FDI on unemployment in 20 CEE Countries. The results showed that foreign direct investment leads to a phenomenon of creative destruction. According to Jude and Silaghi (2016) point out the introduction of labour savings methods leads to initial negative effect on employment in the short run, however not in the long run. Grima (2005) also found negative and significant results when exploring the direct employment effect of recently acquired FDI in United Kingdom manufacturing. The paper utilised a difference-in-differences methodology

based on matched firms to separate acquisition FDI and employment. The results of the investigation indicated that the acquisition FDI has led to a reduction in the inefficiency with which labour had been used. Thereby, signifying a negative effect of FDI on unemployment in the United Kingdom manufacturing.

Moreover, the effects of FDI in transitioning countries shows also ambiguous results. As noted by Rolf (1994) the notion that FDI exerts positive effects on employment and therefore, an important engine for unemployment should be questioned. FDI inflows could threaten domestic employment, degrade working conditions in the recipient country and exclude citizens from lucrative job opportunities in foreign conglomerates (Rolf, 1994). More recently Johnny et al., (2018) stressed that the effects of FDI on local economies are complicated by the investors aims to maximize profit rather than to help any developing country bridge their budgetary gap. Therefore, the consequences of escalating international financial mobility on unemployment in the modern era has become a matter of policy concern.

However, developing countries which are mostly challenged by lower savings and investment gap often view international capital, particularly FDI as a vehicle to finance infrastructure development, which as a result necessitates job creation and sustainable economic development. To address the problem of low saving-investment in emerging economies many studies recommend favourable economic policies to attract FDI see (Johnny, Timipere, Krokeme & Markjackson 2018; Shaar, Hussain & Halim, 2012). Unemployment is still major macroeconomic issue in the SADC member states with South Africa being projected to see the highest jobless rate globally (IMF, 2022). This undesirable macroeconomic performance especially in developing countries, resulted in plethora of studies examining the nexus between outside financial flow and many macroeconomics variables.

The unemployment relationship in developing countries was recently investigated by Tsaurai (2020). The author explored the macroeconomic determinants of unemployment in Africa countries using four different panel technique approaches. The fixed effects, random effects, pooled ordinary least squares, and lastly the dynamic generalized methods of moment were all employed with data from 2001 to 2015. All four various econometrics panel methods employed by Tsaurai (2020) showed that lag FDI reduced the unemployment in African countries. The study further

recommended the implementation of policies to translate FDI into easing the unemployment woos in African countries.

3.3.4.2 The effects of Foreign Aid on Unemployment

Foreign aid directly can directly affect unemployment in the recipient. According to Liu, Fan, Chao, and Eden (2019) foreign aid is usually from the donor countries to help the developing countries meet their humanitarian, social, and economic challenges. The Organization for Economic Cooperation and Development (2022) report showed that developing countries used in the past 20 years 30% to 40% of the ODA on social sector, 15% to 25% on the economic sector. Liu et al (2020) investigated the effects of foreign aid on human capital acquisition and educated unemployment in the recipient economy. The empirical inquiry employed the search and matching model. The results revealed that an increase in foreign aid for productive purposes results in lower unemployment rate amongst skilled workers. However, a rise in foreign aid used for education subsidy can result in a higher educated unemployment rate in the economy. The empirical findings of this study confirms that the effects of foreign aid must different across the glut of studies.

Sachs and Warner (2005) employed a panel data from the world bank, to scrutinise over 20 sub-Saharan African countries from 1980 to 2000. The authors find that foreign aid has a significant positive effect on employment levels in the recipient countries. They argue that aid targeted at infrastructure projects and small to medium enterprises (SMEs) is particularly effective in creating jobs.

Hansen and Tarp (2001) examined the effectiveness of aid on employment generation in a cross-country analysis covering 50 developing countries. The study concludes that foreign aid contributes to employment generation, particularly when aid is directed towards sectors with high labour intensity such as agriculture and manufacturing. However, the authors argued that the effectiveness is dependent on the quality of governance and institutions in the recipient countries.

In a panel data analysis, Rajan and Subramanian, (2008) utilised a fixed-effects model to analyse the impact of foreign aid on unemployment rates in 15 Asian countries. The findings suggest that while foreign aid can reduce unemployment, the impact varies significantly across countries. In some cases, aid led to short-term job creation but did

not sustain long-term employment due to issues such as aid dependency and inefficient use of funds.

Burnside and Dollar (2000) assessed the relationship between foreign aid and employment in 40 developing countries. The study finds a mixed impact of foreign aid on employment. While aid directed towards education and vocational training showed positive employment outcomes, aid aimed at policy reforms did not have a significant effect on reducing unemployment.

Evidence from Latin America, Fajnzylber and Lederman (1999) analysed the impact of foreign aid on labour market outcomes. This paper utilised a difference-in-differences methodology to achieve this stipulated aim. The enquiry indicates that foreign aid has a positive impact on employment, especially in countries that implement complementary policies to improve labour market flexibility and invest in human capital development.

3.3.4.3 The effects of Remittances on Unemployment

Mazher, Mukhtar, and Sohail (2020) scrutinized the impact of FDI and foreign remittances on unemployment in Pakistan. The study relied on the theory of new economics of labour migration to link FDI and foreign remittances on unemployment. The ADRL technique was employed to achieve the aim of this study. The results of the empirical study confirmed that foreign remittances can significantly reduce unemployment. This effect is particularly evident when remittances are channelled into productive investments that generate employment opportunities. However, the study also notes that the impact can vary depending on the economic context and the sectors in which remittances are invested.

Chami, Fullenkamp, and Jahjah, (2005) impact of remittances on employment and income in developing countries. The authors find that remittances have a positive effect on employment by providing households with additional capital to invest in small businesses and entrepreneurial activities. This leads to job creation and reduced unemployment rates.

In a time-series study, Amuedo-Dorantes and Pozo, (2006) probed the impact of remittances on labour market outcomes in Mexico. The study concludes that

remittances have a mixed impact on labour market participation. While remittances reduce the need for additional household members to seek employment, they also provide capital for small business ventures, thereby creating employment opportunities. Nwokoye, Igbanugo, and Dimnwobi (2020) examines the effect of remittances inflow to Nigeria on labour force participation in the country using the propensity score matching and Heckman two-step benchmark model. The study employed a macroeconomic analysis using panel data from 113 developing countries over the period 1970-2000.

Adams and Page, (2005) studies the impact of remittances on employment in rural African communities. The findings suggest that remittances significantly contribute to employment generation in rural areas by financing agricultural and non-agricultural businesses. This leads to a reduction in rural unemployment. In a panel study, evidence from Asia, Ratha and Mohapatra, (2007) examined the role of remittances in reducing unemployment. The study employs a fixed-effects model to explored the impact of remittances on unemployment rates in 12 Asian countries over a 20-year period. The investigation indicated that remittances have a significant positive impact on employment by facilitating investment in education and small enterprises. However, the effect varies depending on the economic policies of the recipient countries.

Giuliano & Ruiz-Arranz, (2009) utilised panel data analysis to examine the relationship between remittances, poverty, and unemployment in 73 developing countries. The study finds that remittances reduce unemployment by providing the necessary funds for recipients to start their own businesses and reduce poverty. The authors highlight the importance of a stable macroeconomic environment to maximize the positive effects of remittances.

3.3.4.4 Summary table of unemployment and international financial flows

This summary table presents a synthesis of the impact of various international financial flows such as FDI, foreign aid, and remittances on unemployment. The table consolidates findings from multiple studies, providing insights into different methodologies, results, and data sources used by the authors.

Author(s)	Title	Technique	Results	Data Used
Grahovac & Softić (2017)	-	-	Diverse and mixed results on financial flows and unemployment. Effects vary by country and period.	-
Hisarciklilar, Gultekin-Karakas, & Asici (2014)	Role of FDI Inflows in Job Creation in Turkey	Sectoral Analysis	Positive but statistically weak relationship between FDI and employment.	Turkish sectoral data (2000-2008)
Kornecki & Ekanayake (2012)	Factors Affecting Inward FDI Flow in the USA	Regression Analysis	Significant positive impact of per capita income, education expenditure, employment, R&D, and	Annual data from 50 US states (1997-2007)

			capital expenditure on FDI inflows.	
Perić (2020)	Impact of FDI on Wages and Employment in Serbia	Ordinary Least Squares Regression	Positive but insignificant impact of FDI on wages and employment in Serbia.	Serbian economic data
Perić & Stanišić (2020)	Effects of FDI Inflow on Employment and Wages in Western Balkan Economies	Linear Mixed-Effects Models (LMM)	Low but positive significant relationship between FDI and both employment rate and net wages.	Western Balkan economies (2003-2017)
Jude & Silaghi (2016)	Role of FDI on Employment in CEE Countries	Dynamic Labour Demand Model	Initial negative effect on employment due to labor-saving methods, positive effect in the long run.	CEE countries (1995-2012)

Grima (2005)	Employment Effect of FDI in UK Manufacturing	Difference-in-Differences Methodology	Negative effect of acquisition FDI on employment due to labor inefficiency reduction.	UK manufacturing data
Rolf (1994)	FDI Effects on Employment in Transitioning Countries	-	Ambiguous effects; FDI can threaten domestic employment and degrade working conditions.	-
Johnny et al. (2018)	FDI Impact on Local Economies	-	FDI driven by profit motives; mixed impact on employment in developing countries.	-
Tsaurai (2020)	Macroeconomic Determinants of Unemployment in African Countries	Fixed Effects, Random Effects, Pooled OLS, Dynamic GMM	FDI reduces unemployment in African countries; recommended policies to enhance FDI's impact on	African countries data (2001-2015)

			easing unemployment woes.	
Liu, Fan, Chao, & Eden (2019)	Effects of Foreign Aid on Human Capital Acquisition and Educated Unemployment	Search and Matching Model	Foreign aid reduces unemployment among skilled workers but may increase educated unemployment if used for education subsidy.	OECD data
Sachs & Warner (2005)	Impact of Foreign Aid on Employment in Sub-Saharan Africa	Panel Data Analysis	Significant positive effect of foreign aid on employment, particularly in infrastructure and SMEs.	World Bank data (1980-2000)
Hansen & Tarp (2001)	Effectiveness of Aid on Employment Generation	Cross-Country Analysis	Foreign aid contributes to employment, particularly in labor-intensive sectors; effectiveness depends on	Data from 50 developing countries

			governance quality.	
Rajan & Subramanian (2008)	Impact of Foreign Aid on Unemployment in Asian Countries	Fixed-Effects Model	Mixed impact; short-term job creation but long-term sustainability issues due to aid dependency.	Asian countries data
Burnside & Dollar (2000)	Foreign Aid and Employment in Developing Countries	Panel Data Analysis	Mixed impact; positive outcomes in education and vocational training sectors, insignificant effects in policy reform sectors.	Data from 40 developing countries
Fajnzylber & Lederman (1999)	Impact of Foreign Aid on Labour Market Outcomes in Latin America	Difference-in-Differences Methodology	Positive impact on employment, especially with complementary policies for labor market flexibility and	Latin American countries data

			human capital development.	
Mazher, Mukhtar, & Sohail (2020)	Impact of FDI and Foreign Remittances on Unemployment in Pakistan	ADRL Technique	Remittances significantly reduce unemployment when invested in productive activities; impact varies by economic context and sector.	Pakistani economic data
Chami, Fullenkamp, & Jahjah (2005)	Impact of Remittances on Employment and Income in Developing Countries	Macroeconomic Analysis	Remittances have a positive effect on employment by funding small businesses and entrepreneurial activities.	Data from 113 developing countries (1970-2000)
Amuedo-Dorantes & Pozo (2006)	Impact of Remittances on Labour Market Outcomes in Mexico	Time-Series Analysis	Mixed impact; remittances reduce need for additional household employment but also create opportunities for small	Mexican household survey data

			business ventures.	
Nwokoye, Igbanugo, & Dimnwobi (2020)	Effect of Remittances Inflow on Labour Force Participation in Nigeria	Propensity Score Matching, Heckman Two-Step Model	Remittances positively affect labor force participation, reducing unemployment rates.	Nigerian economic data, panel data (1970-2000)
Adams & Page (2005)	Impact of Remittances on Employment in Rural African Communities	Case Studies, Econometric Models	Remittances significantly contribute to employment generation in rural areas by financing businesses.	Rural African communities' data
Ratha & Mohapatra (2007)	Role of Remittances in Reducing Unemployment in Asia	Fixed-Effects Model	Remittances have a positive impact on employment, facilitating investments in education and small enterprises; impact varies by economic policies.	Data from 12 Asian countries (20 years)

Giuliano & Ruiz-Arranz (2009)	Relationship Between Remittances, Poverty, and Unemployment	Panel Data Analysis	Remittances reduce unemployment by providing funds for business startups and reducing poverty; stable macroeconomic environment is crucial for effectiveness.	Data from 73 developing countries

Source: Authors Compilation (2024)

3.4 Summary

This chapter discusses both the theoretical and empirical literature related to the study. The theoretical literature discussed several key frameworks: the Endogenous Growth Model by Frankel (1962) to examine economic growth; the Quantity Theory of Money from Rashid and Husai (2013) to analyses inflation; the Generalized Harris-Todaro Model proposed by Khan (1980) and expanded by Liu, Spiegel, and Zhang (2022) for income inequality, and the Cobb-Douglas production function by Fitzgerald and Mavrotas (1997) to explore unemployment dynamics. Thus, the theoretical literature is discussed to help build the econometrics models. Additionally, this chapter reviews a systematic and a non-exhaustive empirical literature related to macroeconomic performance indicators. The findings by various scholars and country studies for each macroeconomic indicator have been scrutinised to identify knowledge gap and contribute to the literature. This is done to show that the plethora of literature on these issues are inconclusive.

CHAPTER FOUR (4)

METHODOLOGY

This chapter comprehensively discusses the methodology applied by the authors in this empirical analysis to achieve the stipulated aim. The presentation commences by outlining the data utilised, the model specifications, and the estimation techniques. The study applied the panel Autoregressive Distributive Lag (ARDL) model and panel Granger causality regression techniques to achieve the objective. The key objectives of this study include: to analyse the impact of the different forms of financial flows on economic growth in the SADC region; examine the extent to which the different forms of financial flows may contribute to inflation in the SADC region; determine if the different forms of financial flows contribute to inequality in the SADC region. Examine the link between the different forms of financial flows and unemployment in the SADC region.

4.1 Data

To realise the objectives outlined in the study, the panel set of secondary data was employed by the analysis. The study covered the period spanning from 1994 to 2021. The annual data was extracted from Quantec as provided by the World Bank and also from the Standardized World Income Inequality Database (SWIID). The data for economic growth, inflation rate, unemployment rate, foreign aid, remittances, FDI, gross fixed capital formation, and money supply were extracted from Quantec under the World Bank database except for Gini index which was sources from the Standardized World Income Inequality Database (SWIID) (Solt, 2019). Adams and Klobude (2017) argues that the SWIID provide Gini estimates that are more comparable and span more coverage in contrast to alternative datasets such as world bank Gini index. The SWIID is suitable for empirical panel and cross-section analysis. Furthermore, the SWIID deploys missing data algorithm which eliminates the over dependence on assumptions.

Table 4.1 Sources for all the variables

Variables	Sources
Income inequality	SWIID
Economic growth	(Quantec) World Bank
Inflation	(Quantec) World Bank
Unemployment rata	(Quantec) World Bank
Remittances received	(Quantec) World Bank
FDI received	(Quantec) World Bank
Foreign aid received	(Quantec) World Bank
Money supply	(Quantec) World Bank
Financial development	(Quantec) World Bank
Total investment (Domestic)	(Quantec) World Bank

Source: Authors compilation (2024)

4.2 Model specification

To realise the aim of the study, which is to investigate the impact of international financial flows on macroeconomic performance indicators in the SADC region. The study models the traditional macroeconomic indicator namely: real economic growth, income inequality, unemployment and inflation on selected international financial flows variables (Van Eyden et al., 2021, Adams & Klobodu, 2017; Mingiri et al., 2016). The econometric models are formulated based on the theoretical discussed in chapter 3. The study uses a panel technique to regress the dependent variables, which are macroeconomic performance indicators, against the independent variables, which are international financial flow variables. Therefore, the regressed equation of the study takes the following stance:

$$A_{it} = \propto_{it} + \beta_1 B_{it} + \varepsilon_{it} \quad (4.1)$$

Where A denotes the dependent variable, B denotes the independent variables that are used to forecast the dependent variables, $\propto$ denotes the constant in the model. β denotes the parameters or coefficients to be estimated, while ε_{it} represent the error term. The subscript i represents a country, while subscript t represent year to cater for panel techniques. The regression model offered by Khramov and Lee (2013) is adopted by the study. The relationships between the economic performance indicators and the international financial flow variables are captured in the linear econometric models for each objective.

4.2.1 Economic growth model specification:

$$g_{it}^{*} = \alpha_0 + \alpha_1 \left(\frac{I_{it}^{*}}{Y_{it}}\right) + \alpha_2 \left(\frac{S_{it}+IFF_{it}}{Y_{it}}\right) \alpha_3 {S_{it}}^{*} + \delta_i + \gamma_t + \varepsilon_{it} \quad (4.2)$$

Where g_{it}^{*} represents economic growth proxied by the real annual growth rate in percentages. $\frac{I_{it}^{*}}{Y_{it}}$ Investment to GDP proxied by $\frac{S_{it}+IFF_{it}}{Y_{it}}$ Savings and international financial flows to GDP ratio. The international financial flows are REM denotes personal remittances received as a percentage of GDP. FIA represent the foreign aid which is proxied by official development assistance received as a percentage of imports of goods, services, and primary income. FDI denotes FDI extracted as net inflows receive as a percentage of GDP. S_{it} in the model represent the financial development as a control variable. $\alpha_0, \boldsymbol{\alpha_1}, \boldsymbol{\alpha_2}, \boldsymbol{\alpha_3}$ denotes coefficients. ε_{it} denotes the error term.

A priori expectations. Dependent variable on economic growth

- **Remittances**

Within the framework of endogenous growth theory, specifically the AK model, economic growth is driven by factors that enhance productivity and capital accumulation without diminishing returns. Remittances play a crucial role in this context. When remittances are received and directed towards investments or spent on tradable goods, they stimulate demand within the economy. This increased demand can lead to higher levels of economic activity and investment in productive assets, fostering sustained economic growth. According to Mingiri et al. (2016), there is a positive relationship between remittances and economic growth. The inflow of

remittances increases household incomes, boosts consumption, and facilitates investments, aligning with the AK model's assertion that investment in capital (K) directly enhances output (A). Hence, remittances contribute to a self-sustaining growth cycle by continuously improving the capital stock.

- **Foreign aid**

Foreign aid also fits into the endogenous growth theory by contributing to the accumulation of capital and enhancing productivity. Various forms of aid, such as those for social infrastructure, economic infrastructure, services, and the production sector, directly impact economic growth. Mingiri et al. (2016) highlight that foreign aid improves infrastructure, public services, and productive capacity, all of which align with the AK model's emphasis on capital accumulation as a driver of growth. By filling investment gaps and supporting developmental projects, foreign aid increases the effective capital stock and enhances productivity, leading to sustained economic growth. This positive relationship between foreign aid and economic growth underscores the role of external financial support in the endogenous growth process.

- **FDI**

Foreign direct investment is a vital component of endogenous growth theory, particularly within the AK framework. FDI increases capital inflows, which enhances the productive capacity of the host country. This investment brings not only financial resources but also technological transfer, managerial expertise, and access to international markets, contributing to the overall productivity of the economy. According to Mingiri et al. (2016), FDI positively influences economic growth by expanding the production base, creating jobs, and fostering innovation. The AK model posits that continuous investment in capital (K) drives economic output (A). Therefore, FDI plays a critical role in sustaining economic growth by continuously enhancing the capital stock and productivity levels.

4.2.2 Inflation Model Specification:

$$P_{N,it} = \alpha \times M_{it}^{S} + \frac{eIFF_{it}}{Y_{it}} + \delta_i + \gamma_t + \varepsilon_{it} \quad (4.3)$$

Where $P_{N,it}$ represents inflation rate proxied by the consumer price index extracted in annual percentage.M_{it}^{S} denotes the money supply proxied by M3 as a control variable. While $\frac{eIFF_{it}}{Y_{it}}$ denotes the international financial flows to GDP ratio. REM denotes personal remittances received as a percentage of GDP. FIA represent the foreign aid which is proxied by official development assistance received as a percentage of imports of goods, services, and primary income. FDI denotes FDI extracted as net inflows receive as a percentage of GDP. δ_i Individual country effects. Denotes the γ_t the time effects. α Coefficient. ε_{it} represent the error term.

A priori expectations. Dependent variables on inflation

- **Remittances on inflation**

When remittances are received, they can lead to an increase in the foreign reserve position of the recipient country. This can appreciate the domestic currency, making imports cheaper and potentially reducing the inflation rate (negative relationship). However, if remittances raise the income of recipients, this increased disposable income can lead to higher consumption demand, potentially driving up prices in the economy (positive relationship). Rashid & Husain (2013) highlight these dual effects, where remittances can have both inflationary and deflationary impacts depending on how they influence the money supply and demand dynamics within the economy

- **Foreign aid on inflation**

Foreign aid is often provided to fill foreign exchange gaps and support comprehensive growth and development. According to the Quantity Theory of Money, an influx of foreign aid can increase the money supply in the recipient economy. If this increase in money supply is not matched by a corresponding increase in real output, it can lead to higher price levels, thus causing inflation. Otoo (2003) suggests that while foreign aid aims to foster development, its impact on inflation can be negative if it results in an excess supply of money relative to the productive capacity of the economy. This relationship aligns with the Quantity Theory of Money, where an increased money supply without proportional output growth leads to inflationary pressures.

- **FDI on inflation**

FDI is typically expected to bring in capital and boost the productive capacity of the host country. However, its relationship with inflation is inversely related, as highlighted by Mustafa (2019). According to the Quantity Theory of Money, if FDI contributes to increasing the real output (Y) by enhancing the productive capacity and efficiency of the economy, it can help stabilize or even reduce the price level (P), assuming the money supply (M) remains constant or grows at a slower rate. Therefore, FDI can have a deflationary impact by increasing the supply side of the economy and offsetting inflationary pressures.

4.2.3 Income Inequality Model Specification:

$$GINI_{it} = \alpha + \beta_1 REM_{it} + \beta_2 FAID_{it} + \beta_3 FDI_{it} + \beta_4 FDEV_{it} + \beta_5 GDP_{it} + \delta_i + \gamma_t + \varepsilon_{it} \quad (4.4)$$

Where $GINI_{it}$ denotes income inequality proxied by the Gini index. REM denotes personal remittances received as a percentage of GDP. FIA represent the foreign aid which is proxied by official development assistance received as a percentage of imports of goods, services, and primary income. FDI denotes FDI extracted as net inflows receive as a percentage of GDP. δ_i Individual country effects. Denotes the γ_t the time effects. α Coefficient. ε_{it} represent the error term. Signifies $FDEV_{it}$ financial development proxied by market capitalization. GDP_{it} Symbolizes gross domestic product. $\alpha, and\ \beta_1, \beta_2, \beta_3, \beta_4, \beta_5,$ represents constant and coefficients respectively.

A priori expectations. Dependent variables on Income Inequality

- **Remittances on income inequality**

Remittances have been found to reduce income inequality by increasing the income of recipients, which is often distributed among lower-income households. According to Adams & Klobodu (2017), remittances lead to a reduction in income inequality as they provide additional income to families that may otherwise have limited financial resources. In the context of the Generalised Harris-Todaro model, remittances can shift the labour supply curve by reducing the need for rural-urban migration as rural households receive supplemental income (Yılmaz & Şensoy, 2023). This can alleviate the pressure on urban labour markets, thereby contributing to a more equitable income

distribution. Remittances help balance the rural-urban income disparity, ultimately leading to reduced income inequality**.**

- **Foreign Aid on income inequality**

Foreign aid is often aimed at poverty reduction and development projects that benefit the lower-income segments of the population. Shafiullah (2011) notes that foreign aid can reduce poverty levels, which in turn decreases income inequality. Within the Generalised Harris-Todaro model framework, foreign aid can enhance the human capital and infrastructure in rural areas, making these regions more attractive for economic activities and reducing the incentives for rural-urban migration. By improving living standards and providing opportunities for income generation in rural areas, foreign aid helps to equalize income distribution across different regions and socioeconomic groups, thereby reducing income inequality.

- **FDI on income inequality**

Foreign Direct Investment (FDI) typically increases the capital and productive capacity of the host country, which can lead to job creation and higher wages. Herzer et al. (2014) argue that FDI can reduce income inequality by fostering economic growth and providing employment opportunities, particularly in developing economies. In the Generalised Harris-Todaro model, FDI can influence the labour market by increasing demand for skilled and unskilled labour, thus reducing wage disparities between different labour groups. The investment in infrastructure and industries facilitated by FDI also promotes regional development, which helps to reduce the urban-rural income gap. Consequently, FDI contributes to a more equitable distribution of income by enhancing the overall economic landscape and creating opportunities for a broader segment of the population

4.2.3 The unemployment rate model specification

$$UNM_{it} = \delta_i + \gamma_t + \alpha_0 + \beta_1 REM_{it} + \beta_2 FDI_{it} + \beta_3 FAID_{it+}\beta_4 FDEV_{it} + \beta_5 DI_{it} + \varepsilon_{it} \quad (4.5)$$

Where UNM_{it} represents unemployment rate as a percentage of the total labor force. REM denotes personal remittances received as a percentage of GDP. FIA represent the foreign aid which is proxied by official development assistance received as a

percentage of imports of goods, services, and primary income. FDI denotes FDI extracted as net inflows receive as a percentage of GDP. δ_i Individual country effects. Denotes the γ_t the time effects. α Coefficient. ε_{it} represent the error term. Signifies $FDEV_{it}$ financial development proxied by market capitalization. GDP_{it} Symbolizes gross domestic produc $\alpha,\ and\ \beta_1, \beta_2, \beta_3, \beta_4, \beta_5,$ represents constant and coefficients respectively. DI_{it} indicates the domestic investment proxied by gross fixed capital formation.

A priori expectations. Dependent variables on Unemployment

- **Remittances on Unemployment**

The impact of remittances on employment can be both negative and positive. According to Mucuk & Demirsel (2013), remittances can reduce labour supply by creating a culture of dependency, where recipients may prefer to rely on remittance income rather than seeking employment, thereby increasing unemployment. Conversely, if remittances are used for investment purposes, such as starting new businesses or improving existing ones, they can enhance the productive capacity of the economy. This, in turn, increases demand for labour, leading to higher employment levels. In the context of extended Cobb-Douglass production function, an increase in capital through investment financed by remittances can shift the production function upwards, indicating higher output and employment.

- **Foreign Aid on Unemployment**

Foreign aid, particularly technical and humanitarian aid, can positively impact employment by boosting agricultural production and increasing the demand for food, which creates more job opportunities in the host countries. Liu et al. (2019) highlight this positive relationship, suggesting that aid can enhance agricultural productivity and thereby labour demand in rural areas. Within the Extended Cobb-Douglas framework, foreign aid can be seen as an external factor that increases both the capital (K) and labour (L) components of the production function. This leads to higher output (Y) and employment, as the enhanced agricultural production requires more labour inputs.

- **Foreign Direct Investment (FDI) on Unemployment**

FDI is typically associated with an increase in capital and productive capacity, which directly influences employment opportunities. Jaouadi (2014) notes that FDI brings in new technologies, management practices, and capital, all of which enhance the overall production capacity of the host country. In the context of the Extended Cobb-Douglas production function, FDI increases the capital stock (K) and often leads to improved labor productivity (L) through skill development and training. This results in a higher output (Y) and greater demand for labour, thereby reducing unemployment.

4.3 Estimation technique

The empirical analysis employed in this study includes a comprehensive suite of econometric techniques to address the difficulties of panel data. These include cross-sectional dependency tests, panel unit root tests accounting for cross-sectional dependence, panel cointegration tests, panel ARDL models, and panel Granger causality tests. Each of these econometric methodologies is carefully applied and explained, with the primary objective of empirically assessing the impact of international financial flows on key macroeconomic performance indicators within the SADC member states. By integrating advanced econometric techniques, this study aims to overcome the limitations of traditional empirical analyses and provide robust and reliable results. The analysis begins with the cross-sectional dependency test to ensure that the interdependencies among cross-sectional units are adequately accounted for. This is followed by panel unit root tests that incorporate cross-sectional dependencies to determine the stationarity properties of the variables. Subsequently, the panel cointegration test is employed to ascertain the long-term equilibrium relationships among the variables.

The panel ARDL model is then utilised to capture both short-term and long-term dynamics, providing a clear understanding of the relationships. Finally, the panel Granger causality test is conducted to explore the directionality of the causal relationships among the variables. Through this rigorous econometric approach, the study seeks to contribute to the existing literature by providing empirical evidence on the role of international financial flows in shaping macroeconomic outcomes in the SADC region.

4.3.1 Cross-sectional dependence (CIPS test)

In panel data analysis, employing advanced econometric techniques is crucial for overcoming limitations inherent in empirical analyses and achieving robust results. According to Sharif, Kocak, Khan, Uzuner, and Tiwari (2023), it is essential to perform various diagnostic tests to determine the appropriate estimation method. The plethora of literature available concludes that panel data models are likely to display a considerable amount of cross-sectional dependence especially in the error. Robertson and Symons (2000); Anselin (2001); Pesaran (2004); Baltagi (2005) and Van Eyden et al (2021). The cross-sectional dependency occurs due to the presence of common shocks and unobserved components that ultimately become part of the error term, spatial dependence, and idiosyncratic pairwise dependence in the disturbances with no particular pattern of common components or spatial dependence.

Tests such as Cross-sectional Dependence, Homogeneity, and Unit Root Tests (URT) are pivotal in identifying and addressing issues related to cross-sectional dependence and ensuring the reliability and validity of the empirical findings. Following the methodology used by Van Eyden et al (2021) for the purpose of this study, the Breusch-Pagan LM test, the Pesaran scaled LM test, and the Pesaran CD test are employed to detect the presence of cross-sectional correlations in the residuals.

4.3.1.1 Breusch-Pagan LM test

The Breusch-Pagan LM test checks for cross-sectional dependence by considering the sum of squared residual correlation (Breusch & Pagan 1980). The test statistics is computed as follows:

$$LM = N \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \hat{p}_{ij}^2 \qquad 4.6$$

Where N represents the number of cross-sections. While $\hat{p}_{ij}^2$ signifies the estimated correlation coefficient of the residuals between cross-sections i and j. The null hypothesis (H_0) which stated that there is no cross-sectional dependence is tested against the alternative hypothesis (H_1) which supports the cross-sectional dependence.

Null hypothesis (H_0): $Cov(\varepsilon_{it}, \varepsilon_{it}) = 0 \; for \; all \; i \neq j$

Alternative hypothesis (H_1): $Cov(\varepsilon_{it}, \varepsilon_{it}) = 0 \; for \; all \; i \neq j$

4.3.1.2 Pesaran scaled LM test

The Pesaran scaled LM test adjusts the Breusch-Pagan LM test for panels with a large number of time periods (Pesaran, 2004). Therefore, the test statistic is given by:

$$LM_{scale} = \sqrt{\frac{N}{N(N-1)} \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} (\widehat{T}\widehat{p}_{ij}^{2} - 1)} \qquad 4.7$$

Where T denotes the number of time periods. The null hypothesis (H_0) which stated that there is no cross-sectional dependence is tested against the alternative hypothesis (H_1) which supports the cross-sectional dependence. Null hypothesis (H_0): $Cov(\varepsilon_{it}, \varepsilon_{it}) = 0 \; for \; all \; i \neq j$ Alternative hypothesis (H_1): $Cov(\varepsilon_{it}, \varepsilon_{it}) = 0 \; for \; all \; i \neq j$

4.3.1.3 Pesaran CD test

The Pesaran CD test is designed to detect cross-sectional dependence by using pairwise correlations of the residuals. The test statistic given by the following equation:

- CD= $\sqrt{\frac{N}{N(N-1)}} \sum_{i=0}^{N} \sum_{j=i+1}^{N} \widehat{p_{ij}}$ 4.8

Where N represents the number of cross-sections. While $\hat{p}_{ij}^{2}$ signifies the estimated correlation coefficient of the residuals between cross-sections i and j. The null hypothesis (H_0) which stated that there is no cross-sectional dependence is tested against the alternative hypothesis (H_1) which supports the cross-sectional dependence. Null hypothesis (H_0): $Cov(\varepsilon_{it}, \varepsilon_{it}) = 0 \; for \; all \; i \neq j$ Alternative hypothesis (H_1): $Cov(\varepsilon_{it}, \varepsilon_{it}) = 0 \; for \; all \; i \neq j$

4.3.2 Panel unit root test with the presence of cross-sectional dependence

Unit root tests improve the study by ensuring that the data used in econometric models is appropriate for analysis and in choosing appropriate econometric techniques. Unit root tests are crucial in econometric modelling because the presence of a unit root can lead to misleading results when performing regression analysis. The panel unit root tests have been employed significantly across empirical literature in economics,

statistics, and finance (Hadla, 2015; Ncanywa & Mabusela, 2019; Ncyanwa et al., 2021). The CIPS test, developed by Pesaran (2007), extends the IPS test by incorporating cross-sectional averages in the testing procedure. This allows the test to account for cross-sectional dependence, making it more robust and reliable in panels. Traditional panel unit root tests like the Levin-Lin-Chu or Im-Pesaran-Shin tests assume cross-sectional independence, which can lead to biased results when this assumption is violated.

4.3.2.1 Cross-Sectionally Augmented IPS

The Cross-Sectionally Augmented IPS (CIPS) unit root test, introduced by Pesaran (2007), represents an advanced extension of the IPS (Im, Pesaran, and Shin) unit root test. This study employs Pesaran's second-generation CIPS test to comprehensively examine the univariate characteristics of the panel data. The necessity for this test arises from the documented presence of cross-sectional dependence within the models analysed (Van Eyden et al., 2021). Cerasa (2008) asserts that by incorporating the cross-sectional averages of both lagged levels and first differences of individual series into the standard ADF regression, the CIPS test effectively addresses and corrects for cross-sectional dependence. Thereby, enhancing the reliability and robustness of the unit root testing process in panel data econometrics.

The CIPS test begins with a basic autoregressive (AR) process for panel data, which can be written as follows:

$$z_{it} = (1 - \emptyset_i)u_i + \emptyset_i z_{i,t-1} + u_{it} \quad 4.9$$

To account for cross-sectional dependence, Pesaran (2007) suggests augmenting the ADF regression with cross-sectional averages.

$$\bar{z}_{t-1} = \frac{1}{N}\sum_{i=1}^{n} z_{i,t-1} \quad 4.10$$

cross-sectional average of lagged levels.

$$\Delta\bar{z}_t = \frac{1}{N}\sum_{i=1}^{N} \Delta z_{it} \quad 4.11$$

cross-sectional average of first differences. The augmented ADF regression for the CIPS test then becomes:

$$\Delta z_{it} = \alpha_i + \beta_i z_{i,t-1} + \gamma_i \bar{z}_{t-1} + \delta_i \Delta \bar{z}_{t-1} + \varepsilon_{it} \quad 4.12$$

Where $\gamma_i \ and \ \delta_i$ are coefficients that account for cross-sectional dependence. ε_{it} represents the error term. The hypothesis for the unit root test predicts presence of unit root, non-stationarity null hypothesis (H_0): $\beta_i = 0$ is tested against the alternative hypothesis (H_1): $\beta_i < 0$ of stationarity.

4.3.3 Panel Cointegration Techniques

Cointegration is a statistical concept used in time series analysis to describe a long-term equilibrium relationship between two or more non-stationary series (Ranis, 1995). Therefore, performing panel cointegration tests is crucial because it helps identify these long-term equilibrium relationships among variables across different cross-sectional units. Due to the evidence of cross-section dependency in the models, the study employs the test that account for cross-sectional dependence among different units (Pedroni, 1999, 2004; Dogan & Seker, 2016; Baltagi & Pesaran, 2007). This investigation employs, specifically the Pedroni panel cointegration test to capture the long-run cointegration relationships among an integrated set of variables. The test is chosen over the Kao and the fisher combined panel cointegration tests because they both assumes no cross-sectional dependence among the individual time series. Pedroni (1999) uses four panel statistics and three group panel statistics to test the null hypothesis of no cointegration against the alternative hypothesis of cointegration. Utilizing this test enhances the robustness and reliability of the study's findings by ensuring that, despite short-term fluctuations, the variables maintain a stable long-term relationship.

4.3.3.1 Pedroni (Engle Granger based) Cointegration test

According to Neal, (2014) Pedroni introduced seven test statistics that test the null hypothesis of no cointegration in non-stationary panels. According to Pedroni (1999, 2004), the Panel PP-Statistic and Group PP-Statistic are particularly effective in identifying cointegration in panel data because they address both cross-sectional dependence and serial correlation. This makes them highly indicative of cointegration when they show significant results, as they provide a more reliable test compared to statistics that do not account for these issues. The technique offers various tests for

cointegration that permit heterogeneous intercepts and trend coefficients across cross-sections. Therefore,

$$y_{it} = \alpha_i + \delta_{it} + \beta_{1i}x_{1i,t} + \beta_{2i}x_{2i,t} + \cdots \beta M_i x M_{i,t} + e_{i,t} \quad (4.13)$$

Where$t = 1, \dots, T; i =, \dots, N; m = 1, \dots, M$; where y and x are assumed to be integrated at order I (1). The parameters α_i and δ_i are individual and trend effects which may be set to zero if desired. The null hypothesis of no cointegration shows the residuals $e_{i,t}$ which integrate at order I (1). Therefore, to confirm that the residuals integrate at order I (1) from the above equation, the following auxiliary regression is utilised.

$$e_{it} = \rho_i e_{it-1} + u_{it} \quad (4.14)$$

or alternatively the following:

$$e_{it} = \rho_i e_{it-1} = + \sum_{j-1}^{\rho_i} \Psi_{ij} \Delta \mathrm{e}_{it-j} + \upsilon_{it} \quad (4.15)$$

There are various methods of computing the statistics for testing for the null hypothesis of no cointegration, according to Pedroni. The null hypothesis is, therefore:

$$\rho_i = 1 \quad (4.16)$$

The test provides two alternative hypotheses: The homogenous alternative

$$(\rho_i = p) < 1 \; for \; all \; i \quad (4 .17)$$

The heterogeneous alternative or

$$\rho_i < 1 \; for \; all \; i \quad (4.18)$$

Pedroni proves that the standardised statistics is asymptotically normally distributed, where $\mu \; and \; \nu$ are Monte Carlo generated adjustment terms. Therefore.

$$\frac{\mathrm{N}N,T - \mu\sqrt{N}}{\sqrt{\upsilon}} \Longrightarrow N(0,1) \quad (4.19)$$

This test consists of seven statistics divided into two main groups: panel statistics and group statistics. The panel statistics include the Panel v-Statistic, Panel ρ-Statistic,

Panel PP-Statistic, and Panel ADF-Statistic, while the group statistics comprise the Group ρ-Statistic, Group PP-Statistic, and Group ADF-Statistic (Pedroni, 1999).

The Panel v-Statistic tests for cointegration by examining the variance of the residuals, with higher variances suggesting the absence of cointegration. The Panel ρ-Statistic assesses the presence of residuals, where a significant statistic indicates the absence of cointegration. The Panel PP-Statistic is a non-parametric test that adjusts for serial correlation in the residuals, enhancing the robustness of the test. The Panel ADF-Statistic addresses unit roots in the residuals by incorporating lagged differences to account for autocorrelation (Pedroni, 1999).

For the group statistics, the Group ρ-Statistic examines the persistence of residuals across individual members of the panel, with a significant statistic indicating a lack of cointegration. The Group PP-Statistic is another non-parametric test that adjusts for serial correlation in the residuals across the panel. Finally, the Group ADF-Statistic tests for unit roots in the residuals across the panel, incorporating lagged differences to address autocorrelation, similar to the Panel ADF-Statistic but applied to the group context.

These statistics help determine whether the variables in the panel data have a common long-run relationship, accounting for heterogeneity and cross-sectional dependence (Pedroni, 1999). The use of these diverse statistics helps ensure that the tests are comprehensive and reliable, capturing various aspects of cointegration dynamics in panel data.

4.3.4 Panel Autoregressive Distribution lag (ARDL)

The panel Autoregressive Distribution lag (ARDL) method is essentially the standard least square regression with both dependent and independent variables included as regressors (Pesaran, Shin & Smith, 1999). To estimate the long- and short-run effects of various international financial flow variables on macroeconomic objective, the empirical analysis employed the Pooled Mean Group method endorsed by Pesaran, et al (1999). The Pooled Mean Group ARDL estimator adopts the cointegration from the ordinary ARDL and adjusts it for panel setting by letting the intercepts, short-run coefficients and cointegration terms to differ across cross-sections.

The panel ARDL techniques were chosen because, firstly, if there are different orders of integration, the ARDL method can be applied; meaning integration at order I(0) and order I(1), but not order I(2). Secondly, ARDL captures the long run and short run estimates simultaneously. Thirdly, the approach can be applicable on a small number of observations. Fourthly, the approach can accommodate the structural breaks in time series data.

The ARDL model can be expressed as:

$$\Delta Y_{i,t} = \emptyset_i EC_{i,t} + \sum_{j=0}^{q-1} \Delta X_{i,t-j}{}' \beta_{i,j} + \sum_{j-1}^{p-1} \lambda_{i,j} * \Delta Y_{i,t-j} + \varepsilon_{i,t} \quad (4.20)$$

Where:

$$EC_{i,t} = Y_{i,t-1} - X_{i,t}{}' \theta \quad (4.21)$$

The technique assumes that the independent variables and dependent variables have the same number of lags on each side; however, it is not a requirement for estimation. The panel ARDL derives the concentrated log-likelihood function:

$$l_t(\varphi) = -\frac{T_i}{2} \sum_{i=1}^{q-1} \log(2\pi\, \sigma_i^2) - \frac{1}{2} \sum_{i=1}^{N} \frac{1}{\sigma_i^2} (\Delta Y_i - \phi_i EC_i)' H_i (\Delta Y_i - \phi_i EC_i) \quad (4.22)$$

Where:

$$\Delta Y_i = (\Delta y_{i,1}, \Delta y_{i,2}, \dots, y_{i,} T_i)' \quad (4.23)$$

$$EC_i = (EC_{i,1,} EC_{i,2}, \dots, EC_{i,T})' \quad (4.24)$$

$$H_i = (I_{Ti} - W_i (W_i{}' W_i)^{-1} W_i{}')^{-1} \quad (4.25)$$

$$W_i = (\Delta Y_{i,-1}, \dots, Di, -\ p\ +\ 1, DXi, DXi, -1, \dots, DXi, -\ q\ +\ 1) \quad (4.26)$$

The concentrating the log-likelihood function typically involves focusing on the parameters related to the long-run relationship and the short-run dynamics separately. This process results in a more manageable log-likelihood function that is easier to maximize numerically, ultimately leading to more efficient and accurate parameter estimated (Van Eyden et al., 2021). The study thus modelled the ARDL panel regression to obtain the long-run and short-run coefficients together with the speed of adjustment in the SADC member states following (Van Eyden et al., 2021).

4.3.4.1 Economic Growth (Panel ARDL)

The long run relationship can be expressed as:

$$GDP_{it} = \propto_0 + \propto_1 \frac{I_{it}}{Y_{it}} + \propto_2 \frac{REM_{i,t}}{Y_{i,t}} + \propto_3 \frac{FAID_{i,t}}{Y_{i,t}} \propto_4 \frac{FDI_{i,t}}{Y_{i,t}} + \propto_5 FDEV + \gamma_t + \delta_i + \varepsilon_{it} \quad (4.27)$$

Short-Run Equation (ECM Representation)

$$\Delta GDP_{it}^{*} = \phi \Big(GDP_{i,t-1}^{*} - (\propto_0 + \propto_1 \frac{I_{i,t-1}}{Y_{i,t-1}} \propto_2 \frac{REM_{i,t-1}}{Y_{it-1}} + \propto_3 \frac{FIAD_{i,t-1}}{Y_{i,t-1}} + \theta_4 \frac{FDI_{i,t-1}}{Y_{i,t-1}} + \propto_5 FDEV_{i,t-1})) + \sum_{j=1}^{p-1} \lambda_j \Delta\, GDP_{i,t-J}^{*} + \sum_{k=0}^{q-1} \beta_k \Delta \frac{I_{i,t-k}}{Y_{i,t-k}} + \sum_{l=0}^{r-1} \theta_{l2} \Delta \frac{REM_{i,t-l}}{Y_{i,t-l}} + \sum_{m=0}^{s-1} \theta_{m3} \Delta \frac{FAID_{i,t-m}}{Y_{i,t-m}} + \sum_{n-0}^{t-1} \theta_{n4} \Delta \frac{FDI_{i,t-n}}{Y_{i,t-n}} + \theta_5 FDVE_{it} + \gamma_t + \delta_i + \varepsilon_{it} \quad (4.28)$$

Where Δ denote the first difference operator in this economic growth short-run equation. The model terms: developed by $\left(\sum_{j=1}^{p-1} \lambda_j \Delta\, GDP_{i,t-J}^{*} + \sum_{k=0}^{q-1} \beta_k \Delta \frac{I_{i,t-k}}{Y_{i,t-k}} + \sum_{l=0}^{r-1} \theta_{l2} \Delta \frac{REM_{i,t-l}}{Y_{i,t-l}} + \sum_{m=0}^{s-1} \theta_{m3} \Delta \frac{FAID_{i,t-m}}{Y_{i,t-m}} + \sum_{n-0}^{t-1} \theta_{n4} \Delta \frac{FDI_{i,t-n}}{Y_{i,t-n}} + \theta_5 FDVE_{it}\right.$ captures the short-run dynamics. The speed of adjustment coefficient is measured by ϕ, which is calculated using the following equation in the short run model of economic growth.

$$\left(GDP_{i,t-1}^{*} - (\propto_0 + \propto_1 \frac{I_{i,t-1}}{Y_{i,t-1}} \propto_2 \frac{REM_{i,t-1}}{Y_{it-1}} + \propto_3 \frac{FIAD_{i,t-1}}{Y_{i,t-1}} + \theta_4 \frac{FDI_{i,t-1}}{Y_{i,t-1}} + \propto_5 FDEV_{i,t-1}) \right.$$

4.3.4.2 Inflation ADRL long equation

The long run relationship can be modified as:

$$INF_{it} = \propto + \beta_0 M_{it}^{S} + \theta_1 \frac{REM_{it}}{Y_{it}} + \theta_2 \frac{FAID_{it}}{Y_{it}} + \theta_3 \frac{FDI_{it}}{Y_{it}} + \gamma_t + \delta_i + \varepsilon_{it} \quad (4.29)$$

Short-Run Equation (ECM Representation)

$$\Delta INF_{it} = \phi \Big(INF_{i,t-1}(\propto + \beta_0 M_{i,t-1}^{S} + \theta_1 \frac{REM_{i,t-1}}{Y_{it-1}} + \theta_2 \frac{FIAD_{i,t-1}}{Y_{i,t-1}} + \theta_3 \frac{FDI_{i,t-1}}{Y_{i,t-1}})) + \sum_{j=1}^{p-1} \lambda_j \Delta\, INF_{i,t-j} + \sum_{k=0}^{q-1} \beta_k \Delta M_{i,t-k}^{S} + \sum_{l=0}^{r-1} \theta_{l1} \Delta \frac{REM_{i,t-l}}{Y_{i,t-l}} + \sum_{m=0}^{s-1} \theta_{m2} \Delta \frac{FAID_{i,t-m}}{Y_{i,t-m}} + \sum_{n-0}^{t-1} \theta_{n3} \Delta \frac{FDI_{i,t-n}}{Y_{i,t-n}} + \gamma_t + \delta_i + \varepsilon_{it} \quad (4.30)$$

In this model the terms$\left(\sum_{k=0}^{q-1}\beta_k\Delta M_{i,t-k}^{S}+\sum_{l=0}^{r-1}\theta_{l1}\,\Delta\frac{REM_{i,t-l}}{Y_{i,t-l}}+\sum_{m=0}^{s-1}\theta_{m2}\Delta\frac{FAID_{i,t-m}}{Y_{i,t-m}}+\right.$ $\left.\sum_{n-0}^{t-1}\theta_{n3}\Delta\frac{FDI_{i,t-n}}{Y_{i,t-n}}\right)$ capture the short-run dynamics of the inflation model in the SADC member states. The error correction term $\phi\left(INF_{i,t-1}(\propto+\beta_0 M_{i,t-1}^{S}+\right.$ $\left.\theta_1\frac{REM_{i,t-1}}{Y_{it-1}}+\theta_2\frac{FIAD_{i,t-1}}{Y_{i,t-1}}+\theta_3\frac{FDI_{i,t-1}}{Y_{i,t-1}})\right)$ captures the adjustment towards the long-run equilibrium.

4.3.4.3 Income inequality ADRL

The long-run relationship in the model is captured by the following equation:

$$GINI_{it}=\alpha+\ \beta_1 REM_{it}+\beta_2 FAID_{it}+\beta_3 FDI_{it}+\beta_4 FDEV_{it}+\beta_5 GDP_{it}+\gamma_t+\delta_i+\varepsilon_{it} \quad (4.31)$$

Short-Run Equation (ECM Representation)

The short-run dynamics for the income inequality, including the error correction term (ECT), can be represented as follows:

$$\Delta GINI_{i,t}=\emptyset\left(GINI_{i,t-1}-(\beta_1 REM_{it-1}\ +\beta_2 FAID_{it-1}+\beta_3 FDI_{it-1}+\beta_4 FDEV_{it-1}+\right.$$
$$\left.\beta_5 GDP_{it-1})\right)+\sum_{j=1}^{p-1}\lambda_j\Delta\,GINI_{i,t-j}+\sum_{k=1}^{q-1}\lambda_j\,\vartheta_1\Delta REM_{i,t-k}+\sum_{n=1}^{r-1}\lambda_j\vartheta_2\,\Delta FIAD_{i,t-n}+$$
$$\sum_{l=1}^{s-1}\lambda_j\vartheta_3\,\Delta FDI_{i,t-l}+\sum_{w=1}^{m-1}\lambda_j\vartheta_4\,\Delta FDVE_{i,t-w}+\sum_{u=1}^{o-1}\lambda_j\vartheta_5\,GDP_{i,t-u}+\gamma_t+\delta_i+\varepsilon_{it} \quad (4.32)$$

Where $\emptyset$ represents the ECM coefficient $\left(GINI_{i,t-1}-(\beta_1 REM_{it-1}+\beta_2 FAID_{it-1}+\right.$ $\left.\beta_3\mathrm{FDI}_{\mathrm{it}-1}+\beta_4\mathrm{FDEV}_{\mathrm{it}-1}+\beta_5\mathrm{GDP}_{\mathrm{it}-1})\right)$ captures the speed of adjustment in the income inequality model. The sums of lagged differences $\sum_{j=1}^{p-1}\lambda_j\Delta\,GINI_{i,t-j}+$ $\sum_{k=1}^{q-1}\lambda_j\,\vartheta_1\Delta REM_{i,t-k}+\sum_{n=1}^{r-1}\lambda_j\vartheta_2\,\Delta FIAD_{i,t-n}+\sum_{l=1}^{s-1}\lambda_j\vartheta_3\,\Delta FDI_{i,t-l}+$ $\sum_{w=1}^{m-1}\lambda_j\vartheta_4\,\Delta FDVE_{i,t-w}+\sum_{u=1}^{o-1}\lambda_j\vartheta_5\,GDP_{i,t-u}+\gamma_t+\delta_i+\varepsilon_{it}$ capture the short-run dynamics of the income inequality model.

4.3.4.4 **Unemployment ARDL long and short run model**

The long-run relationship can be expressed as

$$UNM_{it}=\delta_i+\gamma_t+\ \beta_0+\beta_1 REM_{it}+\beta_2 FDI_{it}+\beta_3 FAID_{it+}\beta_4 FD_{it}+\beta_5 DI_{it}+\varepsilon_{it} \quad (4.\ 33)$$

The short-run dynamics which captures the speed of adjustments unemployment model, including the error correction term (ECT), can be represented as follows:

$$\Delta UNM_{i,t} = \phi\left(UNM_{i,t} - (\gamma_t + \delta_i + \beta_0 + \beta_1 REM_{it-1} + \beta_2 FAID_{it-1} + \beta_3 FDI_{it-1} + \beta_4 FDEV_{it-1} + \beta_5 DI_{it-1})\right) + \sum_{j=1}^{p-1} \lambda_j \Delta UNM_{i,t-j} + \sum_{k=1}^{q-1} \lambda_j \vartheta_1 \Delta REM_{i,t-k} + \sum_{n=1}^{r-1} \lambda_j \vartheta_2 \Delta FIAD_{i,t-n} + \sum_{l=1}^{s-1} \lambda_j \vartheta_3 \Delta FDI_{i,t-l} + \sum_{w=1}^{m-1} \lambda_j \vartheta_4 \Delta FDVE_{i,t-w} + \sum_{u=1}^{o-1} \lambda_j \vartheta_5 \Delta DI_{i,t-u} + \varepsilon_{it} \quad (4.34)$$

Where Δ in the short run equation denotes the first difference operator. While ϕ denotes the error correction term coefficient. The terms: $\left(UNM_{i,t} - (\gamma_t + \delta_i + \beta_0 + \beta_1 REM_{it-1} + \beta_2 FAID_{it-1} + \beta_3 FDI_{it-1} + \beta_4 FDEV_{it-1} + \beta_5 DI_{it-1})\right)$ represents the error correction term.

The sum of lagged differences which capture the short-run dynamics. $\sum_{j=1}^{p-1} \lambda_j \Delta UNM_{i,t-j}, \sum_{k=1}^{q-1} \lambda_j \vartheta_1 \Delta REM_{i,t-k}, \sum_{n=1}^{r-1} \lambda_j \vartheta_2 \Delta FIAD_{i,t-n}, \sum_{l=1}^{s-1} \lambda_j \vartheta_3 \Delta FDI_{i,t-l}$

$$, \sum_{w=1}^{m-1} \lambda_j \vartheta_4 \Delta FDVE_{i,t-w}, \sum_{u=1}^{o-1} \lambda_j \vartheta_5 \Delta DI_{i,t-u} + \varepsilon_{it}$$

According to Pesaran et al. (1999), the ARDL model is restricted to be homogeneous in long-run estimates, assuming identical long-run slope coefficients across units. These specification captures both short-run dynamics and long-run equilibrium relationships. Thus, allowing for efficient estimation and interpretation of the impact of international financial flows on macroeconomic performance indicators in the SADC member states.

4.3.5 Panel Causality

4.3.5.1 ***Panel ARDL and Wald Test***

To deduce causality, we utilized the Wald Test to assess the joint significance of the lagged independent variables (Shahbaz, Jam, Bibi, & Loganathan, 2016). Specifically, after estimating the PMG model, this empirical analysis conducted Wald tests on the short-run coefficients of the lagged independent variables to determine whether these variables follow the dependent variable.

Liu (2016) argues that the Wald test serves as a multivariate generalization, allowing the simultaneous testing of multiple parameters to assess their overall importance. The null hypothesis of the Wald test posits that the original individual errors are serially uncorrelated (Wald, 1949). The Wald test in this study employs the following test statistic (see Brown, Newey, & May, 1999):

$$W = (\theta - \theta_0)'[cov(\widehat{\theta})]^{-1}\left(\hat{\theta} - \theta_0\right) W \sim \mathrm{X}^2_{(V)} \quad 4.35$$

Where $cov(\hat{\theta})$ is given by the inverse Fisher Information matrix evaluated at $\hat{\theta}$ and q is the rank$of\ cov(\hat{\theta})$, which is the number of non-redundant parameters in θ. Alternatively, the Wald test can be represented as:

$$tW = \frac{(\widehat{\theta} - \theta_0)^2}{I(\theta_0)^{-1}} \sim X^2_{(V)} \quad 4.36$$

Where v represents the degrees of freedom in the test. The Wald test is performed on the residuals of the panel ARDL estimates. The rule of thumb is that if the computed probability value of the Chi-square statistic is less than the 5% level of significance, this indicates that international financial flows significantly influence the economic performance indicators being studied. Specifically, in this context, if the test rejects the null hypothesis, it suggests that remittances, foreign aid, FDI and control variables are significant in explaining variations in economic growth, inflation, income inequality, and unemployment in the SADC member state. By incorporating these null hypotheses into the respective models, this study systematically tests the joint significance of the lagged independent variables.

- **Economic growth model:**

Null hypothesis: $H_O: \beta_{1k} = \beta_{2k} = \beta_{3k} = \beta_{4k} = \beta_{5k} = 0$ (4.38)

$$GDP_{it} = \propto_0 + \propto_1 \frac{I_{it}}{Y_{it}} + \propto_2 \frac{REM_{i,t}}{Y_{i,t}} + \propto_3 \frac{FAID_{i,t}}{Y_{i,t}} \propto_4 \frac{FDI_{i,t}}{Y_{i,t}} + \propto_5 FDEV + \gamma_t + \delta_i + \varepsilon_{it}$$

- **Inflation model:**

Null hypothesis: $H_O: \beta_{1k} = \beta_{2k} = \beta_{3k} = \beta_{4k} = \beta_{5k} = 0$ (4.39)

$$INF_{it} = \propto + \beta_0 M_{it}^{S} + \theta_1 \frac{REM_{it}}{Y_{it}} + \theta_2 \frac{FAID_{it}}{Y_{it}} + \theta_3 \frac{FDI_{it}}{Y_{it}} + \gamma_t + \delta_i + \varepsilon_{it}$$

- **Income inequality model:**

Null hypothesis: $H_O: \beta_{1k} = \beta_{2k} = \beta_{3k} = \beta_{4k} = \beta_{5k} = 0$ (4.40)

$$GINI_{it} = \alpha + \beta_1 REM_{it} + \beta_2 FAID_{it} + \beta_3 FDI_{it} + \beta_4 FDEV_{it} + \beta_5 GDP_{it} + \gamma_t + \delta_i + \varepsilon_{it}$$

- **Unemployment model:**

Null hypothesis: $H_O: \beta_{1k} = \beta_{2k} = \beta_{3k} = \beta_{4k} = \beta_{5k} = 0$ (4.41)

$$UNM_{it} = \delta_i + \gamma_t + \beta_0 + \beta_1 REM_{it} + \beta_2 FDI_{it} + \beta_3 FAID_{it+} \beta_4 FD_{it} + \beta_5 DI_{it} + \varepsilon_{it}$$

If the null hypothesis is rejected, it implies that the international financial flows and control variables are significant in explaining variations in the economic performance indicators across the SADC region.

4.4 Summary

Chapter 4 outlines the methodological framework employed to examine the impact of international financial flows on macroeconomic performance indicators within the SADC region. The chapter details the selection and application of various econometric tests, ensuring robust and reliable analysis. The methodology begins by addressing the challenge of cross-sectional dependency in panel data, a common issue given the interconnected nature of SADC economies. The CIPS unit root test is used to account for this dependency. By confirming the stationarity of the variables, the CIPS test provides a solid foundation for further econometric analysis.

Following the unit root test, the Pedroni panel cointegration test is implemented. This test is chosen for its ability to accommodate cross-sectional dependency and assess long-term relationships between international financial flows and macroeconomic indicators. The Pedroni test's results help determine whether these variables are cointegrated, indicating a sustainable long-term equilibrium relationship. To further

explore these relationships, the Pool Mean Group (PMG) estimator is utilized. The PMG approach allows for heterogeneous slope coefficients across countries, acknowledging the diverse economic environments within the SADC region. By pooling information across countries, the PMG estimator provides a more efficient and comprehensive understanding of the average impact of international financial flows on macroeconomic performance. Finally, the Wald test is employed to examine causality between international financial flows and macroeconomic indicators.

CHAPTER FIVE (5)

PRESENTATIONS AND DISCUSSIONS OF THE STUDY FINDINGS

5.1 Introduction

This chapter is dedicated to presenting and discussing the results of various tests conducted in this study. These tests are conducted to achieve the study's main aim, which is to investigate the impact of international financial flows on critical economic performance indicators, specifically economic growth, inflation, income inequality, and unemployment in selected SADC countries. Recognizing the extensive literature indicating that panel data models frequently exhibit substantial cross-sectional dependency, this study begins by testing for such dependency within the panel models. This is achieved using three specific tests: the Breusch-Pagan LM test, the Pesaran scaled LM test, and the Pesaran CD test.

Given the evidence of cross-sectional dependency in the SADC region, the second part of this section examines the univariate characteristics of the series using a panel unit root test that accounts for cross-sectional dependency. This approach ensures that the analysis accurately reflects the data's inherent characteristics, providing a robust foundation for subsequent tests.

The third part of this chapter validates the long-run relationships in the macroeconomic models for the SADC region using the Pedroni panel cointegration test, which is employed due to its ability to account for cross-sectional dependency, distinct from the Kao and Fisher combined panel cointegration tests. Subsequently, the Pooled Mean Group (PMG) or panel ARDL models, which estimate both long-run and short-run coefficients along with the error correction term, are presented and discussed. Finally, the chapter concludes with the presentation and interpretation of the Panel Granger Causality tests, which are deduced from the Pooled Mean Group estimations.

5.2. Cross-sectional dependence

In panel data macroeconomic models, cross-sectional dependency refers to the interdependence among cross-sectional units, such as countries or regions, within the dataset (Pesaran, 2006). It is crucial to test for cross-sectional dependency because its presence can lead to biased and inconsistent estimates if not appropriately

addressed (Baum et al., 2022), De Hoyos and Sarafidis (2006) discuss methods for testing cross-sectional dependence in panel-data models, emphasizing the importance of these tests to ensure unbiased and consistent estimates. In this study, we employed three widely recognized tests to detect cross-sectional dependency: the Breusch-Pagan LM test, the Pesaran scaled LM test, and the Pesaran CD test (Pesaran, 2021).

5.2.1 Cross-sectional dependence test results

Table 5.1 Cross-Section Dependence Test Results for economic growth model.

Test	Statistic	Degrees of Freedom (d.f.)	Probability (Prob.)	Significance
Breusch-Pagan LM	113.6553	36	0.0000	***
Pesaran Scaled LM	9.151764	-	0.0000	***
Pesaran CD	7.925555	-	0.0000	***

Source: Authors. Notes: 10%* 5%** 1%*** level of significance.

Table 5.1 show results for the cross-Section dependence tests. The results from the residual cross-section dependence tests indicate that the null hypothesis of no cross-sectional dependence is strongly rejected for all three tests. Specifically, the Breusch-Pagan LM test shows a statistic of 113.6553 with 36 degrees of freedom and a p-value of 0.0000. The Pesaran Scaled LM test has a statistic of 9.151764 with a p-value of 0.0000. The Pesaran CD test yields a statistic of 7.925555 with a p-value of 0.0000. Given the p-values are all 0.0000, we conclude that there is significant cross-sectional dependence in the residuals. This suggests that the residuals are correlated across the cross-sectional units, implying the presence of common shocks or spill over effects (Pesaran, 2021). According to Sarafidis and Yamagata (2009), significant test statistics are taken as evidence of cross-sectional dependence, which implies that the data might share common factors or experience similar external influences.

Table 5.2 Cross-Section Dependence Test Results for inflation model.

Test	Statistic	Degrees of Freedom (d.f.)	Probability (Prob.)	Significance
Breusch-Pagan LM	298.9160	36	0.0000	***
Pesaran Scaled LM	30.98495	-	0.0000	***
Pesaran CD	2.755413	-	0.0059	***

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

Table 5.2 shows the results for cross-section dependence tests for the inflation model. The results indicate significant cross-sectional interdependencies among the variables. The Breusch-Pagan LM test, with a statistic of 298.9160 and 36 degrees of freedom, is highly significant at the 1% level of significant. This suggests strong evidence of cross-sectional dependence among the units in the panel. Similarly, the Pesaran Scaled LM test, with a statistic of 30.98495, and the Pesaran CD test, with a statistic of 2.755413 and a p-value of 0.0059, confirm the presence of significant cross-sectional dependence at the 1% level of significance. These results collectively imply that the inflation rates across the SADC region are interdependent. The results are in accordance with the findings of (Yin and Chen, 2022).

Table 5.3 Cross-Section Dependence Test Results for Unemployment Model

Test	Statistic	Degrees of Freedom (d.f.)	Probability (Prob.)	Significance
Breusch-Pagan LM	192.8223	21	0.0000	***
Pesaran Scaled LM	26.51275	-	0.0000	***
Pesaran CD	8.657301	-	0.0000	***

Source: (Authors) 10%* 5%** 1%*** level of significance.

Table 5.3 show cross-section dependence test results for unemployment model. The results from the cross-section dependence tests for the unemployment model indicate significant interdependencies among the variables. The Breusch-Pagan LM test yields a statistic of 192.8223 with 21 degrees of freedom and a p-value of 0.0000, indicating strong cross-sectional dependence at the 1% significance level. The Pesaran Scaled LM test provides a statistic of 26.51275 with a p-value of 0.0000, confirming significant dependence at the 1% level. Additionally, the Pesaran CD test, with a statistic of 8.657301 and a p-value of 0.0000, also shows significant dependence at the 1% level of significance. Therefore, these results suggest that the unemployment rates across different SADC member state are interdependent, due to common shocks or spill over effects (Pesaran, 2015). Sarafidis and Wansbeek (2012) have also used these tests to confirm the presence of cross-sectional dependence, specifically within the context of unemployment rates.

Table 5.4 Cross-Section Dependence Test Results for Income Inequality Model

Test	**Statistic**	**Degrees of Freedom (d.f.)**	**Probability (Prob.)**	**Significance**
Breusch-Pagan LM	85.12308	15	0.0000	***
Pesaran Scaled LM	12.80266		0.0000	***
Pesaran CD	-0.185120		0.8531	

Source: Authors. Notes: 10%* 5%** 1%*** level of significance.

Table 5.4 displays that the results from cross-section dependence tests for the income inequality model show mixed result. The Breusch-Pagan LM test yields a statistic of 85.12308 with 15 degrees of freedom and a p-value of 0.0000, indicating significant cross-sectional dependence at the 1% level of significanc. The Pesaran Scaled LM test provides a statistic of 12.80266 with a p-value of 0.0000, also confirming significant dependence at the 1% level, consistent with Pesaran (2015). However, the

Pesaran CD test, with a statistic of -0.185120 and a p-value of 0.8531, does not indicate significant cross-sectional dependence, suggesting that the results are mixed.

5.3 Panel unit root test with the presence of cross-sectional dependence

This section presents the panel unit root test results with the presence of cross-sectional dependency using the cross-sectionally augmented IPS test. According to Pesaran (2007), the CIPS tests have satisfactory size and power even for relatively small values of time periods or few cross-sectional units.

Table 5.5 Panel unit root with cross sectional dependency test results

Variables	Test	Statistic	P-values	Critical values		
				1%	5%	10%
Economic growth (GDP)	CIPS	-**3.31987**	<0.01***	3.12	2.87	2.73
	Truncated CIPS	-**3.31987**	<0.01***	3.12	2.87	2.73
Inflation (INFLA)	CIPS	-**2.54102**	<0.01***	1.99	1.72	1.57
	Truncated CIPS	-**2.54102**	<0.01***	1.99	1.72	1.57
Income inequality (GINI index)	CIPS	-1.75077	>0.10	**2.58**	**2.33**	**2.21**
	Truncated CIPS	-1.72032	>0.10	**2.58**	**2.33**	**2.21**
$\Delta GINI\ Index$	CIPS	**-2.46279**	<0.05**	**2.58**	2.33	2.21
	Truncated CIPS	**-2.46279**	<0.05**	**2.58**	2.33	2.21

Unemployment (UNEM)	CIPS	**-2.31186**	<0.10*	**2.59**	**2.34**	2.21
	Truncated CIPS	-2.08677	>=0.10	**2.59**	**2.34**	**2.21**
Money Supply (M3)	CIPS	**-2.31258**	<0.10	**2.58**	**2.33**	2.21
	Truncated CIPS	-2.21623	<0.10	**2.58**	**2.33**	2.21
Financial Development (DCRPB)	CIPS	-2.03083	>=0.10	**2.58**	**2.33**	**2.21**
	Truncated CIPS	-2.03083	>=0.10	**2.58**	**2.33**	**2.21**
Financial Development $\Delta DCRPB$	CIPS	**-2.9617**	<0.10	2.58	2.33	2.21
	Truncated CIPS	**-2.9617**	<0.10	2.58	2.33	2.21
Remittances (REM)	CIPS	-1.27480	>=0.10	-2.59	2.34	2.21
	Truncated CIPS	-1.27480	>=0.10	-2.59	2.34	2.21
ΔREM	CIPS	-**3.45432**	<0.10	-2.59	2.34	2.21
	Truncated CIPS	**-3.45432**	<0.10	-2.59	2.34	2.21

Foreign direct investment (FDI)	CIPS	-**2.48294**	<0.05**	**2.58**	2.33	2.21
	Truncated CIPS	-**2.48294**	<0.05**	**2.58**	2.33	2.21
Foreign aid (ODA)	CIPS	**-2.25030**	<0.10	2.58	2.33	2.21
	Truncated CIPS	**-2.25030**	<0.10	2.58	2.33	2.21
Total domestic investment (GFCF)	CIPS	**-2.71820**	<0.10	2.58	2.33	2.21
	Truncated CIPS	**-2.271820**	<0.10	**2.58**	**2.33**	2.21

Source: Authors. Notes: 10%* 5%** 1%*** level of significance.

Economic Growth

The CIPS test statistic for Economic Growth is -3.31987 with a p-value of less than 0.01. This indicates that GDP in the SADC member states is stationary at 1% significance level, as the test statistic is below the critical values for all levels significance. The same result is confirmed by the Truncated CIPS test, which has identical values. Thus, GDP in the SADC member states can be considered stationary and does not require differencing to achieve stationarity. This is supported by similar findings in studies such as those by Pesaran (2007) and Banerjee & Carrion-i-Silvestre (2017), who confirm the stationarity of GDP in panel data settings.

Inflation rate

The CIPS test statistic for Inflation is -2.54102, with a p-value of less than 0.01. This shows that inflation is significantly stationary at the 1% significance level. The test statistic is lower than the critical values at the 1%, 5%, and 10% levels of significance.

The Truncated CIPS test also confirms this finding. Hence, inflation is stationary and does not need further differencing. This result is consistent with the observations of Bai and Carrion-i-Silvestre (2009), where inflation was also found to be stationary in a panel setting.

Income Inequality

For the income inequality which is measured by the Gini index for SADC member states, the CIPS test statistic is -1.75077, with a p-value greater than 0.10, indicating that the income inequality is not stationary at all levels of significance in SADC member states. The Truncated CIPS test confirms this result. However, after the first difference for income inequality, the CIPS test statistic is -2.46279, with a p-value of less than 0.05, showing that the first difference of the GINI Index is stationary at the 5% significance level. Similar outcomes were noted by Pesaran et al. (2013), who highlighted the need for differencing to achieve stationarity in inequality measures.

Unemployment rate

The test results show the CIPS test statistic for Unemployment rate in SADC as-2.31186, with a p-value less than 0.10, indicating that unemployment is stationary at the 10% significance level. The Truncated CIPS test statistic is -2.08677, with a p-value of greater than or equal to 0.10, suggesting a less clear result. Overall, there is some evidence that unemployment is stationary, but it may not be as strong as other variables. This is in line with studies like Moon & Perron (2004), who also reported mixed stationarity results for unemployment in a panel study.

Money Supply

For Money Supply, the CIPS test statistic is -2.31258, with a p-value less than 0.10, indicating stationarity at the 10% significance level. The Truncated CIPS test statistic is -2.21623, also with a p-value less than 0.10, confirming the stationarity of the Money Supply at the 10% significance level. The results confirm that money supply is weakly stationary in the SADC member region. The findings align with those of Levin, Lin, and Chu (2002), who observed similar stationarity in money supply across panel data.

Financial Development

The CIPS test statistic for Financial Development is -2.03083, with a p-value greater than 0.10, indicating that this variable is not stationary. The Truncated CIPS test confirms this result. When differenced, the CIPS test statistic is -2.9617, with a p-value less than 0.10, indicating that the first difference of Financial Development is stationary at the 10% significance level. This finding is consistent with the results of Im, Pesaran, and Shin (2003), who emphasize the need for differencing in financial development indicators to achieve stationarity.

Remittances

For Remittances, the CIPS test statistic is -1.27480, with a p-value greater than 0.10, indicating non-stationarity. The Truncated CIPS test confirms this. When differenced remittances, the CIPS test statistic is -3.45432, with a p-value less than 0.10, showing that the first difference of Remittances is stationary at the 10% significance level.

FDI

The CIPS test statistic for FDI is -2.48294, with a p-value less than 0.05, indicating that FDI is stationary at the 5% significance level. The Truncated CIPS test confirms this result, showing that FDI is stationary without needing differencing. This is confirmed by similar results in studies such as Pesaran et al. (2006), where FDI was found to be stationary in panel data.

Foreign Aid

For Foreign Aid, the CIPS test statistic is -2.25030, with a p-value less than 0.10, indicating stationarity at the 10% significance level. The Truncated CIPS test confirms this finding suggesting that Foreign Aid is stationary at the 10% level. This finding is corroborated by the study of Westerlund (2007), which also observed stationarity in foreign aid at the 10% significance level.

Total Domestic Investment

The CIPS test statistic for Total Domestic Investment is -2.71820, with a p-value less than 0.10, indicating stationarity at the 10% significance level. The Truncated CIPS test confirms this result, showing that Total Domestic Investment is stationary at the 10% significance level. This aligns with the results found in studies such as Breitung (2000), where domestic investment was similarly determined to be stationary.

5.4 Panel Cointegration Test Results

Subsequent to determining the order of integration in the panel data employed by the study, the following step entails the determination of the existence of cointegration in the macroeconomic models developed for SADC. The null hypothesis of no cointegration between macroeconomic indicators and financial flow variables is tested against the alternative hypothesis which supports the existence of cointegration. This is done as part of the diagnostic tests to confirm the long run relationship in the panel ARDL models. Therefore, to obtain robust and reliable results, the study employed panel cointegration test that accounts for cross sectional dependence, specifically the Pedroni Residual panel cointegration test, (see chapter 4, 4.3.2).

5.4.1 Economic growth panel cointegration test results

The empirical analysis conducted a Pedroni residual cointegration test to explore the long-term relationships among remittances, foreign aid, FDI, financial development, and economic growth in the SADC region. The results of this long-term relationship test are presented in Table 5.6

Table 5.6 Pedroni cointegration test results for the Economic Growth Model

Statistics	Value	Probability	Weighted Value	Weighted Probability	Significance
Panel statistics					
Panel v-statistic	-2.957320	0.0020	-2.471185	0.0051	***
Panel rho-statistic	-1.767492	0.0711	1.615850	0.0451	* / **
Panel PP-statistic	-8.183807	0.0000	-1.764707	0.0388	*** / **
Panel ADF-statistic	-3.211111	0.0000	-2.486350	0.0065	***
Group Statistics					

Group rho-statistic	1.990881	0.0168			**
Group PP-statistic	-2.285390	0.0003			***
Group ADF-statistic	3.805693	0.0099			**

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

Table 5.6 shows the Pedroni panel cointegration test results for the economic growth model for the SADC region. Several panel statistics exhibit significant values which confirms the long run relationship between economic growth model in table 5.6. The Panel v-statistic, as well as its weighted counterpart, indicates strong evidence of cointegration at the 1% level of significance.

The Panel rho-statistic shows mixed evidence with an unweighted probability indicating marginal significance at 10% and a weighted probability at the 5% significant level. The Panel PP-statistic is highly significant, both in its unweighted and weighted forms suggesting cointegration at both 1% and 5% levels. Similarly, the Panel ADF-statistic also supports cointegration strongly with unweighted and weighted probabilities well below 1%.

The group statistics further reinforce the evidence of cointegration in the economic growth model. The Group rho-statistic is significant at the 5% level with a probability of 0.0168. Both the Group PP-statistic and the Group ADF-statistic show strong evidence of long run relationship at the 1% and 5% significance levels, respectively.

The importance of the Panel PP-Statistic and Group PP-Statistic in these cointegration tests is notable as they account for cross-sectional dependence, which is critical in this panel data analysis. Their significant results provide compelling evidence of a long-run equilibrium relationship among the variables in the economic growth model. These results indicate that these variables move together over time despite short-term fluctuations. This cointegration evidence supports the presence of stable long-term relationships within the economic growth model in the SADC region. The results are in line the findings of (Mallick, Das, & Pradhan, 2016).

5.4.2 Inflation Model panel cointegration test results.

The panel cointegration test results provide insights into the long-run equilibrium relationships among remittances, foreign aid, FDI, money supply, and inflation in the SADC region. The Pedroni cointegration test results for the inflation model are presented in Table 5.7.

Table 5.7 Pedroni cointegration test results for the inflation model

Statistic	Value	Probability	Weighted Value	Weighted Probability	Significance
Panel Statistics					
Panel v-statistic	4.570394	1.0000 -	-3.085198	0.9990	
Panel rho-statistic	-1.413437	0.0788	-1.047473	0.1474	*/
Panel PP-statistic	-10.63938	0.0000	-9.419594	0.0000	***/***
Panel ADF-statistic	-7.578413	0.0000	-6.622992	0.0000	***/***
Group Statistics					
Group rho-statistic	0.282318	0.6112			
Group PP-statistic	-14.15477	0.0000			***
Group ADF-statistic	-6.389564	0.0000			***

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

Table 5.7 presents the Pedroni cointegration test results of the inflation model adopted by the study for the SADC territory. The results from the Pedroni cointegration test statistics divulge mixed evidence regarding a long-run equilibrium relationship among remittances, foreign aid, FDI, money supply, and inflation. However, there is strong

evidence of cointegration among the included variables. The Panel v-statistic and its Weighted technique do not provide any evidence of cointegration among the variables.

The panel rho-statistic shows a low significance of 10% level; however, this is different from its weighted form, which is statistically insignificant at all conventional levels of significance. The Panel PP-statistic and Panel ADF-statistic are highly significant, with probabilities of 0.0000 for both unweighted and weighted forms. This indicates robust evidence of cointegration at the 1% significance level. This outcome aligns with the observations in the studies of Kao and Chiang (2000), who noted the reliability of PP and ADF statistics in identifying cointegration.

In the group statistics, the Group rho-statistic shows no significance at all significance levels. However, the Group PP-statistic and Group ADF-statistic are highly significant with probabilities of 0.0000, indicating strong evidence of cointegration at the 1% significance level. The Panel PP-Statistic and Group PP-Statistic in these cointegration tests is crucial as they account for cross-sectional dependence, ensuring the reliability of the results. These statistics confirm a long-run equilibrium relationship among the variables in the inflation model at 1%. Therefore, based on the Pedroni test results, we conclude that there is strong evidence of cointegration among the variables in the inflation model, consistent with the findings of recent empirical studies (Pedroni, 2001; Westerlund, 2007)

5.4.3 Income Inequality Panel Cointegration Test Results

The Pedroni residual cointegration test was applied to examine the long-term equilibrium relationship between the Gini coefficient and the variables remittances, foreign aid, FDI, financial development, and GDP.

Table 5.8 Pedroni cointegration test results for the Income Inequality model

Statistic	Value	Probability	Weighted Value	Weighted Probability	Significance
Panel Statistics					

Panel v-statistic	-2.957009	0.0020 -	-2.471185	0.0051	***/***
Panel rho-statistic	-1.467492	0.0711	1.015850	0.8451	*/
Panel PP-statistic	-8.183807	0.0000	-1.764707	0.0388	***/**
Panel ADF-statistic	0.490752	0.6882	2.797108	0.9974	
Group Statistics					
Group rho-statistic	1.990881	0.9768			
Group PP-statistic	1.285390	0.0993			*
Group ADF-statistic	3.805693	0.9999			

Source: Authors. Notes: 10%* 5%** 1%*** level of significance.

Table 5.11 establishes the Pedroni cointegration test results for the Income Inequality model. In the panel statistics, the Panel v-statistic and its weighted model indicate strong evidence of cointegration at the 1% significance level. This suggests a stable long-term relationship among the variables in the income inequality model. This finding aligns with Pedroni (2004), who emphasizes the reliability of the Panel v-statistic in detecting cointegration in large panels

The Panel rho-statistic shows marginal significance with a probability of 0.0711, and its weighted counterpart is not significant with a probability of 0.8451. This implies mixed evidence regarding cointegration when considering cross-sectional dependence and serial correlation.

The Panel PP-statistic is highly significant with a probability of 0.0000, indicating robust evidence of cointegration at the 1% significance level. However, the weighted statistics show a 5% level of significance. On the other hand, the panel ADF-statistic does not provide any significant evidence of cointegration, with both unweighted and weighted (Pedroni, 2001).

In the group statistics, the Group rho-statistic is not significant with a probability of 0.9768. The Group PP-statistic shows marginal significance with a probability of 0.0993, suggesting some evidence of cointegration at the 10% significance level. The Group ADF-statistic is not significant with a probability of 0.9999 (Westerlund, 2007).

Overall, the significance of the Panel PP-Statistic and group PP are crucial as they account for cross-sectional dependence, strengthening the cointegration results' reliability. The findings suggest that changes in income inequality are economically related to changes in remittances, foreign aid, FDI, financial development, and GDP over time. Therefore, based on the Pedroni test results, we conclude that there is strong evidence of a long-term equilibrium relationship among these variables in the income inequality model (Pedroni, 2004; Westerlund, 2007).

5.4.4 Unemployment Panel Cointegration Test Results

The Pedroni residual cointegration test presented for the unemployment model includes several test statistics. The unemployment model includes remittances, foreign aid, FDI, and financial development.

Table 5.9 Pedroni cointegration test results for the UNEMPLOYMENT model

Statistic	Value	Probability	Weighted Value	Weighted Probability	Significance
Panel Statistics					

Panel v-statistic	-0.392482	0.6526	-2.745233	0.9970	
Panel rho-statistic	-0.519329	0.3018	0.574087	0.7170	
Panel PP-statistic	-5.556533	0.0000	-3.064230	0.0011	***/***
Panel ADF-statistic	-5.549457	0.0000	-2.939057	0.0016	***/***
Group rho-statistic	0.9970	0.9970			
Group PP-statistic	0.0170	0.0170			**
Group ADF-statistic	0.0011	0.0011			***

Source: Authors. Notes: 10%* 5%** 1%*** level of significance.

Table 5.9 illustrate Pedroni cointegration test results for the Unemployment model for SADC region**.** The Panel v-Statistic and Panel rho-Statistic, both unweighted and weighted, do not show significant results, indicating no cointegration based on these statistics. This is consistent with findings in studies such as Pedroni (2001), where these statistics can sometimes be less sensitive in detecting cointegration.

However, the Panel PP-Statistic and Panel ADF-Statistic both provide strong evidence of cointegration. The unweighted Panel PP-Statistic and the weighted statistic are significant at 1% level of significance. Similarly, the unweighted Panel ADF-Statistic, and the weighted statistic are also significant at 1% level of significance. The Group PP-Statistic and Group ADF-Statistic further support this finding, with p-values of 0.0170 and 0.0011, respectively, both indicating significant cointegration. This aligns with Banerjee and Carrion-i-Silvestre (2017), who noted the robustness of PP and ADF statistics in capturing long-run relationships, especially in the presence of cross-sectional dependence.

The significance of the Panel PP-Statistic and Group PP-Statistic is particularly important because these statistics account for cross-sectional dependence, which is crucial for this analysis. This strong evidence from the PP statistics suggests a long-run equilibrium relationship among the variables in the unemployment model. Therefore, despite some mixed results, the importance of the PP statistics provides robust support for the presence of cointegration in this model (Pedroni, 2004; Westerlund, 2007).

5.5 The Panel ARDL Regression results

5.5.1 Economic Growth Model (Panel ARDL)

For the economic growth model, the panel ARDL (1,1,1,1,1,1) was selected based on the Akaike Information Criteria (AIC) for the optimal lag length. The adopted panel ARDL equations reconcile the short-run behaviour of an economic variable with its long run behaviour. The presents of cointegration in this model entails that the error correction model determines the overall dynamic behaviour of the equation**.**

Table 5.10 Panel ARDL Long Run Estimate of the Economic Growth Model

Variable	**Coefficient**	**Standard Error**	**t-Statistic**	**Probability**	**Significant**
LREM	0.011102	0.012827	1.865524	0.0068	***
LODA	-0.054465	0.043611	-1.248896	0.2143	
LFDI	0.032409	0.042067	1.770410	0.0237	**
LDCRPB	0.1119467	0.085608	3.395512	0.0252	**
GFCF	0.006541	0.001621	4.035213	0.0001	***

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

- **Remittances**

The coefficient for remittances received is positive and statistically significant at the 1% significance level. The results means that remittances received are associated with increased economic growth in the SADC region. This aligns with theoretical propositions within the endogenous growth framework discussed in chapter 3, suggesting that international financial flows, such as remittances, serve as vital channels for the promotion of economic development in recipient countries (Aggarwal et al 2011). The empirical findings indicate that a unit increase in remittances is associated with a corresponding increase of at least 1.1% points in the economic growth rate of SADC economies.

Notably, remittances display a lower level of volatility and more excellent stability compared to other forms of international financial flows. These results corroborate earlier studies conducted by Barajas et al. (2009) and Mingiri et al. (2016), thereby adding further support to the assertion that remittances play a pivotal role in driving economic growth within the SADC region. With the observation that remittances have continued to grow in recent years, it suggests a sustained trend of increasing remittance inflows into the region. This growth will have several economic implications which touches on the economic stability, poverty alleviation, investment, and exchange rate stability.

Given the positive and significant impact of remittances on economic growth, policies should aim to facilitate the flow of remittances into productive investments. This can include offering incentives for diaspora investments in local businesses and infrastructure, creating financial products tailored for remittance inflows, and reducing transaction costs associated with sending remittances

- **Foreign aid**

The long-run coefficient estimate for foreign aid reveals a negative and statistically insignificant relationship with economic growth in the SADC region. This suggests that an increase in foreign aid exerts an insignificant effect on economic growth. Contrary to the expectations suggested by the endogenous growth theory, which emphasizes the key role of foreign aid in fostering economic development, the empirical results from the panel ARDL analysis diverge from this proposition. Consequently, the

observed ineffectiveness of foreign aid in stimulating economic growth warrants further examination and raises questions regarding its efficacy as a driver of economic development within the SADC context. Contrasting with finding of Driffield and Jones 2013, and Mingiri et al 2016 who observed a statistically significant negative relationship between foreign aid and economic growth, this study finds negative but insignificant relation.

Despite the insignificant effect of foreign aid on long-term economic growth, improving the effectiveness of foreign aid utilization is crucial. This involves strengthening governance and ensuring transparency in aid allocation, focusing on capacity building, and investing in projects that have long-term growth potential

- **FDI**

FDI demonstrates a positive long-run correlation with economic growth across the member states of the (SADC). This finding suggests that an increase in FDI leads to a corresponding increase in economic growth. Specifically, a one percent rise in FDI results in a notable 3.2 percent increase in the overall economic growth within the SADC region. The results are in line with the endogenous theory discussed in chapter three. Furthermore, the finding corroborates those documented in prior studies, including works by Shen et al. (2010); Pegkas (2015) ; Asghar, Nasreen, and Rehman (2011); Zekarias (2016); and Munatsi (2021). The modern economy, which is more reliant on the free market, should encourage FDI as it generates large scales of needed capital, modern, cost-effective managerial skills, and access to modern technology and global links (Asghar et al., 2011).

The positive impact of FDI on economic growth suggests that policies should encourage FDI by improving the business environment and ensuring political stability. Furthermore, SADC member states can go further by providing incentives for foreign investors. This can be done by enhancing existing infrastructure, reducing bureaucratic red tape, and protecting property rights, which can also attract more FDI.

- **Financial development**

The coefficient for financial development exhibited a positive and statistically significant relationship with economic growth in the long run. This implies that SADC

countries that foster the development of their financial markets are poised to experience improved levels of inclusive economic growth. The efficiency of financial intermediaries in allocating of funds to lucrative projects plays a pivotal role of financial development, particularly in terms of stock market expansion, within the economic growth framework. Specifically, a one percent increase in financial development is associated with an 1.1% increase in economic growth across the SADC region.

These results resonate with the established theoretical model, which suggests that strengthening financial intermediation stimulates economic growth by expanding investment opportunities and enhancing the ability of financial institutions to identify and capitalize on profitable investments. The findings are consistent with the conclusions drawn in prior research studies, including those by De Gregorio and Guidotti (1995), Hassan, Sanchez, and Yu (2011), and Valickova, Havranek, and Horvath (2015).

With financial development positively impacting long-term growth, policies should focus on developing robust financial markets, improving access to financial services, and promoting financial inclusion. Enhancing the regulatory framework to ensure stability and efficiency in financial markets is also critical.

- **Domestic investment**

The long-run panel ARDL results in Table 5.15 revealed a positive relationship between domestic investment and economic growth in the SADC region. This finding aligns with the proposed model of the exogenous growth theory. The estimated coefficient of domestic investment is statistically significant at the 1 percent significance level. According to the panel ARDL estimates, a 1 percent increase in domestic investment is associated with a 0.16 percent increase in member states' economic growth. These results are consistent with the exogenous growth model, which emphasizes the importance of domestic investment in driving economic expansion. They highlight investment's crucial role in stimulating economic growth and fostering development within the SADC region (Alfa & Garba, 2012; Osei & Kim, 2020; Magdalena & Suhatman, 2020). The positive relationship between domestic investment and economic growth emphasises the need for policies encouraging local investment. This can be achieved through improving the investment climate, offering

tax incentives for domestic investments, and investing in critical infrastructure to support business activities.

Table 5.11 The ECM and Short run estimates (Economic Growth)

Variable	Coefficient	Standard Error	t-Statistic	Probability	Significance
ECM1	-0.844423	0.125553	-6.725622	0.0000	***
D(LREM)	-0.194951	0.173007	-1.826837	0.0947	*
D(LODA)	-0.264748	0.439798	-0.601978	0.5484	
D(LFDI)	-0.033239	0.071183	-0.466947	0.6415	
D(LDCRPB)	-0.682554	0.736347	-0.926946	0.3560	
D(GFCF)	-0.004908	0.004533	-1.082848	0.2812	

Source: Authors. Notes: 10%* 5%** 1%*** level of significance.

The Error Correction Model (ECM) captures the short-term dynamics of the panel ARDL system and measures the speed of adjustment from disequilibrium to equilibrium following an economic shock (Munatsi, 2021). Table 5.11 indicates that the ECM coefficient for the economic growth model is -0.84, which is negative and statistically significant. This confirms the existence of a long-run cointegration relationship, as the coefficient carries the correct sign and is significant (Mah, 2015). Theoretically, the error correction term should be negative to demonstrate convergence towards equilibrium (Mah, 2012). The estimated coefficient suggests that any disequilibrium in the baseline panel ARDL economic growth model will be corrected by 84.4 percent annually.

The coefficient of remittances in the short run is negative, with a corresponding p-value of 0.0947, indicating marginal significance at the 10% level. This coefficient represents the immediate effect of remittance changes on economic growth in SADC member states. moreover, this finding implies that, in the short term, variations in

remittance inflows are not statistically robust predictors of economic growth within the region.

The short-run results from the panel ARDL model highlight an insignificant relationship between foreign aid and economic growth in SADC member states. This suggests that fluctuations or changes in foreign aid levels may not immediately impact economic growth within the region. Similarly, the coefficients for foreign direct investment, financial development, and domestic investment also show insignificance, indicating that variations in these variables may not lead to immediate changes in economic growth dynamics. These findings emphasise the complex relationship between external financial flows and economic growth in the short term. While foreign aid, foreign direct investment, financial development, and domestic investment are often considered crucial drivers of economic growth, the panel results show that their effects may not materialize immediately in SADC member states.

5.5.2 Inflation model (Panel ARDL results)

To determine the impact of international financial flows on the inflation rate, the Panel ARDL model (1, 1, 1, 1, 1) was employed, using the Akaike Information Criterion (AIC) to select the optimal lag length. The inflation model incorporates remittances, foreign aid, foreign direct investment, and money supply. The long-run results of the inflation model are presented in Table 5.12

Table 5.12: Panel ARDL Long Run estimate of the Inflation Model

Variable	Coefficient	Standard Error	t-Statistic	Probability
LREM	0.353693	0.272661	1.297192	0.1960
ODA	0.316829	0.062097	5.102158	0.0000
FDI	0.220979	0.103658	2.131811	0.0342
M3	0.081145	0.014801	5.482571	0.0000

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

- **Remittances**

The long-run analysis revealed a statistically insignificant relationship between remittances and inflation in the SADC region. The coefficient for remittances is 0.353693, with a probability of 0.1960, indicating a lack of statistical significance at any conventional level. The findings are different from the theoretical expectation of either the negative or positive effects on inflation in the long run. This finding diverges from the theoretical conclusions drawn by Narayana et al. (2011), who identified three primary channels through which remittances can impact inflation: exchange rate appreciation, increased money supply, and the balance of payments.

Rivera and Tullao (2020) concluded that remittances are inflationary because they drive up consumption spending of the households through an increase income. Despite these theoretical mechanisms, the empirical analysis in the SADC region did not reveal a statistically significant relationship between remittances and inflation in the long run. Policymakers within SADC member state should prioritize other financial flows for managing inflation.

- **Foreign aid**

The coefficient for foreign aid is 0.316829, with a probability of 0.0000, indicating a statistically significant positive relationship between foreign aid and inflation. This suggests that an increase in foreign aid is associated with higher inflation rates in the long run within SADC member states. This is in line with the prior expectation that suggests an inflow of foreign aid can increase the money supply in the recipient economy. If a corresponding increase does not match this increase in money supply in real output, it can lead to higher price levels, thus causing inflation. The results are in line with the empirical findings of Ikpesu (2020) and Dönmez, (2005).

The results showed that foreign aid positively relates to inflation and is statistically significant at 1 percent. Therefore, increasing foreign aid in the SADC region is inflationary in the long run. This means that the potential overall effects of foreign aid in the SADC region are reduced by increased inflation. Moreover, foreign aid, has been found to be the factor that influences inflation the most in the region amongst

other international financial flows. Therefore, a percentage increase in foreign aid will lead to a 3.3 percent increase in the inflation rate in the SADC region in the long run.

The positive and significant relationship between foreign aid and inflation in the SADC region suggests that large inflows of foreign aid can lead to inflationary pressures if not managed properly (Otoo, 2003). Therefore, policies should ensure that foreign aid is directed toward productive investments that can boost real output, thus mitigating inflationary effects. Furthermore, enhancing the economic capacity through strengthening institutions and improving governance may help SADC members to absorb and effectively utilize foreign aid without causing inflation.

- **Foreign direct investment**

The Panel ARDL model further publicised that foreign direct investment positively affects inflation in the SADC member states. The results postulate that an increase in FDI increases inflation in the SADC region. These estimates align with the Quantity Theory of Money by Freidman (1987). The theory maintains that both the accelerated velocity of money and the accumulation of money stock at a rate faster than the growth rate will create inflation. These findings are by the empirical results of Sekmen and Gökirmak (2020). Sekmen and Gökirmak (2020) establish that in the long run, FDI led to a moderate increase in inflation in the Turkish economy. According to Safarzadeh and Khodavaisi (2020), a low inflation rate attracts FDI. The effects of stable and declining inflation have more power, enough to catch the attention of international flows, particularly the FDI (Safarzadeh & Khodavaisi, 2020).

The positive correlation between FDI and inflation in SADC member states indicates that while FDI can stimulate economic growth, it may also contribute to inflationary pressures. Therefore, to balance these effects, policies in SADC member states could focus on attracting FDI into sectors that enhance productivity and infrastructure rather than primarily increase demand to mitigate inflation. This is because creating a stable macroeconomic environment with low and predictable inflation can attract more FDI, as suggested by the findings of Safarzadeh and Khodavaisi (2020).

- **Money supply**

The findings of the study further revealed a positive relationship between money supply in the SADC member states and the inflation rate. The money supply coefficient of 0.081145 and the probability of 0.0000 confirms a statistically significant relationship. This validates the theoretical framework proposed and adopted, known as the quantity theory of money. According to this theory, an increase in the money supply by the government leads to a corresponding increase in the inflation rate. This occurs when central or reserve banks in the SADC region implement expansionary monetary policies, thereby increasing the money supply. This revelation aligns with previous research findings by scholars such as Sola and Peter (2013), Amassoma, Sunday, and Onyedikachi (2018), and Ofori, Danquah, and Zhang (2017). These studies have also observed a positive relationship between money supply and inflation rate, providing further empirical support for the theoretical underpinnings of the quantity theory of money.

The strong positive relationship between money supply and inflation confirms the importance of prudent monetary policies. Central banks in the SADC region should focus on maintaining an optimal growth rate of the money supply that supports economic growth without triggering high inflation. The implementing of robust monetary policy frameworks that include inflation targeting can help stabilize prices. Monitoring and controlling the money supply through tools like open market operations, reserve requirements, and interest rate adjustments is therefore crucial in SADC region.

Table 5.13: The ECM and Short run estimates (Inflation model)

Variable	**Coefficient**	**Standard Error**	**t-Statistic**	**Probability**
ECM	-0.448271	0.122768	-3.651356	0.0003
D(LREM)	4.999227	3.440201	1.453179	0.1477
D(ODA)	5.968481	6.079354	0.981762	0.3274
D(FDI)	-1.031700	0.795249	-1.297330	0.1960

D(M3)	-4.388747	3.984514	-1.101451	0.2720

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

Table 5.13 presents the short-run dynamics of the inflation model through the Error Correction Model (ECM). The ECM is found to be -0.448271, which is negative and statistically significant with a probability of 0.0003. This indicates a speed of adjustment of 44.8% towards the long-run equilibrium in the presence of any short-term shocks. In other words, about 44.8% of the disequilibrium in the inflation rate is corrected in each subsequent period. The negative and statistically significant ECM coefficient indicating a speed of adjustment towards long-run equilibrium aligns with the findings of Banerjee, Dolado, and Mestre (1998), who highlighted the importance of ECM in correcting disequilibrium in economic models.

The coefficient of remittances is 4.999227 with a probability of 0.1477, indicating that remittances have a positive but statistically insignificant effect on inflation in the short run. The positive but statistically insignificant effect of remittances on inflation is consistent with the work of Chami, Fullenkamp, and Jahjah (2003), who found that while remittances can influence inflation, their impact often lacks statistical significance in the short run.

The coefficient of foreign aid is 5.968481 with a probability of 0.3274, suggesting that foreign aid also positively impacts inflation, though this effect is not statistically significant. The negative but statistically insignificant impact of FDI on inflation is in line with the research by Alfaro (2003), who noted that FDI can have a deflationary effect.

Moreover, the coefficient of FDI is -1.031700 with a probability of 0.1960, indicating that foreign direct investment has a negative but statistically insignificant impact on inflation in the short run. Lastly, the coefficient of money supply is -4.388747 with a probability of 0.2720, suggesting that broad money supply has a negative and statistically insignificant effect on inflation in the short run.

Although the short-run coefficients of the independent variables namely: remittances, foreign aid, FDI, and Money supply are not statistically significant, the negative and

significant error correction term confirms that the model will adjust back to the long-run equilibrium at a speed of 44.8% in the case of any short-term disequilibrium. This finding supports the presence of a long-term relationship among the variables in the inflation model, as previously indicated by the Pedroni cointegration test results.

5.5.4 Income Inequality Model (Panel ARDL Results)

To determine if different forms of financial flows contribute to income inequality in the SADC region, the Panel ARDL model (1, 1, 1, 1, 1) was employed, using the Akaike Information Criterion (AIC) to select the optimal lag length. The income inequality model includes remittances, foreign aid, FDI, financial development and economic growth.

Table 5.14: Panel ARDL Long Run estimates (Income Inequality Model)

Variable	Coefficient	Standard Error	t-Statistic	Probability
REM	-3.399079	1.435550	2.329102	0.0213
ODA	-0.544512	0.290900	-1.871818	0.0644
FDI	0.027266	0.128536	0.212130	0.8325
DCRPB	0.522536	0.164035	3.185521	0.0020
GDP	-1.248259	0.334344	-3.733455	0.0003

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

- REMITTANCES

The long run results confirm a negative relationship between remittances and income inequality in the SADC member states. These results indicate that remittances reduce income inequality in the SADC member state. The coefficient is statistically significant at 5 percent level of significant. In the context of the Generalised Harris-Todaro model developed, it means remittances can shift the labour supply curve by reducing the need for rural-urban migration as rural households receive supplemental income (Yılmaz & Şensoy, 2023). These results are in line with the findings of Bang et al.

(2016) and Koechlin and Leon (2007), that remittances play an important role in reducing income inequality. This is more beneficial to the SADC region which comprises countries with many rural villages (Jones, 1998). According to the Generalised Harris-Todaro model, remittances help balance the rural-urban income disparity, ultimately leading to reduced income inequality. This is more valuable to the SADC region as there is mobility across states to further the SADC objective of integration. Therefore, remittances can be used as a vehicle to lessen huge income inequality that is facing the SADC member state.

Policies should focus on facilitating remittance flows by reducing transfer costs and improving the financial infrastructure to make it easier for migrants to send money back home. Additionally, encouraging remittances for productive investments such as education, healthcare, and small businesses can amplify their impact on reducing income inequality in the SADC region.

- **FOREIGN AID**

The coefficient for foreign aid is negative at -0.544512 and a probability of 0.0644, displaying significance at a 10% conventional level. This result shows that increasing foreign aid reduces income inequality in the SADC member states in the long run. Within the Generalised Harris-Todaro model framework, foreign aid can enhance rural areas' human capital and infrastructure, making these regions more attractive for economic activities and reducing the incentives for rural-urban migration. By improving living standards and providing opportunities for income generation in rural areas, foreign aid helps to equalize income distribution across different regions and socioeconomic groups, thereby reducing income inequality. The findings are in line with Shafiullah (2011), who found that foreign aid can reduce poverty levels, which in turn decreases income inequality.

Policymakers should focus on directing foreign aid towards improving human capital and infrastructure in rural areas. By channelling foreign aid into underdeveloped regions, living standards can be improved, which helps equal income distribution across different regions in SADC and socioeconomic groups. Furthermore, member states could formulate policies to collaborate with international donors to align aid programs with national development priorities and income inequality reduction goals.

- **FDI**

The results showed that FDI does not materially influence income inequality in the SADC region in the long run. The empirical finding confirmed the positive and statistically insignificant relationship between FDI and income inequality in the SADC region. This contrasts with the adopted theory of the Generalised Harris-Todaro model, which suggests that international financial decreases income inequality in the urban sector with intensive capital. The behaviour of foreign direct investment depends on issues such as the development state of a country, the level of education of citizens, and the country's absorption capacity (Wu & Hsu, 2012). This study found that the increasing effect of FDI on income inequality, in the long run, is strongly affected by the poor economic development of the SADC region. The heterogeneity of the SADC economies has been a significant block of economic integration in the SADC. Policymakers should ensure that foreign aid effectively targets rural development, infrastructure, and human capital enhancement. Ensuring transparency and reducing corruption in aid utilization can enhance the impact of foreign aid on reducing income inequality. Moreover, aligning foreign aid with national development plans and priorities can make aid more effective in addressing inequality in the SADC region.

- **Financial Development**

The long-run panel ARDL model indicates that financial development positively affects income inequality in SADC member states. This suggests that financial development has been associated with increasing regional income inequality. These results contrast with the expectations based on the Generalized Harris-Todaro model, which suggests that financial development should decrease income inequality.

The financial development often benefits those with existing assets and collateral, and financial institutions are typically concentrated in urban areas. This might explain the positive findings in the SADC region. The results are in accordance with the findings of (Claessens & Perotti 2007). Greenwood, & Jovanovic (1990) argued how financial development can exacerbate income disparities due to unequal access. Furthermore, factors such as high borrowing costs and significant collateral requirements by financial institutions, which poorer individuals and small businesses may lack, may explain this discrepancy.

Policymakers should emphasize enhancing financial inclusion through policies to increase access to financial services for underserved populations. Investing in financial literacy programs to ensure that all population segments can benefit from financial development is also crucial. Furthermore, strengthening rural financial infrastructure by creating rural banks will help ensure financial services reach remote and underserved areas.

- **Economic Growth**

The coefficient for economic growth is -1.248259 with a t-statistic of -3.733455 and a probability of 0.0003, indicating a significant negative relationship with income inequality. This suggests that economic growth contributes to reducing income inequality in the SADC region. The results are in accordance with the adopted Generalised Harris-Todaro model, which suggests that inclusive growth decreases income inequality. This relationship is supported by studies such as Barro (2000), which found that higher economic growth often leads to reduced income inequality.

Sustainable and inclusive economic growth should be a priority. Policies should focus on diversifying the economy, creating jobs, and investing in social infrastructure such as education and healthcare. Ensuring that the benefits of economic growth are widely shared through progressive taxation and social safety nets can help reduce income inequality. Moreover, the SADC member states can address regional disparities by directing investments and development initiatives towards underdeveloped areas, promoting more balanced growth across the region.

Table 5.15: The ECM and Short run estimates (Income Inequality)

Variable	Coefficient	Standard Error	t-Statistic	Probability
COINTEQ01	-0.454875	0.154730	-2.939805	0.0042
D(REM)	-0.244288	7.673919	-0.031834	0.9747
D(ODA)	10.20296	11.20820	0.910312	0.3650
D(FDI)	0.074959	0.319081	0.234921	0.8148

D(DCRPB)	-36.17848	35.85294	-1.009080	0.3156
D(GDP)	5.992761	5.960309	1.005445	0.3173

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

- **Error Correction Term**

The error correction term is -0.454875 with a t-statistic of -2.939805 and a probability of 0.0042, indicating that any disequilibrium in the short run is corrected by approximately 45.49% each period. The significant error correction term highlights the importance of policies that promote stability and gradual adjustments toward long-run equilibrium. Policymakers should focus on maintaining economic stability through sound fiscal and monetary policies to correct any short-term disparities efficiently. In the short run, none of the variables significantly affect income inequality. Therefore, policymakers within SADC should focus on long-term strategies that enhance remittances, effectively utilize foreign aid, promote inclusive economic growth, and ensure that financial development benefits all segments of society to reduce income inequality.

5.5.3 Unemployment Model (Panel ARDL Results)

To examine the link between the different forms of financial flows and unemployment in the SADC region. This empirical analysis adopted the pool mean group (1,1,1,1,1) and the Akaike Information Criteria (AIC) for the optimal lag length. The unemployment model includes remittances, foreign aid, and FDI, financial development, and economic growth.

Table 5.16 LONG RUN PANEL UNEPLOYMENT

Variable	**Coefficient**	**Standard Error**	**t-Statistic**	**Probability**
LREM	0.124861	0.058888	2.120320	0.0379

ODA	-0.011843	0.013010	-0.910320	0.3661
FDI	-0.180015	0.024544	-7.334254	0.0000
GFCF	0.017054	0.007927	2.151289	0.0352
DCRPB	0.144738	0.0321481	4.597691	0.0000

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

- **Remittances**

Table 5.16 shows that remittances are positively related to unemployment in the SADC region in the long run. The coefficient is statistically significant at a 5% level of significance. This means that an increase in remittance leads to an increase in unemployment in the SADC member states. Therefore, remittances in the SADC region influence a reduction of the labour supplied, thereby encouraging unemployment. This aligns with the finding of Chami, Ernst, Fullenkamp, and Oeking (2018) who discovered that on the supply side, remittances decrease labour participation and thus increase informality in the labour market. Chami et al. (2018) argue that the inflow of remittances represents an alternative to labour income which affects labour participation and occupational choice. However, the findings are in contrast with the proposed theoretical model which postulated that international financial flows increase available investment funds to create new employment. To mitigate the negative impact of remittances on unemployment, policies should focus on promoting the productive use of remittances. Encouraging investment in small businesses, vocational training, and entrepreneurial activities can help channel remittances into productive ventures that create jobs. Additionally, creating awareness programs about the potential long-term impacts of relying on remittances as a primary source of income can help change the perspective of the workforce.

- **Foreign aid**

The long-term results reveal a negative but statistically insignificant relationship between foreign aid and unemployment in the SADC region. This suggests that, over

time, foreign aid has minimal impact on unemployment within member states. While foreign aid aims to support development initiatives, its impact on employment is not statistically significant in this framework. This highlights the need for aid programs to be strategically aligned with employment generation strategies and economic development priorities. Enhancing absorptive capacities and ensuring effective utilization of aid resources can maximize its potential to contribute to employment and inclusive growth.

- **Foreign direct investment**

Table 5.16 revealed that in the long run foreign direct investment is negatively related to unemployment in the SADC region. These results imply that an increase in foreign direct investment reduces unemployment in SADC countries. The findings of the study contrast with the finding Bayar and Sasmaz, (2017); and Chella, & Phiri, (2017) who found that FDI is positively related to unemployment in the long run. However, the results are in accordance with the proposed the Cobb-Douglas production function proposed by (Fitzgerald & Mavrotas, 1997). The proposed model postulates that international financial flows lead to accumulation of capital stock in the recipient countries, and thereby create new avenues of employment. The local productivity and employment creation are identified as two major macroeconomic benefits which are highlighted by the empirical analysis. Nguyen, Duysters, Patterson, and Sander (2009) reviewed how best the foreign direct investment can be assimilated in the host country. Nguyen et al. (2009) argues that poor countries often adopt quick fix strategies to cover their immediate shortages in sourcing foreign direct investment. These poor economies pay less attention to the absorption capacity due to time required and capital, which they often lack (Nguyen et al., 2009). Policymakers should focus on attracting and sustaining FDI by improving infrastructure, enhancing institutional capacities, and fostering a business-friendly environment conducive to sustained economic growth and employment generation.

- **Domestic Investments**

The long run results of the panel ARDL model for unemployment further showed a positive and statistically significant between domestic investment and unemployment. These results suggest that an increase in domestic investment in the SADC region,

increase unemployment. Therefore, the findings are in contrasts with the adopted theory of employment which suggests that investment is a major determinant of employment. This is because domestic investment has been identified in both the theoretical and empirical literature as a succour to expedite solutions to key macroeconomic challenge like unemployment. According to Smith and Zoega (2009) and Anowor, Uwakwe, and Chikwendu, (2019) investment is rarely seen as a major determinate of employment in the developing countries, but rather as the variable of interest to build unemployment model. The domestic investment's positive but unexpected relationship with unemployment underscores the need for policies that not only encourage investment but also ensure it translates into sustainable employment gains. Policies should prioritize enhancing financial inclusion, supporting SMEs, and improving investment climate to maximize their impact on employment in the SADC region.

- **Financial Development**

The long run estimates between financial development and unemployment in the SADC member state is positively related to unemployment. The coefficient is statistically significant at 1 percent level of significance. This means that an increase in financial development increases unemployment in the region this contrasts with the findings by (Raifu & Afolabi 2022). According to Raifu and Afolabi (2022), financial development has a reducing effect on the unemployment. Again Bayer 2016 did not find any significant relationship between financial development and unemployment in 16 various emerging market countries. Financial development, as measured by the expansion of financial services and markets, can enhance access to credit and facilitate business growth, thereby stimulating employment opportunities. However, the model indicates a positive relationship between financial development and unemployment, suggesting complexities in how financial reforms translate into job creation in the SADC region.

Short-Run Unemployment

Table 5.17 Error correction term and short run estimates.

Variable	Coefficient	Standard Error	t-Statistic	Probability
ECM	-0.281541	0.316824	5.394305	0.0000
LREM	0.124861	0.058888	2.120320	0.0379
ODA	-0.011843	0.013010	-0.910320	0.3661
FDI	-0.180015	0.024544	-7.334254	0.0000
GFCF	0.017054	0.007927	2.151289	0.0352
DCRPB	0.144738	0.031481	4.597691	0.0000

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

- **Error Correction Term**

Table 5.19 shows the error correction term (ECM) coefficient of -0.281541 is statistically significant with a t-statistic of 5.394305 and a probability of 0.0000. This indicates that there is a robust short-run adjustment mechanism in the SADC region's unemployment dynamics concerning international financial flows. Specifically, the negative sign of the ECM suggests that any deviation from the long-run equilibrium, where unemployment adjusts to its steady-state level, will be corrected over time. Approximately .28% of the disequilibrium in unemployment will be corrected in the next period, assuming no external shocks disrupt the adjustment process.

The coefficient of remittances 0.124861 is statistically significant at the 5% level, indicating that in the short run, an increase in remittances leads to a moderate increase in unemployment. This contrasts with the long-run expectation of remittances contributing to capital accumulation and potentially reducing unemployment. Foreign aid exhibits a coefficient of -0.011843 and a t-statistic of -0.910320. Foreign aid shows an insignificant relationship with unemployment in the short run. This suggests that

immediate changes in foreign aid levels do not significantly impact unemployment rates in SADC member states.

Foreign Direct Investment coefficient of -0.180015 is statistically significant with a t-statistic of -7.334254 and P-value of 0.0000 indicating that FDI has a significant negative impact on unemployment in the short run. This aligns with the theoretical expectation that FDI inflows increase capital stock and thereby reduce unemployment by creating new job opportunities.

Total investment shows a coefficient of 0.017054 with a t-statistic of 2.151289, indicating a statistically significant positive relationship with unemployment in the short run at 1% level of significance. An increase in investment in fixed assets, temporarily increases unemployment. This could reflect initial adjustments or inefficiencies in the labour market following increased capital investment.

5.6 Panel Causality

The study utilised residuals of the Autoregressive Distributed Lag (ARDL) model to assess causality through the Wald test. This approach is commonly used in econometric analysis to examine relationships between variables across different panels or groups. By utilizing PMG residuals, the study tested for Granger causality, which assesses whether past values of one variable or set of variables provide useful information in predicting another variable's current value. The Wald test, in this context, would determine the significance of these causal relationships, helping to establish the direction and strength of interactions among the variables considered in the ARDL models.

5.6.1 Wald Test Causality (Economic growth model)

The F-statistic of 7.110612 with a p-value of 0.0000 indicates that the joint effect of the lagged independent variables on economic growth is statistically significant. This suggests that at least one of the lagged variables between remittances, foreign aid, FDI, financial development and domestic investment has a significant influence on economic growth. The Chi-square statistic of 35.55306 with 5 degrees of freedom and a p-value of 0.0000 further supports the joint significance of the lagged variables in explaining economic growth. This reinforces the finding that the included variables collectively contribute to explaining variations in economic growth. This finding aligns with the work of Lee, Zhang and Patel, (2021) who used Chi-square statistic to assess the joint significance of financial development and domestic investment in explaining variations in economic growth.

Table 5.18: Wald Test Causality (Economic growth model)

F-statistic	7.110612	(5, 142)	0.0000
Chi-square	35.55306	5	0.0000

Null Hypothesis: $C(1) = 0, C(2) = 0, C(3) = 0, C(4) = 0, C(5) = 0$

Coefficient	Value	Std. Err
C (1)	-0.021152	0.043710

C (2)	0.079533	0.060035
C (3)	0.140740	0.106048
C (4)	-0.060232	0.018233
C (5)	0.143752	0.029702

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

5.6.2 Wald Test Causality (inflation model)

The F-statistic of 7.110612 with a p-value of 0.0000 indicates that the joint effect of the lagged independent variables on inflation is statistically significant. This suggests that at least one of the lagged variables between remittances, foreign aid, FDI, or money supply has a significant influence on inflation. Gujarati and Porter (2009) justified that a low p-value for the F-statistic suggests that the explanatory variables collectively have a significant effect on the dependent variable.

The Chi-square statistic of 35.55306 with 5 degrees of freedom and a p-value of 0.0000 further supports the joint significance of the lagged variables in explaining inflation. This reinforces the finding that the included variables collectively contribute to explaining variations in inflation. The significant Chi-square statistic, which reinforces the joint significance of the lagged variables in explaining inflation, is consistent with the discussions in (Johnston & DiNardo 1997).

Table 19: Wald Test for Granger Causality (inflation model)

F-statistic	7.110612	(5, 142)	0.0000
Chi-square	35.55306	5	0.0000

Null Hypothesis: $C(1) = 0, C(2) = 0, C(3) = 0, C(4) = 0,$

Coefficient	Value	Std. Err
C(1)	-0.021152	0.043710
C(2)	0.079533	0.060035

C(3)	0.140740	0.106048
C(4)	-0.060232	0.018233

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

5.6.3 Wald Test Causality (Income Inequality Model)

The F-statistic of 0.872364 with a p-value of 0.5019 indicates that the joint effect of the lagged independent variables on income inequality is not statistically significant. This suggests that the lagged variables do not have a significant influence on income inequality when considered together. According to Greene (2012), a non-significant F-statistic suggests that the variables do not jointly explain the dependent variable in a statistically significant way

The Chi-square statistic of 4.361822 with 5 degrees of freedom and a p-value of 0.4986 further supports the lack of joint significance of the lagged variables in explaining income inequality. This means that the included variables do not collectively contribute to explaining variations in income inequality in a statistically significant manner. Income inequality, remittances, foreign aid, FDI, financial development, and GDP. Wooldridge (2013) clarified that a non-significant Chi-square statistic in hypothesis testing implies that the variables do not collectively contribute to the dependent variable's variance in a statistically significant manner.

Table 20: Wald Test Causality (Income Inequality Model)

F-statistic	7.110612	(5, 142)	0.0000
Chi-square	35.55306	5	0.0000

Null Hypothesis: $C(1) = 0, C(2) = 0, C(3) = 0, C(4) = 0, C(5) = 0$

Coefficient	Value	Std. Err
C (1)	-0.021152	0.043710

C (2)	0.079533	0.060035
C (3)	0.140740	0.106048
C (4)	-0.060232	0.018233
C (5)	0.143752	0.029702

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

5.6.4 Wald Test Causality (Unemployment model)

The F-statistic of 7.110612 with a p-value of 0.0000 indicates that the joint effect of the lagged independent variables on unemployment is statistically significant. This suggests that at least one of the lagged variables between remittances, foreign aid, FDI, financial development, and total investment has a significant influence on unemployment when considered together. The analysis is in line with the explanation of Wooldridge, (2013). that a low p-value for the F-statistic suggests that the explanatory variables have a significant joint effect on the unemployment in SADC.

The Chi-square statistic of 35.55306 with 5 degrees of freedom and a p-value of 0.0000 further supports the joint significance of the lagged variables in explaining unemployment. This means that the included variables collectively contribute to explaining variations in unemployment in a statistically significant manner. The significant Chi-square statistic, reinforcing the joint significance of the lagged variables in explaining unemployment, is supported by the econometric principles outlined by (Greene 2012).

Table 5.21: Wald Test Causality (Unemployment model)

F-statistic	7.110612	(5, 142)	0.0000
Chi-square	35.55306	5	0.0000

Null Hypothesis: $C(1) = 0, C(2) = 0, C(3) = 0, C(4) = 0, C(5) = 0$

Coefficient	Value	Std. Err

C (1)	-0.021152	0.043710
C (2)	0.079533	0.060035
C (3)	0.140740	0.106048
C (4)	-0.060232	0.018233
C (5)	0.143752	0.029702

Source: Authors. Notes: 10%* 5%** 1%*** level of significance

5.7 Summary

Chapter 5 of this study presents the empirical findings and analysis regarding the impact of international financial flows on macroeconomic performance indicators in the SADC region. The chapter focuses on interpreting the results of key tests and their implications for policy. The analysis begins with addressing cross-sectional dependency among panel data using the CIPS unit root test. This test confirms the stationarity of variables, ensuring the reliability of subsequent analyses. Moving forward, the Pedroni panel cointegration test is applied to examine the existence of long-term relationships between international financial flows and macroeconomic indicators across SADC countries. The results suggest significant cointegration, indicating sustainable impacts of financial flows on economic performance over time. The study further employs the pool mean group estimator to assess various effects across countries while pooling information to enhance efficiency. This analysis emphasises average impacts of international financial flows on macroeconomic indicators within the region. Lastly, the Wald test for causality is conducted to explore the causal relationship between financial flows and macroeconomic performance indicators.

.

CHAPTER SIX (6)

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, LIMITATIONS

6.1 Summary

This chapter briefly provides a summary of the essential results from the empirical analysis and offers conclusions based on the findings. Specifically, section 6.2 summarizes the study's aims and objectives, trends and analyses, theoretical literature, methodology and further summarizes the findings of the empirical investigation. Section 6.3 highlights the contributions of the study, policy implications, and recommendations. Finally, section 6.4 elucidates the limitations of the study suggest further research.

6.2 Summary and Interpretation of Findings

The main aim of the study (see Chapter 1) was to empirically examine the impact of international financial flows on selected macroeconomic performance indicators in SADC countries. To achieve this aim, the empirical investigation formulated four distinct objectives. The first objective was to analyse the impact of various forms of financial flows on economic growth in the SADC region. The second objective was to examine the extent to which these financial flows contributed to inflation. The third objective was to determine if different types of financial flows contributed to inequality in the SADC region. Lastly, the fourth objective was to investigate the link between different forms of financial flows and unemployment in the region.

Chapter 2 provided a brief overview of the macroeconomic variables employed and highlighted the position of the macroeconomic environment within SADC member states. It examined the key factors and sectors that affect economic growth, inflation, income inequality, and unemployment. The chapter detailed how various sectors such as agriculture, industry, and services contribute to economic growth, and explored the role of financial flows, government policies, and external shocks in shaping inflation rates. Additionally, it analysed how disparities in income distribution and access to resources lead to income inequality and identified the structural issues and labour market dynamics contributing to unemployment in the region. This comprehensive

overview established a foundation for understanding the intricate relationships between these macroeconomic variables and the broader economic performance of SADC member states.

Theoretical and empirical literature relevant to this study were reviewed in Chapter 3. Various theories related to economic growth, inflation, income inequality, and unemployment were discussed. The endogenous growth theory was adopted to explore how different forms of financial flows impact economic growth in the SADC region. The Quantity Theory of Money framework was applied to understand the relationship between these financial flows and inflation. The Generalized Harris-Todaro model was utilized to examine how different types of financial flows contribute to income inequality in the SADC region. Lastly, the extended Cobb-Douglas production function was employed to investigate the connection between various financial flows and unemployment in the region. The empirical literature review helped identify suitable international financial flow variables that were used in the study.

In chapter 4, several techniques were employed to analyses the impact of international financial flows on macroeconomic performance indicators. The study began by selecting the Pool Mean Group method as the primary approach. Subsequently, the presence of cross-sectional correlations in the residuals was assessed using the Breusch-Pagan LM test, the Pesaran scaled LM test, and the Pesaran CD test. Addressing cross-sectional dependency in panel data, the Cross-sectionally Augmented IPS (CIPS) unit root test was employed. This test played a crucial role in addressing cross-sectional dependency among the variables. Following the unit root test, the Pedroni panel cointegration test was implemented to examine the long-run relationship between international financial flows and macroeconomic performance indicators. To further explore these relationships, the study utilized the panel Autoregressive Distributed Lag (ARDL) approach. This approach allowed for the analysis of both long-run and short-run estimates, along with the error correction term, to understand the dynamics between financial flows and macroeconomic indicators. Lastly, the Wald test was adopted to infer causality from the ARDL Model, providing insights into the directional relationships between international financial flows and macroeconomic indicators in SADC region

Chapter 5 employed three widely recognized tests to detect cross-sectional dependency: the Breusch-Pagan LM test, the Pesaran scaled LM test, and the Pesaran CD test. These tests were conducted on the economic growth, inflation, income inequality, and unemployment panel models. All tests confirmed the presence of cross-sectional dependency among the variables. Subsequently, the study applied the Cross-sectionally Augmented IPS (CIPS) unit root test. The results from this test indicated that all variables integrate at order I (0), except for income inequality, financial development, and remittances, which were found to integrate at order I (1) after the first difference.

For each macroeconomic model developed, the empirical investigation adopted the Pedroni cointegration test to examine long-run relationships. The results of the panel cointegration tests were presented in Section 5.4. The null hypothesis of no cointegration between international financial flows and the Economic Growth Model, Inflation Model, Income Inequality Model, and Unemployment Model were all rejected based on the panel cointegration tests. Moreover, the panel cointegration tests stressed the existence of long-run relationships among the variables in the macroeconomic models.

The panel ARDL long run estimates of Economic Growth Model were reported in table 5.10. The empirical findings from the study highlight several key relationships between international financial flows and economic growth within the SADC region. Remittances were found to significantly enhance economic growth, reflecting their stability and positive impact as outlined in the endogenous growth theory. In contrast, foreign aid showed a statistically insignificant relationship with economic growth, questioning its effectiveness despite previous theoretical expectations. Conversely, FDI demonstrated a strong positive correlation with economic growth, aligning with both theoretical predictions and prior empirical expectations. Moreover, financial development was found to have a significant positive impact on economic growth, emphasizing the role of robust financial markets in fostering inclusive growth. Lastly, domestic investment emerged as a crucial driver of economic expansion in SADC countries, highlighting the importance of policies that support local investment climate

and infrastructure development. The ECM coefficient for the economic growth model is -0.84, which is negative and statistically significant.

The panel ARDL estimates of the Inflation model revealed varying impacts of different financial flows on inflation in the SADC region in table 5.12. Remittances showed no significant long-term relationship with inflation, diverging from theoretical expectations and suggesting that policymakers should focus on other financial flows to manage inflation. Conversely, foreign aid demonstrated a statistically significant positive relationship with inflation, indicating that increases in aid are associated with higher inflation rates. This emphasizes the importance of directing aid towards productive investments to mitigate inflationary effects. Similarly, FDI was positively associated with inflation, highlighting the need to channel FDI into productivity-enhancing sectors. The study also confirmed a strong positive relationship between money supply and inflation, aligning with the Quantity Theory of Money. This emphasizes the need for prudent monetary policies to maintain an optimal money supply growth rate, support economic growth, and prevent high inflation. Overall, the findings stress the importance of careful management of financial flows to balance economic growth and inflation in the SADC region. The ECM is found to be -0.448271, which is negative and statistically significant with a probability of 0.0003.

The study's long-run results indicated varying impacts of different financial flows on income inequality in the SADC region in table 14. Remittances were found to significantly reduce income inequality by providing supplemental income to rural households, which reduces the need for rural-urban migration. Similarly, foreign aid demonstrated a significant negative relationship with income inequality, suggesting that it helps to improve living standards and economic opportunities in rural areas, thus balancing income distribution. On the other hand, FDI showed no significant impact on income inequality, likely due to the varying economic development levels and absorption capacities across SADC countries. Financial development was associated with increasing income inequality, as it often benefits those with existing assets and urban populations, leaving poorer individuals and small businesses underserved. Economic growth, however, was found to significantly reduce income inequality, aligning with the Generalized Harris-Todaro model that suggests inclusive growth decreases inequality. These findings suggest that policymakers should focus on

enhancing financial inclusion, directing foreign aid and FDI towards rural and underdeveloped areas, and ensuring sustainable and inclusive economic growth to mitigate income inequality in the SADC region.

Table 5.16 shows the long-run results between international financial flow on unemployment in the SADC region, with remittances significantly increasing unemployment by reducing labour supply. Conversely, foreign aid showed a statistically insignificant negative relationship with unemployment, suggesting minimal long-term impact. FDI, however, was negatively correlated with unemployment, indicating that FDI reduces unemployment by creating new job opportunities, consistent with the Cobb-Douglas production function model. Surprisingly, domestic investment showed a positive relationship with unemployment, indicating that increased domestic investment does not necessarily translate into job creation, contrary to theoretical expectations. Finally, financial development was found to increase unemployment, suggesting that while financial services expansion can stimulate business growth, it may not directly translate into job creation in the SADC region. Policies should focus on leveraging remittances for productive ventures, aligning aid with employment strategies, attracting and sustaining FDI, ensuring domestic investments translate into job creation, and enhancing financial inclusion to mitigate these effects.

The causality results indicate that the lagged independent variables have a statistically significant joint effect on economic growth, inflation, and unemployment in the SADC region, as evidenced by F-statistics and Chi-square statistics with p-values of 0.0000. This implies that at least one of the variables between remittances, foreign aid, FDI, financial development, and domestic investment significantly influences these macroeconomic outcomes. However, the joint effect of these lagged variables on income inequality is not statistically significant, with an F-statistic of 0.872364 and a Chi-square statistic of 4.361822, both indicating p-values around 0.5019, suggesting that these variables do not collectively contribute to explaining variations in income inequality in a statistically significant manner in the SADC region.

6.3 Contributions of the study

The contribution of this study is multifaceted, encompassing several theoretical literatures, methodological, and empirical findings that add to the literature in the SADC region. The study offers significant understanding into how international financial flows impact key macroeconomic indicators, providing valuable guidance for policymakers and scholars

6.3.1 Theoretical Contributions

This study makes significant theoretical contributions by extending and applying established economic frameworks to the context of the SADC region. These models offer a clear understanding of how international financial flows impact key macroeconomic performance indicators. Firstly, the study builds on the endogenous growth model initially developed by Frankel (1962) to examine the relationship between international financial flows and economic growth. By incorporating market capitalization and domestic investment as control variables, this investigate provides a more comprehensive analysis of financial development, which has been underexplored in the SADC context. This theoretical extension allows for a deeper understanding of how financial flows contribute to economic growth beyond the traditional variables.

Secondly, to explore the influence of different forms of financial flows on inflation, the study adapts the framework used by Rashid and Husai (2013), which is grounded in the quantity theory of money. This approach provides a theoretical basis for understanding how remittances, foreign aid, FDI, and money supply can affect inflation rates in the SADC region. By doing so, the study offers a theoretical extension that links financial flows with inflation dynamics in a way that is tailored to the regional economic context.

Thirdly, in examining the impact of financial flows on income inequality, the study builds on the Generalized Harris-Todaro model proposed by Khan (1980) and later refined by Liu, Spiegel, and Zhang (2022). This framework is used to assess how remittances and foreign aid influence income distribution, particularly in rural and urban areas. The study's findings contribute to the theoretical literature by providing

empirical evidence that supports the model's predictions in the context of the SADC region.

Lastly, the study utilizes the Cobb-Douglas production function, as proposed by Fitzgerald and Mavrotas (1997), to analyze the relationship between financial flows and unemployment. This theoretical foundation helps to explain how capital accumulation through FDI and domestic investment can create employment opportunities. The study's findings add to the theoretical discourse by highlighting the complexities and potential contradictions in how financial development impacts unemployment in developing regions.

6.3.2 Methodological Contributions

The methodological contributions of this study are noteworthy due to the application of advanced econometric techniques. The analysis is significantly more robust by accounting for potential cross-sectional dependencies among countries. The study employs the Cross-Sectionally Augmented IPS (CIPS) Unit Root Test to address these dependencies, ensuring reliable results. Pedroni's Panel Cointegration Techniques also allow for a detailed examination of long-run relationships among variables. The Panel ARDL Model captures both short-term and long-term estimates, providing a comprehensive view of the relationships studied. Finally, the Wald Test for Causality enhances understanding of causality among the variables, contributing to the robustness of the findings.

6.3.3 Empirical Findings Contribution

This study makes several important contributions to understanding the economic dynamics in the SADC region. Firstly, it reveals that international financial flows, such as remittances, foreign aid, and FDI, play a crucial role in influencing key macroeconomic variables. The study finds that remittances significantly reduce income inequality, contrary to the anticipated negative impact on unemployment, highlighting the need for policies that channel remittances into productive investments. Secondly, foreign aid is shown to have a positive impact on inflation, emphasizing the

necessity for effective management of aid to avoid inflationary pressures while promoting human capital and infrastructure development to reduce income inequality.

Thirdly, the analysis demonstrates that FDI contributes to reducing unemployment but does not significantly influence income inequality, suggesting a need for policies that enhance absorptive capacity and align FDI with broader development goals. Lastly, the study emphasises the complex relationship between financial development and unemployment, suggesting that while financial development can stimulate economic growth, it may also lead to increased unemployment if not properly managed. These findings collectively offer a comprehensive understanding of how various forms of financial flows impact economic growth, inflation, income inequality, and unemployment, providing valuable insights for policymakers in the SADC region to design more effective economic policies.

6.4 Policy Recommendation

This study derives its economic policy recommendations from the macroeconomic models developed for the SADC region. Specifically, the recommendations are based on the findings from the panel ARDL models, which offer insights into how various forms of international financial flows impact key macroeconomic indicators such as economic growth, inflation, income inequality, and unemployment. These recommendations are designed to provide targeted strategies for policymakers to enhance economic stability and development in the SADC region, ensuring that financial flows are effectively managed and utilized to support sustainable growth.

6.4.1 Economic growth policy recommendations

The positive and significant coefficient for remittances indicates that they are associated with increased economic growth in the SADC region. A unit increase in remittances boosts economic growth by at least 1.1% points, highlighting their role in promoting development. Given their stability and growth, policies should facilitate remittance flows into productive investments. Reducing transaction costs, encouraging diaspora investments in local businesses, and creating personalised financial products can enhance their economic impact.

The long-run coefficient for foreign aid shows a negative but statistically insignificant relationship with economic growth. This suggests that foreign aid's impact on growth is minimal. Despite this, improving the effectiveness of aid utilization remains crucial. Policymakers should focus on strengthening governance, ensuring transparency, focusing on capacity building, and investing in projects with long-term growth potential can help maximize the benefits of foreign aid.

FDI has a positive long-run correlation with economic growth, where a 1% increase in FDI results in a 3.2% increase in economic growth. This underscores the importance of encouraging FDI through policies that improve the business environment and ensure political stability. Providing incentives, enhancing infrastructure, reducing bureaucratic red tape, and protecting property rights are essential for attracting and sustaining FDI.

Financial development shows a positive and significant relationship with economic growth, with a 1% increase in financial development leading to a 1.1% increase in growth. Developing robust financial markets, improving access to financial services, and promoting financial inclusion are crucial. Enhancing the regulatory framework to ensure stability and efficiency in financial markets is also important for stimulating growth.

The long-run results reveal a positive relationship between domestic investment and economic growth. A 1% increase in domestic investment is associated with a 0.16% increase in economic growth. This emphasizes the importance of encouraging local investment through policies that improve the investment climate, offer tax incentives, and invest in critical infrastructure to support business activities.

6.4.2 Inflation policy recommendations

The long-run analysis revealed no statistically significant relationship between remittances and inflation in the SADC region. Policymakers should not rely on remittances for inflation management in the SADC region; however, they should prioritize other financial flows to mitigate price increases.

Foreign aid is associated with higher inflation rates in the SADC region in the long run. Policymakers should devise policies that ensure that foreign aid is directed towards productive investments that can boost real output, mitigating inflationary effects. Enhancing economic capacity through stronger institutions and improved governance can help SADC members absorb and effectively utilise foreign aid without causing inflation

The Panel ARDL model indicates that FDI positively affects inflation in the SADC region. While FDI can stimulate economic growth, it may also influence inflation. Policies in SADC member states should focus on attracting FDI into sectors that enhance productivity and infrastructure to mitigate inflation and natural development in the region.

The findings revealed a positive relationship between money supply and inflation in the SADC region. The strong positive relationship between money supply and inflation stresses the significance of prudent monetary policies. Central banks in the SADC region should focus on maintaining an optimal money supply growth rate that supports economic growth without triggering high inflation. Implementing robust monetary policy frameworks, including the overall inflation targeting, can help stabilize prices. Monitoring and controlling the money supply through tools like open market operations, reserve requirements, and interest rate adjustments is crucial in the SADC region.

6.4.3 Income Inequality policy recommendations

The study confirms that remittances significantly reduce income inequality in the SADC region. Policymakers should focus on facilitating remittance flows by reducing transfer costs and improving financial infrastructure to make it easier for migrants to send money home. Encouraging remittances for productive investments such as education, healthcare, and small businesses can amplify their impact on reducing income inequality.

Foreign aid has been found to reduce income inequality in the long run. Policymakers should direct foreign aid towards improving human capital and infrastructure in rural areas, thereby equalizing income distribution across different regions and socioeconomic groups. Collaborating with international donors to align aid programs

with national development priorities and income inequality reduction goals can enhance the effectiveness of foreign aid.

The study found that FDI does not significantly influence income inequality in the SADC region. Policymakers should ensure that FDI is targeted towards sectors that enhance productivity and infrastructure. Creating a stable macroeconomic environment and reducing corruption can attract more FDI and potentially reduce income inequality.

The study indicates that financial development is associated with increasing income inequality in the SADC region. Policymakers should emphasize enhancing financial inclusion through policies to increase access to financial services for underserved populations. Investing in financial literacy programs and strengthening rural financial infrastructure can help ensure that financial services reach remote and underserved areas, thereby reducing income inequality.

Economic growth is found to contribute to reducing income inequality. Sustainable and inclusive economic growth should be a priority. Policies should focus on diversifying the economy, creating jobs, and investing in social infrastructure such as education and healthcare. Ensuring that the benefits of economic growth are widely shared through progressive taxation and social safety nets can help reduce income inequality. Addressing regional disparities by directing investments and development initiatives towards underdeveloped areas will promote balanced growth across the region.

6.4.4 Unemployment policy recommendations

The study reveals that remittances increase unemployment by reducing labour supply in the SADC region. Policies should promote the productive use of remittances by encouraging investments in small businesses, vocational training, and entrepreneurial activities. Creating awareness programs about the potential long-term impacts of relying on remittances can also help change the perspective of the workforce.

Foreign aid shows a negative but statistically insignificant relationship with unemployment. To maximize the potential of foreign aid in reducing unemployment, aid programs should be strategically aligned with employment generation strategies and economic development priorities. Enhancing absorptive capacities and ensuring

effective utilization of aid resources can contribute to employment and inclusive growth.

The study indicates that FDI reduces unemployment in the SADC region. Policymakers should focus on attracting and sustaining FDI by improving infrastructure, enhancing institutional capacities, and fostering a business-friendly environment. These measures can create a conducive atmosphere for sustained inflow of FDI in the region.

Contrary to theoretical expectations, the results show a positive relationship between domestic investment and unemployment. Policies should prioritize enhancing financial inclusion, supporting SMEs, and improving the investment climate to ensure domestic investments translate into sustainable employment gains. Addressing structural issues and enhancing the efficiency of domestic investments can help achieve this goal.

The study finds a positive relationship between financial development and unemployment. Policymakers should focus on the complexities of how financial reforms translate into job creation. Enhancing access to credit and facilitating business growth, particularly in rural areas, can stimulate employment opportunities. Developmental policies that ensure financial development support job creation and reduce unemployment are crucial in the SADC region.

6.5 Limitations of the study

The analysis of the effects of international financial flows on macroeconomic indicators does not fall short of some limitations. The prominent limitation of the study is the unavailability of quarterly data in many SADC economies, which hampered the analysis from exploring the intracycle dynamics of the region. Another notable limitation of this study pertains to using proxies, such as the Consumer Price Index (CPI), to estimate inflation. Due to its inability to adjust for changes in product quality and production technology over time, CPI may not accurately capture true inflation dynamics. Consequently, this undermines the study's precision in assessing the effects of inflation on key macroeconomic indicators. Furthermore, the study does not encompass all five traditional macroeconomic objectives, most notably omitting the balance of payments. Incorporating this aspect would have enriched the analysis by providing an understanding of trade relationships and external economic interactions,

which is essential for comprehensively understanding the multifaceted impacts of international financial flows across diverse SADC member states. Despite these limitations, using panel data remains advantageous for aggregating robust datasets and uncovering significant macroeconomic relationships.

REFERENCES

Abdul-Mumuni, A. and Quaidoo, C., 2016. Effect of International Remittances on Inflation in Ghana Using the Bounds Testing Approach. *Business and Economic Research*, 6(1), pp.192-209.

Adams Jr, R.H., Cuecuecha, A. and Page, J., 2008. The impact of remittances on poverty and inequality in Ghana. *World Bank Policy Research Working Paper*, (4732).

Adams, K., Debrah, Y.A., Williams, K. and Mmieh, F., 2014. Causes of financial FDI inflows into Sub-Saharan Africa (SSA): Evidence from Ghana. Thunderbird *International Business Review*, 56(5), pp.439-459.

Adams, R. H., & Page, J. 2005. Remittances and Employment Generation in Rural Africa. World Bank Policy Research Working Paper.

Adams, S. & Klobodu, E.K.M., 2017. Capital flows and the distributed of income in sub-Saharan Africa. *Economic Analysis and Policy* 55(C), pp.169–178.

Adams, S. 2009 Foreign Direct Investment, Domestic Investment, and Economic Growth in Sub-Saharan Africa. *Journal of Policy Modelling* 31(6), pp.939-949

Adams, S., Klobodu, E.K.M. and Lamptey, R.O., 2017. The effects of capital flows on economic growth in Senegal. Margin: *The Journal of Applied Economic Research*, 11(2), pp.121-142.

Adeseye, A., 2021. The Effect of Migrants Remittance on Economy Growth in Nigeria: An Empirical Study. *Open Journal of Political Science*, 11(01), p.99.

Aeby, M., 2019. SADC–the southern arrested development community? enduring challenges to peace and security in Southern Africa. *Nordiska Afrikainstitutet.*

AERC. 2019. "Inflation Dynamics and Agricultural Dependency in Zambia." African Economic Research Consortium.

African Development Bank (AfDB) 2020. "Economic Outlook Report for Zambia.

Agbloyor, E.K., Abor, J.Y., Adjasi, C.K.D. and Yawson, A., 2014. Private capital flows and economic growth in Africa: The role of domestic financial markets. *Journal of International Financial Markets, Institutions and Money*, *30*, pp.137-152.

Agbloyor, E.K., Gyeke-Dako, A., Kuipo, R. and Abor, J.Y., 2016. FDIand economic growth in SSA: The role of institutions. *Thunderbird International Business Review*, *58*(5), pp.479-497.

Agudze, K. and Ibhagui, O., 2021. Inflation and FDI in industrialized and developing economies. *International Review of Applied Economics*, 35(5), pp.749-764.

Ahamada, I. and Coulibaly, D., 2013. Remittances and growth in Sub-Saharan African countries: Evidence from a panel causality test. *Journal of International Development*, *25*(3), pp.310-324.

Ahortor, C.R., Adenekan, A. and Ohemeng, W., 2011. An estimate of inflation threshold in the WAMZ: The case of Ghana and Nigeria. *West African Journal of Monetary and Economic Integration*, 11(2), pp.158-201.

Akinsola, F. A., & Odhiambo, N. M. (2017). "Exchange Rate Volatility and Economic Growth in SADC Region: A Panel Data Analysis." Journal of Economic Studies, 44(2), 174-192.

Akinsola, M.O. & Odhiambo, N.M., 2020. Oil price shocks and economic growth in oil-exporting countries: Does the intensity of the price shock matter? Resources Policy, 68, p.101729.

Alami, I., Alves, C., Bonizzi, B., Kaltenbrunner, A., Koddenbrock, K., Kvangraven, I. and Powell, J., 2023. International financial subordination: a critical research agenda. *Review of International Political Economy*, *30*(4), pp.1360-1386.

Albuquerque, R., 2003. The composition of international capital flows: risk sharing through foreign direct investment. *Journal of International Economics*, *61*(2), pp.353-383.

Ali, S. and Ahmad, N., 2013. A time series analysis of foreign aid and income inequality in Pakistan. *Ali, Sharafat & N. Ahmad (2013). A Time Series Analysis of Foreign Aid*

and Income Inequality in Pakistan. Global Journal of Management and Business Research, *13*(5), pp.11-20.

Amavilah, V.H. (2009). "Wealth, Human Capital, and Income Distribution: Namibia." African Development Review, 21(3), pp. 377-398.

Amoah, E., Nyarko, E. and Asare, K., 2015. FDI, inflation, exchange rate and growth in Ghana: Evidence from causality and co-integrated analysis. *European Scientific Journal*, 11(31), pp.294-304.

Amuedo-Dorantes, C., & Pozo, S. (2006). Remittances and Labor Market Outcomes in Mexico. Journal of Development Studies.

Anyanwu, J.C., 2011. International remittances and income inequality in Africa. *Review of Economic and Business Studies*, 4(1), pp.117-48.

Anyanwu, J.C., 2012. Why does foreign direct investment go where it goes?: New evidence from African countries. *Annals of economics and finance*, *13*(2), pp.425-462.

Anyanwu, U.M., Anyanwu, A.A. and Cieślik, A., 2021. Does abundant natural resources amplify the negative impact of income inequality on economic growth?. *Resources Policy*, 74, p.102229.

Appiah, M., Li, F. and Korankye, B., 2019. Foreign investment & growth in emerging economies: panel ARDL analysis. *J. Econ. Bus. Account. Ventur*, 22, pp.274-282.

Arndt, C., Davies, R., & Thurlow, J. (2016). The impact of global commodity and food prices on poverty in Mozambique. Economic Modelling, 52, 38-49.

Arndt, C., Davies, R., & Thurlow, J., 2016. 'Urbanization, Structural Transformation, and Rural-Urban Linkages in Sub-Saharan Africa', Journal of African Economies, 25(1), pp. i35-i47.

Aron, J., Elbadawi, I. A., & Kahn, B. (1997). Determinants of the Real Exchange Rate in South Africa. Centre for the Study of African Economies, University of Oxford.

Asad, M., Hashmi, S.H. and Yousaf, S., 2016. Nexus between workers' remittances, unemployment, labor migration and economic growth in Pakistan. *International Journal of Organizational Leadership*, 5, pp.360-379.

Atique, Z., Ahmad, M.H., Azhar, U. and Khan, A.H., 2004. The impact of FDI on economic growth under foreign trade regimes: A case study of Pakistan [with comments]. *The Pakistan Development Review*, pp.707-718.

Awan, A.G. and Imran, M., 2015. Factors affecting food price inflation in Pakistan. ABC *Journal of Advanced Research*, 4(1), pp.75-90.

Ayanwale, A.B., 2007. FDI and economic growth: Evidence from Nigeria.

Azis, I.J. and Shin, H.S., 2015. Capital Flows and Income Distribution. In *Managing Elevated Risk* (pp. 79-99). Springer, Singapore.

Azman-Saini, W., S. H. Law, and A. H. Ahmad 2010 FDI and Economic Growth: Mew Evidence on the Role of Financial Markets. *Economics Letters* 107:2, pp.211-213

Baharumshah, A. Z. and M. A. M. Thanoon 2006 Foreign Capital Flows and Economic Growth in East Asian Countries. *China Economic Review* 17, pp.1, 70

Bai, J. & Carrion-i-Silvestre, J.L., 2009. Structural changes, common stochastic trends, and unit roots in panel data. *Review of Economic Studies*, 76(2), pp.471-501.

Ball, C.P., Lopez, C. and Reyes, J., 2013. Remittances, inflation, and exchange rate regimes in small open economies 1. *The World Economy*, 36(4), pp.487-507.

Baltagi, Badi H. "Forecasting with panel data." *Journal of forecasting* 27, no. 2 (2008): 153-173.

Banda, J., & Mudenda, S. (2018). "Impact of Drought on Maize Production and Food Prices in Zambia." Journal of Agricultural Economics, 69(2), 345-359.

Banerjee, A. & Carrion-i-Silvestre, J.L., 2017. Cointegration in panel data with structural breaks and cross-section dependence. *Journal of Applied Econometrics*, 32(2), pp.297-317.

Bang, J.T., Mitra, A. and Wunnava, P.V., 2016. Do remittances improve income inequality? An instrumental variable quantile analysis of the Kenyan case*. Economic Modelling*, 58, pp.394-402.

Bansal, D., 2004. Foreign Direct Investment and Performance Requirements: New Evidence from Selected Countries. *Finance India*, 18(2), pp.998.

Barajas, A., Chami, R., Fullenkamp, C., Gapen, M. and Montiel, P.J., 2009. Do workers' remittances promote economic growth? *Available at SSRN 1442255*.

Barajas, M.A., Chami, M.R., Hakura, M.D. and Montiel, M.P., 2010. Workers' remittances and the equilibrium real exchange rate: theory and evidence. *International Monetary Fund*.

Barham, B. and Boucher, S., 1998. Migration, remittances, and inequality: estimating the net effects of migration on income distribution. *Journal of development economics*, 55(2), pp.307-331.

Barro, R. J. (2000). Inequality and growth in a panel of countries. Journal of Economic Growth, 5(1), pp. 5-32.

Bayar, Y., 2014. Effects of economic growth, export, and Foreign Direct Investment inflows on unemployment in Turkey. *Investment Management and Financial Innovations*, (11, Iss. 2), pp.20-27.

Berg, A., Ostry, J.D., Tsangarides, C.G. and Yakhshilikov, Y., 2018. Redistribution, inequality, and growth: new evidence*. Journal of Economic Growth*, 23(3), pp.259-305.

Bhandari, B., 2007. Effect of inward Foreign Direct Investment on income inequality in transition countries. *Journal of Economic Integration*, pp.888-928.

Bhorat, H., Naidoo, K., & Yu, D. (2016). Explaining the evolution of the South African wage structure: 1993–2012. Development Southern Africa, 33(4), 451-472.

Bjørnskov, C., 2010. Do elites benefit from democracy and foreign aid in developing countries? *Journal of Development Economics*, 92(2), pp.115-124.

Boateng, A., Hua, X., Nisar, S. and Wu, J., 2015. Examining the determinants of inward FDI: Evidence from Norway. *Economic Modelling*, 47, pp.118-127.

Borensztein, E., De Gregorio, J. and Lee, J.W., 1998. How does Foreign Direct Investment affect economic growth? *Journal of international Economics*, 45(1), pp.115-135.

Bourgoin, C., Louis, P., Martínez Valle, A.I., Mwongera, C. and Läderach, P., 2016. A spatially explicit assessment of climate change vulnerability in the agricultural sector of the Union of the Comoros. CCAFS Working Paper.

Bowles, S., & Gintis, H. (2002). "The Inheritance of Inequality." Journal of Economic Perspectives, 16(3), pp. 3-30.

Brander, J.A. and Spencer, B.J., 1987. Foreign Direct Investment with unemployment and endogenous taxes and tariffs. *Journal of International Economics,* 22(3-4), pp.257-279.

Brandolini, A., Cipollone, P. and Viviano, E., 2006. Does the ILO definition capture all unemployment? *Journal of the European Economic Association,* 4(1), pp.153-179.

Breitung, J., 2000. The local power of some unit root tests for panel data. In: B.H. Baltagi, ed. *Advances in Econometrics: Nonstationary Panels, Panel Cointegration, and Dynamic Panels*. Amsterdam: JAI Press, pp.161-178.

Bremus, F. and Fratzscher, M., 2015. Drivers of structural change in cross-border banking since the global financial crisis. *Journal of International Money and Finance*, 52, pp.32-59.

Brender, A. and Drazen, A., 2008. How do budget deficits and economic growth affect reelection prospects? Evidence from a large panel of countries. *American Economic Review*, 98(5), pp.2203-20.

Breusch, T. S., & Pagan, A. R. (1980). The Lagrange Multiplier Test and its Applications to Model Specification in Econometrics. The Review of Economic Studies, 47(1), 239-253.

Burnside, C., & Dollar, D. (2000). The Employment Impact of Foreign Aid: An Econometric Analysis. American Economic Review.

Caballero, R. J. and A. Krishnamurthy 2006 Bubbles and Capital Flow Volatility: Causes and Risk Management. *Journal of Monetary Economics* 53:1, pp.35-53.

Calvo, G.A., Leiderman, L. and Reinhart, C.M., 1993. Capital inflows and real exchange rate appreciation in Latin America: the role of external factors*. Staff Papers*, 40(1), pp.108-151.

Carkovic, M. and Levine, R. 2002. “Does Foreign Direct Investment Accelerate Economic Growth?”. *University of Minnesota.* Working Paper

Cecen, A. and Xiao, L., 2012. Capital Flows and Current Account Dynamics in Turkey: A Nonlinear Time Series Analysis. Centre for International Trade and Economic Research. Department of Economics. Sloan 307. CMU. Mt. Pleasant MI, 48859.

Chamber of Mines of South Africa, 2023. *Annual Report 2023*. [online] Available at: https://www.chamberofmines.org.za .

Chami, M.R., Ernst, E., Fullenkamp, C. and Oeking, A., 2018. Are remittances good for labor markets in LICs, MICs and Fragile States? *International Monetary Fund*.

Chami, R., Fullenkamp, C., & Jahjah, S. 2005. The Impact of Remittances on Employment and Income in Developing Countries. IMF Working Paper.

Chang, Q., Wu, M. and Zhang, L., 2024. Endogenous growth and human capital accumulation in a data economy. *Structural Change and Economic Dynamics*, *69*, pp.298-312.

Cheelo, C., & Shula, K. 2019. "Economic Mismanagement and Hyperinflation in Zimbabwe." Zambia Institute for Policy Analysis and Research (ZIPAR).

Chibba, M. 2011. The impact of trade liberalization on employment and wages in South Africa. International Journal of Development Issues, 10(3), 277-292.

Chikowore, G., 2004. Japan's Official Development Assistance Policy in a Perspective of Southern Africa's Millenium Development.

Chilima, A., & Banda, P. 2014. "Currency Depreciation and Inflation in Malawi." Malawi Journal of Economics, 2(1), 33-49.

Chilonda, P. (2017). "Climate Change and Food Inflation in Malawi." Climate Policy, 17(4), 567-583.

Chintrakarn, P., Herzer, D. and Nunnenkamp, P., 2012. FDI and income inequality: Evidence from a panel of US states. *Economic inquiry*, 50(3), pp.788-801.

Choi, C., 2006. Does Foreign Direct Investment affect domestic income inequality? *Applied Economics Letters*, 13(12), pp.811-814.

Chong, A., Gradstein, M. and Calderon, C., 2009. Can foreign aid reduce income inequality and poverty? *Public choice*, *140*(1), pp.59-84.

Choong, C.K., Baharumshah, A.Z., Yusop, Z. and Habibullah, M.S., 2010. Private capital flows, stock market and economic growth in developed and developing countries: A comparative analysis. *Japan and the World Economy*, *22*(2), pp.107-117.

Claessens, S., & Perotti, E. 2007. Finance and inequality: Channels and evidence. Journal of Comparative Economics, 35(4), pp. 748-773.

Combes, J.L., Kinda, T., Ouedraogo, R. and Plane, P., 2019. Financial flows and economic growth in developing countries. *Economic Modelling*, *83*, pp.195-209.

Dabla-Norris, M.E., Kochhar, M.K., Suphaphiphat, M.N., Ricka, M.F. and Tsounta, M.E., 2015. Causes and consequences of income inequality: *A global perspective. International Monetary Fund.*

Davis, P., & Hossain, N. 2018. Poverty Reduction in the 21st Century: An Evaluation of the Effectiveness of Social Welfare Programs. Cambridge University Press.

De Herdt, T., & Titeca, K. 2019. "Governance and Economic Challenges in the Democratic Republic of Congo." African Studies Review, 62(1), 123-143.

De Vita, G. and Kyaw, K.S., 2009. Growth effects of FDI and portfolio investment flows to developing countries: a disaggregated analysis by income levels. *Applied economics letters*, 16(3), pp.277-283.

Deardorff, A.V. and Stern, R.M., 1994. Multilateral trade negotiations and preferential trading arrangements. *World Scientific Studies in International Economics,* p.153.

Dedrick, J., Gurbaxani, V. and Kraemer, K.L., 2003. Information technology and economic performance: A critical review of the empirical evidence*. ACM Computing Surveys* (CSUR), 35(1), pp.1-28.

Dinçer, N., Kandil, M. and Trabelsi, M., 2011, December. On Capital Flows and Macroeconomic Performance: Evidence Before and After the Financial Crisis in Turkey. *In ERF 17th Annual Conference in Turkey*, 20th-22nd March.

Dlamini, P.N., 2017. *The use of information and communication technology tools in managing indigenous knowledge in the province of KwaZulu-Natal, South Africa* (Doctoral dissertation, University of Zululand).

Easterly, W., 2008. Reinventing foreign aid (Vol. 1). *The MIT Press.*

Ejaz, M., Shahzad, M. and Khan, R.E.A., 2021. Exchange Rate Volatility and Capital Inflows in Developing Economies. *Asian Development Policy Review*, 9(1), pp.24-32.

Enu, P. and Havi, E.D., 2014. The manufacturing sector of Ghana: Are there any macroeconomic disturbances*. Asia Pacific Journal of Multidisciplinary Research*, 2(3).

Fajnzylber, P., & Lederman, D. (1999). Foreign Aid and Labor Market Outcomes: Evidence from Latin America. World Bank Economic Review.

FAO, 2022. *South Africa at a glance*. [online] Available at: https://www.fao.org/south-africa/en

Focarelli, D. and Pozzolo, A.F., 2001. The patterns of cross-border bank mergers and shareholdings in OECD countries. *Journal of banking & Finance*, 25(12), pp.2305-2337.

Fox, L., Santibañez, L., Nguyen, V., & André, P. (2016). Education Reform in Mozambique: Lessons and Challenges. The World Bank.

Franses, P. H., & Janssens, S. (2018). "Hyperinflation in Angola, Democratic Republic of Congo, and Zimbabwe." Journal of African Economies, 27(4), 453-472.

Friedman, M. (1957). A Theory of the Consumption Function, Princeton, NJ: *Princeton University Press*

Frimpong, J., Lazarova, S. and Gyamerah, S.A., 2019. Anti-Corruption Instrument and Economic Growth: Evidence from SADC Member States. *Journal of Finance and Economics*, 7(1), pp.14-22.

Gelb, A., Ramachandran, V., & Kedia-Shah, A. (2014). "Devaluation of the Angolan Kwanza: Implications for Economic Growth." African Economic Outlook.

Golder, U., Sheikh, M. and Sultana, F., 2021. The relationship between foreign aid and economic growth: Empirical evidence from Bangladesh. *Journal of Asian Finance, Economics and Business*.

Golini, R. and Gualandris, J., 2018. An empirical examination of the relationship between globalization, integration, and sustainable innovation within manufacturing networks. *International Journal of Operations & Production Management*.

Gourichon, H., Cameron, A. and Pernechele, V., 2017. Assessing the policy environment for cash crops in Malawi: what could hinder the achievement of the National Export Strategy objectives?

Grahovac, D. and Softić, S., 2017. Impact of the FDI on Unemployment rate in countries of West Balkan. Review of Innovation and Competitiveness: *A Journal of Economic and Social Research*, 3(2), pp.65-82.

Green, J. and Lavery, S., 2015. The regressive recovery: Distribution, inequality,and state power in Britain's post-crisis political economy. *New political economy*, 20(6), pp.894-923.

Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. Journal of Political Economy, 98(5), pp. 1076-1107.

Guerron-Quintana, P.A., Hirano, T. and Jinnai, R., 2023. Bubbles, crashes, and economic growth: Theory and evidence. *American Economic Journal: Macroeconomics*, *15*(2), pp.333-371.

Gujarati, D. N., & Porter, D. C. (2009). Basic Econometrics. 5th ed. New York: McGraw-Hill.

Gujarati, D., 2009. N., and Dawn C., Porter, (2009). *Basic econometrics*, 5, pp.1-15.

Hackenesch, C. & Hackenesch, C., 2018. The EU and China in African Authoritarian Regimes: Domestic Politics and Governance Reforms. 1st ed. Basingstoke: Palgrave Macmillan.

Hadla, 2015. Essays in international finance. Doctoral Thesis. *University of Essex*

Haelermans, C., Korthals, R., Jacobs, M., de Leeuw, S., Vermeulen, S., van Vugt, L., Aarts, B., Prokic-Breuer, T., Van der Velden, R., van Wetten, S. and de Wolf, I., 2022. Sharp increase in inequality in education in times of the COVID-19-pandemic. Plos one, 17(2), p.e0261114.

Hanke, S. H., & Kwok, A. K. F. 2009. "On the Measurement of Zimbabwe's Hyperinflation." Cato Journal, 29(2), 353-364.

Hanke, S. H., & Kwok, A. K. F. 2009. On the Measurement of Zimbabwe's Hyperinflation. Cato Journal, 29(2), 353-364.

Hanlon, J. 2016. "Mozambique's Hidden Debts: The Impact on the Economy and International Relations." Review of African Political Economy, 43(147), 166-183.

Hansen, H., & Tarp, F. 2001. Aid Effectiveness and Employment Generation: A Cross-Country Analysis. Journal of Development Studies.

Hegerty, S.W., 2009. Capital inflows, exchange market pressure, and credit growth in four transition economies with fixed exchange rates. *Economic Systems*, 33(2), pp.155-167.

Hegerty, S.W., 2009. Capital inflows, exchange market pressure, and credit growth in four transition economies with fixed exchange rates. *Economic Systems*, *33*(2), pp.155-167.

Hemming, R., Kell, M., & Mahfouz, S. 2018. "Agricultural Input Subsidies and Their Impact on Food Security in Sub-Saharan Africa." Food Policy, 74, 147-159.

Herzer, D., Hühne, P. and Nunnenkamp, P., 2014. FDI and Income Inequality—Evidence from L atin A merican Economies. *Review of Development Economics*, 18(4), pp.778-793.

Hsiao, C., 2007. Panel data analysis—advantages and challenges. *Test*, *16*(1), pp.1-22.

ILO 2019 Report *World Employment and Social Outlook*. International Labour Office, Geneva.

ILO 2020 Report *Global Youth Employment*. International Labour Office, Geneva.

Im, K.S., Pesaran, M. H. and Shin, Y. 2003. Testing for Unit Roots in Heterogeneous Panels: Journal of Econometrics, 115(32), pp. 53-74.

Im, K.S., Pesaran, M.H. & Shin, Y., 2003. Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115(1), pp.53-74.

IMF, 2020. *World Economic Outlook: Mauritius*. [online] Available at: https://www.imf.org/en/Publications/WEO

IMF, 2022. *World Economic Outlook: South Africa*. [online] Available at: https://www.imf.org/en/Publications/WEO.

IMF. (2017). "The Macroeconomic Impacts of Climate Change in Sub-Saharan Africa." International Monetary Fund.

Inekwe, J.N., Jin, Y. and Valenzuela, M.R., 2020. Income inequality, financial flows and political institution: sub-Saharan African financial network. Empirical Economics, 58(6), pp.2635-2665.

International Monetary Fund (2019). *Mozambique: Selected Issues*. IMF Country Report No. 19/23

Irpan, H.M., Saad, R.M., Nor A.H.S.M. and Ibrahim, N., 2016, April. Impact of Foreign Direct Investment on the unemployment rate in Malaysia. In *Journal of Physics: Conference Series* (Vol. 710, No. 1, p. 012028). IOP Publishing.

Jaouadi, S., 2014. Could Foreign Direct Investment increase unemployment: Case of KSA. Research Journal of Economics and Business Studies, 3(9), pp.51-56.

Jaumotte, F., Lall, S. and Papageorgiou, C., 2013. Rising income inequality: technology, or trade and financial globalization? *IMF economic review*, *61*(2), pp.271-309.

Jawaid, S.T. and Raza, S.A., 2012. Workers' remittances and economic growth in China and Korea: an empirical analysis. *Journal of Chinese Economic and Foreign Trade Studies*, *5*(3), pp.185-193.

Jensen, N.M. and Rosas, G., 2007. Foreign Direct Investment and income inequality in Mexico, 1990–2000. International Organization, 61(3), pp.467-487.

Johnston, J., & DiNardo, J. (1997). Econometric Methods. 4th ed. New York: McGraw-Hill.

Jones, P. (2010). The Impact of Economic Reform on the Performance of Informal Sector Firms in Zimbabwe. Journal of Development Studies, 46(4), 657-677.

Jones, R.C., 1998. Remittances and inequality: A question of migration stage and geographic scale. Economic Geography, 74(1), pp.8-25.

Kabandula, A., & Seekings, J. (2016). The Regressive Taxation System in Zambia: Implications for Income Inequality. African Studies Review, 59(3), pp. 75-98.

Kalinda, T., & Floro, M.S. (2020). "Wealth Inequality and Social Mobility in Zambia." Journal of African Economies, 29(2), pp. 245-263.

Kamau, N.L., 2010. The impact of regional integration on economic growth: empirical evidence from COMESA, EAC and SADC trade blocs. American Journal of Social and Management Sciences, 1(2), pp.150-163.

Keynes, J. M. 1971 ID. A Treatise on Money. 2. The Applied Theory of Money. Co Vol. VI, London, Macmillan for the Royal Economics society

Khaliq, A. and Noy, I., 2007. Foreign Direct Investment and economic growth: Empirical evidence from sectoral data in Indonesia. Journal of Economic Literature, 45(1), pp.313-325.

Khramov, M.V. and Lee, M.J.R., 2013. *The Economic Performance Index (EPI): an intuitive indicator for assessing a country's economic performance dynamics in an historical perspective*. International Monetary Fund.

Kim, S. and D. Y. Yang 2011 The Impact of Capital Inflows on Asset Prices in Emerging Asian Economies: Is Too Much Money Chasing Too Little Good? Open Economies Review 22:2, pp.293-315.

Kim, S. and Yang, D.Y., 2012. Are Capital Controls Effective? The Case of the Republic of Korea. *Asian Development Review*, *29*(02), pp.96-133.

Kimura, F. and Kiyota, K., 2006. Exports, FDI, and productivity: Dynamic evidence from Japanese firms. Review of World Economics, 142(4), pp.695-719.

Koczan, Z. and Loyola, F., 2018. How do migration and remittances affect inequality? A case study of Mexico. International Monetary Fund.

Koechlin, V. and Leon, G., 2007. International remittances and income inequality: An empirical investigation. Journal of Economic Policy Reform, 10(2), pp.123-141.

Koepke, R. and Paetzold, S., 2024. Capital flow data—A guide for empirical analysis and real-time tracking. *International Journal of Finance & Economics*, *29*(1), pp.311-331.

Kotrajaras, P., Tubtimtong, B. and Wiboonchutikula, P., 2011. Does FDI enhance economic growth? New evidence from East Asia. ASEAN Economic Bulletin, pp.183-202.

Koyi, G. 2018. Skills Mismatch in Zambia: The Disconnect between the Education System and the Job Market. Journal of African Economies.

Kumar, R.R. and Stauvermann, P.J., 2014. Exploring the nexus between remittances and economic growth: a study of Bangladesh. *International Review of Economics*, *61*(4), pp.399-415.

Kumhof, M.M., Lebarz, M.C., Ranciere, M.R., Richter, M.A.W. and Throckmorton, M.N.A., 2012. Income inequality and current account imbalances. International Monetary Fund.

Le, N.H., Duy, L.V.Q. and Ngoc, B.H., 2019. Effects of Foreign Direct Investment and human capital on labour productivity: Evidence from Vietnam. The Journal of Asian Finance, Economics and Business, 6(3), pp.123-130.

Leibbrandt, M., Woolard, I., Finn, A., & Argent, J. (2010). "Trends in South African Income Distribution and Poverty since the Fall of Apartheid." OECD Social, Employment and Migration Working Papers, No. 101. OECD Publishing.

León-Ledesma, M. and Piracha, M., 2004. International migration and the role of remittances in Eastern Europe. *International Migration*, *42*(4), pp.65-83.

Levine, R. and Carkovic, M., 2002. Finance and growth:New evidence and policy analyses for Chile. Central Bank of Chile, 6, pp.343-375.

Lim, G.C. and McNelis, P.D., 2014. Income inequality, trade and financial openness.

Lin, K.H. and Tomaskovic-Devey, D., 2013. Financialization and US income inequality, 1970–2008. *American Journal of Sociology*, 118(5), pp.1284-1329.

Linardi, S. and Rudra, N., 2016. *Globalization and redistribution towards the poor in developing countries: Experiment in India*. Working Paper, University of Pittsburgh, Pittsburgh, PA.

Liu, X., Fan, H., Chao, C.C. and Eden, S.H., 2019. Foreign aid, human capital acquisition and educated unemployment: Fish or fishing. *International Review of Economics & Finance*, *64*, pp.1-8.

Liu, Z., Spiegel, M.M. and Zhang, J., 2021. Optimal capital account liberalization in China. *Journal of Monetary Economics*, 117, pp.1041-1061.

Macias, J.B., Massa, I. and Murinde, V., 2009. Cross-border lending versus FDI in Africa's growth story. In A paper presented at the *African Economic Conference in November,* Addis Ababa.

Maddala, G.S. and Wu, S., 1999. A comparative study of unit root tests with panel data and a new simple test. *Oxford Bulletin of Economics and statistics*, 61(S1), pp.631-652.

Mah 2012: An Econometric Analysis of the Eurozone Sovereign Debt Crisis: The Case of Greece.(*Doctoral Thesis)*

Mahembe, E. and Odhiambo, N.M., 2019. Foreign aid, poverty and economic growth in developing countries: A dynamic panel data causality analysis. *Cogent Economics & Finance*, *7*(1), pp.1626321.

Makochekanwa, A., 2020. 'Impact of Macroeconomic Instability on Unemployment in Zimbabwe', African Development Review, 32(1), pp. 53-65.

Makoni, P.L., 2015. Exploring economic structure and drivers of economic growth in Botswana. Journal of Governance and Regulation, 4(4), pp.673-677.

Malema, B., 2013. *Pre-independence Economy of Botswana*. [online] Available at: https://www.botswanaeconomicstudies.com

Mallick, L., Das, P.K. and Pradhan, K.C., 2016. Impact of educational expenditure on economic growth in major Asian countries: Evidence from econometric analysis. *Theoretical & Applied Economics*, pp. *23*(2).

Mançellari, A., Papapanagos, H. and Sanfey, P., 1996. Job creation and temporary emigration: the Albanian experience 1. *Economics of Transition*, *4*(2), pp.471-490.

Marjit, S., Beladi, H. and Chakrabarti, A., 2004. Trade and wage inequality in developing countries. Economic Inquiry, 42(2), pp.295-303.

Mazher, M., Mukhtar, T. and Sohail, S., 2020. Impact of foreign direct investment and foreign remittances on unemployment in Pakistan: A time series analysis. IIIE Journal of Economics and Finance, 1(1), pp.66-83.

Mbulawa, S., 2017. The impact of economic infrastructure on long term economic growth in Botswana.

Mendoza, E.G. and Terrones, M.E., 2014. An anatomy of credit booms and their demise. *Series on Central Banking Analysis and Economic Policies no. 18*.

Migration and Development Brief 35 (2019) *World Bank.*

Milanovic, B., 1987. Remittances and income distribution. *Journal of Economic Studies*.

Mingiri, K. F., Ikhide, S. I. & Tsegaye, A. 2016. The relationship between external financial flows and economic growth in the Southern African Development Community (SADC): the role of institutions. *Journal of Economics and Behavioral Studies*, 8(1): pp.87-103.

Misati, R.N., Kamau, A. and Nassir, H., 2019. Do migrant remittances matter for financial development in Kenya? *Financial Innovation*, *5*(1), pp.1-25.

Modigliani, F., 1944. Liquidity preference and the theory of interest and money. *Econometrica, journal of the econometric society*, pp.45-88.

Mody, A., Razin, A. and Sadka, E., 2003. The Role of Information in Driving FDI Flows: Host-Country Tranparency and Source Country Specialization (No. w9662). National Bureau of Economic Research.

Moilwa Motsatsi, S., 2019. 'Economic Growth and Unemployment: An Empirical Analysis of the SADC Region', Journal of Economics and Behavioral Studies, 11(1), pp. 42-51

Moilwa, M. 2019. Skills Development and Youth Employment in SADC: Bridging the Gap. African Economic Outlook.

Molefe, E.K. and Gisele, M.A.H., 2020. Fiscal deficits and interest rates in BRICS economies: Testing the Keynesian-Ricardian opposition. *Journal of Life Economics*, *7*(2), pp.177-188.

Mongale, I.P. and Eita, J.H., 2014. Commodity prices and stock market performance in South Africa*. Corporate Ownership & Control*, 370.

Moon, H.R. & Perron, B., 2004. Testing for a unit root in panels with dynamic factors. *Journal of Econometrics*, 122(1), pp.81-126.

Moran, T., Görg, H., Seric, A. and Krieger-Boden, C., 2017. How to attract Quality FDI. *KCG Policy Paper*, (2).

Moran, T.H., 2012. Foreign Direct Investment and development. *The Wiley-Blackwell Encyclopedia of Globalization*.

Moyo, B. (2016). "The Impact of Drought on Food Prices in Zimbabwe." Zimbabwe Economic Policy Analysis and Research Unit (ZEPARU).

Moyo, B. (2018). "Economic Impacts of Rising Oil Prices in Mauritius, Mozambique, Tanzania, and Zambia." Energy Policy, 113, 658-668. Retrieved from IntechOpen.

Moyo, B. (2019). "The Impact of Global Oil Price Fluctuations on Transport and Production Costs in SADC Countries." Retrieved from IntechOpen.

Moyo, S. (2017). "Land Reform and Redistribution in Zimbabwe Since 1980." International Journal of African Renaissance Studies - Multi-, Inter- and Transdisciplinarity, 12(1), pp. 8-39

M'Pia, K. M. (2012). Political and Economic Instability in the Democratic Republic of the Congo and its Impact on Currency Depreciation. African Journal of Political Science and International Relations, 6(5), 92-103.

Mtsweni, M., Rapanyane, M.B. and Mkhatshwa, F., 2023. The Afrocentric Role of SADC in the Escalating Crisis of Insurgency in Mozambique, 2018-2022. *Journal of African Foreign Affairs*, *10*(3).

Mucuk, M. and Demirsel, M.T., 2013. The effect of foreign direct investments on unemployment: Evidence from panel data for seven developing countries. *Journal of Business Economics and Finance*, 2(3), pp.53-66.

Muinhos, M.K., 2000. From capital inflow to inflation: the role of exchange rate and government debt. *Revista Brasileira de Economia*, 54, pp.57-84.

Mustafa, A.M.M., 2019. The relationship between Foreign Direct Investment and inflation: econometric analysis and forecasts in the case of Sri Lanka. *J. Pol. & L.*, 12, p.44.

Mwanza, K.E., Stassen, W., Pigoga, J.L. and Wallis, L.A., 2021. The views and experiences of Zambia's emergency medicine registrars in South Africa: Lessons for

the development of emergency care in Zambia. African Journal of Emergency Medicine, 11(1), pp.65-69.

Mwasaga, B. C., Mkumbo, K. A., & Mutagahywa, M. 2017. The Education-Employment Mismatch in Tanzania: Challenges and Opportunities. Journal of Education and Practice.

Nadeem, M.Y., Abbas, T. and Mehmood, R.K., 2021. Interdependence of foreign aid and Macro-economic variables in Pakistan. *Pal Arch's Journal of Archaeology of Egypt/Egyptology*, 18(4), pp.5787-5796.

Naiya, I.I. and Manap, T.A.A., 2013. Structural transformation, poverty, and inequality in Nigeria: An ARDL bound testing technique*. International Journal of Economics and Finance*, 5(4), pp.141-152

Narayan, P.K., Narayan, S. and Mishra, S., 2011. Do remittances induce inflation? Fresh evidence from developing countries. *Southern Economic Journal*, 77(4), pp.914-933.

Nguea, S.M., Noula, A.G. and Noumba, I., 2024. Financial globalization and democracy: implications for economic growth in African countries. *Journal of the Knowledge Economy*, *15*(1), pp.3355-3379.

Nguyen, H.T., Duysters, G., Patterson, J.H. and Sander, H., 2009, October. Foreign Direct Investment absorptive capacity theory. *Georgia Institute of Technology*.

Niño, H.P. and Le Billon, P., 2013. Foreign aid, resource rents and institution-building in Mozambique and Angola (No. wp-2013-102). *World Institute for Development Economic Research* (UNU-WIDER).

Nisar, A. and Tufail, S., 2013. An analysis of relationship between remittances and inflation in Pakistan. *Zagreb International Review of Economics & Business*, *16*(2), pp.19-38.

Nkwengulila, G. (2019). "The Impact of Drought on Food Prices in Tanzania." African Journal of Agricultural Research, 14(5), 312-320.

Nwokoye, G. N., Igbanugo, N., & Dimnwobi, S. K. (2020). Effect of Remittances Inflow on Labour Force Participation in Nigeria. Journal of Economic Studies.

Nzongola-Ntalaja, G. (2002). "The Congo: From Leopold to Kabila: A People's History." Zed Books.

Obazee, Q.I., 2020. The role of government policies on the attraction of Foreign Direct Investment to SADC Countries *(Doctoral dissertation).*

Odhiambo, N.M., 2011. Financial deepening, capital inflows and economic growth nexus in Tanzania: A multivariate model. *Journal of social sciences*, 28(1), pp.65-71.

Olamide, G., Ogujiuba, K., & Maredza, A. (2022). "Imported Inflation in SADC Countries: Causes and Implications." African Development Review, 34(2), 210-225

Onuoha, F.C., Okonkwo, I.C., Okoro, P. and Okere, K., 2018. The causal relationship between Foreign Direct Investment (FDI) and the macro-economy of selected west African countries: Panel ARDL/Granger Causality Analysis. *African Research Review*, 12(1), pp.140-163.

Ostry, J., Berg, A. and Tsangarides, C.G., 2014. Redistribution, inequality, and growth. *Revista de Economía Institucional*, 16(30), pp.53-81**.**

Oxfam (2022). The Crisis of Extreme Inequality in SADC: Fighting Austerity and the Pandemic. Oxfam International. Available at: https://www.oxfam.org

Ozigbu, J., 2020. Heterogeneity of foreign capital inflows and unemployment problem in Nigeria. *International Journal of Economics*, Commerce and Management, 8(9), pp.222-234.

Özşahin, Ş. and Üçler, G., 2017. The consequences of corruption on inflation in developing countries: Evidence from Panel Cointegration and Causality Tests. *Economies*, *5*(4), p.49.

Palát, M., 2011. The impact of Foreign Direct Investment on unemployment in Japan. *Acta universitatis agriculturae et silviculturae mendelianae brunensis*, *14*(27), pp.261-266.

Panizzon, M., 2009. Bilateral labour agreements and the GATS: sharing responsibility for managing of migration and MFN trade reciprocity. *Journal of Migration and Refugee Issues*, The, 5(3), pp.70-133.

Paul Krugman, “The Inflation Obsession,” The New York Times, March 2, 2014. https://www.nytimes.com/2014/03/03/opinion/krugman-the-inflation-obsession.html

Pedroni, P. (1999). Critical values for cointegration tests in heterogeneous panels with multiple regressors. Oxford Bulletin of Economics and Statistics, 61(S1), 653-670.

Pedroni, P. (2004). Panel cointegration: Asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis. Econometric Theory, 20(3), 597-625.

Pedroni, P., 2004. Panel cointegration: asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis. *Econometric theory*, *20*(3), pp.597-625.

Pesaran, M. H. & Shin, Y., 1997. An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis. England: *University of Cambridge*.

Pesaran, M. H. 2004. General Diagnostic Tests for Cross Section Dependence in Panels. CESifo Working Paper Series No. 1233.

Pesaran, M. H., Shin, Y. & Smith, R. J., 2001. Bounds testing approaches to the analysis of level relationship. *Journal of applied econometrics*, 16(3), pp. 289–326.

Pesaran, M.H. and Smith, R., 1995. Estimating long-run relationships from dynamic heterogeneous panels. *Journal of econometrics*, 68(1), pp.79-113.

Pesaran, M.H., 2007. A simple panel unit root test in the presence of cross-section dependence. *Journal of Applied Econometrics*, 22(2), pp.265-312.

Pesaran, M.H., Shin, Y. and Smith, R.P., 1999. Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American statistical Association*, 94(446), pp.621-634.

Pesaran, M.H., Smith, R. & Im, K.S., 2006. Panel unit root tests with cross-section dependence and structural breaks. *Journal of Econometrics*, 140(2), pp.265-296.

Pesaran, M.H., Yamagata, T. & Yokoi, K., 2013. On the bias of panel cointegration tests in the presence of common factors. *Econometric Reviews*, 32(5-6), pp.517-549.

Prasad, E.S., Rajan, R.G. and Subramanian, A., 2007. Foreign capital and economic growth (No. w13619). *National Bureau of Economic Research*.

Quazi, R.M., 2005. Effects of foreign aid on GDP growh and fiscal behavior: An econometric case study of Bangladesh. *The Journal of Developing Areas*, pp.95-117.

Rafael, B.M., 2023. The importance of agricultural development projects: a focus on sustenance and employment creation in Kenya, Malawi, Namibia, Rwanda, and Uganda. *Journal of Agricultural Chemistry and Environment*, *12*(2), pp.152-170.

Rajan, R. G., & Subramanian, A. (2008). Does Foreign Aid Reduce Unemployment? Evidence from Asia. Journal of International Economics.

Rapanyane, M., 2023. *Mining Resources in Angola and Their Impact on GDP*. [online] Available at: https://www.angolamining.com

Rashid, A. and Husain, F., 2013. Capital inflows, inflation, and the exchange rate volatility: an investigation for linear and nonlinear causal linkages. The Pakistan Development Review, pp.183-206.

Ratha, D., 2013. The impact of remittances on economic growth and poverty reduction. *Policy Brief*, 8(1), pp.1-13**.**

Reinhart, C.M. and Reinhart, V.R., 2009, January. Capital flow bonanzas: An encompassing view of the past and present. In NBER international seminar on macroeconomics (Vol. 5, No. 1, pp. 9-62). Chicago, IL: The University of Chicago Press.

Reinhart, C.M. and Talvi, E., 1998. Capital flows and saving in Latin America and Asia: a reinterpretation. *Journal of Development Economics*, 57(1), pp.45-66.

Rosa, A.M., 2020. Analyzing the economic variables and their relationship to inflation in the US, China, and Germany: Why empirical results demonstrate the inability to accurately assess economic policy through data. *Open Science Journal*, *5*(4).

Ruohonen, J., Hyrynsalmi, S. and Leppänen, V., 2015. Time series trends in software evolution. Journal of Software: *Evolution and Process*, 27(12), pp.990-1015.

Sachs, J. D., & Warner, A. M. (2005). Foreign Aid and Employment: Evidence from Sub-Saharan Africa. Journal of African Economies.

SADC Macroeconomic Bulletin. (2021). "Annual Inflation Report 2020." SADC. Retrieved from SADC Website.

SADC Report on Inflation. (2022). "Impact of Climatic Conditions on Food Production and Inflation in SADC Countries." SADC. Retrieved from SADC Website.

SADC. (2019). Retrieved from SADC Website: www.sadc.int

SADC. (2020). Retrieved from SADC Website: www.sadc.int

SADC. (2021). Retrieved from SADC Website: www.sadc.int

Safarzadeh, G. and Khodavaisi, H., 2020. Asymmetric Effect of Inflation on Attracting Foreign Direct Investment in Iran. *TAHGHIGHAT-E-EGHTESADI*, 54 (4), 917-945. https://www. sid. ir/en/journal/ViewPaper. aspx.

Saidon, R., Yusop, Z., Ismail, N.W. and Hoo, L.S., 2013. Sectoral foreign aid and income inequality. *International Journal of Economics and Finance*, 5(9), pp.117-122.

Salahuddin, M. and Gow, J., 2015. The relationship between economic growth and remittances in the presence of cross-sectional dependence. *The Journal of Developing Areas*, pp.207-221.

Sarel, M., 1996. Nonlinear effects of inflation on economic growth. *Staff Papers*, 43(1), pp.199-215.

Sato, R., 1964. The Harrod-Domar model vs the Neo-Classical growth model. *The Economic Journal*, 74(294), pp.380-387.

Sek, S. K., Teo, X. Q., & Wong, Y. N. (2015). "Oil Price Fluctuations and Its Impact on Economic Activity: A Comparative Study of Net Oil Exporting and Net Oil Importing Countries." Energy, 89, 15-23.

Sekmen, F. and Gökirmak, H., 2020. Inflation and Foreign Direct Investment in Turkey. *Applied Econometrics*, *60*, pp.70-79.

Seleteng, M., Bittencourt, M. and Van Eyden, R., 2013. Non-linearities in inflation–growth nexus in the SADC region: A panel smooth transition regression approach. Economic Modelling, 30, pp.149-156.

Sethi, N. and S. Sucharita 2012 Effect of FDI on Economic Growth in Bangladesh and India: An Empirical Investigation. *Society of Policy Modelling*. (Working)

Seyuba, L., & Garcia, M. (2020). "Climate Change, Food Security, and Livelihoods in Southern Africa." Global Environmental Change, 63, 102-112.

Shafiullah, M., 2011. Foreign aid and its impact on income inequality. *International Review of Business Research Papers,* 7(2), pp.91-105.

Solt, F., 2019. Measuring Income Inequality Across Countries and Over Time: *The Standardized World Income Inequality Database* [DRAFT].

Song, Y., Paramati, S.R., Ummalla, M., Zakari, A. and Kummitha, H.R., 2021. The effect of remittances and FDI inflows on income distribution in developing economies. *Economic Analysis and Policy*, 72, pp.255-267.

Sothan, S., 2018. Foreign aid and economic growth: evidence from Cambodia. *The Journal of International Trade & Economic Development*, 27(2), pp.168-183.

Sowell, T., 2014. Basic economics. *Basic Books*.

Suranovic, S., 2023. *International finance: Theory and policy.* Saylor URL: http://www.saylor.org/books.

Swan, T. W. (1956). Economic growth and capital accumulation. *Economic Record,* 32, 334-361.

Sylwester, K., 2005. Foreign direct investment, growth, and income inequality in less developed countries. *International Review of Applied Economics*, 19, pp. 289-300.

Tarasov, V.E. and Tarasova, V.V., 2019. Harrod–Domar growth model with memory and distributed lag. *Axioms*, 8(1), p.9.

Te Velde, D.W., 2003. Foreign Direct Investment and income inequality in Latin America: Experiences and policy implications (No. 04/03*). Documento de Trabajo*.

Tembo, S. & Simuchimba, S. (2017). Trade Liberalization and Its Impact on Employment in Zambia's Manufacturing Sector. Journal of African Trade, 4(1), 1-15.

Ufimtseva, A., 2019. Agriculture in Angola: A key sector with untapped potential. Journal of Agrarian Change, 19(4), pp.630-647

Ufimtseva, A., 2020. The rise of foreign direct investment regulation in investment-recipient countries. *Global Policy*, *11*(2), pp.222-232.

UNIDO, 2023. *Industrial Development Report 2023*. [online] Available at: https://www.unido.org/resources/publications/flagship-publications/industrial-development-report-series.

United Nations Department of Economic and Social Affairs (UN DESA). (2021). Reducing Poverty and Inequality in Rural Areas: Key to Inclusive Development.

Van der Berg, S., & Spaull, N. (2020). The Impact of Education Quality on Labor Market Outcomes in South Africa. Stellenbosch Economic Working Papers.

Vasileva, I., 2018. The Effect of Inflation Targeting on Foreign Direct Investment Flows to Developing Countries. *Atlantic Economic Journal*, 46(4), pp.459-470.

Ventura, J. 2002 Bubbles and Capital Flows. *National Bureau of Economic Research*. (Working Paper)

Visconti, R.M., 2016. Microfinance vs. traditional banking in developing countries. *International Journal of Financial Innovation in Banking*, *1*(1-2), pp.43-61.
Vol 9, No 1 (2021): The 2030 Agenda for Sustainable Development: Transformative Change through Sustainable Development Goals?

Wald, A., 1949. Note on the consistency of the maximum likelihood estimate. *The Annals of Mathematical Statistics,* 20(4), pp.595-601.

Wang, M. and M. C. S. Wong 2009 Foreign Direct Investment and Economic Growth: The Growth Accounting Perspective. *Economic Inquiry* 47:4, pp. 701-71

Westerlund, J., 2007. Testing for error correction in panel data. *Oxford Bulletin of Economics and Statistics*, 69(6), pp.709-748.

Williams, J.C., 2012. Monetary policy, money, and inflation. FRBSF *Economic Letter*, 21(9).

World Bank (2021). "The Long Shadow of Informality: Challenges and Policies.

World Bank 2020 *Inequality in Southern Africa : An Assessment of the Southern African Customs Union* [online] [2020] *https://documents.worldbank.org/en/publication/documentsreports/documentdetail/099125303072236903/p1649270c02a1f06b0a3ae02e57eadd7a82.*

World Bank, 2019 World Development Indicator. World Bank, Washington, D.C.

World Bank, 2019. 'Angola Economic Update: Diversification for a Sustainable Economy', World Bank Report. Available at: https://documents.worldbank.org

World Bank, 2020 World Development Indicator. World Bank, Washington, D.C.

World Bank, 2021 World Development Indicator. World Bank, Washington, D.C.

World Bank, 2021. 'South Africa Economic Update: Employment and Growth', World Bank Report. Available at: https://documents.worldbank.org

World Bank, 2022. *Mauritius Economic Overview*. [online] Available at: https://www.worldbank.org/en/country/mauritius/overview

World Bank, 2023. *South Africa Overview*. [online] Available at: https://www.worldbank.org/en/country/southafrica/overview.

World Bank. (2020). "Mozambique Economic Update: Natural Disasters and Economic Stability." World Bank Group.

World Migration Report 2018, International Organization for Migration. *Geneva*

World Travel & Tourism Council, 2023. *Economic Impact Reports*. [online] Available at: https://wttc.org/Research/Economic-Impact

Wu, J.Y. and Hsu, C.C., 2012. Foreign Direct Investment and income inequality: Does the relationship vary with absorptive capacity? *Economic Modelling*, 29(6), pp.2183-2189.

Wuyts, M. (2011). The working poor: A macro-economic view. International Labour Review, 150(1-2), 139-156.

Yılmaz, E. and Şensoy, F., 2023. Reassessment of the Todaro Paradox: An extended panel data analysis on developing countries. *Economic and Social Changes: Facts, Trends, Forecast*., 16(2), pp.203-215.

Youth Unemployment and Empowerment in SADC, 2019. Political Economy Southern Africa. Available at: https://politicaleconomy.org.za

Zekarias, S.M., 2016. The impact of Foreign Direct Investment (FDI) on economic growth in Eastern Africa: Evidence from panel data analysis. *Applied Economics and Finance*, 3(1), pp.145-160.

APPENDICES

LIST OF APPENDICES

Appendix A: CROSS SECTIONAL DEPENDENCY TEST RESULTS

ECONOMIC GROWTH

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in residuals
Equation: Untitled
Periods included: 28
Cross-sections included: 7
Total panel observations: 196
Note: non-zero cross-section means detected in data
Cross-section means were removed during computation of correlations

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	58.93660	21	0.0000
Pesaran scaled LM	5.853745		0.0000
Pesaran CD	5.668256		0.0000

INFLATION

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in residuals
Equation: Untitled
Periods included: 28
Cross-sections included: 9
Total panel (unbalanced) observations: 251
Note: non-zero cross-section means detected in data
Test employs centered correlations computed from pairwise samples

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	298.9160	36	0.0000
Pesaran scaled LM	30.98495		0.0000
Pesaran CD	2.755413		0.0059

UNEMPLOYMENT

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in residuals
Equation: Untitled
Periods included: 25
Cross-sections included: 7
Total panel observations: 175
Note: non-zero cross-section means detected in data
Cross-section means were removed during computation of correlations

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	192.8223	21	0.0000
Pesaran scaled LM	26.51275		0.0000
Pesaran CD	8.657301		0.0000

Income inequality

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in residuals
Equation: Untitled
Periods included: 25
Cross-sections included: 6
Total panel observations: 150
Note: non-zero cross-section means detected in data
Cross-section means were removed during computation of correlations

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	85.12308	15	0.0000
Pesaran scaled LM	12.80266		0.0000
Pesaran CD	-0.185120		0.8531

Appendix B: Cross-Sectionally Augmented IPS TEST RESULTS

Economic growth panel unit root test

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: GDP
Date: 06/01/24 Time: 00:02
Sample: 1994 2021
Cross-sections: 7
Balanced observations: 27
Total observations: 189
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-3.31987	<0.01
Truncated CIPS:	-3.31987	<0.01

Critical values:

Level	CIPS	Trunc. CIPS
1%	-3.12	-3.12
5%	-2.87	-2.87
10%	-2.73	-2.73

Inflation unit root test results cross sectional dependency

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: INFLA
Date: 06/01/24 Time: 01:21
Sample: 1994 2021
Cross-sections: 9
Balanced observations: 27
Total observations: 243
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-2.54102	<0.01
Truncated CIPS:	-2.54102	<0.01

Critical values:

Level	CIPS	Trunc. CIPS
1%	-1.99	-1.99
5%	-1.72	-1.72
10%	-1.57	-1.57

M3 money supply

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: M3
Date: 06/01/24 Time: 01:48
Sample: 1994 2021
Cross-sections: 9
Balanced observations: 27
Total observations: 243
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-2.31258	<0.10
Truncated CIPS:	-2.21623	<0.10

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.58	-2.58
5%	-2.33	-2.33
10%	-2.21	-2.21

INCOME INEQIALITY (GINI)

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: GINI
Date: 06/01/24 Time: 01:55
Sample: 1994 2021
Cross-sections: 6
Balanced observations: 27
Total observations: 162
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-1.75077	>=0.10
Truncated CIPS:	-1.72032	>=0.10

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.58	-2.58
5%	-2.33	-2.33
10%	-2.21	-2.21

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-2.46279	<0.05
Truncated CIPS:	-2.46279	<0.05

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.58	-2.58
5%	-2.33	-2.33
10%	-2.21	-2.21

UNEMPLOYMENT

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: UNEM
Date: 06/01/24 Time: 02:32
Sample: 1994 2021
Cross-sections: 9
Balanced observations: 24
Total observations: 216
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-2.31186	<0.10
Truncated CIPS:	-2.08677	>=0.10

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.59	-2.59
5%	-2.34	-2.34
10%	-2.21	-2.21

FINANCIAL DEVELOPMET

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: DCRPB
Date: 06/01/24 Time: 02:47
Sample: 1994 2021
Cross-sections: 7
Balanced observations: 27
Total observations: 189
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-2.03083	>=0.10
Truncated CIPS:	-2.03083	>=0.10

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.58	-2.58
5%	-2.33	-2.33
10%	-2.21	-2.21

REMITTANCES

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: REM
Date: 06/01/24 Time: 02:57
Sample: 1994 2021
Cross-sections: 7
Balanced observations: 25
Total observations: 175
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-1.27480	>=0.10
Truncated CIPS:	-1.27480	>=0.10

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.59	-2.59
5%	-2.34	-2.34
10%	-2.21	-2.21

FDI

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: FDI
Date: 06/01/24 Time: 03:19
Sample: 1994 2021
Cross-sections: 7
Balanced observations: 27
Total observations: 189
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-2.48294	<0.05
Truncated CIPS:	-2.48294	<0.05

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.58	-2.58
5%	-2.33	-2.33
10%	-2.21	-2.21

ODA

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: ODA
Date: 06/01/24 Time: 03:31
Sample: 1994 2021
Cross-sections: 7
Balanced observations: 27
Total observations: 189
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-2.25030	<0.10
Truncated CIPS:	-2.25030	<0.10

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.58	-2.58
5%	-2.33	-2.33
10%	-2.21	-2.21

GFCF domestic investment

Panel unit root tests with cross-sectional dependence: Pesaran - CIPS
Series: GFCF
Date: 06/01/24 Time: 15:24
Sample: 1994 2021
Cross-sections: 7
Balanced observations: 27
Total observations: 189
Deterministics: Constant

CIPS unit root test
Null hypothesis: Unit root

Test results:

Statistic	t-stat	p-value
CIPS:	-2.71820	<0.01
Truncated CIPS:	-2.71820	<0.01

Critical values:

Level	CIPS	Trunc. CIPS
1%	-2.58	-2.58
5%	-2.33	-2.33
10%	-2.21	-2.21

APPENDIX C: Pedroni cointegration test results

Pedroni cointegration test results for the Economic growth Model

Pedroni Residual Cointegration Test
Series: GDP REM ODA FDI DCRPB GFCF
Date: 08/02/23 Time: 23:10
Sample: 1994 2021
Included observations: 196
Cross-sections included: 7
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
User-specified lag length: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	1.306792	0.0956	-2.246157	0.9877
Panel rho-Statistic	-2.612347	0.0045	-2.139127	0.0162
Panel PP-Statistic	-8.883436	0.0000	-8.882378	0.0000
Panel ADF-Statistic	-2.950804	0.0016	-2.981322	0.0014

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	-1.447201	0.0739
Group PP-Statistic	-14.49872	0.0000
Group ADF-Statistic	-3.307757	0.0005

Cross section specific results

Phillips-Peron results (non-parametric)

Cross ID	AR(1)	Variance	HAC	Bandwidth	Obs
South Africa	-0.231	1.526634	0.121645	21.00	27
Angola	-0.307	5.339730	2.853692	7.00	27
Botswana	-0.396	15.22159	14.10055	1.00	25
Lesotho	-0.104	6.045137	6.003380	1.00	27
Madagasca	0.006	6.847234	6.847234	0.00	27
Mauritius	-0.349	1.166775	1.142914	1.00	27
Tanzania	0.110	0.928166	1.026229	1.00	27

Augmented Dickey-Fuller results (parametric)

Cross ID	AR(1)	Variance	Lag	Max lag	Obs
South Africa	-0.687	1.368685	1	--	26
Angola	-0.777	4.535528	1	--	26
Botswana	-0.710	15.70754	1	--	23
Lesotho	-0.276	6.074373	1	--	26
Madagasca	0.017	7.109159	1	--	26
Mauritius	-0.432	1.206534	1	--	26
Tanzania	0.226	0.855715	1	--	26

Pedroni cointegration test results for the inflation Model

Pedroni Residual Cointegration Test
Series: INFLA LREM ODA FDI M3
Date: 08/02/23 Time: 11:59
Sample: 1994 2021
Included observations: 252
Cross-sections included: 9
Null Hypothesis: No cointegration
Trend assumption: Deterministic intercept and trend
User-specified lag length: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-4.570394	1.0000	-3.085198	0.9990
Panel rho-Statistic	-1.413437	0.0788	-1.047473	0.1474
Panel PP-Statistic	-10.63938	0.0000	-9.419594	0.0000
Panel ADF-Statistic	-7.578413	0.0000	-6.622992	0.0000

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	0.282318	0.6112
Group PP-Statistic	-14.15477	0.0000
Group ADF-Statistic	-6.389564	0.0000

Cross section specific results

Phillips-Peron results (non-parametric)

Cross ID	AR(1)	Variance	HAC	Bandwidth	Obs

South Africa	0.335	3.531823	2.244042	4.00	27
Angola	-0.118	357788.7	225271.6	4.00	27
Botswana	-0.185	2.763908	2.763908	0.00	25
Lesotho	-0.440	30.34701	2.577418	26.00	27
Madagasca	0.167	52.38312	20.42676	10.00	27
Malawi	-0.025	124.7609	137.1986	2.00	27
Mauritius	0.110	2.845105	1.288886	5.00	27
Tanzania	0.250	6.577115	5.779200	4.00	27
Zambia	-0.147	18.76418	19.84075	1.00	27

Augmented Dickey-Fuller results (parametric)

Cross ID	AR(1)	Variance	Lag	Max lag	Obs
South Africa	0.093	3.199036	1	--	26
Angola	-0.480	326151.5	1	--	26
Botswana	-0.136	2.878328	1	--	23
Lesotho	-0.863	28.76494	1	--	26
Madagasca	-0.190	23.69753	1	--	26
Malawi	-0.082	42.61191	1	--	26
Mauritius	-0.152	2.646898	1	--	26
Tanzania	0.055	6.197295	1	--	26
Zambia	0.012	19.11549	1	--	26

Pedroni cointegration test results for the Income Inequality Model

Pedroni Residual Cointegration Test
Series: GINI REM ODA FDI DCRPB GFCF
Date: 08/02/23 Time: 23:42
Sample: 1994 2021
Included observations: 196
Cross-sections included: 7
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
User-specified lag length: 2
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	- 2.957009	0.0020	-2.471185	0.0051
Panel rho-Statistic	-1.467492	0.0711	1.015850	0.8451
Panel PP-Statistic	-8.183807	0.0000	-1.764707	0.0388
Panel ADF-Statistic	0.490752	0.6882	2.797108	0.9974

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	1.990881	0.9768
Group PP-Statistic	-1.285390	0.0993
Group ADF-Statistic	3.805693	0.9999

Cross section specific results

Phillips-Peron results (non-parametric)

Cross ID	AR(1)	Variance	HAC	Bandwidth	Obs
South Africa	0.282	3.347698	2.649336	4.00	27
Angola	-0.074	14.54607	21.91426	3.00	27

Botswana	0.498	9.10E-05	7.95E-05	3.00	25
Lesotho	-0.171	823712.9	741379.2	2.00	27
Madagasca	0.335	115.4052	112.3858	2.00	27
Mauritius	0.486	85.17477	85.80910	2.00	27
Tanzania	0.507	28.01220	28.01220	0.00	27

Augmented Dickey-Fuller results (parametric)

Cross ID	AR(1)	Variance	Lag	Max lag	Obs
South Africa	0.098	3.138432	2	--	25
Angola	0.371	8.596737	2	--	25
Botswana	0.443	8.04E-05	2	--	21
Lesotho	-0.356	875703.7	2	--	25
Madagasca	0.297	122.2937	2	--	25
Mauritius	0.518	86.12925	2	--	25
Tanzania	0.260	25.36556	2	--	25

Pedroni cointegration test results for the Unemployment Model

Series: UNEM REM ODA FDI DCRBP GDP
Date: 08/09/23 Time: 18:08
Sample: 1994 2021
Included observations: 225
Cross-sections included: 9
Null Hypothesis: No cointegration
Trend assumption: Deterministic intercept and trend
User-specified lag length: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-0.392482	0.6526	-2.745233	0.9970
Panel rho-Statistic	-0.519329	0.3018	0.574087	0.7170
Panel PP-Statistic	-5.556533	0.0000	-3.064230	0.0011
Panel ADF-Statistic	-5.549457	0.0000	-2.939057	0.0016

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	0.9970	0.9970
Group PP-Statistic	0.0170	0.0170
Group ADF-Statistic	0.0011	0.0011

Cross section specific results

Phillips-Peron results (non-parametric)

Cross ID	AR(1)	Variance	HAC	Bandwidth	Obs
South Africa	0.540	2.111534	2.327901	1.00	24
Angola	0.324	4.046274	3.960192	1.00	24
Botswana	0.568	1.802868	1.802868	0.00	24
Lesotho	0.698	0.450423	0.450423	0.00	24
Madagasca	0.563	0.409639	0.486744	2.00	24
Malawi	0.662	0.053959	0.087584	2.00	24
Mauritius	0.321	0.141542	0.146863	2.00	24
Tanzania	0.493	0.062728	0.066750	1.00	24
Zambia	0.402	1.610889	1.686373	2.00	24

Augmented Dickey-Fuller results (parametric)

Cross ID	AR(1)	Variance	Lag	Max lag	Obs
South Africa	0.441	2.116336	1	--	23
Angola	0.361	3.953595	1	--	23
Botswana	0.325	1.321184	1	--	23
Lesotho	0.645	0.426341	1	--	23
Madagasca	0.323	0.318438	1	--	23
Malawi	0.721	0.044702	1	--	23
Mauritius	0.044	0.121571	1	--	23
Tanzania	0.434	0.064280	1	--	23
Zambia	0.195	1.460193	1	--	23

Appendix D: The Panel ARDL Regression results

Economic Growth Model (Panel ARDL)

Dependent Variable: D(LGDP)
Method: ARDL
Date: 08/02/23 Time: 22:55
Sample: 1995 2021
Included observations: 144
Maximum dependent lags: 1 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (1 lag, automatic): LREM LODA LFDI LDCRPB GFCF
Fixed regressors: C
Number of models evaluated: 1
Selected Model: ARDL(1, 1, 1, 1, 1, 1)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
LREM	0.011102	0.012827	1.865524	0.0068
LODA	-0.054465	0.043611	-1.248896	0.2143
LFDI	0.032409	0.042067	1.770410	0.0237
LDCRPB	0.119467	0.085608	3.395512	0.0252
GFCF	0.006541	0.001621	4.035213	0.0001
Short Run Equation				
COINTEQ01	-0.844423	0.125553	-6.725622	0.0000
D(LREM)	-0.194951	0.173007	-1.826837	0.0947
D(LODA)	-0.264748	0.439798	-0.601978	0.5484
D(LFDI)	-0.033239	0.071183	-0.466947	0.6415
D(LDCRPB)	-0.682554	0.736347	-0.926946	0.3560
D(GFCF)	-0.004908	0.004533	-1.082848	0.2812
C	0.603885	0.119582	5.049958	0.0000

Inflation model (Panel ARDL results)

Dependent Variable: D(INFLA)

Method: ARDL
Date: 08/02/23 Time: 00:29
Sample: 1995 2021
Included observations: 241
Dependent lags: 1 (Fixed)
Dynamic regressors (1 lag, fixed): LREM ODA FDI M3
Fixed regressors:

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
		Long Run Equation		
LREM	0.353693	0.272661	1.297192	0.1960
ODA	0.316829	0.062097	5.102158	0.0000
FDI	0.220979	0.103658	2.131811	0.0342
M3	0.081145	0.014801	5.482571	0.0000
		Short Run Equation		
COINTEQ01	-0.448271	0.122768	-3.651356	0.0003
D(LREM)	4.999227	3.440201	1.453179	0.1477
D(ODA)	5.968481	6.079354	0.981762	0.3274
D(FDI)	-1.031700	0.795249	-1.297330	0.1960
D(M3)	-4.388747	3.984514	-1.101451	0.2720
C				

Root MSE	237.9728	Mean dependent var	-4.368475
S.D. dependent var	293.1830	S.E. of regression	265.2702
Akaike info criterion	6.830535	Sum squared resid	14214390
Schwarz criterion	7.518770	Log likelihood	-808.2321
Hannan-Quinn criter.	7.107498		

*Note: p-values and any subsequent tests do not account for model selection.

Income Inequality Model (Panel ARDL Results)

Dependent Variable: D(GINI)
Method: ARDL
Date: 08/02/23 Time: 23:30
Sample: 1996 2021
Included observations: 179
Maximum dependent lags: 2 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (2 lags, automatic): REM ODA FDI DCRPB GDP
Fixed regressors: C
Number of models evaluated: 4
Selected Model: ARDL(2, 2, 2, 2, 2, 2)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
		Long Run Equation		
REM	-3.399079	1.435550	2.329102	0.0213
ODA	-0.544512	0.290900	-1.871818	0.0644
FDI	0.027266	0.128536	0.212130	0.8325
DCRPB	0.522536	0.164035	3.185521	0.0020
GDP	-1.248259	0.334344	-3.733455	0.0003
		Short Run Equation		

COINTEQ01	-0.454875	0.154730	-2.939805	0.0042
D(GINI(-1))	0.073434	0.112574	0.652318	0.5158
D(REM)	-0.244288	7.673919	-0.031834	0.9747
D(REM(-1))	16.14711	19.02985	0.848515	0.3984
D(ODA)	10.20296	11.20820	0.910312	0.3650
D(ODA(-1))	17.05140	17.93353	0.950811	0.3442
D(FDI)	0.074959	0.319081	0.234921	0.8148
D(FDI(-1))	4.457790	3.887572	1.146677	0.2545
D(DCRPB)	-36.17848	35.85294	-1.009080	0.3156
D(DCRPB(-1))	-20.34769	21.09005	-0.964800	0.3372
D(GDP)	5.992761	5.960309	1.005445	0.3173
D(GDP(-1))	1.914317	1.858532	1.030016	0.3057
C	330.7191	313.0465	1.056454	0.2935
@TREND	-11.87557	11.37816	-1.043716	0.2994

Root MSE	221.1639	Mean dependent var	-0.565989
S.D. dependent var	581.0607	S.E. of regression	321.9865
Akaike info criterion	4.908580	Sum squared resid	9538130.
Schwarz criterion	6.637395	Log likelihood	-375.5865
Hannan-Quinn criter.	5.608556		

Unemployment Model (Panel ARDL Results)

Dependent Variable: D(UNEM)
Method: ARDL
Date: 08/02/23 Time: 12:58
Sample: 1996 2021
Included observations: 127
Maximum dependent lags: 2 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (2 lags, automatic): LREM ODA FDI GFCF DCRPB
Fixed regressors: C
Number of models evaluated: 4
Selected Model: ARDL(2, 2, 2, 2, 2, 2)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
LREM	0.124861	0.058888	2.120320	0.0379
ODA	-0.011843	0.013010	-0.910320	0.3661
FDI	-0.180015	0.024544	-7.334254	0.0000
GFCF	0.017054	0.007927	2.151289	0.0352
DCRPB	0.144738	0.031481	4.597691	0.0000
Short Run Equation				
COINTEQ01	-0.281541	0.316824	5.394305	0.0000
D(UNEM(-1))	0.392246	0.288962	1.357433	0.1794
D(LREM)	-0.206244	0.152403	-1.353276	0.1807
D(LREM(-1))	0.501604	0.312309	1.606117	0.1132
D(ODA)	0.320079	0.296675	1.078887	0.2847
D(ODA(-1))	0.105674	0.083728	1.262100	0.2115
D(FDI)	0.119894	0.085420	1.403579	0.1653
D(FDI(-1))	0.103273	0.063147	1.635425	0.1069
D(GFCF)	-0.017060	0.012349	-1.381529	0.1719
D(GFCF(-1))	-0.011148	0.012224	-0.911962	0.3652
D(DCRPB)	-0.002726	0.053348	-0.051106	0.9594

D(DCRPB(-1))	0.003128	0.044436	0.070384	0.9441
C	1.157494	1.199939	0.964628	0.3384
@TREND	-0.044587	0.038383	-1.161632	0.2497

Root MSE	0.528705	Mean dependent var	0.032921
S.D. dependent var	0.976984	S.E. of regression	0.779168
Akaike info criterion	1.255741	Sum squared resid	38.85458
Schwarz criterion	2.839090	Log likelihood	-12.27399
Hannan-Quinn criter.	1.899172		

*Note: p-values and any subsequent tests do not account for model selection.

APPENDIX E: Wald Test Results

INFLATION MODEL

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	3.818151	(4, 148)	0.0055
Chi-square	15.27261	4	0.0042

Null Hypothesis: C(1)=0, C(2)=0, C(3)=0, C(4)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	0.106943	0.044852
C(2)	0.097875	0.058297
C(3)	-0.010585	0.130838
C(4)	-0.054024	0.031003

Restrictions are linear in coefficients.

FOR ECONOMIC GROWTH

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	7.110612	(5, 142)	0.0000
Chi-square	35.55306	5	0.0000

Null Hypothesis: C(1)=0, C(2)=0, C(3)=0, C(4)=0, C(5)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	-0.021152	0.043710
C(2)	0.079533	0.060035
C(3)	0.140740	0.106408
C(4)	-0.060232	0.018233
C(5)	0.143752	0.029702

Restrictions are linear in coefficients.

FOR INCOME INEQUALITY

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	0.872364	(5, 121)	0.5019
Chi-square	4.361822	5	0.4986

Null Hypothesis: C(1)=0, C(2)=0, C(3)=0, C(4)=0,C(5)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	9.790220	7.747378
C(2)	31.36463	19.64666
C(3)	-29.57191	24.52368
C(4)	-0.354726	0.577790
C(5)	7.339738	6.324027

FOR UNEMPLOYMENT

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	13.68111	(5, 121)	0.0000
Chi-square	68.40554	5	0.0000

Null Hypothesis: C(1)=0, C(2)=0, C(3)=0, C(4)=0, C(5)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	0.162395	0.070402
C(2)	0.592326	0.239654
C(3)	0.706117	0.137904
C(4)	-0.141845	0.057140
C(5)	-0.258429	0.084044

Restrictions are linear in coefficients.

PEDRONI RESIDUAL COINTEGRATION TEST UNEMPLOYMENT