EVELYN DIAMOND TOOMEY

THE IMPACT OF FOREIGN DIRECT INVESTMENT INFLATION TRADE AND INTEREST RATE ON SIERRA LEONE ECONOMY (1980-2020).

Nicosia JANUARY, 2023

NEAR EAST UNIVERSITY

INSTITUTE OF GRADUATE STUDIES

DEPARTMENT OF BANKING AND FINANCE

THE IMPACT OF FOREIGN DIRECT INVESTMENT INFLATION TRADE AND INTEREST RATE ON SIERRA LEONE ECONOMY (1980-2020).

MSc. THESIS

EVELYN DIAMOND TOOMEY

Nicosia

JANUARY, 2023

NEAR EAST UNIVERSITY
INSTITUTE OF GRADUATE STUDIES
DEPARTMENT OF BANKING AND FINANCE

THE IMPACT OF FOREIGN DIRECT INVESTMENT INFLATION TRADE AND INTEREST RATE ON SIERRA LEONE ECONOMY (1980-2020).

MSc. THESIS

EVELYN DIAMOND TOOMEY

Supervisor
Assoc. Prof. Dr. Turgut TURSOY
Head of Department Banking and Finance

Nicosia
JANUARY, 2023

Approval

EVELYN DIAMOND TOOMEY's dissertation, titled **"THE IMPACT OF FOREIGN DIRECT INVESTMENT, TRADE, INFLATION, AND INTEREST RATES ON THE SIERRA LEONE ECONOMY, 1980–2020,"** has been thoroughly reviewed. It has received the unanimous approval of our institution, and we are confident that it fits all requirements for a Master of Social Sciences thesis in terms of breadth and quality.

Examining Committee:	**Name-Surname:**	**Signature:**
Head of the committee:	Assoc. Prof. Dr. Turgut Tursoy	.....
Committee Member:	Asst. Prof. Dr. Mehdi Seraj	.....
Committee Member:	Assist Prof. Ala Fathi Assi	.....

Approved by the Head of the Department

13/01/2023

Assoc. Prof. Dr. Turgut Tursoy
Head of the Department

Approved by the Institute of Graduate studies

___/___/20____

Prof. Dr. Kemal Hüsnü Can Başer
Head of the Institute

Declaration

I, the signatory, attest that the data, information, and analysis contained in this thesis are accurate, complete, and that they have been collected and presented in conformity with the policies and guidelines set out by the Near East University Institute of Graduate Studies. As a supplementary declaration, I affirm that I have properly attributed and referenced any information and ideas that are not original to this study, as required by these guidelines and standards of behavior. This declaration has been issued in order to ensure that the aforementioned guidelines and behavior are observed.

Evelyn Diamond Toomey

…../…../…..

Acknowledgment

Firstly, my gratitude to the remarkable supervisor and head of the Banking and Finance Department at Near East University. He has been extremely responsive to my queries throughout this academic journey, and the words of encouragement that he has shared with me have taken deep root in my heart.

In addition, I would like to express my gratitude to Mr. Mumtaz Ali, a lecturer in the Department of Banking and Finance, for his encouraging assistance and direction. His supervisory role had a significant influence on the development of this document; as part of his duties, he performed checks on the applications that were not in compliance and transformed them into a masterpiece.

I would like to convey my thanks to my dear brother and colleague, Mr. Clarence D.M. Zoker, for the unceasing efforts he has put in and the support he has provided with regard to this project.

To my father Mr. Edward Kla Toomey, my dearest mother Madam Cecelia N. Collins, and my siblings, thank you all for your love, support, and prayers throughout this journey.

Mr. Andrew A. Tellewoyan III has my deepest gratıtude and appreclatıon. Sınce the beginning of thıs journeys he has being a great source of support.

Above all, the greatest gratitude goes to God for his direction and protection through it all.

EVELYN DIAMOND TOOMEY

…../…../…..

Abstract

THE IMPACT OF FOREIGN DIRECT INVESTMENT INFLATION TRADE AND INTEREST RATE ON SIERRA LEONE ECONOMY (1980-2020).

EVELYN DIAMOND TOOMEY

MSc. Department of Banking and Finance

January, 2023 Page,115

The impact of foreign direct investment, trade, inflation, and interest rates on the economy of Sierra Leone from 1980 to 2020 Foreign direct investment (FDI) is now a substantial contributor to the economic development of both developed and developing countries. Foreign direct investment (FDI) benefits the host country by increasing economic activity, creating new employment, and facilitating the transfer of cutting-edge technology (UNCTAD 2010, Agrawal and Khan 2011). Because most developing countries have very little revenue and savings, FDI is utilized to bridge the income and savings gaps (Odenthal 2001; Mottaleb and Kalirajan 2010). Most developing countries expect to benefit from foreign direct investment (FDI) through liberalizing trade and creating a friendly environment for entrepreneurs (UNCTAD 2004). Recent events have shown that FDI can be a large and stable source of private capital for developing economies, particularly those that can build an investment-friendly environment. For stationarity, the ADF unit root test was employed, and for cointegration, the bound testing technique was applied. The bound test reveals the variables' long and short-run connections. According to the ARDL findings, FDI and interest rates have a beneficial influence on Sierra Leone's economic development. Trade, on the other hand, has a positive impact on Sierra Leone's economic growth in the long run, but the reverse in the short run. And lastly, the findings show that Inflation has a negative impact. Many authors consider foreign direct investment and infrastructure as important determinants of economic progress in underdeveloped nations, including Sierra Leone. The government should strive to improve both sectors in order to increase production and

attract new investment.

In most countries, inflation is another key factor affecting investment choices. As a consequence, the government should seek, via the central bank and the ministry of finance, to maintain inflation in the single digits, as this is critical for boosting economic investment.

Because most economists believe that exchange rate volatility harms FDI, monetary policy in the banking sector should focus on exchange rate regulation. Interest rates should be set to keep them below levels that might cause inflation.

Keyword: *E*xchange rate, Trade, Foreign Direct Investment, Inflation, Monetary Policy

Özet

DOĞRUDAN YABANCI YATIRIM ENFLASYON TİCARETİNİN VE FAİZ ORANININ SIERRA LEONE EKONOMİSİNE ETKİSİ (1980-2020).

EVELYN ELMAS TOOMEY

MSc. Bankacılık ve Finans Bölümü

Ocak, 2023 Sayfa,115

Doğrudan yabancı yatırım, ticaret, enflasyon ve faiz oranlarının 1980'den 2020'ye kadar Sierra Leone ekonomisi üzerindeki etkisi Doğrudan yabancı yatırım (DYY) artık hem gelişmiş hem de gelişmekte olan ülkelerin ekonomik kalkınmasına önemli bir katkı sağlıyor. Doğrudan yabancı yatırım (DYY), ekonomik aktiviteyi artırarak, yeni istihdam yaratarak ve en son teknolojinin transferini kolaylaştırarak ev sahibi ülkeye fayda sağlar (UNCTAD 2010, Agrawal ve Khan 2011). Çoğu gelişmekte olan ülkenin çok az geliri ve tasarrufu olduğundan, gelir ve tasarruf açıklarını kapatmak için DYY kullanılır (Odenthal 2001; Mottaleb ve Kalirajan 2010). Gelişmekte olan ülkelerin çoğu, ticareti serbestleştirerek ve girişimciler için dostane bir ortam yaratarak doğrudan yabancı yatırımdan (FDI) yararlanmayı beklemektedir (UNCTAD 2004). Son olaylar, DYY'nin gelişmekte olan ekonomiler, özellikle de yatırım dostu bir ortam oluşturabilenler için büyük ve istikrarlı bir özel sermaye kaynağı olabileceğini göstermiştir. Durağanlık için ADF birim kök testi, eş bütünleşme için sınır testi tekniği uygulanmıştır. Sınır testi, değişkenlerin uzun ve kısa dönemli bağlantılarını ortaya çıkarır. ARDL bulgularına göre, DYY ve faiz oranları, Sierra Leone'nin ekonomik gelişimi üzerinde olumlu bir etkiye sahiptir. Öte yandan ticaret, uzun vadede Sierra Leone'nin ekonomik büyümesi üzerinde olumlu bir etkiye sahiptir, ancak kısa vadede tam tersidir. Son olarak, bulgular Enflasyonun olumsuz bir etkiye sahip olduğunu göstermektedir. Pek çok yazar, doğrudan yabancı yatırım ve altyapıyı, Sierra Leone de dahil olmak üzere az gelişmiş ülkelerde ekonomik ilerlemenin önemli belirleyicileri olarak görmektedir. Hükümet, üretimi artırmak ve yeni yatırımları çekmek için her iki sektörü de geliştirmeye

çalışmalıdır.

Çoğu ülkede enflasyon, yatırım tercihlerini etkileyen bir diğer önemli faktördür. Sonuç olarak hükümet, ekonomik yatırımı artırmak için kritik olduğundan, merkez bankası ve maliye bakanlığı aracılığıyla enflasyonu tek haneli rakamlarda tutmaya çalışmalıdır.

Çoğu ekonomist, döviz kuru oynaklığının DYY'ye zarar verdiğine inandığından, bankacılık sektöründeki para politikası döviz kuru düzenlemesine odaklanmalıdır. Faiz oranları enflasyona neden olabilecek seviyelerin altında kalacak şekilde belirlenmelidir.

Anahtar Kelime: Döviz kuru, Ticaret, Doğrudan Yabancı Yatırım, Enflasyon, Para Politikası

Table of Contents

CHAPTER III

CHAPTER IV

CHAPTER V

List of Tables

LISTS OF FIGURES

ABBREVIATIONS

FDI: Foreign Direct Investment

ADF: Augmented Dickey-Fuller

ARDL: Auto Regressive Distributed Lag

SSA: Sub-Sahara Africa

GDP: Gross Domestic Products

EC: Economic Growth

GNP: Gross National Products

PPP: Purchasing Power Parity

IMF: International Monetary fund

CSR: Corporate Social Responsibility

MNE: Multinational Enterprises

EGT: Endogenous Growth Theory

NTT: New Trade Theory

NGT: New Growth Theory

MRU: Mano River Union

MNCs: Multinational Corporations

RIR: Real Interest Rate

SISG: Shandong Iron and Steel Group

CPI: Consumer Price Index

SAPs: Structural Adjustment Programs

ASEAN: Association of Southeast Asian Nations

OAU: Organizations of African Unity

ECOWAS: Economic Community of West African States

WTO: World Trade Organization

ETLS: Trade Liberalization Scheme

CET: Single External Tariff

EMCP: Monetary Cooperation Programme

WAMZ: West African Monetary Zone

WACA: West African Currency Area

WAEMU: West African Economic and Monetary Union

BoP: Balance of Payments

GVCs: Global Value Chains

WGI: Worldwide Governance Indicators

WDI: World Development Indicators

CHAPTER I
INTRODUCTION

Foreign direct investment (FDI) now plays an important role in the economic growth of both industrialized and developing nations. Foreign direct investment is beneficial to the host nation because it increases economic activity, helps to generate new jobs, and supports the transfer of cutting-edge technologies (UNCTAD 2010, Agrawal and Khan 2011). Most developing nations have extremely little income and savings, and hence FDI is used to cover the gap between these two (Odenthal 2001, Mottaleb and Kalirajan 2010). Most developing nations hope to profit from foreign direct investment (FDI) through liberalizing trade and providing a welcoming atmosphere for businesses (UNCTAD 2004). Recent developments have shown that FDI may be a significant and reliable source of private capital for emerging economies, especially for those nations that are able to foster an investment-friendly atmosphere. Competition for foreign direct investment in many developing nations has heated up as a result of continuous processes of global economic integration and liberalization of economies in such countries. Selective policies directed at FDI inflows, such as incentives, both monetary and otherwise, for FDI inflows, have replaced controls and constraints on the entry and operations of foreign enterprises (Abubakar et al., 2018).

These carefully selected initiatives are intended to strengthen the economy's underpinnings and attract more foreign investment. For the foreseeable future, Sierra Leone's capacity to entice new forms of foreign direct investment (FDI) would be limited by the ongoing global economic crisis. Sierra Leone's civil war occurred when other nations were establishing international economic integration and enacting policies to facilitate FDI. International investors focused on other parts of Africa rather than Sierra Leone, with the exception of a few of mining companies (UNCTAD, 2010).

Potential investment and economic development in Sierra Leone were severely harmed by the country's civil war, which lasted from 1991 to 2002. The extreme poverty in Sierra Leone is reflected in the country's dismal showing in the United Nations Human Development Index 2021. This monumental difficulty still has far-reaching effects on almost every facet of national life. With the cessation of hostilities in 2002, the administration has been working to restore the circumstances necessary for economic

and social growth. Rich natural resources and a strategically advantageous coastal location continue to be at odds with the country's limited domestic market, lack of economic diversification, inadequate infrastructure, and inexperienced workforce. Too far, mineral exports are the sole income generator for the economy, drawing in the little FDI that has been made available. Adopting strategies to maintain the rapid economic development seen in the early post-war era is, thus, a key task for the Government of Sierra Leone. Many efforts have been made in this direction, and foreign direct investment (FDI) is now widely acknowledged as an important contributor to the economic potential of the nation. Unfortunately, the nation has not had a comprehensive plan or coordinated initiatives in place to attract FDI until recently (UNCTAN, 2010). Investment flows will be impacted by the global economic downturn, making an already difficult situation much worse for Sierra Leone.

Sierra Leone has been searching for ways to diversify its economy due to its rich natural resources, with the knowledge that attracting international investment is crucial to achieving its development objectives. It is essential for economies like Sierra Leone's to draw in foreign investment in order to keep domestic job creation and currency stability going strong in the face of limited natural resource endowment (Brima, 2015). Over the last ten years, Sierra Leone's gross domestic product (GDP) has increased by twenty percent because of the mining industry's attraction of foreign direct investment (FDI). However, the country's population have not benefited much from this growth, and poverty rates have not decreased noticeably. To be covered in further detail later in this research project are the variables that limit the economy's development potential of Sierra Leone. Since less than one percent of overall trade volumes occur inside the MRU, the data implies that the current level of commerce between Sierra Leone and other ECOWAS member nations is quite low (African Development Bank report, 2013). Hence, the government of Sierra Leone has set as one of its policy goals the encouragement of foreign direct investment (FDI), since foreign enterprises may produce not only for the home market but also export to the adjacent nations. It has been shown that foreign direct investment, also known as FDI, has a significant effect on domestic investment (Duramany-Lakkoh et al., 2021).

As the ratio of domestic savings to investment is negative, a resource gap has been established that must be closed by the use of either external borrowing, foreign assistance, or foreign direct investment. However, the external flows of capital are required not just for developmental projects, but also to lower the external debt, in a scenario where, as previously said, total external debt and foreign assistance have been rising and reducing, respectively. In addition, there is a positive correlation between investor familiarity with a foreign market and the amount of capital deployed in that market, suggesting that those investors are more likely to put their money where their knowledge and expertise about the market will help them achieve the greatest return (Erramilli and Rao, 1990). This research aims to add to the existing literature and provide useful information for policymakers in Sierra Leone who are considering what policy interventions might be implemented to encourage and maintain FDI, as well as for any prospective foreign investors who are considering Sierra Leone as an investment destination. More specifically, we will be making use of yearly time series data taken from a number of sources from 1980 all the way up until 2020. (Including, but not limited to, the UNCTAD and World Bank databases).

In the wake of the global supply chain disruptions and lockdown measures that followed the COVID-19 pandemic, Sierra Leone's GDP dropped by 2%. Some of the progress gained in eliminating poverty in earlier years was undone in 2020 when the per capita GDP fell by 4%. Real GDP is expected to grow by 4.2% in 2021 as a result of the government's budgetary reaction to the pandemic and the relaxation of laws affecting COVID. The majority of the demand-side growth will come from private spending and investment (as export demand remains tepid), therefore domestic demand will be the engine driving economic expansion. However, rising food and gas prices caused the headline rate of inflation to rebound to 10.2% by the end of June 2021 from its March 2021 low of 8.9%. The food price index in June of 2021 reached 17.1 percent, up sharply from the 9.9 percent recorded before the outbreak of COVID-19. The current account deficit is projected to decrease from 17.4 percent of GDP in 2020 to 16.4 percent in 2021, thanks to higher mining export profits. In the first half of 2021, government expenditure was 12.3 percent of GDP, but tax income was just 6.9 percent of GDP. We anticipate a 3.8% deficit to GDP ratio in 2021. Government debt is expected

to decrease to 72.9% of GDP in June 2021, according to Jalloh and Jalloh (2020), notwithstanding a significant probability of external and total financial distress at that time. There are potential negative outcomes for Sierra Leone's economy in the medium term. Limitations in vaccine availability, such as a sluggish vaccination program and the possibility of a pandemic resurgence, contribute to the seriousness of the COVID-19 threat. Constantly high public debt and domestic payment of arrears, lower-than-anticipated revenue growth, fast expansion in monetary aggregates and the inflationary risks and financial sector vulnerabilities it brings are the primary threats to the domestic macroeconomic (Adams, 2009). Prior to the Ebola epidemic in 2014, Sierra Leone had set a goal of becoming a middle-income nation by 2035; nevertheless, the country still suffers from high youth unemployment, corruption, and poor governance, all of which are lingering effects of the civil war. Transparency in natural resource management and providing budgetary flexibility for growth remain two of the most pressing problems the government must solve. Although significant progress has been made, serious issues such as inadequate infrastructure and pervasive poverty in both rural and urban areas continue (Adeniyi et al., 2012).

Impact of Foreign Direct Investment on GDP Growth

As stated in the most recent World Investment Report, foreign direct investment fell by roughly 16 percent to $1.23 trillion in 2014; yet, many developing nations have seen strong economic development with a quick increase in international transactions thanks to FDI during the previous decade. Multiple studies have looked at the effects of foreign direct investment from the vantage point of the host nations, and they have yielded contrasting results. There are various positive and negative welfare effects of FDI via MNCs. A possible effect is the possibility of economic development in the host nation. Many academics and policymakers in the field of investment have argued that FDI may have a profoundly favorable impact on the economic growth and development of a nation that receives it. However, many books and articles have already explored the problems with FDI and the factors that drive specific investment choices. Governments like Sierra Leone's are implementing new legal frameworks to attract FDI in an effort to stimulate economic expansion. Both the country receiving the investment and the

country making the investment stand to gain from FDI. These include the dissemination of advanced technology, the lowering of unemployment rates, more access to international markets, and higher levels of productivity. One of the most quoted pieces of research on the topic of foreign direct investment and economic development proposes that FDI is a method for obtaining technological spillovers and so it makes a larger contribution to economic growth than investment at the national level. One more proponent of foreign direct investment is the sophisticated technology transfer that helps local enterprises in the host nation. If foreign direct investment is seen to boost economic development, then the receiving nation should actively seek it out (Shen, 2015).

However, there is also a large body of research suggesting that FDI has a detrimental effect on the economic growth of the host nation. There are many who argue that FDI seldom has a good impact and often has the opposite one. Hirschman's research suggests that mining and agriculture get relatively little benefits from foreign direct investment (FDI), suggesting that the sector through which FDI enters the host nation may also affect its economic outcomes. Multinational companies' (MNCs') motivations for investing abroad are discussed in detail by Spatz and Nunnenkamp (2003). These motivations include the pursuit of resources, the improvement of operational efficiency, and the expansion of business opportunities. Depending on the motivations driving MNCs' FDI decisions, the resulting impact may be varied (Faroh, A & Shen, H. 2015)
The importance of law, strong legal institutions, and a fair judicial system in attracting foreign direct investment to a nation has grown in recent years. This is based on the assumption that investors would feel safer in their investments if the host nation has a well-established legal system that is likely to be used to uphold contractual obligations and safeguard private property. The subject of the connection between FDI and law is complicated enough as it is; the fact that some nations with poor rule of law manage to attract FDI only adds additional nuance to the debate.

There is scholarly consensus that political institutions play a significant influence in luring foreign direct investment. Some claim it discourages investment, while others argue the opposite, arguing that a totalitarian system encourages investment since it can quell labor unrest and safeguard private property (Brima, 2015).

Concerns about corruption are often raised in discussions about the link between FDI and economic growth. Theoretically, corruption may hurt FDI by decreasing efficiency and production while increasing costs. However, some empirical researchers have shown that bribery and corruption have a beneficial effect on FDI since it allows multinational corporations to more easily access government-funded projects and do business in countries with inefficient bureaucracies. After examining the available literature on FDI and its impact on economic development, researchers have concluded that the consequences are multifaceted and far-reaching. However, foreign direct investment may help a developing economy in a number of ways, including via the creation of jobs, the launch of new innovations and increased competitiveness, the promotion of extensive exports, and the acquisition of foreign currency (De Mello, 1999).

The decline in global iron ore prices as well as the 2014 Ebola epidemic in the Mano River Union region both impacted Sierra Leone's attempts to spur economic growth. Reduced growth in real GDP is expected for 2015 due to the causes stated above. Real GDP increased for two years in a row, hitting 20% in 2013, as a result of a rise in foreign direct investment in the iron ore industry. The GDP growth rate has decreased significantly to approximately 6% as of 2014 (Gyeke-Dako et al., 2016).
Sierra Leone's economy relies heavily on agriculture. Nearly 48% of GDP in 2014 came from donor assistance and government investment in transport infrastructure to improve the movement of commodities. The government's "Agenda for Prosperity" included these measures. Due in part to the decrease of landline telephone services, the mobile telecommunications sector has expanded significantly since the end of the war. Companies like Zain, a Kuwaiti corporation with Dutch headquarters that Bharti Airtel purchased in 2010, have been at the forefront of the influx of FDI into the market in recent years. Airtel announced plans to sell its African businesses to Orange, a French company, in 2015. One of the affiliates up for grabs was Airtel Sierra Leone. The expansion of the service sector's percentage of GDP is forecasted to increase.

Growth in iron ore output has boosted the mining industry, which in turn has boosted GDP. This had a profound effect on foreign direct investment and genuine development as the nation began exporting iron. In 2014, iron ore accounted for almost 45 percent of the country's total exports. In 2012, real GDP growth reached 15.2%, while

in 2013, it reached 20.1%. The worldwide Ebola epidemic and the consequent decline in product costs have led to projections of a decline in real GDP of 12.8% in 2015 and 8.4% in 2016. Two of the country's largest iron ore mining businesses halted operations and exports as a result, and one went bankrupt. Poor exports mean low revenues in foreign currency. Bankrupt London Mining was purchased by the Timis Corporation due to its extensive debt. Trading on Africa Minerals Limited's AIM listings was temporarily halted on November 20, 2014, due to a dispute with Shandong Iron and Steel Group (SISG), a major Chinese iron and steel corporation that is also a 25% shareholder in Africa Minerals Limited. The dispute stemmed from SISG's ownership of 25% of Africa Minerals Limited.

Sierra Leone's Inflationary Trend

Inflation, as measured by the CPI, became a significant concern for the government and policymakers in the middle of the 1970s (CPI). It is often thought that changes in the CPI will have far-reaching consequences on a variety of macroeconomic indicators. In this model, changes in prices are considered to occur in tandem with shifts in fiscal policy, monetary expansion, exchange rates, and maybe real production growth. Inflation was seen as very low, in the single digits, not long after independence in 1961. Between 1970 and 1974, the CPI (Consumer Price Index) averaged an annual inflation rate of 5.5%. This increased by an incredible 15.9 percent between 1975 and 1979. This increase was felt across the globe, including in Sierra Leone, as a direct result of the oil price shock. Therefore, between 1980 and 1984, annual inflation in the nation reached 37.9 percent. Between the years of 1985 and 1989, inflation averaged 85.8 percent annually. The 1980s were known as one of the most inflationary decades in history due to annual consumer price headline inflation averaging 63.7% and peaking at 179.2% in 1987. The early 1980s price increases were attributed to imported inflation (Bank of Sierra Leone, 1998). From 1990 to 1992, the average inflation rate in the country was 92.8 percent, and things only got worse from there. Between 1993 and 1994, inflation fell dramatically to an annualized 23.9%. Many people look back on the 1990s with disdain because of civil unrest, military coup d'états in April 1992 and May 1997, and the rebel attack on Freetown in January 1999. The slowing of economic development

was a direct result of the rising tensions. Since the exchange rate was liberalized, the value of the Leone has been falling at a rate of almost 50% every year. Inflation averaged over 93% throughout the period. Spare money, broad money, and wide money all increased at slower rates during this time period, leading to a slower expansion of the monetary aggregate (average annual growth rates of 34.1%, 33.7%, and 36.0%, respectively). The yearly growth rate of the economy plummeted to an average of 3.2 percent below its previous level. (Essien, et al. 2007). After decreasing by 3.1% in 2001, inflation rates continued their downward trend through the years 2000 and 2002 before swiftly climbing back up to 11.3% in 2003. In spite of the fact that the proposed West African Monetary Zone has established a convergence criterion (an inflation rate of less than 5%), inflation hit 14.5 percent during the first half of 2004. Inflation shot up in Sierra Leone in 2003 and 2004 for a number of interconnected reasons: the "pass-through" effect of Leone's devaluation against the US dollar, increasing costs of fuel (and their implications on transportation costs), solid rise in import demand for rebuilding, an accommodative monetary policy, and ultimately delays in donor funding. The United States saw a rise in inflation, with the annual rate reaching 15.04 percent in June 2008, up from 11.99 percent in June 2007. The greatest annualized rate of inflation in 2008 was 15.28%, recorded in May, while the lowest rate was recorded in February at 2.73%. (Bank of Sierra Leone, 2008). In recent years, IMF-supported programs have included the careful deployment of both fiscal and monetary measures. These measures appear to have restrained inflationary output; however, it is still thought that high inflation is associated with negative real GDP growth. This is despite the fact that these measures seem to have restrained inflationary performance.

Inflation

The expansion of a nation's GDP, the increase of the money supply, the exchange rate, and inflation are some of the most significant economic indicators of a nation's overall economic health. These metrics have an important bearing on the health of an economy because of their connection to the outside world. An economy's global standing is evaluated by looking at how it fares in relation to other countries. When inflation rises, the demand for money rises, which raises interest rates, which further intensifies

the cycle (Case and Fair, 1992). On the other hand, rising interest rates cause consumers to cut down on spending, which further reduces production (Case and Fair, 1992). Sierra Leone, a country that was formerly a colony of the United Kingdom, gained its independence in April 1961. Sierra Leone was surrounded by Guinea to the north and northeast, Liberia to the southeast, and the Atlantic Ocean to the west after it got its independence. Sierra Leone is one of several nations in Sub-Saharan Africa that belongs to the Least Developed Countries and takes part in efforts aimed at Heavily Poor Countries. Formerly an exporter of cocoa, coffee, piassava, and diamonds, the nation is today considered one of the world's least developed. Annual economic growth during this time was strong, especially when compared to the rates seen in many other wealthy nations. In addition, the economy grew by around 4% in the early 1970s. However, since the 1970s, Sierra Leone's external balance performance has been dismal; the country's balance of payments issues are continuous, and the country's economy has declined rapidly due to crude oil crises in the Middle East (Olusegun et al., 2012). As a consequence of political instability, erratic macroeconomic policies, and the negative impacts of peripheral shocks, the country's competitiveness in international commerce, as measured by the real exchange rate, declined. Therefore, GDP growth was slow, inflation was high, unemployment was high, and budget deficits were enormous. Additionally, the country's economic vulnerability brought it close to collapse in the 1980s. Consistent depreciation of the country's tax base and the negative impact of the global financial crisis on diamond exports led to a decline in the value of the nominal exchange rate from 16 percent in 1980/81 to 5 percent in 1985/86. The actual gross domestic product dropped by 4.27 percent between 1991 and 2000, the 10 years of terrible armed war, and 80 percent of the population lives in poverty. In 1986, Sierra Leone joined the ranks of the nations that instituted Structural Adjustment Programs (SAPs) and variable currency rates. These were implemented to make exports from the nation more competitive while also maintaining a stable exchange rate and nominal volatility to guarantee a competitive and efficient finance industry and boost economic growth (Egwaikhide et al., 2012). The inflation rate in Sierra Leone indicates the extent to which the price of a typical basket of commodities has increased or decreased relative to the previous year.

Sierra Leone's Interest Rate

During a meeting in October 2022, the Sierra Leonean central bank agreed to increase its main interest rate by 100 basis points (bps), bringing it to 17%, on the grounds that inflationary pressures were still strong and were likely to stay so for the remainder of the year. Inflation slowed in August to 28.15% from 29.47% in July, although it remains much higher than the 10.9% rate seen a year earlier, according to policymakers. The value of one dollar in Leone has decreased by 29.6 percent this year. As a result of the influence of prices on production, the central bank expects GDP growth of 3.6% this year and 3.4% in 2023.

Sierra Leone's Economic Growth Trend

When Sierra Leone gained its independence in 1961, the country's economic future was bright and promising because of the many resources it had inherited from the colonial government, including corporate mining of alluvial diamonds, iron ore, and bauxite. The decade after independence was marked by robust economic development, with annual averages of 4.5 percent (excluding a negative 28 percent rate in 1967 due to military intervention). Strong mining production and agricultural exports drove the expansion. As the downturn in corporate mining rippled across the monetary system, however, the economy slowed dramatically in the 1970s and 1980s. By the end of the 1980s, the economy had come dangerously close to a total meltdown. The main indicators of this were a steep drop in GDP per capita, a surge in inflation, and a widening gap in the country's trade deficit. Hosting the O.A.U. summit and terrible macroeconomic mismanagement both contributed to the economic and financial downfall at this time (Ministry of Finance, 2005).

The civil war began about the middle of 1991 and persisted throughout the decade, with periodic flare-ups of nationwide warfare and governmental instability. There was a wide range of growth results throughout this time, but overall, they were negative and inflation was high. The real gross domestic product declined by 10% in 1995 but recovered by +5% in 1996. The deficit in general government spending

dropped to 6.3% of GDP in 1996 from a record high of 12% in 1991. The 1997 coup of a democratically elected president did not help matters. Thus, real GDP dropped by 18 percent and remained at that level until 1998, when it dropped again in 1999, due to rising unemployment and falling per capita earnings, by 8% (Ministry of Finance, 2005). On January 6, 1999, an assault on Freetown threw the whole country back into combat, putting a stop to the small economic improvement that had begun in the second half of 1998. The first half of 1999's revenues were 56% lower than the first half of 1998 because of a drop in production and the associated contraction of the domestic revenue base. Due to rising government expenditure spurred by security-related costs, the overall budget deficit excluding grants climbed to an estimated 15% of GDP. From 2000-2004, the economy began to improve thanks to the end of fighting and the subsequent restoration of security throughout the nation. Reconstruction and restoration efforts around the nation stimulated economic activity. The real gross domestic product increased by 3.8% in 2000 and by an even more impressive 18.5% in 2001. A further 27.5 percent growth was seen in 2002, followed by a 9.5 percent rise in 2003. The general uptick in agriculture, mining, manufacturing, and construction as well as the service industries was blamed for these gains. The real GDP increased by 7.4 percent that year as well. This growth was caused by the agriculture sector's steady improvement, the acceleration of rebuilding efforts, and the expansion of other investment initiatives. Additionally, domestic revenue rose from 7% of GDP in 1999 to 12.4% of GDP in 2003, and remained virtually unchanged in 2004. (Ministry of Finance, 2005).

Sierra Leone’s Trade Performance

In accordance with the findings of the World Bank's Doing Business 2016 report, Sierra Leone ranked 164th out of 189 economies for how straightforward it was to do business in other countries.

The composition of Sierra Leone's exports has shifted during the course of the research period, despite the fact that minerals continue to account for a considerable share of those exports. Between 2005 and 2013, exports increased to a total of $1.5 billion, over

ten times their previous level, and a significant contributor to this expansion was iron ore. The majority of its exports today consist of things like agricultural items, rutile, bauxite, and iron ore rather than diamonds (mainly cocoa). In fact, shipments of iron ore from Sierra Leone didn't start until 2011. As a result of the Tonkolili and Marampa mines finally reaching their maximum capacity in 2012, iron ore overtook diamonds as the most valuable export product of the nation in the same year. In 2013, diamond shipments made up just 12.2% of total exports, while iron ore exports surged to 69.7% of all shipments. As a result of the iron ore market disaster in 2014, exports dropped to US$ 536.2 million in 2015, when two mines were forced to close due to the low price. The Chinese market receives the vast bulk of Sierra Leone's iron ore exports. The European Union has always been one of the most important markets for iron ore exports, but at the height of the current boom in 2013, that share of total exports fell to 26.1%. In 2015, there was a significant drop in the amount of iron ore shipped, which led to the rise to 50%. Exports to the other countries of ECOWAS are typically low, with rice being the key contributor to the high in 2010; nonetheless, rice exports were the primary source of the high (IMF, 2016). Imports of goods into Sierra Leone have been between US$1.5 billion and US$1.8 billion since 2011, up from US$770 million in 2010 and US$341 million in 2005. Purchases of machinery and transport equipment for mining and oil investment projects accounted for 122% of the 2011 increase in imports. As the iron ore project neared completion, the proportion of imports that consisted of machinery and transportation equipment dropped from a high of 44.1% in 2011 to lower levels in subsequent years. Because of falling oil prices, the percentage of total imports made up by food goods rose to 34.5 percent in 2015 from 21.5 percent in 2014, while the percentage made up by mineral fuel and lubricants fell from 31.2 percent to 18.2 percent (IMF, 2016). Due to imports for rebuilding and associated big investment projects, the goods and services imbalance in 2011 was close to US$1.4 billion. In the years between 2005 and 2015, the goods trade deficit until 2012 and the services account deficit were the primary contributors to the total current account deficit. In fact, the trade imbalance in services ballooned to US$1.022 billion in 2014 from a meager US$13 million in 2005, then declined to US$341 million in 2015. (Provisional figures). The majority of this shortfall is attributable to other business services (mostly operational

leasing services, other professional and technical services). To clarify, Sierra Leone is a net importer of transportation services but a net exporter of communication services (World Bank, 2016).

Since its founding in May 1975, Sierra Leone has been a member of the Economic Community of West African States (ECOWAS), which was notified to the World Trade Organization (WTO) in 2005 according to the Enabling Clause. In October 2013, 18 ECOWAS nations established a single external tariff (CET), and several member States began implementing the CET in January 2015. Earlier this year, officials announced that Sierra Leone will begin implementing the CET on January 1, 2017.

In order to facilitate the free and unrestricted movement of goods throughout the ECOWAS region, Sierra Leone adopted the ECOWAS Trade Liberalization Scheme (ETLS). The ETLS only applies to firms and goods that have been verified as compliant with the scheme's criteria of origin. In order to register a product, it must first be reviewed by a national committee, which then offers recommendations to a regional committee. In 2014, Sierra Leone established the National Approval Committee. Nine businesses and their ETLS products have been given the green light by the Committee thus far.

Citizens of an ECOWAS member state who possess a valid travel document and health certificate are allowed to remain in another ECOWAS member state for up to ninety days before being forced to apply for residence under ECOWAS protocol. In theory, being granted residence is a formality. It has been stated by the relevant authorities that ECOWAS nationals have the same rights as national citizens when it comes to founding and operating a company. The Economic Community of West African Nations (ECOWAS) Monetary Cooperation Programme (EMCP), which was adopted in 1987, promoted the creation of a single monetary zone among the member states of the organization. The West African Monetary Zone (WAMZ) is a second monetary zone in the subregion that was formed in 2000 by the heads of state of six ECOWAS countries that are not members of the West African Economic and Monetary Union (WAEMU). This zone is known as the West African Currency Area (WACA).

Interest Rate of Sierra Leone

During a meeting in October 2022, the central bank of Sierra Leone decided to raise its main interest rate by 100 basis points(bps), to 17%. They did this because inflationary pressures were still high, and they were expected to stay high for the rest of 2022. Policymakers noticed that inflation dropped from 29.47% in July to 28.15% in August, which is still much higher than 10.9% a year ago. The leone has lost 29.6% of its value against the dollar this year. The central bank thinks that the growth of the gross domestic product will be 3.6% this year and 3.4% in 2023 (Bank of Sierra Leone, 2022).

Statement of the Problem

The pursuit of sustainable development and economic expansion in Sierra Leone have been hampered by a lack of foreign direct investment, which has led to low levels of economic growth and living standards. Despite the vast potential for investment across a variety of sectors in the nation (agricultural, mining, tourism, the financial market, the availability of labor, etc.), the country has seen a persistently low inflow of foreign capital. The economy of Sierra Leone is particularly vulnerable to inflation since it is heavily reliant on the export of unprocessed items in their raw condition, particularly minerals and agricultural products. The eleven years of civil unrest generated a level of disruption never before seen.

Even if it leads to continuing macroeconomic stability, inflation sends the wrong message to the economy, as the term would indicate. The government's primary aim of stabilizing pricing dynamics has been undermined by persistent inflation in Sierra Leone. Inflation is a topic of ongoing debate because of the wide variety of factors that may cause price increases in an economy, such as sluggish real sectorial activity, excessive government spending, imbalances in the Balance of Payments (BoP), and expansionary monetary policy (Millar, 2015).

In June of 2020, Sierra Leone's trade deficit was 53.84 USD Million. Due to its reliance on imports and its lackluster commercial agriculture, Sierra Leone has a persistent trade imbalance. Diamonds (63% of total exports) and cocoa are Sierra Leone's primary exports 22 percent. Capital equipment and gasoline are also things that Sierra Leone has to import. China, Guinea, and the United States are the main commercial partners.

Purpose of the Study

Understanding the impact of FDI, trade, inflation, and interest rate on Sierra Leone's economy is the focus of this study. According to a World Bank report, FDI has emerged as a crucial factor in trade and manufacturing in low-income countries due to the dynamic and growing reach of Global Value Chains (GVCs). Economic development, currency exchange, job creation, and the prospective transfer of knowledge are all areas where foreign direct investment (FDI) plays a key role. Since West Africa's economy has been doing well as of late, the region's governments have been more open to foreign direct investment and international finance. After a decade of civil conflict, Sierra Leone implemented many of these similar policies to jumpstart economic growth. Although soliciting foreign investment is critical to achieving Sierra Leone's development goals, the nation has been exploring for methods to diversify its economy. Foreign investments are crucial for the growth of countries like Sierra Leone since they lack the natural resource wealth that would allow them to rely on tourism to sustain employment and currency stability (Morisset, 2000).

Research Question

The research questions for this study are the following:

1. What is the impact of interest rate on economic growth in Sierra Leone?
2. What relationship does FDI has on economic growth in Sierra Leone?
3. Does inflation have a negative relationship on the economic growth in Sierra Leone?
4. What is the impact of trade on economic growth in Sierra Leone?
5. What policy solutions can you recommend to boost economic growth in Sierra Leone?

Significance of the Study

Foreign direct investment is predicted to have a favorable influence on economic growth since it is both an important component and one of the key aspects in the development of a country's economy, as was noted before. As such, it is essential to investigate whether or not foreign direct investment inflows, interest rates, inflation, and trade really have an impact on Sierra Leone’s economic growth.

This study is very important because it research findings will help policymakers in charge of the economy of Sierra Leone to craft policies that will help address the economic problems and enable the country's economy to flourish. This study is also important because its findings will shed light on the climate for foreign investment in Sierra Leone. The results may also serve as a useful reference for future scholars doing studies on the impact of FDI, inflation, interest rate and trade on Sierra Leone's economy.

Research Hypotheses

The independent variables and how they interact with the dependent variable are collected inside a hypothetical framework. However, the framework has considered the interplay of inflation, high interest rates, political instability, and the openness and trade of economies.

H0: There is no relationship between interest rate and economic growth in Sierra Leone.

H1: There is a relationship between interest rate and economic growth in Sierra Leone.

H0: There is no relationship between FDI and economic growth in Sierra Leone.

H2: There is a relationship between FDI and economic growth in Sierra Leone.

H0: There is no relationship between inflation and economic growth in Sierra Leone.

H3: There is a relationship between inflation and economic growth in Sierra Leone.

H0: There is no relationship between trade and economic growth in Sierra Leone.

H4: There is a relationship between trade and economic growth in Sierra Leone.

Limitations

This research is limited to four modules or variables which are foreign direct investment, inflation, interest rates, and trade. The researcher tested the impact these four modules or variables have on economic growth in Sierra Leone only. It is the hope of the researcher that future studies will go far beyond these four modules by incorporating other modules or variables that have impact on the country's economic growth.

The time duration the researcher had to conduct this study also limited the research. Another factor the researcher found as a limitation to this study is the availability of time

series data. The data was limited only to certain time period which was from 1980 to 2020. The researcher hopes that future research can go beyond the time series of this study.

Let it also be made clear that this study is limited to quantitative research only. Future research on these modules can adopt qualitative approach as well. Lastly, due to the political and socioeconomic differences or factors in other countries preclude the researcher from generalizing the results of the study to other countries thereby limiting the study only to Sierra Leone.

Definition of Terms

FDI: Foreign direct investment is when money moves from the parent firm of a multinational enterprise to its overseas subsidiary.

Inflation: The term "inflation" is a measure of the typical yearly increase in prices paid by consumers.

Interest Rate: Interest rate is the expense of borrowed funds; or the return on investment for a lender.

Trade: Trade occurs when two or more economic entities voluntarily trade products or services. Trading means buying and selling stocks, commodities, or derivatives in the financial markets. Without tariffs or other trade obstacles, international commerce is known as "free trade." Commerce, as used in the context of macroeconomics, often refers to international trade, or the network of exports and imports that links economies throughout the world

CHAPTER II

Literature Review

Introduction

In Chapter 2, we take a look at the current FDI legislative framework in Sierra Leone. First, let's examine the history of FDI in Sierra Leone. The foreign direct investment legislative framework and possible hurdles to FDI entrance will be discussed in the next section. Foreign direct investment in the mining sector is the topic of the third part. There's a summary of the chapter's main points at the end.

Review of Foreign Direct Investment in Sierra Leone

Iron ore, rutile, diamond, bauxite, gold, and more may all be found in Sierra Leone, as can tourism, a thriving economy, and abundant marine fisheries. Agriculture has been a substantial contributor to the progress of the economy, while iron ore mining has been the primary driver. Diamonds and rutile are other important exports, in addition to iron ore (Faroh & Shen, 2015). Sierra Leone's civil war concluded after ten years. The war wreaked havoc on the country's social and economic conditions, reducing investment chances and development potential. According to the most recent UNDP Human Development Index 2021, the country has a ranking of 183 out of 187, which indicates that the nation is in a state of extreme poverty. This ranking considers all of these factors such as the rate of infant mortality, the literacy rate, and the life expectancy rate (Faroh & Shen, 2015).

Prior to the terrible civil turmoil that transpired between 1991 and 2001, the country had no significant influxes of FDI. In the early 1930s, De Beers, a diamond mining company, became the first and only foreign mining business to invest in Sierra Leone. There was a dramatic decrease in FDI when De Beers left Sierra Leone in the

mid-1980s. Because of the conflict, foreign direct investment was unable to enter the country in the 1990s, leading to a 40% decline in the formal economy from 1990 to 1999. Alluvial mining is still the most common method employed in today's mining operations, which are still mostly in the non-industrial sector (Leone S, 2018).

Private sector FDI inflows into Sierra Leone have increased by a factor of three since the country began its recovery path. The increase in economic activity was helped along by foreign direct investment in the iron ore mining industry. IMF research found that the increased output of iron ore was largely responsible for the sharp increase in GDP growth from 5.7% per year on average between 2010 and 2011 to 15.2% and 20.1% on average between 2012 and 2013. Within a five-year time, frame, the nation went from being ranked 176 out of 185 on the ease with which businesses might operate there to being ranked 140 out of 185, making it one of the world's top 10 reformers (Tsaurai, 2018). Because of its strong extractive sector, Sierra Leone was prepared to continue its economic ascent until the decline in prices of iron ore on the commodities market and the outbreak of Ebola at the beginning of 2014. Prior to this, Sierra Leone was well positioned to continue its economic ascent.

Some sectors of the economy, including transportation, industrial output, and healthcare, ground to a halt as a result. Private investment was discouraged, health care expenditure was raised, and other governmental investment projects were limited due to the Ebola epidemic. (Tsaurai, 2018).

The Sierra Leonean government and its development partners have begun working on a post-Ebola recovery strategy in preparation for the eventual end of the epidemic. The plan will concentrate on reviving the country's economy by restoring its health care, agricultural, and educational systems. Thousands of people depend on the success of London Mining and African Minerals, and the industries' combined contribution to GDP is almost 20%; consequently, a prolonged disruption of the mining sector would have a disastrous impact on the economy (Faroh & Shen, 2015).

Theoretical Literature

Theories of Inflation

The Quantity Theory of Money

The money quantity theory is one of the most time-tested and widely accepted economic theories. It proposes, in words that are easily understood by the average person, that fluctuations in the total quantity of money that is in circulation are the major factor that determines adjustments in the overall price level. The quantity theory of money was the linchpin of classical monetary analysis in the 19th century, the preeminent conceptual framework for making sense of current banking events, and the underlying theory for orthodox policy prescriptions meant to protect the gold standard. In other words, money quantity theory served as the foundation of classical monetary analysis.

For the first time, David Hume (1711–1766) analyzed the dynamic process by which a monetary change ripples across an economy, affecting relative prices and quantities. As a result of his work, the quantity theory of money is clearer, more comprehensive, and more useful today. The most prominent of the classical economists, David Ricardo (1772-1823), discounted the significance of such transient disequilibrium effects in hi study of long-run equilibrium. Ricardo, as leader of the Balloonists, blamed the Bank of England for the subsequent inflation in 1797, when Britain, under the pressure of the Napoleonic Wars, abandoned the gold standard in favor of an inconvertible paper standard. Ricardo prohibited people from discussing the positive effects of increased monetary infusion on productivity and employment. Irving Fisher (1876–1947) is credited with developing the well-known exchange equation, which he denoted with the formula MV=PT. This and other calculations, like the Cambridge cash balance equation, which are consistent with the growing use of mathematics in neo-economic research, accurately explain the circumstances in which the proportional postulate is true. This is consistent with the growing use of mathematics in neo-economic research. Fisher and other neoclassical economists like Cambridge's Arthur Cecil Pigou (1877–1959) showed that monetary control could be obtained under a fractional reserve banking system by using an exogenously determined stock of high-power money. Pigou was born in Cambridge. Fisher was an American economist (Humphrey, 2010).

Monetary Theory of Inflation

Monetarism is the school of thought that "only money matters," and as a result, monetary policy is a more effective instrument than fiscal policy in creating economic stability. This school of thought was made prominent by Milton Friedman (1912–2006), who coined the phrase. The amount of money is said to be the "primary, but not sole" driver of both short-term and long-term price levels, according to the monetarist school of thought. There is not much of an influence that the money supply has on output over the course of time. The significance of money is seen as a fundamental tenant of the monetarist school of thinking. As stated by Milton Friedman and the modern quantity theory, "inflation is always and everywhere a monetary phenomenon that comes from a more rapid growth in the supply of money than in total production." In other words, "inflation is always and everywhere a monetary phenomenon that comes from a more rapid growth in the supply of money than in total production." The earliest explanation for this occurrence was offered by the quantity theory of money in its most fundamental form. The well-known identity of the exchange equation developed by Fisher was used by monetarists (Humphrey, 2010).

Demand-Pull Theory of Inflation

When speaking about what drives demand-pull inflation, John Maynard Keynes (1883–1956) and many who followed in his footsteps placed a significant amount of stress on the expansion of aggregate demand. In this context, "demand" refers to the total of individual purchases, corporate capital expenditures, and public spending. At the point when there is full employment, an inflationary gap develops when the aggregate demand is higher than the aggregate supply. The rate of inflation is directly linked to the size of the gap between the total aggregate supply and the total overall demand.

Even before full employment is reached, production variables and different emerging constraints may induce increases in public price, a reality that is not denied by Keynesians (those who accept Keynes's economic theories). This inflationary restriction, which comes suddenly in times of success, is rooted in the misallocation of resources in the economy, which are then incorrectly accounted for according to the rules of discipline established by the market. So, at a time of relative plenty, it is quite normal. Strategies that reduce demand for each component of total demand, according to Keynes'

theory of demand-pull inflation, are effective in reducing pressure demand and inflation. This is the case even if total demand remains the same.

Tax increases, on their own or in combination with other measures to curb government spending, have been shown to have a positive influence on monetary aggregates (and hence on inflation and demand). Since it may be impractical to regulate the quantity of money in circulation or reduce government spending during times of war, governments may instead resort to raising taxes and taking other direct measures to rein in inflation.

Cost Pull Theory of Inflation

Cost-push inflation is produced by factors such as wage hikes enforced by unions and profit gains made by firms. This particular kind of inflation is not something that has just recently come to light; in fact, evidence of it can be found dating back to the Middle Ages. Nevertheless, throughout the 1950s and again during the 1970s, its function as the principal driver of inflation was scrutinized once again. It was also known by the moniker "New Inflation" at one point. The phenomenon known as "cost-push inflation" takes place when real wages rise at a greater rate than advances in productivity.

Employers are under pressure from labor unions to boost wages significantly, which drives up the cost of goods. When workers are paid less, businesses have to charge their customers more. Workers are able to maintain their standard of living despite price increases thanks to salary increases. However, as a result of the price hike, unions are pushing for even greater pay (King, 2001). This leads to either cost-push or wage-push inflation in the countries that are affected. The possibility exists that wage rises in reaction to a rise in the price of living may make cost-push inflation worse.

Wage accelerates in certain industries may lead to price increases in other parts of the economy. Products from these industries are often utilized as inputs in the manufacturing of goods from other industries. Consequently, the cost of manufacturing in other industries will increase, leading to price increases. As a result, wage-push inflation in certain industries might soon cause price increases across the board. In addition, if the cost of imported raw materials rises, it might trigger cost-push inflation. Cost-push inflation may also be caused by the pursuit of profit maximization. When wages and other inputs go up, oligopolies and monopolies simply raise prices to recover their losses

and make a profit. Due to the nature of imperfect competition, some businesses are able to set and maintain their own prices. Inflation that is administered in order to maximize profits is also known as price-push or administered inflation (Drazen, 2000).

Structural Inflation Theory

The term "structural inflation" was first used in academic economics literature around the year 1970. Inflation's response to structural changes is tied to this. To understand the causes of economic problems like inflation and its long-term effects, structural analysis is used, with the goal of identifying the underlying mechanisms at work. Increases in supply and demand propel the economy forward even if mass unemployment makes mass production of factors difficult or delayed. So, less developed nations' thinking goes, until now, they haven't been able to change in the form of trailing behind a structure, haven't made an effort for quick self-economic development, and have had to make concessions to inflation that may be extremely severe at times. Inflation of this kind is an inevitable byproduct of investing in long-term infrastructure upgrades, but it comes at a price of rapid GDP expansion in the short term (Alesina, & Ardagna 2010). Inflation can be contained by government interference in the structure of the market, and inflation pressure can be fairly distributed through the adoption of decisive policies, both of which are supported by the structuralist camp. Common anti-inflationary policies, particularly recessionary financial and fiscal policies, are, nothing more than a recommendation for halting non-developing nations' economic growth. These countries are also disabled via the restriction of developed investment nations by experts and the World Bank/IMF/World Bank under their supremacy (rule) and/or by understanding the capabilities of least advanced economies (Roubini et al 1997). Structuralism emphasizes faster and more rapid development of the service sector, which is linked to population growth and immigration. Structuralism views these two factors as interrelated. From the point of view of a societal policy structure that allows for higher inflation, structuralism is blind to the surviving supply chain framework, the unique position and framework of certain existing businesses, the barrier structure and high labor costs, and a slew of other minor and major components

One of the key drivers of concealed inflation in industrialized investing countries is equal competitiveness and diverse social strata for a considerable part of national revenue. Less developed nations' hyperinflation benefits from a structuralist approach to the market. Rapid economic expansion and rising social activity both serve to heighten the intensity of the existing competition. A new social group has access to political and economic power, and attempts to increase its influence and alter the distribution of its wealth through means of inflation. In this perspective, inflation is the result of a deliberate selection of economic and social changes brought about by the economy's rapid and dynamic expansion (Roubini et al., 1997).

Theories of Foreign Direct Investment

Neo-Classical Microeconomic theory

According to Agarwal (2019), the level of interest rates determines the amount of money flowing from one nation to another. As far as theories go, literature suggests that neo-classical microeconomics was the most often used (Dunning, 2021). The hypothesis clearly asserts that the differential in interest rate levels across nations is the primary source of cross-border capital flows. Future investment flows are linked to the package of inducements that might impact the predicted return rate; the security of the investment, as well as the breadth and speed with which businesses can disinvest. FDI is influenced by a variety of factors, including tax laws, investment regulations, and macroeconomic policies. In a world of perfect competition, money flows freely from nations with minimal return rates to those with greater rates of return. Another researcher in support of Iverson's claim argues that the anticipation of better profits by corporations is the most significant factor of FDI in developing nations. As stated by many Liberian businesspeople, multinational corporations chose Liberia because of the country's poor investment climate, which makes it attractive to them.

Capital Market Theory of FDI

One of the first attempts to explain the rationale behind a company expanding into a new country is the capital market theory, which is a subset of the more general theory of portfolio investment. According to this school of thought, the lending rate and

the worth of the host nation's currency are the two most important elements which define the level of foreign direct investment.

As indicated by Aliber (1971), when a company's currency worth is high at home, it is more likely to develop internationally. While businesses based in nations with weak currencies tend to avoid expanding overseas (Moosa, 2002, Faeth, 2009). Furthermore, international corporations are more likely to borrow money at a cheaper interest rate than local firms due to the bigger currency swings in the host nations. According to Boddewyn (1985), three circumstances motivate enterprises to extend their activity overseas, and this may be described by the capital market hypothesis. Reduced manufacturing costs in the host nation are a direct result of the host country's exchange rate being artificially low. Second, foreign direct investment is preferred over the acquisition of securities because of the lack of regulated securities markets in less developed nations. Third, there is a paucity of data on these nations' securities markets. Because of the advantages of having access to the assets of the host nation, FDI is favored (Hennart, 2015).

Product Life Cycle Theory

The concept of the product life cycle that was put forth by Vernon in 1966 provided a helpful framework for analyzing the circumstances that led to a business being established in another nation. This theory investigates the relationship between the different phases of a product's lifespan and the possible inflows of foreign direct investment by using the concept of comparative advantage. In this theory, Vernon explored various types of foreign direct investment (FDI) that US businesses made in Western Europe in the manufacturing sector following World War II. He contends that the production cycle is comprised of three distinct phases (Dunning and Lundan, 2008).

First, there is the innovative new product stage. At this point, the vast bulk of a nation's exports is the excess produced by local businesses catering to domestic demand. Costs and final product specifications are not yet standardized for the product (Peltoniemi, 2011).

In the second phase, characterized by "growth goods," the local market has been saturated, demand has grown dramatically, and there has been a trend toward more

product standardization. As a result, many domestic businesses are setting up shops in other countries where labor is cheaper and they can increase their global market share.
The maturity stage is the third and final stage. During this phase of the product life cycle, the qualities of the goods are standardized, and cost concerns reflect a major part of the market. Because of this, there has been an uptick in the number of multinational corporations (MNCs) that set up shops in other countries, particularly in those that provide a high value-added to their products. Due to this factor, the business's ability to export its products is hampered, and it is forced to create those products in the host nation via its overseas branches (Chen et al., 2013).

Internationalization Theory of FDI

The internationalization idea attempted to provide an alternate rationale for FDI by putting the spotlight on technological and intermediate contributions. Based on the groundbreaking work of Coase (1937), this hypothesis was developed by Buckley and Casson (1976) in an effort to explain why the same business engages in production in many areas. In this setting, Buckley and Casson (1976) and Hennart (1982) created the concept of "internalization," which is based on market flaws, whereby corporations extend their operations overseas to solve the financial crisis and prove their dominance. (Kang and Jiang, 2012). This hypothesis rests on the premise that well-established MNEs are incentivized to lower transaction costs caused by gaps in the market for intermediate items, which in turn increases the profitability of these businesses. Several categories of market failure leading to internalization were identified by Buckley and Casson (1976). For instance, the difficulty in accurately anticipating prices and the motivation for transfer pricing both result from government interference in the markets. Internalization happens when there are flaws in the markets for intermediate goods (Buckley and Casson 2009).

Industrial Organization Theory FDI

Hymer's (1976) industrial organization theory is considered fundamental to providing adequate explanation for the actions of a dynamic multinational firm. Hymer, a prominent economist, was the first to take a methodical approach to analyzing the

factors that motivate home-based businesses to become global. Companies, according to Hymer's view, go global to compete with domestic rivals and to make the most of a "monopolistic edge" they have in areas like consumer preferences, the law, and cultural norms. However, when a foreign company expands internationally, it faces a number of dangers due to the imperfections in local markets (market failure) (Rugman et al., 2011). Thus, market imperfections may manifest in a wide variety of ways, including limiting access to financial markets, a dearth of necessary management skills, and price fixing by a select few. Also, government policies like taxes, tariffs, interest rates, and currency rates may lead to market failure. As a result, these disadvantages require certain kinds of market strength in order to turn a profit from an overseas investment. For instance, in order for foreign enterprises to be competitive, they want easier access to cheaper finance and patented technology. Dunning and Rugman (1985) contend that Hymer's theory is incorrect because it fails to distinguish between failures in the market that are structural and those that are transactional. The former is the outcome of the monopolistic power of the corporation, which is a direct consequence of its ownership advantage and acts as a barrier to entry for other businesses operating within the industry (Dunning and Pitelis, 2008). However, the "transactional type" is formed because new foreign businesses that join the market do not know all there is to know (cognitive deficiencies) about the consequences of their transactions and operations. This results in the production of the "transactional type" (Dunning and Lundan, 2008). In addition, Robock and Simmond (1983) proposed that investing in other countries is not always an indicator that a company has effectively exploited its ownership advantage because of the particular traits of the organization in question. For instance, government policies, the size of the market, the quality of the institutions, and political stability may all impact a company's decision on whether or not to engage in foreign direct investment (FDI) or licenses or exports. Foreign direct investment (FDI) may also confer benefits on the firm in the host nation.

The Classical Theory of Interest

Ricardo, Marshall, Pigou, Cassels, Walras, Taussing, and Knight are all names involved with the classical theory of interest rates. In the process of determining interest

rates, only non-monetary factors such as productivity and frugality are given weight, this theory is sometimes known as the "actual concept of interest rate." According to the postulates of classical economics, the costs of borrowing are defined by the point at which the supply and demand for investments coincide.

Companies must pay interest on the money they borrow to invest. Therefore, the interest rate is crucial to investment. High investment is encouraged by a low interest rate, whereas investment is discouraged by a high rate. The rate of interest has a negative impact on investments (Rothbard, 2001). People put their cash aside to accrue interest on it. When interest rates are high, people save a lot, and when they're low, they don't save as much. As a consequence of this, the interest rate has a direct influence (or a favorable effect) on the tendency of individuals to save money. The need for investment from firms may be met by the savings of households. For this reason, savings are considered to be supply in the market for items, while investment is considered to be demand. As a consequence of this, the point at which the supply of savings meets the demand for investment in the product market is the location at which the value of the rate of interest is determined. The interest rate, which is the outcome of people saving money and investing it, maintains equilibrium in the product market. When people refer to "saving" in this sense, they are not referring to financial resources; rather, they are referring to non-consumable resources that are put to productive use. When people speak about "saving" in this context, they are referring to "saving". Because of this, the traditional theory is often known as the "theory of interest" in its own right (Ansgar & Belke, 2009).

Keynes Theory of Liquidity Preference of Interest Rate

Before delving into Keynes' theory of liquidity preference, let's first go through the classical theory of interest and the available for a lending theory of interest. The traditional theory of interest says that the interest rate is a real thing that is set in the product market at the point where saving and investing meet. The view held by Keynes is that interest rates are determined in the financial markets by the stability between the supply and demand of currency; they are an entirely financial event that serves as a reward for the transfer of funds. This equilibrium occurs when the demand for and

supply of money are in balance. The loanable model of interest says that the interest rate is set by finding the point where the amount of savings and the demand for investments are equal. The quantity theory of interest is an alternative to the classic theory of interest. This theory takes into consideration additional sources of loanable money in addition to savings. Dishoarding and disinvestment are two examples of these other sources of bank lending. Let's get into Keynes' theory of liquidity preference now that we have all this material at our disposal. In the landmark book that he authored, "The General Theory of Employment, Interest, and Money," Keynes presented his point of view about the factors that determine short-term interest rates (Wicksell, Knut. 1936). This idea is known as the "theory of liquidity preference," and it is based on the premise that the rate of interest should maintain stability between the supply and demand for money. According to the liquidity theory preference, the interest rate is considered to have an effect on an individual's inclination to keep cash. The interest rate is the opportunity cost of keeping money, often known as the interest you would have received on your money if you had invested it instead of keeping it in a risk-free liquid or cash account. When interest rates rise, people often want to hold a lower proportion of their wealth in easily convertible forms such as cash (Friedman, M. 1994).

Neo-Keynesian Theory of Interest or Hicks IS-LM Curve or Modern Theory of Interest

The interest rate used to be calculated by classical economists using data from the product’s market, including savings and investment. Incorporating both real and monetary sectors, neoclassical economics calculated the interest rate (r) based on the demand for and supply of loanable funds. Both classical and neoclassical economists place a heavy emphasis on the role that actual savings and investment play in determining the interest rate, while Keynes rejected this idea outright (r). Keynes attempted to use the supply and demand for money on the money market to calculate the interest rate by writing L1 (Y) + L2 (r) = MS, where Y represents Keynes's unknown source of income along with r. This cannot be correct, since the value of r cannot be calculated from the equilibrium equation (i.e., L1 (Y) + L2 (r) = MS) without first knowing the value of Y (Ireland, P 2001). The process by which Keynes arrived at his answer led him into the fallacy of circular thinking, according to Keynes, the rate of

interest, r, is the determining factor in investment, and income is the result of the investment's multiplier effect. As a result, r has an effect on Y (income) and is itself affected by Y. Basically, the interest rate was decided upon jointly in this instance. The IS-LM curve developed by Hicks (1937) fixes this analytical shortcoming in Keynes' model. Therefore, the neo-Keynesian model is another name for Hicks' ISLM. Interest rates and real income are now generally thought to be determined by the interplay of forces in the money market and the real or goods markets. Hick's IS-LM model is the standard formula for calculating both the interest rate and the real income. Hicks' (or Keynesian) model is distinguished by its central characteristic, the simultaneous establishment of the interest rate and the real income. The commodities market's relationship to the currency market is also shown. Hicks and Learner's IS-LM model is a synthesis of the saving-investment theory developed by classical economists with Keynes' liquidity preference theory (Garrison, 2002).

Theories of Trade

Heckscher-Ohlin theory of trade

Most people agree that the Swedish economist Eli Heckscher and his student Bertil Ohlin came up with the Heckscher-Ohlin theory, as well as its early ideas and/or statements (Lam, 2015).

The Heckscher-Ohlin theory of trade is predicated on the following six suppositions: all production functions are first-degree homogeneous (which implies constant returns to scale), both product and factor markets are in perfect competition, quality requirements differ between commodity markets but are the same in both countries, transportation and trade costs are eliminated (which results in the same commodity prices in all nations with free trade), and so on (more specifically, both countries have international equivalents of their domestic currency) (Lam, 2015). The factor endowment theory and the factor price harmonization theorem are also topics that will be covered in further detail later on in this section.

According to this particular version of Heckscher-Ohlin theory, the amount of goods and services a nation is able to export is directly proportional to the quantity of either capital or labor available in that country. If she had access to a large amount of

cash, she could manufacture and ship out capital-intensive products that are less expensive there than in the United States or any other nation. Similarly, a nation with a large available labor force will manufacture and ship out commodities that rely heavily on human labor, since such products will be less expensive there than in other countries (Lam, 2015). It is interesting to note that whereas the Heckscher-Ohlin factor endowment model presupposes that production processes are the same across nations, the Ricardian model (two countries, two commodities) postulates that they are distinct from one another. The Heckscher-Ohlin factor endowment theorem is coherent with the Heckscher-Ohlin theory in general and makes the same supposition that there are no discrepancies in the aggregate preferences of different nations (Lam, 2015). This is because the Heckscher-Ohlin theory assumes that there are no disparities in the aggregate preferences of different nations. The Heckscher-Ohlin factor funding theorem has a flaw due to the fact that different countries have different resource endowments. This difference in resource endowments is significant enough to create alternative productive capacity in the countries that are involved, which in turn leads to different market equilibrium ratios in an autarky. (Lam, 2015).

According to this hypothesis, if the components of production might freely migrate from one nation to another, then the prices of the factors of production would be the same in every country. The Heckscher-Ohlin factor price harmonization theorem states that if the prices of final goods are equalized across countries as a result of free trade, then the prices of supplies (also known as factors of production) will also be equalized at the same time as well. Because of this, it is often believed that the level of wages and rents in different countries would become comparable if free trade were implemented. Furthermore, the trade in completed goods is considered an ideal replacement for the trade in inputs used in production (Suranovic, 2006).

Endogenous growth theory of Trade

In response to the Neoclassical Development model's assumption that a country's long-term growth (and hence its potential to expand markets) is controlled entirely by increases in human capital, physical capital, or population, the Endogenous Growth Theory arose in the 1980s. During the 1980s, a new school of thought called

"Endogenous Growth Theory" emerged as a counter to the prevailing "Neoclassical" (Barro, 1993). As one of the key predictions of the neoclassical model, the convergence of national or regional growth rates is expected to occur over time. Studies have shown that technical progress cannot account for a significant portion of economic development (or an increase in national production to continue trade), and hence empirical evidence does not support convergence. Convergence is not supported by the data. The pace of regional convergence is far slower than what is projected by traditional neoclassical models, as shown by recent empirical research on regional convergence in the industrialized world (Tallman and Wang, 1992; Romer, 1994; Martin and Sunley, 1998). Therefore, the discipline of endogenous growth theory (EGT) has constructed models in which long-run growth rates are decided by the model itself rather than by external forces, in an attempt to solve some of the inadequacies of neoclassical theory. The premise of these models is that an increase in profits is possible via a combination of factors, including increased investment in technology, increased human or corporate capacity, and an increased return on technology (Lam, 2015). Both endogenous broad capital models and endogenous innovation models are ways to explain endogenous growth theory, but they predict different kinds of growing returns. (Leichenko, 2000).

Technological advances are the outcome of producers' determined and deliberate ingenuity (Martin and Sunley, 1998). According to the EGT, home productivity may affect foreign trade relations via the rates of innovation and the amount of money spent on human capital. The theory predicts that a high-value-added knowledge economy may help a country gain and maintain an advantage in the growth-oriented sectors of the global economy (Lam, 2015). Endogenous growth theory makes the point that specialization in different types of export goods can lead to different patterns of growth (and trade relations), which is relevant to the question of how new technologies affect the effects of spillovers. Therefore, although increasing exports might benefit all sectors, regions that prioritize items with strong spillover potential could enjoy the most growth as a result (in industry and trade relations). Numerous regional tests of endogenous growth theory have been conducted; however, not all of them have investigated the link between international trade and regional development (Leichenko, 2000; Lam, 2015). A country's revenue (or output) growth rate (and its extent of trade relations) can be

permanently increased by appropriate government regulations, especially if they lead to a greater level of market competition and a greater rate of innovation, as argued by the EGT, which also suggests that (1) the percentage of technological advancement ought not to be assumed in a growth strategy and (2) that (3) there may be increasing returns from higher levels of capital investment.

New Trade Theory

During the early 1990s, a new body of literature arose in the realm of international commerce and economic growth and development known as New Trade Theory (NTT) (Ezeala-Harrison, 1999). As the NGT sees it, two explicit factors that influence economic growth are technical advancement (and the causes of technological progress) and the externalities that the invention and application of new knowledge give. The idea established beyond a reasonable doubt that certain countries produce more innovations than others due to a number of factors, including but not limited to disparities in the degree and quality of research institutes and educational systems in those nations (Lam, 2015). The NGT revolves on the sharing of information and expertise across businesses, with the assumption that this is a primary driver of productivity. Therefore, the NGT suggests that businesses increase their investment in knowledge in addition to other forms of capital in order to boost or sustain productivity (EzealaHarrison, 1999; Lam, 2015). NGT and NTT are related because they both place a premium on the extent to which technological advancements and the spread of new information contribute to the distribution of trade benefits across trading nations. The NTT set out to provide an explanation for the prevalence of trade within industries as well as the huge share of global trade that occurs between nations with comparable economic structures. According to the NTT, specialization and trade are warranted even when nations have comparable factor endowments because to the presence of growing returns to scale and imperfect competition (Krugman, 1979; Helpman and Krugman, 1985). Even while much of NTT's work operates on the assumption that rising returns are internal to the company, research has proven that they may really be external. Further, studies have demonstrated that trade helps concentrate scale-intensive businesses in a few key hubs when external economies of scale are present. A good

illustration of this is the fact that a production and export hub (industrial park, export zone, etc.) would have persistent cost advantages over other sites because to economics of agglomeration, which improve with rising regional size (Krugman, 1991; Krugman and Venables, 1993; etc.).

Empirical literature

FDI and economic nexus

Ahmad. F. et al., (2018) explore the correlation between exports, FDI, and economic development in the nations that make up the ASEAN-5. On the panel data that was collected between 1981 and 2013, we used a methodology that consisted of three steps and was on the basis of unit roots, co-integration, and testing for causality. Foreign direct investment and exports have a unidirectional link in the short run, but there is a causal link that runs in both directions between FDI and growth in the long run. In addition, the evidence presented here substantiates the validity of the export-led growth (ELG) and foreign direct investment (FDI)-led growth theories over the medium to long term. In order to encourage foreign direct investment, the government should continue to remove hurdles in a methodical manner and work to make its high-quality exports more competitive on international markets. This is the first research of its kind to employ panel analysis to look at the link between FDI and exports in the ASEAN-5 economies.
After removing restrictions on foreign direct investment (FDI), Kaur, et al., (2013) arrived to the conclusion that there was foreign direct investment-led growth in India as well as a biliteral causation between FDI and economic development. The growth-led foreign direct investment theory was supported for China and Middle Eastern nations by Zhang (2000) and Metwally (2004). Hye (2011) found a long-term relationship between FDI and economic growth. All of these studies point to the fact that foreign direct investment has a considerable bearing on the development of the economy in emerging countries as well as established ones, both in the short term and over the long term. The influence that direct foreign investment has on the rate of economic expansion in underdeveloped nations is bolstered by decreasing the levels of corruption (Freckleton, et al., 2012). Furthermore, in this regard, other studies concentrated on the effects of foreign direct investment on employment and domestic investment were investigated

with the use of a number of surrogate variables, and the impacts of human capital and infrastructure were also investigated for both emerging countries and those that have already established themselves. (Suh and Khan 2003; Uttama 2009; Wong and Tang 2011; Azam and Ahmed 2015). According to the research that was conducted by Zhang, et al., (2014), the level of foreign direct investment (FDI) net inflows as well as Chinese FDI do not have an appreciable influence on the growth of the economy in Sub-Saharan Africa. Additionally, foreign direct investment and gross domestic product are related in a positive manner; however, this relationship is not statistically relevant in Korea (Kim and Seo, 2003).

Ullah et al., (2014) find that there is a dynamic relationship between domestic investments, investment from abroad, and economic development in Pakistan during the period of 1976–2010; the time covered by this study. The Phillips and Perron test, sometimes known as the PP test, is used in order to locate the series' unit root. The Johansen cointegration method is used in order to examine the link over the long run, and the Toda-Yamamoto causality method is utilized so that causation may be determined between variables. This research included inflows of foreign direct investments to Pakistan and domestic investment factors as two of its variables. However, it also included economic output as a third variable in order to prevent difficulties caused by model misspecification and to gain a better understanding of the connection among the variables. This study's empirical results indicate a long-term connection between private funding, foreign direct investment, and economic expansion. This finding is backed by the Toda-Yamamoto chain of causation. Furthermore, the findings show a positive relationship between FDI and domestic investments, indicating that both domestic and FDI cause one another.

Khan (2007) probed the link between FDI, economic growth, and the operation of Pakistan's regional financial system between 1972 and 2005. The empirical study made use of the autoregressive distributed lag (ARDL) cointegration methodology, that an unfavorable association exists between foreign direct investment and domestic capital stocks (investment) in the short run but that there is a favorable relationship in the long run. It's possible that domestic comforts like infrastructure, the banking system, and

macroeconomic stability might all play a significant part in the host nation's potential to attract more foreign direct investment.

Falki (2009) looked at how FDI affected the growth of Pakistan's economy. He did this by using an endogenous growth model and adding other factors that affect production, such as trade, local capital, and labor. He did this by taking into account other factors that have an impact on output. OLS, unit root and cointegration are the three methods that are used in the estimation process of the model. She discovered that there is a negative but insignificant correlation between Pakistan's GDP and FDI. She is of the opinion that increased greenfield investment, in conjunction with large-scale industrial investment, may be able to stimulate the nation's export sector and entice foreign direct investment. In addition, the government should make investments in the development of infrastructure, encourage the growth of local businesses, and work to create a macroeconomic environment that is beneficial. All of these things would increase the likelihood of foreign direct investment and have a favorable impact on the country's GDP.

Ghazali's (2010) study looked at the relationship involving FDI, local investment, and economic growth in Pakistan. The correlation data demonstrate that there is bidirectional causality between foreign direct investment and domestic investment, and the analytical results of his article showed that there is a long-run relationship between FDI, domestic investment stock, and economic development. All of these data point to the conclusion that foreign direct investment in Pakistan stimulates both domestic investment and economic development. This conclusion is supported by the fact that there is only one direction of cause and effect between FDI and economic growth.

In spite of the fact that African nations do not get a significant amount of foreign direct investment (FDI), Eregha (2011) discovered that FDI has a beneficial effect on both local investment and economic development. According to the findings of the paper, the amount of foreign direct investment (FDI) that a nation receives is largely dependent on the policies, infrastructure, institutions, reliability, and consistency of its financial sector. It is common practice to see foreign direct investment as competitive with domestic investment. Estimates using both bivariate and multivariate data showed that FDI competes with local investment. Braunstein and Epstein (2002), Kumar and Pradhan

(2002), Fedderke and Romm (2006), Kuzyk & Titarenko (2006), Udomkerdmongkol and Morrissey (2008), and Adams (2009) are all supported by the results of this researcher's work.

Rizvi (2010) investigated the link between socioeconomic growth and FDI in Pakistan from 1979 to 2008. He employed the autoregressive distributed lag model (ARDL) to confirm the long-run relationship between FDI and socioeconomic growth. In the case of Pakistan, a cause-and-effect evaluation is carried out to determine the path of causality, and it is discovered that there is unidirectional causality from socioeconomic development to FDI. This finding suggests that FDI does not cause socioeconomic development; rather, socioeconomic development causes foreign direct investment. In other words, foreign direct investment is a consequence of socioeconomic development.

An econometric model was developed by Omri and Kahouli (2014) using a "growth model" framework and single equation models estimated by the generalized method of moments (GMM) in order to study the interdependence of FDI, domestic capital, and economic development in 13 MENA countries between the years 1990 and 2010. Our empirical research shows that there is a one-way causal link between FDI inflows and local capital but that there is a two-way causal relationship between foreign investment and economic growth over the whole of the area.

Kohpaiboon (2003) investigates the impact of trade policy regimes in regulating the effects of foreign direct investment on growth parameters in investment-receiving (host) nations by using Thailand as an example. The technique comprises establishing an equation for growth that reflects the impact of foreign direct investment combined with economic openness on economic growth. The data used in this procedure spans the years 1970 to 1999. The findings lend credence to the "Bhagwati" theory, which states that the advancement effect of foreign direct investment is greater under a trade system based on export promotion (EP) than it is under a trade system based on import substitution (IS), provided that all other factors remain the same.

Borensztein, et al., (1998) use a cross-country regression method and data on foreign direct investment flows from industrialized nations to 69 emerging nations during the past thirty years to investigate foreign direct investment's influence on

economic growth. In accordance with our results, Foreign direct investment is an essential conduit for the exchange of information and contributes much more to economic growth than local investment does. Moreover, improved performance from FDI can only be achieved if the nation that is receiving the investment has a particular level of human resources. Therefore, foreign direct investment is only beneficial to the stimulation of economic growth when the country of destination has a significant capability for assimilating cutting-edge technology.

In their 2009 study, Karimi and Yusop analyze the connection between foreign direct investment and economic growth. According to the study's findings, there is insufficient evidence to support the notion that FDI and economic growth are causally and long-term linked. This shows that foreign direct investment does, in fact, have an indirect effect on economic growth.

An extensive empirical investigation into the influence of FDI in respective countries points to FDI as a significant source of capital, a supplement to domestic private investment, a common source of new employment opportunities and improved knowledge transfer, and a driver of host nations' overall economic growth.

In their study of the connection between FDI and growth in emerging countries, Nair-Reichert and Weinhold (2001) applied a combined fixed and random evaluation and found there was a causal relationship between FDI and growth.

Wang, C. et al., (2003) conduct research on the forms of foreign direct investment that are most likely to have a major impact on economic growth. She came to the conclusion that only FDI in the industrial sector had a substantial and beneficial influence on economic growth. She ascribes this meaningful benefit to the spillover effects that FDIs have. Between 1987 and 1997, she analyzed data from twelve Asian economies.

Hsiao and Shen (2003) argue that there is a feedback link between foreign direct investment and GDP in their time series research of Chinese data. Analyzing data from 80 different nations from 1971 to 1995, Choe (2003) discovered a two-way causal link involving foreign direct investment (FDI) and economic growth. However, the impacts of FDI on growth have been shown to be more pronounced.

In examining the connection between foreign direct investment and economic expansion in Malaysia, Duasa, J.(2007) concluded that there wasn’t enough proof to

conclude that FDI gives rise to economic growth. This suggests that FDI in Malaysia does not directly contribute to economic growth or vice versa, but rather Foreign Direct Investment helps keep growth steady because growth helps keep FDI steady.

These bilateral causality tests produced a range of outcomes. Again, this shows how complicated the relationship between FDI and economic growth is. It differs among nations and epochs. Additionally, the causality tests discussed above have some flaws. The structure of the majority of these investigations uses Granger causality testing.

A considerable number of economies have reaped significant benefits from direct investment from abroad (FDI). Foreign direct investment (also known as FDI) is a consensus among policymakers worldwide as being beneficial to both the economic growth and development of host countries. Several different studies have looked at the relationship between foreign direct investment and economic expansion. While certain research look into the relationship between foreign direct investment and economic growth, others examine the connection between the two elements in terms of their cause-and-effect relationship. Their conclusions were all over the place because of the different approaches they used to those research projects. For instance, some of their findings indicated that Foreign direct investment was beneficial to the economy. Balasubramanyam et al. (1996). conducted research that looked at how Foreign direct investment has an impact on economic growth in developing countries. Using cross-section data and OLS regressions, they come to the conclusion that foreign direct investment has a positive effect on economic growth in countries that have adopted an export-promotion strategy but not in countries that have adopted an import-substitution strategy.

Olofsdotter (1998) provides an assessment that is equivalent to this one. She finds, through the use of merged data, that a rise in the stock of FDI has a strong correlation with growth, with the effect being bigger and more powerful for host nations with a greater degree of administrative capabilities. This capability is as determined by the level to which the host country protects property rights and the extent to which it is effective administratively. Borensztein et al. (1998) examine the influence of foreign direct investment on economic growth by analyzing data on FDI inflows from industrialized nations to 69 emerging economies during the preceding 20 years. They do

this by using a merge regression framework. Based on the results of this study, foreign direct investment is a major way to transfer technology, and it does so more efficiently than local investment.

The greater the production that may be achieved via FDI is, however, only achievable if the country that is acting as the host has a certain level of human capital. Therefore, foreign direct investment is only beneficial to economic advancement when the economy that is hosting the investment has a large capacity to absorb new technologies. Another piece of research that focuses on emerging markets is that conducted by Borensztein et al. (1998). In this study, the authors examine the function of foreign direct investment in the process of technological diffusion and economic expansion. In line with the results of the research, foreign direct investment contributes to increased economic development; however, the extent to which it does so is contingent on the quantity of human capital that is accessible in the host nation.

On the opposite side, Zhang (2001) and Choe (2003) investigate the connection between foreign direct investment and economic expansion. Zhang draws his knowledge from the growing countries on 11 other continents, namely Latin America and East Asia. Zhang (2001) uses cointegration and Granger causality analyses to show that foreign direct investment leads to increased economic expansion in five different scenarios. However, conditions in the host country, such as its trade system and its level of macroeconomic stability, are critical. Studies conducted by Choe in 2003 imply that there exists a causal link between economic growth and foreign direct investment that can go either way but typically goes in the direction of FDI generating growth rather than the other way around. Although this relationship can go either way, it tends to go in the direction of FDI-generated growth. Rapid economic development has the potential to result in a rise in the amount of FDI that is invested.

In addition, Bengoa and Sanchez-Robles (2003) analyze the connection between foreign direct investment, economic freedom, and economic development in Latin America by making use of panel data. By comparing fixed and random effects calculations, they arrive at the conclusion that foreign direct investment has a considerable beneficial influence on the economic growth of the host nation. However, they also note, similarly to Borensztein et al. (1998), that the size of the advantage is dependent on the

circumstances of the host country. Carkovic and Levine (2002) investigate the connection between foreign direct investment inflows and economic progress by using a panel dataset that contains data from 72 different industrialized and emerging nations. The research incorporates both a cross-sectional OLS analysis as well as a dynamic panel data analysis employing GMM. Both of these analyses were carried out. According to the findings of the research, there is insufficient evidence to support the hypothesis that foreign direct investment in a nation is directly proportional to economic expansion in that country.

Inflation and Economic growth relationship

Jude C. Eggoh and Muhammad Khan (2014) employed a huge set of panel data from both established and emerging economies, as well as the PSTR and dynamic GMM research methods, to focus on two parts of the link between inflation and growth. They do this by examining the correlation between inflation and growth. At first, it analyzes the nonlinearity of the connection and determines a number of thresholds for both the entire sample and other subsamples that are focused on various kinds of income. These thresholds are utilized for both the overall sample and the subsamples. Second, it identifies a few macroeconomic characteristics that are unique to each nation and that impact the nonlinearity of the data. Their empirical results indicate how a nation's degree of financial development, capital accumulation, trade openness, and government expenditure all impact inflation-growth nonlinearity and support both points of view. In addition, these characteristics that are unique to a country are what cause the visible differences that occur within this nonlinear connection.

On the topic of the connection between rising prices and expanding economies, economists and government officials have been at odds for a very long time.

It is feasible to draw the conclusion that the empirical research on inflation and growth does not include sufficient evidence, and it is also reasonable to draw the conclusion that the results are susceptible to being influenced by the model assumptions and data sets. Both Levine and Renelt (1992) and Hineline (2007), two academics who explored how stable this link is, came to the same conclusion: the inflation-growth nexus is fragile and shifts depending on the model specification that is being applied at the time. Despite

challenges over the strength of this link, contemporary research agrees with respect to the general importance of the relationship, namely, that inflation has an adverse influence on long-term productivity, according to Fischer (1993). The results of Fischer's (1993) nonlinearity tests show, in addition, that with extremely high inflation rates, the detrimental effects of inflation become less significant. These findings lead Sarel (1996) to the conclusion that there is a definite fundamental break in this link at an inflation rate of 8%; inflation is harmless below this rate, while inflation is harmful to growth beyond this point. According to Khan and Senhadji (2001), the dividing line between developed and developing countries is an inflation rate of 1%, whereas the threshold for poor nations is an inflation rate of 11%.

The majority of preceding study on this topic, as was already said, did not adequately account for the nonlinearity of inflation-growth. Previous attempts to account for these nonlinearities either used an incorrect treatment of the endogenous threshold or exogenously established the threshold level. As previously indicated, a number of additional macroeconomic factors can have an impact on the inflation-growth relationship. Interestingly, the empirical inflation-growth literature has omitted these issues. Regarding the relationship between trade openness and inflation, excess demand has an impact on the inflation rate in a closed economy with monopolistic competition. Dexter et al, (2005). As commerce is opened up more, imported alternatives fill the excess shortfall. This messes with the equilibrium between inflation and capacity utilization in the enterprises as well as the equilibrium between excess demand and inflation. The cyclical swings of inflation and production growth are thus less pronounced when trade is open. In addition, open economies seek to maintain stable currency rates to prevent being unduly burdened by imports of necessities, as stated by Romer (1993). Unexpected money supply rise causes the real exchange rate to decline and increases the cost of imported commodities. If imports have a significant role in determining inflation, then higher overall prices will result in higher wages and decreased competitiveness for domestic businesses. Closed economies, on the other hand, frequently experience unanticipated inflation in an effort to take advantage of short-term trade-offs that ultimately result in higher inflation. The extent of an economy's financial development also influences how strongly the inflation-growth

relationship is correlated. Once again, unrestrained inflation stifles economic progress by causing disruptions in the normal operations of the financial system (Rousseau and Wachtel, 2002). In light of the fact that this tripartite connection is crucial, several efforts have been taken to clarify its uncertainties and estimate the inflation barrier for the banking system. Barnes and Duquette (2006) both acknowledged the significance of this relationship. For instance, the finance-growth nexus inflation limits are revealed to be 13% and 14%, respectively, by the panel data findings from Rousseau and Wachtel (2002) and Barnes and Duquette (2006). These results were enhanced using three-dimensional graphs thanks to the work of Rousseau and Yilmazkuday (2009). According to their results, unanticipated inflation makes the beneficial impact of financial progress on economic expansion less noticeable when the inflation rate is between 4% and 19%. Recent research conducted by Yilmazkuday (2013) and Eggoh (2012) has shown that in order for the advantages of financial development to have a considerable influence on economic growth, inflation must be less than ten percent. On the other hand, Eggoh (2012) considered the inflation rate to be a variable that acts as a bridge between growth and financial development, while Yilmazkuday (2013) considered it to be a variable that acts as a threshold between growth and other macroeconomic indicators.

Interest rate and economic growth relationship

Udoka and Roland (2012) agree that interest rates are among the factors that can indicate how economically developed a country is; however, a rise in interest rates also indicates a falling GDP. The encouraging takeaway from their research is that it indicates interest rates have little impact on the expansion of the economy. However, despite the fact that higher interest rates have a negative impact on actual growth rates, this research was carried out in Europe (Giovanni et al., 2009).

Saymeh and Orabi (2013) investigate the role that Jordan's GDP, interest rate, and rate of inflation played in the nation's actual economic growth during the years 2000–2010. Applying the unit root test, also known as the Augmented Dickey-Fuller test, allows one to investigate the order of integration of the variables. An economic growth variable, an interest rate variable, a GDP variable, and an inflation level variable are the four variables that are employed in a cointegration analysis. The Johansen test

was employed for the research. The maximum eigenvalue and the trace test led to the conclusion that each of the four variables had a 1% or 5% chance of having a meaningful existence, respectively. It shows that all of the variables have reached a state of equilibrium over a long period of time. The same four variables were employed in the investigation of the Granger causality relationship, and the findings suggest that inflation is the driving force behind interest rates. On the other hand, there is no interdependence between any of the other components. According to the findings of a regression analysis that compared the current interest rate with the growth rate, the current interest rate does have an influence on the growth rate. In addition, regression was used in order to investigate the connection between the pace of growth and the rate of inflation. The results of this investigation demonstrated that the inflation rate had an influence on the growth rate. Last but not least, GDP, interest rates, and inflation rates were all analyzed simultaneously using regression. The data reveal that current GDP and one-lag GDP have an impact on the growth rate.

The article by Semuel and Nurina (2014) investigates the relationship between rising interest rates and a growing economy. One definition of economic growth is an improvement in a country's or region's capacity to meet the economic requirements of its people. The gross domestic product (GDP) is one metric that may be used to determine how quickly or slowly the economy is growing. Using inflation, interest rates, and currency exchange rates as supporting elements for GDP is one way to address the problem. On the other hand, inflation has no meaningful impact on GDP, but interest rates have a significant inverse connection with GDP and exchange rates have a significant positive association with GDP.

According to Davcev, et al., (2018), a significant amount of scholarly work has been done on the topic of the effect of interest rates and inflation on the expansion of GDP. The article covers a variety of topics, from simple conceptual assessments of the pathways via which this occurs to actual studies in a diverse number of nations. As a result of these interrelated debates over the effect of interest rates and inflation on GDP growth, we decided to conduct this research using case studies on the former Yugoslav Republic of Macedonia (FYROM), Bulgaria, and Romania. In order to establish a conceptual model for the effect of interest rates and inflation on GDP as well

as a quantitative analysis of their relevance for economic growth, the research investigates current theory in order to fulfill both of these objectives. A cointegration study using three variables (interest rate, inflation, and GDP growth) and a Granger causality analysis are utilized in order to analyze the links between these variables and determine how they are related to one another. In order to study the connections between the different data series, unit root tests are often used. The target time frame is from the year 2000 through the present, with a generally positive beginning phase lasting up until the financial crisis that hit at the end of the 2000s. The primary objective is to find out more about the connections that exist between monetary and fiscal policies, mainly as they pertain to emerging countries that are looking to advance their economies but do not have a robust national currency.

Trade and economic growth relationship

Yusop and Siah (2009) explore ASEAN economic integration as well as the ability of ASEAN nations to boost intra-ASEAN trade. More specifically, they focus on Indonesia, Malaysia, the Philippines, Singapore, and Thailand. In order to accomplish this goal, an autoregressive distributed lag (ARDL) framework or a bound testing approach is used to estimate a modified gravity model for each of the five countries that make up ASEAN, utilizing data that spans from 1970 to 2001. In accordance with the results of the empirical research, the effects of the size of a nation's economy on the flow of bilateral commerce within ASEAN are either beneficial to trade or detrimental to trade, depending on the country. There is evidence to suggest that the advantageous arrangements made possible by AFTA play a key role in the expansion of business within ASEAN. However, due to the possibility of AFTA causing trade diversion in the regional market, the ASEAN states as a whole may not benefit from the formation of AFTA.

Zahonogo (2016) investigates the influence that openness to trade has on economic expansion in underdeveloped nations, with a particular emphasis on Sub-Saharan Africa (SSA). We employ a strong growth strategy that is derived from data collected from 42 SSA countries between 1980 and 2020. We use the pooled mean group estimate method, which is suited for deriving inferences from dynamically diverse groups because it takes

into consideration long-run stability linkages. The statistical finding demonstrates that there is a market limit above which increasing trade openness has a negative impact on economic development and well below which enhanced trade flows have a favorable influence on business development. The threshold was determined by comparing the effects of increasing trade openness to those of increasing trade flows. Above this point, the impact of trade on productivity begins to diminish. According to the research, an inverted U-curve response (also known as the Laffer Curve of Trade) is resistant to shifts in trade openness measurements and model assumptions. This suggests that the relationship involving economic development and trade openness is not fragile among Sub-Saharan African countries. Our findings are positive, and they lend credence to the idea that there is not a direct correlation between increased economic openness and trade liberalization in SSA. As a consequence of this, in order for the countries of SSA to advance their economic growth via international commerce, they need to increase the openness of their trade, particularly through the practice of successfully controlling import levels.

CHAPTER III

Introduction

This chapter is broken down into four segments.: first, it will highlight the source of the data collection; second, it will give you a detailed understanding of the variables used in this thesis; third, it will give you knowledge of the model specifications and the model that will be used for the analysis; and finally, it will explain in detail all of the tests that will be run to determine the reliability of our data or variables.

Data

Secondary data are used in this thesis; could you please explain what secondary data are? Secondary data are data that have been previously taken from original data and made publicly accessible so that they may be utilized by investigators in their own research. Primary data are those gathered during the course of the study. The term "main data" denotes the material that has been compiled by the primary source on its own initiative. It is a kind of data that has been gathered in the past and is already accessible to users. It is conceivable that a researcher might have gotten data for a particular research project and subsequently made it available to be utilized by other researchers after the data had been used previously for their own purpose. It's likely that the data were obtained for general use with no specific research purpose in mind, comparable to the way the national census is carried out.

It is possible that data considered secondary in one study may be considered primary in another. When this happens, the data in question transforms into the main data for the first study and into the secondary data for the research that is conducted after the first study.

Secondary data gives any inquiry more context, and in some cases (like data from administrative programs), it is the only source that covers the whole population needed to do a research project.

This thesis used data from the World Bank's data site to look at how FDI, inflation, trade, and interest rates affected Sierra Leone's growth from 1980 to 2020. The World Bank data may help address development problems in a variety of ways. It is the cornerstone of research that informs policymakers and development practitioners' choices. By offering standards and examples of excellent practice, it may serve as a catalyst for policy change initiatives. Additionally, it is a significant contributor to the World Bank's financial and policy recommendations. The databases of the World Bank are essential tools that provide key support for important management decisions and give important statistical data for the bank's operational procedures. When global standards and norms are employed, they offer a source of knowledge that is credible and consistent across all contexts.

Research variables

Economic growth- The volume of an economy's output or the extra spending or revenue of its residents are used to gauge its growth. The 2008 System of National Accounts has three techniques for calculating GDP: a production method, an expenditure technique, and a wage rate (no data in the WDI database use the income approach). In theory, they all should provide the same assessment.

The production method is the first technique used in the calculation of the gross value of domestic production, which includes agriculture, industry, and services. The next step is to determine the value of the resources, suppliers, and services that were used in the manufacturing of that product (intermediate consumption). The difference between the production and utilization of intermediate products is the gross value added. At its most basic, gross domestic product (GDP) at manufacturing is the total net value added by all domestic manufacturers, including any product tariffs (minus any incentives) that are not part of commodity evaluation.

The components of the expenditure approach are as follows: Consumer spending on durable and nondurable products and services, investment in new nonfinancial assets or machinery, such as housing developments, industrial equipment, or technology, public spending on final products and services, including salaries for public employees, and gross exports minus gross imports are all examples of economic activity (since imports will have been included elsewhere). The gross domestic product is calculated as the cumulative total of all of the final expenditures on consumption made by householders, the state, and non-profit organizations that provide services to households. Additionally, included are the gross formations of capital as well as the total exports of products and services (exports minus imports).

The gross national product (GNP) is a measurement of the total value, both local and foreign, that citizens claim to have contributed to the economy. The gross national product is equivalent to GDP together with the total receipts of the main source of income (workers' pay and asset revenue) from sources that are not residents of the country. The World Bank uses a method known as the Atlas technique in order to produce statistics that are comparable on an international scale. This method takes a

three-year average of currency rates and adjusts rates from earlier years for relative inflation so as to reduce the influence of ephemeral shifts in exchange rates.

Exchange-rate converted Gross National Product and Gross Domestic Product do not adequately judge the relative sizes of economies, levels of wealth, or degrees of material well-being since there are large differences in price levels across countries. Estimates are then transformed into various foreign currencies using purchasing power parity (PPP) values as a solution to this problem. PPPs are used to calculate the total quantity of products and services that a single unit of the currency of one nation could purchase in another nation's currency. Therefore, PPPs may be used to translate the cost of a variety of commodities and services into a single currency, therefore reducing the cost discrepancies that exist among nations. To put it another way, PPPs balance the buying power of different currencies, which enables comparisons of actual levels of spending across nations. This is analogous to the way that a standard price index enables comparisons of real values over the course of different time periods.

Foreign direct investment (inflow) is an investment done directly. The term "foreign direct investment" refers to any equity flows that occur inside the economy under consideration. It represents the total of all of the investments, including profit reinvestment, other capital, and equity capital. An example of a kind of international investment known as "direct investment" is one in which a person who lives in one nation exercises complete command or a significant amount of control over the operations of a person who lives in another nation's economy. A person is considered to have a direct investment link if they control at least ten percent of the company's share capital in voting stock.

The estimates provided by World Bank personnel, which are derived from data provided by UNCTAD and official national sources, are added to the statistics for foreign direct investment (FDI). In its sixth edition (2009), the BoP Manual published by the International Monetary Fund (IMF) includes the following components in its globally agreed definition of foreign direct investment (FDI): equity position, including industries involved with shares that give rise to interference or control, investment in obliquely affected or managed firms, investment in partner businesses, borrowing investment (except for specified borrowing), and backward investment. The criteria for determining

if or not an inter-possession develops in a direct investment link are provided in the Framework for Direct Investment Relationships. The degree of control and influence that one has on the investment in an issue is taken into consideration using these parameters. Foreign direct investment, sometimes known as FDI, differs from other types of overseas investments in that it is conducted with the specific aim of gaining a long-term interest in or efficient managerial oversight of a firm headquartered in another region. Constructing warehouses, production plants, and other perpetual or long-term organizations overseas is typically part of a corporation's long-term investment strategy and requires the commitment of significant amounts of capital. This type of organization requires the corporation to be there for an extended period of time. Both greenfield investments, in which an investor establishes a new endeavor in a foreign nation via the construction of additional operational facilities, as well as mergers and acquisitions in which an investor acquires an existing enterprise located overseas, are examples of different types of investments. Greenfield investments involve building additional operational facilities. For an investment to be considered a foreign direct investment, the International Monetary Fund (IMF) recommends that it constitute at least 10% of the voting stock. This is necessary for the designation of FDI. In fact, a number of different nations have implemented stricter barriers. There are a handful of nations that do not report profits that were reinvested, and the parameters of what constitutes a long-term loan vary from nation to nation. "Balance of payments" is what the acronym "BoP" stands for when it's used in a sentence.

Trade (% of GDP") Trade" is the net value of all products and services that are exported and imported. It is shown as a proportion of GDP.
The portion of a country's total exports to its gross domestic product is one way to quantify the importance of its commercial ties with other nations. To determine it, take the total value of all exports and imports for a specific time period and divide that number by the GDP for that same time period. In spite of its name, it is often presented in the form of a percentage. It is a ratio that is used to determine how open a country is to participate in international trade and is also referred to as the openness ratio.

Inflation- When prices rise across the board in an inflationary economy, the purchasing power of certain consumers decreases over time. The most significant negative effect of

inflation is the decline in real income.
Receivers and payers with fixed-interest rates may also experience distortions in their ability to acquire things over time due to inflation.
Even if high inflation is harmful to the economy, deflation, which refers to falling prices, is just as unfavorable. When prices fall, customers sometimes put off purchases as long as they can, in hopes that prices will continue to fall in the future. This results in a slowdown in consumer spending, a reduction in the amount of money generated by producers, as well as a slowing of the economy's growth pace. Because of deflation, Japan is an example of a country that has almost not had any growth in its economy for a significant amount of time. During the global recession that started in 2007, the Reserve Bank and other financial institutions around the globe maintained low interest rates for an extended period of time and utilized a variety of other monetary policies to ensure that the world's monetary systems had sufficient liquidity.

The vast bulk of economics scholars working in the field today are of the opinion that having inflation that is low and consistent while also being, most crucially, foreseeable is advantageous to the economy. When inflation is modest and stable, it is much simpler to account for it through price-adjustment contracts and rates of interest, which in turn reduces the distorting effect that the monetary system has. In addition, when consumers are aware that prices will be slightly higher in the future, it motivates them to make purchases sooner, which in turn stimulates economic activity. Maintaining low and consistent levels of inflation has been a primary focus of many central bankers' policy efforts. The term for this practice is "inflation targeting."

When monetary policy is too lax for an extended period of time, the result is often high inflation rates. When there is an excess of money in circulation in comparison to the size of an economy, the currency's unit value falls. This means that its purchasing power decreases, and as a result, prices rise. The relationship between the scope of the industry and the amount of currency in circulation is referred to as the quantity theory of money, and it is one of the ancient assumptions in the field of economics.

Either the supply or demand side of the economy might be the source of rising pressures in the economy. Natural disasters, for instance, that disrupt production or elevate production costs, like high oil prices, may lead to decreased total supply and "cost-push"

inflation. This is a kind of inflation where the motivation for price hikes arises from an interruption in production. The quick rise in the price of food and gasoline in 2008 was an illustration of this for the global economy. The rapidly rising cost of food and fuel was conveyed from country to country through trade. On the contrary, demand spikes like a financial sector boom, as well as stimulative policies like a cut in the central bank's interest rate or a rise in government expenditure, have the potential to enhance general demand and short-term wage growth. The "demand-pull" inflation that results when an economy's demand is greater than its production capacity is an expression of the pressure that this puts on its resources. When it becomes necessary, policymakers have to find a means to increase demand and growth, but they must be careful not to do so to the point where they induce inflation.

When it comes to the factors that influence inflation, expectations are just as significant. When customers or companies anticipate a rise in expenses, they include this in pay discussions and make revisions to the pricing of contractual obligations (such as automatic rent increases). This behavior has an impact on future inflation; if contracts are honored and wages or prices grow as promised, then expectations end up automatically being met. Inflation will continue to increase in the same direction, which is what economists refer to as inflation inertia, if consumers base their expectations on what has occurred in the previous few years.

Real interest rate- A rate of interest that has been "realized" by taking into account the effects of inflation is known as a "real interest rate." After making the necessary changes, it shows both the borrower the real cost of borrowing money and the lender or investor the actual gain made on the investment.

A real interest rate is a measure of how much consumers value now-available products over those that will become available in the future. The real interest rate on an investment is determined by taking the difference between the nominal interest rate on the investment and the inflation rate and using it as the basis for the calculation. The real interest rate is distinct from the investment's nominal interest rate.

The rate of interest that is paid on a loan or investment is referred to as the nominal interest rate. To put things another way, the real interest rate shows how the loan or investment has changed the borrower's ability to buy things.

The interest rate that is considered to be the nominal interest rate is often the one that is given by the financial institution that is guaranteeing the loan or investment. Figuring out how the purchasing power of a certain quantity of money has changed over the course of time may be made easier by making an adjustment to the nominal interest rate to account for the impacts of inflation. According to the time-preference theory of interest, the real interest rate is supposed to be a representation of the degree to which an individual chooses current items over future things. Borrowers who want to spend their money now have a greater preference for now-available commodities over those that will become available in the future. They are willing to borrow money despite the increased interest rate that comes with it. In a similar vein, a lender who has a strong desire to delay consumption has a lower time preference than the average person and would likely lend money at a lower interest rate. Taking into account inflation might be of use in determining the rates of time preference held by market players.

Sierra Leone FDI-Economic growth

When a bank purchases a large controlling share in a foreign firm, this is an example of foreign direct investment. Another example of FDI is when a corporation establishes a branch in another country (Chen-Chang, et al., 2013). Alternately, foreign direct investment is the total inflow of investment (10 percent or more of voting stock) to acquire long-term management attention in a business operating within an economy that is not the investor's home country. FDI is an abbreviation for "foreign direct investment." The term "foreign direct investment" may also be abbreviated as "FDI" (World Bank, as cited in Adejumo, 2013). Due to the fact that globalization has made foreign direct investment (FDI) feasible, Sub-Saharan Africa has seen a growth in the total quantity of investments that were made possible by international commerce and investment over the course of a number of years (Bartels, Nanapolitano, & Tissi, 2014; Okafor, 2015). Research has been done, both conceptually and empirically, on the impact that multinational corporations (MNEs) have on the production and economic growth of host countries (Elmawazini & Nwankwo, 2012; Gohou & Soumaré, 2012). These studies can be found in Elmawazini & Nwankwo

(2012) and Gohou & Soumaré (2012) Multinational corporations are an essential link in the chain of FDI. Other academics pointed out the significance of governance institutional factors such as economic freedom (the legal system and respect for the rule of law), political stability, and fraud, amongst others, in determining the amount of foreign direct investment that enters the Sub-Saharan African region (Fofana, 2014; Freckleton, Wright, & Craigwell, 2012; Gwenhamo, 2011). On the other hand, globalization has led to a number of unintended effects, such as inequalities in society and problems with the environment on a worldwide scale. As a consequence of this, there is a need for ethical business strategies and efforts from corporations in the form of corporate social responsibility, which is sometimes abbreviated as CSR (Muthuri & Gilbert, 2011). CSR is basically the social duty that the MNE owes to its many partners; despite this, the nature of CRS in Sub-Saharan Africa has not gained a lot of attention from studies. CRS is essentially the social obligation that the MNE owes to its many stakeholders (Muthuri & Gilbert, 2011; Lindgreen et al, 2009). In addition, Bardy et al (2012) found that the majority of theoretical and empirical studies on foreign direct investment and corporate social responsibility developed in traditions other than those of North America and Europe, with little attention on underdeveloped countries. This finding was made possible by the fact that North America and Europe are the two most developed regions in the world. As a consequence of the growth in foreign direct investment that occurred in Sierra Leone during the post-conflict period in 2002, the nation was chosen as an applicable example case study. According to the World Bank's World Development Indicators (WDI) report, the amount of money that came into post-conflict Sierra Leone in the form of net foreign direct investment was $90.6 million in 2003, but it increased to $144.1 million in 2013. This is only one example. During this same time period, the yearly growth rate of Sierra Leone's gross domestic product was 4.33% in 2005 and 5.52% in 2013. (Bank of the World, 2015). In 2005, Sierra Leone was given a score of -1.06 on the Worldwide Governance Indicators (WGI) developed by the World Bank to measure how well countries fight corruption. This score ranges from -2.5 (very poor control) to 2.5 (good control) (high control). The value of this number in 2013 was -.90.

Variable Description

Table 3.1 Variable description

#	Variables	Abbreviation	Measurement Unit	Source
1	*Economic Growth*	*EG*	*GDP growth (annual %)*	*World Bank*
2	*Foreign Direct Investment*	*FDI*	*Net inflow (annual % of GDP)*	*World Bank*
3	*Trade*	*TR*	*% of GDP*	*World Bank*
4	*Inflation*	*INF*	*Annual % of GDP*	*World Bank*
5	*Interest Rate*	*IR*	*%*	*World Bank*

Source: This source

Model Specification

Model specification is the process of selecting variables for inclusion in a model (MacCallum, 1995). There is a conflict in model specification between adding all relevant variables and keeping the statistical power. "Model specification" refers to the process of selecting which independent variables should be included in a regression equation and which should be left out of the equation. How do you choose the regression model that's going to work best for you? It is impossible to adequately explain the world based on such a small sample size since the world has so many facets. I will walk you through the process of selecting a model in this post. In this presentation, I will discuss several statistical approaches, possible issues, and practical suggestions for selecting your model. Frequently, the approach for selecting variables involves a mix of statistical analysis, theoretical understanding, and hands-on experience.

A thinking bubble with a lightbulb on a chalkboard Consider the model specification. In statistics, model selection is a critical step. If you don't choose the right model, you've made a specification mistake, which could mean that your findings are wrong. The need to choose a model emerges whenever a researcher intends to mathematically define the connection that exists between independent variables and the variable that is being studied. In most cases, researchers will measure a huge number of variables, but they will only include a subset of those variables in the model. The goal of analysts is to exclude independent variables that are not connected to the dependent variable and to

include only those that have a genuine connection with the dependent variable. During the "specification" phase, analysts often try out a number of different possible variable combinations and model types.

The following econometric model was constructed by us in order to study the impact that inflation has on the growth of GDP. The rate of inflation, foreign direct investment, trade, and interest rate all fall under the category of independent variables, while economic growth falls under the category of a dependent variable. This is the model, which looks like this:

$$EG = f(FDI, INF, TR, RIR) \quad (1)$$

Where EG = Economic Growth (annual%), Inf = Inflation Rate (annual%), FDI = Foreign Direct Investment Inflow (% of GDP), TR = Trade (% of GDP), RIR = Real Interest Rate (%), β1..4 = parameters to be estimated, $\mathcal{E}_t$ = stochastic term, and t = 1, 2, 3... 39 (time period is from 1980– 2020).

Descriptive Statistics

Descriptive statistics are those that serve to describe, illustrate, and briefly summarize the most salient features of a dataset that may be uncovered in a given study. In this summary, the data sample and its measurements are summed up, and the statistics are also given. This data collection might be a representation of the whole population, or it could be a sampling of a population. Either one is possible. It aids analysts in gaining a better understanding of the data. Measurements of central tendency and measures of variability are two primary categories that fall within the statistical category that is referred to as "descriptive statistics". The central tendency may be measured in many different ways, some of which include the mean, the median, and the mode. On the other hand, the standard deviation, variance, minimum and maximum variables, kurtosis, and skewness are all examples of metrics that are used to analyze the variability.

Unit root test

A stochastic trend that may be found inside a time series is referred to as the unit root. In order to ascertain whether or not a time series is stationary, unit root tests are used. A time series is considered stable if moving from one point in time to another does

not change the overall pattern of the distribution.; non-stationarity may be a result of the presence of unit roots.

It is widely known that these tests have little statistical power. Essentially, stationarity indicates that a time series has a constant mean and a constant standard deviation across time. Even though these characteristics aren't necessary for estimating the parameters of econometric models, they are necessary for calculating reliable test statistics. This means that they may have a big impact on the choice of model. Using the ADF test, we examine each of the macroeconomic series to determine whether or not they have a unit root.

The Augmented Dickey Fuller test, often known as the ADF test, is a common kind of statistical test that is used to ascertain whether or not a certain time series is stable. It is one of the most popular statistical tests that may be used to determine whether or not a series is moving.

When doing time series analysis, you really need to be acquainted with the ADF test since determining whether or not a time series is stationary is a routine step in the development of autoregressive models.

Keep in mind that the primary purpose of the ADF test is to determine the measure of statistical importance. Following the execution of a hypothesis test that takes into account both a null and an alternative hypothesis, a test statistic is calculated, and p-values are assigned. The Phillips–Perron test is a type of unit root test that is used in statistics. This test was named after Peter C. B. Phillips and Pierre Perron. In other words, it is used to test the null hypothesis in time series analysis, which states that a time series is integrated out of order. Although the PP unit root test and the ADF test are quite comparable to one another, the fundamental distinction between the two is in the manner in which each test handles serial correlation. In contrast to the PP test, which disregards the possibility of any serial correlation, the ADF makes use of a parametric autoregression to get an approximation of the structure of errors. Despite the distinctions between the two tests, the results of both of them almost always point to the same conclusion.

ARDL Bound

The ARDL Bound algorithm was responsible for determining how the model's variables are connected over the long run. It was determined that the autoregressive-distributed lag (ARDL) model that Pesaran, Shin, and Smith (2001) suggested would be the most effective method for reaching this objective. If the F-statistic exceeds the specified threshold bounds value, then the H0 (null hypothesis) is denied; if the F-statistic falls within the bounds, then it is unclear; and should the F-statistic fall under the lower critical bounds value, then there is no cointegration. This was the general norm to follow. If the F-statistic is inside the boundaries, then the result cannot be considered conclusive. When there is a connection that occurs over an extended period of time, the F-test is used to identify which variable should be normalized so that the results are comparable.

ARDL Model

The co-integration method of the ARDL model was used so that the co-integration connections that could exist between the variables of interest could be tested. It is applicable despite of the sequence of the variables in the model (i.e., whether they are all I (0), I (1), or a mixture of the two); with the ARDL, both the short-run and long-run coefficients can be obtained simultaneously; it is a good model for small samples (i.e., between 30 and 80 observations); and it includes an indirect co-integration. Despite the fact that there are other methods for accomplishing the same goal, this approach has several advantages as stated above.

Because of these benefits, the researchers in this study chose to use this method and built the conditional error correction model in the following way:

$$EG_t = \beta_0 + \beta_1 \in f_t + \beta_2 FDI_t + \beta_3 TR_t + \beta_4 RIR_t + \varepsilon_t \quad (2)$$

Where EC = Economic Growth (annual%), Inf = Inflation Rate (annual%), FDI = Foreign Direct Investment Inflow (% of GDP), TR = Trade (% of GDP), RIR = Real Interest Rate (%), $\beta 1 \ldots 4$ = parameters to be estimated, $\mathcal{E}_t$ = stochastic term, and t = 1, 2, 3... 39 (time period is from 1980– 2020)

Based on equation (2) the ARDL model equation is developed as indicated below:

$$\Delta InEG_t = \alpha_0 + \beta_1 InEG_{t-1} + \beta_2 InINF_{t-1} + \beta_3 InFDI_{t-1} + \beta_4 InTR_{t-1} + \beta_5 InRIR_{t-1} + \sum_{i=0}^{q} \Delta \alpha_1 InEG_{t-k} + \sum_{i=0}^{p} \Delta \alpha$$

(3)

Error Correction Model

$$\Delta EG_t = \alpha_0 + \sum_{i=0}^{q} \Delta \beta_1 InEG_{t-k} + \sum_{i=0}^{p} \Delta \beta_2 InINF_{t-k} + \sum_{i=0}^{p} \Delta \beta_3 InFDI_{t-k} + \sum_{i=0}^{p} \Delta \beta_4 InTR_{t-k} + \sum_{i=0}^{p} \Delta \beta_5 InRIR_{t-k} +$$

(4)

Residual diagnostic tests

In this thesis, the residual test that is described below was utilized: The Breusch-Godfrey connection is found in serial order. A test for the presence of autocorrelation in regression model errors is referred to as the LM test. In order to compute a test statistic, a regression analysis makes use of the residuals produced by the model that is now under discussion. According to the assumption known as the null hypothesis, there is no serial connection up to rank p.

For the purpose of accurately representing time-varying financial data series, such as economic growth, autoregressive conditional heteroskedasticity (ARDL) models are used. Volatility clustering can happen when ARDL models make the mistaken assumption that the variance of the current error term is related to the size of the error terms in the past.

Normality tests are used to determine whether or not a set of data can be adequately described by a normal distribution or to determine the likelihood that a random variable that is linked to another variable is also normally distributed. Normality tests can also be used to determine whether or not a random variable can be linked to another variable.

GRANGER CAUSALITY

Granger causality is a quantitative cause-and-effect theory based on the idea of prediction. According to Granger causality theory, if a signal X1 "granger-causes" (or "G-causes") a signal X2, prior values of X1 should give information that assists in forecasting X2 in addition to that supplied by past values of X2. This is because Granger causality asserts that if a signal X1 "Granger-causes" (or "G-causes") a signal X2, the

signal X1 is said to be "Granger-caused." The concept of causality, as defined by Wiener (1956) and Granger (1969), ss a critical component of the research process for analyzing the dynamic relationships between time series. Predictability is the major emphasis of the research on Wiener-Granger causation; this is one of the reasons why economists and decision-makers place such a high value on the theory. Granger causality is a method that is often studied in practice for bivariate systems. However, if more than two criteria are used, various results might be reached. When there are more than two variables involved, the non-causality criteria become more problematic; for example, Lutkepohl (1993), and Dufour & Renault (1998) both investigate this issue. To put it another way, even if a variable is Granger-causal in a bivariate model, it may not be included in a bigger model with additional variables. In this article, we will discuss a causal link that was established indirectly by employing a third variable (or variables), which is often referred to as an auxiliary variable (s). If, for example, one variable drive both variables in the bivariate process, the bivariate causal structure may vanish once this variable is included in the model. In a bivariate model, a variable that is not causal for another variable may turn out to be causal if the information set is expanded to include new components. This is due to the fact that extending the information set involves additional variables. This second set of conditions is referred to as a "bogus causality" by many in the profession. If these causal effects are disregarded, it is probable that incorrect economic assessments and, as a result, poor policy choices will result. We propose statistical tools that may be utilized to aid in the detection of spurious and indirect causal effects within the scope of this inquiry. We draw on Hsiao's (1982) work as well as past component analysis research. A variety of methods and metrics have been developed to identify and quantify both linear and non-linear Granger causality. This necessitated the creation of a variety of tests and metrics. Review papers have been published by Dufour and Taamouti (2010), Bouezmarni et al. (2012), and Song and Taamouti (2019). The Granger (1969) concept, which served as the basis for this body of work at the time, implicitly assumes that all necessary data is accessible and may be utilized for causality analysis. This was the first time this definition had been used.

Stability test

The cumulative sum test demonstrates that the regression coefficients vary in a way that may be anticipated, while the cumulative sum of squares test demonstrates that the regression coefficients change in a very rapid manner. For the purpose of determining whether or not the parameters are stable, we use the tests known as the cumulative sum of squares (CUSUMSQ) and the cumulative sum of recursive residuals (CUSUM) (Pesaran & Pesaran, 1997). The cumulative sum test demonstrates that the regression coefficients vary in a way that may be anticipated, while the cumulative sum of squares test demonstrates that the regression coefficients change in a very rapid manner.

CHAPTER IV

Introduction

This chapter is split into parts that explain the research findings, followed by an analysis of how trade has affected economic growth and how that effect has been interpreted. The first section of this article delves further into data analysis methodologies. The second portion looks at and discusses the stationary test of a data set, and the fourth section looks at and discusses co-integration from the third section. In the last and most comprehensive part of this chapter, we will, among other things, examine and talk about regression analysis, as well as diagnostic tests, data or result in stability tests, and other tests. Even so, the presentation was done in a way that fit with the goals of the research, and the testing was done well with the help of the E-Views program.

DESCRIPTIVE TABLE

Table 4.1 Descriptive table

	EG	FDI	INF	RIR	TR
Mean	2.478678	0.113373	30.10129	24.93217	-0.343189
Median	3.464600	0.022356	17.17712	22.16667	-0.168985
Maximum	26.41730	0.950478	165.6766	62.83333	0.151227
Minimum	-20.59880	-0.140311	-6.008735	11.00000	-1.485909
Std. Dev.	8.329436	0.210521	36.12938	11.28855	0.447859
Skewness	-0.155265	2.318701	1.984371	1.992711	-1.202096
Kurtosis	5.342859	8.630668	6.978470	6.517925	3.135322
Jarque-Bera	9.541755	90.90027	53.94768	48.27645	9.905695
Probability	0.008473	0.000000	0.000000	0.000000	0.007063
Sum	101.6258	4.648284	1234.153	1022.219	-14.07073
Sum Sq. Dev.	2775.180	1.772761	52213.29	5097.252	8.023125
Observations	41	41	41	41	41

Source: This study

The mean value for inflation is an extremely high 30.10129, while the mean value for economic growth is 2.478678. The value with the lowest mean for this category is international trade, which has a negative value of -0.343189. Inflation is the category with the highest mean value. The highest possible economic growth rate in Sierra Leone is 26.41730; the highest possible foreign direct investment rate is 0.950478; and the highest possible rate of inflation in Sierra Leone is 165.6766. The value of the skewness should indicate that it has a low skewness and is excellent. It appears that a good rule of thumb is that the statistics are somewhat balanced when the skewness ranges between -0.5 and 0.5. If the skewness is between -1 and -0.5 or between 0.5 and 1, the data is considered significantly skewed. When the skewness is less than -1 or more than 1, the data is considered considerably skewed. The kurtosis of the variables is rather high. A measurement known as a set of data's kurtosis may be used to determine, in relation to a normal distribution, whether or not the data have heavy tails or light tails. Sets of data that have a high kurtosis are more liable to have heavy tails, which are also often referred to as outliers. Data sets that have a minimal kurtosis are more likely to have light tails, which indicates that the data does not include any outliers. A situation in which everything is distributed in the same way would be the most extreme possible outcome.

UNIT ROOT TEST

A stochastic trend that may be found inside a time series is referred to as the unit root. In order to ascertain whether or not a time series is stationary, unit root tests are employed.

Variables are stationary if changing the time does not modify the shape of the distribution; unit roots are one cause of non-stationarity. It is well known that these tests have little statistical power. Essentially, stationarity indicates that a time series has a constant mean and a constant standard deviation across time. Even though these characteristics aren't necessary for estimating the parameters of econometric models, they are necessary for calculating reliable test statistics. This means that they may have a big impact on the choice of model. We check to see if each of the macroeconomic series has a unit root by using the ADF test. The Augmented Dickey Fuller test, often known as

the ADF test, is a common kind of statistical test that is used to ascertain whether or not a certain time series is stable. It is one of the most popular statistical tests that may be used to determine whether or not a series is moving. When doing time series analysis, you should really know how to use the ADF test. This is because figuring out whether or not a time series is stationary is a standard step in making autoregressive models.

ADF UNIT ROOT TEST AND PP

Table 4.2-unit root test

Variables	Level	1st Difference	Order/ result	Level	1st Difference	Order/result
EG	**0.4737**	**0.000*** **	**I(I)**	**0.2678**	**0.0412**	**I(1)**
FDI	**0.1510**	**0.000*** **	**I(1)**	**0.5433**	**0.0000**	**I(1)**
INF	**0.5478**	**0.000*** **	**I(1)**	**0.0002**	**-0-**	**I(0)**
TR	**0.8529**	**0.000*** **	**I(1)**	**0.0000**	**-0-**	**I(0)**
RIR	**0.1698**	**0.000*** **	**I(1)**	**0.0064**	**-0-**	**I(0)**

Source: This study

*Note: Automatic selection, schwarz info criterion, significant level 1*** 5** 10**

The findings of the Augmented Dickey-Fuller unit test are shown in the table above; the results reveal that the variables are stable in one orders, order I (I). Furthermore, the results show that economic growth is stationary at first difference with a p value of 0.0001, whereas the other independent variables, such as foreign direct investment, inflation, trade, and the real interest rate, were stationary at the first difference with p values of 0.0000, 0.0001, 0.0000, and 0.0002, respectively. Meanwhile, the PP unit root in table 4.2 show that economic growth and foreign direct investment are stationary at first difference while inflation, interest rate and trade are stationary at level. As a consequence, the ARDL model is appropriate for regression analysis.

ARDL BOUND MODEL

When it is uncertain whether the underlying analysis phase of a time series is a pattern or a first-difference stationary pattern, one can use bound testing, which is a type of ARDL modeling, to illustrate the relevance of postponed levels of variables in a univariate structural equation modeling (SEM) system. This is done with the help of

ARDL modeling. This method is used when it is unclear whether the process that generates the data is a trend or a first difference stationary process.

ARDL limits testing is a technique that works better and produces better findings when a smaller sample size is employed, according to Haug (2002). This is an even more relevant finding. This is due to the fact that in the short run, calculations for both the short-run and long-run parameters are performed simultaneously, which results in a more accurate procedure overall.

Table 4.3 ARDL bound test

Model	Lag.	F-Statistic	Decision
GDP, NT, REER, INF, FDI	(1,4,0,4,4)	9.549960***	Co-Integration Exist
Bond Critical Value			
		I (0)	I (1)
Sign.	10%	2.2	3.09
	5%	2.56	3.49
	2.5%	2.88	3.87
	1%	3.29	4.37

Source:This study

Note: Akaike info criterion (AIC) Pesaran et al. suggest the critical value bounds (2001) 1% signaficant level.

Within the scope of this investigation, a bound test is developed on the basis of the ARDL model to determine whether or not the data set under consideration displays co-integration. It is not possible to oppose the null hypothesis when the F-statistic is lower than the minimum value allowed by the distribution (the critical values for I). In the event that the statistic has a value greater than I, rather than the null hypothesis of no co-integration being accepted, it is rejected (1). It is said that the test statistic is inconclusive if it falls anywhere between the range of possibilities that the statistical method offers. The F-statistic clearly demonstrates that there is a correlation between the independent and the dependent variable that persists over time (9.549960).

ARDL LONG AND SHORT RUN

Table 4.4 ARDL short and long run tests

	ARDL Short run			
Variables	***Coef.***	***Std.Error***	***t-statistic***	***P value***
D(FDI(-1)	*3.413*	*0.342*	*9.956*	*0.0000*
D(FDI(-2)	*3.032*	*0.308*	*9.84*	*0.0000*
D(FDI(-3)	*1.880*	*0.226*	*8.316*	*0.0000*
INF	*-0.043*	*0.073*	*-0.588*	*0.5709*
D(TR)	*0.813*	*0.114*	*7.076*	*0.0001*
TR	*-0.488*	*0.086*	*-5.641*	*0.0003*
RIR	*0.300*	*0.141*	*2.113*	*0.0637*
ECM	*-0.553*	*0.050*	*-10.953*	*.0000*

	ARDL Long run			
Variables	***Coef.***	***Std.Error***	***t-statistic***	***P value***
FDI	*3.032*	*0.802*	*3.777*	*0.0044*
INF	*-0.043*	*0.148*	*-0.290*	*0.7782*
TR	*0.813*	*0.259*	*3.138*	*0.0120*
RIR	*0.300*	*0.216*	*1.388*	*0.1985*
C	*10.764*	*5.629*	*1.912*	*0.0710*

Source: This study

*Note: Automatic selection, schwarz info criterion, significant level 1*** 5** 10*

Table 4.3 displays the outcomes of the ARDL short-run and long-run testing. The outcomes show that there is a short-run and a long-run relationship between the dependent and independent variables.

Foreign direct investment at 5% is clinically meaningful in the long and short terms, according to the data. This means that a 1% increase in FDI leads to a 3.41 and 3.032 percent increase in Sierra Leone's economic growth in the short and long term, respectively. This conclusion is similar to the results of Pegkas's (2015) study, which studies the link between foreign direct investment and economic growth and then assesses the impact of FDI on economic expansion in Eurozone countries between 2002 and 2012. Throughout the study endeavor, estimates based on panel data are employed to investigate the relationships between the different factors. The empirical evidence suggests that the stock of foreign direct investment and economic growth have a positive long-run cointegrating relationship. Using the Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS) techniques, the GDP elasticity in relation to FDI is determined to be 0.054% and 0.147%, respectively. The findings also suggest that the quantity of foreign direct investment has a considerable influence on how the Eurozone's economies develop and improve over time.

Sierra Leone, on the other hand, has essentially little commerce, which has a negative impact on the country's economic development in the short run. Furthermore, although the effect of inflation on the expansion of the Sierra Leonean economy is minimal, it has a negative impact on that development. Last but not least, the real interest rate is clinically meaningful and benefits the Sierra Leonean economy. Obamuyi (2009) uses an analysis of time series on annual data from 1970 to 2006 to examine the link between Nigeria's interest rates and the country's overall economic growth. This study makes use of data from 1970 to 2006. The long-run and short-run dynamics of the model's variables were recorded via the application of the co-integration and error correction models. According to empirical studies, there is a significant link between real interest rates on loans and economic growth. There is also a long-term relationship between economic growth and the elements that contribute to it, such as interest rates. The results suggest that the behavior of interest rates is critical for the development of the economy based on the relationships that exist involving interest rates and investment, as well as the links that exist between investment and growth. As a consequence, in order for Nigeria to accelerate its economic growth, the nation would need to create and execute fiscal management that results in higher interest rates that benefit investors.

RESIDUAL DIAGNOSTIC TESTS

Table 4.5 Residual diagnostic tests

Name of tests	Test	T statistic	P value	Result
Breusch Godfrey LM test	*Serial correlation*	*0.800*	*0.3855*	*No serial correlation*
Jarque-Bera test	*Normality*	*2.073*	*0.3545*	*Normal distribuction of data*
Greusch-pagan test	*Heteroskedasticity*	*0.312*	*0.9647*	*No heteroskedasticity*

Source: This study

The following form of the residual test was used in this thesis: Serial correlation using the Breusch-Godfrey method The LM test investigates the possibility of autocorrelation in the mistakes produced by regression models. During a regression analysis, it determines a test statistic by computing it with the help of the residuals from the model that is being considered. There is no confirmation of a sequential relationship up to rank p, according to the null hypothesis. In order to provide an accurate depiction of time-varying financial data series, such as the growth of the economy, autoregressive conditional heteroskedasticity (ARDL) models are used. When ARDL models incorrectly believe that the variance of the present error term is connected to the magnitude of the error terms from the past, a phenomenon known as volatility clustering may take place. Normality tests are used to measure whether or not a collection of data is well characterized by a probability distribution or to determine the likelihood that a random variable pertaining to another variable is similarly normally distributed. Normality tests can also be used to ascertain whether or not a collection of data is well categorized by a normal distribution. It is also possible to assess, via the application of normality tests, whether or not a set of data can be adequately represented by a normal distribution. The results of these residual tests, which are displayed in Table 4.4, indicate that there is no serial correlation in the data set; consequently, the null hypothesis is accepted, as demonstrated by the p-value of 0.3855 in the table. This is the case because the findings of these residual tests indicate that there is no serial correlation in the data

set. The heteroskedasticity test likewise reveals heteroskedasticity in the series, and since it was in this specific direction, we acknowledge the null hypothesis in this direction with a p value of 0.9647 because it was this way. In summation, we find that a normal distribution with a p value of 0.3545 best fits our data and that this distribution best describes the facts.

GRANGER CAUSALITY

TABLE 4.6 Pairwise Granger Causality Test

Null Hypothesis	Obs	F-Statistics	Prob.
FDI does not Granger Cause EG	39	1.44013	0.2510
EG does not Granger Cause FDI		0.44771	0.6428
INF does not Granger Cause EG	39	0.87192	0.4273
EG does not Granger Cause INF		0.58942	0.5602
RIR_does not Granger Cause EG	39	1.59368	0.2180
EG does not Granger Cause RIR		0.03556	0.9651
TR does not Granger Cause EG	39	2.02839	0.1472
EG does not Granger Cause TR		0.23092	0.7950
INF does not Granger Cause FDI	39	0.49880	0.6116
FDI does not Granger Cause INF		0.89948	0.4162
RIR does not Granger Cause FDI	39	0.35529	0.7035
FDI does not Granger Cause RIR		0.46686	0.6309
TR does not Granger Cause FDI	39	1.24378	0.3011
FDI does not Granger Cause TR		3.45577	0.0430*
RIR does not Granger Cause INF	39	0.84848	0.4369
INF does not Granger Cause RIR		2.02370	0.1478
TR does not Granger Cause INF	39	0.92583	0.4060
INF does not Granger Cause TR		0.35702	0.7023
TR does not Granger Cause RIR	39	1.30517	0.2844
RIR does not Granger Cause TR		0.06929	0.9332

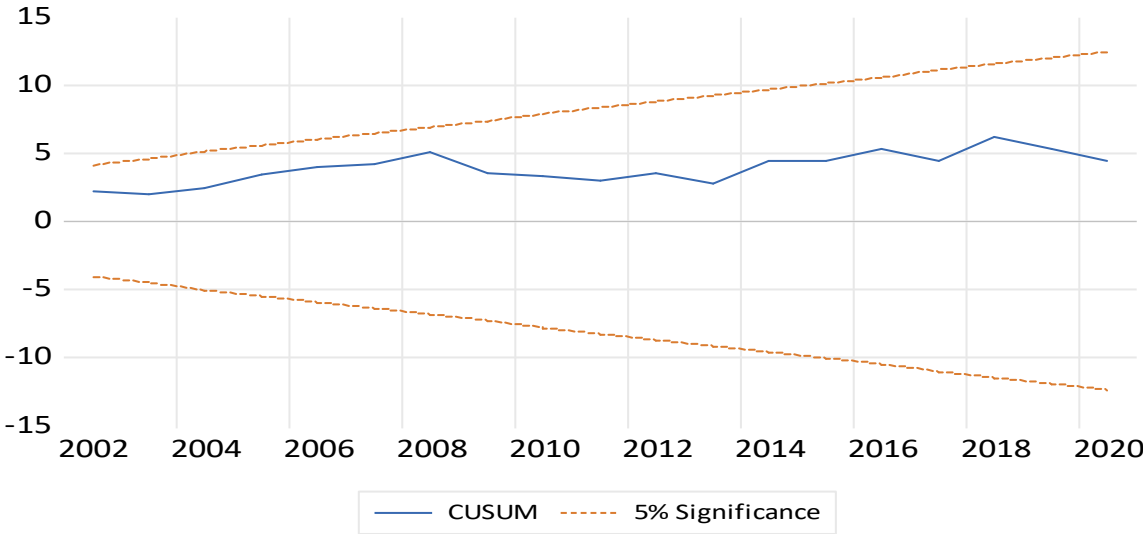
Source: This study

The notion of Granger causality describes a statistical model of cause and effect that is predicated on the idea of making predictions. According to the Granger causality theory, if a signal X1 "granger-causes" (or "G-causes") a signal X2, then previous values of X1 should provide information that aids in predicting X2 in addition to that which is provided by past values of X2 alone. This information should be used in conjunction with the information provided by the past values of X2. This is due to the fact that the

theory of Granger causality asserts that if a signal X1 "Granger-causes" (sometimes written as "G-causes") a signal, then the reverse is also true. In the research process for analyzing the dynamic links between time series, the concept of causality, as articulated by Wiener (1956) and Granger (1969), is a key component that must be present. Predictability is emphasized in the study of Wiener-Granger causality; this is one of the reasons why economists and policymakers value the theory so highly. [cause and effect] The variables are shown to have a unidirectional movement in Table 4.5. the direction of the causality between the variables, the magnitude of all of the variables, and the fact that only foreign direct investment can create international commerce, whereas international trade cannot cause foreign direct investment. There is no correlation between any of the other factors in this experiment.

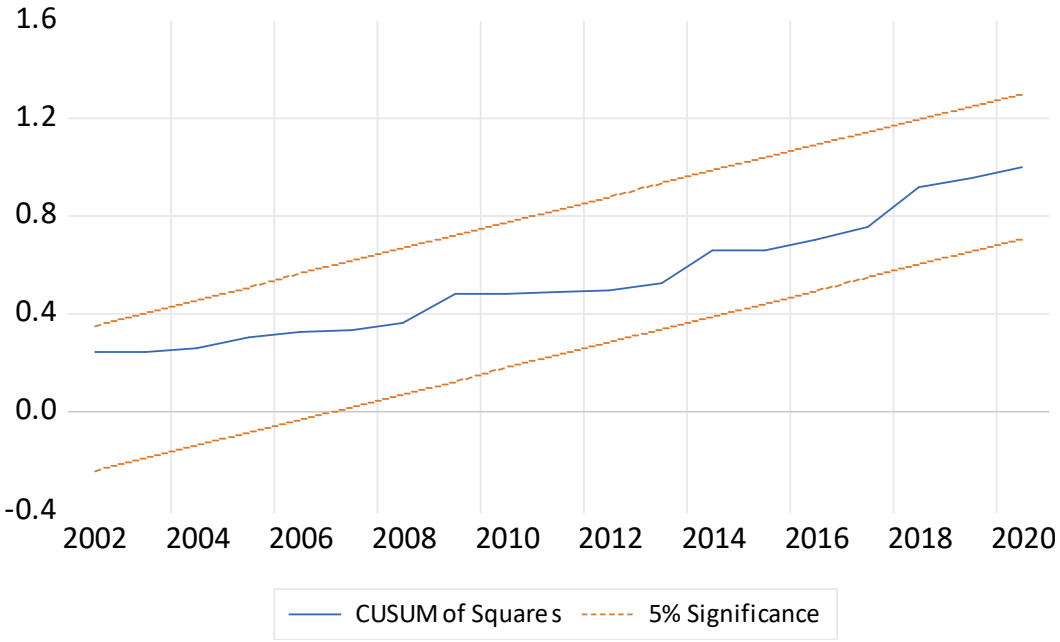
CUSUM TEST

Figure 4.1 CUSUM test



Source:This study

Figure 4.2 CUSUM of square test



Source: This study

The null hypothesis is evaluated using the premise that the parameter values are consistent, while the alternative hypothesis evaluates the data using the premise that the parameter values are not consistent. The results of the stability tests indicate that the blue line can only go a certain distance before it hits the red lines. We conclude that the residual variances of the CUSUM and the CUSUM of square are stable rather than unstable as a direct result of accepting the null hypothesis (as was our intention) and rejecting the alternative hypothesis (which was not what we wanted). This brings us to the conclusion that the residual variances of the CUSUM and the CUSUM of squares are stable rather than unstable. We come to this conclusion as a direct consequence of the fact that (for details, see Brown, Durbin, and Evans, 1975).

CHAPTER V

Summary, Conclusion, and Recommendations

Summary

This thesis investigates the impact of FDI, trade, inflation, and interest rates on the growth of Sierra Leone's economy from 1980 to 2020. The phrase "foreign direct investment" (FDI) refers to money invested from a foreign nation. FDI is now a major factor in the economic growth of both industrialized and developing countries.

Foreign direct investment benefits the host country by increasing economic activity, creating new employment, and facilitating the transfer of cutting-edge technology (UNCTAD 2010, Agrawal and Khan 2011). Because most developing countries have very little revenue and savings, FDI is utilized to bridge the income and savings gaps (Odenthal 2001; Mottaleb and Kalirajan 2010). Most developing countries expect to benefit from foreign direct investment (FDI) through liberalizing trade and creating a friendly environment for entrepreneurs (UNCTAD 2004). Recent events have shown that FDI can be a large and stable source of private capital for developing economies, particularly those that can build an investment-friendly environment. Competition for foreign direct investment (FDI) has intensified in many developing nations as a consequence of ongoing processes of global economic integration and deregulation of their economies. Selective policies aimed at FDI inflows, such as monetary and non-monetary incentives for FDI inflows, have replaced regulations and limits on foreign businesses' entrance and operations (Abubakarr, 2018). Foreign direct investment (FDI) fell by roughly 16 percent to $1.23 trillion in 2014, according to the most recent World Investment Report; however, many developing countries experienced strong economic development and a rapid increase in international transactions as a result of FDI over the previous decade. Several studies have looked at the consequences of FDI from the perspective of host nations, and the findings have been mixed. FDI via MNCs has a variety of positive and negative welfare consequences. Economic growth in the host country is one potential outcome. Many researchers and politicians in the area of investment have suggested that FDI may have a profoundly favorable effect on a country's economic growth and development. However, several books and articles have previously examined the issues with FDI and the variables that influence individual

investment decisions. In order to boost economic growth, governments such as Sierra Leone's are enacting new legislative frameworks to attract FDI. FDI benefits both the nation receiving the investment and the country making the investment. In the middle of the 1970s, inflation as measured by the CPI became a major issue for the government and policymakers. Changes in the CPI are often assumed to have far-reaching effects on a range of macroeconomic indicators. Price changes are thought to occur in combination with changes in fiscal policy, monetary expansion, exchange rates, and maybe real output growth in this model. Not long after independence in 1961, inflation was viewed as quite low, in the single digits. The CPI (Consumer Price Index) averaged 5.5% annual inflation between 1970 and 1974. Between 1975 and 1979, this climbed by an astonishing 15.9 percent. As a direct effect of the oil price shock, this surge was felt globally, including in Sierra Leone. As a result, yearly inflation in the United States reached 37.9 percent between 1980 and 1984. Inflation averaged 85.8 percent per year between 1985 and 1989. Due to a yearly consumer price headline inflation average of 63.7% and a peak of 179.2% in 1987, the 1980s were recognized as one of the most inflationary decades in history. Imported inflation was blamed for price hikes in the early 1980s (Bank of Sierra Leone, 1998). From 1990 to 1992, the country's average inflation rate was 92.8 percent, and things only got worse from there. Inflation declined sharply between 1993 and 1994, to an annualized 23.9%. Many people look back on the 1990s with distaste because of civil unrest, military coups in April 1992 and May 1997, and the January 1999 rebel onslaught on Freetown.

The Sierra Leonean central bank decided in October 2022 to raise the country's benchmark interest rate by 100 basis points (bps), bringing it to 17%, on the grounds that inflationary pressures were high and were anticipated to remain so for the rest of the year. According to policymakers, inflation fell in August to 28.15% from 29.47% in July, although it remained much higher than the 10.9% rate reported a year ago. This year, the value of one dollar in leones has fallen by 29.6 percent. Because of the impact of pricing on output, the central bank forecasts GDP growth of 3.6% this year and 3.4% in 2023. In accordance with the World Bank's Doing Business 2016 report, Sierra Leone rated 164th out of 189 countries in terms of how easy it was to trade across borders. Although minerals continue to account for a major portion of Sierra Leone's exports, the

composition of those exports has altered during the course of the research. Iron ore was a substantial contributor to the almost tenfold increase in exports to $1.5 billion between 2005 and 2013. Apart from diamonds, rutile, bauxite, iron ore, and agricultural products currently account for the majority of its exports (mainly cocoa). In reality, Sierra Leone started exporting iron ore in 2011. Iron ore eclipsed diamonds as the country's largest export in 2012, when the Tonkolili and Marampa mines finally achieved full production. In 2013, diamond shipments declined to 12.2% of total exports, while iron ore exports soared to 69.7%. Following the iron ore market's collapse in 2014, exports fell to US$ 536.2 million in 2015, when two mines were shut down because of poor pricing. Sierra Leone's iron ore exports are mostly to China. During the most prosperous period for the iron ore industry in 2013, the proportion of iron ore exports to the European Union, a long-standing top market, fell to 26.1%. It increased by 50% despite a decrease in iron ore exports in 2015.Exports to the other ECOWAS countries are typically low, with rice exports being the major source of the 2010 increase (IMF, 2016). Secondary data are used in this thesis; what precisely are secondary data? Secondary data are materials obtained from primary sources and made freely accessible for scholars to utilize in their own research. It is a kind of already collected data. A scholar may have obtained information for a particular study and subsequently made it accessible to another researcher for usage. Like the national census, the data may have been acquired for broad use with no specific research goal in mind. Secondary data for one research project may be deemed primary data for another. In this case, data is used more than once. For the first study, it is the main data, and for later studies, it is secondary data. Secondary data gives context to any inquiry, and in some cases (like data from administrative programs), it is the only source that covers the whole population needed for a research project.

This thesis examined how FDI, inflation, trade, and interest rates influenced Sierra Leone's growth from 1980 to 2020 using data from the World Bank's data portal. The World Bank statistics may assist with a range of development issues. It is the foundation of research that influences the decisions of policymakers and development practitioners. It may serve as a catalyst for policy reform efforts by providing standards and examples of outstanding conduct. It is also vital to the World Bank's funding and

policy recommendations. The World Bank's databases are important tools that help businesses make important decisions and give financial institutions important statistical data. When global standards and rules are followed, they offer a reliable source of data that is consistent.

The ARDL model's co-integration technique was utilized in this research to examine the co-integration linkages between the variables being studied. Even though there are other ways to reach the same goals, this method has many benefits. For example, it can be utilized irrespective of the sequence of the variables in the model (i.e., if they are all I (0), all I (1), or a mix of the two); the ARDL can get both the short-run and long-run coefficients at the same time; it works well for small samples (i.e., between 30 and 80 observations); and it incorporates an indirect co-integration. The stationarity of the variables was investigated using the Augmented Dickey-Fuller unit test, and the outcomes are presented in the table that can be found up top; the outcomes show that the variables are stationary in two orders, namely order I (0) and order I; more specifically, the results shows that the variables are stationary in order I. (1).

Furthermore, the results show that only economic growth was stationary at the first difference with a p value of 0.0000, whereas the other variables, such as FDI, inflation, trade, and the real interest rate, were stationary at the first difference with p values of 0.0000, 0.0001, 0.0000, and 0.0002, respectively. As a result, the ARDL model is suitable for regression analysis.

When it is unclear as to whether the process that lies behind a time series is a trend or whether the first difference is stationary, bound testing can be thought of as a type of ARDL modeling. This type of modeling is used to determine how important postponed levels of variables are in a multivariate regression structural equation modeling (SEM) system. Bound testing is a type of ARDL modeling.

To emphasize this even further, Haug (2002) claims that when a limited sample size is employed, the ARDL limits testing approach performs better and produces better findings. This is because in the short run, both the short-run and long-run parameters are estimated while also making the process more precise. In this work, an ARDL model-based bound test is developed to ascertain if or not co-integration happened in the data set under examination. The null hypothesis cannot be rejected if the F-statistic is smaller

than the distribution's bottom limit (critical values for I). Instead of being rejected if the statistic exceeds I, the null hypothesis of no co-integration is ruled out (1). Inconclusive means that the test statistic falls within the statistical process's range of possibilities. The F-statistic demonstrates that the independent variables and the dependent variable have a long-term connection (9.549960). Table 4.3 displays the outcomes of the ARDL short and long-run tests, which demonstrate that there is a long- and short-run link between the dependent and independent variables. The results show that FDI is statistically important in both the long and short run at 5%, which indicates that a 1% increase in FDI increases Sierra Leone's economic growth by 3.4% and 3.03% percent in both the short and long run. This result is comparable to the findings of Pegkas' (2015) research, which studies the link between FDI and economic development and then assesses the impact of FDI on economic growth in Eurozone nations from 2002 to 2012. The research used panel data estimates to evaluate the association between the variables. According to empirical research, FDI stock and economic growth have a positive long-run cointegrating connection. The GDP elasticity to FDI is 0.054% and 0.147%, respectively, using the Fully Modified OLS (FMOLS) and Dynamic OLS (DOLS) techniques. The results also show that the amount of foreign direct investment has a significant impact on how Eurozone countries grow and adapt.

Trade, on the other hand, is significant and has a positive influence on the economic growth of Sierra Leone in the long run, but a negative impact in the short run. Furthermore, while it is relatively low, inflation has a detrimental influence on the growth of the Sierra Leonean economy. Finally, the Sierra Leonean economy benefits from a statistically significant real interest rate. Obamuyi (2009) uses time series analysis on yearly data from 1970 to 2006 to look into the connection between interest rates and economic growth in Nigeria. The co-integration and error correction models were employed to represent the model's long-run and short-run dynamics. According to empirical research, real loan rates have a major influence on economic growth. Economic growth and its causes, such as interest rates, also have a clear long-run link. Based on the relationships between interest rates and investment, and also investment and growth, the findings show that interest rate behavior is critical for economic development. So, if Nigeria wishes to accelerate economic development, it must devise

and implement financial policies that enhance interest rates, which benefit investors. The following residual test was employed in this thesis: Serial correlation of Breusch-Godfrey the LM test analyzes regression model errors for autocorrelation. In a regression analysis, a test statistic is computed using the residuals from the model being examined. There is no serial connection up to rank p, according to the null hypothesis. Autoregressive conditional heteroskedasticity (ARDL) models are used to depict time-varying financial data series, such as economic growth. Volatility clustering arises when ARDL models assume that the variance of the current error term is proportional to the size of previous error terms. Normality tests are used to examine if a set of data is well described by a normal distribution or if there is a chance that a random variable associated with another variable is similarly normally distributed. With a p value of 0.3855, the results of these residual tests in Table 4.4 show that there is no serial correlation in the data set, suggesting that the null hypothesis is accepted.

The heteroskedasticity test also finds heteroskedasticity in the series, and we accept the null hypothesis with a p value of 0.9647 in this direction. Finally, a normal distribution with a p value of 0.3545 is obtained. The blue line is confined inside the red lines, according to the findings of the stability tests. As a result, we take (as intended) the null hypothesis and reject (as undesired) the alternative hypothesis, and we conclude that the residual variances of the CUSUM and CUSUM of square are stable rather than unstable (for details, see Brown, Durbin, and Evans, 1975). Sierra Leone is a current case study due to an increase in FDI into the country after the end of the violence in 2002. As stated by the World Bank's World Development Indicators (WDI), the amount of net foreign direct investment that was brought into post-conflict Sierra Leone in 2003 was $90.6 million, but by 2013, that number had increased to $144.1 million. At the same time, Sierra Leone's gross domestic product saw an annual growth rate of 4.33% in 2005 and 5.52% in 2013. Bank of the World (2015) According to the Worldwide Governance Indicators (WGI) published by the World Bank in 2005, Sierra Leone has a score of -1.06 in terms of its ability to manage corruption. This score ranges from -2.5 (poor control) to 2.5 (great control; high control). In 2013, this figure was -.90. Several economists and politicians who work in the field of investment have hypothesized that foreign direct investment may have a significant and beneficial impact on the expansion

and growth of a nation's economy. However, in the past, a number of books and articles have been published that investigated the challenges that are presented by FDI as well as the factors that impact the choices of individual investors. Governments all over the world, including that of Sierra Leone, are passing brand new legal frameworks in an effort to entice FDI.

Conclusion

This thesis examines Sierra Leone's economic growth from 1980 to 2020 via foreign direct investment, trade, inflation, and interest rates. Foreign direct investment (FDI) helps both developed and developing nations' economies. FDI increases economic activity, creates jobs, and transfers cutting-edge technology to the host nation (UNCTAD 2010, Agrawal and Khan 2011). FDI is used to bridge the income and savings imbalances in most developing nations (Odenthal 2001; Mottaleb and Kalirajan 2010). Foreign direct investment is the process of investing money, often 10% or more of a company's voting shares, in a business that is located in a country that is not the investor's own (World Bank, as cited in Adejumo, 2013). Foreign direct investment has become more feasible as a result of globalization, and Sub-Saharan Africa has benefited from this trend over the course of many decades (Bartels, Nanapolitano, & Tissi, 2014; Okafor, 2015). According to Elmawazini and Nwankwo (2012) and Gohou and Soumaré (2012), multinational corporations constitute a crucial route for FDI in the production and economic Growth of host countries. Other scholars (Fofana, 2014; Freckleton, Wright, and Craigwell, 2012; Gwenhamo, 2011) have talked about how important political stability, economic freedom, and corruption are to the amount of foreign direct investment (FDI) going into Sub-Saharan Africa.

Globalization has led to social disparities and worldwide environmental challenges, mandating ethical business practices and corporate contributions via corporate social responsibility (CSR) (Muthuri & Gilbert, 2011). This thesis examined how FDI, inflation, trade, and interest rates influenced Sierra Leone's development from 1980 to 2020. World Bank data may assist with many development issues. Research guides policymakers and development practitioners. By providing norms and examples of good behavior, it may spur policy reform. It helps finance and guide World Bank

policies. The World Bank's databases are critical for making management decisions and gathering statistical data. Global standards and norms give uniform, dependable information. To test for co-integration, the ARDL model's co-integration approach was utilized. It is possible to obtain both short-run and long-run coefficients at the same time using this method; it is an appropriate model for small samples ranging from 30 to 80 observations; it incorporates an indirect form of co-integration. These benefits are present despite the fact that there are a number of other approaches that can be taken to achieve the same result. The results of the short-run and long-run ARDL tests are shown in Table 4.3. These tests suggest that there is a connection between the dependent and independent variables.

FDI is statistically significant in both the long and short run at 5%, which implies that a 1% increase in FDI boosts Sierra Leone's economic development by 3.4% and 3.03%, respectively. This result is similar to Pegkas' (2015) research, which studies the link between FDI and economic development and quantifies FDI's effect on Eurozone economic growth from 2002 to 2012. The research uses panel data estimates to examine variable relationships. Long-run empirical data shows FDI stock and economic growth cointegrate positively. The GDP elasticity of FDI using FMOLS and DOLS is 0.054% and 0.147%, respectively. Foreign direct investment is also a key factor in how Eurozone economies grow.

Sierra Leone's economy suffers from limited trade. Although minor, inflation hurts Sierra Leone's economy. Lastly, Sierra Leone's real interest rate is statistically significant and advantageous. Obamuyi (2009) analyzes yearly data from 1970 to 2006 to determine the link between interest rates and economic development in Nigeria. Co-integration and error correction models were employed to capture long-run and short-run dynamics. Real lending rates affect economic growth empirically. Economic development and its drivers, including interest rates, have a long-term link. The links between interest rates, investment, and growth show that interest rate behavior is vital for economic development. If Nigeria wants to speed up economic development, it must boost interest rates, which helps investors. FDI in the mining sector boosted Sierra Leone's GDP by 20% during the previous decade. The population hasn't benefited much from expansion, and poverty rates haven't dropped. Since fewer than 1% of trade occurs

in the MRU, the amount of commerce between Sierra Leone and other ECOWAS members is minimal (African Development Bank report, 2013).

Recommendations

To attract FDI and benefit from foreign companies and technology transfer, the host country should implement strict rules that protect foreign corporations and enterprises.

The government should help the private sector get money from within the country to invest in productive projects. Make it possible for local businesses to compete with international ones when it comes to service delivery. This will increase productivity. The government must endeavor to expand international trade openness in order for the local business sector to fully engage in the global market. Trade openness has shown to be a crucial element in the country's economic progress. To promote international investment and economic development, the government should enact greater liberalization measures.

Also, lowering international and regional trade restrictions increases the interest of those nations that are participating in FDI. Sierra Leone must increase its efforts to make it easier for foreign companies tso start up and grow in the country. The government should make every effort to encourage honesty on all macroeconomic problems, eliminate fraudulent activities across all areas of the economy, and strengthen foreign investors' confidence in the country as a whole so as to entice a greater amount of investment.

The performance of Sierra Leone's GDP is an essential element that enhances investor confidence; nevertheless, in our investigation, we did not find this component to be statistically significant. Although this may be a result of the limited size of the sample, it is not something that should be ignored. Because of the positive impact, it would have on the whole economy, the government needs to investigate the means by which it might boost domestic output and the number of available jobs.

Many writers identify FDI and infrastructure as significant predictors of economic development in developing countries, including Sierra Leone. The government should aim to enhance both areas, as it may raise the output of those firms and attract new investors.

Inflation is another major element influencing investment decisions in most nations. As a result, the government, via the central bank and the ministry of finance, must strive to keep inflation in the single digits, as this is important to boost economic investment. Since most economists think that exchange rate volatility hurts FDI, monetary policy should be aimed at exchange rate control in the financial sector. Interest rates should be targeted to keep them below advantageous levels that would induce inflation.

References

Abubakar, O. A., Hassan, D. N., & Okowa, A. A. (2018). Foreign direct investment as an engine of economic growth in Nigeria. *International Journal of Advanced Academic Research (Social and Management Sciences)*, *1*(11), 80-90.

Acocella, N. (1992). The multinational firm and the theory of industrial organization. In *Recent Developments in the Theory of Industrial Organization* (pp. 232-251). Palgrave Macmillan, London.

Adams, B. (2009). Macroeconomic implications of China urban housing privatization, 1998–1999. *Journal of Contemporary China*, *18*(62), 881-888.

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of financial economics*, *94*(2), 291-309.

Adejumo, A. V. (2013). Foreign direct investments and manufacturing sector performance in Nigeria, (1970-2009). *Australian Journal of Business and Management Research*, *3*(4), 39.

Adeniyi, O. A., Omisakin, D., Olusegun, A., Egwaikhide, F., & Oyinlola, A. (2012). Foreign direct investment, economic growth and financial sector development in small open developing economies. *Economic Analysis & Policy*, *42*(1).

Agarwal, R., & Kimball, M. (2019). *Enabling deep negative rates to fight recessions: A guide*. International Monetary Fund.

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

Agarwal, R., & Kimball, M. (2019). *Enabling deep negative rates to fight recessions: A guide*. International Monetary Fund.

Agrawal, G., & Khan, M. A. (2011). Impact of FDI on GDP: A comparative study of China and India. *International Journal of Business and Management*, *6*(10), 71.

Ahmad, F., Draz, M. U., & Yang, S. C. (2018). Causality nexus of exports, FDI and economic growth of the ASEAN5 economies: evidence from panel data

analysis. *The Journal of International Trade & Economic Development*, *27*(6), 685-700.

Alesina, A., & Ardagna, S. (2010). Large changes in fiscal policy: taxes versus spending. *Tax policy and the economy*, *24*(1), 35-68.

Alesina, A., Roubini, N., & Cohen, G. D. (1997). *Political cycles and the macroeconomy*. MIT press.

Aliber, P. Z. (1971). The impact of external markets for national currencies on central bank reserves.

Azam, M., & Ahmed, A. M. (2015). Role of human capital and foreign direct investment in promoting economic growth: evidence from Commonwealth of Independent States. *International journal of social economics*.

Balasubramanyam, V. N., Salisu, M., & Sapsford, D. (1996). Foreign direct investment and growth in EP and IS countries. *The economic journal*, *106*(434), 92-105.

Bardy, R., Drew, S., & Kennedy, T. F. (2012). Foreign investment and ethics: How to contribute to social responsibility by doing business in less-developed countries. *Journal of Business Ethics*, *106*(3), 267-282.

Barnes, M. L., & Duquette, N. (2006). Threshold relationships among inflation, financial development, and growth. *Journal of Financial Transformation*, *17*, 141-149.

Barro, R. J., & Lee, J. W. (1993). Losers and winners in economic growth. *The World Bank Economic Review*, *7*(suppl_1), 267-298.

Bartels, F. L., Napolitano, F., & Tissi, N. E. (2014). FDI in Sub-Saharan Africa: A longitudinal perspective on location-specific factors (2003–2010). International Business Review,

Belke, A., Polleit, T., Belke, A., & Polleit, T. (2009). Interest Rate Theories. *Monetary Economics in Globalised Financial Markets*, 151-193.

Bengoa, M., & Sanchez-Robles, B. (2003). Foreign direct investment, economic freedom and growth: new evidence from Latin America. *European journal of political economy*, *19*(3), 529-545.

Boddewyn, J. J. (1985). Theories of foreign direct investment and divestment: A classificatory note. *Management international review*, 57-65.

Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth?. *Journal of international Economics*, *45*(1), 115-135.

Bouezmarni, T., Rombouts, J. V., & Taamouti, A. (2012). Nonparametric copula-based test for conditional independence with applications to Granger causality. *Journal of Business & Economic Statistics*, *30*(2), 275-287.

Brima, S. (2015). Macroeconomic determinants of foreign direct investment in Sierra Leone: An empirical analysis. *International Journal of Economics and Finance*, *7*(3), 123-133.

Brown, R. L., Durbin, J., & Evans, J. M. (1975). Techniques for testing the constancy of regression relationships over time. *Journal of the Royal Statistical Society: Series B (Methodological)*, *37*(2), 149-163.

Buckley, P. J., & Casson, M. (1976). A long-run theory of the multinational enterprise. In *The future of the multinational enterprise* (pp. 32-65). Palgrave Macmillan, London.

Buckley, P. J., Clegg, J., & Wang, C. (2002). The impact of inward FDI on the performance of Chinese manufacturing firms. *Journal of international business studies*, *33*(4), 637-655.

Buckley, P., & Casson, M. (2009). *The multinational enterprise revisited: The essential Buckley and Casson*. Springer.

Case, K. E., & Fair, R. C. (2007). *Principles of microeconomics*. Pearson Education.

Chen-Chang, L., Lin, Y., Tsung-Li, C., & Joseph, D. J. (2013). Foreign direct investment inflows in Haiti: Its determinants and impact on economic growth. *Business Management Dynamics*, *2*(9), 36.

Choe, J. I. (2003). Do foreign direct investment and gross domestic investment promote economic growth?. *Review of Development Economics*, *7*(1), 44-57.

Davcev, L., Hourvouliades, N., & Komic, J. (2018). Impact of interest rate and inflation on GDP in Bulgaria, Romania and FYROM. *Journal of Balkan and Near Eastern Studies*, *20*(2), 131-147.

De Mello, L. R. (1999). Foreign direct investment-led growth: evidence from time series and panel data. *Oxford economic papers*, *51*(1), 133-151.

Dexter, A. S., Levi, M. D., & Nault, B. R. (2005). International trade and the connection between excess demand and inflation. *Review of International Economics*, *13*(4), 699-708.

Drazen, A. (2000). *Political economy in macroeconomics*. Princeton University Press.

Duasa, J. (2007). Malaysian foreign direct investment and growth: does stability matter?. *Journal of Economic Cooperation Among Islamic Countries*, *28*(2).

Dufour, J. M., & Renault, E. (1998). Short run and long run causality in time series: theory. *Econometrica*, 1099-1125.

Dufour, J. M., & Taamouti, A. (2010). Short and long run causality measures: Theory and inference. *Journal of Econometrics*, *154*(1), 42-58.

Dunning, J. H., & Lundan, S. M. (2008). *Multinational enterprises and the global economy*. Edward Elgar Publishing

Dunning, J. H., & Lundan, S. M. (2008). *Multinational enterprises and the global economy*. Edward Elgar Publishing.

Dunning, J. H., & Pitelis, C. N. (2008). Stephen Hymer's contribution to international business scholarship: an assessment and extension. *Journal of international business studies*, *39*(1), 167-176.

Dunning, J. H., & Rugman, A. M. (1985). The influence of Hymer's dissertation on the theory of foreign direct investment. *The American Economic Review*, *75*(2), 228-232.

Dunning, R. J., Moore, T., & Watkins, C. (2021). The use of public land for house building in England: Understanding the challenges and policy implications. *Land Use Policy*, *105*, 105434.

Duramany-Lakkoh, E. K., Jalloh, M. S., & Jalloh, A. (2021). Foreign Direct Investment and Manufacturing Sector in Sierra Leone: A Vector Auto-Regression Analysis Approach. *Journal of Mathematical Finance*, *11*(4), 620-650.

Eggoh, J. (2012). Inflation effects on finance-growth link: A panel smooth threshold approach. *International Economic Journal*, *26*(4), 711-725.

Eggoh, J. C., & Khan, M. (2014). On the nonlinear relationship between inflation and economic growth. *Research in Economics*, *68*(2), 133-143.

Elmawazini, K., & Nwankwo, S. (2012). Foreign direct investment: Technology gap effects on international business capabilities of sub-Saharan Africa. *Thunderbird International Business Review*, *54*(4), 457-467.

Epstein, G., & Braunstein, E. (2002). *Bargaining Power and Foreign direct Investment in China: can 1.3 billion consumers tame the multinationals?* (No. wp45).

Eregha, P. B. (2012). The dynamic linkages between foreign direct investment and domestic investment in ECOWAS countries: A panel cointegration analysis. *African Development Review*, *24*(3), 208-220.

Erramilli, M. K., & Rao, C. P. (1990). Choice of foreign market entry modes by service firms: role of market knowledge. *MIR: Management International Review*, 135-150.

Essien, A. E., Adamgbe, E., & Sesay, A. (2007). Inflation dynamics in Sierra Leone. *West African Monetary Zone Studies in Inflation Dynamics, Accra*, 264-336.

Ezeala-Harrison, F. (1999). *Theory and policy of international competitiveness*. Courier Corporation.

Faeth, I. (2009). Determinants of foreign direct investment–a tale of nine theoretical models. *Journal of Economic surveys*, *23*(1), 165-196.

Fair, R. C. (1992). The Cowles Commission approach, real business cycle theories, and New-Keynesian economics. In *The Business Cycle: Theories and Evidence: Proceedings of the Sixteenth Annual Economic Policy Conference of the Federal Reserve Bank of St. Louis* (pp. 133-157). Springer Netherlands.

Falki, N. (2009). Impact of foreign direct investment on economic growth in Pakistan. *International Review of Business Research Papers*, *5*(5), 110-120.

Faroh, A., & Shen, H. (2015). Impact of interest rates on foreign direct investment: Case study Sierra Leone economy. *International Journal of Business Management and Economic Research*, *6*(1), 124-132.

Faroh, A., & Shen, H. (2015). Impact of interest rates on foreign direct investment: Case study Sierra Leone economy. *International Journal of Business Management and Economic Research*, *6*(1), 124-132.

Fedderke, J. W., & Romm, A. T. (2006). Growth impact and determinants of foreign direct investment into South Africa, 1956–2003. *Economic Modelling*, *23*(5), 738-760.

Fisher, I. (1930). The theory of interest. *New York*, *43*, 1-19.

Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of monetary economics*, *32*(3), 485-512.

Fofana, M. F. (2014). The influence of measures of economic freedom on FDI: A comparison of Western Europe and Sub-Saharan Africa. *Global Economy Journal*, *14*(3-4), 399-424.

Freckleton, M., Wright, A., & Craigwell, R. (2012). Economic growth, foreign direct investment and corruption in developed and developing countries. *Journal of economic studies*.

Freckleton, M., Wright, A., & Craigwell, R. (2012). Economic growth, foreign direct investment and corruption in developed and developing countries. *Journal of economic studies*.

Friedman, M. (1994). *Money mischief: Episodes in monetary history*. HMH.

Gao, Z., & Tisdell, C. (2005). Foreign Investment and Asia's, Particularly China's, Rise in the Television Industry: The International Product Life Cycle Reconsidered. *Journal of Asia-Pacific Business*, *6*(3), 37-61.

Garrison, R. W. (2002, September). Ditch the Keynesians, Why policy-infected interest rates must go. Barron’s.

Ghazali, A. (2010). Analyzing the relationship between foreign direct investment domestic investment and economic growth for Pakistan. *International Research Journal of Finance and Economics*, *47*(1), 123-131.

Giovanni, J. D., & Levchenko, A. A. (2009). Trade openness and volatility. *The Review of Economics and Statistics*, *91*(3), 558-585.

Gohou, G., & Soumaré, I. (2012). Does foreign direct investment reduce poverty in Africa and are there regional differences?. *World development*, *40*(1), 75-95.

Granger, C. W. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica: journal of the Econometric Society*, 424-438.

Gwenhamo, F. (2011). Foreign direct investment in Zimbabwe: The role of institutional and macroeconomic factors. *South African Journal of Economics*, *79*(3), 211-223.

Haug, A. A. (2002). Temporal aggregation and the power of cointegration tests: A Monte Carlo study. *Available at SSRN 334965*.

Helpman, E., & Krugman, P. (1985). Market Structure and Foreign Trade: Increasing Return, Imperfect Competition, and the International Economy. *Cambridge. USA*.

Hennart, J. F. M. A. (1982). *A theory of multinational enterprise*. University of Michigan.

Hennart, J. F., & Hl Slangen, A. (2015). Yes, we really do need more entry mode studies! A commentary on Shaver. *Journal of International Business Studies*, *46*(1), 114-122.

Hicks, J. R. (1937). Mr. Keynes and the" classics"; a suggested interpretation. *Econometrica: journal of the Econometric Society*, 147-159.

Hineline, D. R. (2007). Examining the robustness of the inflation and growth relationship. *Southern Economic Journal*, *73*(4), 1020-1037.

Hollanda, M., Vieirab, F. V., da Silvac, C. G., & Bottecchiad, L. C. Growth and Exchange Rate Volatility: A Panel Data Analysis.

Hsiao, C. (1982). Autoregressive modeling and causal ordering of economic variables. *Journal of Economic Dynamics and Control*, *4*, 243-259.

Hsiao, C., & Shen, Y. (2003). Foreign direct investment and economic growth: the importance of institutions and urbanization. *Economic development and Cultural change*, *51*(4), 883-896.

Humphrey, J., & Navas-Alemán, L. (2010). Value chains, donor interventions and poverty reduction: A review of donor practice. *IDS Research Reports*, *2010*(63), 1-106.

Hye, Q. M. A. (2011). Financial development index and economic growth: empirical evidence from India. *The Journal of Risk Finance*

Ireland, P. N. (2001). Sticky-price models of the business cycle: Specification and stability. *Journal of Monetary Economics*, *47*(1), 3-18.

Ito, N. (2012). Alfred Marshall: father of modern economics. In *Keynes and Modern Economics* (pp. 84-100). Routledge.

Jalloh, T. (2020). *Corruption and Foreign Direct Investment Inflows: Evidence from West Africa* (Doctoral dissertation, University of Ghana).

Kahouli, B., Omri, A., & Chaibi, A. (2014). Environmental regulations, trade, and foreign direct investment: evidence from gravity equations. *Work Pap*, *189*.

Kang, Y., & Jiang, F. (2012). FDI location choice of Chinese multinationals in East and Southeast Asia: Traditional economic factors and institutional perspective. *Journal of world business*, *47*(1), 45-53.

Karimi, M. S., & Yusop, Z. (2009). FDI and economic growth in Malaysia.

Kaur, M., Yadav, S. S., & Gautam, V. (2013). Financial system development and foreign direct investment: A panel data study for BRIC countries. *Global Business Review*, *14*(4), 729-742.

Keynes, J. M. (1956). *Fiscal and Monetary Policy: In Honour of the Late Lord Keynes (1883-1946)*. Commerce Departement, University of Allahabad.

Khan, M. A. (2007). *Foreign direct investment and economic growth: The role of domestic financial sector* (No. 2007: 18). Pakistan Institute of Development Economics.

Khan, M. S., Senhadji, A. S., & Smith, B. D. (2001). Inflation and financial depth. *Available at SSRN 879432*.

Kim, D. D. K., & Seo, J. S. (2003). Does FDI inflow crowd out domestic investment in Korea?. *Journal of economic studies*.

Kohpaiboon, A. (2003). Foreign trade regimes and the FDI–growth nexus: A case study of Thailand. *The Journal of Development Studies*, *40*(2), 55-69.

Krugman, P. (1991). Increasing returns and economic geography. *Journal of political economy*, *99*(3), 483-499.

Krugman, P. R. (1979). Increasing returns, monopolistic competition, and international trade. *Journal of international Economics*, *9*(4), 469-479.

Krugman, P., & Venables, A. J. (1993). *Intergration* (No. dp0172). Centre for Economic Performance, LSE..

Kumar, N., & Pradhan, J. P. (2002). FDI, externalities and economic growth in developing countries: Some empirical explorations and implications for WTO negotiations on investment. *Research and Information System for the Non-Aligned and Other Developing Countries Discussion Paper*, *27*.

Kuzyk, B. N., & Titarenko, M. L. (2006). China and Russia in 2050: The Strategy of Codevelopment. *Institute for economic strategies*.

Lam, T. (2015). A review of modern international trade theories. *American Journal of Economics, Finance and Management*, *1*(6), 604-614.

Leichenko, R. M. (2000). Exports, employment, and production: A causal assessment of US states and regions. *Economic Geography*, *76*(4), 303-325.

Levine, R., & Carkovic, M. (2002). Does Foreign Direct Investment Accelerate Economic Growth?. *University of Minnesota mimeo*.

Levine, R., & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. *The American economic review*, 942-963.

Lindgreen, A., Swaen, V., & Campbell, T. T. (2009). Corporate social responsibility practices in developing and transitional countries: Botswana and Malawi. *Journal of Business Ethics*, *90*(3), 429-440.

Liu, X., & Wang, C. (2003). Does foreign direct investment facilitate technological progress?: Evidence from Chinese industries. *Research policy*, *32*(6), 945-953.

Lütkepohl, H. (1993). Testing for causation between two variables in higher-dimensional VAR models. In *Studies in applied econometrics* (pp. 75-91). Physica-Verlag HD.

MacCallum, R. C. (1995). Model specification: Procedures, strategies, and related issues

Malesky, E. J. (2008). Straight ahead on red: how foreign direct investment empowers subnational leaders. *The Journal of Politics*, *70*(1), 97-119.

Martin, R., & Sunley, P. (1998). Slow convergence? The new endogenous growth theory and regional development. *Economic geography*, *74*(3), 201-227.

Metwally, M. M. 2004. "Impact of EU FDI on Economic Growth in Middle Eastern Countries." *European Business Review* 16 (4): 381–389

Millar, G. (2015). Investing in peace: foreign direct investment as economic restoration in Sierra Leone?. *Third World Quarterly*, *36*(9), 1700-1716.

Mishra, C. S., & Zachary, R. K. (2013). The nature of the firm, the growth and resource-based theories of the firm, and the emergent theory of the entrepreneur: a dedication to Nobel Laureate Ronald Coase. *Entrepreneurship research journal*, *3*(4), 433-436.

Moosa, I. A. (2002). Theories of Foreign Direct Investment. In *Foreign Direct Investment* (pp. 23-67). Palgrave Macmillan, London.

Morisset, J. (2000). *Foreign direct investment in Africa: policies also matter* (Vol. 2481). World Bank Publications.

Mottaleb, K. A., & Kalirajan, K. (2010). Determinants of foreign direct investment in developing countries: A comparative analysis. *Margin: The Journal of Applied Economic Research*, *4*(4), 369-404.

Musabeh, A. (2018). Main theories of Foreign Direct Investment. *Research gate*, *12*

Muthuri, J. N., & Gilbert, V. (2011). An institutional analysis of corporate social responsibility in Kenya. *Journal of business Ethics*, *98*(3), 467-483.

Nair-Reichert, U., & Weinhold, D. (2001). Causality tests for cross-country panels: a New look at FDI and economic growth in developing countries. *Oxford bulletin of economics and statistics*, *63*(2), 153-171.

Ndidi, D. E. (2013). Determinants of inflation in Nigeria (1970-2010). *The Business & Management Review*, *3*(2), 106.

Nigusse, T., Tadesse, T., & Melaku, T. (2019). Supply and Demand Side Determinants of Inflation in Ethiopia: Auto-Regressive Distributed Lag Model (ARDL). *International Journal of Commerce and Finance*, *5*(2), 8-21.

Nunnenkamp, P., & Spatz, J. (2003). Foreign direct investment and economic growth in developing countries: how relevant are host-country and industry characteristics?.

Obamuyi, T. M. (2009). An investigation of the relationship between interest rates and economic growth in Nigeria, 1970-2006. *Journal of economics and International Finance*, *1*(4), 93.

Odenthal, L. (2001). FDI in sub-Saharan Africa.

Okafor, G., Piesse, J., & Webster, A. (2015). The motives for inward FDI into Sub-Saharan African countries. *Journal of Policy Modeling*, *37*(5), 875-890.

Olofsdotter, K. (1998). Foreign direct investment, country capabilities and economic growth. *Weltwirtschaftliches Archiv*, (H. 3), 534-547.

Pegkas, P. (2015). The impact of FDI on economic growth in Eurozone countries. *The Journal of Economic Asymmetries*, *12*(2), 124-132.

Peltoniemi, M. (2011). Reviewing industry life-cycle theory: Avenues for future research. *International Journal of Management Reviews*, *13*(4), 349-375.

Pesaran, M. H. (1997). The role of economic theory in modelling the long run. *The economic journal*, *107*(440), 178-191.

Pesaran, M. H., & Pesaran, B. (1997). *Working with Microfit 4.0: interactive econometric analysis;[Windows version]*. Oxford University Press.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, *16*(3), 289-326.

Popescu, D. (2007). David Ricardo, contemporary economist. *Romanian Journal of Economic Forecasting*, *4*, 104-113.

R. M. (2000). Exports, employment, and production: A causal assessment of US states and regions. *Economic Geography*, *76*(4), 303-325.

Rand, B. (1912). David Hume (1711-1766): A Treatise of Human Nature

Robock, S. H., & Simmons, K. (1983). International Business andMultinational Enterprises. Howewood, IL: Richard D. Irwin.

Romer, D. (1993). Openness and inflation: theory and evidence. *The quarterly journal of economics*, *108*(4), 869-903.

Romer, P. M. (1994). The origins of endogenous growth. *Journal of Economic perspectives*, *8*(1), 3-22.

Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative science quarterly*, *46*(4), 655-684.

Rousseau, P. L., & Wachtel, P. (2002). Inflation thresholds and the finance–growth nexus. *Journal of international money and finance*, *21*(6), 777-793.

Rousseau, P. L., & Yilmazkuday, H. (2009). Inflation, financial development, and growth: A trilateral analysis. *Economic Systems*, *33*(4), 310-324.

Rugman, A. M. (1980). Internalization as a general theory of foreign direct investment: A re-appraisal of the literature. *Weltwirtschaftliches Archiv*, (H. 2), 365-379.

Rugman, A. M., Verbeke, A., & Nguyen, Q. T. (2011). Fifty years of international business theory and beyond. *Management International Review*, *51*(6), 755-786.

S. A. Rizvi, (2010) "Relationship between socio-economic development and foreign direct investment: empirical evidence from Pakistan," Pakistan Business Review, vol. 11, no. 4, pp. 804–823, 2010.

Sarel, M. (1996). Nonlinear effects of inflation on economic growth. *Staff Papers*, *43*(1), 199-215.

Saymeh, A. A. F., & Orabi, M. M. A. (2013). The effect of interest rate, inflation rate, GDP, on real economic growth rate in Jordan. *Asian Economic and Financial Review*, *3*(3), 341-354.

Schumpeter, J. A. (1946). John Maynard Keynes 1883-1946. *The American Economic Review*, *36*(4), 495-518.

Semuel, H., & Nurina, S. (2014). *Analysis of the effect of inflation, interest rates, and exchange rates on Gross Domestic Product (GDP) in Indonesia* (Doctoral dissertation, Petra Christian University).

Siah, K. L., Choong, C. K., & Yusop, Z. (2009). AFTA and the Intra-trade patterns among ASEAN-5 Economies: Trade-Enhancing or trade-inhibiting?. *International Journal of Economics and Finance*, *1*(1), 117-126.

Skidelsky, R. (2019). The general theory of employment, interest and money. In *The Elgar Companion to John Maynard Keynes*. Edward Elgar Publishing.

Song, X., & Taamouti, A. (2019). A better understanding of granger causality analysis: A big data environment. *Oxford Bulletin of Economics and Statistics*, *81*(4), 911-936.

Stirati, A. (1994). *The theory of wages in classical economics: a study of Adam Smith, David Ricardo, and their contemporaries*. Edward Elgar Publishing.

Suh, T., & Khan, O. J. (2003). The effect of FDI inflows and ICT infrastructure on exporting in ASEAN/AFTA countries: A comparison with other regional blocs in emerging markets. *International marketing review*, *20*(5), 554-571.

Suranovic, S. M. (2006). The Heckscher-Ohlin (Factor Proportions) Model Overview. *International Trade Theory and Policy http://internationalecon. com/Trade/Tch60/T60-0. php (accessed April 11, 2010)*.

Snowdon, B., & Vane, H. R. (2006). Milton Friedman, 1912-2006. *World Economics*, *7*(4), 1-56.

Tallman, E. W., & Wang, P. (1992). Human Capital Investment and Economic Growth: New Routes in. *Economic Review-Federal Reserve Bank of Atlanta*, *77*(5),

Tang, B. S., Wong, S. W., & Liu, S. C. (2011). Institutions, property taxation and local government finance in China. *Urban Studies*, *48*(5), 847-875.

Thelen, K. (2001). Varieties of labor politics in the developed democracies. *Varieties of capitalism: The institutional foundations of comparative advantage*, *71*, 76-92.

Tsaurai, K. (2018). Investigating the impact of foreign direct investment on poverty reduction efforts in Africa. *Revista Galega de Economia*, *27*(2), 139-154.

Udoh, E., & Egwaikhide, F. O. (2012). Does international oil price volatility complement domestic food price instability in Nigeria? An empirical enquiry. *International Journal of Economics and Finance*, *4*(1), 235-246.

Udoka, C. O., & Anyingang, R. A. (2012). The effect of interest rate fluctuation on the economic growth of Nigeria, 1970-2010. *International Journal of Business and Social Science*, *3*(20).

Udomkerdmongkol, M., & Morrissey, O. (2008). *Political regime, private investment, and foreign direct investment in developing countries* (No. 2008/109). WIDER Research Paper.

Ullah, I., Shah, M., & Khan, F. U. (2014). Domestic investment, foreign direct investment, and economic growth nexus: A case of Pakistan. *Economics Research International*, *2014*.

Uttama, N. P., & Peridy, N. (2009). The impact of regional integration and third-country effects on FDI: Evidence from ASEAN. *ASEAN Economic Bulletin*, 239-252.

Wicksell, K. (1936). *Interest and prices*. Ludwig von Mises Institute.

Wiener, N. (1956). The theory of prediction. *Modern mathematics for engineers*.

Yilmazkuday, H. (2013). Inflation thresholds and growth. *International Economic Journal*, *27*(1), 1-10.

Zahonogo, P. (2016). Trade and economic growth in developing countries: Evidence from sub-Saharan Africa. *Journal of African Trade*, *3*(1-2), 41-56.

Zhang, J., Alon, I., & Chen, Y. (2014). Does Chinese investment affect sub-Saharan African growth?. *International Journal of Emerging Markets*.

Zhang, K. H. (2001). How does foreign direct investment affect economic growth in China?. *Economics of transition*, *9*(3), 679-693.

Zhang, K. H. , and S. Song . 2000. "Promoting Exports the Role of Inward FDI in China." *China Economic Review* 11 (4): 385–396.

Appendices

Appendix 1 Unit Root Test

ECONOMIC GROWTH GDP

Null Hypothesis: ECONOMIC_GROWTH__GDP_GROWTH_ has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 7 (Automatic - based on t-statistic, lagpval=0.5, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.200511	0.4737
Test critical values:	1% level	-4.262735	
	5% level	-3.552973	
	10% level	-3.209642	

Null Hypothesis: D(ECONOMIC_GROWTH__GDP_GROWTH_) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 2 (Automatic - based on t-statistic, lagpval=0.1, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.007035	0.0001
Test critical values:	1% level	-4.226815	
	5% level	-3.536601	
	10% level	-3.200320	

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

FDI

Null Hypothesis: FDI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.389654	0.1510
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

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

Null Hypothesis: D(FDI) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.641120	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

INFLATION

Null Hypothesis: INFLATION has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.448964	0.5478
Test critical values:	1% level	-3.621023	
	5% level	-2.943427	
	10% level	-2.610263	

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

Null Hypothesis: D(INFLATION) has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.219148	0.0001
Test critical values:	1% level	-3.621023	
	5% level	-2.943427	
	10% level	-2.610263	

INTEREST RATE

Null Hypothesis: INTEREST_RATE has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.323889	0.1698
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

Null Hypothesis: D(INTEREST_RATE) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.007501	0.0002
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

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

TRADE

Null Hypothesis: TRADE has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.627054	0.8529
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

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

Null Hypothesis: D(TRADE) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.261173	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

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

Null Hypothesis: ECONOMIC_GROWTH__GDP_GROWTH_ has a unit root
Exogenous: None
Lag Length: 9 (Automatic - based on t-statistic, lagpval=0.9, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.025754	0.2678
Test critical values:	1% level	-2.641672	
	5% level	-1.952066	
	10% level	-1.610400	

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

Null Hypothesis: D(ECONOMIC_GROWTH__GDP_GROWTH_) has a unit root
Exogenous: None
Lag Length: 9 (Automatic - based on t-statistic, lagpval=0.9, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.042570	0.0412
Test critical values:	1% level	-2.644302	
	5% level	-1.952473	
	10% level	-1.610211	

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

Null Hypothesis: FDI has a unit root
Exogenous: Constant, Linear Trend
Lag length: 8 (Spectral OLS AR based on t-statistic, lagpval=0.5, maxlag=9)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-2.075233	0.5433
Test critical values:	1% level	-4.205004	
	5% level	-3.526609	
	10% level	-3.194611	

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

Null Hypothesis: D(FDI) has a unit root
Exogenous: Constant, Linear Trend
Lag length: 9 (Spectral OLS AR based on t-statistic, lagpval=0.5, maxlag=9)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-139.9077	0.0000
Test critical values:	1% level	-4.211868	
	5% level	-3.529758	
	10% level	-3.196411	

Null Hypothesis: INFLATION has a unit root
Exogenous: Constant, Linear Trend
Lag length: 8 (Spectral OLS AR based on t-statistic, lagpval=0.5, maxlag=9)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-5.595472	0.0002
Test critical values:	1% level	-4.205004	
	5% level	-3.526609	
	10% level	-3.194611	

Null Hypothesis: INTEREST_RATE has a unit root
Exogenous: Constant, Linear Trend
Lag length: 9 (Spectral OLS AR based on t-statistic, lagpval=0.5, maxlag=9)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-4.379218	0.0064
Test critical values:	1% level	-4.205004	
	5% level	-3.526609	
	10% level	-3.194611	

Null Hypothesis: TRADE has a unit root
Exogenous: Constant, Linear Trend
Lag length: 9 (Spectral OLS AR based on t-statistic, lagpval=0.5, maxlag=9)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.758818	0.0000
Test critical values:	1% level	-4.205004	
	5% level	-3.526609	
	10% level	-3.194611	

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

Appendix 2 ARDL LONG RUN Test

ARDL Long Run Form and Bounds Test
Dependent Variable: D(GDP)
Selected Model: ARDL(3, 5, 5, 4, 5)
Case 2: Restricted Constant and No Trend
Date: 01/06/23 Time: 17:04
Sample: 1 41
Included observations: 36

Conditional Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-58.19059	18.46626	-3.151184	0.0117
GDP(-1)*	-0.553269	0.312958	-1.767872	0.1109
FDI(-1)	-4.922118	1.465804	-3.357966	0.0084
INF(-1)	0.378549	0.247758	1.527899	0.1609
RIR(-1)	2.167227	0.522661	4.146523	0.0025
TR(-1)	1.205281	0.394861	3.052421	0.0137
D(GDP(-1))	-0.321696	0.238741	-1.347470	0.2108
D(GDP(-2))	-0.182438	0.164502	-1.109028	0.2962
D(FDI)	-1.005765	0.295032	-3.409006	0.0078
D(FDI(-1))	3.413078	1.042319	3.274505	0.0096
D(FDI(-2))	3.032465	0.802677	3.777940	0.0044
D(FDI(-3))	1.880876	0.565946	3.323421	0.0089
D(FDI(-4))	0.596785	0.361799	1.649492	0.1334
D(INF)	0.146189	0.131900	1.108336	0.2965
D(INF(-1))	-0.043224	0.148899	-0.290293	0.7782
D(INF(-2))	0.076843	0.145321	0.528782	0.6097
D(INF(-3))	0.013837	0.103805	0.133298	0.8969
D(INF(-4))	0.297081	0.047905	6.201398	0.0002
D(RIR)	0.300056	0.216157	1.388136	0.1985
D(RIR(-1))	-1.662263	0.436446	-3.808637	0.0042
D(RIR(-2))	-1.178805	0.335640	-3.512107	0.0066
D(RIR(-3))	-0.858192	0.245235	-3.499473	0.0067
D(TR)	0.813300	0.259157	3.138255	0.0120
D(TR(-1))	-0.488757	0.213550	-2.288728	0.0479
D(TR(-2))	-0.132576	0.161302	-0.821912	0.4324
D(TR(-3))	0.129202	0.132905	0.972138	0.3564
D(TR(-4))	0.182955	0.141543	1.292574	0.2284

Appendix 3 ARDL SHORT RUN TEST

ARDL Error Correction Regression
Dependent Variable: D(GDP)
Selected Model: ARDL(3, 5, 5, 4, 5)
Case 2: Restricted Constant and No Trend
Date: 01/06/23 Time: 17:03
Sample: 1 41
Included observations: 36

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1))	-0.321696	0.095165	-3.380407	0.0081
D(GDP(-2))	-0.182438	0.087691	-2.080467	0.0672
D(FDI)	-1.005765	0.148948	-6.752481	0.0001
D(FDI(-1))	3.413078	0.342797	9.956565	0.0000
D(FDI(-2))	3.032465	0.308084	9.842980	0.0000
D(FDI(-3))	1.880876	0.226150	8.316955	0.0000
D(FDI(-4))	0.596785	0.149173	4.000609	0.0031
D(INF)	0.146189	0.078840	1.854246	0.0967
D(INF(-1))	-0.043224	0.073484	-0.588209	0.5709
D(INF(-2))	0.076843	0.070197	1.094673	0.3021
D(INF(-3))	0.013837	0.078139	0.177082	0.8634
D(INF(-4))	0.297081	0.028589	10.39145	0.0000
D(RIR)	0.300056	0.141958	2.113694	0.0637
D(RIR(-1))	-1.662263	0.185987	-8.937511	0.0000
D(RIR(-2))	-1.178805	0.145782	-8.086108	0.0000
D(RIR(-3))	-0.858192	0.153733	-5.582346	0.0003
D(TR)	0.813300	0.114930	7.076495	0.0001
D(TR(-1))	-0.488757	0.086629	-5.641981	0.0003
D(TR(-2))	-0.132576	0.074921	-1.769541	0.1106
D(TR(-3))	0.129202	0.082817	1.560097	0.1532
D(TR(-4))	0.182955	0.094863	1.928627	0.0859
CointEq(-1)*	-0.553269	0.050510	-10.95362	0.0000

R-squared	0.970781	Mean dependent var	-0.168388
Adjusted R-squared	0.926953	S.D. dependent var	11.96710
S.E. of regression	3.234376	Akaike info criterion	5.463310
Sum squared resid	146.4566	Schwarz criterion	6.431016
Log likelihood	-76.33957	Hannan-Quinn criter.	5.801065
Durbin-Watson stat	1.770762		

Appendix 4 ARDL BOUND TEST

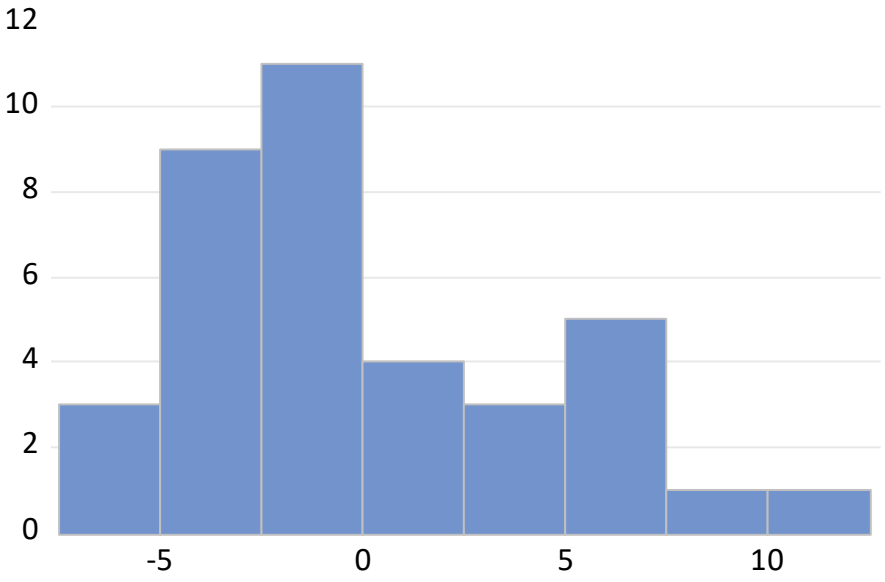
F-Bounds Test — Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
		Asymptotic: n=1000		
F-statistic	9.549960	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Appendix 5 RESIDUAL TEST

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.800638	Prob. F(2,32)	0.4578
Obs*R-squared	1.906209	Prob. Chi-Square(2)	0.3855



Series: Residuals	
Sample 1984 2020	
Observations 37	
Mean	1.54e-15
Median	-1.110137
Maximum	11.72602
Minimum	-7.489440
Std. Dev.	4.580620
Skewness	0.559016
Kurtosis	2.691657
Jarque-Bera	2.073651
Probability	0.354578

Appendix 5 HETEROSKEDASTICITY TEST

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

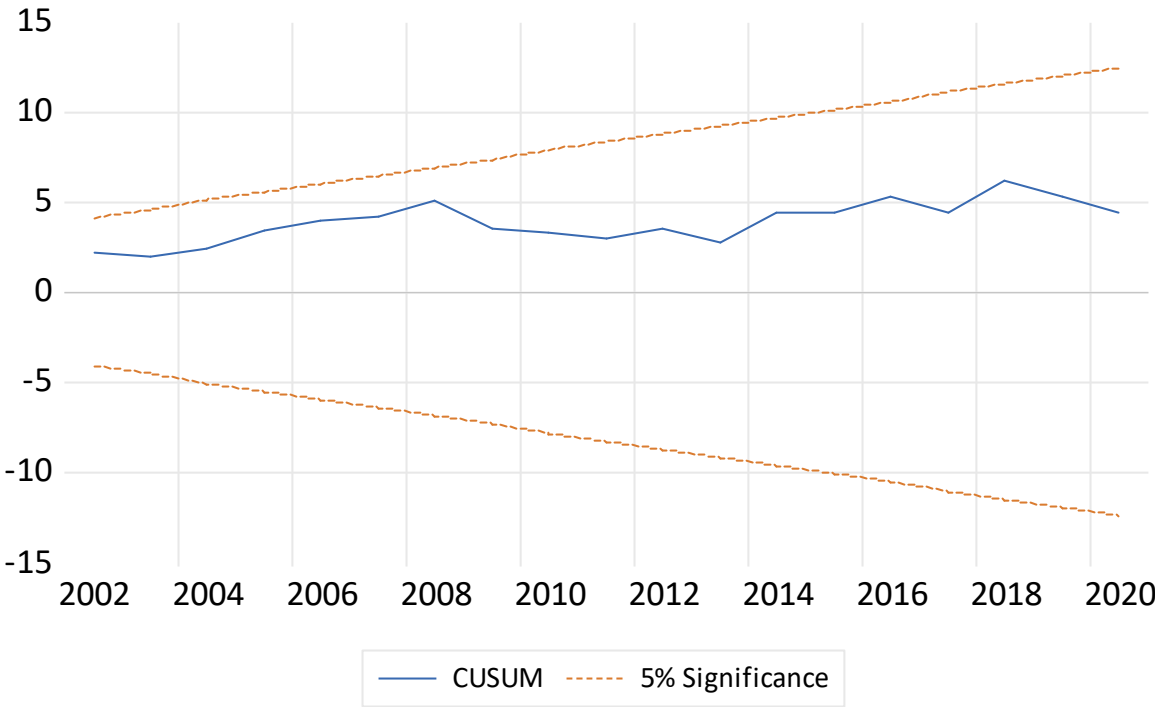
F-statistic	0.312470	Prob. F(17,19)	0.9902
Obs*R-squared	8.084232	Prob. Chi-Square(17)	0.9647
Scaled explained SS	1.803121	Prob. Chi-Square(17)	1.0000

Levels Equation
Case 2: Restricted Constant and No Trend

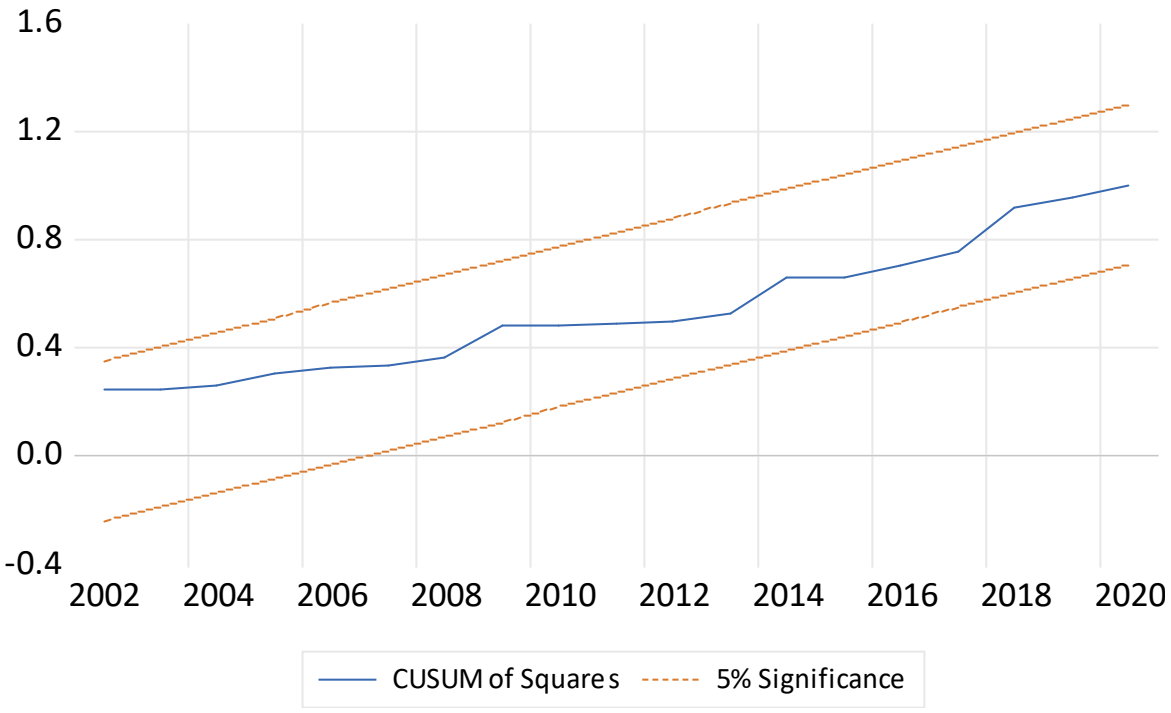
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	-78.34021	33.41352	-2.344566	0.0301
INFLATION	-0.038970	0.034552	-1.127859	0.2734
INTEREST_RATE	-0.267289	0.130330	-2.050858	0.0543
TRADE	-27.99229	13.53791	-2.067697	0.0526
C	8.996690	4.628226	1.943874	0.0669

Appendix 6 STABILITY TEST

CUSUM



CUSUM OF SQUARES



TURNITIN REPORT

TOOMEY_EVELYN DIAMOND

ORIGINALITY REPORT

13%	9%	7%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Higher Education Commission Pakistan Student Paper	1%
2	publication.aercafricalibrary.org Internet Source	1%
3	www.tandfonline.com Internet Source	<1%
4	www.scirp.org Internet Source	<1%
5	Submitted to Universiti Malaysia Perlis Student Paper	<1%
6	eprints.utar.edu.my Internet Source	<1%
7	Submitted to UNIVERSITY OF LUSAKA Student Paper	<1%
8	www.iiste.org Internet Source	<1%
9	Xiaojun Song, Abderrahim Taamouti. "A Better Understanding of Granger Causality Analysis:	<1%