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THE EFFECT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN SOMALIA

Master Thesis

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SUMMARY

Since 1994, Somalia's economy has grown significantly, reaching $5.731 billion in 2009 at a real growth rate of 2.6% predicted. Comparing Somalia to its neighbors, foreign direct investment (FDI) decreased slightly in 2014 and 2015. This had an effect on trade, competitiveness, employment creation, foreign savings, capital investment, productivity gains, and access to international markets. With an estimated GDP of $8.37 billion as of December 2023, Somalia is one of the least developed countries. In this study, the empirical relationship of foreign direct investments on economic growth in Somalia between 1970 and 2022 was examined with the help of the ARDL bounds test. In addition to direct foreign investments, inflation, trade balance, population growth and exchange rate variables, which are thought to have an impact on economic growth, were also examined. The study findings indicate the existence of a positive and statistically significant relationship between foreign direct investments and economic growth in Somalia in the specified period. On the other hand, while the effect of population growth and trade balance on economic growth was found to be positive, the effect of exchange rate and inflation variables on economic growth was found to be negative. Additionally, the coefficients are statistically significant.

The study highlights the underdevelopment of Somalia's financial sector, with loans to asset finance decreasing by 10% in 2020. However, private sector credit grew steadily from 2015 to 2019, indicating growth potential. Challenges such as regulatory uncertainties and infrastructure development could hinder FDI growth despite the prevalence of mobile money.

The study concludes that foreign direct investment (FDI) positively impacts economic growth in Somalia by stimulating growth in key sectors. Initial FDI inflows may not directly translate into higher growth, but lagged FDI effects emerge as positive and significant in the long run. Population growth also positively affects GDP growth as it leads to increased economic activity and production. Maintaining a positive trade balance in which exports exceed imports contributes to sustainable economic growth. Lagged GDP has a positive impact on current GDP growth, indicating a momentum effect in Somalia's economy. Real exchange rate depreciation is associated with higher long-run GDP growth, as a weaker exchange rate boosts exports and economic activity. Lower inflation also contributes to higher long-run GDP growth, as price stability creates a favorable environment for investment and economic expansion.

To enhance Somalia's economic growth, the government should implement targeted policies to attract and retain foreign direct investments, prioritize investments in education and skills development, diversify exports, focus on improving the country's trade balance by reducing import dependence, invest in infrastructure development, promote price stability and control inflation. In addition, the government should encourage partnerships between the private sector and NGOs. Banks should partner with microfinance institutions to reach underserved populations and promote financial inclusion. Finally, the study focuses on the impact of foreign direct investment on Somalia's economic growth from 1970 to 2022, excluding recent economic developments. For this reason, alternative econometric models can be established in the future and different perspectives can be brought to the subject.

Key Words: FDI, Economic Growth, Real GDP, Inflation, Trade Balance, Population Growth

OZET

Somali ekonomisi 1994'ten bu yana önemli ölçüde büyüyerek 2009'da 5,731 milyar dolara ulaştı ve öngörülen reel büyüme oranı %2,6'ydı. Ancak Somali'deki doğrudan yabancı yatırımlar, komşu ülkelere kıyasla 2014 ve 2015 yıllarında marjinal bir düşüş gösterdi; bu durum sermaye yatırımını, yabancı tasarrufu, üretkenlik faydalarını, istihdam yaratmayı, teknoloji transferini, beceri geliştirmeyi, ticareti, rekabet gücünü ve dış pazarlara erişimi etkiledi. Aralık 2023 itibarıyla tahmini 8,37 milyar dolarlık GSYİH ile Somali, en az gelişmiş ülkelerden biridir. Bu çalışmada, 1970-2022 yılları arasında Somali'de doğrudan yabancı yatırımların ekonomik büyüme üzerindeki ampirik ilişkisi ARDL sınır testi yardımıyla incelenmiştir. Ayrıca doğrudan yabancı yatırımlara ek olarak, ekonomik büyüme üzerinde etkisi olduğu düşünülen enflasyon, ticaret dengesi, nüfus artışı ve döviz kuru değişkenleri de incelenmiştir. Çalışma bulguları Somali'de belirtilen dönemde doğrudan yabancı yatırımlar ile ekonomik büyüme arasında pozitif ve istatistiki olarak da anlamlı bir ilişkinin varlığını ifade etmektedir. Diğer taraftan nüfus artışı ve ticaret dengesinin de ekonomik büyüme üzerindeki etkisi pozitif olarak bulunurken, döviz kuru ve enflasyon değişkenlerinin ise ekonomik büyüme üzerindeki etkisi negatif olarak bulunmuştur. Ayrıca katsayılar ise istatistiki olarak anlamlıdır.

Çalışma, varlık finansmanına verilen kredilerin 2020'de %10 oranında azalmasıyla Somali'nin finans sektörünün az gelişmişliğine dikkat çekiyor. Ancak özel sektör kredileri 2015'ten 2019'a kadar istikrarlı bir şekilde arttı ve bu da büyüme potansiyeline işaret ediyor. Düzenleyici belirsizlikler ve altyapı gelişimi gibi zorluklar, mobil paranın yaygınlığına rağmen doğrudan yabancı yatırım büyümesini engelleyebilir.

Çalışma, doğrudan yabancı yatırımın (DYY) kilit sektörlerde büyümeyi teşvik ederek Somali'deki ekonomik büyümeyi olumlu yönde etkilediği sonucuna varıyor. Başlangıçtaki doğrudan yabancı yatırım girişleri doğrudan daha yüksek büyümeye dönüşmeyebilir, ancak gecikmeli doğrudan yabancı yatırım etkileri uzun vadede olumlu ve anlamlı olarak ortaya çıkmaktadır. Nüfus artışı aynı zamanda ekonomik aktivitenin ve üretimin artmasına yol açtığı için GSYİH büyümesini de olumlu yönde etkiliyor. İhracatın

ithalatı aştığı olumlu bir ticaret dengesinin sürdürülmesi, sürdürülebilir ekonomik büyümeye katkıda bulunur. Gecikmeli GSYİH'nin mevcut GSYİH büyümesi üzerinde olumlu bir etkisi var ve bu da Somali ekonomisinde ivme etkisine işaret ediyor. Daha zayıf bir döviz kuru ihracatı ve ekonomik aktiviteyi artırdığından, reel döviz kurundaki değer kaybı daha yüksek uzun vadeli GSYİH büyümesiyle ilişkilidir. Fiyat istikrarı yatırım ve ekonomik genişleme için uygun bir ortam yarattığından, düşük enflasyon aynı zamanda daha yüksek uzun vadeli GSYİH büyümesine de katkıda bulunur.

Somali'nin ekonomik büyümesini artırmak için hükümet, doğrudan yabancı yatırımları çekmek ve elde tutmak için hedefli politikalar uygulamalı, eğitim ve beceri geliştirme yatırımlarına öncelik vermeli, ihracatı çeşitlendirmeli, ithalat bağımlılığını azaltarak ülkenin ticaret dengesini iyileştirmeye odaklanmalı, altyapı gelişimine yatırım yapmalı, fiyat istikrarını teşvik etmeli ve enflasyonu kontrol etmeli. Bunun yanı sıra hükümet, özel sektör ve STK'lar arasındaki ortaklıkları teşvik etmelidir. Bankalar, yetersiz hizmet alan nüfuslara ulaşmak ve finansal katılımı teşvik etmek için mikrofinans kuruluşlarıyla ortaklık kurmalıdır. Son olarak çalışma, son ekonomik gelişmeleri hariç tutarak, 1970'den 2022'ye kadar Somali'nin ekonomik büyümesi üzerinde doğrudan yabancı yatırımın etkisine odaklamaktadır. Bu nedenle ileridi dönemlerde alternatif ekonometrik modeller kurularak konuya farklı bakış açıları getirilebilir.

Anahtar Kelimeler: Doğrudan Yabancı Yatırım (DYY), Ekonomik Büyüme, Reel GSYİH, Enflasyon, Ticaret Dengesi, Nüfus Artışı

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ABBREVIATIONS

AIC	Africa Inland Church
ARDL	Autoregressive Distributed Lag
ARIMA	Autoregressive Integrated Moving Average
CIA	Central Intelligence Agency
CAD	Canadian Dollar
EU	European Union
FBI	Federal Bureau of Investigation
GATT	General Agreement on Tariffs and Trade
GNI	Gross National Income
HDI	Human Development Index
HIPC	Heavily Indebted Poor Countries
IATI	International Aid Transparency Initiative
IMF	International Monetary Fund
M&A	Mergers and Acquisitions
MNC	Multinational Corporation
NDP	National Development Plan
NGO	Non-Governmental Organization
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PG	Population Growth
SIPO	Somalia Investment Promotion Office
SBC	Southwestern Bell Corporation
SPSS	Statistical Package for the Social Sciences
TB	Trade Balance
UNDP	United Nations Development Programme
VAR	Vector Autoregression
VECM	Vector Error Correction Model

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PREFACE

This Master thesis is dedicated to my beloved mother, whose unwavering support has been a guiding light throughout my life's journey. Her boundless love and steadfast presence have inspired me to overcome challenges and pursue my dreams with determination. This work stands as a tribute to her enduring support and the immeasurable impact of her love on shaping who I am today. Thank you, Mom, for standing by me every step of the way.

INTRODUCTION

Foreign direct investment (FDI) encompasses the sum amount of money invested in international country through various channels including purchasing equity, and other capital in a reporting economy. It is an investment across international border category where inhabitant in one economy has rule or impact over the administration of ainitiative in another. The global economy is experiencing a slowdown, with projections of declining progression and decreasing Foreign Direct Investment (FDI) flows. The Conference Board (2023) predicts a 2.9% growth in 2023, down from 3.3% in 2022, and a further drop to 2.5% in 2024. Sub-Saharan Africa faces similar challenges, with a predicted GDP drop to 2.5% in 2023. However, East Africa is expected to perform better, with growth rates exceeding 5% in 2023 and 2024 (African Development Bank, 2023a).

Somalia, a country positioned in the Horn of Africa, has faced decades of political instability and conflict, which have hindered its economic development. Somalia, the least developed country, has seen significant economic growth in recent years, but still faces challenges in attracting FDI. Possession of ten percent or more of regular voting stock is the standard for shaping a direct investment affiliation (World Bank, 2019). Somalia's foreign direct investment for 2021 was $0.46B, a 1.83% decrease from 2020, a 3.8% increase from 2019, a 9.56% increase from 2018, and a 10.57% increase from 2017. In the first half of 2023, global FDI flows were 30% less than the same period in 2022, dropping to USD 727 billion (Macrotrends, 2024). Factors affecting FDI influxes and economic growing in Somalia include inflation, trade balance, exchange rate, population growth, and financial sector development. However, investigate on the relationship amid FDI and economic development in Somalia has yielded conflicting results.

Somalia faces challenges in appealing and retaining foreign direct investment (FDI) due to political instability, weak institutions, inadequate infrastructure, and security concerns (Dalrymple & Thomas, 2021). This has resulted in low FDI inflows compared to other countries. Understanding these factors and their impact on economic progression is vital for designing policies and strategies to attract more investment. Additionally, exploring the corelation among FDI and economic indicators like inflation, trade balance, currency rate, population growth, and financial sector development is necessary to comprehend the broader implications of FDI on Somalia's economy.

CHAPTER ONE

1.1 Background to the Problem

The Conference Board (2023) projects global real GDP to grow by 2.9% in 2023, decreased from 3.3% in 2022, and further drop to 2.5% in 2024 due to Increased prices and financial policy constriction. Rising Asian economies are expected to experience the strongest growth with deadline increased prices is predicted to decline from 8.7% to 6.8%. Fast fiscal strategy constraint has debilitated world-wide housing marketplaces, reduced bank loaning, and pressed the factories near to decline (Adrian, Gopinath, & Gourinchas, 2023). Cohen, Mitra, and Natalucci (2023) contend that solid customer expenditure and declining tremors have ushered to continuing prediction reconsiderations. The ten-year monetary view predicts an extended period of deteriorating strength in the international economy, with developed marketplaces contributing less to GDP (International Monetary Fund, 2023).

Global FDI flows were 30% less in the first half of 2023 than they were in the same time in 2022, although rising to USD 727 billion (FDI Intelligence, 2023). Despite rising to USD 275 billion, inflows into the OECD region were 42% lower than in the first half of 2022 and lower than in the same period in 2021 (Economic & Political Weekly, 2023). Q1 2023 saw a rise to positive levels, while Q2 saw a 58% decline mostly as a result of fewer equities inflows and reinvested earnings. Although they more than quadrupled to USD 580 billion, outflows from the OECD region fell short of prior half-year peaks. FDI flows into G20 economies outside of the OECD decreased by 15% in the first half of 2023.

In the first quarter of 2023, the United States, Brazil, and China emerged as the top recipients of FDI inflows and outflows. Inflows rose to USD 185 billion, rebounding from negative levels in Q4 2022 but remained 38% below Q1 2022 levels (Jalinous & Berg, 2023). Outflows surged seven-fold to USD 359 billion from Q4 2022 levels but decreased by 25% year-on-year compared to Q1 2022. Notably, the United States, Germany, and China were the leading sources of FDI outflows. The decline in successful global unions and attainments was attributed to several factors, including expensive pricing, rising interest rates, poor economic conditions, and geopolitical instability (Barklie, 2023).

Sub-Saharan Africa's economic outlook is challenging due to escalating instability, sluggish growth in major economies, and global economic uncertainties. With South Africa, Nigeria, and Angola forecast to increase at 0.5%, 2.9%, and 1.3%, respectively, the region's GDP is predicted to drop to 2.5% in 2023 from 3.6% in 2022 (Bakari & Tiba, 2020). Economic activity is being hindered by violence and conflict; it is predicted that internal conflict in Sudan will decrease by 12%. Furthermore, after 2015, per capita growth has halted, which may indicate that a decade of progress was wasted. Inflation is predicted to decrease from 9.3% in 2022 to 7.3% in 2023, and financial stabilities are cultivating across Africa (The Reliefweb, 2023).

Central Africa's growth is anticipated to slow from 5.0% in 2022 to 4.9% in 2023 and 4.6% in 2024 due to declining commodity prices (International Monetary Fund, 2023). On the other hand, recovery in Morocco and Libya is likely to be the main drivers of North Africa's growth, which is forecasted to upsurge from 4.1% in 2022 to 4.6% in 2023 and 4.4% in 2024 (Saidi, Labidi, & Ochi, 2022). Growth in Southern Africa is expected to fall by 1.1 ratio points, but with the right policy measures in place, it might rebound to 2.7% by 2024. owing to high interest rates and power outages, South Africa's growth is predicted to slow from 2.0% in 2022 to 0.2% in 2023, whereas West Africa's progression is predicted to increase from 3.8% in 2022 to 3.9% in 2023 and 4.2% in 2024, mostly owing to stronger growth in small economies (Kouki, 2023).

East Africa's economy is projected to perform the best in the region in 2023 and 2024, with growth rates exceeding 5%. Nearly half of the growth in the region's real GDP in 2022 originated from the services sector. Nonetheless, the area is vulnerable to threats such a downturn in the world economy, and rise in the cost of commodities, geopolitical unrest such as Russia's incursion of Ukraine, trade restrictions, tougher fiscal circumstances worldwide, depreciating currency rates, and the revival of Covid-19. The study suggests that East African countries embrace environmentally friendly development strategies, with a focus on renewable energy, sustainable agriculture, and forestry, in order to reduce these risks (Ofori, Obeng, & Asongu, 2022).

Much of Somalia's social and economic infrastructure was destroyed as a result of the governmental institutions collapsing during the civil war in 1988 (Spooner, 2015). Even though the private sector grew significantly, a lack of funding, skilled labor, and a supportive legal environment have caused it to stagnate. Access to foreign finance markets has also been hampered by the lack of governmental institutions. Libertarian economists contend that the economic well-being of Somalia's people has improved since the state's collapse, however there is no quantifiable indication to assist this assertion. Somalia, a country with substantial social group disparity and low development indicators, is a significant source of violence due to its economy, which blends traditional and modern production techniques. Approximately 80% of the population is pastoralists who live on the move. In spite of these obstacles, Somalia's GDP was projected to reach $6.2 billion in 2018; in 2023, around 73% of the country's population is expected to be living below the poverty line (World Bank, 2019; Asfaw, 2015).

1.2 Problem Statement

Somalia, a least developed country, has a projected gross domestic product of $8.37 billion as of December 2023 (African Economic Outlook, 2023). According to World Bank statistics, Somalia's GDP in 2022 was 8.13 billion US dollars, or 0% of the global economy. Since 1994, Somalia's economy has expanded dramatically, with a predicted factual growing rate of 2.6% and a 2009 GDP of $5.731 billion. In contrast to its neighbors, Somalia had a little decline in foreign direct investment (FDI), which had an impact on trade, competitiveness, employment creation, foreign savings, capital investment, productivity gains, and access to international markets. These variables could rise in response to an increase in FDI (Ibrahim, Omar, & Ali, 2017).

As stated by the IMF, development in the primary and secondary sectors was responsible for Somalia's 3.7% predicted economic growth in 2014. The Somali diaspora has primarily funded the extension of the private segment, particularly in the services sector, encompassing various industries. With anticipated inflation rates of 4.2% and 4.0%, The increase in GDP is predicted to be attributed to both local and foreign demand, reaching 2.8% and 3.5% in 2023 and 2024, respectively (Ibrahim, Omar, & Ali, 2017).

With a 19.98 ease of doing business score, foreign direct investment (FDI) inflows into Somalia have increased since 2012, which is ascribed to the end of the civil conflict. From intra-company loans, foreign direct investment (FDI) has moved to joint ventures, greenfield projects, and transnational firm subsidiaries (Trading Economics, 2023). The principal investors are the US and Germany, with Germany housing the German Agro Action Office, which is the main affiliate. The main drivers of Somalia's economy are agricultural, aid from outside, and remittances from the diaspora. In 2016, livestock accounted for 30% of GDP, making it the biggest subsector. Services make up a larger portion of the total, with real estate, government services, wholesale and retail commerce, and ICT leading the way (African Development Bank Group, 2022).

The World Bank notes the impact of state failure following the civil war on Somalia's economy. However, the collapse has been argued to improve economic welfare due to the previous predatory state. The economy is expected to gradually grow to 3.7% and 3.9% in 2024 and 2025, driven by increased economic activities (African Development Bank, 2023) Remittances and private sector credit have bolstered construction, real estate, and investment. Despite this, net exports remain a drag on growth, financed by official grants and remittances. Research on foreign direct investment (FDI) in Somalia has produced conflicting findings. One study (Anyanzwa, 2023) revealed a negative association between FDI and economic development, indicating to a poor policy association.

FDI and EG in Somalia have been the subject of several studies. Warsame (2023) noted that while renewable energy contributes to environmental degradation, domestic investment and population growth offset these effects, without a direct causal link to FDI. Mohamed, Abdulle, and Abdullahi (2022) identified GDP, imports, and inflation as significant factors influencing FDI inflows from 1980-2017. The rate of currency and FDI were shown to be negatively correlated by Ibrahim, Omar, and Ali (2017), but inflation, external debt, and domestic investment were positively correlated. Nor and Masron (2018) highlighted Turkish FDI's role in peacebuilding through various means, contributing to household income and human capital development. Abdullahi and Ali's (2018) study on foreign direct investment in public service in Somalia found that resource-seeking and efficiency-seeking factors have significant confident results on investment. The research also found that market-seeking had insignificant effects. Regarding the effect of FDI on economic development in post-conflict Somalia, the studies point to contradictory conclusions. Thus, the aim of this research was to inquire how FDI affected Somalia's EG.

1.3 Purpose of the Study

The central aim of this study was to evaluate the effect of foreign direct investment (FDI) on the economic growth of Somalia.

1.3.1 Research Questions

- To what level does inflation impact EG in Somalia?
- To what extent does trade balance affect EG in Somalia?
- What is the impact of exchange rate on EG in Somalia?
- What is the impact of population growth on EG in Somalia?
- How does financial sector deepening affect FDI inflow in Somalia?

1.4 Significance of the Study

Studies and research in this field are crucial because when creating EG plans, economic decision-makers in all nations prioritize the significance of FDI and the host nation's EG. The ongoing policy discussion on the growth and recovery of post-conflict economies is aided by this original study. Furthermore, the study has significant policy implications that will direct future research and decision-making for Somalia and other emerging countries. The findings could be compared with other regions or countries facing similar challenges, enhancing the generalizability of the relationship. The study's insights could also inform long-term development strategies, helping policymakers and scholars create sustainable and effective plans.

Literature Review

1.5 Theoretical Framework

1.5.1 General Theoretical Developments

There were not many specialized ideas on foreign direct investment (FDI) prior to Stephen Hymer's groundbreaking research on the topic in 1960 (Dunning & Pitelis, 2008). Using neoclassical economics and macroeconomic theory, Eli Heckscher and Bertil Ohlin had earlier created theories of foreign investment that centered on how variations in production costs across nations led to trade and specialization (Moosa, 2002). However, these theories made assumptions of perfect competition, no labor movement across borders, and risk-neutral preferences of multinational companies. In 1967, Weintraub's empirical tests and data on the rate of return and capital flow failed to support these hypotheses, questioning the existing theories (Dunning & Pitelis, 2008).

Stephen Hymer challenged these traditional theories, developing a framework that delved into the motivations behind large foreign investments (Dunning & Pitelis, 2009). Hymer's perspective, in contrast to macroeconomic theories, focused on distinguishing between portfolio investment and direct investment, highlighting the importance of control (Buckley, 2011). He argued that direct investment provides firms with greater control, unlike portfolio investment. Hymer criticized neoclassical theories, asserting that they couldn't explain international production adequately. He underlined that foreign direct investment (FDI) is restricted to particular industries across several nations and is more than just a financial transfer. Hymer's work emphasized the importance of firm-specific advantages, the removal of conflicts through collusion or control acquisition, and the formulation of internationalization strategies to mitigate risks as determinants of FDI (Dunning & Pitelis, 2008).

According to Dunning and Pitelis (2008), Stephen Hymer made significant contributions to the theories of multinational enterprises (MNEs) and the purposes for foreign direct investment (FDI) that go beyond macroeconomic considerations. His impact was felt by other researchers, who used it to inform the creation of ideas such as John Dunning and Christos Pitelis's OLI (ownership, location, and internationalization) thesis. Transaction costs are given more attention in the OLI theory. Some of Hymer's forecasts, including the role of supranational organizations like the World Bank and the IMF in escalating inequality, came to pass after his time (Bulman et al., 2021). Hymer's views were ahead of their time. In the fields and international business, his work continues to be fundamental.

1.5.2 Neoclassical Growth Theory

The Classical Growth Theory argues that as a nation's population increases and resources become limited, economic growth will eventually slow down (Harris, 2007). According to this theory, economists like Rostow (1959) contend that a brief rise in real GDP per capita causes population growth to spike, placing a pressure on resources and eventually slowing economic development. In Figure 2.1, the vertical axis represents overall production, while the horizontal axis shows labor. The OW curve represents total subsistence wages. At labor level ON and production level OP, per capita wage is NR, leading to a surplus represented by RG. This surplus initiate capital formation, increasing labor demand. The cycle continues until stable point E is reached, where wages and output equalize, with technological advancements delaying economic stagnation (Jacobsen & Skillman, 2004).

The Solow Model, represented by the Neo-Classical expanding framework, highlights the significance of capital, labor, and technology in economic progress (Solow, 1956). According to this concept, economic growth depends on capital accumulation and technical advancement, with technology raising worker productivity and total output. This link is shown by the production function $Y = AF(K, L)$, where Y is revenue, K is capital, L is unskilled labour, and A is the degree of innovation.

However, the Classical Growth Theory has its limitations. It overlooks technological advancements and inaccurately estimates total wages (Saeed, 2008; Rothschild, 1959). Additionally, it assumes that wages always remain at subsistence levels, which is not always the case due to changes in industry structure and economic development. The Neoclassical Growth Theory, especially Solow's model, emphasizes the significance of capital accumulation and technical advancement and offers a framework for comprehending economic growth. Islam (1995) improves upon the growth equation by adding other variables to gain a greater comprehension of economic growth and how it impacts variables such as foreign direct investment.

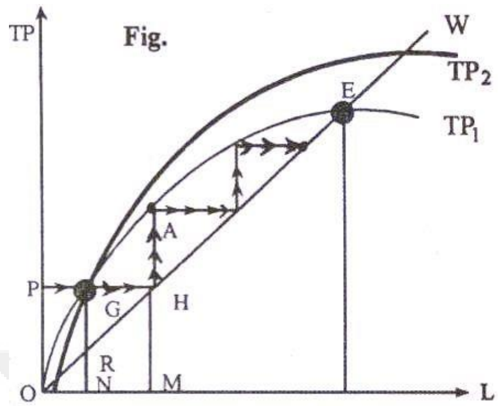

Figure 1.1: Neo-classical growth structural model

Implicit in its assumptions are constant returns to scale, diminishing marginal product, and the essentiality of inputs like labor, capital, and technology for sustained growth. However, criticisms of this model arise in the real-world context. Lucas (1990) challenges its prediction of substantial capital flows from developed to developing nations, arguing that actual flows are often smaller due to restrictions in many poor economies. Moreover, the anticipation of significant capital surges with liberalized capital accounts faces scrutiny, as observed capital inflows don't consistently align with the model's predictions. This study deviates from the Neoclassical method by focusing on absorptive capacities and examining inconsistent for example trade transparency, institutional quality, and personnel preparedness. The findings offer understandings in what way in foreign direct investment (FDI) impacts EG in Somalia.

Particularly from the perspective of examinations on how FDI impacts Somalia's economy, the Solow-Swan Growth Model provides a helpful context for understanding the dynamics of EG. The theory's emphasis on the interplay of labor, capital, and technology aligns with the study's objective of assessing the effects of FDI, a significant external factor, on Somalia's economic growth (Solow, 1956). According to the Neoclassical Growth Model, capital accumulation is crucial for determining economic growth, which is directly relevant to the study's focus on FDI as a form of capital inflow. The model's assessment of technology as a productivity factor aligns with the study's examination of the relationship between FDI patterns and their effects on Somalia's economic expansion.

Adopting the production function propagated in the Neoclassical Growth Model, the study can quantitatively measure the relationship between FDI, labor, capital, and technology, providing a structured and theoretical foundation for analyzing the specific research questions related to inflation, trade, exchange rates, and population growth in the Somali context. The Neoclassical Growth Model enhances understanding of the correlation concerning FDI and EG in Somalia by taking a comprehensive approach to economic variables.

1.5.3 The Capital Arbitrage Theory

Based on concepts from global commerce, the Capital Arbitrage Theory proposes that prospective foreign investors should reallocate the value of their holdings in reaction to changes in investment's return. (Reinganum, 1981). This theory, advanced by proponents such as Kindleberger and Hymer, contends that capital tends to flow from states with a surplus to those with a deficit, seeking higher productivity until rates of return are equalized (Kindleberger, 1969; Hymer, 1976). A key assumption underlying this theory is that investing enterprises possess management skills or technological advantages, enabling them to exploit these strengths in foreign economies. Leveraging such advantages, these enterprises aim to capitalize on disparities in rates of return and contribute to global capital flow dynamics.

However, the Capital Arbitrage Theory is not without criticisms. Some scholars argue that the theory oversimplifies the complexities of international capital flows, neglecting factors like political instability, regulatory environments, and cultural nuances that also influence investment decisions (Cohen, 1990). Furthermore, critics contend that the assumption of equalizing rates of return oversimplifies the intricate realities of global economic dynamics, challenging the theory's applicability in certain real-world scenarios. Despite criticisms, the Capital Arbitrage Theory remains influential in understanding how capital movements, driven by perceived advantages, shape the global investment landscape.

Capital arbitrage theory in foreign direct investment (FDI) explores the equilibrium allocation of capital for arbitrage, as presented by Acharya, Shin, and Yorulmazer (2013). According to this concept, it might be advantageous to hold liquid cash to buy assets when prices are low, but there are expenses associated with these purchases that must be sacrificed. Limited arbitrage capital and sporadic fire sales are the results of this trade-off. Multinational arbitrage is supported by the study of Baker, Foley, and Wurgler (2009) as a feature influencing FDI patterns, showing that FDI flows rise in tandem with source-country stock market prices. Siv, Shukla, and Jamaleh (2019) further contribute by identifying four key elements of monetary theories on FDI, including exchange rate variables, portfolio theory, behavioral finance, and the internationalization path of monetarily deprived conglomerates in developing states. However, the literature acknowledges hypothetical contradictions and geographical biases, emphasizing the need for context-specific inclusion of fiscal aspects in FDI research until the effectiveness of monetary markets is settled (Marandu and Ditshweu, 2018; Acharya et al., 2013; Baker et al., 2009; Siv et al., 2019).

The Capital Arbitrage deals a crucial foundation for comprehending the dynamics of FDI on Somalia's EG because of its links to international trade. The hypothesis highlights how capital flows in reaction to changes in return rates, which addresses the first research question. This helps analysts analyze FDI patterns. It predicts that capital will flow from capital surplus to deficit nations, aligning with the Neoclassical Growth Theory's emphasis on capital accumulation. Additionally, for the second question, the theory aids in assessing how the FDI, driven by management skills and technological advantages, influences economic growth by exploiting these advantages in foreign economies. This dual perspective enriches the study's comprehension of FDI's impact on Somalia's economic landscape.

1.5.4 Endogenous Growth Models

Endogenous Growth Models represent an alternative paradigm addressing empirical and policy challenges posed by the basic neoclassical model. Within this framework, the Rebelo Growth Model highlights a linear relationship between capital and output, enabling sustained growth without relying on exogenous technical changes. It underscores the influence of factors affecting the marginal product of capital on sustained growth (Rebelo, 1987). In contrast, the Romer Growth Model adopts a learning-by-doing approach, asserting that knowledge generation positively correlates with economic activity scale and proportional capital accumulation, facilitating sustained growth without exclusive dependence on external technological changes (Romer, 1986).

However, the Rebelo model has faced critique for justifying constant returns to reproducible factors in the presence of fixed factors. On the other hand, Romer's model acknowledges spillovers, allowing for constant returns at the firm level with overall increasing returns (Romer, 1994). These endogenous growth models bring nuanced perspectives to the study of FDI in Somalia, suggesting that sustained growth can emanate from factors beyond traditional neoclassical assumptions, providing a richer understanding of economic dynamics (Rebelo, 1987; Romer, 1986, 1994).

1.5.5 The Internalization Theory of FDI

According to Buckley and Casson's (1976) internalization hypothesis, businesses create internal markets to replace absent exterior marketplaces. This theory, emphasizing the development of specific advantages, is rooted in three propositions: firms maximize profits in imperfect markets; imperfect intermediate product markets incentivize internal markets; and internalization across the world leads to Multinational Corporations (MNCs) (Rugman, 1979). The main advantage lies in reducing the risk of information dissemination, addressing situations where external markets fail to provide an efficient environment for business objectives. Hierarchies emerge when markets for intermediate products are absent or inefficient externally, with negligible transaction costs within firms (Marandu & Ditshweu, 2018).

This hypothesis elucidates foreign direct investment (FDI) as firms replacing market transactions with internal ones, particularly to overcome imperfections in intermediate input markets (Buckley & Casson, 1976). In today's corporate environment, a variety of interconnected tasks, such marketing and research, are connected by flows of intermediate goods, which are frequently information and expertise. Market imperfections, especially in pricing some types of intermediate products, create an incentive to bypass external markets and establish intrafirm markets to safeguard technology and knowledge (Rugman, 1981).

Internalization theory, which is closely related to the firm's concept , explains why corporations exist. According to Coase (1937) and Williamson (1975), internal processes are more effective than markets at arranging transactions under certain transaction costs. International businesses and foreign direct investment (FDI) are the outcome of transnational market internalization, which continues until benefits outweigh costs. Agarwal (1980) details benefits like avoiding time lags and government intervention, while costs include administrative and communication expenses. Rugman (1980) contends that most FDI hypotheses are special cases of internalization theory, acknowledging its generality but emphasizing the need for precise conditions and restrictions for empirical testing (Agarwal, 1980; Rugman, 1986; Buckley, 1988).

Testing internalization theory involves comparing gains from FDI and non-FDI modes. Advocates argue that FDI modes reduce the risk of information dissemination, while critics prefer non-FDI modes due to high agency costs. Waheed's (1992) results reveal significantly higher abnormal returns to shareholders with non-FDI modes, contributing to the ongoing debate about the efficacy of different expansion strategies (Waheed, 1992).

1.6 Conceptual Framework

The enhanced Solow (1956) model serves as the conceptual foundation for this study's analysis of Somalia's economic dynamics, highlighting the critical role that capital plays in economic growth. The capital stock comprises human capital (K~) and physical capital (Kf), which includes both domestic (Ki) and foreign-owned capital (K~). The Cobb-Douglas production function, considering foreign-owned, domestically-owned capital, and human capital, forms the basis for analysis (Brown, 2017). Assuming constant returns to scale, the production function takes on an intense form that makes it possible to investigate the connection between institutional quality (IQ) and economic advancement and FDI. Adams and Fillipe (2005). Hájková and Hurník (2006) add that total factor productivity is modeled to depend on FDI, institutional quality, and other extraneous variables. This framework facilitates testing whether FDI contributes to economic growth via institutional quality.

As shown Figure 2.2, the study focuses on independent variables such as FDI, inflation, trade, exchange rates, and population growth. Inflation is examined through various types, while trade dynamics are examined through export-orientation, import-dependence, and the impact of trade agreements. Exchange rate dynamics are examined through free-floating and fixed exchange rate systems. Population growth is segmented into expansive, constrictive, and stationary categories. The study also incorporates a moderating variable, the domestic environment, which includes factors such as financial sector deepening, politics and governance, trade policies, technology transfer, innovation, and social factors. These factors are considered influential in shaping the relationship between the study variables, economic growth measured through Real GDP.

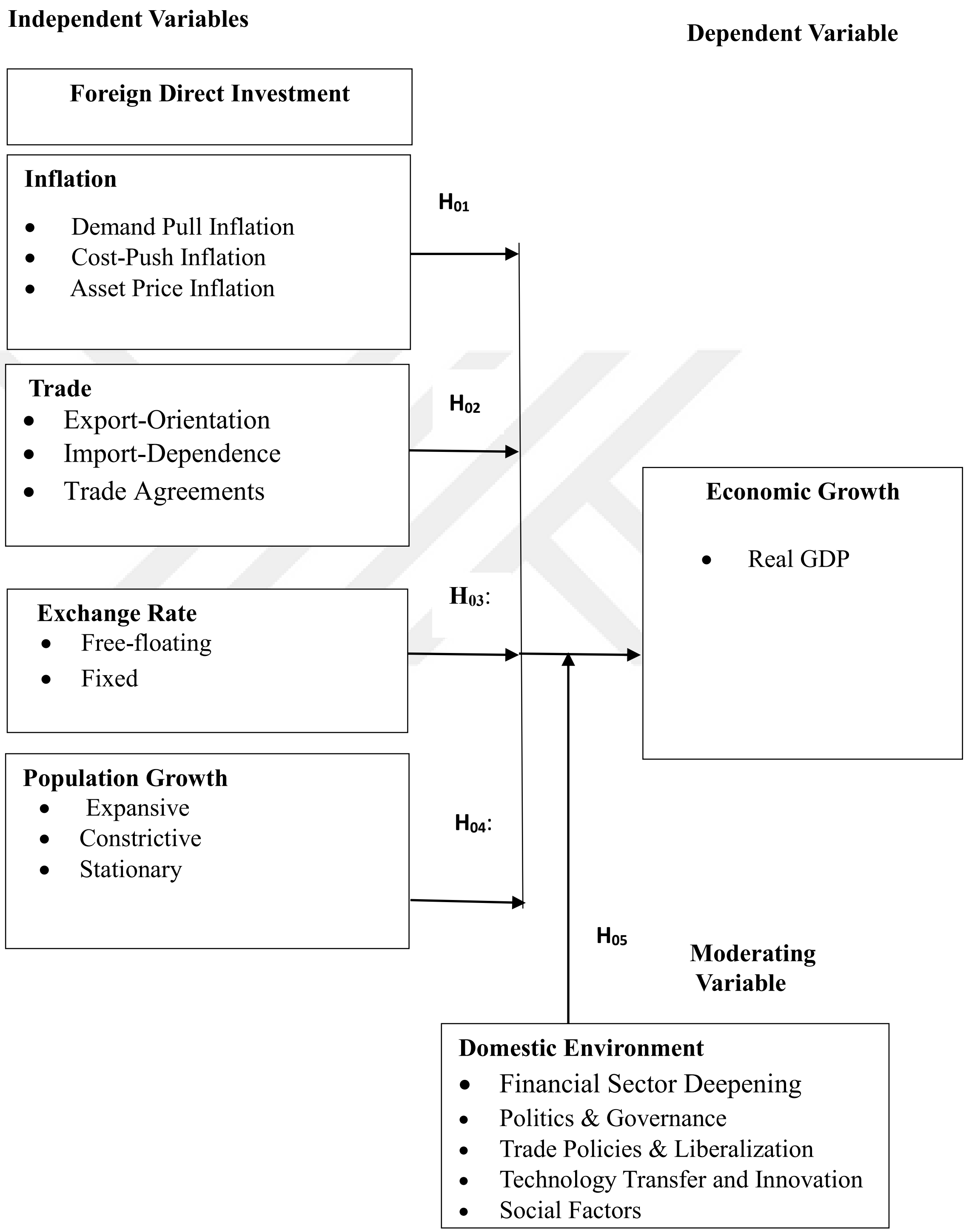

Figure 1.2: Conceptual Framework

1.7 Empirical Analysis and Research Gap

Ibrahim, Omar, and Ali (2017) examine the elements affecting foreign direct investment (FDI) in Somalia using a 41-year time series spanning from 1970 to 2010. It finds that there is a substantial advance correlation with currency rates and foreign direct investment, but a positive correlation with inflation, outside debt, and domestic investment. To draw in FDI and improve financial stability, the report advises enacting strict fiscal and monetary policies, managing currency rates, and maintaining stable governance. Due to Somalia's distinct historical and political setting, the study's contextual analysis and generalizability are restricted. It also neglects to examine non-linear linkages or changes in the global economy.

Södertörn (2020) uses panel data from 2006 to 2017 and a static effects regression model to examine the aspects impacting economic growing in sub-Saharan Africa. While variables like population growth and life expectancy significantly impact growth, others, including foreign direct investment and corruption levels, show influence without statistical significance. The study identifies significant variables affecting growth but fails to thoroughly address the causality or directionality of these relationships. Additionally, the lack of statistical significance for certain factors, such as foreign direct investment and corruption levels, raises questions about the robustness of the model.

Examining FDI's impact on economic growth in post-civil war Somalia, Mohamed and Isak (2017) find a negative correlation between FDI and progress utilizing sectoral data from 1980-2015. The study suggests a weak policy link between real GDP and FDI, urging Somalia's government to implement reforms and infrastructure improvements to maximize FDI benefits. The analysis finds a negative The link among growth and FDI, but it is unable to shed light on the underlying mechanisms or plausible mediating factors. Mayow's (2021) study examines the effect of Foreign Direct Investment (FDI) on Somalia's economic performance, finding positive short- and long-term effects on growth. Despite historical instability, Somalia is attracting FDI for economic progress, and the study recommends further encouragement of FDI through incentives. Other studied factors, except inflation, also show positive effects on Somalia's economic growth.

Nonetheless, the study does not extensively address the potential endogeneity between FDI and EG, leaving room for alternative explanations observed positive effects.

Between 1990 and 2019, Warsame (2023) looked into how Somalia's GDP, population growth, gross foreign direct investment (FDI), renewable energy, and GDP all affected the country's carbon dioxide emissions. Results point to the detrimental consequences of renewable energy on environmental deterioration, as well as the negative effects of domestic investment and population increase. Yusuf (2023) determines the short- and long-term co-integrations by adopting ARDL bounds tests on spa periodical statistics spanning from 1990 to 2019. Results reveal that population growth, foreign direct investment, GDP, and inflation significantly impact unemployment, urging policymakers to control population growth and enhance investment for unemployment reduction in Somalia. The study could benefit from a more comprehensive examination of the intricate interplays among these factors and the potential interactions that may impact employment dynamics.

The study by Amade and Bakari (2019) examines how population expansion in African nations from 1980 to 2015 affected economic growth. The results, which make use of dynamic panel data models, show that while fertility has a negative effect, population expansion and economic growth are positively correlated. The study suggests adopting pragmatic policy measures to enhance population productivity for demographic dividends. In contrast, Nyoni (2019) analyzes Somalia's population dynamics using the ARIMA approach, forecasting a significant rise in the next three decades. To avoid the Malthusian population trap, policy recommendations are proposed. Nyoni's (2019) use of the ARIMA approach, a statistical time series forecasting technique, may oversimplify complex factors like socio-economic conditions and cultural shifts. The study's focus on forecasting a significant population increase over three decades raises questions about the model's accuracy.

Additionally, Easterlin's (1967) historical analysis emphasizes the complexity of the population growth-economic development relationship in developing countries, urging further research for a nuanced understanding. While foundational, the study's age and the evolving nature of global development dynamics necessitate a critical perspective on the contemporary relevance of its findings to present-day contexts like Somalia.

According to Ali's (2022) research, there was a negative correlation between foreign aid and Somalia's economic progress between 1991 and 2020. The report recommends reorienting the discussion of economic development from a dependence on aid to capital generation, skilled labor, and technological advancement. Omar (2018) examines how foreign direct investment (FDI) has boosted Somalia's economic expansion and suggests monetary and fiscal measures as well as staff development to draw in additional capital. Nur's (2022) thesis on FDI's impact on agricultural output in Somalia finds a strong positive relationship, suggesting government incentives to stimulate foreign investment in agriculture for sustained economic growth.

Mohamed, Abdulle, and Abdullahi's (2023) study on factors influencing FDI inflow in Somalia from 1980-2017 finds unidirectional Granger causality from FDI to GDP, import, and export, indicating FDI's influence on economic growth. Basnet and Upadhyaya (2014) investigate remittances and FDI in middle-income countries, finding no overall significant impact but positive effects for African countries. Sanga and Aziakpono (2023) reveal institutional factors significantly influence financial deepening in Africa, highlighting the importance of strengthening these factors for debt financing, especially for small enterprises.

CHAPTER TWO

2.0SOMALIA'S ECONOMY AND THE ROLE OF FDI

2.1 Historical Roots and Post-War Challenges

2.1.1 Tracing Somalia's Economic History

During the colonial era, Somalia's economic landscape bore the imprint of Italian and British influences (Issa-Salwe, 1996). Italy controlled the southern region, while Britain governed the north (Kurtulus, 2012). Despite these colonial powers' presence, foreign economic investment remained limited. In the early 20th century, Italy's attempts at economic development, including settlements for Italian citizens and agricultural projects, were modest, leading to primitive agriculture, fishing, and subsistence pastoralism (Webersik, Hansen, & Egal, 2018). The British, administering Somaliland, focused on strategic interests and faced minimal investment challenges, mainly allocating resources to suppress the dervish rebellion (Samatar, 2018).

Plantations and the emergence of an official elite with salaries were the two main economic changes brought about by colonialism (Issa-Salwe, 1996). Plantations, initiated in 1919, saw success in the Shebelle Valley, producing cotton, sugar, and bananas (Brandt, 1988). However, the impact of these products in the international market was limited. The colonial period also witnessed the emergence of a stable petty bourgeois class and a small urban petty bourgeoisie (Ingiriis, 2016). The Italians invested in salt extraction in Hafun and promoted auto competitions to showcase Italy's technological prowess. Additionally, a notable achievement was the development of a vehicle-intensive manufacturing hub in Mogadishu.

2.1.2 Economic Development during Italian Trusteeship

In the 1950s, under the Italian Trusteeship, Somalia experienced positive growth in infrastructure and education, aided by UN funds and experienced Italian administrators (Urbano, 2017). The establishment of institutions like the Somali National Bank marked a shift toward economic independence. The foundation for higher education was established by Italian-led projects like the federal Institute of Legal, Economic, and Social Studies. The "Fiera della Somalia" in 1952 and increased exports of sugar and bananas in 1959 reflected economic vibrancy. Indro Montanelli described this period as Somalia's Golden Age, citing population growth, reduced illiteracy, and economic progress (Metz, 1952).

Due to special benefits brought about by the conditional return of Italian rule to southern Somalia, Somalis were able to learn about politics and gain experience with self-government. The establishment of the Somali National University in 1954 marked a crucial step in higher education. Despite later challenges, the Italian Trusteeship period contributed significantly to Somalia's economic and social development, leaving a lasting impact on the nation's trajectory (Besteman, 1999).

2.1.3 Economic Development 1960 to 1969

In the years following Somalia's independence in the early 1960s, the nation faced economic challenges, operating at a near subsistence level (Mohamed, Abdulle, & Abdullahi, 1963). Due to the state's difficulties collecting taxes from farmers and herders, it became dependent on customs duties from foreign commerce. Subsidies from Italy and Britain were very important; in the first three years of the new country's budget, they accounted for almost 31% of total spending. Towards 1963, an ambitious development plan with an emphasis on infrastructure- including highways, ports, transportation hubs, and irrigation projects—had been formulated thanks to grants and loans from both Eastern and Western nations (Farah, 2016). Among the noteworthy achievements were the rise in cattle exports, which surpassed bananas as Somalia's top export. However, the 1960s also brought disillusionment, with challenges such as dependence on foreign assistance, a surge in imports of foreign grains, and concentration of livestock in northern Somalia, leading to rangeland degradation (Samatar, 2016).

2.1.4 Scientific Socialism 1970 to 1975

Following his 1969 revolution, Siad Barre proclaimed Somalia a Socialist State in 1970, emphasizing job creation and economic growth. He unveiled the 1971–1973 Three-Year Plan, nationalizing sugar refineries, banks, insurance providers, and petroleum distribution corporations (Ahmed & Green, 1999). Pastoralists were reassured by the neologism for socialism, "hantiwadaag," that their livestock would not be nationalized. Because of the little scale of the contemporary economy, nationalization was more symbolic than revolutionary even with a liberal investment rule in 1972. Cooperatives became a crucial element of socialist economic growth when the 1973 Law on Cooperative Growth began to subsidize the agriculture sector significantly. However, the pastoral sector was severely damaged by the drought of 1974–1975, which prompted international relief efforts. The government transported nomads to agricultural and fishing cooperatives in the south, supported by international aid. Despite economic successes in the first five years, progress was uneven, with fluctuations in banana exports despite various agricultural programs.

2.1.5 The Socialist Revolution After 1975

The socialist revolution in Somalia petered out in the middle of the 1970s as a result of things like ideological purge, corruption, and a change in emphasis toward "liberating" the Ogaden (Samatar, 2016). The country had to deal with problems including a drought, growing foreign debt, and the demise of the minor manufacturing sector. The debt of the nation reached an astounding 75 years' worth of profits from banana exports. Due to this debt load, Somalia's macroeconomic structure became uncontrollable and it became more difficult to attract international capital (Adamu, 2009). The manufacturing sector also saw a downturn; by 1978, 20% of all exports were made up of produced items. The effects of the Ogaden War caused a drop in the production of a number of items, including sugar, cigarettes, canned meat, cigarettes, matches, canned fish, textiles, milk, and pasta. These factors helped boost the nation's economy situation in the 1970s.

2.1.6 From Scientific Socialism to "IMF-ism" 1981-1990

After the Ogaden War, Somalia lost its affiliation with the Soviet Union due to the chaos of its socialist agenda. As a result, it turned to the West and looked to the IMF for structural adjustment programs for help. A trend toward IMF influence began in 1980 when Somalia signed a standby macroeconomic policy agreement with the IMF. Some policies were terminated by the government through subsequent standby agreements, but difficulties were encountered implementing the 1984 IMF extended credit facility, and in 1985 the government canceled a US $183 million agreement because of concerns regarding the military budget (Library of Congress, 1993).

In 1985, the Paris Club restructured debt through devaluation and the creation of a free foreign currency market. In 1986, many initiatives were initiated, including a foreign exchange auction system and an agriculture sector adjustment program. Somalia's transition toward "IMF-ism" persisted in the face of increasing international demand for privatization, with the IMF and AID being crucial in promoting changes (Ahmed, 2013).

Somalia's agricultural output was uneven between 1987 and 1989, with staples including corn, sorghum, and sugarcane continuing to be important. The two main exports, cattle and bananas, made for around 80% of the foreign exchange gained. There were shortages of goods across the country in 1989 and 1990 as a result of the civil war, which stopped cattle exports from northern Somalia (Tyndall, 2020). When the Siad Barre administration was overthrown in 1991, clan strife intensified and the economic crisis got worse (Metz, 1992).

Hussein (2023) examines the social and economic developments in pre-Islamic Somalia. Using information from linguistic, genetic, archeological, and historical document sources, the chapter disproves theories regarding the origins of the Somali people and sheds insight on their pre-Islamic socioeconomic structure and interactions with the Arabian-Mediterranean area.

Significant economic progress was made in Somalia between 1950 and 1959 under the Italian Trust Administration. A significant event that legally integrated Somalia into the Somali Public Law Institution was the founding of the Cassa per la Circolazione Monetaria della Somalia in 1950 (Gorman, 1981). The establishment of "Somalia Credit" in 1954, which altered the financial scene, was another significant event. The completely autonomous Republic of Somalia was created in 1960 as a consequence of the union of Italian Somalia and Somaliland. The National Bank of Somalia was established in 1960 as a result of Italian influence, combining central and commercial banking (Ahmed, 2019). The 1950s saw significant growth in infrastructure and education, supported by United Nations assistance and skilled Italian administrators. Indro Montanelli described this era as Somalia's golden age, characterized by population growth, reduced illiteracy, economic prosperity, and social progress.

In his analysis of Somalia's economy between 1960 and 1990, Muhumed (2018) finds a recurring trade imbalance that is fueled by the country's reliance on foreign borrowing and aid. The difficulties arising from reliance on the export of manufactured products and the import of commodities are reflected in the balance of payments deficit, which amounted to 22% of GDP in 1985. This article examines the ways in which protectionism, recessions, and changes in global markets impacted Somalia's economy throughout this time. In his exploration of Somalia's past and present, Khayre (2016) highlights the significance of comprehending the underlying reasons of the protracted issue. The study looks at the circumstances that led to the Somali governmental's collapse in 1991, assesses human rights records, and looks at the difficulties of reestablishing governmental institutions that have fallen apart.

2.1.7 Economic Disruptions during the Civil War

Djama (2007) examines the economic aspects of the war in "Political Economics of War and Peace in Somalia," covering the period from the breakdown of the Siyad Barre regime in 1991 prior to the establishment of the A Transitional Federal Government (TFG) in 2007. The examination shows how economic interests, cartels, and difficulties facing the TFG in post-conflict administration have changed over time. The 2006 report by

Candlelight for Health, Education & Environment assesses the effect of the 1988–1990 internal conflict and the subsequent conflict (1994–1997) on Somaliland's natural resources. The productivity of crops and livestock fell, wildlife suffered, and the fishing sector weakened. Soil deterioration, disputes over resource ownership, and the loss of farming equipment were among the problems brought on by war. Recommendations for reducing environmental deterioration and protecting natural resources are included in the study's conclusion.

2.1.8 Rebuilding Post-Conflict: Challenges and Opportunities

The main pillars of Somalia's informal economy include telecommunications, remittance/money transfer businesses, and livestock. Internal income collection is a challenge for the government, and as of 2017 (Federal Government of Somalia, 2019), the anticipated external debt of the country was 77% of GDP. With 40% of the GDP and more than 50% of export revenue coming from it, agriculture is the most significant industry. There has been an increase of petrol stations, shops, and airline routes to Turkey in Mogadishu, the capital of Somalia. Up to $1.6 billion in remittances are handled yearly by telecommunications companies, who also offer cellular services and money transfer/remittance services. Somalia had a record level of international investment and help in 2017, a sign of the country's economic revival. Kamwende's (2014) explores the relationship between Somalia's war economy and security challenges in Kenya. Focusing on factors like terrorism, piracy, and radicalization, the study employs both qualitative and quantitative methods, gathering insights from NGOs, government officials, security agencies, and the corporate world. The research aims to comprehend the nature and effects of security threats arising from Somalia's war economy.

2.1.9 Current State: Somalia's Economic Landscape

The United Nations has designated Somalia as a least developed nation, and the country's history of civil unrest has left it facing significant economic difficulties (World Bank, 2018). The economy of the nation is a blend of traditional and modern production, with a population that is primarily reliant on agriculture and livestock (Central Bank of

Somalia). Pastoralists who are semi-nomadic or nomadic make up about 80% of the population and work at jobs like gathering resins and herding goats (Central Bank of Somalia). The private sector, fueled by Somali diaspora investment, has seen significant growth in various industries, including trade, money transfer services, transportation, and telecommunications.

Economic indicators demonstrate how violence and state failure have an influence; in 1990, with a GDP of $917.0 million in 2017 and an estimated annual GDP of $6.2 billion in 2018, Somalia is classified as low-income (World Bank, 2018). However, the nation's GDP per person remains low, ranking fourth in the world at $284, and over 43% of people live on less than $1 per day, with large differences between rural and urban areas (World Bank, 2018). The Human Development Index (HDI) paints a bleak picture, with Somalia having a "strikingly low" HDI value of 0.285 as of 2012 (UNDP, 2012). Inequality across social groups has been widening, contributing to conflicts, and an estimated 73% of Somalis lived below the poverty line in 2016 (IMF, 2023).

State collapse has been a double-edged sword for Somalia. While some argue that the absence of a predatory state improved economic welfare (Smith, 2015), challenges persist. The absence of formal financial services and regulatory frameworks hampers investment and access to international capital markets (Drazen, 2007). Libertarian economists posit positive indicators in the period of statelessness (Leeson, 2007), but critics argue for a nuanced analysis considering regional and international factors (Menkhaus, 2006).

Agriculture, contributing about 65% to the GDP and employing 65% of the workforce, is the linchpin of the economy (World Bank, 2018). Livestock, fish, charcoal, and bananas are principal exports, with Somalia's geographical advantage positioning it as a competitor in the Arabian Peninsula's livestock market (World Bank, 2018). Manufacturing, comprising 10% of Somalia's GDP, suffered during the civil war, but Somali diaspora investment has revived small-scale plants (World Bank, 2018).

The industrial sector includes fish canning, meat processing, and various factories producing pasta, mineral water, confections, and more (Maxwell et al, 2015). Foreign investments from companies like Coca-Cola, General Motors, and Dole Fruit signal growing business confidence (World Bank, 2018). Further, the aviation industry once crippled by the civil war, has seen a resurgence with private carriers like Daallo Airlines and Jubba Airways (World Bank, 2018). Similarly, construction activities, predominantly in Mogadishu, have increased with improved security conditions. Telecommunications, though disrupted during the war, has been revitalized by Somali entrepreneurs with international support (World Bank, 2018). With a local tele-density that is higher than that of its neighbors and around 25 mainlines per 1,000 people, Somalia is a country that is seeing economic progress.

The US dollar and the Somali shilling coexist in the financial industry, which is led by the federal reserve of Somalia (World Bank, 2018). With an estimated $1.6 billion sent to Somalia each year, remittance companies, or hawalas, are crucial (World Bank, 2018). Dahabshiil, the largest money transfer operator, operates globally and contributes significantly to the Somali economy. As the central bank assumes monetary policy responsibilities, existing money transfer companies may transition into commercial banks, expanding the national payments system (World Bank, 2018).

Somalia's remarkable economic recovery includes a strengthening currency, increased investments, and the establishment of the Somalia Stock Exchange in 2012 (World Bank, 2018). Natural resources, including untapped reserves of uranium, iron ore, and oil, present opportunities for future growth. The first formal oil exploration project in Puntland was sanctioned by the Farole government in 2012, and oil was discovered during the first round of successful drilling (World Bank, 2018).

Established in 2012, the Somalia Stock Exchange seeks to draw capital for reconstruction efforts following a conflict (World Bank, 2018). It wants to produce halal stocks and sukuk bonds that comply with Sharia in partnership with the Nairobi Securities Exchange. It also seeks technological improvement (World Bank, 2018). If properly managed, Somalia's undeveloped natural resources might be essential to the country's economic recovery (World Bank, 2018).

In summary, Somalia's economic journey reflects a complex interplay of historical conflicts, state collapse, and the resilience of its people. Despite ongoing challenges, the country has witnessed economic revitalization, driven by a dynamic private sector, diaspora investment, and strategic natural resources. The path forward involves addressing inequalities, improving institutional frameworks, and leveraging untapped resources for sustainable development.

2.2 Comprehending Foreign Direct Investment (FDI)

2.2.1 Motives of Foreign Direct Investment

Purchasing property and other assets in another nation in order to get direct control is known as foreign direct investment (FDI) (Kishor & Khan, 2020). It differs from foreign portfolio or indirect investment by the level of control exerted (Ali, 2020). FDI can be achieved by purchasing a company or expanding existing operations, including mergers, acquisitions, new facility construction, profit reinvestment, and intra-company loans (Jones, Serwicka, & Wren, 2020). It encompasses equity, long-term and short-term capital, often involving management participation, joint ventures, and technology transfers. Different from foreign portfolio investment, which entails passive securities investment abroad, FDI is a part of the global factor movements.

Pananond (2015) challenges the traditional view of FDI motives, focusing on emerging market multinational enterprises (EMNEs). It argues that EMNEs' weak position and reliance on lead firms in global value chains influence their FDI motives. EMNEs' decisions are influenced by their initial value chain position and dynamic relationships with lead firms, shaping their FDI motives and strategies. FDI motives are classified into three categories by Franco, Rentocchini, and Vittucci (2011): market, non-marketable asset, and resource-seeking. They critique the lack of a unified framework in existing literature and examine various factors influencing FDI decisions, providing insights into motive-based FDI strategies.

Gorynia, Howak, and Wolniak (2007) conduct an exploratory study on seven multinational corporation (MNC) subsidiaries entering the Polish market in the early 1990s. Their analysis, using within-case and cross-case approaches, generates hypotheses for future research on larger samples of MNC subsidiaries. Hill and Munday (1994) explore the motivations for FDI and its distribution, offering developmental contributions to a theory explaining firms' FDI engagement. Understanding these motivations can provide insights into firms' location choices for FDI.

2.2.2 Types of FDI

According to the host and investor nations, there are several ways that foreign direct investment (FDI) might take shape (Herger & McCorriston, 2014). According to Vasyechko (2012), investor-side classifications include conglomerate, vertical, and horizontal FDI. In order to generate comparable items, horizontal FDI copies the industry chain from the home country in the target country. According to Subhanij and Annonjarn (2016), vertical foreign direct investment (FDI) happens when a multinational purchases a business in order to promote its products through distribution channels or to take use of natural resources. Both horizontal and vertical FDI components are combined in conglomerate FDI. The categories of destination countries are government-initiated FDI, import-substituting FDI, export-increasing FDI, and platform FDI, which involves investment for exporting to a third country.

FDI is facilitated by several strategies. By creating a fully owned subsidiary, purchasing stock in a related company, merging or acquiring another company, or taking part in an equity joint venture, investors can get voting power (Calimanu, 2021). According to Patterson et al. (2004), financial and land subsidies, tax holidays, Overseas manufacturing regions, special economic zones, adjustments, and favorable tariffs, low tax rates, relocation perks, and infrastructure assistance are some of the incentives that draw FDI and foster EG in the host nations.

The FDI literature identifies five main types, reflecting distinct international business strategies (Alfaro & Charlton, 2009). Greenfield FDI involves a parent company establishing operations from scratch in a foreign country. Acquisitions entail buying existing shares, excluding reinvestment of earnings and debt instruments. Mergers combine two firms into a new entity. Joint ventures occur when no single party possesses all assets for a business opportunity. Consortiums are project-based ventures by multiple partners. These strategies offer companies flexibility in global markets and adaptation to various business environments.

2.3 Factors to Consider in Choosing FDI Destinations

China's investment in Africa surpasses that of the continent's top three investors combined, indicating a significant presence and interest in the region. Multinational corporations (MNCs) consider various factors when deciding on international Investment destinations. A few of these elements are market size, trade conditions, economic stability, availability of human resources, quality of institutions, and potential profit retention (Cavusgil et al., 2017; Morisset & Pirnia, 2000). Market size contributes greatly to recruiting FDI, with larger markets offering economies of scale and becoming more attractive for investment (Moosa, 2002; Scaperlanda & Mauer, 1969).

Institutional factors are increasingly recognized for their impact on economic performance and FDI attractiveness. Countries with weak public institutions often experience slower growth, reduced entrepreneurial activity, and less FDI (Wei & Shleifer, 2000). Conversely, countries with strong institutions are more appealing for FDI due to the favorable business environment they provide (Tun, Azman-Saini, & Law, 2012). Economic policy stability is another critical factor influencing FDI decisions, with macroeconomic stability being particularly relevant (Blonigen, 1997; Chakrabarti, 2001; Kinoshita & Campos, 2003).

Skilled labor availability and cost are significant factors in the human resource dimension of FDI. The labor cost hypothesis suggests that FDI is attracted to locations with low-cost labor (Asiedu, 2006; Kinoshita & Campos, 2003). Additionally, the openness of a country, indicating its engagement in trade, is positively associated with FDI, as it is seen to attract MNCs and align with global economic trends (Lo et al., 2013; Morisset & Pirnia, 2000). Overall, these factors collectively influence FDI decisions and shape the investment landscape in different regions.

2.3.1 FDI's Significance in Economic Recovery

It is well acknowledged that foreign direct investment (FDI), particularly in developing and post-conflict nations, as a major impact on economic recovery. Research implemented by Botelho et al. (2021) and Turner et al. (2008) highlights the capacity for international investment to stimulate economic revival, repair infrastructure, and decrease reliance on aid. In their 2020 study, Baiashvili and Gattini demonstrate the intricacy interplay of international investment economic development, and institutional quality. They find that institutional strength has an reverse-U-shaped influence on FDI. The assessment by Alfaro and Chauvin (2017) emphasizes how crucial local financial markets are for moderating the effect of international investment on economic development, particularly in developing states.

Yelpaala (2010) challenges traditional views on FDI in post-conflict transitions, advocating for policy shifts towards domestic, value-added investments. Jonas and Bunte's (2017) study on Liberia's post-conflict strategy reveals varying growth outcomes from FDI in the natural resource sector, suggesting the need for tailored approaches. Appel and Loyle (2012) explore the link between post-conflict justice institutions and FDI, finding that implementing such institutions signals stability to investors, boosting FDI levels in post-conflict periods.

In postwar environments, attracting FDI is challenging due to risks of violence and political instability. Moore (2021) argues for policy improvements in transparency, governance, and international aid engagement to accelerate FDI recovery. Hanna, Hammoud, and Russo-Converso's (2014) study on FDI in Iraq highlights challenges like security issues and corruption, indicating the need for improved government policies to attract FDI. Overall, these studies emphasize the multifaceted nature of FDI's impact on economic recovery and the importance of tailored strategies in post-conflict settings.

2.4 Strategies and Impact: FDI in Somalia

2.4.1 Government Policies and FDI

The National Development Plan (NDP9) for Somalia, which covers the years 2020–2024, contains development policies and initiatives that are essential to the country's economic expansion and efforts to reduce poverty (Nairobi AIC Organization, 2019). The Department of Economic Development, Investment, and Planning developed NDP9, which builds upon NDP8 (2017–2019), the country's first national plan since 1986. NDP8 was implemented after the New Deal Commitment for Somalia of 2013, which was in accordance with the country's political and developmental goals. The global policy agreement reached in Busan in 2011-in which development partners pledged to support development programs that are owned and directed by national governments-is the source of the New Deal Compact (Hearn & Zimmerman, 2014).

NDP9's main goal, according to Dalrymple and Thomas (2021), is to reduce poverty. Its four pillars are inclusive governance, legislation and safety, advancement in society, and increased GDP. Under the Heavily Indebted Poor Countries (HIPC) independence, NDP9 established as a temporary Poverty Reduction Strategy Paper in order to receive debt relief. The approach intents to restructure the financial sector by fortifying the conventional livestock and agriculture producing businesses' resistance to climate change challenges. It also promotes the expansion of the private sector, which helps to provide jobs and sustainable development.

Nonetheless, poor domestic revenue and spending present issues for Somalia. Compared to other sub-Saharan African nations, the Federal Government of Somalia (FGS) has a comparatively tiny budget per person (Delafortrie, 2021). For example, the planned 2020 budget of US$476.1 million is far less than those of nations with comparable populations, such as Rwanda. Compared to Somaliland's US$326.3 million, the federal budget for 2018 is US$286.1 million. This emphasizes how young the FGS is in contrast to Somaliland, whose government has been more established for a number of years (Dalrymple & Thomas, 2021).

The FGS finds it challenging to increase tax collection due to a weak formal economy, a non-existent domestic tax system, and fragile revenue-generating enterprises (Kimani, 2018). With a heavy reliance on agriculture, livestock, fisheries, energy, and communications, Somalia's economy is mostly unregulated and informal. With an anticipated 2.8% of GDP coming from domestic revenue in 2017, it is still very low. (Federal Government of Somalia, Somalia National Bureau of Statistics, 2022). The country has one of the lowest GDPs per capita among all countries. The main cause of the uneven tax compliance is the absence of an efficient tax administration system. Tax revenue collection is further hampered by low public trust in the government's capacity to deliver public services.

The FGS's spending trends show that administrative and recurrent costs predominate and that the social sector receives very little funding. In 2018, 36% of expenditure went toward operational costs, which included security costs, while 52% went toward administrative costs. The social sector received just 4.1% of the total budget. In 2018, state governments also gave social sectors very little funding, highlighting the necessity of ongoing assistance from development partners to build institutional strength and expand government-run social services (National Economic Council of Somalia, 2022).

2.4.2 Global Funding system

Somalia gets a sizable amount of overseas assistance and remittances, in recent years, the focus has shifted from immediate humanitarian crises to longer-term development initiatives (Enn Online, 2021). Remittances are an essential component of foreign financial support, along with official development aid (ODA) and security assistance. With a projected US$1.5 billion in remittances in 2018 and 2019, they account for one-third of Somalia's GDP, more than ODA and humanitarian aid combined. Remittances help around 40% of the population, mostly concentrated in certain lineages, clans, and extended relatives in Puntland and Somaliland (United Nations, 2021). The almost a million-strong Somali diaspora contributes significantly to the economy (Humanitarian Outcomes, 2023). In addition to increasing purchasing power for necessities, remittances make it easier to obtain credit, which is essential when there is no official banking system. However, the vulnerability of this income source is evident as it relies on the circumstances of the sender, and changes therein can impact the income stream.

Somalia reached a significant turning point in 2020 when, following thirty years of global lenders refusing to grant loan accessibility, its path to debt relief became a reality (Owino, 2023). Reaching the HIPC Initiative's decision point made it possible to regularly provide concessional funding and significantly lower foreign debt. It is estimated that until the completion point is reached, Somalia's external debt will decrease from US$5.2 billion (2018) to US$557 million in phrases for the net current worth (Humanitarian Outcomes, 2023). It not only allows Somalia to resume its relationship with foreign financial institutions, but it also denotes a shift in financing through the single treasury account of the Federal Government. Donors and UN agencies continue to exercise caution when it comes to using government mechanisms for funding and providing direct financial help, despite this encouraging improvement.

From 2009 to 2018, Somalia's ODA receipts have increased significantly, doubling from US$628.2 million to US$1.5 billion, with a peak of US$1.7 billion in 2017. The greatest portion of ODA has been humanitarian aid, which accounted for 51% of all ODA between 2009 and 2018 and 47% of ODA in that year alone. Additionally, there has been a steady rise in developmental ODA, which peaked in 2015 at US$773.9 million (European Union, 2020). The FGS is gaining traction internationally, and there appears to be a long-term trend towards increased development-oriented official development assistance (ODA).

The financial landscape is diverse; between 2009 and 2018, the United States donated the greatest amount of money, totaling US$2.3 billion, followed by the United Kingdom ($1.7 billion) and the institutions of the EU. Although their emphasis on construction endeaors or direct payments to national agencies differs non-DAC countries like Saudi Arabia, Turkey, and the EU have grown in significance as participants (Anyanzwa, 2023). The biggest amounts of Official Development Assistance (ODA) in recent years have gone to the FGS, Somaliland, and Puntland (U.S. dollars 219.2 million, 224.0 million, and 194.4 million in 2019), highlighting regional disparities (European Union, 2019). Galmudug and Hirshabelle, two states that are now experiencing war, get proportions that are significantly lower, highlighting issues with access and inadequate governance frameworks (Mahmood, 2019). The reliance on humanitarian structures for service delivery also plays a role in shaping ODA distribution.

The main purposes of security aid, which was projected to be worth US$1.5 billion annually in 2017 and exceeded ODA, consist of peacekeeping, counterinsurgency, and assistance to the Somali security sector (Bryant, 2019). The UN Multi-Partner Trust Fund and the Somalia Stability Fund are two examples of pooled money and crisis-financing structures that have been set up to support the national development goals of FGS.

Somalia has received substantial funding as a result of the Covid-19 epidemic; in 2020, approximately US$60.1 million in payments were recorded. Humanitarian aid makes up the most of official development assistance (ODA) to Covid-19; in 2020, 53% of aid reported to the International Aid Transparency Initiative (IATI) was in this form (NRC Global Assets, 2021). This emphasizes how important humanitarian structures are to the provision of services. Developmental Official Development Assistance (ODA) for the Covid-19 response rose during 2020, with the World Bank's report of transactions under the Somalia Crisis Recovery Project (2021) primarily responsible for the amount of US$20.6 million in Quarter 3. After the Covid-19 humanitarian response plan for Somalia was scaled up to US$784.3 million in August 2020, repurposing donor monies was a major factor in supporting the Covid-19 response (Federal Government of Somalia, 2020).

In summary, Somalia's economic landscape is intricately linked with its historical challenges, internal dynamics, and external support. The government's efforts to address these challenges through development policies, as outlined in NDP9, reflect a commitment to transforming the economy and reducing poverty. However, the journey is marked by financial constraints, limited domestic revenue, and the delicate balance of relying on international aid and remittances. The diverse sources of international financing, including ODA, remittances, and security assistance, provide both opportunities and challenges. While debt relief and increased ODA signal positive steps towards financial stability, there is still cause for concern about the government's ability to distribute monies fairly among various industries and areas (Delafortrie, 2021). The reliance on humanitarian structures for service delivery, particularly during the Covid-19 response, underscores the need for a coordinated and sustained effort to strengthen the country's institutions and promote long-term development (NRC Global Assets, 2021).

Moreover, Somalia's economic landscape is influenced by geopolitical dynamics, with non-DAC donors playing an increasingly prominent role (Ali, Dalmar, & Ali, 2018). The distribution of ODA among regions reflects the challenges of delivering aid in areas facing active conflict and highlights the importance of addressing access issues and strengthening government structures in these regions. As Somalia navigates its path to economic recovery, the ability of the government to establish and maintain robust structures are crucial, as are the contributions of the diaspora and the international community. (Muğurtay, 2022). Continued support, strategic planning, and a focus on resilience and sustainable development will be essential to break free from cycles of humanitarian crises and foster a trajectory towards lasting economic growth and stability.

2.5 Financial Sector Deepening

The private sector in Somalia contributes about 1.3% of the country's GDP, with mobile money being widely used and diaspora remittances reaching $2 billion annually. Even though the banking industry is still in its infancy, there is a growing public trust in official banking establishments, as seen by the $650 million in bank deposits recorded in March 2021. In recent years, the number of commercial banks that are registered and in operation has doubled, total eleven institutions. Still, the official banking sector contributes very little to the GDP of the nation. In contrast, poor nations like Somalia, where the ratio is less than 3%, may have credit to GDP ratios as low as 1%, showing the underdevelopment of the financial system and difficulties in obtaining credit for investments and expenditures.

From USD 650.3 million in 2019, liabilities to goods financing (lending to commercial enterprises) fell by ten percent in 2020. This decline in private sector loan demand might be impacted by COVID-19. In Somalia, financial aid from banks to businesses refers to the total amount of credit that banks give to individuals and businesses, excluding loans to the government. The share of local loans to GDP illustrates the relative significance of the banking sector in a few East African nations. A comparatively high percentage of businesses and people may obtain bank loans because to large banking sectors. A nation is deemed developed if its banking credit to the private sector is at least 70 percent; in certain advanced economies, this percentage can reach 200 percent. Generally, Somalia, domestic credit to private sector remains low, below 5% of GDP compared to peer countries such as Rwanda and Burundi.

From 2015 to 2022, Somalia's private sector credit grew steadily, reaching $650.3 million by 2019, indicating growth and a favorable FDI environment. However, from 2019 to 2022, it slightly decreased to $544.6 million, indicating a slowdown in private sector activity or a shift in investment priorities. This decrease may pose challenges for FDI inflows, emphasizing the need to address underlying issues to maintain investor confidence and promote economic growth.

Given that all financial institutions are subject to full regulatory authority by the Central Bank of Somalia (CBS), the microfinance field in Somalia is still relatively new and uncontrolled. MFIs are covered under CBS's mission under the updated Financial Institutions Law (FIL), which is now undergoing consultation. The industry is expanding as a result of private commercial banks operationalizing sections to meet the rising demand for microcredit from people and small companies. With 6 major microfinance institutions functioning in Somalia, NGOs are also quite important in this field. The establishment of GARGAARA Company by the Somalian government aimed to provide Micro, Small, and Medium-Sized Enterprises (MSMEs) with easier access to financing. However, the results of KII indicate that market-oriented initiatives have a greater impact than microfinance projects carried out by NGOs alone or in collaboration with other financial intermediaries. De-risking initiatives are continuing, and Gargaara Company has $100 million in approved share capital.

Somalia's mobile money is the primary financial tool, with three-quarters of the population over 16 using it, compared to only 15% using traditional bank accounts (Abdi, 2022). Businesses also rely heavily on mobile money, with 99% using it for transactions. Medium and small businesses use mobile money more than larger firms. According to a World Bank report, Somalia diaspora remittances are estimated at $2 billion annually. This reliance on mobile money has significant implications for FDI inflows, as it signifies a strong digital economy and could attract foreign investors in fintech and digital services sectors. However, challenges such as regulatory uncertainties and infrastructure development to support digital payments could hinder FDI growth despite the prevalence of mobile money (Mohamed & Nor, 2021).

According to Oxford Analytica (2018), the government's attempts to enact policy changes are hampered by issues like raising tax revenue and reconstructing the financial system to fund the development of the private sector and public services. However, tax-free activities will face resistance from the poorly regulated small business sector. The security improvements required for peace dividends might be compromised by the government's accrued wage arrears. Tax payment agreements made by telecoms and airlines may make other recalcitrant industries weaker. The promise of the thriving private sector is obscured by Somalia's standing at the bottom of the World Bank's commerce rankings.

CHAPTER THREE

METHODOLOGY

This chapter outlines the research's systematic approach and covers a number of related topics, including the study's design, data sources, data collection methods, the analytical framework for interpreting the data, model specifications, and the validity and reliability of the data.

3.1 Research Design

Research design refers to the entire framework and strategy for doing out a research study effectively and efficiently (Babbie 2016). In order to Assess the effect of FDI on Somalia's EG, the study uses a descriptive correlational design. In order to Assess the links among the parameters. and provide a response to the issue of how things are connected, descriptive correlational research design is a quantitative approach that makes use of surveys or observational methodologies (Miksza, 2023). This non-experimental approach was suitable for the complex interplay of variables, including inflation, trade balance, exchange rate, population growth, and economic growth. The design's emphasis on observing natural relationships without manipulation aligns with the study's goal of comprehensively analyzing historical data and employing statistical methods to comprehend Somalia's economic growth and the patterns in foreign direct investment (Hair et al., 2010).

3.2 Population and Sampling Design

3.2.1 Population

The population in this study relates to the entire set of elements that the research aims to investigate (Creswell, 2014). In the study, the population consists of economic indicators in Somalia, focusing on independent variables: Foreign Direct Investment (FDI), Inflation (INF) (INF), Trade Balance (TB, examined through export-orientation, import-dependence, and trade agreements), Exchange Rates (ER, free-floating and fixed systems), and Population Growth (PG, expansive, constrictive, and stationary categories).

3.2.2 Sampling Design

Sampling consists of selecting a subset of the population to represent the entire group. Purposive sampling, a non-occurrence sampling strategy, was utilized in this study specifically choose items based on predetermined criteria (Creswell, 2014). This approach allows targeted inclusion of data relevant to the inquiries for the study, ensuring ultimate awareness of the intricate relationships between variables. The sample consisted time series data spanning from 1970 to 2022, offering a significant temporal scope for the analysis. Purposive sampling was suitable for this study as it enables the inclusion of diverse data points relevant to the study goals.

3.3 Data Collection Methods

3.3.1 Data Sources

Using time series data, real GDP growth, foreign direct investment, inflation, trade balance, exchange rate, and population growth were all calculated for 1970–2022. The following official departments of the Federal Republic of Somalia as well as a few international organizations provided the study's secondary time series data and important information: World Bank Group (WBG), International Monetary Fund (IMF) Reports, United Nations Conference on Trade and Development (UNCTAD), World Investment Reports (WIR), International Financial Statistics (IFS), Central Bank of Somalia (CBS), and Somalia Investment Promotion Office (SIPO).

3.3.2 Data Collection Techniques

To fulfill the study's objective thorough analysis was carried out utilizing secondary data covering the years 1970 to 2022. The kind of research questions necessitate an in-depth exploration of historical trends and statistical relationships. Using quantitative data, the study looked at Somalia's economic development and FDI influx patterns throughout the given time period. Secondary data's strength lies in its ability to provide a broad temporal perspective, facilitating an extensive analysis of how Foreign Direct Investment (FDI), inflation, trade balance, exchange rates, and population growth, collectively contribute to or hinder Somalia's economic growth. The data collection process was systematic, utilizing a data collection sheet to ensure consistency and accuracy throughout the analysis.

3.4 Research Procedures

The core research procedures involve a systematic analysis of historical data from 1970 to 2022, employing quantitative methods to find out the relationships among trade balance, rate of currencies, population, inflation, and Somalia's economic growth. The inclusion criteria for this study encompass quantitative data from 1970 to 2022, specifically focusing on Somalia's Foreign Direct Investment (FDI), inflation, trade, exchange rates, population growth, and GDP growth. Only information obtained from reputable sources contributing directly to the research questions were considered. Conversely, exclusion criteria involve data outside the designated temporal scope, irrelevant or unreliable information, geographic irrelevance, and qualitative data, ensuring precision and relevance in addressing the study's objectives. These criteria aim to uphold methodological rigor and maintain the study's focus on quantitative analysis.

Ethical considerations include ensuring data privacy, obtaining necessary permissions for data use, and acknowledging data sources appropriately. Transparency in reporting findings, avoiding biases, and maintaining the confidentiality of sensitive information are integral ethical principles. Moreover, the study adhered to ethical standards in research by prioritizing the welfare of participants, promoting data accuracy, and ensuring that the research contributes responsibly to the understanding of Somalia's economic dynamics.

3.5 Data Analysis

The study's analysis of data is conducted applying numerical statistical methods. The analysis entailed two levels. Using Microsoft Excel, the first involved descriptive statistics including trend analysis, means, standard deviations and kurtosis. Specifically, time series analysis provided insights into temporal trends and patterns. The empirical analysis and ordinary least square (OLS) regressions were carried out utilizing annual data on GDP, FDI, INFL, TB, ER, and PG of Somalia from 1970 to 2022. This research used several tests in Eviews version 12 software to investigate the link between macroeconomic factors. Interest-related variables include GDP, FDI, INFL, TB, ER, and PG.

3.5.1 Explanatory Variables

An explanatory variable is what a researcher manipulates or observes changes in (Johannesson, Ohlson, & Zhai, 2023). Therefore, in this study, the main explanatory variable was FDI, while inflation, trade balance, exchange rate, and population growth are constructs explanatory variables that are hypothesized to influence economic growth.

3.5.2 Model Specifications

Using the variables listed in Table 3.1, the ARDL boundary test technique was used.

Table 3.1: Variables Used in the Analysis (Somalia, 1970-2022)

Variable	Definition	Source	Expected Sign
GDP	Real GDP per person (constant USD)	World Bank – WDI, The Central Bank of Somalia (CBS)	+
FDI	Net inward FDI inflows (as % of GDP)	UNCTAD - FDI Statistics, Somalia Investment Promotion Office (SIPO)	+
INF	Inflation rate (consumer prices, %)	World Bank - WDI	-
TB	Trade balance (as % of GDP)	World Bank - WDI	+
ER	Real effective exchange rate (index, 1970=100)	World Bank - WDI	+/-
PG	Population growth rate (%)	World Bank - WDI	+/-

Source: Researcher (2024)

Equation 1:

$$GDPt = \beta 0 + \beta 1FDIt + \beta 2INFt + \beta 3TBt + \beta 4ERt + \beta 5PGt + \in t$$

where:

- t indicates that the data are time series
- β0 is the constant coefficient of the model
- β1, β2, β3, β4, β5 are the coefficients of the independent variables
- εt is the error term

The constant coefficient of the model is denoted by β0, whilst the coefficient values of the independent variables are represented by β1,2, and 3. εt represents the model's error term. In this equation, our variables entailed time series data. In this case, the stationarity levels of the variables should be examined first. Stationarity can be defined as the fact that a variable's autocorrelation, deviation, and average remain constant throughout time. In other words, stationarity means that the value of the series fluctuates around its expected value.

Özarslan and Bayraç (2018) assert that analysis of time series that are far from stationarity often results in the spurious regression problem. In such cases, the differencing operation is applied to the series to guarantee consistency. However, these differencing operations eliminate the information contained in the series, in short, causing the connection between the series to disappear (Tarı & Yıldırım, 2009). For this reason, tests are used that state that non-stationary series can have stationary combinations and can be analyzed econometrically (Eriçok & Yılancı, 2013).

3.5.2.1 Unit Root Tests

With a critical value determined by MacKinnon (1991), the Augmented Dickey–Fuller (ADF) and Phillips Perron tests used the t-statistic to assess the null hypothesis of non-stationarity (determine if A sample of time series data has a unit root).

These assessments were used in accordance with Granger (1986) and Engle and Granger (1987), and they are augmented by the PP exam in accordance with West (1988) and Culver and Papell (1997). While the null hypothesis suggests non-stationarity by implying the existence of a unit root, the alternative hypothesis suggests either trend-stationarity or stationarity. The Dickey-Fuller test was expanded upon by this one, which may be applied to a greater range of time series models (Mwakabungu & Kauangal, 2023). Non-stationary data, which does not have unit root can result in spurious regression results.

The ADF statistic, a negative value, serves as the test metric. A more negative value signifies a stronger rejection of the unit root hypothesis at a given confidence level (Harvey, Leybourne, & Taylor, 2009).

The method of evaluating involves applying the ADF test to a model of the form:

$$\Delta yt = \propto + \beta t + \gamma y_{t-1} + \delta 1 \Delta y_{t-1} + \cdots + \delta_{p-1} \Delta y_{t-p+1} + \in t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(i)}$$

where:

- α is a fixed,
- β is the coefficient on a time trend,
- γ is the coefficient on the lagged dependent variable (GDP)
- $\delta p-1$ are coefficients on lagged differences, and
- p is the lag order of the autoregressive process.

A random walk is modeled by the restrictions α=0 and β=0, but a random walk with a drift is represented by β=0. This results in three primary iterations of the exam that are comparable to the Dickey-Fuller test.

Lagged differences are a feature of the ADF formulation that enable higher-order autoregressive processes (Nkoro & Uko, 2016). Testing down from high orders or using knowledge standards such as the Akaike, Bayesian, or Hannan–Quinn information criteria can be used to determine the lag duration (p).

The unit root test is conducted under the null hypothesis γ=0 against the alternative γ<0. The

$\mathrm{DF}\tau = \frac{\gamma^{\wedge}}{\mathrm{SE}(\gamma^{\wedge})}$ test statistic is contrasted with the Dickey-Fuller test's critical value. If $DF\tau$ is below the crucial limit, the absence of a unit root is suggested by the rejection of the null hypothesis γ=0.

The ADF test's rationale stems from the notion that, in the event that a series experiences unit rooting, information pertaining to changes in yt cannot be predicted at the lagged level of the series (y_{t-1}), with the exception of lagged changes (Δy_{t-k}). In contrast, the unit root theory is refuted if the pattern is stable and lacks a unit root, in which case the lag level becomes relevant in anticipating changes.

In examining the relationship between FDI and GDP, additional considerations include; data quality, ensuring accuracy and reliability of Somali economic data, Structural breaks by accounting for potential economic shocks or policy changes that might affect relationships and endogeneity by addressing potential feedback loops between variables, using appropriate techniques.

3.5.2.2 Structural Break Test

The issue of structural break is such that conventional tests are usually weak in comparison with structural breaks. A break is an intermittent shock that has permanent effect on time series (Kum, 2012). So, if this break is not explicitly accounted for during the unit root testing, the conventional unit root tests like the Dickey–Fuller test, ADF, usually mistake the structural break for a unit root and report wrongly. Due to this reason, it is usually imperative for one to go for a unit root procedure that explicitly accounts for the possibilities of structural break. The study therefore performed the Zivot-Andrews Unit Root Test (Zivot & Andrews, 1992).

H_0 =There is unit root under structural breaks.

H_1 = There is no unit root under structural breaks

3.5.2.3 Autoregressive Distributed Lag (ARDL) Model

This research uses the Autoregressive Distributed Lag (ARDL) model created by Pesaran, Shin, and Smith (2001). Compared to other boundary tests, the ARDL model provides a few benefits. Among these benefits is the ability to test the model independent of whether factors to be analyzed are I(0) at the level or I(1) at first (Pesaran et al., 2001; Pamuk & Bektas, 2014). Because the ARDL Model employs the untainted Error Correction Model, it yields statistically more significant findings than the Engle-Granger model, which is its second benefit (UECM) (Narayan & Narayan, 2005). Finally, it produces more reliable results than Engle-Granger in studies with limited observation numbers (Narayan & Smyth, 2005).

In examining the economic impact of FDI on GDP, the cointegration relationship model is expressed in the following equation:

$$\Delta LGDP = \beta_o + \sum_{i=1}^{m} \beta_1 + \Delta LGDP_{t-p} + \sum_{i=1}^{n} \beta_2 \,\Delta LFDI_{t-p} + \sum_{i=1}^{d} \beta_3 \,\Delta LINF_{t-p} + \sum_{i=1}^{1} \beta_4 \,\Delta LTB_{t-p} + + \sum_{i=1}^{w} \beta_5 \,\Delta LER_{t-p} + \sum_{i=1}^{q} \beta_6 \,\Delta LPG_{t-p} + \beta_7 LGDP_{t-1} + \beta_8 LFDI_{t-1} + \beta_9 LINF_{t-1} + \beta_{10} LTB_{t-1} + \beta_{11} LER_{t-1} + \beta_{12} LPG_{t-1} + \epsilon_t \ldots\ldots\ldots\ldots\text{....(ii)}$$

Furthermore, a bound t-test was conducted to verify reliability. For this test, the alternative hypothesis is $H1$: $\alpha 7 < 0$, while the null hypothesis is $H0$: $\alpha 7 = 0$. If the t-statistic exceeds the I(1) bound, we may dismiss the null assumption and conclude that both variables have a cumulative connection. If the t-statistic is less than the I(0) bound, we can accept the null hypothesis and conclude that there is no long-run cointegration relationship and that all of the time variables are stationary (Pesaran et al, 2001).

To use the boundary test technique, it is necessary to ascertain the lag length, represented as p in the second equation. The existence of coherence is then examined by applying the F-statistic to the dependent and independent variables' first-period values. The following is an expression of the test's hypotheses.

$$H_0: \beta_7 = \beta_8 = \beta_9 = \beta_{10} = \beta_{11} = \beta_{12} = 0$$

$$H_1: \beta_7 \neq \beta_8 \neq \beta_9 \neq \beta_{10} \neq \beta_{11} \neq \beta_{12} \neq 0$$

Estimating the long-run model coefficients comes next, when It has been determined that the factors are cointegrated. ARDL structure is used for this. The estimations of the model's long-run coefficients will be provided by the outcomes of the ARDL estimation.

The model's long-run coefficients can be utilized to decipher the correlation between the variables. For instance, a positive coefficient for FDI indicates that, over time, FDI increases are linked to long-term GDP increases.

The result of the F-statistic needs to be contrasted with the Pesaran, Shin, and Smith (2001) higher and lower critical values in accordance with the above-mentioned hypothesis. There cannot be a claim of cointegration between the variables if the computed F-statistic value is less than the lower critical value. It can be concluded in case the calculated F-statistic value exceeds the upper critical value; it indicates integration among the parameters.

3.5.2.4 Ganger Causality Test

The limitation of regression analysis is that it only explains dependence of one variable on another, it falls short of proving causality. Therefore, Granger causality by Clive Granger test was derived to establish the relationship between variables as well as the directions of these relationship (Chiwira & Kambeu, 2016). That is, establishing whether FDI influences GDP, a general specification in a bivariate (X, Y) relationship was expressed as:

$$\mathrm{Y}_t = \alpha 0 \ + \ \alpha 1 Y_{t-1} + \ldots\ldots + \alpha i Y_{t-i} + \beta_1 \, X_{t-1} + \ldots \, \beta_i X_{t-i} + \mu \ldots\ldots \text{(iii)}$$

$$\chi_t = \alpha 0 \ + \ \alpha 1 X_{t-1} + \ldots\ldots + \alpha i X_{t-i} + \beta_1 \, Y + \ldots \, \beta_i Y + \mu \ldots\ldots \text{(iv)}$$

In addition, the study adopted error correction-based causality test since it was capable of reflecting both the short and long run relationships. Upon conformation of the existence of the longrun association between FDI and GDP, the next step involved determination of the Granger -causality relationship between variables. To assess direction of the test, the following model was adopted:

$$\Delta \ln RGDPG/N_t = \emptyset_0 + \sum \emptyset_{1i} \Delta \ln RGDPG/N_{t-i} \ + \ \sum \emptyset_{2i} \, \Delta \ln FDI_{t-i} \, \_ + \ ECM_{t-1} + \mu_t \ldots\ldots \text{(v)}$$

$$\Delta \ln FDIt \ = \sigma_0 + \sum \sigma_{1i} \ \Delta \ln FDI_{t-i} \, \_ + \ \sum \emptyset_{2i} \Delta \ln RGDPG/N_{t-i} \ + \ ECM_{t-1} + \mu_t \ldots\ldots \text{(vi)}$$

Note: ECM_{t-1} is the lagged error-correction term obtained from the long-run equilibrium relationship.

3.5.3 Data Validity and Reliability

Validity is the best estimate of the truth of a proposition or conclusion in research, while reliability measures the quality of data collected, consistency with the research background, and suitability for analysis. In this study, relationships or differences supporting or conflicting with original or new hypotheses were tested for validity and reliability. Status checks were conducted on the collected data to ensure validity and reliability. Historical quantitative research sources were taken from reputable publications and authorized institution sites to guarantee authenticity and correctness in the literature review.

CHAPTER FOUR

EMPIRICAL FINDINGS

Descriptive findings, the augmented Dickey-Fuller test (ADF), and cointegration tests for the variables that looked at how foreign direct investment affected Somalia's economic growth from 1970 to 2022 are presented in this chapter.

4.1 Descriptive Results

The descriptive outcome of the factors is displayed. The outcome displays the statistics for skewness, Kurtosis, and Jarque Bera besides the average deviations, the highest, and lowest, imply that an average. The average log of GDP is 2.523218, log of FDI is 2.344619, log of inflation is 3.833754, log of population growth is 2.268244, and log of trade balance is 4.277483. These figures are based on the real exchange rate of 0.988405. LGDP is 2.78795, LFDI is 2.344619, LER is 0.774031, LINF is 10.72849, LPG is 2.333414, and LTB is 4.39073, according to the median result. The preceding table provided the maximum, minimum, and standard deviation in equal measure. But according to the skewness data, every variable—aside from LER—reported negative skewness. The following variables have negative skewness: -3.67813, 1.00713, -1.16488, -2.24396, and -1.66262 for LGDP, LFDI, LINF, LPG, and LTB, respectively. According to the Kurtosis statistics, LER is leptokurtic, meaning it is greater than three, whereas LGDP, LFDI, LINF, LPG, and LTB an are platykurtic, meaning they are fewer than three. With the exception of LER, which is not normally distributed during the research period, according to the Jarque-Bera probability theory, every variable has a normal range.

Table 4.2: Descriptive Result

Statistic	LGDP	LFDI	LER	LINF	LPG	LTB
Mean	2.523218	2.344619	0.988405	3.833754	2.268244	4.277483
Median	2.78795	2.640609	0.774031	3.843421	2.333414	4.39073
Maximum	2.970515	2.704478	3.675975	4.94805	3.006152	4.583023
Minimum	-1.18727	1.132949	-1.18587	2.14558	0.906803	0.031398
Std. Dev.	0.661364	0.481906	0.906576	0.374436	0.314765	0.606755
Skewness	-3.67813	-1.00713	0.551494	-1.16488	-2.24396	-1.66262
Kurtosis	1.99166	2.317833	3.667235	2.71358	2.00292	2.025963
Jarque-Bera	3.0853	9.987324	3.669779	2.3806	5.2155	4.496305
Probability	0.003486	0.006781	0.159631	0.006591	0.003792	0.002547
Sum	133.7306	124.2648	52.38549	203.189	120.2169	226.7066
Sum Sq. Dev.	22.74491	12.07614	42.73781	7.290516	5.152015	19.14387
Observations	53	53	53	53	53	53

4.2 Unit Root Results

The study examined if unit rout, or non-stationarity, existed for each variable, taking into account natural log in at levels and initial differences, using both ADF and PP tests. Because ordinary least squares estimators may produce spurious regression at high levels of significance and significance (T and F) test, indicating biased variance and covariance of estimated coefficients over time, time series analysis adaptation is sensitive to data stationarity (Bhatta, Adhikari, & Byanjankar, 2020). The findings show that whereas the other variables, including LGDP, LFDI, LER, and LINF, are stationary after being converted to first difference, LPG and LTB were stationary at level. This suggests that during the research period, most of the variables employed in this investigation were steady. As a result, the stationarity degrees of the variables are considered as I(1).

Table 4.3: ADF Unit Root and Phillips-Perron Tests

Variable	**Augmented Dickey-Fuller (ADF) Test**				**Phillips-Perron (PP) Test**				**Order of Integration**
	@ Level		1st Difference		@ Level		1st Difference		
	t-statistics	p-value	t-statistics	p-value	t-statistics	p-value	t-statistics	p-value	
LGDP	-2.9242	0.8827	-6.9252	0.0000	-3.0259	0.0391	-3.8401	0.0000**	1(1)
LFDI	-1.3741	0.5878	-6.1393	0.0000	-2.5973	0.0538	-2.5979	0.0136**	1(1)
LEX	-4.1187	0.3732	-9.8405	0.0000	-2.9188	0.9503	-2.9200	0.0000**	1(1)
LPG	-4.3877	0.0011	-5.7917	0.0000	-4.6761	0.0004	-4.6784	0.0000**	1(0)
LINF	-4.5884	0.0768	-7.2622	0.0000	-4.2573	0.0673	-4.2972	0.0000**	1(1)
LTB	-7.8571	0.0000	-8.0769	0.0000	-8.4555	0.0000	-8.4795	0.0000**	1(0)

* At the 5% probability stage, the unit root null hypothesis is rejected.

SOURCE: Computed by Author from (E-Views 12.0 iterations Results) Test of Stationary

4.3 Structural Break Test

With the insignificant p-value, the null hypothesis that RGDP has a unit root with a structural break in both the intercept and trend is accepted. According to Table 4.3, The test statistic (-4.5192) is more negative than the 10% critical value (-5.31) but not more negative than the 5% critical value (-5.94) or the 1% critical value (-6.12). This indicates evidence of a structural break in the series at the 10% significance level, but not strong enough to reject the null hypothesis. The results imply that series was non-stationary at level and this agrees with Fahmi, Geetha, and Mohidin (2019). The chosen breakpoint of 1991 is vital considering the breakout of civil war in January 1991 in Somalia, directly impacting on the foreign investor's confidence.

Table 4.4: Zivot-Andrews test statistic

	t-statistic	Prob*
Zivot-Andrews test statistic	-4.5192	0.1375
1% critical value	-6.12	
5% critical value	-5.94	
10% critical value	-5.31	

Probability values are calculated from a standard t-distribution and do not take into account the breakpoint selection process

Chosen breakpoint*1991

4.4 Cointegration Test

The bound cointegration test, created by Pesaran et al., (2001), was used to confirm a long-term link between parameters in the ARDL model. Variables with I(0), I(1), or both orders of integration can be put through the test. The findings of the test show that the factors included in the model have an ongoing connection, and the null hypothesis that there is no cointegration is rejected because the required value of the Pesarian F statistics is 7.51, which is greater than the critical value of the Pesarian upper limit I(1) of 6.3 at a 1% level of statistically significant.

Table 4.5: Cointegration Test Results

			critical importance limits derived from the 2001 values of Pasaran et al.	
Test statistic	**Value**	**degree of statistical significance**	**I(0)**	**I(1)**
F- statistic	7.51394	1%	2.7343	6.3200
		5%	1.8557	4.5600
		10%	1.5015	3.8283

The lag lengths for the variables must be established to assess the long-term correlation among FDI and economic growth in the model (Chang, 2010). Table 4.4 displays the ARDL extended coefficients, which were established using the SIC Information Criterion and lag lengths of (2,2,0,0,0,1). Table 5 shows that GDP is positively and statistically significantly impacted by trade balance, population growth, and foreign direct investment. Table 5 shows that a A 1% rise in FDI is equivalent to a 0.05% rise in GDP. Given that the present proportion of FDI in total investment is around 6.1%, the GDP is expected to benefit from this rise. On the other hand, a 1% rise in FDI results in a 0.750517 improvement in GDP.

The modified R2 value is 0.920762 and the coefficient of multiple determinants, also referred to as the goodness of fit (R2) value, is 0.931638. This suggests that the dependent variable (economic growth) has more than 95% variance due to the independent factors. During the research period, all of the independent variables (LFDI, LER, LTB, LPG, and LINF) have the potential to jointly impact the dependent variable, as indicated by the F-statistic value of 85.66149 and its p-value of 0.0000000.

Table 4.6: Long-Term Coefficients and Regression Results

Variables	**Coefficients**	**P-Value**
LGDP(-1)	0.655691	0.0002*
LFDI	0.750517	0.0002*
LER	-0.11873	0.0001*
LTB	0.359368	0.0153**
LPG	0.489584	0.0277**
LINF	-0.049455	0.0001*
C	0.151526	
R-squared	0.931638	
Adjusted R-squared	0.920762	
S.E. of regression	0.116346	
Sum squared resid	0.595602	
Log likelihood	42.42027	

F-statistic	85.66149
Prob(F-statistic)	0.000000**
Durbin-Watson stat	1.628692

Note: * and ** imply the 1% and 5% significance stages, appropriately.

The fragile economy of Somalia contributes to the country's low level of international investment attractiveness. The findings resonate with the literature; for instance, Omar (2018) FDI has direct and significant impact on the Somalia economic output for Somalia. However, the results also digress from previous studies by Mohamed and NorIsak (2017) through multiple linear regression established adverse significant correlation among FDI and Somalia’s GDP.

Lagged GDP coefficients (0.653, 0.656) imply a favorable and substantial long-run impact of past economic growth on current growth. That is, higher GDP growth in the previous two years tends to lead to sustained higher growth in the present. The negative coefficient (-0.119) of the lagged real exchange rate, though marginally significant, suggests that depreciation (real exchange rate weakening) is linked to increased long-run GDP expansion. this is consistent with expectations, as a cheaper real exchange rate can boost exports and economic activity.

The negative coefficient (-0.226) of lagged inflation indicates that lower inflation in the previous period contributes to higher long-run GDP growth. Stable prices create a more favorable context for investment and economic expansion. In contrast, an improvement in the trade balance (exports surpassing imports) is thought to achieve a beneficial over time effect on GDP growth, according to the positive coefficient (0.359) of the delayed trade balance. This indicates that promoting exports and reducing dependence on imports can contribute to sustained economic expansion.

Even if the FDI coefficient is negligible and negative (-3.33), the coefficients of lagged FDI terms are positive and statistically significant (0.86, 0.75). This suggests a complex relationship between FDI and growth. While initial FDI inflows might not directly translate into higher growth, their lagged effects appear positive, indicating potential benefits from FDI in the long run. Further research could explore the reasons for the initial negative impact and potential mechanisms through which FDI contributes to long-run growth in Somalia's context.

The positive coefficient (0.049) of lagged government expenditure is marginally significant but economically small. This suggests a potential weak positive extended effects of government spending on GDP development, but further investigation might be needed to confirm its relevance.

The error correction term's (-3.57) negative coefficient is not statistically significant. This does not offer convincing proof on the rate the point at which the model reaches stability. The positive coefficient (0.152) of the constant term suggests a baseline upward trend in GDP growth, independent of the included factors. After estimating the extended coefficients for the factors, the appropriate lag values were determined, and the calculated short-term relationship represented by the ARDL adjustment results is presented in Table 4.5.

Table 4.7: Error Correction Model Test Results

Variables	Coefficient	T-Statistic	P-Value
DLGDP(-1)	0.652781	2.840319	0.0119**
DLGDP(-2)	0.655691	3.240929	0.0023**
DLFDI	-3.32918	0.319251	0.0528**
DLFDI (-1)	0.860342	1.276086	0.0394**
DLFDI (-2)	0.750515	2.468077	0.0176**
DLER	-0.11873	-2.069515	0.0445**
DLINF	-0.22595	-2.27826	0.0277**
DLPG	0.049455	0.870458	0.3889
DLTB	0.359368	3.058107	0.0038**
ECM(-1)	-0.748532	-3.117284	0.0586**
C	0.151526	0.274516	0.0437**

*** At the 5% statistical degree, the unit root null hypothesis is rejected.**

Origin: Computed by Author from (E-Views 12.0 iterations Results) Test of ARDL and Long Run Form.

The pair-wise findings in Table 4.7 revealed significant probability values prompting the decision to reject the null hypothesis. Therefore, there was presence of Granger causality in either direction between FDI and Somalia's economic growth. The results contradict Mohamed and Isak (2017).

Table 4.8: Granger Causality Wald Tests

Null Hypothesis	X2	Probability	Decision
FDIG does not Granger-cause RGDPG	5.9374	0.0258	Fail to accept
RGDPG does not Granger -cause FDIG	4.2653	0.0409	Fail to accept

4.5 Stability (Diagnostic) Test Results

According to Table 4.8, the model is well specified. Both the dependent and independent variables have a linear relationship under investigation, $p>0.05$.

Table 4.9: Ramsey Reset Test

Specification: GDP GDP(-1) FDI FDI(-1) FDI(-2) FDI(-3) ER ER(-1) ER(-2) ER(-3) er(-4) PG PG(-1) TB TB(-1) TB(-2) TB(-3) TB(-4) C @TREND

Rasey RESET Test

	Value	df	Probability
t-statistic	0.083688	29	0.9399
F-statistic	0.007004	(1,29)	0.9339
Likelihood ratio	0.011832	1	0.9134

4.6 Heteroscedacity Test

The study adopted ARCH Heteroscedacity Test. Since the F-Statistics and Observed R-Square probabilities (0.4109 and 0.3862 respectively) are greater than 0.05. Therefore, there is no problem of Heteroskedasticity. The ARCH approach is considered more reliable than the Breusch test.

Table 4.10: Heteroskedasticity Test: ARCH

Heteroskedasticity Test: ARCH			
F-statistic	1.015621	Prob. F (4,40)	0.4109
Obs*R-Square	4.148921	Prob.Chi-Square (4)	0.3862

4.7 Auto Correlation Test

The study adopted Serial Correlation LM Test to justify the presence of auto correlation. According to the results in Table 4.10, the analysis confirmed absence of auto correlation as revealed by the 0.0669 and 0.2558 probabilities respectively.

Table 4.11: Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
Null hypothesis: No serial correlation at up to 4 lags			
F-statistic	1.418393	Prob. F (4,26)	0.2558
Obs*R-Squared	8.777194	Prob. Chi-Square (4)	0.0669

Using Cumulative Sum (CUSUM) and CUSUM of squares structural breakdown tests for the long-run relationship equation at 5% significance, integrity of the model was verified. As can be seen in Figures 1 and 2, respectively, the model remained stable since the cumulative total and cumulative squares of the residuals were determined to be inside the critical lines, suggesting no structural break.

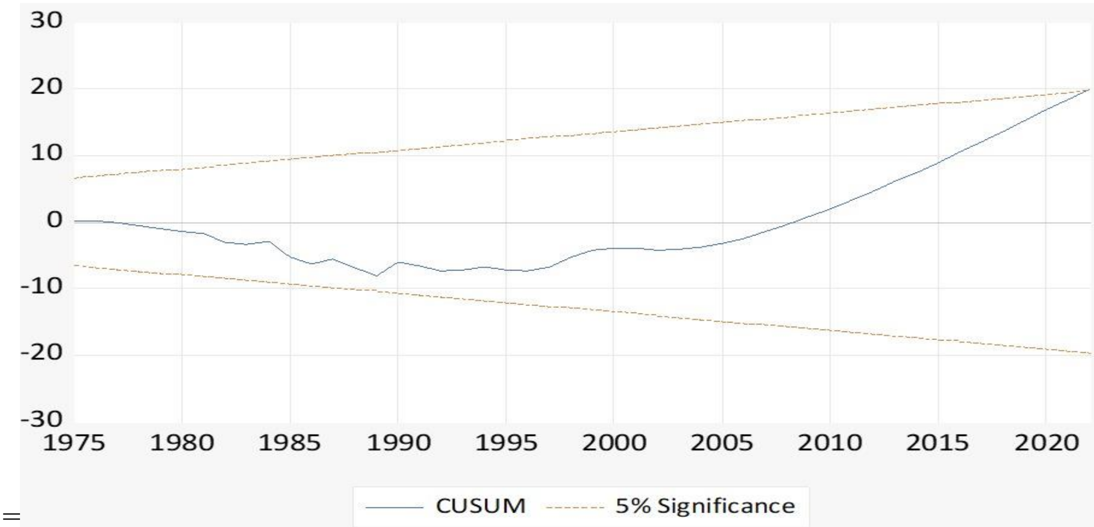

Figure 1.2: CUSUM test

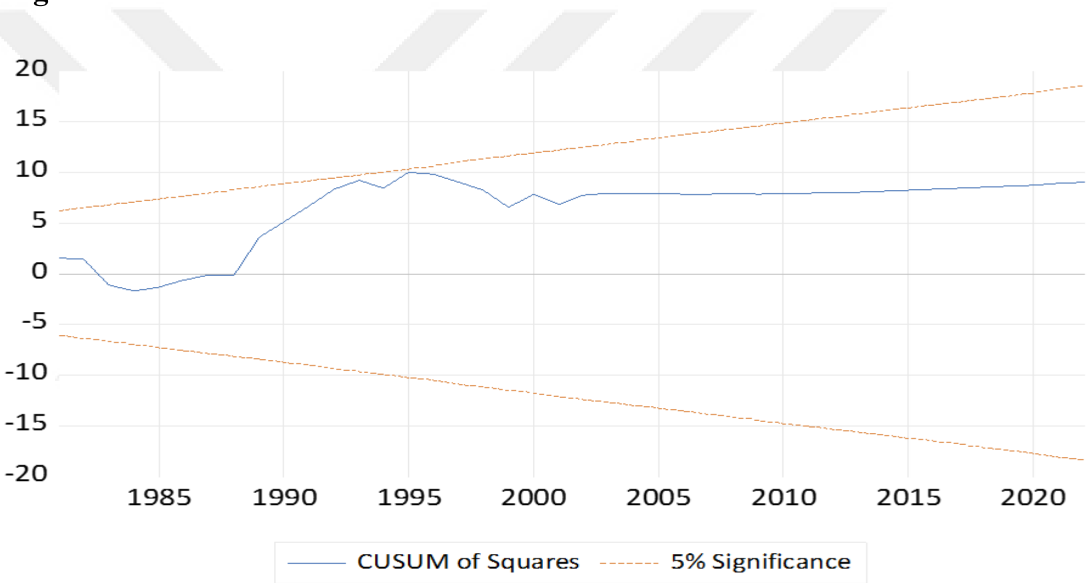

Figure 1.3: CUSUM of squares test

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study reaches conclusion that by promoting growth in important sectors, FDI has a favorable impact of Somalia's prosperity. Long-term, lag FDI benefits prove to be beneficial and noteworthy, even if initial FDI inflows might not immediately result in increased GDP. Population growth also positively impacts GDP growth, as it leads to increased economic activity and output. Maintaining a favorable trade balance, where exports exceed imports, contributes to sustained economic expansion. The current GDP growth is positively impacted by lag GDP, suggesting that Somalia's economy is experiencing a momentum effect.

Real exchange rate depreciation is associated with higher long-run GDP growth, as a weaker exchange rate boosts exports and economic activity. Lower inflation also contributes to higher long-run GDP growth, as price stability creates a favorable environment for investment and economic expansion. The analysis supports the intricate connection between development and FDI, suggesting the importance of long-term planning and investment strategies to harness the benefits of FDI for economic growth.

Regarding financial sector deepening, the study indicates that Somalia's private sector, albeit making a contribution to the GDP, is still in its infancy. Mobile money and diaspora remittances are prevalent, but the formal banking sector is emerging with limited participation. Public confidence in banking institutions is increasing, but accessing credit remains a challenge.

Recommendations

Based on the identified patterns, policymakers and stakeholders are urged to consider the following targeted recommendations for enhancing Somalia's development.

The research indicates that Somalia's state ought to implement targeted policies to attract and retain foreign direct investment (FDI), including tax incentives, streamlining investment procedures, addressing cost of doing business, and improving infrastructure. This could involve establishing a dedicated investment promotion agency, providing personalized support to potential investors, and regularly reviewing and updating investment policies.

To fulfill the demands of an expanding population, the government should give education and skill development first priority. This could involve increasing funding for education, expanding vocational training programs, and promoting lifelong learning opportunities. Partnerships with private sector organizations could also be implemented to develop industry-relevant training programs, scholarships, and grants for students in key fields.

The government should focus on improving the country's trade balance by diversifying exports and reducing import dependency. This could involve promoting key export sectors such as fishing, livestock production and labour, providing financial and technical support to smallholder farmers, developing value-added processing industries, and implementing import substitution policies.

Infrastructure development is also recommended to support economic growth and improve competitiveness. This could include investing in transportation networks, energy infrastructure, and digital connectivity. Associations with firms in the nonprofit sector, public-private partnerships, and regulatory frameworks can help utilize knowledge and resources from the business community.

Policy implementation to promote price stability and control inflation should include sound monetary policies, improving food security, and enhancing regulatory frameworks. Working with international partners to access financial support and technical expertise, strengthening regulatory bodies' capacity to monitor and enforce market regulations, and promoting transparency and accountability in price-setting mechanisms are also suggested.

The financial sector's growth can be supported through partnerships between government, private sector, and NGOs, including training programs, infrastructure development, and policy advocacy. Banks should partner with microfinance institutions to reach underserved populations and promote financial inclusion. Innovation in financial services, such as mobile banking apps and digital payment solutions, should be encouraged.

Investing in digital infrastructure, such as expanding internet access, upgrading networks, and ensuring cybersecurity measures, will enhance the efficiency and security of financial transactions, encouraging more people to use formal banking services.

Lastly, the government should prioritize environmental sustainability in its economic development policies, putting laws into place to save natural resources, encourage the use of clean energy sources and reduced carbon emissions.

Limitations of the Study

The study focuses on how Somalia's economic growth was affected by foreign direct investment (FDI) from 1970 and 2022, excluding recent economic developments. It also acknowledges that the study uses the ARDL model, the analysis could be enhanced by exploring alternative econometric models, which may provide different perspectives and potentially different results. The study also excludes variables such as inflation, trade balance, exchange rate, and population growth, which could also influence economic growth. The effects of certain FDI sectors and the long-term effects of FDI on employment creation, technological advancement, and poverty reduction, should be further studied; conduct a comparative analysis, examine the role of institutional reforms in FDI's impact, and explore potential future trends in global FDI flows and their implications for Somalia's economic recovery.

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APPENDIXES

DESCRIPTIVE STATISTICS

	LTB_ADJ	LPG_ADJ	LINF_ADJ	LGDP_ADJ	LFDI_ADJ	LER
Mean	4.277483	4.040498	2.001144	2.627820	1.870359	0.988405
Median	4.390730	4.037508	2.117831	2.847678	2.399870	0.774031
Maximum	4.583023	5.016617	2.901943	3.020520	2.480439	3.675975
Minimum	0.031398	2.920308	-0.741513	0.266245	-2.255704	-1.185871
Std. Dev.	0.606755	0.289974	0.526599	0.495333	0.946572	0.906576
Skewness	-6.662619	-0.191535	-3.485733	-2.569760	-2.016605	0.551494
Kurtosis	47.02596	8.349309	17.61999	11.28849	7.982467	3.667235
Jarque-Bera	4672.496	63.51576	579.3462	210.0429	90.74429	3.669779
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.159631
Sum	226.7066	214.1464	106.0606	139.2744	99.12905	52.38549
Sum Sq. Dev.	19.14387	4.372415	14.41996	12.75846	46.59195	42.73781
Observations	53	53	53	53	53	53

Regression Analysis

Dependent Variable: LGDP_ADJ
Method: Least Squares
Date: 01/21/24 Time: 20:02
Sample (adjusted): 1971 2022
Included observations: 52 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.210414	0.383517	3.156089	0.0029
LGDP_ADJ(-1)	0.363392	0.047806	7.601442	0.0000
LFDI_ADJ	0.002604	0.040230	0.064728	0.9487
LER	-0.122592	0.037267	-3.289579	0.0020
LINF_ADJ	-0.023842	0.031995	-0.745175	0.4601
LTB_ADJ	0.107424	0.030967	3.469003	0.0012
LPG_ADJ	0.007487	0.073116	0.102403	0.9189
+@TREND	0.006843	0.001867	3.664979	0.0007

R-squared	0.921592	Mean dependent var	2.673234
Adjusted R-squared	0.909118	S.D. dependent var	0.372437
S.E. of regression	0.112277	Akaike info criterion	-1.395054
Sum squared resid	0.554671	Schwarz criterion	-1.094863
Log likelihood	44.27141	Hannan-Quinn criter.	-1.279968
F-statistic	73.88108	Durbin-Watson stat	1.584139
Prob(F-statistic)	0.000000		

ADF TESTS

Null Hypothesis: LER has a unit root
Exogenous: Constant
Bandwidth: 4 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-0.038516	0.9503
Test critical values:	1% level	-3.562669	
	5% level	-2.918778	
	10% level	-2.597285	

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

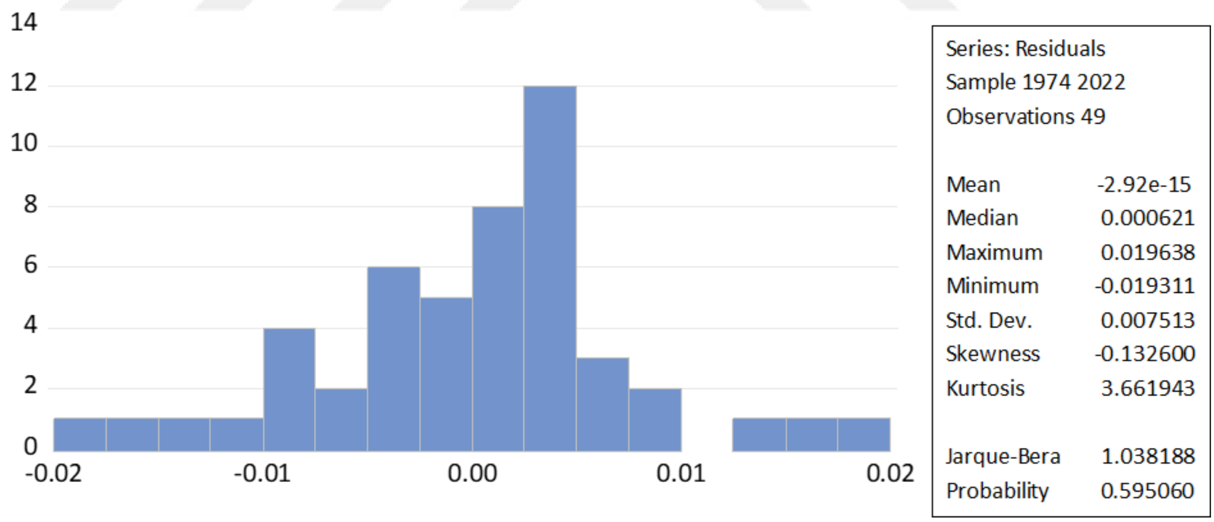
Residual variance (no correction)	1.38E-05
HAC corrected variance (Bartlett kernel)	5.77E-06

Phillips-Perron Test Equation
Dependent Variable: D(LER)
Method: Least Squares
Date: 02/17/24 Time: 07:46
Sample (adjusted): 1971 2022
Included observations: 52 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LER(-1)	-0.028518	0.042985	-0.663443	0.5101
C	0.068778	0.102337	0.672070	0.5046

R-squared	0.008726	Mean dependent var	0.000884
Adjusted R-squared	-0.011099	S.D. dependent var	0.003773
S.E. of regression	0.003794	Akaike info criterion	-8.273298
Sum squared resid	0.000720	Schwarz criterion	-8.198250
Log likelihood	217.1058	Hannan-Quinn criter.	-8.244527
F-statistic	0.440157	Durbin-Watson stat	2.515901
Prob(F-statistic)	0.510094		

Normality Tests



Null Hypothesis: D(LER) has a unit root
Exogenous: Constant
Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-11.68393	0.0000
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	

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

Residual variance (no correction)	1.28E-05
HAC corrected variance (Bartlett kernel)	5.39E-06

Phillips-Perron Test Equation
Dependent Variable: D(LER,2)
Method: Least Squares
Date: 02/17/24 Time: 07:49
Sample (adjusted): 1972 2022
Included observations: 51 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LER(-1))	-1.291925	0.135343	-9.545525	0.0000
C	0.001209	0.000524	2.305798	0.0254

R-squared	0.650292	Mean dependent var	7.69E-05
Adjusted R-squared	0.643155	S.D. dependent var	0.006104
S.E. of regression	0.003646	Akaike info criterion	-8.351888
Sum squared resid	0.000651	Schwarz criterion	-8.276130
Log likelihood	214.9731	Hannan-Quinn criter.	-8.322939
F-statistic	91.11705	Durbin-Watson stat	2.357387
Prob(F-statistic)	0.000000		

Null Hypothesis: D(LFDI) has a unit root
Exogenous: Constant
Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-13.28280	0.0000
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	

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

Residual variance (no correction)	0.000232
HAC corrected variance (Bartlett kernel)	0.000238

Phillips-Perron Test Equation
Dependent Variable: D(LFDI,2)
Method: Least Squares
Date: 02/17/24 Time: 07:52
Sample (adjusted): 1972 2022
Included observations: 51 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LFDI(-1))	-1.485994	0.111125	-13.37226	0.0000
C	0.003829	0.002208	1.734089	0.0892

R-squared	0.784915	Mean dependent var	-0.001140
Adjusted R-squared	0.780526	S.D. dependent var	0.033183
S.E. of regression	0.015546	Akaike info criterion	-5.451663
Sum squared resid	0.011841	Schwarz criterion	-5.375905
Log likelihood	141.0174	Hannan-Quinn criter.	-5.422713
F-statistic	178.8172	Durbin-Watson stat	1.862911
Prob(F-statistic)	0.000000		

Null Hypothesis: LGDP has a unit root
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-7.407961	0.0000
Test critical values:	1% level	-3.562669	
	5% level	-2.918778	
	10% level	-2.597285	

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

Residual variance (no correction)	6.85E-06
HAC corrected variance (Bartlett kernel)	6.85E-06

Phillips-Perron Test Equation
Dependent Variable: D(LGDP)
Method: Least Squares
Date: 02/17/24 Time: 07:53
Sample (adjusted): 1971 2022
Included observations: 52 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGDP(-1)	-0.033473	0.004518	-7.407961	0.0000
C	0.092600	0.011770	7.867681	0.0000

R-squared	0.523255	Mean dependent var	0.005454
Adjusted R-squared	0.513720	S.D. dependent var	0.003829
S.E. of regression	0.002670	Akaike info criterion	-8.975950
Sum squared resid	0.000356	Schwarz criterion	-8.900902
Log likelihood	235.3747	Hannan-Quinn criter.	-8.947179
F-statistic	54.87789	Durbin-Watson stat	1.384324
Prob(F-statistic)	0.000000		

Null Hypothesis: D(LPG) has a unit root
Exogenous: Constant
Bandwidth: 12 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-16.39824	0.0000
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	

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

Residual variance (no correction)	0.167380
HAC corrected variance (Bartlett kernel)	0.026612

Phillips-Perron Test Equation
Dependent Variable: D(LPG,2)
Method: Least Squares
Date: 02/17/24 Time: 07:56
Sample (adjusted): 1972 2022
Included observations: 51 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LPG(-1))	-1.283385	0.136435	-9.406601	0.0000
C	0.006821	0.058446	0.116713	0.9076

R-squared	0.643595	Mean dependent var	0.005164
Adjusted R-squared	0.636322	S.D. dependent var	0.692119
S.E. of regression	0.417387	Akaike info criterion	1.128821
Sum squared resid	8.536393	Schwarz criterion	1.204579
Log likelihood	-26.78495	Hannan-Quinn criter.	1.157771
F-statistic	88.48415	Durbin-Watson stat	2.187267
Prob(F-statistic)	0.000000		

Null Hypothesis: D(LTB) has a unit root
Exogenous: Constant
Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-9.857255	0.0000
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	

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

Residual variance (no correction)	0.004749
HAC corrected variance (Bartlett kernel)	0.005230

Phillips-Perron Test Equation
Dependent Variable: D(LTB,2)
Method: Least Squares
Date: 02/17/24 Time: 07:58
Sample (adjusted): 1972 2022
Included observations: 51 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LTB(-1))	-0.868984	0.085808	-10.12704	0.0000
C	0.022508	0.010462	2.151365	0.0364

R-squared	0.676689	Mean dependent var	-0.013355
Adjusted R-squared	0.670091	S.D. dependent var	0.122403
S.E. of regression	0.070305	Akaike info criterion	-2.433513
Sum squared resid	0.242199	Schwarz criterion	-2.357755
Log likelihood	64.05458	Hannan-Quinn criter.	-2.404564
F-statistic	102.5569	Durbin-Watson stat	2.035290
Prob(F-statistic)	0.000000		

Null Hypothesis: D(LGDP) has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.844322	0.3552
Test critical values:	1% level	-3.574446	
	5% level	-2.923780	
	10% level	-2.599925	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LGDP,2)
Method: Least Squares
Date: 02/17/24 Time: 08:02
Sample (adjusted): 1975 2022
Included observations: 48 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LGDP(-1))	-0.257151	0.139428	-1.844322	0.0720
D(LGDP(-1),2)	-0.227093	0.171170	-1.326716	0.1916
D(LGDP(-2),2)	-0.100746	0.166035	-0.606780	0.5472
D(LGDP(-3),2)	-0.034330	0.150327	-0.228368	0.8204
C	0.001215	0.000881	1.378924	0.1750

R-squared	0.207391	Mean dependent var	-8.74E-05
Adjusted R-squared	0.133660	S.D. dependent var	0.003238
S.E. of regression	0.003014	Akaike info criterion	-8.672866
Sum squared resid	0.000391	Schwarz criterion	-8.477950
Log likelihood	213.1488	Hannan-Quinn criter.	-8.599207
F-statistic	2.812801	Durbin-Watson stat	1.998889
Prob(F-statistic)	0.036887		

Null Hypothesis: D(LFDI) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-13.37226	0.0000
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LFDI,2)
Method: Least Squares
Date: 02/17/24 Time: 08:03
Sample (adjusted): 1972 2022
Included observations: 51 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LFDI(-1))	-1.485994	0.111125	-13.37226	0.0000
C	0.003829	0.002208	1.734089	0.0892

R-squared	0.784915	Mean dependent var	-0.001140
Adjusted R-squared	0.780526	S.D. dependent var	0.033183
S.E. of regression	0.015546	Akaike info criterion	-5.451663
Sum squared resid	0.011841	Schwarz criterion	-5.375905
Log likelihood	141.0174	Hannan-Quinn criter.	-5.422713
F-statistic	178.8172	Durbin-Watson stat	1.862911
Prob(F-statistic)	0.000000		

Cointegration -ARDL

Dependent Variable: LGDP
Method: ARDL
Date: 02/17/24 Time: 17:10
Sample (adjusted): 1974 2022
Included observations: 49 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Hannan-Quinn criterion (HQ)
Dynamic regressors (4 lags, automatic): LFDI LER LPG LTB
Fixed regressors: C
Number of models evaluated: 2500
Selected Model: ARDL(3, 0, 4, 3, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LGDP(-1)	1.056293	0.116406	9.074252	0.0000
LGDP(-2)	0.149088	0.169451	0.879833	0.3853
LGDP(-3)	-0.249806	0.108054	-2.311873	0.0272
LFDI	0.007397	0.010798	0.685048	0.4981
LER	0.100858	0.054918	1.836528	0.0753
LER(-1)	-0.270588	0.056225	-4.812583	0.0000
LER(-2)	0.126708	0.047624	2.660562	0.0120
LER(-3)	-0.125480	0.059861	-2.096177	0.0438
LER(-4)	0.244615	0.052333	4.674217	0.0000
LPG	-0.005603	0.000447	-12.53056	0.0000
LPG(-1)	-0.000417	0.000771	-0.540339	0.5926
LPG(-2)	0.001870	0.000839	2.229662	0.0327
LPG(-3)	0.003139	0.000623	5.042209	0.0000
LTB	0.016630	0.004522	3.677489	0.0008
LTB(-1)	-0.012205	0.004440	-2.748576	0.0096
C	-0.077907	0.083782	-0.929878	0.3592

R-squared	0.999885	Mean dependent var	2.619138
Adjusted R-squared	0.999833	S.D. dependent var	0.070424
S.E. of regression	0.000910	Akaike info criterion	-10.90803
Sum squared resid	2.73E-05	Schwarz criterion	-10.29030
Log likelihood	283.2468	Hannan-Quinn criter.	-10.67366
F-statistic	19153.86	Durbin-Watson stat	1.888346
Prob(F-statistic)	0.000000		

*Note: p-values and any subsequent tests do not account for model selection.

ARDL Long Run Form and Bounds Test
Dependent Variable: D(LGDP)
Selected Model: ARDL(3, 0, 4, 3, 1)
Case ~~2:~~ Restricted Constant and No Trend
Date: 02/17/24 Time: 17:15
Sample: 1970 2022
Included observations: 49

Conditional Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.077907	0.083782	-0.929878	0.3592
LGDP(-1)*	-0.044425	0.014767	-3.008398	0.0050
LFDI**	0.007397	0.010798	0.685048	0.4981
LER(-1)	0.076113	0.041657	1.827119	0.0767
LPG(-1)	-0.001010	0.001186	-0.851967	0.4004
LTB(-1)	0.004425	0.001992	2.221226	0.0333
D(LGDP(-1))	0.100718	0.110214	0.913844	0.3674
D(LGDP(-2))	0.249806	0.108054	2.311873	0.0272
D(LER)	0.100858	0.054918	1.836528	0.0753
D(LER(-1))	-0.245843	0.065665	-3.743897	0.0007
D(LER(-2))	-0.119136	0.062899	-1.894065	0.0670
D(LER(-3))	-0.244615	0.052333	-4.674217	0.0000
D(LPG)	-0.005603	0.000447	-12.53056	0.0000
D(LPG(-1))	-0.005009	0.000900	-5.566395	0.0000
D(LPG(-2))	-0.003139	0.000623	-5.042209	0.0000
D(LTB)	0.016630	0.004522	3.677489	0.0008

* p-value incompatible with t-Bounds distribution.
** Variable interpreted as Z = Z(-1) + D(Z).

Levels Equation
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LFDI	0.166517	0.206484	0.806443	0.4258
LER	1.713304	0.592134	2.893440	0.0067
LPG	-0.022736	0.025380	-0.895803	0.3768
LTB	0.099616	0.029720	3.351857	0.0020
C	-1.753693	1.542577	-1.136859	0.2638

EC = LGDP - (0.1665*LFDI + 1.7133*LER -0.0227*LPG + 0.0996*LTB - 1.7537)

F-Bounds Test — Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	9.226137	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37
Actual Sample Size	49		Finite Sample: n=50	
		10%	2.372	3.32
		5%	2.823	3.872
		1%	3.845	5.15
			Finite Sample: n=45	
		10%	2.402	3.345
		5%	2.85	3.905
		1%	3.892	5.173

ARDL Error Correction Regression
Dependent Variable: D(LGDP)
Selected Model: ARDL(3, 0, 4, 3, 1)
Case 2: Restricted Constant and No Trend
Date: 02/17/24 Time: 17:19
Sample: 1970 2022
Included observations: 49

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LGDP(-1))	0.100718	0.090656	1.110997	0.2746
D(LGDP(-2))	0.249806	0.075801	3.295533	0.0024
D(LER)	0.100858	0.041709	2.418130	0.0213
D(LER(-1))	-0.245843	0.044441	-5.531861	0.0000
D(LER(-2))	-0.119136	0.045556	-2.615173	0.0133
D(LER(-3))	-0.244615	0.044310	-5.520500	0.0000
D(LPG)	-0.005603	0.000335	-16.71478	0.0000
D(LPG(-1))	-0.005009	0.000567	-8.838331	0.0000
D(LPG(-2))	-0.003139	0.000522	-6.016958	0.0000
D(LTB)	0.016630	0.003290	5.054939	0.0000
CointEq(-1)*	-0.044425	0.005564	-7.983998	0.0000

R-squared	0.960771	Mean dependent var	0.005216
Adjusted R-squared	0.950447	S.D. dependent var	0.003810
S.E. of regression	0.000848	Akaike info criterion	-11.11212
Sum squared resid	2.73E-05	Schwarz criterion	-10.68742
Log likelihood	283.2468	Hannan-Quinn criter.	-10.95099
Durbin-Watson stat	1.888346		

* p-value incompatible with t-Bounds distribution.

F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	9.226137	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Heteroskedasticity

Heteroskedasticity Test: ARCH

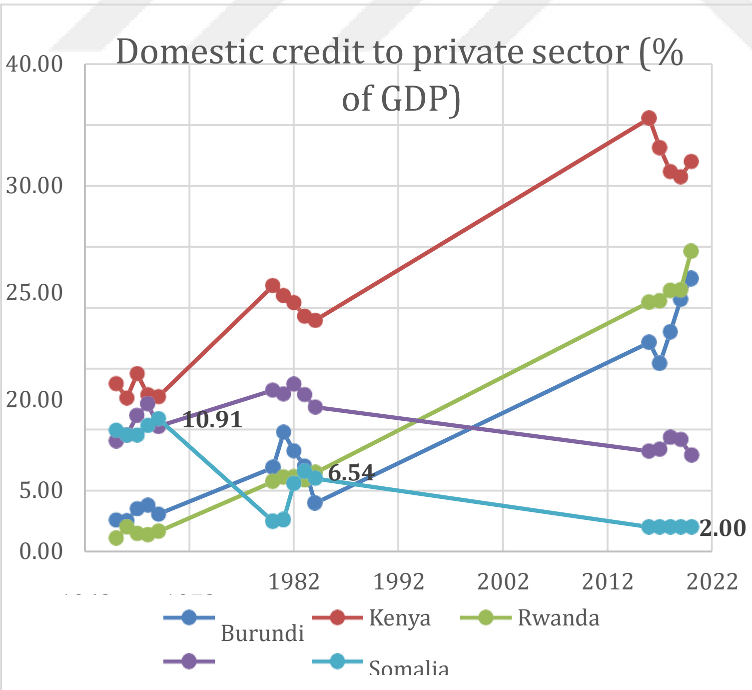
F-statistic	1.015621	Prob. F(4,40)	0.4109
Obs*R-squared	4.148921	Prob. Chi-Square(4)	0.3862

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 03/04/24   Time: 14:48
Sample (adjusted): 1978 2022
Included observations: 45 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.27E-05	2.07E-05	2.066482	0.0453
RESID^2(-1)	0.311497	0.158341	1.967251	0.0561
RESID^2(-2)	-0.108348	0.165243	-0.655690	0.5158
RESID^2(-3)	0.002693	0.165484	0.016273	0.9871
RESID^2(-4)	0.057010	0.157920	0.361008	0.7200

R-squared	0.092198	Mean dependent var	5.81E-05
Adjusted R-squared	0.001418	S.D. dependent var	9.44E-05
S.E. of regression	9.43E-05	Akaike info criterion	-15.59607
Sum squared resid	3.56E-07	Schwarz criterion	-15.39533
Log likelihood	355.9116	Hannan-Quinn criter.	-15.52124
F-statistic	1.015621	Durbin-Watson stat	1.997140
Prob(F-statistic)	0.410908		

Domestic credit to the private sector



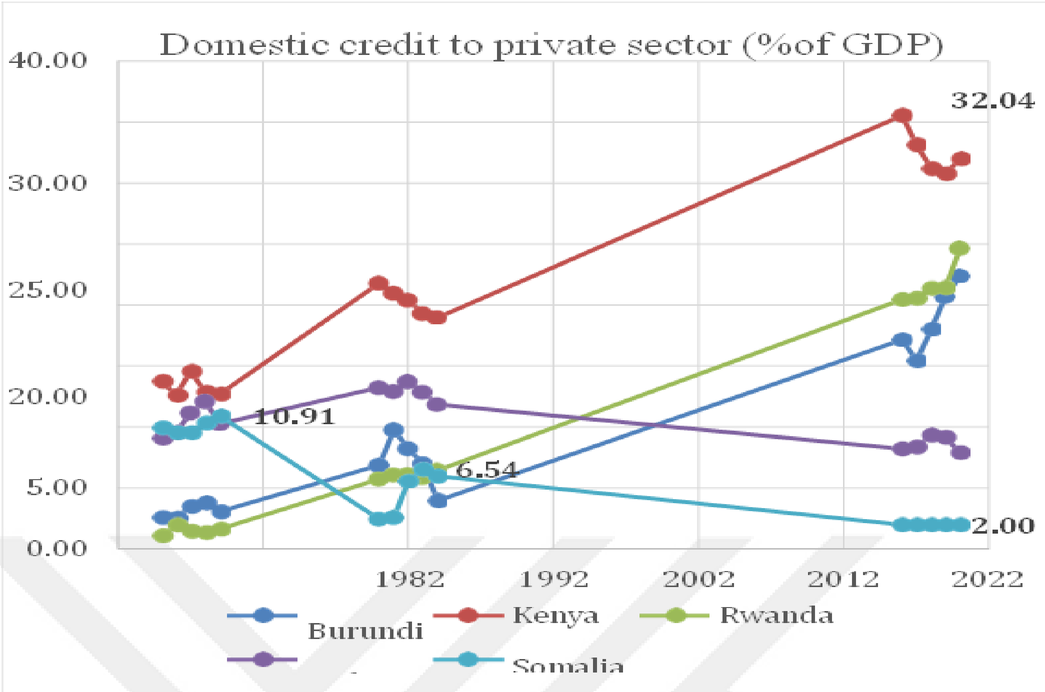


Figure1.4: Domestic credit to private sector (% of GDP)

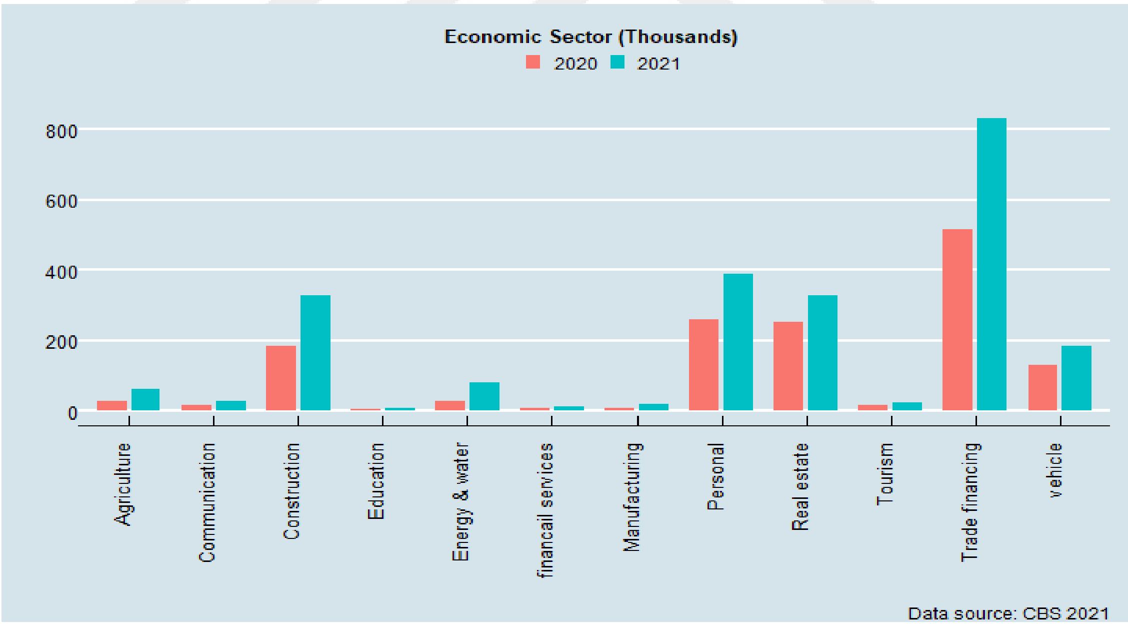


Figure 1.5: Figure 1 economic sector

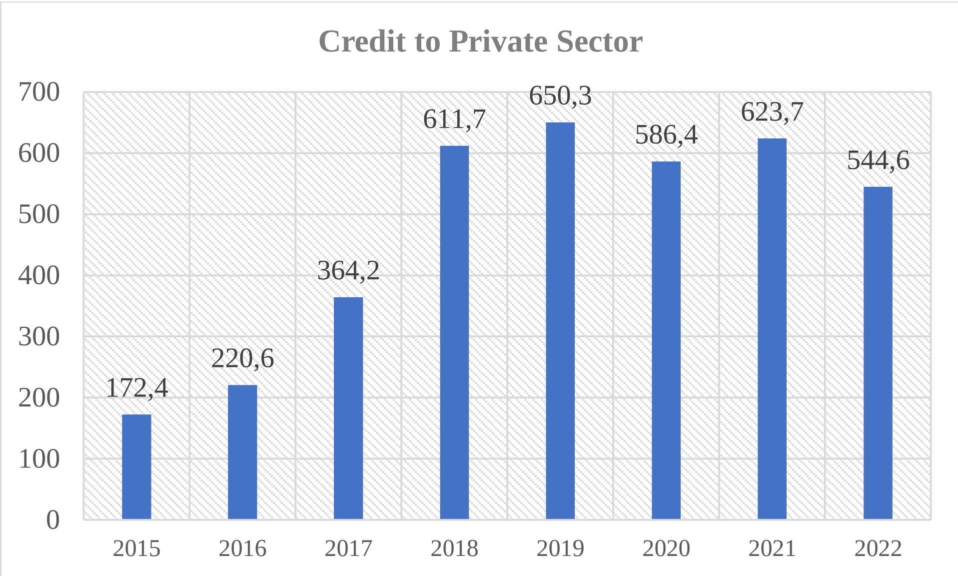


Figure1.2: Credit to the Private Sector in Somalia

Source: CBS, 2023