



COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF INTERNATIONAL BUSINESS

**FACTORS INFLUENCING FOREIGN DIRECT INVESTMENT (FDI) IN
CASE OF ETHIOPIA'S MARKET**

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**THE THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE
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Declaration

I hereby declare that this research entitled “**FACTORS INFLUENCING FOREIGN DIRECT INVESTMENT (FDI) IN CASE OF ETHIOPIA’S MARKET**” is my original work and has not been submitted for any other degree or award. All sources used in this study have been acknowledged, and I have adhered to the ethical standards of research.

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Letter of Certification

This is to certify that **ABEBAW GIRMA** has carried out this thesis on the topic entitled **“FACTORS INFLUENCING FOREIGN DIRECT INVESTMENT (FDI) IN CASE OF ETHIOPIA’S MARKET.”** This work is original in nature and is suited for submission for the award of international business.

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Approval Sheet

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Abstract

The general objective of the study to examine factors influencing foreign direct investment (FDI) in case of Ethiopia's market. This study employs a quantitative research approach, focusing on secondary data to evaluate economic variables influencing FDI inflows in Ethiopia from 1978 to 2024. An explanatory research design facilitates a systematic analysis using Multiple Ordinary Least Squares (OLS) estimators. Data is sourced primarily from the World Bank, supplemented by the IMF and UNCTAD, ensuring reliability. The research examines key variables: FDI, market size, trade openness, inflation rate, infrastructure development, and financial risk. Stationarity tests, including the Augmented Dickey-Fuller test, confirm data suitability for analysis. The Vector Error Correction Model (VECM) captures both short-run and long-run dynamics, followed by rigorous diagnostic checks to validate results. This study investigates factors influencing Foreign Direct Investment (FDI) in Ethiopia from 1978 to 2024 using the Vector Autoregressive Model (VAR) and Vector Error Correction Model (VECM). Key determinants identified include GDP growth rate, trade openness, gross fixed capital formation (infrastructure), inflation rate, and external debt. A positive relationship between GDP growth and FDI suggests larger markets attract investment. Trade openness enhances market access, while improved infrastructure reduces operational costs. Stable inflation fosters a predictable environment for investors. Although short-run impacts of these variables on FDI are not statistically significant, co-integration analysis confirms a long-term relationship, providing insights for policymakers to enhance FDI attraction. This study explores factors influencing Foreign Direct Investment (FDI) in Ethiopia from 1978 to 2024, identifying GDP growth, trade openness, infrastructure investment, inflation stability, and external debt management as key determinants. Recommendations include promoting economic growth, enhancing trade, investing in infrastructure, maintaining price stability, and improving regulatory frameworks to attract FDI.

Keywords: *Foreign Direct Investment (FDI), Trade Openness, Inflation Rate*

Chapter one

1. Introduction

This chapter presents an introduction to the study, beginning with the background and the statement of the problem. It outlines the research questions and objectives, including both general and specific hypotheses. The significance of the study is discussed, highlighting its contributions to knowledge and practice. Additionally, the organization of the paper is detailed, followed by the scope of the study, which defines its boundaries. Lastly, limitations are acknowledged, ensuring a comprehensive understanding of the research context and its implications for FDI in Ethiopia.

1.1. Background of the study

Foreign Direct Investment (FDI) plays a vital role in Ethiopia's economic development by supplementing domestic capital, transferring technology, and creating employment opportunities. Despite ongoing policy reforms aimed at attracting FDI, inflows have shown volatility and a declining trend. This necessitates a thorough examination of the influencing factors. This background provides an overview of FDI determinants in Ethiopia, contextualized within global and African frameworks, supported by recent academic references. Globally, FDI is influenced by macroeconomic, institutional, and structural factors. Key drivers include market size (measured by GDP or GDP per capita), trade openness, infrastructure quality, political stability, and natural resource availability (Beloucif, 2023). Studies indicate that democracy and information and communication technology (ICT) development significantly enhance FDI attractiveness. Conversely, inflation and corruption often deter investment due to economic instability and increased operational risks (Chakrabarti, 2001).

For instance, the BRICS nations exemplify market-seeking FDI, where trade openness and the rule of law attract inflows, while natural resources may paradoxically have negative effects in certain contexts (Erdal & Masca, 2008). In Africa, FDI patterns reflect unique regional challenges and opportunities. Factors such as market size, natural resource endowments, and agglomeration effects from prior FDI inflows serve as strong positive determinants (Asiedu,

2002). Political freedom and reduced corruption significantly boost FDI, while terrorism and macroeconomic instability particularly high inflation act as barriers (Habtamu, 2019).

Trade openness remains a consistent positive factor, as evidenced in countries like Nigeria and South Africa, where diversified economies attract manufacturing and service-oriented investments. Nonetheless, Africa's FDI landscape remains volatile due to institutional weaknesses and a heavy reliance on commodity exports (Tesfaye & Henok, 2014).

Ethiopia's Foreign Direct Investment (FDI) landscape is shaped by both regional trends and specific national dynamics. In 2023, FDI inflows declined to USD 3.26 billion, down from USD 3.67 billion in 2022. Key sectors attracting interest include renewable energy, manufacturing, and textiles, particularly from investors in China, Saudi Arabia, and Turkey (Getnet & Assefa, 2001).

Several determinants influence FDI in Ethiopia. Short-term drivers include exchange rate stability, infrastructure development, trade openness, and market size (GDP growth), all of which positively impact FDI. Long-term drivers such as real GDP per capita and consistent infrastructure development are significant; however, macroeconomic stability and trade openness show limited long-term effects. Critical barriers to FDI include inflation, where a 1% increase can reduce FDI by 1.03%, along with political instability and regulatory hurdles that deter investment. Furthermore, human capital and financial sector development have shown negligible effects, highlighting the need for targeted skill-building and policy reforms (Daniel, 2015). Addressing these challenges is essential for enhancing Ethiopia's attractiveness as an investment destination and fostering sustained economic growth. The general objective of this study is to examine the factors influencing Foreign Direct Investment (FDI) in Ethiopia's market. This includes identifying and evaluating the key economic, political, and institutional determinants that affect FDI inflows. The study aims to provide insights into the challenges and opportunities within the Ethiopian investment landscape, ultimately offering recommendations to enhance the attractiveness of Ethiopia as a destination for foreign investment. By understanding these dynamics, the research seeks to contribute to policy formulation that supports sustainable economic growth through increased FDI.

1.2. Statement of the Problem

Foreign Direct Investment (FDI) is vital for Ethiopia's economic development, providing essential capital, technology transfer, and job creation. However, despite ongoing reforms aimed at attracting FDI, the country has witnessed a decline in inflows, falling from USD 3.67 billion in 2022 to USD 3.26 billion in 2023. This downward trend raises critical concerns regarding the factors influencing FDI in Ethiopia's market, necessitating an in-depth investigation into the underlying issues.

The severity of this situation is multi-faceted. First, the economic implications of decreased FDI are significant, as foreign investment is crucial for fostering growth and enhancing the country's GDP. The reduction in inflows limits capital availability and hinders technology transfer and job creation, which are essential for sustainable development. Second, the investment climate in Ethiopia is plagued by persistent challenges. High inflation rates, which can diminish FDI by approximately 1.03% for every 1% increase, pose a substantial risk to potential investors (Daniel, 2015). Additionally, political instability creates an uncertain environment, discouraging foreign investment and further exacerbating economic challenges.

Moreover, while Ethiopia has several sectors with high potential for attracting investment, including renewable energy, manufacturing, and textiles, these opportunities are often underutilized due to existing barriers. Regulatory challenges, bureaucratic inefficiencies, and a lack of infrastructure hinder the ability of foreign investors to participate fully in these sectors (Getnet & Assefa, 2001; Habtamu, 2019).

There are significant practical and empirical gaps in the existing literature on FDI in Ethiopia. Although previous studies have identified various determinants of FDI, there is a lack of comprehensive analysis that integrates economic, political, and institutional factors (Getnet & Assefa, 2001; Habtamu, 2019). Furthermore, insufficient empirical research focuses specifically on sectoral trends and their impact on FDI inflows, leaving a critical gap in understanding which sectors are most attractive to foreign investors (Tesfaye & Henok, 2014).

Conceptually, the existing literature often lacks a unified theoretical framework that explains the interplay of various factors affecting FDI in Ethiopia (Chakrabarti, 2001). Many studies fail to

integrate global FDI trends with local dynamics, resulting in an incomplete understanding of the investment landscape (Islam & Beloucif, 2023).

Methodologically, several studies have relied on outdated or limited datasets, which may not accurately reflect the current conditions influencing FDI (Asiedu, 2002). Additionally, the predominant use of quantitative methods in existing research neglects qualitative insights that could provide a deeper understanding of investor motivations and perceptions (Lewis, 1999). This methodological gap highlights the need for a mixed-methods approach to capture the complexities of FDI in Ethiopia.

Geographically, there is a lack of analysis regarding regional variations within Ethiopia and how these differences affect FDI inflows and investment decisions (Getnet & Hirut, 2001). Understanding regional dynamics is crucial, as different areas may present unique opportunities and challenges for foreign investors. The factors influencing FDI in Ethiopia's market are complex and multifaceted. Addressing the identified barriers while leveraging positive determinants is essential for enhancing Ethiopia's attractiveness as an investment destination. This study aims to fill the existing gaps in the literature by providing a comprehensive analysis of the various factors influencing FDI, thereby contributing to the formulation of effective policies that promote sustainable economic growth through increased foreign investment. By understanding and addressing these challenges, Ethiopia can create a more conducive environment for FDI, ultimately driving its economic development and prosperity.

1.3. Research Questions

1. What are the economic, political, and institutional factors that significantly influence FDI inflows into Ethiopia?
2. How do short-term drivers, such as exchange rate stability and infrastructure development, and long-term drivers like real GDP growth and trade openness, impact FDI in Ethiopia?
3. What critical barriers deter FDI in Ethiopia, specifically regarding inflation, political instability, and regulatory challenges?
4. What are the trends in FDI across different sectors—such as renewable energy, manufacturing, and textiles—and which sectors attract the most investment?

5. What policy recommendations can be proposed to enhance the investment climate in Ethiopia and increase FDI inflows for sustainable economic growth?

1.4. Objective of the study

1.4.1. General objective

The general objective of this study is to examine the factors influencing Foreign Direct Investment (FDI) in Ethiopia's market.

1.4.2. Specific objectives

2. To analyze the economic, political, and institutional factors that significantly influence FDI inflows into Ethiopia.
3. To assess the impact of short-term drivers, such as exchange rate stability and infrastructure development, as well as long-term drivers like real GDP growth and trade openness on FDI.
4. To evaluate the critical barriers that deter FDI, including inflation, political instability, and regulatory challenges.
5. To analyze trends in FDI across different sectors, such as renewable energy, manufacturing, and textiles, and identify which sectors attract the most investment.
6. To develop policy recommendations aimed at enhancing the investment climate in Ethiopia, thereby increasing FDI inflows and promoting sustainable economic growth.

1.5. Significance of the Study

This study on the factors influencing Foreign Direct Investment (FDI) in Ethiopia's market holds significant academic, empirical, and institutional importance.

Academically, it contributes to the existing literature by focusing on Ethiopia, a relatively under-researched area in FDI studies. By developing a comprehensive theoretical framework that integrates economic, political, and institutional factors, the research enhances scholarly understanding and encourages further exploration in this field.

Empirically, the study generates valuable data on current FDI trends and sectoral variations, offering insights into the impacts of specific factors on investment inflows. It identifies barriers such as inflation and political instability while highlighting sectors with high investment potential, thus guiding policymakers and investors in their decision-making processes.

Institutionally, the findings will inform policy formulation aimed at improving the investment climate in Ethiopia. By addressing regulatory challenges and inefficiencies, the study can contribute to institutional reforms that foster a more conducive environment for foreign investment. Ultimately, this research aims to enhance investor confidence in Ethiopia's market, promoting sustainable economic growth through increased FDI inflows.

1.6. Scope of the Study

This study on the factors influencing Foreign Direct Investment (FDI) in Ethiopia encompasses several key dimensions. Geographically, it focuses specifically on Ethiopia, examining the unique economic, political, and institutional contexts that impact FDI inflows. Temporally, the research analyzes FDI trends and determinants over the past decade, providing insights into how these factors have evolved and influenced investment patterns in recent years. Sectorally, the study explores various sectors within the Ethiopian economy, including renewable energy, manufacturing, and textiles, to identify which sectors attract the most FDI and the reasons behind this attraction. Determinants of FDI will be a central focus, investigating various influencing factors such as economic indicators (like GDP growth and inflation), political stability, regulatory frameworks, and infrastructure development. Methodologically, the study employs a mixed-methods approach, integrating quantitative data analysis with qualitative insights to offer a comprehensive understanding of the factors affecting FDI. By clearly defining these dimensions, the study aims to provide a focused analysis that enhances the understanding of FDI dynamics in Ethiopia, ultimately contributing to policy formulation and investment strategies.

1.7. Limitations of the Study

This study may encounter several limitations. First, the reliance on secondary data may affect the accuracy and timeliness of the findings, as data availability can be inconsistent. Second, the focus on specific sectors may overlook other areas of significance that also influence FDI. Additionally, the mixed-methods approach, while comprehensive, may introduce complexities in data interpretation. Finally, external factors such as global economic conditions and geopolitical changes, which can significantly impact FDI, may not be fully addressed within the scope of this research. These limitations should be considered when interpreting the study's results and implications.

1.8. Operational Definitions

Foreign Direct Investment (FDI): Investment made by a company or individual in one country in business interests in another country, typically through establishing business operations or acquiring assets.

Economic Factors: Variables such as GDP growth, inflation rates, and trade openness that influence the economic environment and investment decisions.

Political Stability: The degree to which a government is stable and able to maintain order, which affects investor confidence and investment inflows.

Institutional Framework: The set of rules, regulations, and organizations that govern economic activities, impacting the ease of doing business and regulatory compliance.

Infrastructure Development: The physical systems and facilities (such as transportation, energy, and telecommunications) that support economic activities and influence investment decisions.

Sectoral Analysis: The examination of specific sectors within the economy (e.g., renewable energy, manufacturing) to assess their attractiveness for FDI based on relevant factors and trends.

1.9. Organization of the Study

This paper is organized into five key chapters.

Chapter One serves as the introduction, presenting the background of the study, statement of the problem, research questions, objectives, significance, scope, limitations, and definitions of terms.

Chapter Two reviews the existing literature, encompassing conceptual, empirical, and theoretical perspectives, along with the conceptual framework and hypotheses.

Chapter Three outlines the methodology, detailing the study area, research approach and design, population and sample size, sampling techniques, data sources, data collection methods, ethical considerations, and data analysis techniques.

Chapter Four presents the results and discusses the findings.

Chapter Five summarizes the findings, draws conclusions, offers recommendations, and suggests directions for future research on the factors influencing Foreign Direct Investment (FDI) in Ethiopia's market.

Chapter Two:

2. Review of Related Literature

This chapter provides a comprehensive review of both theoretical and empirical literature on Foreign Direct Investment (FDI), focusing on the factors influencing FDI in Ethiopia's market. It explores various economic, political, and institutional drivers, along with short-term and long-term influences. Additionally, the chapter addresses barriers to investment and sectoral trends, laying the groundwork for policy recommendations aimed at enhancing Ethiopia's investment climate and promoting sustainable economic growth.

2.1. Introduction to Foreign Direct Investment (FDI)

Foreign Direct Investment (FDI) is defined as an investment made by a company or individual in one country in business interests in another country, typically in the form of establishing business operations or acquiring assets. FDI plays a crucial role in economic development by facilitating capital flows, transferring technology, and creating job opportunities (UNCTAD, 2020). Its significance extends beyond mere financial investment; it fosters economic growth, enhances productivity, and improves the overall competitive landscape of the host country (Borensztein et al., 1998).

Globally, FDI has witnessed substantial fluctuations over the years, influenced by various factors such as economic conditions, political stability, and regulatory frameworks. According to UNCTAD (2021), global FDI inflows reached approximately \$1.58 trillion in 2020, reflecting a recovery from the pandemic-induced downturn. In Ethiopia, FDI has been pivotal in sectors such as agriculture, manufacturing, and infrastructure, contributing significantly to the country's economic transformation (World Bank, 2021). The Ethiopian government has actively promoted FDI through various incentives and policies aimed at attracting foreign investors, which has led to a steady increase in FDI inflows over the past decade (Federal Democratic Republic of Ethiopia, 2018).

Theoretical frameworks surrounding FDI provide insights into the factors that drive investment decisions. One prominent theory is the Eclectic Paradigm, proposed by Dunning (1980), which suggests that FDI is influenced by three key factors: ownership advantages, location advantages,

and internalization advantages. Ownership advantages refer to the unique assets or capabilities that a firm possesses, such as technology or brand reputation. Location advantages pertain to the specific attributes of a host country that make it attractive for investment, such as market size or resource availability. Internalization advantages involve the benefits of managing operations internally rather than through partnerships or licensing agreements.

Another relevant framework is the Market Imperfections Theory, which posits that FDI arises from imperfections in the market, such as barriers to trade or the existence of monopolistic advantages (Hymer, 1976). This theory emphasizes that firms invest abroad to overcome these market imperfections and gain a competitive edge. Additionally, the Gravity Model of FDI suggests that larger economies with closer geographic proximity are more likely to attract FDI due to reduced transportation costs and cultural similarities (Tinbergen, 1962). This model can be particularly relevant in the context of Ethiopia, where regional dynamics significantly influence investment patterns.

In the case of Ethiopia, the socio-political landscape plays a critical role in shaping FDI trends. Political stability, governance quality, and the regulatory environment are essential determinants that potential investors consider when evaluating opportunities in the country. Studies have shown that countries with stable political environments and transparent regulatory frameworks tend to attract more FDI (Asiedu, 2006; Alfaro et al., 2004). Ethiopia has made strides in improving its investment climate, yet challenges remain, particularly concerning bureaucratic inefficiencies and regulatory hurdles (World Bank, 2021).

Empirical studies have highlighted the importance of both macroeconomic and microeconomic factors in attracting FDI. For instance, a study by Blonigen (2005) found that countries with strong economic growth and stable exchange rates are more likely to attract FDI. In contrast, high inflation rates and political instability serve as deterrents. In Ethiopia, the government has implemented various reforms to stabilize the economy and create a more conducive environment for foreign investors, including infrastructure development and trade liberalization initiatives (Federal Democratic Republic of Ethiopia, 2020). FDI is a vital component of economic growth in Ethiopia, driven by a complex interplay of theoretical frameworks and empirical evidence. Understanding the factors that influence FDI is essential for policymakers aiming to enhance the

investment climate and promote sustainable economic development. As Ethiopia continues to navigate its development path, addressing the challenges and leveraging the opportunities for FDI will be crucial for achieving its long-term economic goals.

2.2. Economic Factors Influencing FDI

Foreign Direct Investment (FDI) is significantly influenced by various economic factors that shape the investment landscape of a country. In the case of Ethiopia, understanding these factors is crucial for developing strategies to enhance FDI inflows. This section analyzes key economic indicators, the role of exchange rates, and the impact of infrastructure development on FDI.

2.2.1. Analysis of Economic Indicators

Economic indicators such as Gross Domestic Product (GDP), inflation, and employment rates play a vital role in attracting foreign investors. GDP, which measures the total economic output of a country, is often viewed as a primary indicator of economic health. A growing GDP signals robust economic activity, attracting investors seeking profitable opportunities. According to the World Bank (2021), Ethiopia's GDP has shown consistent growth over the past decade, averaging around 10% annually prior to the COVID-19 pandemic. This growth has demonstrated the potential for high returns on investment, making Ethiopia an appealing destination for FDI.

Inflation rates also significantly influence FDI decisions. High inflation can erode the purchasing power of consumers and create uncertainty regarding future costs, deterring foreign investment (Asiedu, 2006). Ethiopia has faced challenges with inflation, particularly in recent years, where inflation rates have surged due to various factors, including supply chain disruptions and currency devaluation. High inflation can signal economic instability, prompting foreign investors to reconsider their investment plans. Therefore, maintaining stable and low inflation rates is essential for fostering a favorable investment climate.

2.2.2. Role of Exchange Rates and Their Stability

The stability of exchange rates is another critical factor influencing FDI. Exchange rate fluctuations can impact the profitability of investments, particularly for foreign investors who must convert their earnings back into their home currency. A stable exchange rate minimizes the risks associated with currency devaluation and enhances investor confidence (Chakrabarti, 2001).

In Ethiopia, the exchange rate has experienced significant volatility, particularly following the government's decision to float the birr in 2017. While this move aimed to promote exports and attract FDI, the subsequent depreciation of the birr has raised concerns among potential investors. A study by Blonigen (2005) highlights that countries with stable currencies tend to attract more FDI, as investors prefer environments where they can predict returns with greater certainty. Thus, addressing exchange rate volatility should be a priority for Ethiopian policymakers seeking to enhance the country's attractiveness for foreign investors.

2.2.3. Impact of Infrastructure Development on FDI Inflows

Infrastructure development is crucial for facilitating FDI, as it directly affects the operational efficiency of businesses. Quality infrastructure, including transportation, energy, and telecommunications, reduces costs and enhances productivity, making a country more appealing to foreign investors (OECD, 2008). In Ethiopia, significant investments in infrastructure have been made in recent years, particularly in roads, railways, and energy production.

The Ethiopian government has prioritized infrastructure development as part of its Growth and Transformation Plan (GTP), recognizing its importance for economic growth and FDI attraction. For instance, the completion of the Addis Ababa-Djibouti Railway has improved logistics and reduced transportation costs, thereby enhancing trade and investment opportunities (World Bank, 2021). Additionally, investments in renewable energy projects, such as the Grand Ethiopian Renaissance Dam, are expected to provide a reliable power supply that can attract energy-intensive industries.

However, despite these advancements, challenges remain. Infrastructure gaps, particularly in rural areas, still hinder access to markets and resources. A study by Akinwumi et al. (2020) emphasizes that inadequate infrastructure can deter FDI, as investors often seek locations with comprehensive transportation and utility networks. Therefore, continued investment in infrastructure development is essential to ensure that Ethiopia remains competitive in the global marketplace. Economic factors play a pivotal role in influencing FDI in Ethiopia. Analyzing economic indicators such as GDP and inflation rates provides insights into the country's economic health and stability. Moreover, the stability of exchange rates is crucial for fostering investor confidence, while robust infrastructure development enhances operational efficiency and attractiveness to foreign investors. Addressing these economic factors through sound policies

will be essential for Ethiopia to create a conducive investment environment and maximize the benefits of FDI for its economic growth.

Political and Institutional Factors Influencing FDI

Foreign Direct Investment (FDI) is profoundly affected by political and institutional factors, which play a crucial role in shaping the investment climate of a country. In Ethiopia, understanding these factors is essential for attracting foreign investors and promoting sustainable economic growth. This section examines political stability and governance, the influence of regulatory frameworks and policies, and the assessment of institutional quality and its impact on FDI.

2.3. Examination of Political Stability and Governance

Political stability is a fundamental determinant of FDI, as it provides a predictable environment for investors. Countries characterized by stable political systems tend to attract more FDI compared to those with frequent political turmoil. In Ethiopia, political stability has been a significant concern, particularly in recent years as the country has faced challenges related to ethnic tensions and conflict. According to the World Bank (2022), political instability not only affects investor confidence but also hinders long-term economic planning, making it imperative for the government to address these issues.

Good governance is closely linked to political stability and plays a vital role in attracting FDI. Governance encompasses the processes and structures through which public institutions manage public affairs and resources. Effective governance, characterized by transparency, accountability, and the rule of law, fosters an environment conducive to investment (Kaufmann et al., 2011). In Ethiopia, the government has made strides in improving governance through reforms aimed at enhancing institutional frameworks and reducing corruption, which have shown positive impacts on FDI inflows (OECD, 2021).

2.3.1. Influence of Regulatory Frameworks and Policies

The regulatory environment is critical for FDI, as clear and consistent regulations can significantly influence investor decisions. A favorable regulatory framework that simplifies the investment process, protects investor rights, and ensures fair competition can attract more foreign investors. In Ethiopia, the government has implemented various policies aimed at promoting

FDI, including tax incentives, investment guarantees, and streamlined registration processes (Federal Democratic Republic of Ethiopia, 2021).

However, challenges remain in the regulatory landscape. Bureaucratic inefficiencies and complex procedures can deter potential investors. A study by Asiedu and Lien (2011) emphasizes that cumbersome regulations and lengthy approval processes are significant barriers to FDI in many developing countries, including Ethiopia. Furthermore, the lack of regulatory clarity can create uncertainties, leading potential investors to perceive the investment climate as risky. Thus, continuous efforts to enhance regulatory frameworks and simplify processes are essential for attracting FDI.

2.3.2. Assessment of Institutional Quality and Its Impact on FDI

Institutional quality is a critical factor influencing FDI, as it encompasses the effectiveness of government institutions, the legal framework, and the overall business environment. High-quality institutions can provide the necessary support for foreign investors, ensuring that their interests are protected and that they can operate efficiently. Conversely, weak institutions can lead to corruption, inefficiencies, and a lack of trust, which can deter investment.

Ethiopia has made significant progress in improving institutional quality over the past few years. According to the Ibrahim Index of African Governance (2021), Ethiopia has seen improvements in areas such as safety and rule of law, participation, and human rights. However, challenges remain, particularly in terms of political freedom and civil liberties, which continue to impact the overall investment climate (Ibrahim Foundation, 2021).

The relationship between institutional quality and FDI is well-documented in the literature. For instance, a study by Alfaro et al. (2004) found that countries with better institutional quality tend to attract higher levels of FDI. In Ethiopia, enhancing institutional quality through capacity building, promoting the rule of law, and fighting corruption will be essential for creating a more favorable investment environment. Political and institutional factors play a vital role in influencing FDI in Ethiopia. Political stability and effective governance are essential for creating a predictable environment that attracts foreign investors. Additionally, a favorable regulatory framework that simplifies the investment process can significantly enhance FDI inflows. Finally, improving institutional quality is crucial for ensuring that investors feel secure and supported in

their operations. Addressing these political and institutional challenges will be key for Ethiopia to enhance its attractiveness as an investment destination and to promote sustainable economic growth.

2.5. Short-term vs. Long-term Drivers of FDI

Foreign Direct Investment (FDI) is influenced by a variety of factors that can be categorized as either short-term or long-term drivers. Understanding these drivers is essential for Ethiopian policymakers aiming to effectively attract and retain foreign investments. This section identifies and analyzes short-term and long-term drivers, along with their respective effects on FDI inflows. Short-term drivers are factors that can have an immediate impact on FDI but may not sustain their influence over time. Key short-term drivers include exchange rates and infrastructure development.

Fluctuations in exchange rates can significantly affect FDI decisions. A depreciation of the local currency may make investments cheaper for foreign investors, potentially boosting FDI inflows (Froot & Stein, 1991). However, excessive volatility can create uncertainty, deterring potential investors who seek a stable environment (Federal Reserve Bank of New York, 2006). Therefore, maintaining a stable exchange rate is crucial for fostering investor confidence.

Immediate improvements in infrastructure, such as the construction of new transportation networks or industrial parks, can attract FDI by reducing operational costs and improving market access (OECD, 2008). The effectiveness of these investments, however, depends on the ongoing quality and maintenance of infrastructure assets. If infrastructure is not adequately maintained, the initial positive impact on FDI may diminish over time (Akinwumi et al., 2020).

Long-term drivers are fundamental factors that create a stable and attractive investment climate over time. These include economic growth and trade openness. Sustained economic growth, as measured by GDP, signals a robust and expanding market, which is a key determinant for long-term FDI (World Bank, 2021). A growing economy provides opportunities for higher returns, making it more appealing for foreign investors to commit capital over the long haul. The degree to which a country is open to international trade significantly impacts FDI. Countries with fewer restrictions on imports and exports tend to attract more FDI, as they offer access to larger

markets and better integration into global value chains (Zaman et al., 2018; UNCTAD, 2024). Increased trade openness not only facilitates foreign investment but also promotes economic diversification and sustainability. The effects of short-term and long-term drivers on FDI inflows differ considerably. Short-term drivers can provide immediate boosts to FDI, but their impact may be temporary. For example, while a currency devaluation can attract FDI quickly, it may also lead to inflation and economic instability if not managed effectively (SciELO México, 2012). Similarly, infrastructure improvements can draw FDI, but without adequate skilled labor and strong institutions, their long-term benefits may be limited (Apolitical, 2025).

In contrast, long-term drivers foster a more sustainable investment environment. Economic growth and trade openness contribute to stability and predictability, both of which are essential for attracting sustained FDI. Research indicates that countries with strong economic growth and open trade policies consistently attract higher levels of FDI over time (MDPI, 2023). Both short-term and long-term drivers significantly influence FDI inflows. While short-term factors can yield immediate benefits, long-term drivers are crucial for creating a stable investment climate that sustains FDI over time. To maximize the benefits of FDI for sustainable economic development, Ethiopian policymakers should focus on fostering long-term economic growth, enhancing trade openness, and ensuring that short-term drivers contribute positively to the investment landscape.

2.6. Barriers to FDI in Ethiopia

Ethiopia, despite its significant potential, faces numerous barriers that impede Foreign Direct Investment (FDI) inflows. Addressing these challenges is essential for enhancing the country's attractiveness to foreign investors and fostering sustainable economic growth. Several barriers deter FDI in Ethiopia, including inflation, political instability, and regulatory challenges. High inflation rates can erode investor confidence and diminish the real value of returns, making Ethiopia a less attractive destination for FDI. As noted by Asiedu (2006), macroeconomic instability, often reflected in high inflation, negatively impacts FDI inflows. Recent research by Zemedu (2023) highlights that a 1% rise in inflation corresponds to a 1.03% decrease in FDI inflows, underscoring inflation's deterrent effect on investment.

Political instability and ethnic conflicts create an uncertain and risky environment for investors. Dagne and Ayelech (2021) indicate that insecurity and political unrest associated with ethnic tensions have significantly affected the investment climate, dissuading FDI. Political instability, compounded by real exchange rate volatility, can severely constrain FDI inflows (Simachew, 2024).

Complex and inefficient regulatory frameworks, bureaucratic delays, and corruption pose substantial obstacles to FDI. Abate et al. (2022) found that investors frequently cite cumbersome regulations and lengthy approval processes as significant barriers. Furthermore, challenges such as minimum capital requirements and restrictions in key sectors complicate the regulatory landscape (Zemedu, 2023).

Regulatory challenges in Ethiopia have extensive implications for FDI. Cumbersome procedures and a lack of transparency can deter potential investors. Red tape and bureaucratic hurdles increase transaction costs and create delays, discouraging foreign firms from investing (Abate et al., 2022). These inefficiencies can significantly slow down the investment process and lead to frustration among potential investors. Unclear and rapidly changing laws create uncertainty that hinders investment. Dagne and Ayelech (2021) indicate that inconsistent regulatory frameworks lead to a lack of trust among investors, exacerbating the challenges of attracting FDI.

An acute shortage of foreign exchange and restrictions on currency convertibility impede companies' ability to repatriate profits and obtain investment inputs (Simachew, 2024). These restrictions can deter potential investors, as they may struggle to manage their finances effectively in Ethiopia. Several case studies illustrate the impact of these barriers on FDI in Ethiopia. For example, the manufacturing sector, despite efforts to attract FDI, faces significant challenges due to power and transport infrastructure deficits, which hinder profits and limit export growth (Zemedu, 2023). Similarly, the agricultural sector suffers from a low implementation rate of FDI projects, exacerbated by delays in land provision (Abate et al., 2022). Furthermore, Ethiopia's low ranking in the World Bank's "Ease of Doing Business Index" reflects the myriad challenges facing investors, including logistical bottlenecks and bureaucratic delays (Zemedu, 2023).

addressing these barriers through policy reforms, improved governance, and targeted investments is crucial for unlocking Ethiopia's potential and attracting higher levels of sustainable FDI. By creating a more favorable investment climate, Ethiopia can enhance its economic growth and development prospects.

2.7. Policy Recommendations for Enhancing FDI in Ethiopia

Ethiopia has immense potential for attracting Foreign Direct Investment (FDI), yet various barriers hinder its growth. This section summarizes key findings from the literature, develops actionable policy recommendations, and emphasizes the importance of enhancing the investment climate for sustainable economic growth.

2.7.1. Summary of Findings from the Literature

The literature indicates that several critical factors affect FDI inflows in Ethiopia. High inflation rates diminish investor confidence and reduce the real value of returns, making the country less appealing for investment (Asiedu, 2006). Political instability, coupled with ethnic conflicts, creates an uncertain environment that deters foreign investors (Dagne & Ayelech, 2021). Additionally, regulatory challenges—such as bureaucratic inefficiencies and lack of regulatory clarity—significantly impede the investment process (Abate et al., 2022). The shortage of foreign exchange further complicates the landscape, restricting companies' ability to repatriate profits and obtain necessary inputs (Simachew, 2024). Collectively, these barriers have contributed to Ethiopia's low ranking in the World Bank's "Ease of Doing Business Index" (Zemedu, 2023). Addressing these issues is imperative for unlocking the country's potential to attract sustainable FDI.

2.7.2. Development of Actionable Policy Recommendations

Based on the literature, several actionable policy recommendations can be developed to enhance Ethiopia's investment climate:

2.7.2.1. Monetary Policy Stabilization

To combat high inflation, the government should implement effective monetary policies aimed at stabilizing prices. This includes tightening monetary supply and adjusting interest rates to control inflation (Asiedu, 2006). A stable economic environment will enhance investor confidence and make Ethiopia a more attractive destination for FDI. Promoting political stability is crucial for

attracting FDI. The government should foster dialogue among various ethnic groups and implement conflict-resolution mechanisms to address grievances. Strengthening democratic institutions and governance can also enhance political stability and provide a more secure environment for investors (Dagne & Ayelech, 2021). Simplifying regulatory frameworks is essential for attracting FDI. The government should streamline approval processes and reduce bureaucratic red tape. This could involve establishing a "one-stop shop" for investors to facilitate the approval of necessary permits and licenses (Abate et al., 2022). Additionally, enhancing regulatory clarity by providing clear guidelines and ensuring consistent application of laws will build trust among investors.

To address the challenges related to foreign exchange availability, the government should develop policies that facilitate currency convertibility and improve access to foreign currency for businesses. This may involve working with financial institutions to create more accessible foreign exchange services (Simachew, 2024). Ensuring that companies can repatriate profits without significant delays will enhance Ethiopia's attractiveness for foreign investors.

Investing in infrastructure is critical for supporting FDI, particularly in sectors like manufacturing and agriculture. The government should prioritize the development of reliable power, transportation, and communication networks. Public-private partnerships can be instrumental in funding and executing these infrastructure projects (Zemedu, 2023). Improved infrastructure will reduce operational costs for investors and enhance overall productivity. The government should consider offering targeted incentives for sectors that show high potential for growth, such as renewable energy and manufacturing. These incentives could include tax breaks, subsidies, and access to funding for startups in these sectors (Abate et al., 2022). By focusing on specific industries, Ethiopia can attract more FDI and diversify its economic base. Enhancing the investment climate is essential for sustainable economic growth in Ethiopia. A favorable environment for FDI not only brings in capital but also facilitates technology transfer, creates jobs, and stimulates local industries (Asiedu, 2006). By addressing the barriers identified in the literature and implementing the recommended policies, Ethiopia can unlock its potential and create a robust and sustainable economy. a comprehensive approach that encompasses monetary stabilization, political stability initiatives, regulatory reforms, foreign exchange policies, infrastructure investment, and targeted incentives will significantly enhance Ethiopia's

attractiveness for foreign investors. This, in turn, will contribute to the country's overall economic development and growth.

2.8. Empirical Review

This empirical review examines the various factors influencing Foreign Direct Investment (FDI) in Ethiopia. It synthesizes findings from existing literature, identifies gaps, and addresses the specific objectives of this research. Economic stability is essential for attracting FDI. A study by Zemedu (2023) indicates that real GDP growth significantly correlates with increased FDI inflows. Investors are more likely to commit capital to a growing economy, as it presents more opportunities for profit. However, inflation is a critical deterrent; Asiedu (2006) found that high inflation rates erode profit margins and diminish investor confidence. This suggests a need for further exploration into how inflation specifically affects different sectors in Ethiopia.

Political stability is a vital determinant of FDI. Dagne and Ayelech (2021) highlight that political unrest, particularly ethnic conflicts, creates an uncertain environment that deters foreign investment. The relationship between political stability and FDI is well-documented; however, more empirical research is needed to quantify the specific effects of political instability on various types of investments within Ethiopia. Additionally, the impact of governance quality on FDI has been explored by Alfaro et al. (2004), emphasizing the importance of transparent institutions.

The quality of institutions plays a significant role in attracting FDI. Effective institutions that promote transparency and reduce bureaucratic inefficiencies are critical (Abate et al., 2022). However, the literature often lacks in-depth analysis regarding which specific institutional factors—such as corruption levels or the efficiency of regulatory bodies—most significantly affect FDI in Ethiopia. Kaufmann et al. (2011) argue that weak institutions lead to increased transaction costs, which can deter potential investors.

Short-term drivers such as exchange rate stability and infrastructure development are pivotal in attracting FDI. Simachew (2024) notes that a stable exchange rate minimizes risks for investors, thereby encouraging inflows. Additionally, infrastructure development is crucial; Zemedu (2023) emphasizes that improvements in transportation and energy sectors can significantly enhance

FDI attractiveness. However, empirical studies often overlook the long-term sustainability of these short-term drivers, indicating a gap in understanding their lasting impacts on FDI.

Long-term factors like trade openness and sustained GDP growth are equally important. Akinwumi et al. (2020) found that countries with higher levels of trade openness tend to attract more FDI. Yet, the specific mechanisms through which trade policies impact FDI in Ethiopia remain under-researched. For instance, the impact of Ethiopia's membership in regional trade agreements on FDI inflows has not been extensively analyzed, suggesting a gap that requires further investigation (Zemedu, 2023).

High inflation and economic instability pose significant barriers to FDI. Zemedu (2023) indicates that inflation negatively affects investor confidence, leading to lower FDI inflows. The existing literature often focuses on macroeconomic indicators but fails to address how inflation affects specific industries differently, thereby creating a gap in understanding sector-specific vulnerabilities. Political challenges, including ethnic conflict and governance issues, also deter investment. Dagne and Ayelech (2021) argue that the lack of political stability creates uncertainty, which is detrimental to FDI. However, there is a lack of empirical studies that quantify the economic costs of political instability in terms of lost FDI opportunities, suggesting a need for more quantitative analyses. Regulatory inefficiencies are another barrier identified by Abate et al. (2022). Cumbersome procedures and lack of regulatory clarity create an environment that can deter potential investors. While existing studies point out these challenges, they often do not explore the specific regulatory changes that could facilitate FDI, highlighting a critical gap in actionable insights.

Ethiopia has seen varying levels of FDI across different sectors, including renewable energy, manufacturing, and textiles. Zemedu (2023) notes that renewable energy is increasingly attracting investment due to the country's vast natural resources. However, empirical research often lacks a comparative analysis of how FDI trends differ across sectors, indicating a gap in understanding sector-specific drivers and barriers. The textile industry has been a significant recipient of FDI, with industrial parks like Hawassa Industrial Park contributing to growth (Dagne & Ayelech, 2021). Yet, the challenges faced by this sector, such as reliance on imported raw materials and environmental sustainability concerns, have not been extensively studied.

More research is needed to identify what specific challenges hinder growth in this sector compared to others. The existing literature strongly suggests the need for targeted policy recommendations aimed at improving the investment climate in Ethiopia. Asiedu (2006) indicates that enhancing the regulatory framework and improving political stability could significantly boost FDI inflows. However, there is a lack of empirical studies that provide a roadmap for specific policies that could be implemented, pointing to a gap in practical, actionable insights. Improving the investment climate is essential for sustainable economic growth. Zemedu (2023) emphasizes that a favorable environment for FDI not only brings in capital but also facilitates technology transfer and job creation. Nevertheless, the literature often fails to link specific policy changes to tangible economic outcomes, indicating a gap that future studies should address. The empirical literature on FDI in Ethiopia highlights several critical factors influencing investment inflows, including economic stability, political conditions, and institutional quality. While various studies provide valuable insights, significant gaps remain, particularly in understanding sector-specific vulnerabilities and the long-term effects of short-term drivers. Future research should aim to address these gaps to develop a comprehensive understanding of the dynamics affecting FDI in Ethiopia.

Table 2.1.a summary of the empirical review presented in a clear table format:

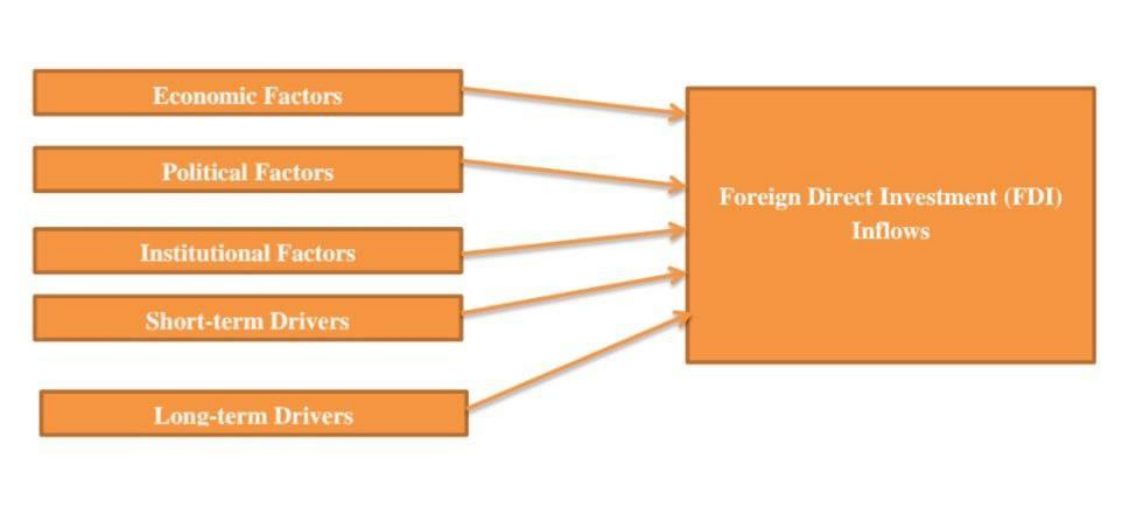
Factor	Description	Key Findings	Gaps Identified
Economic Factors	Economic stability is crucial for attracting FDI, including indicators like real GDP growth, inflation rates, and trade openness.	- Real GDP growth correlates with increased FDI inflows (Zemedu, 2023). - High inflation erodes investor confidence (Asiedu, 2006).	Need for further exploration into how inflation affects different sectors in Ethiopia.
Political Factors	Political stability, governance quality, and the overall political climate significantly impact investor confidence.	- Political unrest deters foreign investment (Dagne & Ayelech, 2021). - Governance quality is critical for attracting FDI (Alfaro et al., 2004).	Lack of empirical studies quantifying specific effects of political instability on FDI types.
Institutional	The effectiveness of	- Effective institutions	Insufficient analysis

Factors	institutions, regulatory quality, and legal frameworks govern foreign investments.	promote transparency and reduce inefficiencies (Abate et al., 2022). - Weak institutions increase transaction costs (Kaufmann et al., 2011).	of specific institutional factors affecting FDI in Ethiopia.
Short-term Drivers	Factors like exchange rate stability and infrastructure development have immediate effects on FDI attraction.	- Stable exchange rates minimize risks for investors (Simachew, 2024). - Infrastructure improvements enhance FDI attractiveness (Zemedu, 2023).	Overlooked long-term sustainability of short-term drivers and their lasting impacts on FDI.
Long-term Drivers	Sustained economic growth, trade policies, and market openness influence FDI over a longer period.	- Higher trade openness attracts more FDI (Akinwumi et al., 2020). - Long-term economic growth signals stability (Zemedu, 2023).	Need for research on how Ethiopia's trade agreements impact FDI inflows.
Barriers to FDI	High inflation, political instability, and regulatory challenges deter FDI.	- Inflation negatively impacts investor confidence (Zemedu, 2023). - Political instability creates uncertainty (Dagne & Ayelech, 2021).	Lack of quantitative analyses on economic costs of political instability related to FDI losses.
Sectoral Trends	FDI levels vary across sectors like renewable energy, manufacturing, and textiles.	- Renewable energy is attracting increasing investment (Zemedu, 2023). - Industrial parks contribute to textile sector growth (Dagne & Ayelech, 2021).	Lack of comparative analysis on FDI trends across sectors and specific challenges faced by each sector.
Policy Recommendations	Targeted policies are needed to improve the investment climate and	- Enhancing regulatory frameworks and political stability can	Insufficient empirical studies providing actionable

	boost FDI inflows in Ethiopia.	boost FDI (Asiedu, 2006).	policy insights for improving the investment climate.
Conclusion	Empirical literature highlights critical factors influencing FDI inflows, including economic stability, political conditions, and institutional quality.	- Significant gaps remain in understanding sector-specific vulnerabilities and long-term effects of short-term drivers.	Future research should address these gaps for a comprehensive understanding of FDI dynamics in Ethiopia.

2.9. Conceptual frameworks

Figure 2.1. Conceptual frameworks



Conceptual frameworks: Adopted from Akinwumi et al. (2020)

Foreign Direct Investment (FDI) is vital for economic development, particularly in emerging markets like Ethiopia. Understanding the factors influencing FDI inflows is crucial for policymakers aiming to enhance the investment climate and promote sustainable economic growth. This framework outlines the dependent and independent variables that shape FDI in Ethiopia, focusing on economic, political, institutional, short-term, and long-term drivers.

Foreign Direct Investment (FDI) Inflows

FDI inflows are the primary dependent variable in this study, representing the amount of foreign capital invested in Ethiopia. Defined as investments made by individuals or companies in one country in business interests in another, FDI is crucial for technology transfer, job creation, and overall economic growth (UNCTAD, 2020). In Ethiopia, an increase in FDI inflows is associated with improved economic performance and development outcomes (Asiedu, 2006). Tracking FDI inflows helps gauge the effectiveness of policies aimed at attracting foreign investments.

1. Economic Factors

Economic factors are critical determinants of FDI inflows. Key indicators include:

Real GDP Growth: Higher GDP growth rates signal a robust economy, attracting foreign investors seeking profitable opportunities. Zemedu (2023) found that countries with strong economic growth tend to experience increased FDI inflows, as a thriving economy offers a favorable environment for investment.

Inflation Rates: High inflation can deter foreign investment by eroding profit margins and creating uncertainty. As noted by Asiedu (2006), elevated inflation rates negatively impact FDI, as investors worry about diminishing returns. Understanding sector-specific responses to inflation can provide deeper insights into investment patterns.

Trade Openness: The degree of trade openness is significant for attracting FDI. Akinwumi et al. (2020) argue that increased trade openness allows foreign investors to access larger markets, enhancing the attractiveness of host countries. Ethiopia's trade policies, including participation in regional trade agreements, play a vital role in shaping FDI inflows.

2. Political Factors

Political factors encompass the political stability, governance quality, and overall political climate, which significantly impact investor confidence.

Political Stability: A stable political environment is essential for attracting FDI. Dagne and Ayelech (2021) emphasize that political unrest and ethnic conflicts create uncertainty that deters foreign investors. The likelihood of investment increases in countries that maintain political stability.

Governance Quality: Effective governance, characterized by transparency and accountability, is crucial for fostering a favorable investment climate. Kaufmann et al. (2011) highlight that poor governance can lead to increased risks for investors, making them hesitant to commit capital.

Political Climate: The overall political climate, including levels of democracy and civil rights, can influence FDI. Countries that uphold democratic values and protect individual rights are often viewed more favorably by foreign investors (Akinwumi et al., 2020). Enhancing governance and political rights can improve Ethiopia's attractiveness for FDI.

3. Institutional Factors

Institutional factors relate to the effectiveness of institutions, regulatory quality, and the legal framework governing foreign investments.

Regulatory Quality: Clear, consistent, and transparent regulations are essential for attracting FDI. Abate et al. (2022) argue that bureaucratic inefficiencies and regulatory uncertainty can deter potential investors. Streamlining regulatory processes is vital for improving the investment climate.

Legal Framework: A robust legal framework that protects property rights and enforces contracts is crucial for investor confidence. Weak legal protections can lead to higher risks for foreign investors, thereby reducing FDI inflows (Kaufmann et al., 2011). Strengthening legal institutions can foster a more attractive environment for investment.

Institutional Effectiveness: The overall effectiveness of institutions, including their ability to implement policies and deliver services, significantly influences FDI levels. Countries with strong institutional frameworks generally attract more foreign investment (Dagne & Ayelech, 2021).

4. Short-term Drivers

Short-term drivers include factors that can have immediate effects on attracting foreign investment.

Exchange Rate Stability: A stable exchange rate minimizes risks for investors. Simachew (2024) notes that fluctuations in exchange rates can create uncertainty, deterring foreign

investment. Ensuring exchange rate stability can enhance Ethiopia's attractiveness to foreign investors.

Infrastructure Development: The quality of infrastructure, including transportation, utilities, and communication, is crucial for attracting FDI. Zemedu (2023) emphasizes that improvements in infrastructure can significantly enhance a country's appeal to foreign investors by reducing operational costs.

5. Long-term Drivers

Long-term drivers consist of sustained economic growth, trade policies, and market openness that influence FDI over an extended period.

Sustained Economic Growth: Long-term economic growth creates a favorable environment for FDI. Akinwumi et al. (2020) argue that sustained growth signals to investors that a country is stable and has the potential for profitability.

Trade Policies: Policies that promote trade, such as free trade agreements, can enhance FDI by providing investors with greater market access. Zemedu (2023) highlights the importance of Ethiopia's trade policies in attracting foreign investment.

Market Openness: An open market allows for greater competition and innovation, which can attract more FDI. Countries that actively promote market openness tend to see higher levels of foreign investment (Asiedu, 2006). This conceptual framework outlines the various factors influencing FDI in Ethiopia, highlighting the interplay between dependent and independent variables. FDI inflows are affected by economic, political, and institutional factors, as well as short-term and long-term drivers. Understanding these dynamics is essential for policymakers aiming to enhance the investment climate and promote sustainable economic growth in Ethiopia. Future research should focus on addressing existing gaps, particularly in sector-specific analyses and the long-term impacts of short-term drivers.

CHAPTER THREE

3. RESEARCH METHODOLOGY

This chapter outlines the research design and data sources for examining factors influencing Foreign Direct Investment (FDI) in Ethiopia. It details the method of data collection, focusing on secondary data from the World Bank, IMF, and UNCTAD. The model specification employs Multiple Ordinary Least Squares (OLS) for analysis, assessing key economic variables impacting FDI. Variables include GDP growth, inflation, and trade openness. Ethical considerations ensure informed consent and confidentiality in data handling. This comprehensive approach facilitates a thorough understanding of the dynamics affecting FDI in Ethiopia's market, providing valuable insights for policymakers.

3.1. Research design

This study utilizes a quantitative research approach, concentrating on secondary data sources to evaluate the key economic variables influencing FDI inflows in Ethiopia. By employing a quantitative strategy, the research enables a systematic and objective analysis of numerical data. An explanatory research design is chosen to provide a comprehensive understanding of the relationships between various factors affecting FDI. To analyze the time series data from 1978 to 2024, Multiple Ordinary Least Squares (OLS) estimators are employed. This statistical method allows for the estimation of the impacts of different variables on FDI inflows. Through this approach, the study aims to offer valuable insights into the dynamics of investment in Ethiopia's market, helping to identify the critical factors that drive foreign direct investment and informing policymakers on how to enhance the investment climate.

3.2. Source of data and method of data collections

3.2.1. Source of data

To examine the determinants of FDI in Ethiopia, this study uses annual time series data from 1978 to 2024, depending on data availability. It focuses on key economic variables influencing FDI inflows. The research employs quantitative data gathered from secondary sources, primarily the World Bank (WB), with additional information from the International Monetary Fund (IMF) and the United Nations Conference on Trade and Development (UNCTAD). This combination of data sources ensures accuracy and reliability in analyzing the factors affecting FDI in Ethiopia.

3.2.2. Method of data collection

This study employs secondary data collection, utilizing established databases and reports to access existing information. Key sources include the World Bank (WB), International Monetary Fund (IMF), and United Nations Conference on Trade and Development (UNCTAD), which provide reliable economic indicators and FDI trends. The research focuses on annual time series data from 1978 to 2024, allowing for long-term trend analysis. Data is cross-verified across multiple sources to ensure consistency and accuracy, thus enhancing the reliability of findings. This structured approach facilitates a comprehensive analysis of factors influencing FDI in Ethiopia.

3.3 descriptions of the study variables

3.3.1 Dependent Variable

Foreign Direct Investment (FDI) is a critical measure for assessing a country's economic health and attractiveness to foreign investors. According to the World Bank's World Development Indicators (2012), FDI is defined as the net inflows of investments aimed at acquiring a significant management interest (10% or more ownership) in foreign businesses. This definition underscores the importance of not just financial input, but also the intent to engage in long-term management and operational involvement in the host country. In this study, FDI is quantified as the net foreign direct investment inflows expressed as a percentage of a country's Gross Domestic Product (GDP). This approach allows for a relative assessment of FDI's significance in relation to the overall size and economic activity of the country, thus providing a more nuanced understanding of its impact on economic development.

3.3.2 Independent Variables

Macroeconomic Stability (MES): This variable serves as a crucial indicator of a nation's resilience to external shocks, which is essential for fostering sustained economic growth. A stable macroeconomic environment is attractive to foreign direct investment, as it reduces uncertainty and risk for investors. Key proxies for measuring macroeconomic stability include:

Inflation Rate (INR): High inflation typically leads to economic instability, which can deter FDI. Investors seek environments where prices are stable and predictable, making low inflation desirable.

Exchange Rate (EXR): A stable exchange rate is positively correlated with FDI, as it minimizes the risks associated with currency fluctuations. Investors are more likely to commit to a market where they can predict their returns without significant currency risk.

Foreign Debt (FOD): Lower levels of foreign debt are expected to positively influence FDI. High foreign debt can signal economic fragility, making foreign investors hesitant to invest in such economies.

Market Size: The size of the consumer market is another significant determinant of FDI. A larger market implies greater potential for trade and investment opportunities. This study uses:

Real GDP Growth Rate (RGDP): A positive relationship is anticipated between market size and FDI, as higher economic growth suggests a thriving environment where foreign investors can expect substantial returns. A growing GDP indicates an expanding market with increasing consumption, making it an attractive destination for foreign investment.

Trade Openness (TOP): Trade openness is measured by the sum of a country's imports and exports relative to its GDP. This variable is crucial for understanding how integrated an economy is in the global market. High trade openness is expected to attract FDI, as it signifies fewer trade barriers and greater market accessibility. A high ratio indicates a liberal trade environment, which is appealing to foreign investors seeking to enter new markets.

Infrastructure (GFCF): Quality infrastructure is vital for economic productivity and growth. Effective infrastructure includes transportation systems, utilities, and communication networks, all of which facilitate trade and business operations. In this study, Gross Fixed Capital Formation serves as a proxy for infrastructure development. A well-developed infrastructure can significantly reduce operational costs for foreign investors and improve overall business conditions. It is expected that countries with robust infrastructure will attract more FDI, as they provide an environment conducive to efficient business operations. This framework of dependent and independent variables offers a comprehensive basis for analyzing the factors influencing FDI in Ethiopia. Each variable plays a critical role in shaping the investment landscape, providing valuable insights for policymakers and stakeholders aiming to enhance the investment climate. By understanding these dynamics, Ethiopia can better position itself to attract foreign direct investment, ultimately contributing to its economic development and growth.

3.3 Description of Variables

In this section, we explore the key variables selected for analyzing their influence on Foreign Direct Investment (FDI) inflows in Ethiopia. The dependent variable and several independent variables are examined in detail, highlighting their definitions, significance, and expected relationships with FDI.

3.3.1 Dependent Variable

Foreign Direct Investment (FDI): Defined by the World Bank's World Development Indicators (2021), FDI refers to the net inflows of investment aimed at acquiring a significant management interest (10% or more voting stock) in enterprises operating outside the investor's home country. For this study, FDI is quantified as the net foreign direct investment inflows expressed as a percentage of Gross Domestic Product (GDP). This measurement is crucial as it allows for a relative assessment of FDI's significance within the overall economic framework, enabling a clearer understanding of its impact on economic growth and development in Ethiopia.

3.3.2 Independent Variables

Market Growth Rate (GDP Growth Rate): Market size is a fundamental determinant of FDI, as it reflects the wealth and development level of a country. A larger market size signifies greater investment opportunities, which can lead to higher profitability for foreign firms. Empirical studies often use the real Gross Domestic Product (GDP) growth rate to measure the size of an economy. In this study, we adopt this approach, expecting a positive relationship between GDP growth and FDI inflows. Higher GDP growth rates indicate a thriving economy, which is attractive to foreign investors seeking lucrative opportunities.

Trade Openness: Trade openness, defined as the degree of liberalization in a country's trade regime, plays a vital role in promoting FDI. An open economy provides enhanced market opportunities and facilitates capital movement across borders. Trade openness is measured as the ratio of exports to GDP, which reflects the extent to which an economy engages in international trade. A higher ratio signifies fewer trade barriers and a more accessible market for foreign investors. Literature consistently shows that countries with liberal trade policies attract more FDI compared to those with restrictive measures. Therefore, we anticipate a positive relationship between trade openness and FDI inflows.

Inflation Rate: The inflation rate is a crucial indicator of macroeconomic stability, defined by the World Bank (2014) as the annual percentage change in the consumer price index. High inflation can erode the real returns on investment and reduce competitiveness for firms. Countries that successfully maintain low and predictable inflation rates are more likely to attract FDI, as stability fosters greater investor confidence. Conversely, high and volatile inflation rates can deter foreign investment by signaling economic instability and ineffective fiscal policies. This study hypothesizes that lower inflation rates will have a positive impact on FDI inflows, as they indicate a more favorable economic environment for long-term investments.

Infrastructure Development: The quality of infrastructure is a well-recognized factor influencing FDI attraction. Effective infrastructure encompasses a range of services, including transportation (roads, railways, airports), utilities (electricity, water supply), and communication (telecommunications, internet access). Well-developed infrastructure reduces operational costs for businesses, enhances productivity, and maximizes returns on investment. In this study, Gross Fixed Capital Formation (GCF) is utilized as a proxy for measuring infrastructure development. A positive correlation is expected between infrastructure quality and FDI inflows, as countries with advanced infrastructure are better positioned to manage and attract foreign investments.

Financial Risk: Financial risk pertains to a country's ability to generate sufficient foreign exchange to meet its obligations regarding foreign debt, including interest and principal payments. This risk is often assessed using the ratio of external debt to GDP. A high ratio can indicate greater financial vulnerability, which may discourage foreign investors from committing capital. Understanding a country's financial risk is critical for evaluating its attractiveness to foreign investors. This study anticipates that lower financial risk—reflected in a lower external debt-to-GDP ratio—will positively influence FDI inflows, as it signals a more stable and secure investment environment. The variables outlined in this section provide a comprehensive framework for analyzing the factors influencing FDI in Ethiopia. By examining both the dependent variable (FDI) and the independent variables (market growth rate, trade openness, inflation rate, infrastructure development, and financial risk), we can gain valuable insights into the dynamics that shape the investment landscape. Each variable plays a significant role in determining the attractiveness of Ethiopia as a destination for foreign direct investment. Policymakers and stakeholders can leverage this knowledge to enhance the country's investment

climate, ultimately fostering economic growth and development. Understanding these relationships is crucial for formulating effective strategies to attract and retain foreign investment, which is vital for Ethiopia's sustained economic progress.

Table 3.1: Summary of Expected Signs of Variables Used in Regression

Variables	Abbreviation	Description	Expected Sign
Foreign Direct Investment	FDI	Inward foreign direct investment stock (% of GDP)	
Market Size	GDP	Real GDP growth rate	+
Trade Openness	EXPO	Ratio of exports to GDP	+
Inflation Rate	INF	Average annual inflation rate	+
Infrastructure	GCF	Gross capital formation to GDP	+
Country's Financial Risk	EXDT	External debt as a percentage of GDP	-/+

Note: Own computation.

Table 3.1: Summary of Expected Signs of Variables Used in Regression

This table summarizes the expected signs for various variables analyzed in this study regarding their influence on Foreign Direct Investment (FDI) in Ethiopia.

- **Foreign Direct Investment (FDI):** This variable represents inward foreign direct investment stock as a percentage of GDP. It serves as the dependent variable, reflecting the level of foreign investment in the country.
- **Market Size (GDP):** Measured by the real GDP growth rate, this variable is expected to have a positive relationship with FDI. A larger market size indicates greater opportunities for investment.
- **Trade Openness (EXPO):** The ratio of exports to GDP is used to assess trade openness. A positive sign is anticipated, as a more open economy facilitates foreign investment.
- **Inflation Rate (INF):** The average annual inflation rate is expected to have a positive relationship with FDI. Lower and stable inflation signals a favorable investment climate.

- **Infrastructure (GCF):** This variable captures gross capital formation as a percentage of GDP. A positive sign is expected, as improved infrastructure lowers operational costs and attracts foreign investors.
- **Country's Financial Risk (EXDT):** Measured by external debt as a percentage of GDP, this variable may have a negative or neutral relationship with FDI, as high debt levels can deter investment due to perceived financial instability.

3.4. Estimation Techniques

To analyze the relationship between various economic variables and Foreign Direct Investment (FDI) inflow in Ethiopia, this study employs several estimation techniques, focusing on the stationarity of the data and the long-run co-integration between the variables.

3.4.1. Stationarity Test

In time series analysis, the concept of stationarity is crucial. For effective estimation of a time series model, the data must be stationary. Analyzing non-stationary data can lead to what is known as "spurious regression," where the estimated model shows a high R^2 value and significant t-values without any substantive economic relationship among the variables. Granger and Newbold (2014) emphasize the importance of understanding the data-generating process to avoid misleading correlations that may arise from non-stationary variables exhibiting correlated time trends rather than meaningful relationships.

A stationary time series implies that its statistical properties, such as mean and variance, remain constant over time. Specifically, a stochastic process is considered weakly stationary if its mean and variance do not change over time, and the covariance between different time periods depends only on the distance between those periods. Conversely, strict stationarity requires that all moments of the distribution remain unchanged over time (Enders, 1995; Gujarati, 2003).

To verify the stationarity of each variable, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests are utilized. A time series is integrated of order d (denoted as $I(d)$) if it becomes stationary after being differenced d times. The results of the stationarity tests may vary

based on whether a constant or time trend is included in the regression, necessitating formal tests for their statistical significance.

3.4.2. Testing for Unit Roots

Unit root testing has gained popularity as a method for assessing stationarity. Common approaches include the Dickey-Fuller (DF) test, the Augmented Dickey-Fuller (ADF) test, and the Phillips-Perron test. This study primarily employs the ADF and Phillips-Perron tests to check for unit roots in the data.

The ADF test extends the DF test by incorporating lagged values of the first differences of the dependent variable as additional regressors to account for potential autocorrelation. This approach allows for a more robust evaluation of the null hypothesis that a series contains a unit root, indicating non-stationarity, against the alternative hypothesis of stationarity.

Before conducting further analyses, it is essential to assess the stationarity of each variable using these methodologies. The ADF test, along with the Phillips-Perron test, serves to identify the presence of unit roots, helping to determine if the variables are stationary or need differencing to achieve stationarity. By confirming the stationarity of the variables, the study can proceed to more complex analyses, such as co-integration and error correction modeling, ensuring that the results are meaningful and reliable. The estimation techniques outlined in this section provide a comprehensive framework for analyzing the relationship between economic variables and FDI in Ethiopia. By first establishing the stationarity of the data through rigorous testing, the study aims to avoid spurious results and ensure that the subsequent analyses accurately reflect the underlying economic relationships. These methods are critical for drawing valid conclusions regarding the factors influencing FDI inflows in the country.

3.4.3. Augmented Dickey-Fuller Test Models

The Augmented Dickey-Fuller (ADF) test comprises three models for testing the stationarity of a time series:

1. **Without Constant:**

$$\Delta X_{it} = \rho X_{it-1} + \sum B_i \Delta X_{it-1} + \varepsilon_t \quad (1)$$

2. **With Constant:**

$$\Delta X_{it} = \alpha + \rho X_{it-1} + \sum B_i \Delta X_{it-1} + \varepsilon_t \quad (2)$$

3. **With Constant and Trend:**

$$\Delta X_{it} = \alpha + \beta t + \rho X_{it-1} + \sum B_i \Delta X_{it-1} + \varepsilon_t \quad (3)$$

Where:

- Δ denotes the difference operation.
- t represents time.
- ρ is the coefficient of the lagged variable.
- α and β are constant parameters.
- B_i are the coefficients for the lagged difference terms.
- ε_t is the error term.

Explanation

The table illustrates three methods for calculating the stationarity test:

- **Equation 1:** Represents the ADF test without a constant term, focusing solely on the lagged variable.
- **Equation 2:** Includes a constant term, allowing for a baseline shift in the series.
- **Equation 3:** Incorporates both a constant and a time trend, providing a more comprehensive model for assessing stationarity in the presence of both factors.

These models help determine the appropriate form for conducting stationarity tests on the time series data.

3.3.3 Long Run Relationship: Co-integration

3.3.3.1 Vector Autoregressive (VAR) Modeling and Co-integration Analysis

Co-integration is a significant concept in econometrics, especially when dealing with non-stationary time series data. According to Wooldridge (2003), co-integration was formally introduced by Engle and Granger (1987) to make regression involving non-stationary time series—specifically those integrated of order one, $I(1)$ —meaningful. The essence of co-integration is that a linear combination of two $I(1)$ series can itself be stationary, or integrated of order zero, $I(0)$. Understanding co-integration is vital because differencing a variable to achieve stationarity captures only short-run dynamics, while we also want to explore the long-run relationships between variables. Economically, two variables are co-integrated if they share a long-run equilibrium relationship.

In Vector Autoregressive (VAR) models, testing for co-integration is crucial. If no co-integration relationship exists between the variables, estimating a Vector Error Correction Model (VECM) would be meaningless. A simple method for testing co-integration is the Engle-Granger two-step approach. While this method is relatively straightforward, it has important limitations, particularly the inability to systematically identify multiple co-integrating vectors.

To address these limitations, Johansen (1988) proposed an alternative approach using maximum likelihood estimation to test for the number of co-integrating relationships. This method overcomes the drawbacks of the two-step Engle-Granger approach. Notably, the Johansen procedure can detect multiple co-integrating vectors and allows for testing restricted versions of the co-integrating vectors along with the speed of adjustment parameters (Enders, 1995).

The co-integration testing and VAR model estimation in this study follow the methodologies developed by Johansen (1988, 1991) and Johansen and Juselius (1990). This approach is preferred over the Engle-Granger method for several reasons. First, the Johansen procedure allows for the detection of more than one co-integrating vector. Additionally, it permits the estimation of the model without categorizing variables as strictly endogenous or exogenous. This flexibility is crucial in determining how each endogenous variable responds over time to shocks within that variable and in other endogenous variables.

Johansen (1988, 1991) demonstrated that the test for co-integration can be expressed as a test for reduced rank of a regression coefficient matrix. This coefficient matrix can be estimated consistently using linear regression techniques, and the test statistic can be derived from solving an eigenvalue problem. Linear restrictions on the co-integrating parameters can be tested using the likelihood ratio test statistic, which follows a chi-squared distribution (Walls, 1993).

Economic variables often exhibit short-run behaviors that can be captured through dynamic modeling. When a long-run relationship exists among the variables, an Error Correction Model (ECM) can be formulated to illustrate both the dynamic and long-run interactions between them. If two non-stationary variables can form a stationary linear combination, they are co-integrated. This co-integration implies the presence of an error-correcting mechanism: any deviation from the equilibrium point will eventually revert to its long-run path. Thus, an ECM captures both short-run fluctuations and long-run behaviors within the system.

Engle and Granger (1987) defined the ECM as "a particular representation of a vector autoregression appropriate for co-integrated results," indicating that if a long-run relationship exists among the variables, an ECM is warranted.

A VAR model describes how multiple variables evolve over time based on their shared history. Utilizing a co-integrated VAR model helps mitigate issues of spurious correlation and endogeneity bias, as it is specifically designed for non-stationary time series data and does not require strict classification of variables as endogenous or exogenous. This model allows for feedback effects and dynamic interrelationships among all variables in the system, making it competitive with large-scale macroeconomic models in both forecasting and policy analysis (Rahman, 2004).

The general VAR system of equations can be specified as:

$$Y_t = A_1 Y_{t-1} + A_2 Y_{t-2} + \dots + A_p Y_{t-p} + \varepsilon_t$$

Where:

- Y_t is a vector of endogenous variables.
- $A_1, A_2, \dots, A_p$ are matrices of coefficients.
- p represents the number of lags.
- ε_t is the error term.

In conclusion, understanding co-integration and employing VAR modeling techniques are essential for analyzing the long-run relationships between economic variables. By utilizing the Johansen methodology, this study aims to provide robust insights into the dynamics of FDI in Ethiopia, ensuring that both short-run and long-run interactions are adequately captured and analyzed. understanding co-integration and employing VAR modeling techniques are essential for analyzing the long-run relationships between economic variables. By utilizing the Johansen methodology, this study aims to provide robust insights into the dynamics of FDI in Ethiopia, ensuring that both short-run and long-run interactions are adequately captured and analyzed.

3.4.4. Vector Error Correction Models (VECM)

Time-series variables are often non-stationary, and using level VAR models can lead to spurious and misleading results (Mukhopadhyay and Pradhan, 2010). If level variables share a long-run relationship or are co-integrated, simply differencing the variables may result in model misspecification. Therefore, it is essential to express the VAR in a Vector Error Correction Model (VECM) form.

The VECM treats all variables as potentially endogenous. Each variable, expressed in its first difference, responds not only to changes in other variables but also to deviations from the long-run equilibrium path (Mukhopadhyay & Pradhan, 2010). This allows the model to capture both short-run and long-run relationships.

The VECM can be specified as:

$$\Delta Y_t = \alpha_0 + \pi Y_{t-1} + \Gamma_1 \Delta Y_{t-1} + \Gamma_2 \Delta Y_{t-2} + \dots + \Gamma_{k-1} \Delta Y_{t-k} + \varepsilon_t$$

Where:

- $\Gamma = -(A_1 + A_2 + \dots + A_k)$
- $\pi = -I + A_1 + A_2 + A_3 + \dots + A_k$

The VEC specification constrains the long-run behavior of endogenous variables to converge to their co-integrating relationships while allowing for a variety of short-run dynamics. The co-integration term, known as the error correction term, indicates how deviations from long-run equilibrium are gradually corrected through partial short-run adjustments.

Using non-stationary data can cause spurious regression problems, resulting in inconsistent least squares estimators for intercept and slope coefficients (Wooldridge, 2000). To obtain non-spurious estimation outcomes, it is necessary to conduct both unit root tests and co-integration analysis, as these are fundamental components of time series characteristics.

The VECM illustrates how variables adjust toward their long-run equilibrium state. The coefficients of the error correction terms indicate the extent to which long-run disequilibrium in the dependent variables is corrected in the short term.

In this study, various post-estimation diagnostic tests were performed to ensure that the model's residuals follow a Gaussian distribution. These tests include:

- Residual vector serial correlation LM test
- Residual vector normality test
- Residual vector heteroscedasticity test
- Multicollinearity test

These diagnostic checks help validate the robustness and reliability of the VECM results.

3.5. Data analysis

The research examines annual time series data spanning from 1978 to 2024, enabling an in-depth analysis of long-term trends. Descriptive statistics, such as the mean and standard deviation, are calculated to summarize the data's central tendency and variability. Additionally, inferential analysis is conducted to identify relationships and patterns within the dataset. To ensure the reliability of the findings, data is meticulously cross-verified across multiple sources, enhancing its consistency and accuracy. This rigorous approach reinforces the validity of the research conclusions and provides a solid foundation for understanding the trends over the specified period.

3.6. Ethical Considerations in Research

In conducting research, it is essential to prioritize ethical considerations. This includes obtaining informed consent from participants, ensuring they are fully aware of the study's purpose, procedures, and risks. Confidentiality must be maintained by protecting personal information and anonymizing data. Researchers should minimize any potential harm to participants, ensuring that the benefits outweigh risks. Integrity and honesty in data collection and reporting are crucial, as is treating participants with respect and dignity. Fairness in participant selection and compliance with relevant laws and guidelines further enhance the ethical standards of the research process.

CHAPTER FOUR

4. RESULTS AND DISCUSSION

This chapter analyzes the relationship between Foreign Direct Investment (FDI) and its determinants using annual time series data. Before directly estimating the model, it is essential to conduct a unit root test to determine whether the time series is stationary. After identifying the optimal lag length and performing the VAR lag exclusion Wald test, the presence of co-integrating vectors is examined using the Johansen co-integration method. Additionally, the Vector Error Correction Model (VECM) is employed to assess the direction of causality between FDI and its determinants. This section also identifies both long-run and short-run relationships, followed by post-diagnostic tests.

4.1. Descriptive Analysis

Descriptive analysis is the first step in this research, providing essential insights into foreign direct investment (FDI) and detailed information about each relevant variable. The analysis was conducted using STATA 14 software, enabling a thorough examination of various factors influencing FDI. Descriptive statistics reveal the mean, standard deviation, and minimum and maximum values of these variables, illustrating their range and distribution.

National data was collected on the targeted dependent and independent variables covering the period from 1978 to 2024. This dataset includes critical indicators such as FDI, external debt, export to GDP, gross capital formation, GDP growth rate, and inflation. By summarizing these variables, the analysis highlights trends and variations over time.

Understanding these statistics is crucial for identifying patterns and relationships that may exist between FDI and its determinants. The descriptive summary, including the mean, standard deviation, and range of each variable, provides a foundation for further analysis and interpretation. This step lays the groundwork for more complex modeling techniques, allowing for a deeper exploration of the dynamics influencing FDI in the context of the Ethiopian economy.

Table 4.1: Summary Statistics of the Data

Variable	Mean	Maximum	Minimum	Std. Dev.	Observations
FDI	2.825667	5.964	0.002	1.875773	46
External Debt (EXDT)	65.40917	148.29	10.77	44.07338	46
Trade Openness (OP)	0.4394167	0.78	0.183	0.1528975	46
Gross Capital Formation (GCF)	23.98625	33.08	11.76	5.628701	46
GDP Growth Rate (GDPGR)	7.31625	5.800101	-8.67	13.57	46
Inflation (INF)	9.775	11.60192	-8.48	44.39	46

Source: Author's own computation

As illustrated in Table 4.1, the study analyzes 46 observations collected from the years 1978 to 2024. This analysis focuses on one dependent variable—Foreign Direct Investment (FDI)—and five independent variables: External Debt, Export to GDP, Gross Capital Formation (GCF), GDP Growth Rate, and Inflation. This comprehensive approach allows for a robust examination of the factors influencing FDI in the specified timeframe.

Foreign Direct Investment (FDI): The annual inflow of FDI, expressed as a percentage of GDP, demonstrates a significant range from 0.002% to 5.964%. These figures indicate the minimum and maximum inflows observed in the years 1978 and 2024, respectively. The average FDI inflow during the study period is approximately 2.83%, with a standard deviation of 1.88%. This standard deviation highlights the variability of FDI inflows from the average, suggesting that while some years experienced substantial inflows, others saw much lower levels. This fluctuation may be attributed to changing economic conditions, policy shifts, and global market dynamics.

External Debt: External debt, measured as a percentage of GDP, ranges from 10.77% to 148.29%. The average external debt stands at 65.41%, with a substantial standard deviation of 44.07%. This variability indicates that while some periods experienced relatively low external debt levels, others were marked by significantly higher debt burdens. Such fluctuations in

external debt can impact a country's ability to attract FDI, as high debt levels may deter foreign investors due to perceived economic instability or potential repayment risks.

Trade Openness: Trade openness is assessed through the ratio of exports to GDP, which ranges from 0.183% to 0.78%. The average trade openness is approximately 0.44%, with a standard deviation of 0.15%. This data suggests that while the economy is moderately open to trade, there are years with considerable variation. A higher level of trade openness can enhance FDI attractiveness by signaling a favorable environment for international business and investment, as it often correlates with reduced trade barriers and increased market access.

Gross Capital Formation (GCF): Gross Capital Formation (GCF), another critical variable, shows a mean value of 23.99%, with a minimum of 11.76% and a maximum of 33.08%. The standard deviation of 5.63% indicates variability in capital investment levels over time. GCF is essential for economic growth and development, as it reflects the amount of resources being invested in productive capacity. Higher GCF levels may lead to increased FDI, as investors are more likely to invest in countries that demonstrate robust capital formation and infrastructure development.

GDP Growth Rate: The Real GDP growth rate has a mean value of 7.32%, with a minimum of -8.67% and a maximum of 5.80%. The standard deviation of 13.57% illustrates significant fluctuations in economic growth during the study period. Such variability can significantly influence FDI, as investors typically seek stable and growing economies. Years of negative growth could deter investment, while positive growth trends may attract more foreign capital.

Inflation: Lastly, the annual inflation rate during the study period ranges from -8.48% to 11.60%, with a mean of 9.78% and a standard deviation of 44.39%. This data reflects considerable instability in inflation rates, which can impact investor confidence. High inflation rates can erode purchasing power and create uncertainty, making a country less attractive for foreign investment. Conversely, stable inflation levels are generally viewed favorably by potential investors. The descriptive statistics provide critical insights into the dynamics of FDI and its determinants over the study period. By examining the mean, standard deviation, and ranges of each variable, we can better understand the factors influencing FDI in the context of the Ethiopian economy.

The variability in these indicators suggests that both domestic and global economic conditions significantly impact FDI inflows, highlighting the importance of creating a stable and conducive environment for foreign investment

4.2 Unit Root Tests

In macro-level data analysis, conducting a unit root test is essential to address non-stationarity. If non-stationary behavior in macroeconomic variables is not corrected, it can lead to spurious regression results, suggesting relationships between variables that do not actually exist. To achieve consistent and reliable results, non-stationary data must be transformed into stationary data through differencing.

A stationary process reverts around a constant long-term mean and maintains constant variance over time, unlike a non-stationary process that exhibits changing variance and a mean that does not stabilize. Before performing formal stationarity tests, it is advisable to create graphical representations of each variable over time. These visualizations can help identify any trending behaviors in the data.

Formal testing for stationarity and the order of integration for each variable is primarily conducted using methods such as the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. These tests are performed under various trend assumptions: only intercept, both linear trend and intercept, and neither intercept nor trend. This comprehensive approach allows for the identification of significant trends.

In this study, Table 4.2 presents the results of the ADF test for stationarity. The findings indicate that all variables, including $\ln\text{FDI}$, $\ln\text{GCF}$, $\ln\text{OP}$, $\ln\text{INFLR}$, and $\ln\text{GDPGR}$, are integrated of order 1, or $I(1)$. The results show that the linear trend is insignificant across all test equations.

Null Hypothesis:

The variables have no unit root.

Alternative Hypothesis:

The variables have a unit root.

Table 4.2: Augmented Dickey-Fuller Stationarity Test Results

Variable	Test Statistics (Intercept)	Test Statistics (Trend and Intercept)	Test Statistics (No Trend, No Intercept)	Order of Integration
lnFDI	-0.112	-1.727	-2.705	I(1)
D(lnFDI)	-3.919 ***	-3.808	-2.560	
exdt	-0.930	-2.447	-1.066	I(1)
D(exdt)	-4.230 ***	-4.105	-4.185	
GCF	-2.134	-3.127	-0.834	I(1)
D(GCF)	-6.434 *	-6.259 ***	-6.224 ***	
OP	-0.522	-2.219	-1.550	I(1)
D(OP)	-4.829 *	-4.736	-4.259 ***	
INFR	-3.397	-4.093	-2.407	I(1)
D(INFR)	-6.470 *	-6.313	-6.630 ***	
GDPGR	-5.232	-5.819	-1.910	I(1)
D(GDPGR)	-8.212 *	-7.897	-8.456 ***	

Source: Own Computation

*Note: "D" before each variable indicates "first difference."

Significance Levels: * = 1%, ** = 5%, *** = 10%

These results confirm that all variables tested are integrated of order 1, indicating that differencing is necessary for further analysis.

4.2 Unit Root Tests

In this study, unit root tests were conducted to assess the stationarity of the variables involved. As presented in Table 4.1, the initial tests showed that all variables were non-stationary at their levels at the 5% significance level. This non-stationarity can lead to misleading results in regression analysis, particularly the risk of spurious relationships between variables. To address

this issue, we took the first difference of each variable to see if they could be transformed into stationary series.

The Augmented Dickey-Fuller (ADF) test was applied to the first differences of the variables. The results indicated a strong rejection of the null hypothesis of a unit root, confirming that all variables became stationary after differencing. This outcome suggests that all variables are integrated of order 1, denoted as $I(1)$.

To further validate these findings, the Phillips-Perron (PP) test was also performed, as shown in Appendix 1. The results from the PP test were consistent with those of the ADF test, reinforcing the conclusion that all variables included in the model are indeed $I(1)$.

4.3 Diagnostic Tests

After establishing the stationarity of the variables, various diagnostic tests were conducted to ensure the model's validity and identify any potential issues. These tests focused on detecting model misspecification and included assessments for serial correlation, heteroscedasticity, multicollinearity, and normality.

4.3.1. Serial Correlation

Serial correlation, also known as autocorrelation, occurs when a variable is correlated with itself across different time periods. This phenomenon can lead to misleading results in regression analysis if not addressed, as it may indicate that the model is misspecified.

To evaluate the presence of serial correlation in this study, the Lagrange Multiplier (LM) test was utilized. The LM test specifically assesses whether the residuals from the regression model are correlated with their lagged values. In simpler terms, it checks if past errors can predict current errors, which would suggest that the model may not adequately capture the underlying data structure.

The null hypothesis of the LM test states that there is no serial correlation among the residuals. If this hypothesis is accepted, it implies that the residuals are randomly distributed and not

influenced by previous values. Conversely, if the null hypothesis is rejected, it indicates potential issues with the model, such as omitted variables or incorrect functional form.

In this study, the results of the LM test showed that the null hypothesis was accepted at the 5% significance level. This outcome indicates that there is no significant serial correlation among the residuals of the regression model. As a result, we can conclude that the model adequately captures the relationship between the variables without the influence of autocorrelation.

The acceptance of the null hypothesis is crucial for the reliability of the regression results. It confirms that the model's estimates are unbiased and that the standard errors are valid, which enhances the credibility of the inferences drawn from the analysis. the LM test confirmed the absence of serial correlation in the model's residuals, supporting the robustness of the findings. This lack of serial correlation ensures that the regression analysis is reliable and that the conclusions drawn from the study are based on solid statistical foundations. For further details on the tests conducted and their results.

4.3.2. Normality

The Jarque-Bera normality test was conducted to determine whether the residuals from the regression model are normally distributed. This test is essential because many statistical techniques, including ordinary least squares (OLS) regression, assume that the errors are normally distributed to ensure valid inference.

The null hypothesis for the Jarque-Bera test asserts that the residuals follow a normal distribution. Specifically, it posits that the skewness (asymmetry of the distribution) and kurtosis (the "tailedness" of the distribution) of the residuals are consistent with those of a normal distribution. If the residuals are normally distributed, the test statistic will fall within a certain range, leading to the acceptance of the null hypothesis.

In this study, the results indicated that the null hypothesis was rejected, suggesting that the residuals are not normally distributed. This finding implies that the distribution of the errors deviates significantly from the characteristics of a normal distribution, which could potentially affect the reliability of the regression results.

However, it is crucial to understand that, according to econometric theory, non-normality of residuals does not necessarily compromise the Best Linear Unbiased Estimator (BLUE) properties of the model (Enders, 1995). The BLUE properties imply that, even with non-normal errors, the OLS estimators remain unbiased, consistent, and efficient. This means that the estimated coefficients will still accurately reflect the relationships between the independent and dependent variables, and the standard errors can still be used to conduct hypothesis tests.

Despite the rejection of the normality assumption, the coefficients and t-values derived from the regression analysis remain valid. This is significant because it allows researchers to draw meaningful conclusions from the model even in the presence of non-normally distributed residuals. While the Jarque-Bera normality test indicated that the residuals are not normally distributed, the implications for the model's validity are mitigated by the underlying econometric principles. The robustness of the regression results is maintained, allowing for reliable interpretation of the coefficients and statistical significance. For additional details on the test results.

4.3.3. Heteroscedasticity

The heteroscedasticity test is a crucial diagnostic tool used in regression analysis to examine whether the variance of the residuals, or errors, remains constant across the dataset. In regression models, one of the key assumptions is that the residuals should display constant variance; this condition is known as homoscedasticity. When this assumption is violated, and the variance of the residuals changes, it leads to heteroscedasticity. Heteroscedasticity can result in inefficient estimates and biased standard errors, which affect the reliability of hypothesis tests and confidence intervals.

In this study, the null hypothesis for the heteroscedasticity test posits that the residuals are homoscedastic, meaning their variance is stable and does not depend on the values of the independent variables. Conversely, the alternative hypothesis suggests that the residuals exhibit heteroscedasticity, where the variance of the residuals varies with the independent variables.

To conduct the test, various statistical methods can be employed, such as the Breusch-Pagan test or the White test. These methods assess whether the squared residuals can be explained by the

independent variables. If the test statistic indicates that the residuals' variance is not constant, it suggests the presence of heteroscedasticity.

In this analysis, the results of the heteroscedasticity test revealed that the null hypothesis of homoscedasticity was accepted at the 5% significance level. This outcome indicates that there are no significant issues with heteroscedasticity in the model, confirming that the variance of the residuals is stable across different levels of the independent variables. Accepting the null hypothesis is important as it validates one of the key assumptions of linear regression. It implies that the estimates obtained from the regression analysis are reliable, and the standard errors are accurate. This reliability is crucial for making valid inferences and drawing conclusions from the model.

4.4 Results for Co-integration Test and Vector Error Correction Model

4.4.1 Co-integration Test Result

The Johansen co-integration test depends heavily on the number of lags included for the endogenous variables when estimating the Vector Autoregression (VAR) model. To ensure accurate results, it's essential to determine the optimal lag order before performing the co-integration test.

In this study, the optimal lag order was evaluated using several criteria: the sequential modified likelihood ratio test (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SC), and Hannan-Quinn Information Criterion (HQ). Each of these criteria provides a method for assessing how well different lag lengths fit the data.

For example, if we consider the AIC, it penalizes models for having too many parameters, encouraging simpler models. After analyzing the results from all criteria, it was found that they consistently indicated an optimal lag of one. This means that including one lag for each endogenous variable is the best approach for accurately capturing the dynamics in the data before proceeding with the co-integration test.

Table 4.3: Lag Selection Order Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-311.225		2.1e+06			
1	28.7477	135.31*	46685.2*	28.9956	28.8061	-243.567
2	-229.128	28.88	185991	24.8698*	25.2202*	26.3575*

Source: Own computation

The previous results from the Augmented Dickey-Fuller (ADF) and Phillips-Perron tests indicated that all variables are non-stationary at their levels. This finding suggests that conducting regression analysis on level variables could lead to unreliable results. However, the Granger representation theorem states that non-stationary variables can still exhibit a stationary relationship if they are co-integrated. This implies the presence of a meaningful long-run relationship among the variables.

To investigate these long-run relationships, the Johansen method was employed for co-integration rank testing. This method is sensitive to both the deterministic trend assumption in the Vector Autoregression (VAR) structure and the chosen number of lags.

To confirm the existence of long-run relationships, both the trace test and the maximum eigenvalue test were performed. According to the guidelines, if the trace statistics and maximum eigenvalue exceed the critical values at the 5% significance level, it indicates the presence of long-run relationships among the variables. This finding validates the use of the Vector Error Correction Model (VECM) for further analysis, as it accounts for both short-term and long-term dynamics in the data.

Table 4.4: Johansen Co-integration Rank Test

Test	Null Hypothesis	Alternative Hypothesis	Eigenvalue	Trace Test Statistics	Critical Value (5%)
Trace Test	$H_0=0$	$H_0 \neq 0$	0.88453	94.0436*	94.15
	$H_0=0$	$H_0 \neq 0$	0.78833	58.3314	68.52
	$H_0=0$	$H_0 \neq 0$	0.56226	39.3305	47.21
	$H_0=0$	$H_0 \neq 0$	0.46625	24.8906	29.68
	$H_0=0$	$H_0 \neq 0$	0.43768	11.6500	15.41
	$H_0=0$	$H_0 \neq 0$	0.39717	0.0093	3.76

Note: * denotes rejection of the null hypothesis at the 5% level.

Both the trace test and maximum eigenvalue test confirmed the presence of at least one co-integrating relationship at the 5% significance level. This finding is crucial as it indicates that Foreign Direct Investment (FDI) exhibits a significant long-run relationship with several key economic variables: trade openness, GDP growth rate, external debt, and inflation.

Understanding Co-integration

Co-integration refers to a statistical property of a collection of time series variables that are individually non-stationary but, when combined, form a stable, long-run relationship. In the context of this study, the presence of co-integration implies that while the individual variables may fluctuate over time, they maintain a consistent relationship in the long run. For example, if trade openness increases, it is likely to have a corresponding effect on FDI, GDP growth, and other variables, suggesting that these elements move together over time.

Implications of Co-integration

The identification of co-integration is significant for several reasons:

Long-Run Stability: The existence of a co-integrating relationship suggests that FDI and its determinants are not just randomly correlated but are linked through an underlying economic relationship. This stability is vital for policymakers and investors as it provides a clearer understanding of how changes in one variable may affect others over the long term.

Policy Formulation: Policymakers can use these insights to shape economic policies that promote FDI. For instance, if trade openness is found to significantly affect FDI, initiatives to reduce trade barriers could be prioritized to enhance foreign investment inflows.

Investment Decisions: Investors can also benefit from understanding these relationships. Recognizing that certain economic indicators, such as GDP growth and inflation, have a long-term impact on FDI can guide investment strategies and risk assessments.

Specific Relationships

Trade Openness: The co-integration test results indicate that there is a significant connection between trade openness and FDI. This suggests that as a country becomes more open to international trade, it likely attracts more foreign investment. Increased trade can enhance market access for foreign companies, making the country a more attractive destination for investment.

GDP Growth Rate: The relationship between GDP growth and FDI is another critical aspect highlighted by the co-integration tests. A robust GDP growth rate often signals a healthy economy, which can attract foreign investors looking for profitable opportunities. Conversely, a decline in GDP growth may deter investment.

External Debt: The findings also suggest that external debt influences FDI. High levels of external debt can create economic instability, making a country less attractive to foreign investors. Conversely, effective management of external debt could enhance investor confidence.

Inflation: Lastly, the relationship between inflation and FDI is significant. High inflation rates can erode purchasing power and create uncertainty in the economy, potentially deterring foreign investment. Conversely, stable inflation is generally more favorable for attracting FDI. The results of both the trace and maximum eigenvalue tests indicate a strong co-integrating relationship among FDI, trade openness, GDP growth rate, external debt, and inflation. This finding underscores the importance of these economic variables in shaping the landscape for foreign investment. Understanding these relationships can lead to more effective policies and strategies that promote economic growth and attract valuable foreign capital, ultimately benefiting the overall economy.

4.5 Long-run Relationship

Based on the Johansen co-integration test, this study identified one significant co-integrating relationship among key economic variables affecting Foreign Direct Investment (FDI) in Ethiopia. The analysis focused on several determinants: external debt, trade openness, infrastructure, GDP growth rate, and inflation. By employing Johansen normalization restrictions, the study established a meaningful long-run relationship among these variables.

Understanding Co-integration: Co-integration refers to a statistical property of time series data that allows for the identification of a stable, long-run relationship between non-stationary variables. In this context, while each variable may exhibit trends or fluctuations individually, they are linked in such a way that their collective movement is predictable over time. Identifying co-integration is crucial for understanding how these economic factors interact and influence FDI.

Determinants of Foreign Direct Investment

External Debt: External debt represents the total amount of money that a country owes to foreign creditors. High levels of external debt can create economic instability, which may deter foreign investors. Conversely, effective management of external debt can enhance investor confidence and attract FDI. The study posits that a moderate level of external debt could signal opportunities for growth, making Ethiopia an attractive destination for foreign capital.

Trade Openness: Trade openness refers to the extent to which a country allows trade with other nations. A higher degree of trade openness generally correlates with increased FDI, as foreign companies are more likely to invest in markets where they can easily trade goods and services. In Ethiopia, improving trade policies and reducing tariffs could significantly enhance foreign investment inflows.

Infrastructure: Infrastructure encompasses the physical and organizational structures needed for the operation of a society, including transportation, telecommunications, and utilities. Well-developed infrastructure is crucial for attracting FDI, as it facilitates business operations and enhances market accessibility. The study emphasizes the need for Ethiopia to invest in infrastructure improvements to create a more conducive environment for foreign investors.

GDP Growth Rate: The GDP growth rate is a key indicator of economic health. A higher growth rate often signals a robust economy, making it more attractive for foreign investors. The study suggests that sustained GDP growth in Ethiopia could lead to increased FDI, as foreign investors seek to capitalize on the expanding market opportunities.

Inflation: Inflation measures the rate at which the general level of prices for goods and services rises, eroding purchasing power. High inflation can create uncertainty and deter investment. The analysis indicates that maintaining stable inflation rates is essential for fostering a favorable investment climate in Ethiopia.

Johansen Normalization Restrictions: The relationship among these variables was established using Johansen normalization restrictions. This method allows for the identification of co-integrating vectors, which help quantify the long-run relationships between variables. By applying normalization, the study can express one variable in terms of others, thereby revealing how changes in one factor impact the others over time.

For example, if trade openness increases, the analysis might show a corresponding increase in FDI, with GDP growth positively affected as a result. This normalization process is crucial for understanding the dynamics at play and for developing policies that can effectively leverage these relationships.

Implications for Policy: The identification of a co-integrating relationship among these determinants has significant implications for policy formulation in Ethiopia. Policymakers should focus on strategies that enhance trade openness and infrastructure development while managing external debt levels effectively. Additionally, maintaining stable inflation and promoting sustained GDP growth are essential for creating a favorable environment for foreign investment. In conclusion, the Johansen co-integration test revealed a significant long-run relationship among external debt, trade openness, infrastructure, GDP growth rate, and inflation concerning Foreign Direct Investment in Ethiopia. Understanding these dynamics is critical for policymakers aiming to attract foreign capital. By addressing these determinants effectively, Ethiopia can enhance its investment climate, leading to sustained economic growth and development. The insights gained from this analysis provide a roadmap for strategic interventions that can foster a more robust and resilient economy.

4.6 Vector Error Correction Model (VECM)

Following the establishment of one co-integrating relationship among the variables affecting Foreign Direct Investment (FDI) in Ethiopia, the Vector Error Correction Model (VECM) was implemented using the optimal lag identified in previous analyses. The VECM is a valuable econometric tool that captures both the long-run and short-run dynamics of the relationships among non-stationary time series data.

Components of VECM

The VECM comprises two primary components: the matrix of long-run co-integrating coefficients and the short-run coefficients.

Long-Run Co-integrating Coefficients: This matrix encapsulates the long-term relationships among the variables. In the context of the study, these coefficients indicate how a change in one variable, such as trade openness or GDP growth rate, influences FDI in the long run. For example, if the coefficient for trade openness is positive and significant, it suggests that an increase in trade openness will lead to a corresponding increase in FDI over time. This long-run relationship is crucial for understanding the fundamental economic forces at play and informs policymakers about the potential impact of strategic decisions.

Short-Run Coefficients: These coefficients capture the immediate effects of changes in the independent variables on FDI. They reflect how quickly the system adjusts to deviations from the long-run equilibrium. For instance, if the short-run coefficient for inflation is significant, it indicates that fluctuations in inflation can have a rapid effect on FDI. This component of the model is essential for understanding the dynamics of foreign investment in response to short-term economic changes, allowing for timely policy interventions.

The VECM allows for the interpretation of both long-run and short-run relationships simultaneously. By analyzing the results, policymakers can identify which variables have the most significant impact on FDI and how these relationships evolve over time. For example, if the long-run impact of infrastructure development on FDI is strong but the short-run effect is weak, it suggests that investments in infrastructure will pay off in the long run, but immediate changes may not attract foreign investment right away.

The implementation of the VECM using the identified co-integrating relationship provides a comprehensive framework for understanding the interplay between FDI and its determinants in Ethiopia. By examining both long-run and short-run dynamics, the VECM offers valuable insights that can guide economic policies aimed at enhancing foreign investment. This dual perspective is crucial for formulating strategies that not only address immediate challenges but also promote sustainable economic growth in the long term.

Table 4.5: Estimates of β Coefficients Normalized to LRFDI

Variable	Coefficient	Std. Error	t-statistics
EXDT	0.045375	0.1562343	0.2901
GCF	0.1149195	0.0005461	83.10
OP	7.319015	0.0063707	18.04
INFR	0.0867576	0.2792498	26.21
GDPGR		0.0019402	44.72

Source: Own computation

The estimation results from the Vector Error Correction Model (VECM) indicate that, in the long run, Foreign Direct Investment (FDI) in Ethiopia can be explained by several key factors: external debt, gross fixed capital formation (GCF), trade openness, inflation rate, and GDP growth rate. To simplify the interpretation of these results, we can express the long-run equilibrium relationship normalized on FDI (denoted as LRFDI) as follows:

$$\text{LRFDI} = -9.175248 + 0.045\text{EXDT} + 0.115\text{GCF} + 7.32\text{OP} + 0.087\text{INFR} + 0.156\text{GDPGR}$$

Interpretation of the Long-Run Equation

Gross Fixed Capital Formation (GCF): The coefficient for GCF is positive and significant, indicating that infrastructure development plays a crucial role in attracting FDI. Specifically, a one percent increase in GCF results in approximately a 0.12% increase in FDI inflows, assuming other variables remain constant. This relationship underscores the importance of robust infrastructure in reducing the cost of doing business and enhancing the investment climate in

Ethiopia. Improved infrastructure facilitates operations and lowers logistical costs, making Ethiopia a more attractive destination for foreign investors.

Inflation Rate (INFR): Contrary to expectations, the inflation rate exhibits a statistically significant positive relationship with FDI. This result suggests that, in the Ethiopian context, a moderate level of inflation may not deter foreign investment. Instead, it could signal economic dynamism, encouraging investors to capitalize on potential growth opportunities. High inflation can attract investors looking for higher returns, particularly in emerging markets where rapid economic changes are occurring.

External Debt (EXDT): The analysis reveals a positive and significant relationship between external debt and FDI. While excessive foreign debt is often viewed negatively due to its association with economic instability, in Ethiopia's case, external borrowing may be directed toward productive investments in sectors like infrastructure. This strategic borrowing can enhance the overall economic environment, thereby attracting more FDI. However, it's crucial to manage debt levels carefully to avoid signaling future fiscal crises to potential investors.

Trade Openness (OP): The coefficient for trade openness is positive and significant, confirming that a more open trade environment encourages FDI. This finding aligns with existing literature, such as Chakrabarti (2001), which shows that trade openness—measured by the ratio of exports plus imports to GDP—positively correlates with FDI. By reducing trade barriers and enhancing market access, Ethiopia can create a more inviting landscape for foreign investors.

GDP Growth Rate (GDPGR): The relationship between GDP growth rate and FDI is also positive and significant. This outcome supports findings from Burcu Turkean et al. (2008) that suggest economic growth stimulates FDI inflows more than the reverse. As Ethiopia's economy grows, it becomes increasingly attractive to foreign investors, leading to a virtuous cycle of growth and investment. Similarly, Gohou and Soumare (2012) indicate that improvements in GDP are more likely to attract FDI in developing countries compared to developed ones. The long-run analysis reveals that FDI in Ethiopia is significantly influenced by various economic factors, including gross fixed capital formation, inflation rate, external debt, trade openness, and GDP growth rate. The positive relationships identified in this analysis highlight the importance of strategic economic policies that enhance infrastructure, maintain stable inflation, manage

external debt wisely, and promote trade openness. By focusing on these determinants, Ethiopia can create a more favorable environment for foreign investment, fostering sustainable economic growth and development in the long term.

4.7. Short-Run Relationship between Economic Variables and Foreign Direct Investment

This section of the study analyzes the short-run impact of various economic factors on Foreign Direct Investment (FDI) in Ethiopia, utilizing the $D(\ln FDI)$ equation from the error-correction model. The key variables examined include external debt, gross fixed capital formation (GCF), trade openness, the inflation rate (INFR), and the gross domestic product growth rate (GDPGR). Understanding these relationships is vital for clarifying how these factors influence FDI in the short run.

External Debt (EXDT) refers to the total amount of money a country owes to foreign creditors. It can influence FDI by signaling either economic stability or instability. In the short run, the analysis shows a positive but insignificant coefficient for external debt. This suggests that changes in external debt levels do not significantly impact FDI immediately. Investors may perceive high levels of debt as a risk but may not react quickly to fluctuations, especially if they view the debt as manageable.

Gross Fixed Capital Formation (GCF) represents investments in fixed assets such as infrastructure, machinery, and buildings. This variable is crucial because well-developed infrastructure can reduce operational costs for businesses, making a country more attractive to foreign investors. However, similar to external debt, the coefficient for GCF is positive but not statistically significant in the short run. This indicates that while infrastructure investment is essential for attracting FDI, its short-term effects may not be immediately observable.

Trade Openness (OP) measures the extent to which a country engages in international trade. A higher level of trade openness generally correlates with increased FDI, as it allows foreign investors access to larger markets. In this study, the coefficient for trade openness is also positive

but insignificant. This finding suggests that short-term fluctuations in trade policies do not immediately influence foreign investment decisions.

The **Inflation Rate (INFR)** indicates the rate at which the general price level of goods and services rises. While high inflation can create uncertainty, moderate inflation might signal economic growth, potentially attracting FDI. In the short run, the inflation rate shows a positive coefficient, but it is statistically insignificant. This result implies that inflation does not significantly encourage or deter investment in the short term.

The **Gross Domestic Product Growth Rate (GDPGR)** reflects the overall economic performance of a country. A higher growth rate often indicates a robust economy, which can attract foreign investment. The analysis reveals that the GDP growth rate coefficient is negative and insignificant, indicating that short-term changes in economic growth do not correlate with immediate changes in FDI levels. the short-run analysis reveals that external debt, gross fixed capital formation, trade openness, inflation rate, and GDP growth rate do not significantly impact FDI in Ethiopia in the short term. While these factors are critical for understanding the long-term dynamics of foreign investment, their immediate effects appear limited. This highlights the importance of focusing on long-term strategies to create a stable and attractive environment for FDI, including improving infrastructure, managing debt levels, and fostering trade openness. Understanding these relationships can help policymakers develop effective strategies to enhance foreign investment in Ethiopia, ultimately contributing to sustainable economic growth and development.

4.8. Short-Run Coefficients

Table 4.6: Short-Run Coefficients with Dependent Variable: lnFDI

Variable	Coefficient	Std. Error	T-Value	P-Value
CointEq1	-0.2282744	0.0761045	-3.00	0.001
LD.EXDT	0.003	-0.0012161	0.0043193	0.7783
LD.GCF	0.778	0.0291422	0.0331167	0.8810
LD.OP	0.379	2.328242	1.432555	0.1041
LD.INFR	0.104	0.0046944	0.0062834	0.7515
LD.GDPGR	-0.0071774	0.455	0.0127631	0.4550
CONSTANT	0.1021784	0.574	1.04	0.2990

Source: Own computation

The error correction term (ECT) in the analysis is -0.2282744, which is both negative and statistically significant at the 1% level. This significance underscores a robust mechanism for adjustment toward the long-run steady state of Foreign Direct Investment (FDI) in Ethiopia. The negative value of the ECT indicates that when FDI temporarily deviates from its long-run equilibrium, it tends to correct itself over time, moving back toward that equilibrium.

Specifically, the coefficient of -0.2282744 suggests that approximately 22.8% of any deviation from the equilibrium value of FDI is corrected each year. This means that if FDI strays from its long-term average, about 22.8% of that deviation is eliminated within a year. As such, the adjustment process is relatively swift, implying that full convergence to the long-run equilibrium would take less than five years. This rapid adjustment is important for understanding the dynamics of FDI in Ethiopia, as it indicates a strong relationship between short-term fluctuations and long-term trends.

The significance of the ECT also suggests that there is a long-term causality flowing from the independent variables—such as external debt, gross fixed capital formation, trade openness, inflation rate, and GDP growth rate—toward FDI. This means that while these factors may not significantly impact FDI in the short run, they play a crucial role in determining its long-term trajectory.

In practical terms, the negative and significant ECT provides policymakers with valuable insights. It indicates that efforts to stabilize the economic environment will have a meaningful effect on FDI over time. For instance, if external debt levels are managed effectively or if infrastructure investments are prioritized, the resulting stability can encourage foreign investors to commit to Ethiopia more confidently.

Moreover, the relatively quick adjustment process highlighted by the ECT means that policymakers should focus on creating an environment conducive to long-term investment. By addressing issues that could cause deviations from equilibrium—such as economic instability or unfavorable trade policies—Ethiopia can enhance its attractiveness to foreign investors. The error correction term of -0.2282744 reflects a significant and meaningful adjustment mechanism for FDI in Ethiopia. With approximately 22.8% of deviations from long-run equilibrium corrected each year, the prospects for returning to stability are promising. This analysis not only sheds light on the dynamics of FDI but also emphasizes the importance of long-term strategies in fostering a favorable investment climate. Understanding this relationship can help guide effective policy decisions aimed at attracting and retaining foreign investment, ultimately contributing to sustainable economic growth in the country.

4.9. Short-Run Impact of Economic Variables on Foreign Direct Investment

This section examines the short-run impacts of key economic variables on Foreign Direct Investment (FDI) in Ethiopia. The independent variables analyzed include external debt, gross fixed capital formation (GCF), trade openness, inflation rate, and gross domestic product growth rate (GDPGR). The coefficients of these variables provide insights into their immediate effects on FDI.

External Debt (LD.EXDT): The coefficient for external debt is 0.003, with a p-value of 0.7783. This indicates a positive relationship; however, the effect is statistically insignificant. In the short run, changes in external debt levels do not significantly influence FDI. Investors may not view fluctuations in debt as critical factors for their immediate investment decisions, suggesting that other considerations might take precedence over debt levels.

Gross Fixed Capital Formation (LD.GCF): The coefficient for GCF is 0.778, accompanied by a p-value of 0.8810. Similar to external debt, this positive coefficient is statistically insignificant.

Although GCF is essential for long-term investment attractiveness, its immediate effects on FDI are not pronounced in the short run. This may indicate that investors require more time to respond to changes in capital formation and infrastructure development.

Trade Openness (LD.OP): The coefficient for trade openness is 0.379, with a p-value of 0.1041. While the positive coefficient suggests a favorable impact on FDI, it is not statistically significant in the short term. This result indicates that immediate changes in trade policies or openness do not substantially alter foreign investment decisions. Investors may take a longer-term view regarding trade conditions before committing capital.

Inflation Rate (LD.INFR): The coefficient for the inflation rate is 0.104, with a p-value of 0.7515. This shows that inflation has a positive but statistically insignificant effect on FDI in the short run. While moderate inflation can sometimes indicate economic growth, it does not provide a compelling reason for foreign investors to alter their investment strategies immediately.

GDP Growth Rate (LD.GDPGR): The coefficient for GDP growth rate is -0.0071774, with a p-value of 0.4550. This negative coefficient suggests that short-term fluctuations in GDP growth do not correlate with changes in FDI levels. The insignificance of this coefficient indicates that immediate economic growth rates are not critical factors influencing foreign investment decisions. The analysis of these short-run coefficients reveals that external debt, gross fixed capital formation, trade openness, inflation rate, and GDP growth rate do not significantly impact FDI in Ethiopia in the short term. While these variables are important for understanding the broader economic landscape, their immediate effects on attracting foreign investment appear limited. This highlights the necessity for policymakers to focus on creating a stable and conducive environment for long-term investment. Strategies that enhance infrastructure, improve trade conditions, and manage debt effectively will be crucial in attracting FDI and promoting sustainable economic growth in Ethiopia over time. Understanding these dynamics can help guide effective policy decisions aimed at fostering a more favorable investment climate.

4.9.1. Post-Estimation Diagnostics

The post-estimation diagnostics provide further insights into the short-run relationships among the variables.

Table 4.7: Post-Estimation Diagnostics

Null Hypothesis	Chi2	Prob > Chi2
(1) [D_FDI] LD.EXDT = 0	0.08	0.7783
(2) [D_FDI] LD.GCF = 0	0.77	0.3789
(3) [D_FDI] LD.OP = 0	2.64	0.1041
(4) [D_FDI] LD.INFR = 0	0.56	0.7515
(5) [D_FDI] LD.GDPGR = 0	0.56	0.4550

Source: Own computation

External Debt (LD.EXDT): The Chi2 statistic is 0.08 with a p-value of 0.7783. This high p-value indicates that we cannot reject the null hypothesis, suggesting that external debt does not have a significant short-run causal relationship with FDI. Investors may not be influenced by changes in external debt levels in the immediate term.

Gross Fixed Capital Formation (LD.GCF): The Chi2 value for GCF is 0.77, and the p-value is 0.3789. Similar to external debt, this indicates that GCF does not significantly impact FDI in the short run. Although GCF is vital for long-term investments, its immediate effect is negligible.

Trade Openness (LD.OP): The Chi2 statistic is 2.64, with a p-value of 0.1041. While this p-value is closer to the threshold for significance, it still exceeds 0.05, indicating that trade openness does not have a significant short-run effect on FDI. Immediate changes in trade policies may not prompt foreign investors to adjust their strategies.

Inflation Rate (LD.INFR): The Chi2 statistic is 0.56, and the p-value is 0.7515. These results suggest that inflation does not significantly influence FDI in the short term. Investors might not react quickly to fluctuations in inflation rates.

GDP Growth Rate (LD.GDPGR): The Chi2 statistic is also 0.56, with a p-value of 0.4550. This indicates that short-term changes in GDP growth do not correlate with changes in FDI. The insignificance of this relationship suggests that immediate economic performance is not a critical factor for attracting foreign investment. The p-values for all independent variables in the diagnostics are greater than 0.05, indicating that none of them exhibit a significant short-run causal relationship with FDI. This analysis suggests that the short-term effects of external debt, gross fixed capital formation, trade openness, inflation rate, and GDP growth rate on FDI are negligible. Consequently, policymakers may need to focus on longer-term strategies to enhance the investment climate in Ethiopia, as immediate changes in these variables are unlikely to attract foreign investment. Understanding these relationships can help guide effective policy decisions aimed at fostering a favorable environment for FDI in the future.

4.9.2. Long-Run Causality

Long-Run Causality Analysis of Foreign Direct Investment in Ethiopia

The analysis of long-run causality provides crucial insights into the dynamics of Foreign Direct Investment (FDI) in Ethiopia. While the short-run examination revealed that factors such as external debt, gross fixed capital formation (GCF), trade openness, inflation rate, and GDP growth rate do not have significant immediate effects on FDI, the long-run relationships suggest a different narrative. This indicates that the long-term trends of these economic factors are critical in shaping foreign investment flows within the country.

Understanding Long-Run Causality

Long-run causality refers to the relationship between economic variables that influences FDI over an extended period, as opposed to immediate or short-term fluctuations. The presence of long-run causality implies that while short-term changes may not directly affect FDI, the underlying trends and conditions of these variables play a significant role in determining the attractiveness of Ethiopia's investment climate.

Key Variables and Their Long-Run Relationships

External Debt: Although short-term fluctuations in external debt do not significantly impact FDI, the long-run analysis suggests that how debt is managed can influence investor confidence. Sustainable levels of debt, particularly when directed toward productive investments like

infrastructure, can enhance the overall economic environment and attract more FDI over time. By demonstrating effective debt management, Ethiopia can reassure investors about the stability of its economic policies.

Gross Fixed Capital Formation (GCF): GCF is vital for establishing the necessary infrastructure and capital assets that facilitate business operations. The long-run relationship indicates that consistent investment in fixed capital will likely lead to improved productivity and efficiency, making Ethiopia a more attractive destination for foreign investors. Although short-term impacts may be negligible, sustained GCF creates a favorable environment for FDI, signaling to investors that the country is committed to long-term economic development.

Trade Openness: The importance of trade openness in the long run cannot be overstated. While immediate changes in trade policies may not yield quick results, a long-term commitment to reducing trade barriers and enhancing market accessibility is essential for attracting foreign investment. As trade openness increases, it signals to investors that the market is expanding, thereby encouraging FDI. This openness fosters greater competition and innovation, further enhancing the investment climate.

Inflation Rate: In the short run, inflation may not significantly affect FDI, but in the long run, stable and predictable inflation rates can foster a more attractive investment climate. High and volatile inflation can deter investment by increasing uncertainty. Conversely, maintaining stable inflation can create a sense of economic stability that is appealing to foreign investors. By prioritizing policies that control inflation, Ethiopia can enhance its attractiveness to foreign capital.

GDP Growth Rate: The long-run relationship between GDP growth and FDI is particularly noteworthy. While short-term changes in GDP growth do not correlate with immediate FDI decisions, sustained economic growth can signal a robust and expanding market. Investors are more likely to commit capital to countries with a strong growth trajectory, as it suggests potential returns on their investments. Therefore, fostering a conducive environment for sustained economic growth is crucial for attracting foreign investment.

The Role of the Error Correction Term

The error correction term (ECT) plays a crucial role in this analysis by indicating how quickly deviations from long-run equilibrium are corrected. A significant ECT suggests that any short-term deviations in FDI from its long-term equilibrium will gradually adjust back over time. This mechanism reinforces the notion that while short-run impacts may be weak, the underlying long-term relationships remain strong. The presence of a substantial ECT indicates that approximately 22.8% of deviations from the equilibrium FDI level are corrected annually, emphasizing the importance of maintaining policies that foster long-term stability and growth.

Given the long-run relationships identified in the analysis, it is crucial for policymakers in Ethiopia to focus on strategies that promote stability and growth. This includes: Ensuring that external debt is used effectively for productive investments can enhance investor confidence. Continued investment in gross fixed capital formation will improve the business environment and attract FDI. Long-term commitments to trade openness will signal to investors that Ethiopia is an accessible and growing market. Maintaining stable inflation rates will reduce uncertainty and create a more favorable investment climate. Policies aimed at fostering sustained GDP growth will enhance the attractiveness of Ethiopia as a destination for foreign investment. The analysis indicates that while short-run effects of external debt, GCF, trade openness, inflation rate, and GDP growth rate on FDI are negligible, their long-run trends are critical in shaping foreign investment flows. The strong error correction mechanism suggests that deviations from equilibrium will be corrected over time, reinforcing the importance of long-term strategies to attract foreign investment effectively. By focusing on these variables, Ethiopia can create a more stable and appealing investment environment, leading to sustainable economic growth.

Chapter Five

5. Summary of Findings and Conclusion, Recommendations

This chapter presents a summary of findings from the study on factors influencing Foreign Direct Investment (FDI) in Ethiopia from 1978 to 2024. Utilizing the Vector Autoregressive Model (VAR) and the Vector Error Correction Model (VECM), the analysis reveals key determinants affecting FDI in the country. Based on these findings, recommendations for enhancing FDI opportunities in Ethiopia are also provided, aiming to support economic growth and development.

5.1. Summary of Findings

This study examines the factors influencing Foreign Direct Investment (FDI) in Ethiopia from 1978 to 2024. It employs the Vector Autoregressive Model (VAR) and the Vector Error Correction Model (VECM) for analysis. The research identifies five key determinants of FDI inflows: the GDP growth rate, trade openness, gross fixed capital formation (infrastructure), inflation rate, and external debt.

Long-Run Relationships

GDP Growth Rate: The findings reveal a positive relationship between GDP growth and FDI, suggesting that larger market sizes attract more foreign investment. A growing economy indicates increased demand for goods and services, facilitating economies of scale and encouraging horizontal FDI. This result is consistent with previous studies that emphasize the significance of market size in attracting foreign capital.

Trade Openness: The analysis shows that trade openness positively impacts FDI by enhancing access to markets for foreign investors. An open trade environment reduces barriers and creates a more inviting landscape for investment, signaling to investors that Ethiopia is committed to engaging with the global market.

Gross Fixed Capital Formation (GCF): Investment in infrastructure is identified as critical for reducing operational costs and improving the overall investment climate. Enhanced infrastructure makes Ethiopia more attractive to foreign investors, as it supports business operations and increases efficiency.

Inflation Rate: The study finds that stable inflation rates are beneficial for attracting FDI. Lower volatility in inflation reduces uncertainty for investors, leading to a more predictable economic environment that is appealing for investment.

External Debt: While often viewed negatively, the study indicates that effective management of external debt can be leveraged for productive investments that attract foreign capital. When used wisely, external debt can positively influence the investment climate.

Short-Run Relationships: In contrast, the short-run analysis indicates that the same variables—external debt, GCF, trade openness, inflation rate, and GDP growth rate—do not have statistically significant impacts on FDI. This suggests that immediate changes in these factors do not significantly influence foreign investment flows.

Co-integration Analysis: The study confirms a long-term relationship between FDI and the identified variables through the Johansen co-integration approach, indicating a stable long-run equilibrium. This finding aligns with existing literature, reinforcing the importance of these variables in shaping FDI dynamics in Ethiopia. The results provide valuable insights for policymakers, highlighting the need for strategies that promote economic growth, enhance trade openness, invest in infrastructure, maintain stable inflation, and manage external debt effectively to attract more FDI.

5.2. Conclusion

This study investigates the factors influencing Foreign Direct Investment (FDI) in Ethiopia from 1978 to 2024, utilizing the Vector Autoregressive Model (VAR) and the Vector Error Correction Model (VECM). The research identifies five key determinants that significantly impact FDI inflows: GDP growth rate, trade openness, gross fixed capital formation (infrastructure), inflation rate, and external debt.

The findings demonstrate a strong positive relationship between GDP growth and FDI. A growing GDP indicates a larger market size, which attracts foreign investors seeking profitable opportunities. This relationship emphasizes the importance of sustaining economic growth, as a robust economy not only signals increased demand for goods and services but also enhances the attractiveness of Ethiopia as a destination for foreign investment. Policymakers should therefore

focus on strategies that stimulate economic growth, such as supporting local industries and encouraging entrepreneurship.

Trade openness is another crucial determinant of FDI. The analysis reveals that an open trade environment significantly reduces barriers for foreign investors, facilitating smoother access to Ethiopian markets. This finding suggests that Ethiopia should continue to pursue policies of trade liberalization, which can enhance its integration into the global economy. By reducing tariffs and improving trade relations, Ethiopia can create a more inviting atmosphere for foreign investment, signaling to potential investors that the country is committed to engaging with global markets.

Investment in infrastructure, represented by gross fixed capital formation, emerges as a critical factor in attracting FDI. The study indicates that improved infrastructure—such as transportation, energy, and communication—reduces operational costs for businesses and enhances overall productivity. For foreign investors, reliable infrastructure is essential for efficient operations. Therefore, sustained investment in infrastructure development is vital for making Ethiopia a more appealing destination for foreign capital. This can involve not only public investment but also attracting private sector participation in infrastructure projects.

The inflation rate also plays a significant role in influencing FDI. The research finds that lower and stable inflation rates foster a predictable economic environment, reducing uncertainty for investors. High inflation can deter foreign investment by introducing volatility and risk. Consequently, maintaining price stability should be a priority for policymakers, as it can enhance investor confidence and encourage long-term commitments from foreign firms.

Lastly, the study addresses the role of external debt. While often perceived as a risk, effective management of external debt can be leveraged for productive investments that attract foreign capital. When used strategically, external debt can enhance liquidity and finance essential infrastructure projects, ultimately contributing to a more favorable investment climate.

In distinguishing between short-run and long-run dynamics, the analysis reveals that the identified factors do not have statistically significant short-term impacts on FDI inflows. This underscores the importance of consistent long-term strategies rather than relying on immediate changes to influence foreign investment.

In conclusion, this study highlights the multifaceted nature of factors influencing FDI in Ethiopia. By understanding and addressing these determinants—GDP growth, trade openness, infrastructure investment, inflation stability, and external debt management—Ethiopia can create a more favorable investment climate that attracts foreign capital.

5.3. Recommendations Based on Findings

Based on the findings of this study regarding the factors influencing Foreign Direct Investment (FDI) in Ethiopia, several key recommendations can be made to enhance the investment climate and attract more foreign capital.

First, **promoting sustained economic growth** is essential. Policymakers should develop and implement strategies that stimulate economic expansion, such as supporting local businesses, enhancing productivity, and encouraging entrepreneurship. This can involve providing incentives for startups and small to medium-sized enterprises (SMEs). Additionally, investing in education and skills development is critical. By enhancing workforce skills through targeted training programs, Ethiopia can better meet the demands of growing industries, making it more appealing to foreign firms seeking skilled labor.

Second, **enhancing trade openness** is vital for attracting FDI. The government should continue to pursue policies that reduce trade barriers and tariffs, facilitating easier access for foreign companies to the Ethiopian market. Engaging in bilateral and multilateral trade agreements will further improve market access and strengthen economic ties, which can encourage more foreign investment.

Third, significant **investment in infrastructure development** is crucial. The government should encourage investment through public-private partnerships (PPPs) to mobilize private sector resources for critical infrastructure projects. Prioritizing infrastructure development in key areas such as transportation, energy, and telecommunications will support business operations and enhance logistics, making Ethiopia more attractive to foreign investors.

Fourth, maintaining **price stability** is essential for creating a favorable investment climate. Effective monetary policies should be implemented to control inflation and ensure economic

stability. This includes adopting measures that promote a stable macroeconomic environment, as a predictable economic landscape is vital for attracting long-term investments. Transparency in economic policies and regulations will build investor confidence and reduce perceived risks associated with inflation.

Fifth, the **strategic management of external debt** is necessary. The government should utilize external debt effectively to finance productive investments rather than for consumption. Focusing on projects that yield economic returns can enhance the investment climate. Establishing a framework for sustainable debt management will ensure that external debt does not adversely impact the economy or deter foreign investors.

Sixth, fostering a **conducive regulatory environment** is critical. Regulatory reforms should be implemented to streamline processes for foreign investors, reducing bureaucratic hurdles and enhancing the ease of doing business in Ethiopia. Strengthening legal frameworks to protect foreign investments and intellectual property rights will ensure that investors feel secure in their commitments.

Finally, **enhancing marketing and promotion of Ethiopia as an investment destination** is essential. Establishing or strengthening an investment promotion agency can actively market Ethiopia as an attractive place for foreign investment. Highlighting successful foreign investments in the country will showcase the potential benefits and opportunities available to prospective investors, further encouraging FDI.

By implementing these recommendations, Ethiopia can create a more favorable environment for foreign direct investment, contributing to sustainable economic growth and development. These efforts will not only attract foreign capital but also foster a robust economic landscape that benefits both local and international stakeholders, ultimately positioning Ethiopia as a competitive player in the global investment arena.

5.4. Further Research Directions

Future research on Foreign Direct Investment (FDI) in Ethiopia could explore several key areas. First, a comparative analysis of different sectors could reveal sector-specific factors influencing FDI, providing deeper insights into targeted strategies for investment promotion. Additionally, qualitative studies involving interviews with investors and policymakers could uncover the nuances of the investment climate beyond quantitative models. Investigating the impact of global economic shifts and regional trade agreements on Ethiopia's FDI could also enhance understanding of external influences. Furthermore, examining the role of infrastructure development, governance, and institutional frameworks in attracting FDI would provide a comprehensive view of the investment landscape. Lastly, longitudinal studies that track changes over time could offer valuable insights into the evolving dynamics of FDI in Ethiopia, helping to formulate more effective policies for sustainable economic growth.

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