T.C

BURSA ULUDAĞ ÜNİVERSİTESİ

SOSYAL BİLİMLER ENSTİTÜSÜ

İKTİSAT ANABİLİM DALI

ECONOMIC

FOREIGN DIRECT INVESTMENT AND POVERTY REDUCTION IN SUB-SAHARAN AFRICA

(YÜKSEK LİSANS TEZİ)

Sadik Mohamed ABDULLAHI

BURSA -2022

T.C

BURSA ULUDAĞ ÜNİVERSİTESİ

SOSYAL BİLİMLER ENSTİTÜSÜ

İKTİSAT ANABİLİM DALI

ECONOMIC

FOREIGN DIRECT INVESTMENT AND POVERTY REDUCTION IN SUB-SAHARAN AFRICA

(YÜKSEK LİSANS TEZİ)

Sadik Mohamed ABDULLAHI

Danışman:

Dr. Öğr. Üyesi Görkem BAHTİYAR

BURSA -2022

ABSTRACT

Name: Sadik Mohamed ABDULLAHI

University : Bursa Uludag University

Institute : Social sciences institute

Field : Economics

Degree awarded : Master

Number of pages : VII + 102

Graduation Date : …../…/2022

Supervisor : Dr. Öğr. Üyesi Görkem BAHTİYAR

FOREIGN DIRECT INVESTMENT AND POVERTY REDUCTION IN BUB-SAHARAN AFRICA

This research is to explain the relationship between foreign direct investment and poverty reduction in sub-Saharan Africa. The relation between FDI and poverty reduction in 20 Sub-Sahara African countries was explained with the Panel Data Analysis. Annual data for the period 2000-2019 were used. the study employed the estimation techniques OLS, estimation technique. With two models designed, FDI and poverty reduction, if FDI increase causes poverty rate is fall. Second-generation unit root test Levin, Lin and Chu, and Hadri Unit Root Test has been applied and the data are stationary at the level. As a result, it is stated that the influence of FDI on poverty in the Sub-Saharan area is reliant on econometric approaches and responsive to the poverty in the research. Furthermore, SSA countries should seek out innovative ways to attract more FDI and diversify it across all sectors of the economy to have a greater impact on poverty reduction and the achievement of the SDGs.

Keywords: foreign direct investment, poverty reduction, sub-Sahara Africa.

ÖZET

Yazar Adı ve Soyadı : **Sadik Mohamed ABDULLAHI**

Üniversite : **Bursa Uludağ Üniversitesi**

Enstitüsü : **Sosyal Bilimler Enstitüsü**

Anabilim : **İktisat**

Tezin Niteliği : **Yüksek Lisans Tezi**

Sayfa Sayısı : **VIII + 102**

Mezuniyet Tarihi : **……/……./2022**

Tez Danışman : **Dr. Öğr. Üyesi Görkem BAHTİYAR**

Saharab Altı Afrika'da Doğrudan Yabancı Yatırım ve Yoksulluğun Azalmazı

Bu çalışma, Sahra altı Afrika'da Doğrudan Yabancı Yatırım (DYY) ve yoksulluk arasındaki ilişkiyi açıklamaktır. Çalışmada 20 Sahra Altı Afrika ülkesinde Doğrudan Yabancı Yatırım (DYY) ile yoksulluğun azaltılması arasındaki ilişki Panel Veri Analizi ile analiz edilmiştir. Çalışmada 2000-2019 dönemine ait yıllık veriler kullanılmıştır. çalışmada OLS tahmin teknikleri, tahmin tekniği kullanılmıştır. İkinci nesil birim kök testi Levin, Lin ve Chu ve Hadri Birim Kök Testi uygulanmış olup veriler düzeyde durağandır. Sonuç olarak, DYY'nin Sahra Altı bölgesindeki yoksulluk üzerindeki etkisinin ekonometrik yaklaşımlara bağlı olduğu ve araştırmada yoksulluğa duyarlı olduğu belirtilmektedir. Ayrıca, SSA ülkeleri, daha fazla DYY çekmek için yenilikçi yollar aramalı ve yoksulluğun azaltılması ve SKH'lerin başarılması üzerinde daha büyük bir etkiye sahip olmak için bunu ekonominin tüm sektörlerinde çeşitlendirmelidir.

Anahtar Sözcükler: Sahara, Altı Afrika'da, Doğrudan, Yabancı Yatırım ve Yoksulluğun, Azalmazı

TABLE OF CONTENTS

CHAPTER ONE

LIST OF TABLES

LIST OF ABBREVIATION

ADL	Autoregressive Distributed Lag
ECM	Error Correction Model
EEA	Ethiopian Economics Association
EU	European Union
FDI	Foreign Direct Investment
FEM	Fixed Effect Model
GDP	Gross Domestic Production
HDI	Human development index
HDRO	Human Development Report Office
LDCs	Least Development Countries
LLC	Levin Lin and Chu
MDG	Millennium Development Goals
NPFAD	New Partnership for Africa's Development
PLS	Pooled Least Squares
REM	Random Effect Model
SDGs	Sustainable Development Goals
SSA	Sub-Sahara Africa
TNCs	Transnational Corporation TNCs
UNCTAD	United Nations Conference on Trade and Development
UND	United Nations Development Programmer
VECM	Vector Error Correction Model

CHAPTER ONE

INTRODUCTION

1.0 Background introduction

According to Hayami (2001), the contributions of FDI to a country's economy are typically regarded as bridging the gap between actual investment and planned investment Todaro and Smith (2003). and privately prepared reserve funds, raising assessment incomes, and reinforcing the board, innovation, and work abilities in have nations. These might help the country in breaking the pattern of monetary decay. The reinforcement of long-haul advancement is known as economic growth. In any case, in all Least Developed Countries (LDCs) There are virtually few reserves at the state level. There is therefore a significant disparity between the needed level of risk and the present rate of investment funds. The Brussels Declaration put forward 30 worldwide improvement focuses for LDCs, including accomplishing a 25 percent speculation to GDP proportion and a yearly GDP development pace of no less than 7 percent to advance a reasonable turn of events and destitution decrease (UNCTAD, 2010:5).

The 2030 Agenda has been approved to ensure that everybody has sustainable growth. It seeks to address the root causes of our issues, understanding that eradicating poverty demands policies that encourage economic expansion while simultaneously addressing a various social requirements, including those related to women's rights, education, and health. Its 17 Sustainable Development Goals (SDGs) and related goals were created to be tracked using a set of global indicators established alongside the 2030 Agenda. On the one hand, the UN Statistical Commission works with various stakeholders to ensure statistical coverage of the indicators, which is organized around the TIER system, which ranks UN official SDGs indicators according to their stage of methodological research and data coverage. This system is composed of the Top Level Expert Group on (SDGs) Indicators, the Top Level Expert Group on (SDGs) Indicators, and various repository agencies (such as UNEP, OECD, and others ((Miola, A., and Schilt, F, 2019:2). States in Sub-Saharan Africa and their

improvement accomplices have embraced proactive FDI advancement methodologies beginning around 2001. From 2001 to 2010, FDI streams to Sub-Saharan African countries moved at a 15 percent yearly speed, expected to reach $24 billion by 2010, up from $7.1 billion of every 2001, and their portion of worldwide FDI inflow expanded from 0.9 percent to more than 2 percent (UNCTAD, 2011:21).

As indicated by UNCTAD (2010), the Brussels objective of 7 percent, development it is being accomplished by Sub-Saharan-African nations collectively and by 15 Sub-Saharan-African nations exclusively (UNCTAD, 2010: 5). Nonetheless, this better execution was because of a strange expansion in global item costs, and it was not everywhere all through Sub-Saharan African countries. In addition, their per capita Gross national growth is slow and falls behind that of other growing nations. Indeed 11 Sub-Saharan-African Countries even saw their per capita income decline. International flows such as FDI, foreign assistance, and foreign trade, according to current studies, are feasible drivers for economic expansion (Adams, 2009; Akinlo, 2004; Alfaro et al., 2000; Arndt et al., 2015; Bunte et al., 2018; Gnangnon, 2018; Greenaway et al., 2002; Gunby et al., 2017. African nations, while on the other hand, expanded overall at a pace of 5 percent between 2000 and 2015. (World Bank, 2019: 19).

The rate of poverty reduction in most African nations has not decreased, yet between 1990 and 2015; A billion people or so were lifted out of poverty. (Asadullah &Ara, 2016; Savoia, 2018; UNDESA, 2015). "More than half of the severely poor reside in Sub-Saharan Africa," based on the World Bank (2019d), as a result, while African nations' average growth rates between 2000 and 2015 outpaced much of the industrialized world's and many areas of Asia, many African countries' welfare and living standards remain low. This goes against the present research's assumptions that more economic growth would result in a decrease in poverty. It also contradicts current actual findings from China and other rapidly developing Asian nations. Poverty in several Asian nations has decreased as their economies have grown (Angelsen, 2011; Wunder, 2006; Perera & Lee, 2013; Zhuang et al., 2010: 3).

1.1 Statement of the problem

In most studies, the effect of FDI has also been anticipated and separately investigated. For example, Gohou and Soumare (2012), Magombeyi and Odhiambo (2017), and Fauzel et al, (2015) studied the effects of FDI on reducing poverty without taking into account trade or support. Similar to this, Le Goff and Singh (2014) and Alvi and Senbeta (2012) model trade and assistance without accounting for any other foreign flows. Furthermore, the majority of research has relied on data from a different nations (Magombeyi and Odhiambo, 2017; Tambunan, 2005). In addition, there is just a few research that has used causal models (Gohou, 2009; Soumare, 2012; Magombeyi and amp; Odhiambo, 2017 are notable exceptions). Statistical models that infer causality must be causal models instead of correlation effect models (Rohrer, 2018: 77).

The Millennium Development Goals (MDG) Declaration of the United Nations specifies eight goals that poor nations must meet by 2030. The attainment among these goals will contribute to improving human progress and decreasing poverty. However, achieving these objectives will need a large amount of financial expenditure. Foreign Direct Investment (FDI) is a key source of capital investment for Sub-Saharan African countries (FDI). Market-oriented economic policies have been in place since 1992, with a focus on attracting foreign direct investment (FDI) (Ethiopian Economics Association [EEA], 2004). Regulations on investments have been drastically loosened, particularly in the agriculture sector. There is no longer a minimum capital requirement; overseas agricultural businesses are exempt from customs charges and taxes on capital goods imports. For a limited time, foreign investors are exempt from paying income taxes because of their incentive of export. For export goods, foreign investors are also excluded from paying sales and excise taxes. As a result, FDI inflows into Sub-Saharan African nations have increased significantly.

Cross-country research has been done to investigate the impact of FDI on poverty alleviation, however, the role of FDI is dependent on a country's economic and social characteristics, because nations' socioeconomic situations differ, country-specific studies are essential. As a result, In this study, the relationship between foreign direct investment and

decreasing poverty by increasing per capita income is examined philosophically and experimentally. Some studies demonstrate that FDI is critical for Sub-Saharan African countries to achieve rapid growth. However, the majority of this study is focused on regional issues rather than particular nations in Sub-Saharan Africa.

Consequently, there are three reasons for this research and its contributions to previous work. First, by analyzing the impact of FDI and assistance on the decrease of poverty in low-, lower-middle-, and upper-middle-income nations in Sub-Saharan Africa, this study contributes to the body of knowledge. This makes this study unusual because previous research focused on the issue in Sub-Saharan Africa as a general, rather than taking into account the specific characteristics (instance, income level) of any nation in the area. Second, the model used to represent the topic matter is where the research's originality lies. For instance, the majority of research currently available evaluate poverty reduction using either the poverty gap or the poverty headcount. These indexes, on the other hand, do not consider human development. Therefore, this research will utilize poverty reduction data as an in-depth assessment of poverty alleviation since it takes into account quality of life, education, and life expectancy. Finally, the Ordinary Least Square (OLS) coefficient estimate is preferred in the majority of extant investigations. This method, on the other hand, makes the OLS estimator inefficient and causes bias in the standard errors. Consequently, the Feasible Generalized least Square (FGLS) statistical modeling methodology will be used in this study since it is a suitable strategy for dealing with serial correlation and heteroscedasticity.

The research’s goal is to look at the influence of foreign direct investment on poverty allaviation in Sub-Saharan African countries. The results of existing research on the advantages of FDI on poverty alleviation are mixed. Although there is, some conflicting data from existing research on the effects of FDI, the majority of the evidence virtually clearly points to these overseas flows having a favorable impact on developing (Arndt et al., 2015; Bunte et al., 2018; Gnangnon, 2018; Gunby et al., 2017). Recent studies and the international development community, however, have moved their focus from economic development to poverty alleviation, as growth does not automatically imply poverty alleviation (Reis, 2001).

1.2 Objectives of the Study

The study's main goal is to evaluate the effects of foreign direct investment on governments in Sub-Saharan Africa's efforts to combat poverty.

The following are the precise goals:

1. To investigate the relationship between foreign direct investment and the eradication of poverty in sub-Saharan African nations.

2. To check whether there is a link between foreign direct investment and poverty.

3. To introduce different political repercussions that are probably going to expand FDI's commitment and guarantee that it impetuses Sub-Saharan African countries.

1.3 Research Methodology

The rationale for using this study approach is to broaden the scope of the research, improve its robustness, and obtain a better understanding of the impacts of FDI inflows on poverty in the Sub-Saharan African area. Earlier research in the literature either have used a quantitative approach. Using a quantitative research approach in this study enriches it while also increasing its reliability and validity since it allows the investigation.

Secondary data collection is also used in this study since it requires fewer resources, is unobtrusive, and may be used in longitudinal investigations due to the availability of comparison and contextual data (Saunders et al., 2019). Published data, survey-based secondary data, documentary secondary data, the internet, and websites were all employed as secondary data in this study. These were gathered directly from the organizations' databases, such as the United Nations Conference on Trade and Development (UNCTAD) database, the United Nations Development Programme (UNDP) database, and the World Bank Data indicator. Other sources, such as the internet, books, journals, and articles, were also used

Ordinary least square model (OLS), fixed-effect model, and random effects model were the estimate methodologies employed in the study for analysis. The statistical tool used for the analysis was STATA version 15. The purpose of using multiple econometric methodologies is to improve the study's robustness, validity, and dependability. Previous research has utilized various econometric methodologies to analyze the influence of FDI on poverty in the literature (Gohou and Soumare, 2012; Tsaurai, 2018).

1.4 Significance of the Study

Much research has been done on the link between FDI and poverty alleviation. However, because different findings were discovered in different places and the long-term effect has been questioned, there is still a disagreement about their link. Therefore, by offering information from Sub-Saharan African nations, this study will contribute to the argument. Furthermore, the majority of this research is regional and not country-specific. However, various nations have diverse situations; for example, economic setups, natural resources, development levels, and country to country. As a result, country-specific research is required.

1.5 Organization of the Study

The research is divided into three chapters, as follows:

Chapter one – introduction: This chapter introduces the thesis by focusing on the study's broad context. Statement of the problem, the objective of the study, data sources of the methodology, significance of the study, organization of the study.

Chapter two – theoretical and empirical literature review, the main concept of FDI: The theory, the reason for FDI, annually economic develop, FDI inflow in sub-Sahara Africa, developing economy in Africa, FDI in West Africa, FDI inflow east Africa, FDI inflow in central Africa.

Chapter three-research methodology: Data collection analysis, study plans, variables of the study, data and sources. Process and statistical treatment, estimation panel data. Horizontal Section Dependency Control Test, and theoretıcal framework,

1.6 Review of the Literature

1.6.1 Speculations Connecting Foreign Direct Investment and Poverty.

In the neoclassical or endogenous growth economics theories, the relation between FDI and poverty was first proposed. Economic development theories were developed by traditional economists to support their claim that increased economic growth. According to (Kaulihowa and Adjasi 2018) productivity is important for economic growth and poverty allaviation. Endogenous growth theory proponents (Romer, 1990; Koopmans, 1965; Solow, 1956). Say that again government income helps the most reduced pay quintile lopsidedly, particularly in countries with low disparity, since an increment in public income prompts an expansion in individual income.

Solow (1956), Swan (1956), Cass (1965), and Koopmans (1965) were among the first to propose neoclassical economic development theories. In this case, Solow (1956) stood out for developing a growth model based on a new type of asset. The key participation of neoclassical economic expansion theories is that they focus on the nation advancing toward a set growth rate that is exclusively determined by technical development and labor force expansion. Its flaw, like those of any other model, is that it fails to account for long-run growth rates, gain access to new and organizational strength (Romer, 1990). Neoclassical economists consider technology exogenous since growth cannot account for technological advancements.

Due to the inability of neoclassical growth theories to explain long-run development, the endogenous growth hypothesis developed in the 1980s. According to Ahmed et al (2019) Human capital and technology, according to the endogenous growth hypothesis, play critical roles in development and are significant contributions to the self-sustaining rise in GDP per capita. The interpretation of elements connected to the long-term growth route is its major contribution. According to this hypothesis, FDI can stimulate economic growth by causing knowledge spillover and technological diffusion (Borensztein et al., 1998; Romer, 1990; Lucas, 1988; Pegkas, 2015; Li and Liu 2005). The supporters of endogenous growth argue that (Lucas, 1988; Romer, 1990) Human capital was modeled as a component of long-term development. Romer, (1990) stated that under the model, growth is driven by technical

progress, which emerges from profit-maximizing agents' deliberate investment decisions. Romer (1990) concluded that growth is caused by an endogenous (internal) component, not an exogenous (external) element, as Solow stated.

Endogenous growth theory's main contribution is to resurrect and investigate the drivers of long-run development paths. Theoretical distinctions in the endogenous growth theory are not always easily discernible in empirical investigation. Neo-classical and endogenous growth theories, on the other hand, have opposing viewpoints on human capital. Because human capital encourages technical growth and remains a component of output in Romer's (1990) model, it is a complement to Lucas' (1988) evaluation. Foreign direct investment can boost economic growth through knowledge spillover and technological diffusion, according to endogenous growth theory. As Dollar and Kraay (2000) point out, growth tends to raise the poor's incomes proportionally to general growth, and FDI is the primary cause of development, therefore it is a critical component of poverty reduction.

1.6.2 Theories of FDI and Poverty in International Trade

Some of the basic ideas tried to explain FDI are listed below.

1.6.2.1 Theory of Internalization

This hypothesis explains the rise of multinational corporations and their incentives for FDI (Buckley, 2009; Denisia, 2010). In 1976, Buckley and Casson proposed the internalization hypothesis, which was followed by Hennart's and Casson's pioneering work in 1982 and 1983. According to the idea, FDI happens because of businesses' efforts to replace trading activities with internal transactions (Buckley and Casson, 2016). Buckley (2016) Theorizes that multinational corporations participate in FDI by internalizing international markets because of flaws in critical intermediate goods (knowledge, human capital, marketing expertise, technology). For example, a steel business that is having trouble finding iron ore may opt to purchase a foreign company that produces the metal. Buyer uncertainty, the elimination of negotiating, and the prevention of commercial time lag are all benefits of internalization (Buckley and Casson, 2016). Internalizations, on the other hand,

comes at a significant cost when a particular overseas market becomes pluralism in local marketplaces (Casson, and Buckley, 2016).

Due to high transaction costs, companies reject export and licensing in favor of FDI, according to the hypothesis (Moosa, 2002) However, some argue that the internalizations theory is overly broad in comparison to other theories that constitute a subcategory of the general theory (Moosa, 2002; Nayak and Choudhury, 2014). Rugman (2010) For instance contends that the theory is overly wide and seeks to reconcile the internalization theory with the Dunning eclectic theory, claiming that it lacks empirical content. However, the author points out that the match isn't perfect, and the major reason for this is because Dunning concentrates on outward foreign direct foreign investment in host countries, but the Rugman matrix examines MNEs' overall strategy in both the domestic and host nations.

1.6.2.2 Theory of Location

This hypothesis believes that FDI occurs because of international immobility affecting production inputs (labor and natural resources), resulting in variations in manufacturing costs, and is connected to location advantage (Moosa, 2002). Low salaries are an instance of this. As a result, the wage disparity between home and host countries is critical to FDI. Location theory may explain why countries like China and India continue to attract more labor-intensive multinational corporations (such as apparel and footwear) from high-wage countries (Nagesh, 1994; Demirbag, et al., Lei and Chen, 2011).

It should be emphasized, though, that high-quality labor draws higher salaries, contradicting the cheap labor and FDI theory. Banking and research & design jobs, for instance, are never transferred to other nations due to low labor costs (Mody and Wheeler, 1992). The evidence for the idea that low salaries attract FDI is ambiguous (Moosa, 2002). Some people regard it as a good thing. Others (Love and Lage-Hidalgo, 2000; Culem, 1988) find no link (Kravis and Lipsey, 1982; Nankani, 1979).

It is also worth noting that, in addition to wage rates as an FDI driver, cross-country labor productivity disparities are an crucial thing to think about (Moosa, 2002). The

advantage of location the theory's applicability is not only limited to low salaries; it may also be applied to other production parameters. For instance, a company could opt to establish its manufacturing in a country where hydroelectric electricity is inexpensive to produce. Due to the critical importance of copper, a copper company may even establish a facility closer to the limestone mine in another country. In terms of cost-efficiency, transportation delays, and other trade-related limitations, this is a substantial geographical advantage. Finally, capital is an essential part of the production because it will flow into low-capital countries. The aforementioned criteria demonstrate why multinational corporations engage in FDI, notwithstanding the dangers associated with establishing industrial operations abroad (Moosa, 2002).

1.6.2.3 Theory of Monopolistic Advantage

This hypothesis attempts to explain why multinational corporations choose to internalize their operations. According to the monopolistic advantage theory, a company's ability to manufacture in another nation is contingent on the availability of "monopolistic" advantages (Siddhartha and Lall, 1982). Even though multinational companies must deal with external obligations, a lack of local knowledge, and the high cost of gathering this information in other nations, they are often at a disadvantage compared to domestic corporations; however, the existence of a "monopolistic" advantage offsets some of the costs multinational companies incur. As a result, a monopolistic advantage aids multinationals in generating revenues obtaining resources that aren't easily accessible to local businesses and succeeding internationally (Salimath, 2009). Some critics of this theory point to its inability to explain how monopolistic advantages arise, as well as the fact that it is static and implies a major business is going global for the first period. Another critique is that the theory is unsuitable for explaining the actions of businesses in developing economies that engage in FDI but lack monopolistic characteristics that allow them to flourish in foreign markets.

1.7 Empirical Literature

The majority of research in developing countries has looked at the influence of FDI on poverty alleviation from two angles. Implicitly, through economic expansion for indigenous enterprises in emerging nations, such as through technology transfer and productivity improvements; or directly, through job creation. Numerous studies indicate that in terms of productivity, foreign-owned companies outperform domestic ones. Furthermore, the difference in production is attributed to improved technology and management. Allthoght the literature study of the influence of FDI on host countries, Blamestorm and Kokako (2018) discovered that multinational corporations have a big impact on how well it performs the nature of the influence differs by industry and country in their host nations.

Borensztein et al. (2008) Researchers looked examined the influence of FDI on economic development using a cross-country regression approach. The only looked at statistics on FDI from industrial nations that went to poor countries. They discovered some evidence that FDI has a favorable influence on economic expansion, but this benefit has contingent on the host economy's human capital supply. According to their research, FDI productivity is better only when the host nation possesses a certain level of human capital. As a result, FDI only contributes to economic growth when the host country has sufficient capacity to absorb the new technology it delivers.

Graham (2015) Theory and empirical literature on the economic effects of foreign direct investment on host nations. He believes, among other things, that the beneficial impacts of FDI are mostly due to the transmission of innovation technology, knowledge, and other intangible assets, resulting in increased productivity and improved resource allocation. Blalock (2012) In Indonesian production function estimations, there is an indication of knowledge transfer along the distribution chain, while Beata Smarzynska (2013) finds comparable results in Lithuania. However, in other nations, the spread of technology and other higher abilities may not be visible. For instance, Cockcroft and Riddell (2011) showed that throughout the 1980s, FDI had a modest impact on productivity in most African nations.

Only local enterprises with majority foreign ownership did well, according to Ramachandran and Shah (2007).

B. Adeolu (2017) Using time-series data from 1970 to 2002, researchers looked at the empirical connection between non-extractive FDI and economic development in Nigeria. The study used the conventional least squares and two-stage least squares methods to estimate an enhanced growth model. His findings imply that FDI and Nigeria have a favorable but negligible association. He discover, however that FDI in the communication sector offers the greatest potential for economic growth and had a significant impact on development. FDI in the industrial sector has hurt Nigeria's economy.

Seetanah (2001) for the years 1980-2000, this study focused on the effect of FDIon the financial extension in a gathering of 39 nations in Sub-Saharan African countries. The discoveries infer that foreign direct investment (FDI) is a critical variable in depicting the monetary exhibition of Sub-Saharan African nations, however less significantly than different types of capital. Sukar, et al., published another research (2007) Foreign direct investment (FDI) and Sub-Saharan African economic growth nations was investigated. Using the panel data from 1975 to 1999, the specialists assessed an upgraded endogenous development model. FDI has a marginally significant beneficial effect on economic growth, according to the findings. Homegrown monetary elements, like macroeconomic arrangement, receptiveness, and homegrown venture, additionally well affect financial development.

Sarbapriya Ray (2012) Using the OLS Method and the cointegration technique, researchers between 1990 and 2001, the relationship between Foreign Direct Investment (FDI) and economic development in India was explored, the discoveries infer that FDI venture and GDP have a positive affiliation as well as the other way around. The Granger Causation test established a one-way causal relationship between economic development and FDI. Anwar Ul Haq (2012) analyzed annual data from 1981 to 2010 using multiple regression to determine the impact of foreign capital inflows on Pakistan's economic growth, a

significant and favorable link. He likewise utilized the Granger Causality Test, which uncovered a one-way connection between GDP and FDI.

Jaul, et al. (2019) The presence of a long-term connection between FDI and the development of the BRICS nations was investigated using the Vector Error Correction Model (VECM). According to the VECM results, FDI leads to growth in both directions for Brazil, Russia, and South Africa, but only in one direction for India and China. Evidence from industrialized nations appears to back up the concept that the presence of foreign enterprises boosts native company productivity (Globerman, 1979; Imbriani and Reganeti, 1997) The outcomes for emerging nations are less evident, for certain investigations demonstrating advantageous overflows (Blomstrom, 1986; Kokko, 1994; Blomstrom and Sjoholm, 1999) and others claiming minimal evidence (Aitken et al., 2007). Others find no evidence of foreign enterprises having a favorable short-term spillover effect. A portion of the reasons given for the blended outcomes is that the expected forward and There might not be any reverse links. (Aitken et al., 1997) the TNC contentions empowering expanded efficiency because of the opposition may not be valid. (Aitken et al., 1997) (Aitken et al., 1997) (Aitken et al., 1997) (Aitken et al., 1997) (Aitken et al., 1997) (2009). Different elements incorporate the way that TNCs like to situate in high-usefulness enterprises, which might make less-useful organizations close (Smarzynska, 2012).

In addition to the aforementioned effects, some economists believe that The commerce in products and services is directly impacted by FDI. (Markussen and Vernables, 1998). As per the exchange hypothesis, FDI inflows should help the intensity of host countries' products (Blomstrom and Kokko, 1998). Putting resources into asset or effectiveness looking for projects expects to make utilization of the country's best assets to send out items and administrations, or to incorporate some assembling processes into the financial backer's overall production network. The profitability of export products, the exchange rate, and international need are issues that affect this type of investor.

Ernst (2015). FDI from nearby countries could benefit the host country. Consequently, this leads to an increase income and a decrease in neediness. On the other

hand, FDI might cause the host economy to become less competitive. According to research conducted by J. Weeks and M. Agosin (2000), Asia has the biggest jamming in sway, however, Latin America, which had the broadest progression of FDI limitations during the 1990s, didn't profit from packing in impacts. The findings suggest a somewhat more favorable image for Argentina, Brazil, and Mexico than for the entire area, implying an unaligned or modest crowding-out impact during the 1990s (also see M. Kulfas, 2002 and D. Ibarra, 2004).

(Christoph Ernst, 2005) one more way that FDI might assist with development and destitution decrease is through making position. Joblessness is one of the essential hardships defying LDCs today, and occupation advancement supposedly is perhaps the quickest technique to diminish destitution. FDI may be used to boost employment. In the event that FDI is market-driven, the effectiveness of the homegrown market, which incorporates the work market, is an essential issue. Expansions in business and genuine income play a major part in expanding inner interest, and that suggests that the foreign producer pays attention a rising number of neighborhood clients for things made for the host country market.

The impact of venture strategy advancement on work and speculation by worldwide organizations in Africa was researched. They involved information for 33 nations over the period 1984-2003 and utilized a unique board assessor for their investigation. They found that advancement decidedly affects venture and that while progression doesn't straightforwardly affect global business it indirectly affects worldwide work by invigorating worldwide speculations, which thus increments global business. These liberalization strategies help to alleviate poverty by encouraging investment and employment from multinational corporations.

TNCs, then again, have been found in a few examinations to make a frustrating commitment to work creation all through the 1990s. TNCs played a particular part in work advancement in Mexico from 1993 and 1998, as indicated by Dussel Peters (2000b), with a portion of 5.7 percent of public business. Ramirez (2011) Considering the technological passed down from the parents' businesses took the expensive, computer-assisted production,

long-term employment development in the car sector was restricted in Mexico. The maquiladora business, which is a Mexican assembly facility along the US-Mexico border where foreign components and components are sent, and the completed item is given back to the original mark, has produced the majority of the new manufacturing employment.

In Argentina, Kulfas, Porta, and Ramos (2012) TNCs served to more noteworthy efficiency while decreasing the quantity of representatives, as indicated by the review. Between 1993 and 1997, the number of employees per firm decreased by 7.9 percent. Fabricating, where normal business fell by 12.7 percent during a similar time, is in far more terrible shape. There was additionally a - 2.7 percent drop in work in the administrations area (Ernst, 2005) One more key attribute of worldwide work is that MNCs will generally pay more noteworthy wages than are commonplace in their own nations. In Cote d'Ivoire, pay disparities between foreign-owned and native enterprises range from 10 percent to nearly 90 percent according to Harrison (1996). Furthermore, multinational presence might result in pay spillovers: salaries in industries and areas with a larger foreign presence tend to be higher (Lipsey, 1994; Lipsey and Sjoholm, 2001). In any case, as indicated by Axarloglou and Pournarakis (2007), the business and compensation outcomes of FDI vary by industry.

The same evidence may be found in Latin American studies. For instance, a new report by the Abroad Advancement Organization (2012) checked out what FDI means for money dissemination, disparity, and neediness decrease in Latin America. To make this channel effective, the number of jobs produced in the nation must exceed the number of jobs lost (as a result of layoffs, mergers and acquisitions, the closure of small businesses in the area, etc.). For instance, it is anticipated that FDI in labor-intensive industries like agriculture will have the biggest impact on the well-being of the underprivileged.

When it comes to FDI and lowering poverty in Sub-Saharan African nations, there is a paucity of the empirical literature. However, some research has been done on the issue of FDI. Getinet and Hirut (2006) investigated the factors that influence FDI inflow in Sub-Saharan African nations and discovered that, among other things, real GDP growth rate, export orientation, and liberalization all had a favorable impact on FDI inflow. Blen and

Sisay (2009), then again, utilized an example in 12 African natios and utilized Fixed Impact and Arellano-Security GMM assessors to explore the impacts of swapping scale vulnerability and political gamble on FDI into Africa. Both macroeconomic vulnerability and political gamble have all the earmarks of being obstructions as evidenced by their discoveries, to FDI inflows into these African nations.

Gohou and Soumare (2012) from 1990 to 2007, researchers looked at this link in 52 African countries. The two authors utilized panel regression techniques to show that FDI influences Human Improvement File and Gross domestic product per capita, and subsequently on poverty alleviation. The authors also shown that poorer countries appear to have better results than those with less poverty. A recent study on the direct effect of FDI on poverty alleviation has emerged, according to Sharma B, & Gani A (2002). The fixed effect regression method was used to analyze the data, in poor and middle-income nations, FDI has a positive influence on the HDI, while our research revealed a positive and considerable influence of HDI on FDI (low-income category) and vice versa, additional research on a country-by-country basis is needed to fine-tune the impacts of FDI on HDI.

According to Hung (2005), a 1 percent The number of persons living in poverty was reduced by 0.05 percent as FDI increased. It has been demonstrated that the direct effects of foreign direct investment on reducing poverty are stronger than the indirect effects of GDP growth. Fan and Zhang (2004) Over the last 25 years, China has been one of the few developing nations to create progress in lowering the total number of impoverished people. As indicated by Chinese state insights, the quantity of destitute individuals in China has diminished significantly, from 250 million of every 1978 to 30 million out of 2000. A decrease in destitution on this scale and in such a brief period is extraordinary ever, and many trust it to be one of the 20^{th} century's most prominent victories in human advancement. The improvement of equal access to social administration and useful resources, as well as interests in provincial locales generally, contributed to this accomplishment.

Zhang's (2006:82) study examined global speculation help in destitution poverty reduction in China, expansion in FDI in China is one of the most striking outcomes of the

shift from an arranged economy to a market economy in China. The influence of FDI on poverty reduction and other elements of the economy has grown as China has become more connected with the global economy. We believe that, while redistributive measures can assist decrease poverty, China's poverty-reduction policy should prioritize growth. Since FDI has become a significant driver of prosperity in China, it has also become a critical component in poverty alleviation.

Fowowe & Shuaibu (2014) Researchers investigated the effects of FDI on the underprivileged in a sample of 30 African nations using data collected from 1981 to 2011. The World Bank's poverty headcount numbers were used as a stand-in for actual poverty. They used the Generalized Methods of Moments to determine that FDI helps the poor (GMMThe same research discovered that FDI has a significant positive impact on reducing poverty in underdeveloped nations with a high prevalence of poverty, which is consistent with the findings of Gohou and Soumare (2012), Fowowe, and Shuaibu (2014).

Ucal (2014: 1103) the research was used an unbalanced panel analysis to examine 26 developing nations were chosen as a sample to examine how FDI affected poverty between 1990 and 2009. He discovered that FDI had a negative influence on poverty in a few nations, demonstrating that FDI plays a role in poverty reduction in certain nations. Shamim et al. (2014) from 1973 to 2011, researchers looked at the influence of FDI on poverty in Pakistan, using the poverty headcount as a proxy for poverty. They discovered that FDI, like other forms of investment, reduces poverty using time series data.

Reiter and Steensma's (2010: 76) investigation between 1980 and 2005, research was conducted on the link between human growth as measured by the HDI and FDI in a sample of 49 developing nations. The findings were similar to Jalilian and Weis's (2002) findings when using imbalanced panel data (2002). If FDI was restricted and discriminated against, it had a substantial, beneficial influence on human development - poverty alleviation. They found that while discrimination has a negative influence on FDI inflows, it has the most impact on human development.

Aderemi et al. (2019) from 1990 to 2018, researchers looked into how China's FDI inflows influenced Africa. The study found evidence that FDI inflows from China had a substantial influence on Africa's growth rate. Aderemi et al. (2020), The report highlighted China's enormous market size and rapid economic development rate as the main driving factors for FDI inflows into the world's second-largest economy. Researchers used Autoregressive Distributed Lag and Error Correction Model (ARDL and ECM) to investigate the factors that drive foreign direct investment inflows into China.

Researchers studied time-series data from 1973 to 2008 to explore the connection between FDI and poverty in Pakistan, according to Ali and Nisashat (2009). They discovered that FDI inflows affect detrimental influence decrease in Pakistan in the short and long run, and the neediness headcount as an intermediary for neediness. Ganic (2019) from 2000 to 2015, examine the validity of the connection between FDI and poverty alleviation in twelve European nations. The research separates European nations into two the study indicates that the relationship between FDI and poverty reduction in both regions is changing. In the Western Balkans, the relationship between FDI and poverty reduction is positive, whereas In Central Europe, it is small and detrimental. Furthermore, the findings support a few previous hypotheses that FDI has a greater influence on poverty reduction in developing nations like the Western Balkans than in relatively richer countries like Central Europe.

Magombeyi and Odhiambo (2018:12) provide a comprehensive assessment of studies on how foreign direct investment affects reducing poverty. The exploration checks out the observational and hypothetical associations between foreign direct investment and poverty decrease. The review contrasts from past exploration in that it centers around the immediate impact of FDI on neediness decrease and gives a point-by-point assessment of the idea of the connection between the two factors.

Table 1 : summary of empirical studies

Authors	Title	Regions/Countries	Findings
Jalilian and Weiss (2002)	The ASEAN Region's requirement and foreign direct investment	ASEAN	The positive relationship among FDI and poverty alleviation
Gohou and Soumare (2012)	Are there regional disparities and does foreign direct investment lessen poverty in Africa?	Africa	The relationship between FDI and a decline in poverty in central and East Africa is favorable.
Zaman et al. (2012)	Relationship between foreign direct investment and pro-poor growth policies in Pakistan	Pakistan	The positive association between FDI and poverty reduction
Fawowe and Shuaibu (2014)	Is FDI beneficial to the underprivileged? fresh data from African nations	Africa	The relationship between FDI and poverty alleviation is favorable
Shamim et al (2014)	Impact of FDI on poverty reduction in Pakistan	Pakistan	The relationship between FDI and poverty alleviation is favorable
Soumare (2015)	Does foreign direct investment increase the standard of living in North African nations?	Northern Africa	The relationship between FDI and poverty alleviation is favorable
Ucal (2014)	Foreign direct investment and poverty panel data study from the perspective of developing countries	Developing countries	The relationship between FDI and poverty alleviation is favorable
Israel (2014)	Effect of FDI on poverty reduction in Nigeria between 1980 and 2009	Nigeria	FDI and poverty reduction have a favorable correlation
Ali and Nishat (2010)	Do foreign inflows benefit Pakistan's poor?	Pakistan	Negative association FDI and poverty reduction

Huang et al, (2010)	East Asia, Latin America, and foreign direct investment in relation to poverty	East Asia And Latin America	FDI and poverty alleviation have a negative correlation
Gohou and Soumare (2012)	Are there regional disparities and does foreign direct investment lessen poverty in Africa?	Africa	Unfavorable association The reduction of poverty and FDI are positively correlated in Central and East Africa.
Akinmulegun (2012)	the contribution of foreign direct investment to the decline of poverty in Nigeria.	Nigeria	negligible effect
Magombeyi, N. M. and Odhiambo,	An empirical investigation of FDI inflows and reducing poverty in Botswana	Botswana	When life expectancy is considered as a measure of poverty reduction, FDI has a favorable impact on it in the short term but a negative one in the long run.
Ganic M, (2019)	Does foreign direct investment aid in the eradication of poverty?	Central Europe and West Balkan countries	Positive association between FDI and poverty decreases in two regions: (a) the Western Balkans and (b) Central Europe
Ahmed, F. Draz, M. U. Su, L. Ozturk, I., Reuf, A.and Ali, S, (2019)	Effects of FDI inflows on the ASEA and SAARC economies' efforts to reduce poverty	ASEA and SAARC	FDI net inflows and Asian poverty reduction have a positive and highly significant link.

Sources: author's compilation

To summarize, different research has been conducted using diverse approaches to investigate the link between FDI, growth, and poverty. Although, there is no unanimity of opinion because different investigations have produced contradictory results. The data for industrialized nations appears to support the assumption that local business productivity is positively connected to the presence of foreign enterprises, according to the literature (Globeram, 1979; Imbriani and Reganeti, 1997). The discoveries for non-industrial nations are blended, with some tracking down useful overflows (Blomstrom, 1986; Kokko, 1994; Blomstrom and Sjoholm, 1999) and others revealing insignificant proof (Aitken et al., 1997). Others, then again, track down little proof of valuable short-run overflow from unfamiliar endeavors and a negative relationship between unfamiliar direct venture and development (Omoniyi and Omobitan 2011). The job of FDI gives off an impression of being nation explicit, and it very well may be great, negative, or minor relying upon the accepting countries' monetary, institutional, and specialized qualities. Most of FDI and development studies are cross public, though the job of FDI in financial development can be nation explicit. . As indicated by Zhang (2001) "the degree to which FDI adds to becoming the relies upon the financial and social condition or so, the nature of the climate of the beneficiary country". Thus, country-explicit investigations are viewed as important.

Overall, there appears to be some empirical evidence in the literature suggesting a relationship between FDI and growth as well as FDI and poverty. The review reveals a lot of weaknesses and possible gaps. The research also finds that there are just 54 FDI and poverty studies in Sub-Saharan Africa, although many of the prior studies on the topic have been conducted in Asia, South America, and other developing areas. All of the above have ramifications in terms of the derived parameters' fairness and consistency. As a result, this study will fill in the gaps by including numerous poverty measures into a panel structure, resulting in a larger view of the influence of diverse poverty measures/indicators as well as a comprehensive set of analytical results.

1.6 Foreign direct investment's core ideas and consequences

A company or substance located in one country may invest money into a company or component located in another country. This practice is known as foreign direct investment (FDI). Foreign direct investment, according to the World Bank (2002), is characterized as "an investment made to acquire a lasting management in an enterprise operating in a country other than that of the investor." As per the IMF (1993) equilibrium of installment manual, a speculation by an unfamiliar financial backer is viewed as FDI assuming the immediate financial backer holds no less than 10 percent of the common offer or casting a ballot force of a firm.

The limit sum for foreign value possession that nations view as confirmation of an immediate venture interface changes per country. At or above this level of interest, the immediate financial sponsor is often seen as having a successful say in the administration of the project in issue. The typical FDI threshold number is 10 percent for statistics on the operations of Transnational Corporations (TNCs), values ranging from 10 percent to 50 percent are used (UNCTAD, 2011: 42).

Horizontal and vertical FDI are the two forms of FDI. Through horizontal FDI foreign corporations may opt to place manufacturing in a foreign market owing to cost reductions (Sondermann and Vansteenkiste, 2019; Cieslik, 2019; Ramondo.2011). To put it another way, corporations establish factories in many markets to capitalize on firm-specific assets while avoiding transportation costs and trade constraints. According to Moritz et al. (2019), In order to gain access to new markets, horizontal FDI is deployed. Vertical FDI refers to the international fragmentation of the manufacturing process for cost-cutting purposes, and it entails the geographic separation of production and headquarters operations to take advantage of factor cost differentials generated by various relative factor suppliers. According to Kind (2013), Vertical FDI occurs when a company may divide its manufacturing operations into separate segments and locations based on the factor costs in those regions (Osabutey and Jackson, 2019; Anyanwu and Yameogo, 2015)

FDI is the spread of a type of investment that is seen as one of the most crucial means of accelerating a nation's economic growth, particularly in developing nations. The historical focus on the determinants of FDI within home nations appears to imply that foreign direct investment is a substantial source of funding and that it supports domestic private investment, that it is usually associated with new job possibilities, and that it is most often related to the upgrading of equipment. Technological transfer and, as a result, increases the host nation's economic growth. Macro-empirical research on the FDI-growth link in developing countries reveals that FDI generally has a positive impact on economic growth, but that this is reliant on other crucial characteristics such the host country's human capital base, the trade regime, and the level of economic openness (de Mello, 1997 and 1999).

Multinational companies' direct investment has grown more quickly than trade flows during the past three decades, notably among the most developed economies. The international economic actions raised involves global foreign direct investment, and it is now estimated that 42 percent in the world. Even so, we still have a poor understanding of the process by which foreign direct investment has evolved into a straightforward stand-in for trade, as well as the ways in which it is actually something quite different. In the 1970s, many host nations and some economists believed that multinational investments were detrimental to the welfare and advancement of the host economies, as they created a growing monopoly that abused those economies to suppress local competition. The perspective in the 1990s was very different and much more pessimistic; it suggested that multinational corporations greatly complement local industries and might promote development in the host nation (James R. Markusen!" Anthony J. Venables, 1999: 337).

From 1970 to 1980, the average annual inflows of foreign direct investment (FDI) into Africa rose sharply. It additionally rises fundamentally during the 1990s and somewhere in the range of 2000 and 2003. Correlations with worldwide and territorial streams, then again, might be more instructive. . During the 1970s, Africa's extent of worldwide FDI was at 6 percent however, it has since tumbled to 2-3 percent current. Africa's proportion of FDI among developing nations was north of 28 percent in 1976 it is as of now under 9 percent (UNCTAD, 2005), Africa has additionally remained help subordinate in contrast with other

creating regions, with FDI falling behind true advancement help (ODA) FDI represented only one-fifth of complete capital streams to Africa somewhere in the range of 1970 and 2003 (Ajayi, 2006).

Chryssochoidis, Millar, and Clegg (1997) the main type of FDI is designed to obtain too express components of creation, such as assets, specific data, patents, or trademarks owned by a corporation in the host nation. The foreign corporation should contribute locally if certain production components are unavailable or difficult to transport in the home economy of the foreign company.

Raymond Vernon (1963) fosters the second sort of FDI in his item cycle speculation. As indicated by this model, the organization will contribute to getting to less expensive elements of creation, for example, minimal expense work. The public authority of the host nation might support this kind of FDI assuming it is chasing after a product arranged improvement procedure. . Since it might give some type of venture motivator to the foreign organization, in the type of appropriations, awards, and assessment concessions. Assuming the public authority is utilizing an import replacement strategy; overall, foreign organizations may possibly be permitted to take part in the home economy on the off chance that they have a specialized or administrative skill that is not accessible to the homegrown business. Such expertise might move through permit. It can likewise bring about a collaborative effort with a nearby accomplice.

The third type of FDI consists of global counterparts engaging in common interest, such as through cross-shareholdings or the institution of a partnership, to get close enough to one another's item goes. This type of FDI emerged because of expanded contention among practically identical merchandise and initiated specialization. The two organizations frequently find it challenging to contend in one another's home market or third-country markets for one another's items. . In the event that none of the items acquires the prevailing benefit, the two organizations can put resources into one another's the subject matter and advance sub-item specialization in the creation.

The fourth sort of FDI relates to attainment to customers in the market of the host country. There is no discernible change in the relative benefit to or from the host nation in this type of FDI. Trade from the organization's headquarters might be inconceivable, for instance, certain administrations, or the capacity to demand quick plan adjustments. The restricted detectability of many administrations has been a significant element clarifying the development of FDI in these areas. Access to consumers in the host nation's market is the fourth type of FDIThere is no discernible change in the comparative advantage of the host country in this sort of FDI. For example, some services or the ability to ask for instant design changes may not be practical to export from the company's headquarters. A significant aspect in understanding the increase in FDI in these sectors has been the limited traceability of many services.

The fifth kind of FDI connects with the exchange division part of a provincial combination. This typically happens when there are area benefits for foreign organizations in their nation of origin however, the presence of taxes or different obstructions to riding keep the organizations from trading to the host nation. The foreign organizations, thusly, hop the hindrances by laying out a neighborhood presence inside the host nations to get to the nearby market. The nearby assembling presence needs simply be adequate to avoid the exchange boundaries since the foreign organization needs to keep up with as a large part of the worth included its home economy.

There have been a few studies that have enunciated conceptually and experimentally regarding foreign direct investment in a country nevertheless there are not many examinations on foreign direct interest in the sub-Sahara Africa (SSA) economy. Furthermore, the majority of hypothetical investigations in the literature of the FDI field exclusively focused on this issue in developed nations such as the United States and European Union (EU) nations, as well as Asian countries. The factors that motivate FDI into SSA nations are less well understood in terms of connection to other macroeconomic and strategic factors (Asiedu, 2002: 107).

1.9 Foreign direct investment: The Theory

FDI theory may be traced back to Smith (1776) [as referenced in Smith, 1937] and Ricardo (1817], and was linked to international production specialization. According to Smith's theory of absolute advantage, commerce between two countries will occur if one country can manufacture and export more items with a given quantity of capital and labor than its nearest rival (Absolute Advantage) exports. Ricardo's (1817) study showed up as of now, endeavoring to clarify FDI utilizing the possibility of relative benefit. Ricardo was more worried about worldwide element developments since he accepted that work and capital were portable inside nations yet not across borders. His hypothesis was defective, nevertheless, because it was established with the understanding of two countries, two products, and complete variable versatility, yet it actually neglected to legitimize global capital streams. . This is as a distinct difference to the possibility that FDI would not exist in a public described by wonderful contest (Makoni 2015: 77 a).

The "electric paradigm," ascribed to Dunning, is a common conception and hypothetical framework for determinants of foreign direct investment (1993). It oversaw a structure that grouped micro and macro-level variables to investigate why and where multinational corporations (MNCs) contribute to trade between countries. The OLI framework demonstrates that businesses invest overseas to seek three sorts of benefits: ownership (O), location (L), and internalization benefits. The possession of specific favorable circumstances or advantages (property rights, knowledge, and other elusive resources) allows for a business to compete in the market it serves, disregarding the disadvantages of being foreign because it can approach an export of the available natural resources and resource-based products. These benefits may stem from the company's capacity to coordinate related activities, such as assembly and appropriation, as well as the ability to exploit national differences Denisia (2010).

The local attractions are those which make the selected distant country a more desirable destination (for example, pleasant working conditions, normal assets, exchange blockades that limit imports, exchange cost advantages, and organized preferences via

elusive resources). The purpose of FDI is to serve the recipient nation's home market through an offshoot FDI. Differences in country natural asset blessings, government laws, transportation costs, macroeconomic soundness, and social considerations may all contribute to geographical advantages. The lowering of vulnerability and exchange costs to make learning more effective, as well as the elimination of state-created faults, such as charges, remote trade controls, and appropriations, are examples of disguise benefits that arise from exploiting vulnerabilities in outside business sectors. The delocalization of all or a standard of the creation method (production of sections as well as different locations) results in cheap costs benefits in this circumstance Rolfe and Ricks (1993).

The early idea of foreign direct speculation can be viewed as the upgrades of the grouping hypotheses of worldwide exchange and established in financial aspects. The early idea of foreign direct investment can be viewed as the upgrades of the grouping hypotheses of worldwide exchange and established in financial aspects. Heckscher-Ohlin's (1933theory regarding the emergence of the idea of global capital mobility for international trade as a result of many types of resource donations across countries. It expands on David Ricardo's hypothesis of relative benefit by foreseeing examples of business and the foundation of creation on the element gift of the exchanging locale. Ricardo's theory, then again, cannot clarify FDI since it is predicated on two countries, two products, and amazing component portability at the nearby level. Even FDI could not be allowed under such a scheme.

The microeconomic hypothesis of global creation was put forth by Stephen Herbert Hymer in 1960. (1960 published in 1976). However, work is viewed as original in the field of FDI research. As per Hymer, there are two explanations behind an organization's internationalization, factors connected with the organization's size and responsibility for assets, and elements coming from market disappointments. Hymer demonstrated that foreign direct investment (FDI) only happens when the advantages of applying firm-specific advantages (FSAs) across borders make it possible to pay for doing business across borders. According to Hymer MNEs have company-specific advantages that allow them to operate economically in other nations (Kurtishi, 2013).

However, Hymer also highlighted the four (Understanding the Global Firm) disputes.

1. The prior thought expressed that capital development was one-way, from created to emerging countries; at the same time, following the time, FDI was two-way among created countries.

2. A nations ware permitted to either partake in outer FDI or just acknowledge internal FDI. In created countries, Hymer noticed that MNEs streamed in the two headings across public lines, inferring that nations got inbound and outward FDI.

3. Outward FDI levels contrasted by industry, suggesting that assuming capital accessibility was the main impetus behind FDI, there should be no distinctions since all areas would be similarly capable and ready to contribute abroad.

4. It did not make sense to shift funds from one nation to another because overseas subsidiaries were financed locally.

However, there are two causes for firms becoming MNEs, according to Hymer (1960) and Aliber (1969):

- Imperfections in the market Companies became MNEs because they possessed competitive advantages, which they used in many nations to optimize their production.
- The competitive as nature, certain industries will push firms to internationalize more than others.

However, these benefits must not be offered to firms in the host nation at the same rates and on the same conditions as enterprises in the source country (Kurtishi, 2013: 58).

1.10 The Reasons for Foreign Direct Investment

There is a variety of reasons why a company could decide to invest abroad, and they differ from one company to the next. For example, a company's motivation may change because of more experience and successful expansion. There are four primary explanations, according to Dunning and Lunda (2008), which are depicted in the accompanying subsections.

1.10.1 FDI in Natural Resources

Firms are urged to invest in a foreign nation to obtain access to certain resources at a lower cost and of higher quality than what is available in their own country. The primary goal of this form of FDI is to boost the profitability and competitiveness of the investing companies in their respective markets. There are three different categories of FDI resource seekers, the first is concerned with the acquisition of physical resources, such as agricultural goods, fossil fuels, raw materials, and minerals. Investors in this kind of FDI are mostly primary producers and manufacturers, and their motives include cost minimization and the development of secure supply lines. This form of FDI generally requires a large capital investment and is location-specific. The second group focuses on businesses looking for a steady supply of low-cost, untrained or semi-skilled work that is highly motivated. This form of FDI is prevalent among industrial and service businesses in developed nations who are looking for lower costs by purchasing subsidiaries in other nations. Firms requiring technological, management, or marketing knowledge, as well as organizational abilities, fall into the last group (Dunning 2014; Dunning and Lunda, 2008). Natural resources are being sought. Because most African and Sub-Saharan African countries have abundant natural resources, FDI is the most common type of FDI. (Asiedu, 2006). Based on a study of panel data from 1984 to 2000, asserts that natural resources in developing countries are the primary motivation for FDI (Okafore et al, 2015). However surprisingly, it was discovered that FDI in Sub-Saharan Africa was not pursuing resources (Poelhkke and Ploeg, 2013).

1.10.2 FDI that is looking for a market

The company invests in particular nations outside of their own country to deliver goods and services to these markets, as well as markets in neighboring nations (Dunning, 2014). Such investment businesses have often already supplied to these nations. However, since the host, nations are lowering tariffs, raising prices, erecting obstacles, or limiting market size, companies are opting to invest elsewhere. Aside from market size and development potential, there are four important criteria connected with market-seeking FDI. The first is the establishment of production plants overseas by the investing firm's main customers or suppliers. The second concern is foreign companies producing in, which 13 promotes local tastes, cultural requirements, and natural resources and skills. As a result, businesses are better positioned to service and compete with local businesses. The reduced transaction and production costs involved with supplying the local market from a neighboring plant are a third consideration. The concept that companies desire to be physically present and participate in a worldwide production and marketing plan is another rationale for market seeking (Dunning; 2014, Dunning and Lund, 2008: 6 a).

1.10. 3 FDI that seeks efficiency:

These are large, diverse companies with expertise in relatively standardized items in cross-border transactions (Dunning, 2014). The purpose of this sort of FDI is intended to support the frameworks established for resource-based or market-seeking investments in a way that foreign companies benefit from governance initiatives. Efficiency-seeking FDI may be divided into two categories. The first is to highlight the benefits of various endowments in diverse countries, such as natural resources, labor, and technology. The objective of the second type of efficiency-seeking FDI is to profit from scale economies in countries with similar economic systems (Dunning 2014, Dunning and Lund, 2008 b).

1.10. 4 FDI in Strategic Assets

Foreign direct investment (FDI) in strategic asset acquisition is the fourth type of FDI, in which foreign businesses seek assets abroad to enhance their worldwide competitiveness to achieve their long-term strategic goals. The primary benefit is that it is less expensive than improving a worldwide portfolio of people's talents, and physical assets (Dunning, 2014). In Africa, this technique does not exist to a large level, but in other LDCs, businesses create joint projects to obtain access to the technology.

1.11 Economic growth

Economic is one of the most essential ideas for a country's government and culture. The economic status of a country is critical for a society's survival, and the country's economic position has an effect on society's way of life, whether favorable or unfavorable. The economy is assessed in all countries across the world using a variety of metrics to determine whether it is improving or deteriorating over time. An increase in the GDP, often known as economic growth, number of factors of production in an economy through time and a technical increase in the actual potential level of national income because of development. The combination of numerous economic explanatory factors can be used to interpret economic growth (Uzuner et al 2020: 5208).

Africa's Sub-Saharan region earns the least money worldwide, with some sub-Saharan Africans earning less than a dollar a day. Other Sub-Saharan African nations, on the other hand, are seeing rapid economic growth. Burundi's major challenges and possibilities for accelerating poverty reduction and economic success in a sustainable way are identified in the, Its population density is the third highest in Sub-Saharan Africa. (SSA), and its population is predicted to treble by 2040. Burundi is one of the world's most unfortunate nations, with several human development indices lagging. Burundi's average annual per capita consumption is only US$270, putting it near the bottom of the low-income group. Between 1971 and 2015, Burundi's people endured 11 years of environmental shocks that lowered agricultural productivity and another 11 years of political unrest that resulted in a significant decline in the non-agricultural economy. Economic growth fell in both the urban

and rural sectors throughout the years when the wars were the most violent (1972, 1993–1995, 2000, and 2003), making recovery more difficult.

From 2007 to 2014, the budget deficit was decreased to an average of 3.4 percent of GDP, compared to 5.0 percent from 2004 to 2006 and highs of 11.5 percent in 2003 and 24.7 percent in 2000, thanks to the government's cautious fiscal strategy. Growth was primarily driven by the rise of services from 2005 to 2014, followed by the industrial sector. Another political crisis in 2015 causes the Real GDP to decline by 3.9 percent (WB, 2018: 9).

According to Chad economics on average, real GDP increased from 4.5 percent in 1990-2003 to 9.4 percent in 2004-2012. In 2012, it was 9.1 percent, 3.4 percent in 2013, and 6.2 percent in 2014. Due to the general slowing of economic activity caused by the significant drop in oil prices, this level of growth will be difficult to continue in 2015. Oil-related taxes decreased from representing 11.7% of non-oil GDP in 2014 to 3.5 percent in 2016. Despite a significant drop in domestically funded investment, the budget deficit increased to 3.0% of non-oil GDP (from 9.8 to 1.7 percent of non-oil GDP). In 2018, growth increased to 2.4 percent, with 3.2 percent expected in 2019. Chad emerged from the turmoil in 2018 with a strong increase in oil output of 11.1 percent. Due to increased oil production and a substantial rebound in the non-oil economy, positive GDP growth continued in 2019 (WBG, 2020).

Ghana's economy made progress in 2011 in solidifying achievements established in the governance of the country. Macro-economy in 2010, with inflation falling to 8.7 percent year on year and the budget deficit falling to 4.3 percent of GDP (GDP). Oil income and strong export performance of cocoa and gold are expected to boost GDP growth from 7.7 percent in 2010 to 13.7 percent (7.5 percent non-oil) in 2011, helped by oil revenues and good export performance of cocoa and gold. Future growth prospects are still quite promising, with forecasts of 8.3 percent and 7.7 percent for 2012 and 2013, respectively. The industrial sector grew at a rate of 36.2 percent, led by oil production and mining. The economy is slowing after reaching previously high levels (IMF, 2014).

Staff predicts a further slowdown to 4 percent in 2014, following a growth rate of 5 percent in 2013. Due to the government-imposed devaluation and price increases, inflation reached 13 percent at the end of 2013 and 14percent in March (AEO, 2012).

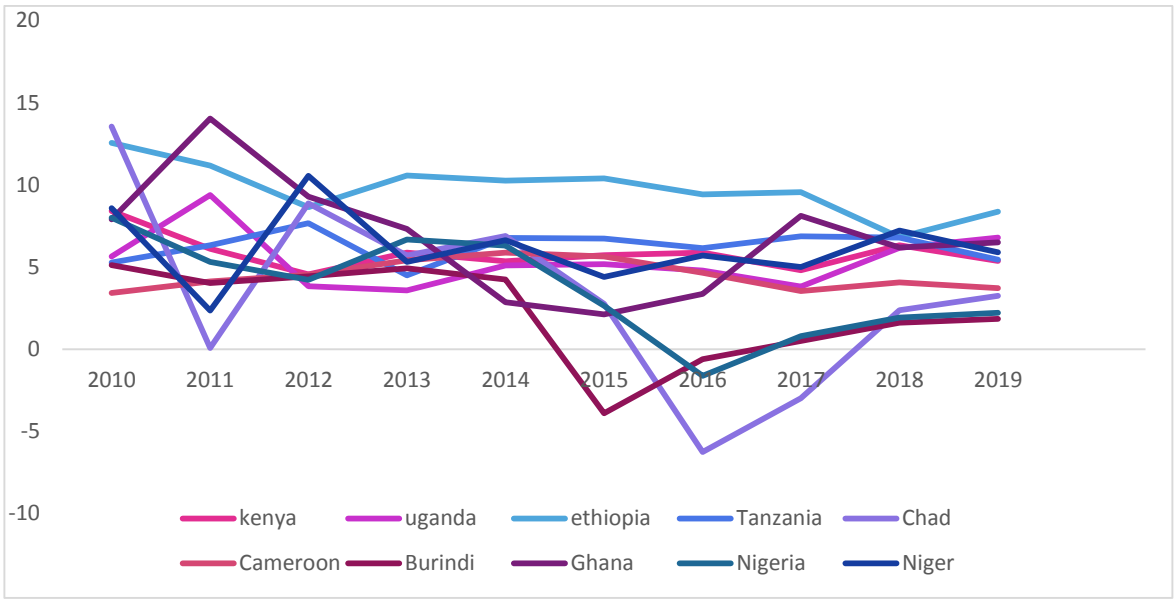
Over the last decade, Ethiopia's economic development has been exceptionally quick and consistent. As per official figures, genuine Gross domestic product development arrived at the midpoint of 10.9 percent from 2004 to 2014. Over the last decade, Ethiopia's economic development has been exceptionally quick and consistent. According to official figures, real GDP growth averaged 10.9 percent from 2004 to 2014, Taking population growth of 2.4 percent per year into account, real GDP per capita growth averaged 8.0 percent annually (WBG, 2014). Despite the ongoing drought, the IMF forecasts real GDP growth of 8.5 percent in both 2017 and 2018. In recent years, the country has had some of the fastest growth rates in the region. Ethiopia's Subsequent Development and Change Plan which runs from 2015/16 to 2019/20, looks to help the nation reach at lower-middle income status by 2025 (EES, 2017).

Rwanda's economy has continued to develop strongly, From 7.6 percent in 2010 to 8.8 percent in 2011, real gross domestic product (GDP) growth, exceeding the preliminary forecast of 7.0 percent. Rwanda's economy grew rapidly in 2011 but is anticipated to decrease in 2012 and 2013, with growth rates of 7.6 percent and 6.9 percent, respectively (AEO, 2012). Rwanda's economy is largely supported by the construction and service industries, in 2016-2017, the robust expansion of these two sectors offset the drought-induced slowdown in agriculture, preventing a more significant economic decline in Rwanda (RES H2, 2017). According to the latest World Bank Rwanda Economic Update issued today, The economy of Rwanda expanded by 8.6 percent in 2018, and headline inflation stayed low at 1.2 percent in March 2019. The research anticipates a positive economic future, with an annual increase projected to range from 7.5 to 8 percent (REU, 2019).

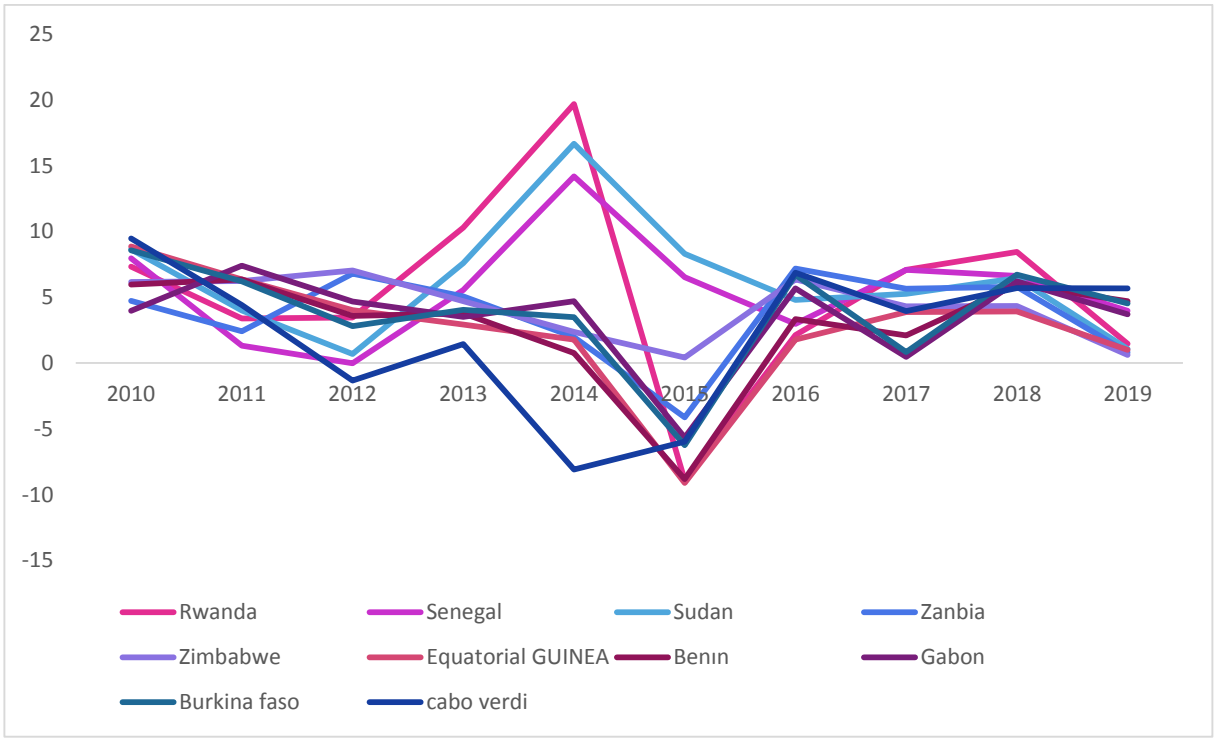
Cape Verde was hit hard by the Eurozone financial crisis in 2011. From 5.4 percent in 2010 to 5.0 percent in 2011, the economy slowed. In 2012 and 2013, it is anticipated to stabilize at approximately 5.1 percent. On the budgetary front, the new administration altered

its intentions after presenting an expansionary fiscal posture, settling for a deficit of 3.3 percent of GDP, 1.9 percentage points lower than what was originally planned. GDP growth in 2016 was expected to be 3.2 percent, up from 1.5 percent in 2015, Continued increases in confidence, strength in agricultural production and tourism, as well as government attempts to stay on the reform road, should propel growth to 3.7 percent and 4.1 percent in 2017 and 2018, respectively. Cabo Verde's key policy concerns from 2016 are anticipated to continue in 2017 and 2018 (Cape Verde, 2012).

Figure 1: Economic growth



Data Source: (World Bank 2019)



data Sources: (World Bank 2019)

1.12 FDI inflows in Sub-Saharan Africa

In 2018, FDI streams to Sub-Saharan Africa developed by 13 percent to $32 billion. This development is principally because of an expansion in asset looking for FDI and bouncing back inflows to South Africa, the nation's second-greatest economy. This offset a huge drop in internal FDI recorded in a few countries in the sub-district, which was ascribed to a limited extent to political turmoil and frail financial essentials (UNCTAD 2018: 40).

The collection of writing in the field of foreign direct investment needs lucidity, specialization, and profundity for the district of Sub-Saharan Africa yet. The exploration expects to make relevant the laid out connection between foreign direct investment and financial development to the Sub-Saharan African nations, differentiating the philosophy from comparable examination around here. The examination of Samuel Adams (2009) inspects the impact of foreign direct investment and homegrown venture on monetary development in Sub-Saharan Africa during the period 1990-2003. The aftereffects of this study demonstrate that the foreign direct investment is genuinely huge in the OLS yet not in fixed-impacts assessment. By and large, the discoveries show a 14 positive pattern of foreign direct investment on monetary development, despite the fact that it is noticed a swarming out the effect of homegrown investment at first (Jugurnath et. al 2016:71).

For selected Sub-Saharan African nations, find a substantial positive link between foreign direct investment and financial development. In light of their proper impacts relapses the connection of FDI and financial development is positive yet not genuinely critical as well. Nonetheless, by applying the static arbitrary impact model and dynamic panel GMM assessment, the connection between foreign direct investment, homegrown investment and working populace with financial development are positive and critical. They additionally support that emergency of the Eurozone did not redirect their outcomes regardless of its adverse results on monetary development. As well as existing examination, the review depends on customary least squares fixed impacts regressions. The research also explores the influence of foreign direct investments on nations based on their degree of education, looking at multinational corporations' response to Sub-Saharan African countries at various levels of

human capital. To the best of my knowledge, this is the first study of its kind, and it gives fresh insights on human capital-related multinational company behavior in the Sub-Saharan Africa area. In conclusion, most academics regard foreign direct investment, as a significant pillar for development, as evidenced by the effects of foreign direct investment on the GDP domestic product and labor of host nations. As a result, the debate over the impacts and factors of attracting foreign direct investments is a key problem for developing countries. As a result, the debate over the impacts and factors of attracting foreign direct investments is a key problem for developing countries.

1.13 Developing Economies in Africa

After consecutive decreases in 2016 and 2017, the flow of FDI to Africa increased by 11 percent in 2018 to $46 billion, defying the worldwide declining trend. Decreased Inflow of FDI to many significant African countries, such as Nigeria, Egypt, and Ethiopia, was offset by massive gains in the others, most especially South Africa. Growing FDI flows to the globe were mostly driven by growing commodity demand and prices, as well as continuing non-resource-seeking investments in a few countries. Nevertheless, the amount of this gain was constrained by reduced overall economic growth, growing trade tensions, and sluggish economic growth in Sub-Saharan Africa (WIR 2016: 40).

African countries south of the Sahara fared better in the recent global financial crisis than in previous crises. Africa is becoming one of the world's fastest-growing emerging areas. In 2010, output increased by an estimated 4.7 percent, a significant improvement above the 1.7 percent rise seen in 2009. Metals, minerals, and oil exporters, who benefited from rising commodity prices, had the biggest rebound. GDP increased even faster in fiscal 2011, at an anticipated 5.3 percent, and is anticipated to achieve 5.5 percent in 2012. Four nations Verde, Ethiopia, Ghana, and Malawi—will likely meet most of the Millennium Development Goals (MDGs), if not by 2015, then shortly thereafter, as a result of this fast growth and progress on social indices (WBAR, 2011: 42).

MNEs from emerging nations were becoming more active in Africa, while developed-country investors maintained the dominant participants. Outflows of foreign

direct investment from Africa fell to $10 billion, owing to lower outbound investment from Angola and South Africa. In 2019, greater FDI flows to Africa might arise from the continent's projected quickening of economic growth, advancement toward the implementation of the African Continental Free Trade Area Agreement, and the likelihood of certain big-stated Greenfield investments materializing (WIR, 2019: 37).

A variety of variables might encourage increased FDI flows to Africa in 2019. Although consumer prices are expected to stay steady in 2019, several minerals that Africa is a significant producer of, as well as oil and gas, are expected to see modestly higher prices in 2019. Commerce, industry, agriculture, and human resources make up the country's economy. Africa had 1.3 billion inhabitants in 54 countries as of 2019. Natural resources abound throughout the continent of Africa. Sales of goods, services, and manufactured goods have all increased recently. The economies of West Africa, East Africa, Central Africa, and Southern Africa are anticipated to exceed $29 trillion by 2050. The global economic crisis affected Africa severely, with GDP falling from 5.0 percent in 2008 to only 1.6 percent in 2009. The crisis will have a long-term impact: 20 million additional people in Africa will be living below the poverty line in 2015.

1.13.1 Foreign Direct Investment inflows in West Africa

West Africa's foreign direct investment fell 15 percent to $9.6 billion, the most reduced level starting around 2006. This was primarily owing to a significant decline in Nigeria for the second season in a row. Nigeria's inward FDI has dropped by 43 percent to $2 billion, and the country is no longer the top FDI receiver in West Africa. Because of the potential for volatility associated with Nigeria's elections and tensions between the government and certain large multinational corporations, international investors may have exercised caution and postponed planned investments. Both HSBC (UK) and UBS (Switzerland) shuttered their state representative's offices in the nation in 2018, while the telecommunications behemoth MTN (South Africa) was still involved in a legal battle over profit repatriation. Furthermore, foreign oil corporations have been forced to pay back taxes totaling $20 billion. Nonetheless, oil company investments, which included large revenues reinvested by existing investors, were notable in 2018.

Nigeria's new strategy of reducing state ownership in joint-venture oil assets to 40 percent might boost FDI in the future years. Even though foreign investment fell by 8 percent to $3 billion, Ghana has become the top FDI receiver in West Africa. The majority of FDI is focused on gas and minerals, with Eni Group planning to develop the Sankofa gas reserves as the largest Greenfield investment project.

1.13.2 FDI inflows in East Africa

Inflows to Ethiopia decreased by 18 percent to $3.3 billion. Nonetheless, with investments in petroleum refining, mineral extraction, real estate, industrial, and renewables, the nation remained the largest FDI receiver in East Africa. FDI inflows to Kenya rose by 27 percent to $1.6 billion. Manufacturing, chemicals, hotels, and oil and gas were among the businesses that attracted investments. The government has made progress in facilitating free enterprise and foreign investment, which is helping to boost FDI. These have increased its "Ease of Doing Business" ranking and have promoted its export processing zones (EPZs) as desirable locations for manufacturing-oriented international investment. FDI flows increased

by 67 and 18 percent in Uganda and the United Republic of Tanzania, correspondingly, to $1.3 billion and $1.1 billion. In 2018, FDI to Uganda hit a new high, thanks to investments in the oil and gas sector, as well as industry and the hotel industry. The country's oil resources are being developed by a partnership led by Total (France). Tullow Oil (United Kingdom) and CNOOC (China) are gaining traction. Plans to increase investment in downstream and upstream oil infrastructure might considerably boost the Flow of FDI to Uganda in the coming years.

1.13.3 FDI inflows in central Africa

In 2018, Central Africa's GDP remained nearly unchanged at $8.8 billion. The Congo received foreign direct investment in the area ($4.3 billion), with the majority of funds going into oil exploration and production. Existing investor intracompany loans accounted for a large share of these FDI flows. In addition, several investments from the Congo Offshore Licensing Round's first phase came to fruition in 2018. The second phase begins in 2019 and is likely to attract further investment in the years ahead. Foreign direct investment into the Democratic Republic of the Congo grew by 11 percent to $1.5 billion. Continued investments in mineral exploration (particularly for cobalt, for which the nation has 60 percent of the world's known deposits) fueled the country's economic growth. In 2018, multinational mining companies like Glencore (Switzerland) and Molybdenum (China) extended their operations in the country.

CHAPTER TWO

2.1 DEFINITIONS OF POVERTY

Poverty is a complex socio-economic issue that has existed throughout human history for as long as anybody can remember. The complexity of poverty stems in part from the way remedies to the problem are presented without a practical consequence (Newell and Simon, 1972; Buheji, 2019: 80). Moreover, a third of the global population still lives in poverty, with an average daily income of $1. Poverty has risen in response to global developments, notably in Sub-Saharan Africa (Under the slogan of economic globalization). The standard of living appears to be deteriorating, particularly in emerging countries (World Bank, 2019 48).

The World Bank has set a clear strategy to eradicate by 2030 by reducing people living on less than $1.90 per day. To reach this objective, however, the world must at least double the current rate of eradicating and relieving severe poverty. This necessitates distinguishing and interrupting the present ones. Raising the earnings of the lowest 40 percent does not happen by chance; it offers a comprehensive approach to the "constructs of quality of life" that surround the poor (World Bank, 2018, 16).

Baud et al., 2007 Describe the eight main forms of deprivation that constitute poverty: inadequate and erratic revenues; inadequate, erratic, or dangerous asset bases (for instance, inadequate housing and schooling); insufficient public facilities (running water, sanitation, drainage, roads, and sidewalks); insufficient fundamental service delivery, a scarcity of security nets for people who cannot afford to pay for services, and helplessness. As a result, poverty is a multifaceted and nuanced notion. The following description of poverty provides the idea that it is clear that more than just a lack of cash define poverty. It is an example of collective structural constraints,' which make it harder for impoverished households to satisfy their requirements and access collectively provided (Baud et al., 2008: 1386 a).

For specific families, there is a correlation effect that makes poverty worse: lack one area makes it more difficult for households to satisfy their requirements in to additional regions (Baud *et al.*, 2007; Sen, 1999). Housing, drinking water, and sanitation issues, for

instance, can all contribute to poor health. As a result, the afflicted are unable to work successfully, limiting their capacity to generate money (Baud et al., 2007 b). In the exemplary discussion, poverty is characterized as uni-layered that is the destitution of pay (Pradham & Ravallion, 1998). One might characterize destitution as 'outright neediness or 'relative neediness' in light of pay. Outright destitution alludes to the failure to meet the assessed costs for fulfilling the least costs for fundamental food and different necessities expected to make due. Then again, relative poverty connects with, the base degree of utilization as an extent of aggregate or normal utilization (Owuor, 2006; Rakodi, 2002a). Whenever a family's or a singular's assets are inadequate to permit them to consume an adequate number of labor and products to achieve a helpful least degree of prosperity, they are named poor (Rakodi, 2002).

Table 2: Meanings of destitution significant subjects

Material element	Housing, clothing, and living standards
Physical factors	water, food, health, and physical survival
Economic factors	low income, unemployment, and poverty
Political factors	rights, a lack of political engagement at the community level, a lack of voice at the individual level, and a relation to a larger international context
Social factors	Lack of social life, low social standing, and incapacity to engage in community activities
International factors	Lack of access to institutions and services like education and health care

Sources: (Minsturell F and Heffernan, 2008)

2.3 Categories Of Poverty

Poverty has been classified into many categories for better understanding and alleviation due to its flexibility. A poor person lacks adequate money or other economic means to sustain an acceptable or fair standard of living. Depending on the position of the poor and the lifestyle of the society in which they live, poverty can be classified into a variety of circumstances. Therefore, poverty can be classified according to different types and dimensions.

1) Situational poverty is brought on by a It usually lasts only a moment and is a crisis or loss. Divorce, severe health issues, and environmental catastrophes are all potential reasons.

2) A condition in which at least two generations of a family are born into poverty is referred to as generational poverty. Families living here of destitution come up short on assets they need to advance their conditions.

3) Outright neediness is depicted as an absence of necessities like a sanctuary, running water, and uncommon food. Families in wretched neediness will generally be engrossed with everyday endurance.

4) Relative destitution the financial place of a family whose income is inadequate to fulfill the public's general way of life is alluded to as relative neediness.

5) Destitution decrease is conceivable in metropolitan regions with populaces of something like 50,000 people. The metropolitan unfortunate face a confounding blend of ongoing and intense stressors swarming, wrongdoing, and commotion and depend on as often as possible deficient huge city offices.

6) Provincial destitution happens in on-metropolitan locales with populaces under 50,000 being viewed as a country. There are more single-gatekeeper homes in distant districts, and families have restricted admittance to assets, inability to help, and great training choices. In far-off country areas, where business possibilities are not many, projects to work with the move from help to work are testing (Whitener, Gibbs, and Kusmin 2003: 1490).

2.3.1 Measurement of Poverty

The objective of poverty indicators and measurements is to compare and evaluate the severity of acute disadvantage faced by individuals in a society. (Alkir and Jahan 2018; Ravall), Furthermore, to identify the poor, poverty assessment is necessary for monitoring and analyzing policy objectives and their consequences on programs, there are many other metrics to choose from, but the most popular ones are given here (OECD 2001).

2.3.1.1 The Watts Index

Watts (1968) proposed a poverty metric as a significant restraint on families' freedom of choice, stating that "a measure of poverty should be connected to the individual's or family's 'permanent' degree of command over commodities and services." (Watts, 1968: 325). When incomes are taken into account, the assertion that "poverty grows more severe at a rising rate with consecutive decrements" is true (Watts, 1968:326). Watts recommended that the logarithmic function be used.

$$PW = ln\sum(zyi)qi = 1 \quad \text{(Eq. 1)}$$

PW means poverty watts. ln= the natural logarithm denote by ln(x), I.e. z= means poverty line. qi number of poor, Yi (say, income or consumption).

The Watts Index's basic weakness is its sensitivity to dispersion. The index is calculated using logarithmic functions, and it presupposes that poverty is alleviated by providing equitable support, such as money, to everyone in a state. However, giving equal amounts of money to each citizen does not account for the state's wealthier residents. (Zheng 1993) Despite evidence that the Watts measure fulfills the essential axioms of poverty, the Watts measure has not been used in poverty-related studies. However, it has been used in several other research (Chakravarty, et al 2008. and Chen, 2003).

2.3.1.2 Poverty Gap Approach

After the headcount method, this is the second most widely used method, and it reflects the average ratio of the poverty gap to the poverty line, expressed as a percentage of the poverty line for a country. Some measuring issues are solved by using a poverty or income gap ratio, while others remain. The income whole proportion portrays the divergence between the destitution line and the unfortunate's normal income.

$$PIGR(y,) = \sum(z - yi)qi = 1qz, \quad \text{(Eq. 2)}$$

Poverty income gap ratio (PIGR), Z- poverty line, qi- number of poor,

Where $yi -$ is a well-being indicator (income or consumption).

PGA = Poverty Gap Approaches

The PGA has the drawback of being insensitive to income redistribution within the poor unit since it fails to account for poverty disparity and cannot capture significant poverty disparities among this cohort. Sen (1976) Disapproves the PGA index since it does not take into account the poor's distribution of income.

2.3.1.4 Headcount Approach

The most often used index is the poverty headcount technique, in which the proportion of the population with earnings below the poverty line is calculated as follows:

$PH\ (y, z) = qn,$ (Eq. 3)

If q = is the number of poor, z = is the poverty line, n = is the total population, and y = is a measure of happiness. Nonetheless, there are several flaws in the headcount method. Firstly, it ignores the depth of poverty and fails to reveal when the poor become more destitute since the headcount remains constant. To put it another way, the headcount overlooks the degree of poverty in a country. The headcount ratio does not take into account the poor's income distribution because it is calculated on households rather than individuals. Regardless of its flaws, it continues to be the most common method.

2.3.1.5 The Sen Measure

Sen's (1976) axiomatic approach, which is based on the limits of the headcount and poverty methods, aids in the resolution of such difficulties. Sen's measure for big groups of poor people is:

$PS\ (y,) = PH = [\text{PIGR} + (1 - \text{PIGR})\text{IGP}]$ (Eq. 4)

Where IGP *indicates the Gini coefficient among the poor*. Sen's poverty index, in comparison, satisfies the following axioms: Sen's poverty index meets the following criteria in terms of comparability: focus, symmetry, population replication invariance, rising poverty line, weak monotonicity, and weak transfer. Despite this, it fails to meet the axiom of subgroup decomposability.

2.3.1.6 The Foster-Greer-Thorbecke Approach

Foster-Greer-Thorbecke (1984) numerous research employs the well-known decomposable poverty indicator:

$PFGT\ (y,) = \ln \sum (z - yiz)\ \alpha qi = 1,$ (Eq. 5)

This technique may be recast as the average of transformed commonplace gaps of the poor and the headcount approach$q\backslash n$: $\sum (z - yiz)\ \alpha / qqi = 1$. It is affected by the percentage of people living in poverty. As $\alpha \rightarrow 0$, the index approaches PH, whereas, for $\alpha = 1$, it coincides with the poverty gap ratio PHPIGR.

2.3.1.7 Human development index (HDI)

The HDI is a composite statistic that is used to assess a country's level of human development and to compare countries (UNDP 2019; Hou et al., 2015) The HDI is a summary measure of mean achievement in major areas of human development that divides countries into three development levels: developed, developing, and undeveloped. Longer and healthier lives (life expectancy), increased knowledge (education), and a better quality of life (median household income) are all desirable outcomes (UNDP, 2019; Human Development Report, 1990). Moreover, for all three of its dimensions, it employs the geometric mean of standardized indices. The HDI's core message is that people and their skills, not economic progress, should be the final criterion for measuring a country's development. Nevertheless, the HDI has been harshly chastised for its approach. In the same manner, averaging the

indexes' three components (longevity, knowledge, and living standards) suggests a perfect substitution between them – and therefore implies trade-offs between the three aspects (Hou et al., 2015; Ravallion, 1998; Desai, 1991). Philosophers argue that countries with similar rankings might have vastly different development indices in each area (UNDP, 2019).

2.3.1.8 Multidimensional poverty index

The United Nations Development Programme (UNDP) introduced the Multidimensional Poverty Index (MPI) in 2010. The Human Development Report Office (HDRO) of the United Nations development program (UNDP, 2019). The Human Development Report claims that (2011), The MPI mimics the HDI in that it evaluates severe shortfalls in health, education, and living standards by looking both at the number of disadvantaged individuals and the severity of their deprivation, the MPI assesses significant shortcomings in health, education, and living conditions. It parallels the HDI in terms of both the number of impoverished persons and the severity of their deprivations. Furthermore, the MPI encompasses several overlapping deprivations that people in poor countries face in terms of health, schooling, and living standards (UNDP 2019).

2.4 The linkage between FDI, and Poverty alleviation

Conceptual research indicates that FDI inflow (inflow) can have an economic and social impact on poverty. On the social front, FDI improves wellbeing through job creation, infrastructure development, and local skill development. On the economic front, FDI advances technical development, human capital, and productivity growth. According to studies using the endogenous growth theory, the main forces influencing economic growth and personality are human capital and technological advancement. increase in average income (Solow 1956).

foreign direct investment (FDI) may affect poverty mitigation. Through spillover effects, FDI can have a direct impact on poverty alleviation. In developing nations, the effect

of overflows on the private area is intensified by "vertical" and "even" joins between nearby providers and neighborhood firms in a similar industry (Görg H and Greenaway 2003 : 3).

Global enterprises give specialized help, preparation, and other information to build the nature of the provider's products and move contemporary innovation to nearby firms in the host country. Productivity growth and economic expansion improve as a result of this coordinated movement, contributing to increased personal and national welfare. Job creation, infrastructure, and capacity building, and increased investment in fundamental social facilities of the host nation, such as better sanitation facilities and effective water distribution systems, are all examples of the direct impact of FDI, human resource and infrastructural development, economic stability, improved administration, and institutional efficiency, and financial deepening are examples of complementary policies. (Mbiankeu, 2020: 17).

The exploration has been led to check out the connection between FDI and the financial turn of events. Before, legislatures saw FDI with a question, expecting that it would hurt arising homegrown areas, disintegrate political power, and deteriorate the equilibrium of installments because of unfamiliar financial backers' extreme capital great imports and benefit bringing home. However, due to promises of good growth consequences, FDI has lately begun to be promoted. "FDI carries with it tremendous benefits: technological transfer, management know-how, and export marketing access," according to the World Bank. It will be necessary for many developing countries to increase FDI flows if they wish to catch up to high-income economies, improve management capability. (World Bank, 1993). Caves (1996), The justification for greater attempts to bring in more FDI originates from the assumption that FDI has various positive consequences, according to the report. Efficiency gains, innovative exchanges, the presentation of new cycles, the board abilities and information in the home market, representative preparation, worldwide creation organizations, and market access are for the most part instances of these.

The decrease of poverty in host economies may be influenced by foreign direct investment (FDI) directly or indirectly. Indirectly, FDI may contribute to the alleviation of poverty through economic expansion, which raises living standards as a result of rising GDP,

technological advancements, productivity, as well as the financial climate. FDI, nonetheless, could directly contribute to the elimination of poverty by generating cash and jobs. production as a result of an increase in foreign investor demand for jobs. FDI can help to relieve poverty by providing jobs in host nations, both directly and indirectly. MNC investment now and again straightforwardly makes new positions and in a roundabout way make occupations through forward and in reverse associations with homegrown undertakings (Asiedu and Lien, 2011: 103 a).

Moreover, FDI can diminish destitution by implication through an assortment of pathways. For instance, foreign direct investment (FDI) is a wellspring of subsidizing for a monetary turn of events. Three arguments are given by Aseidu (2008) for the pertinence of FDI as a wellspring of capital, especially in Africa. To begin with, the district's pay levels and homegrown reserve funds are fall. other, global help to district has diminishing. Third, the New Organization for Africa's Turn of events proclamation expresses that the landmass should cover a US$64 billion yearly asset hole by 2015 to meet its Thousand years Improvement Objective (MDG) of splitting the number of individuals living on under a dollar daily (about 12 percent of GDP). Because of low investment funds rates and a drop in state help, the mainland might need to depend on global companies (MNCs) to supply the necessary cash for poverty mitigation (Asiedu, 2011: 104).

Second, new technology, innovations, expertise, new prescribed procedures, and other theoretical resources will be moved to the host country's economy through FDI. Moving theoretical resources as new business drives (for instance, multinationals moving) much of the time brings about more prominent pay rates for creative workers and is an undeniably less unstable kind of unfamiliar speculation than portfolio venture streams (Bhorat and Poswell, 2009). According to FDI enhances the pace of technological advancement in the host nation due to a "contagion" impact from foreign enterprises' sophisticated technology, management techniques, and so on. All of these intangible assets may be disseminated, resulting in increased efficiency and production, and hence higher wages for employees in the host nation.

A few researchers have likewise proposed that worldwide organizations may purposefully move technology to neighborhood providers as a feature of an arrangement to foster proficient stockpile chains for their global tasks (Pack and Saggi 2001; Blalock 2002; Javorcik 2004). The downstream multinationals decline the expense of non-work inputs bypassing technology to nearby providers. This cost-cutting drive indicates that multinational corporations give technology to suppliers in exchange for private advantage (Cobham 2001). In the FDI, there may be crowding out of indigenous enterprises and/or a reduction in total industry size and/or employment. Cotton and Ramachandran, on the other hand, suggest that crowding out is an uncommon occurrence and that the advantage of FDI is widespread. (Cotton and Ramachandran, 2011).

Allthought, FDI can make a huge commitment to financial development in arising countries by helping the nations' commodity development. FDI might open ways to new business sectors in different nations, as well as further develop effectiveness and efficiency and raise intensity in the host country. As far as admittance to monetary business sectors, customer outlets, and transportation organizations, most foreign enterprises, particularly multinational companies from developed nations, are well linked internationally (Jenkins and Thomas, 2012) Regardless, the capacity of FDI in sending out advancement is easy to refute, and it is profoundly reliant upon the inspiration for such speculation (World Bank, 2018).

Another way that FDI could add to poverty alleviation is through the duties of abroad auxiliaries. This will increase government income, which may then be used to support a variety of social development projects, such as productivity enhancement and the growth of labor-intensive economic activity, all of which will help to poverty reduction. However, various pre-conditions must be met to reap the advantages of FDI's indirect contribution to poverty alleviation in host nations. First, the host country's tax structure should be favorable to investors, especially international investors. For instance, on the off chance that the assessment rates in the host nations are unreasonably costly in contrast with other imminent FDI objections, foreign investment may be hampered. Transfer pricing, a technique that affects tax income in the host country, should be discouraged by internationally consistent corporation tax rates.

Second, whether or not taxing foreign subsidiaries benefits government budgets relies on the rules and arrangements in place to guarantee the receipt of tax revenue. Transfer pricing is a common strategy used by foreign companies to reduce their tax burden. UNCTAD (2019) According to the report, changes to limit profit remittance were implemented, and double taxation agreements ought to exist limited application of transfer pricing to drain revenue from the host country. Nonetheless, the research claims that this issue continues to be a source of concern for developing countries. According to UNCTAD research, roughly 84 percent of developing nations polled thought that affiliate corporations based in their economies move profits to parent companies to minimize tax responsibilities. The report indicates that transfer pricing remains a problem, requiring action at the national level as well as in the framework of international investment treaties.

At long last, how the FDI charge income is spent is matters. This income ought to be utilized to subsidize work making or neediness assuaging programs, like the improvement of work escalated activities or little and normal organizations, to help the advancement of a security net for poor people, or to back the import of parts or unrefined components for homegrown capital-concentrated enterprises Jenkins and Thomas (2012).

2.5 The role of FDI on Economic Growth

FDI is a wellspring of capital. foreign Direct investment is planned to furnish arising nations with much-required cash. To attain greater growth objectives in national income, emerging nations require more investment. Because of their powerlessness to save satisfactorily, numerous countries should depend on foreign investment funds to supplement their reserve funds. This can be achieved by taking out outer credits or permitting and advancing foreign direct investment. FDI is a suitable wellspring of additional cash, however, it has its arrangement of risks.

The Balance of Payments constraint is removed by FDI.

FDI offers a wellspring of foreign trade and eases balance-of-installments limitations. A significant number of non-industrial countries have an equilibrium of installments

deficiencies because of their interest in foreign cash being impressively more noteworthy than their capacity to produce. FDI inflows dispose of the limitation for arising countries looking for more noteworthy advancement rates by providing unfamiliar trade assets.

FDI offers expertise in technology, management, and marketing.

foreign direct investment (FDI) carries with it resources that are either missing or restricted in arising countries. technology, the executives, and advertising capacities are among these benefits, without which progress is incomprehensible. This is the main advantage of FDI. This advantage is more huge than bringing cash, which could emerge out of global monetary business sectors and state-run administrations (Mondal, 2014).

While the current and future challenges remain daunting, we approach the new millennium with a better grasp of what is going on. Makoni (2015) describes conventional aspects of growth-promoting measures, such as macroeconomic stability and market-friendly changes, are essential for poverty reduction. However, we now realize the need of building the institutional and social foundations for development, as well as controlling vulnerability and promoting participation, to achieve inclusive progress. While domestic action is essential, we've learned that global events have a significant impact on locally and nationally transformation processes and that global action is essential to poverty reduction.

This sub-topic proposes activities in the three domains based on its study of concepts and experience.

- ***Promoting opportunity***: Working on ruined individuals' financial open doors through empowering general development and developing their resources (like land resources) and expanding the benefits on these resources through a combination of market and non-market measures.
- ***Facilitating empowerments***: Expanding the responsibility and responsiveness of administrative establishments to needy individuals increments ruined individuals' inclusion in political cycles and nearby direction, as well as wiping out friendly snags

brought about by contrasts in orientation, nationality, race, religion, and financial status.

- ***Enhancing security*:** Diminishing devastated individuals' weakness to illness, monetary shocks, crop disappointment, strategy incited separations, normal calamities, and savagery, as well as helping them in managing unfriendly shocks when they emerge having satisfactory wellbeing nets set up to decrease the impacts of individual and public fiascos is a huge part of this.

  It's crucial because of the function it plays in economic growth and how to control the expansion of the investing country and investment institutions (Bjorvatn et al, 2001)

CHAPTER THREE

3.1 DATA COLLECTION AND ANALYSIS

The study is to verify whether foreign direct investment exists. inflows have an impact on poverty alleviation. Following an explanation of the potential implications of foreign direct investment, the paper discusses the data gathering procedure. The panel data collection will encompass twenty nations in Sub-Saharan Africa over a two-decade span from 2000 to 2019. The period's choice depends on the information accessibility and unwavering of data. The selection of countries is based on data availability as well, allowing us to investigate twenty lower middle income, low income, and upper-middle-income Sub-Saharan African countries out of fifty-four African countries. The information on all factors is gotten from the World development indicators (WDI) data set of the World Bank. Since the nations of the review fluctuate as far as culture, history, and economy, investigated somewhat these distinctions with the factors of foreign direct investment, economic growth, inflation, joblessness and poverty alleviation, and government uses. This study evaluates foreign direct investment utilizing a contextual analysis of Sub-Saharan Africa.

The Sub-Saharan African area is widely recognized for its foreign direct investment, which includes economic development, inflation, unemployment, and poverty alleviation. Sub-Sahara Africa (SSA) on the other hand, is statistically the world's most miserable area. Governments have taken a variety of steps to combat the problem, but none of them has shown major improvements. For almost a decade, SSA governments have implemented policies for social inclusion, a framework suggested by the World Bank to alleviate poverty. The outcomes of these initiatives differ from year to year and country to country and they have remained hypothetical. This research will put them to the test to see if they have had a good influence on the region. Twenty nations from Sub-Saharan Africa were chosen for this study, including the continent's current biggest economy: Nigeria.

Table 3: Selected Sub-Sahara African counties

Numbers	Countries	Nominal GDP ($ Billions)	Income Level
1	Benin	14.39	Lower Middle Income
2	Burkina Faso	15.99	Low Income
3	Burundi	3.012	Low Income
4	Cabo Verdi	1.982	Lower Middle Income
5	Cameroon	39.01	Low middle income
6	Chad	11.31	Lower Income
7	Equatorial Guinea	11.42	Upper middle Income
8	Ethiopia	95.91	Lower Income
9	Gabon	16.87	Upper Middle Income
10	Ghana	67.87	Low middle Income
11	Kenya	95.5	Low middle Income
12	Niger	12.91	Low Income
13	Nigeria	448.1	Low middle Income
14	Rwanda	10.36	Lower Income
15	Senegal	39.01	Lower Middle Income
16	Sudan	32.25	Low Income
17	Tanzania	61.14	Lower Middle Income
18	Uganda	35.17	Low income
19	Zambia	23.31	Low middle Income
20	Zimbabwe	16.93	Low Middle Income

(Sources World Bank 2019)

3.1.2 Study plan

This study looks into the connection between FDI and lowering poverty in Sub-Sahara African countries and whether social inclusion policies could encourage the economic growth of the region. Panel data analysis has been used to achieve the study objectives of this study through utilizing a variety of development indicators. The panel data is composed of annual real GDP growth, unemployment, inflation foreign direct investment, and poverty reduction and control variables. The number of observations is 400; each source variable is 19 years (2000-2019). The study investigated 20 sub-Sahara African countries.

3.1.3 Definition of the Variables

- ***Foreign direct investment* rate** (FDI): to evaluate, specifically used was the net inflow of FDI. The sum of the capital reserves is included, earnings reinvested, and more long-term funding, as shown in the balance of paymentsIt could cut operating expenses and offer up new markets and marketing avenues for a business and boost the spread of technology, goods, talents, and finance. It could act as a source of new technologies, finance, processes, commodities, organizational technologies, and managerial skills for the host nation or the foreign business receiving the investments; it can provide a significant push for economic growth (Cleeve, 2015).
- ***Economic growth*:** (EG) is a measure of the increase in the production of goods and services over a specific time. It can be evaluated in real adjusted for inflation terms.
- ***Inflation**:* (INF) is used to assess a country's macroeconomic stability. A country's overall stability and investor confidence grow when its macroeconomic stability is strong. However, when there is macroeconomic uncertainty, investors lose trust, a situation, which poses a great danger to a nation. Inflation is most likely to grow poverty because of the direct impact of price rises on consumers, resulting in increased suffering for the poor. Inflation will affect the value of money if it is high and unpredictable (Bailey, 1956).

- ***Unemployment:*** (UNP) One of the immediate consequences of FDI on poverty, according to the research, is an increase in employment. Employment helps economic growth by having the ability to alleviate unemployment and poverty (Colen et al., 2008). This study uses a fraction of the working-age population without employment. When someone is actively seeking employment but is unable to do so, they are said to be unemployed. Those who went to participate working but were unable to find suitable employment are included in this group. The unemployment rate is usually calculated by dividing the number of unemployed persons by the total number of people in the labor (Gohou and Soumare, 2012; Ahmed et al., 2019; Ucal. 2014).

- ***Poverty rate:*** (POV) is a multidimensional complicate concept; it involves unstable income, lack of education, and housing. For example, inadequate infrastructure, roads, shortage of water, instability of peace. HDI is the statistically developed collection by the United Nations to measure different counties in the level of social and economic developments.

3.1.4 Data and sources

The data in this study is presented as panel data, our variables consist of FDI, GDP annual growth, unemployment, and inflation. The data source is the World Bank's World Development Indicators, database, and Unite Nations Development Programme. Our panel data is for the same time or same period. Panel data is taken from 400 observations for each variable for 20 years (2000 up to 2019).

3.1.5 Processes and statistical treatment

This research applies the regression of the dependent variables to the explanatory variable, the research goes through the sequence of the tests to prevent likely endogeneity problems and to ensure the result of estimation is not biased. Initially, the study carries out a correlation test to evaluate the connection between explanatory variables. Second, to ensure that all of the variables are stationary, the study is using the panel unit roots test. If some variables contain unit roots those up to the point where stationarity is excited. Next,

the study conduct tests to define adequate panel data models for the study. Finally, the study runs the regression and interprets various coefficients.

3.2 Estimation of Panel Data

In the event that the panel data lacks missing information for the same time period, it should be highlighted, then the Panel-Data Criterion is called Balanced Panel-Data. However, if there is missing data for the same periods, the Panel-Data Criterion is called Unbalanced Panel-Data (Tatoglu, 2013: 1). Panel data models may be classified into three categories.

- Pooled Least Squares Model or Common Effect Model (PLS).
- Fixed effect model (FEM).
- Random effect model (REM).

In general, the estimation model of the panel data, and the regression model are shown in formula (6). In this notation, times (T) are expressed as measured unit sections (N).

Under these assumptions, the panel data model:

$$y_{it} = \beta_{o(i)} + \Sigma_{j=1}^{k} \beta_j X_{j(it)} + \in_{it} \qquad i = 1,2,..,N \quad t = 1,2,...T \quad \text{(Eq 6)}$$

In each established model, X represents the independent variable and Y represents the dependent variable. In the model; I represent the countries (ID), and t symbolizes the year (T). The index I denote the cross-section dimension, while the t index denotes the time dimension. Here $\beta 0$, βj are unknown constants estimated from the data and are called regression parameters or coefficients. $\in$ shown in the formula is the random error term. It is the simplest form of the panel data method in formula (1).

3.2.1 Pooled Least Squares Model or Common Effect Model (PLS).

It is one of the simplest models in panel data in the classical model, where all parameters (βo (i), βj) is constant (time has no effect).

In the classical model, it is one of the simplest models in panel data where all parameters (βo (i), βj) are constant (time has no effect). The formula in Equation (7) and the study will use Classical Regression Model OLS as in the following formula:

$$y_{it} = \beta_o + \Sigma_{j=1}^{k}\beta_j X_{j(it)} + \in_{it} \qquad i = 1,2,..,N \quad t = 1,2,...T \quad (Eq\ 7)$$

There is $(\in_{it}) = \sigma\in^2$ and $(\in_{it}) = 0$ when.

After rearranging the values of the dependent and independent variables, the Classic (pooled) Least Squares approach was used to estimate the model parameters in the equation (Green, 2003).

3.2.2 Fixed effect model (FEM).

It is a widely used panel data estimator. A mathematical or econometric model that assumes observed variables as independent variables and treats them as if they were not by chance. It can manage individual disparities produced by non-changing causes (such as culture, gender, and religion), (Kohler, 2008: 54).

$$y_{it} = \beta_{o(i)} + \Sigma_{j=1}^{k}\beta_j X_{j(it)} + \in_{it} \qquad i = 1,2,..,N \quad t = 1,2,...T \quad (Eq\ 8)$$

There is $(\in_{it}) = \sigma\in^2$ ve E $(\in_{it}) = 0$

For this reason, the fixed effects model is represented by the following formula:

$$y_{it} = \beta_{o(i)} + \Sigma_{j=1}^{k}\beta_j X_{j(it)} + \in_{it} \qquad i = 1,2,..,N \quad t = 1,2,...T \quad (Eq\ 9)$$

There is $(\in_{it}) = \sigma\in^2$ ve E $(\in_{it}) = 0$

To estimate the parameters of the model in Equation (9) and allow the parameter βo to vary between cross-sections, the dummy Variables value (N-1) should generally be used to avoid

multicollinearity (Greene, 2003:288). Fixed effects model (Least Squares Dummy Variable Model) i.e. after adding dummy variables to equation (10), the model becomes as follows

$$y_{it} = \alpha_1 + \Sigma_{d=2}^{N} \alpha\, dDd + \Sigma_{j=1}^{k} \beta_j X_{j(it)} + \in_{it} \qquad i = 1,2,..,N \quad t = 1,2,...T \qquad \text{(Eq 10)}$$

There is $(\in_{it}) = \sigma\in^2$ ve E $(\in_{it}) = 0$

$\alpha_1 + \Sigma_{d=2}^{N} \alpha\, dDd$ The model can also be stated in equation when the cross-sections of part o change (10) after deleting α1 as follows (Gujarati and Porter, 2014:591; Greene, 2003:288):

$$y_{it} = \Sigma_{d=1}^{N} \alpha\, dDd + \Sigma_{j=1}^{k} \beta_j X_{j(it)} + \in_{it} \qquad i = 1,2,..,N \quad t = 1,2,...T \qquad \text{(Eq 11)}$$

3.2.3 Random Fixed Effect (RFE)

The fixed-effects model's underlying assumptions about the random effects model are incorrect. Unlike the fixed effects model, differences between estimators or independent variables are included in the model. This model differs from the fixed-effects model in that it treats unobserved variable change as a component of the change (error term) generated by a free-floating factor. It does not take into account whether the variation is random or not (Green, 2003:630). Unlike the fixed effects model attempts to prevent the model's loss of degrees of freedom by using variables that remain constant throughout time. (Gürler and Pazarlıoğlu, 2007:38).

In the random-effects model, since a random variable has a value of μ, Considered by the coefficient β0 (i)

$$\beta_{o(i)} = \mu + V_i \qquad i = 1,2,..,N \qquad \text{(Eq 12)}$$

A random-effects pattern is produced by replacing notation (3) and (6) as follows:

$$y_{it} = \mu + \Sigma_{j=1}^{k} \beta_j X_{j(it)} + V_i + \in_{it} \qquad i = 1,2,..,N \quad t = 1,2,...T \qquad \text{(Eq 13)}$$

V_i represents the error term (i) in the cross-section dataset. Because the model in equation uses random effects, it is sometimes referred to as the error components model. (6) contains two components for the error V_i and ∈it.

There are mathematical features to the random-effects model.

There is $(\in_{it}) = \sigma_\varepsilon^2$, $E(\in_{it}) = 0$, there is $(\in_{it}) = \sigma_\varepsilon^2$, $E(\in_{it}) = 0$

Assuming Compound Error Time as follows:

$$W_{it} = V_i + \in_{it} \qquad \text{(Eq 14)}$$

When:

$$E(W_{it}) = 0 \qquad \text{(Eq 15)}$$

$$\text{Var}\,(W_{it}) = \sigma v^2 + \sigma \in^2 \qquad t = s \qquad \text{(Eq 16)}$$

The ordinary least squares method (OLS) fails to estimate the parameters of the random-effects model because it gives poor, estimates, and its standard errors are incorrect. This parameter affects the test. The covariance between W_{it} and W_{it} is not equal to zero.

$$\text{Cov}\,(W_{it}\, W_{is}) = \sigma v^2 = 0 \qquad \text{(Eq 17)}$$

The Generalized Least Squares (GLS) method is commonly used to estimate random effects model parameters.

3.2.4 Selection of Panel Data Models Using Tests

The first step in choosing between panel data models is to estimate the homogeneity that is time effect on the units of the observations. The classical model should be used if no temporal effect can be anticipated. If unit and time effects were estimated in the model, it would be more appropriate to choose a fixed effect or random-effect model.

The model set generated in the panel data model will be established with fixed effects or random effects, depending on the model-specific error term ($\in_i$) and the existence of the correlation. If there is no correlation between the error term ($\in_i$) and the explanatory variables, the random-effects model is used. If there were a correlation between the error term ($\in_i$) and the explanatory variables, the fixed effects model would be appropriate (Gujarati and Porter, 2014). The following criteria are used to pick models for these two techniques.

- The estimate discrepancies between the fixed and random effects models are modest when T is big and ID units (such as nation, person, firm, etc.) are small (T > ID). If that is the case, then the model may be chosen based on whatever technique and selection computation are the most convenient. For this reason, it would be appropriate to choose the fixed effects model.
- When the ID unit is big and the time T is smaller (ID >T), the fixed and random effects models' estimations may differ significantly. In this case, the fixed-effect model should be used if the sections are not in a very big heap. If the situation requires it, the random-effects model should be used.
- If the time T is large and N units are small (T >ID), and if there is a correlation between $\in_t$ and the variables used in the model, the random-effects model estimator will be biased, and the fixed effects model estimator will be unbiased.
- If random-effects model assumptions are also present, the random-effects model estimator is more efficient than the fixed-effects model estimator when the ID unit is big and T is small (ID >T).

- When the ID unit is larger than time T (N >T), random-effects model assumptions are also present, Compared to the fixed effects model estimator, the random-effects model estimator is more effective.

  One can select whether to utilize the classical model, fixed-effects model, or random-effects model in the study based on these factors. At the same time, these conclusions may be drawn from the findings of various tests. These tests include significant tests like panel data unit root tests.

  Some of these are preliminary tests such as Breusch Pagan Lagrange Multiplier (LM) Test, F Test (Chow Test), and Housman Tests (Tatoğlu, 2005: 47).

3.2.5 Panel Data Unit Root Tests

Cross-sectional dependencies are not taken into consideration while using first-generation unit root tests. However, second-generation unit root tests are often referred to as panel unit root tests and are required to solve cross-sectional dependencies (Tatoğlu, 2020: 103). There have been several techniques to test for the panel unite root test. Quah (1992, 1994) initiated research in this area and presented asymptotically normal unit root tests. For different panel data models, (Levin and Lin 1992; LL hereafter) designed an adjusted t-test for a unit root. This test has grown in popularity and is frequently used in international finance and macroeconomics. However, in time series analysis, assuming that all groups (countries, firms, or people) have the same AR (autoregressive) coefficient under both the null and alternative hypotheses, as in LL, is rare, but it is typical in panel data analysis. (Im et al. 1995 IPS hereafter) Considered utilizing likelihood ratio averages and enhanced Dickey-Fuller tests.

For starters, they all require an infinite number of groups. The test's asymptotic normality does not hold without this criterion. Phillips and Moon (1999) provided the most significant addition to this paradigm, identifying three primary approaches in this example, including asymptotic theory.

Sequential limits**:** this approach entails allowing one argument, T, to reach infinity first and the other, N, to reach infinity second ((T, N$\rightarrow \infty$) $_{sub}$ hereafter). These sequential limits are simple to calculate and useful for obtaining rapid asymptotic, but they can occasionally provide false asymptotic findings (Moon and Phillips, 1999).

Limits on diagonal paths: This entails putting limits on the relative speeds at which N and T approach infinity. This approach's limit theory depends on the particular functional relation T, and the suggested expansion route might not be a good approximation for a particular (T, N) condition.

Limitation of the joint**:** This permits (N & T) to reach infinity at the same time without imposing any diagonal route constraints on the divergence. In general, this process produces a more reliable outcome than other methods and approaches, but there are some disadvantages.

The limiting distributions of frequently used unit root tests, such as the Dickey-Fuller (DF) and Augmented DF (ADF) tests (Dickey and Fuller, 1981), are non-standard and rely on whether deterministic components are included in the regression equation (Moon and Phillips, 1999).

3.2.5.1 First Generation Panel Unit Root Tests

- First-generation Panel data unit root test: Levin and Lin (1992, 1993) and Levin, Lin and Chu (2002), Unit Root Tests by Harris, Tzavalis (HT), Breitung and Hadri.
- The second generation of pane data unites root tests are I'm, Pesaran, and Shin (IPS) (2003) and Fisher Extended Dickey-Fuller (Fisher ADF), and Fisher Philips Perron (Fisher PP) Panel Unit Root Tests.

3.2.5.2 Second Generation Panel Unit Root Tests

- First Group Unit Root Tests: Levin, Lin and Chu (LLC), Harris and Tzavalis (HT), Breitung, Hadri, I'm, Pesaran, and Shin (IPS), Fisher Extended Dickey-Fuller (Fisher ADF), and Fisher Philips Perron (Fisher PP) and Choi Fisher Extended Dickey-Fuller (Fisher ADF), panel unite root test.

- Second Group Unit Root Tests: Multivariate Extended Dickey-Fuller (MADF) and Unrelated Regression Extended Dickey-Fuller (SURADF) Panel Unit Root Tests.
- Third Group Unit Root Tests: Moon and Perron, Extended Cross Section I'm, Pesaran and Shin (CIPS), Extended Cross Section Kwiatkowski, Philips, Schmidt, and Shin (KPSS), Panel Analysis of Residue and Common Factors Stationarity (PANIC), Extended Sargan and Bhargava (CSB) and PANICCA panel unite root test.

3.2.5.3 Hadri Unit Root Test

This test is a continuation of the time series for the panel data series. Similar to the Fisher-ADF test, this test also takes into account cross-sectional dependence.

$y_{it} = z_t' \delta_i + f_t \gamma_i + \in_{it}$

Where $\in_{it}$ current:

$\in_{it} = \theta_i 1 \in_{i,t-1} + ...\theta_{ip} + v_{it}$

The Hadri test hypothesis demonstrates stationarity in heterogeneous series of panel data that is the unit root is missing.

H_0: $\theta_i (1) \neq 0$ for all.

H_1: $\theta_i (1) = 0$ for same

Hadri test statistics are calculated with the following Z statistics. First, the following test statistics are created.

$$ST_i^{LA} = 1/\tilde{\sigma}^2_{iLA} T^2 \quad \Sigma_{t=1}^{T} \left(S_{it}^{W} \right) 2 \qquad \text{(Eq 18)}$$

$$\text{Where is, } \tilde{\sigma}^2_{iLA} = \tilde{\sigma}^2_{vi} \; / \; (1 - \theta_{i1} - \ldots - \theta_{ip})^2 \qquad \text{(Eq 19)}$$

While Hadri stated that this statistic was Z,Z_A^{LA} another statistic named Z, $Z_A^{SPC}$was created. The formula for the latter is shown below.

$$ST_i^{SPC} = 1/\tilde{\sigma}^2_{iSPC^{T^2}} \quad \Sigma_{t=1}^{T} (S_{it}^{W})2 \qquad \text{(Eq 20)}$$

Using the two statistics above, Hadri calculates unit root statistics.

3.2.5.4 Levin, Lin, and Chu (LLC) Panel Unit Root Test:

When the Levin, Lin, and Chu (LLC) test is used to determine if a panel series has a unit root, structural breaks in the intersections and inclinations of the section units are taken into consideration. It allows heterogeneity in the series as it takes into account structural breaks. Based on the ADF regression in the LLC panel unit root test, the main representation of the test for each slice is as follows:

$$\Delta y_{it} = \delta_t' \Delta Z_{it} + \theta_i \acute{y}_{I,\, t-1} * \Sigma_{j=1}^{k} d_{ij}\, d_{ij}\, \Delta \acute{y}_{i,\, t-j} + \in_{it}, \qquad I = 1...N$$

Information criteria are used to determine the correct lag length by estimating the ADF regression for each lag length.

The LLC test observes the $\{y_{it}\}$ stochastic process for a panel of i = 1, 2, ..., N individuals, and each individual includes t = 1, 2, ..., T time-series observations. The goal is to determine if $\{y_{it}\}$is integrated for each individual in the panel. Individual regression may include an intersection and a time trend, as in single time series. It is assumed that all individuals in the panel have the same first-order partial autocorrelation, but all other parameters in the error process are allowed to vary freely between individuals.

Null and alternative hypotheses are as follows:

H_0: $\theta_i = 0$, for all I.

H_1: $\theta_i < 0$, for its.

The T-bar statistic is calculated as the average of the test statistics and is shown below:

$$\bar{t} = 1/N \Sigma_{i=1}^{N} \tilde{\tau}_i^*$$

Finally, the representation of the two tests, the panel test statistic of the LLC is calculated as follows:

$$\bar{\sigma}_{yi}^2 = \frac{1}{2}\sum_{t=2}^{T} \quad \Delta y_{it}^2 + 2\sum_{t=1}^{R} \quad W_{KL}\left[\frac{1}{T-1}\sum_{t=2+L}^{T}\Delta y_{it}\ \Delta y_{i,t-L}\right] \qquad \text{(Eq 21)}$$

Panel test statistics can be obtained after certain statistical steps. First, the pooled regression is run and then calculated as follows:

$$\bar{\sigma}_{\epsilon}^2 = \frac{1}{NT}\sum_{i=t}^{N} \quad \sum_{L=2+pi}^{T}\left[\ \epsilon_{it} - \ \tilde{p}v_{i,t-1}\ \right]^2 \qquad \text{(Eq 22)}$$

To reduce the inter-unit correlation efficiency in our series, the differences in the data were taken in the study. It would be appropriate to use the LLC panel unit root test to show the stationarity of our variables.

3.2.6 Horizontal Section Dependency Control Test

Cross-sectional dependence is made to reveal whether the series is affected by the same type of shocks and to accurately measure the cross-sectional parameter estimates to be made. It also greatly affects the estimation results, such as detecting the presence of cointegration (Breusch and Pagan, 1980; Pesaran, 2004:4). As a consequence of the cross-sectional dependency determination, It is necessary to run the unit root and cointegration tests in the study (Nazlıoğlu et al., 2011:618). At the same time, some panel unit root test statistics and cointegration tests are based on the homogeneity or heterogeneity of the parameter estimates of the cross-sectional units (Pesaran ve Yamagata, 2008:106-107). This test suggests that T (that is time dimension) should be greater than the number of observations (N). This is true for analysis where T is much larger than N, in this study, T is 19 years and N, 20 countries, Therefore it will not be applied (Yamagata 2008:106-107).

In general, When the section size (N) is large, distortions in panel data models are assumed to be cross-sectionally independent. But there is ample proof that cross-sectional dependence frequently appears in panel regression settings. Ignoring cross-sectional dependence in the estimation can have serious consequences, if the dependency is no longer taken into account, it leads to loss of estimator efficiency and invalid test statistics. There are various tests for cross-section dependence in the literature. EViews offers the following tests (Eviews,10)

- Breusch-Pagan (1980) LM Test
- Pesaran (2004) scaled LM (CD test)
- Baltagi, Feng, and Kao (2012) bias-corrected scale LM
- Pesaran-Ullah-Yamagato (2008) LM_{Adj}

These four tests can be used in certain situations. If the time is longer than the cross-section interval T > N, the Breusch-Pagan (1980) LM test is used in the analysis. If the time interval is smaller than the cross-section interval, T < N, or if the time interval is equal to the cross-section interval, T = N, LM test and CDLM tests can be used (Pesaran, 2004:4, Breusch- Pagan, 1980). For the problem of some measurement deviations resulting from the LM test, Pesaran (2008) rearranged the deviation by adding the variance and the mean to the test statistic. The edited version of the test is shown with LMadj software instead of CDLM (Pesaran et al., 2008:109). The first version of the Breusch-Pagan (1980) LM test is as follows:

$$LM = T \sum_{i=j}^{n-1} \sum_{j=i+1}^{n} \widehat{p}_{ij}^2 \qquad \text{(Eq 23)}$$

When p_{ij}^2 is added to this formula, it shows the two-way correlation between the error series.

$$\rho_{ij} = \rho_{ji} = \frac{\sum_{t=i}^{T} e_{it}\, e_{it}}{(\sum_{t=i}^{T} e_{it}^2)^{1/2}\ (\sum_{t=i}^{T} e_{jt}^2)^{1/2}} \qquad \text{(Eq 24)}$$

In the formula, e_{it} shows the error series obtained for each unit towards i=1.2,…..N for the time dimension T with the least-squares model. However, like the Monte-Carlo simulations, Breusch and Pagan (1980) pointed out that the standard LM test, that is, the cross-sections, does not provide clear results when large N > T of the large time. Pesaran, Schuermann, & Weiner (2004) added the following to the literature by eliminating this deficiency with the CDLM test she constructed by taking the average of the correlation coefficient between the regression error series she arranged individually.

$$CD = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=j}^{n-1} \sum_{j=i+1}^{n} \widehat{p}_{ij}^{2} - 1 \right) \qquad \text{(Eq 25)}$$

It has been determined that this formula, which was constructed by Pesaran and whose deficiency was corrected, offers more accurate results even when the cross-section size is larger than the time dimension according to Breusch and Pagan's (1980) test. At the same time, the LM test, which does not provide clear results when the unit average is different from 0 and the group average is 0, was developed by Pesaran and his colleagues in 2008, and the following formula was added to the literature.

$$LMag = NLM^{**} = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=j}^{n-1} \sum_{j=i+1}^{n} \widehat{p}_{ij}^{2} \frac{(T-K)p_{ij}^{2} - \mu_{Tij}}{\upsilon_{Tij}} \right) \qquad \text{(Eq 26)}$$

In many subsequent studies, they found that the new statistic they created by adding the mean (μ_{Tij}) and variance (υ_{Tij}) of the units to the test statistic (if the individual mean is different from zero) gave even clearer results than the Pesaran (2004) CDLM test (Pesaran et al., 2008: 105-127). If the test statistic first made here shows a standard normal distribution asymptotically, the hypotheses are expressed as follows.

H_0= the series does not have any cross-sectional dependency.

H_1= There is a cross-section dependence between the series.

According to the test statistics result, if the probability value is less than 0.05 (that is, if the test statistics value is greater than the table value), the ***H₀*** hypothesis is rejected at the

5% significance level, and the ***H₁*** hypothesis is accepted. Thus, the observed test statistic shows a standard normal distribution asymptotically (Pesaran, et al. 2008:125).

3.2.7 Homogeneity Test (Sway's S Test)

Panel root statistics sometimes need to determine the homogeneity or heterogeneity of trend coefficient estimates before applying co-integration tests. The first applications for this were started by Swamy (1970) and this test was further developed by Pesaran and Yamagata (2008) (the homogeneity panel test). This test suggests that T (that is time dimension) should be greater than N (number of observations). When this situation is valid, the hypotheses of the test are as follows (Göçer, 2013:229):

H_0: βi = β Slope coefficient estimates are homogeneous.

H_1: βi = β Slope coefficient estimates are heterogeneous.

Pesaran and Yamagata (2008) expressed large samples and small samples with different formulas in the homogeneity panel test.

Large sample formula: $\Delta = \sqrt{N}\left(\frac{N^{-1}S-k}{2k}\right) \sim X_k^2$ (Eq 28)

Small sample formula: $\Delta_{adj} = \sqrt{N}\left(\frac{N^{-1}S-k}{v(T,k)}\right) \sim N(0,1)$ (Eq 29)

The null hypothesis of this test states that all parameters of all betas are the same, that is, they are equal to zero. The alternative suggests that the cross-sectional units, namely beta parameters, are different from each other. This test is generally applied among variables using big data. It is known that the T number is valid in panel data sets where the number N is quite large (Kara, 2017:70). Since the data width in our study is smaller (T = 19 and N = 20), although this analysis is applied, the H1 hypothesis will be accepted as in many studies and it will be seen that our data is not homogeneously distributed. In terms of the reliability of our study, this test will be included in our study.

3.2.8.2 Gengenbach, Urbain and Westerlund Panel Cointegration Test

It is a panel cointegration analysis applied to the variables according to the findings of the cross-section dependency test and homogeneity test, after determining whether the unit-roots of the variables are stationary or not. This analysis examines whether there is a significant long-term relationship between the variables (Gengenbach et al., 2016: 986-989).

If the variables in the panel series show both cross-section dependence and heterogeneous distribution, the results of the analysis provide more reliable results. Gengenbach, Urbain, and Westerlund Panel Cointegration Test applied data are expected to be stationary at level or first difference (Gengenbach et al., 2016:997).

H_0: The variables' relationships to one another are cointegrated.

H_1: The variables don't have a cointegration relationship.

The model derived from the panel cointegration test using an error correction-based factor was obtained from the formula below (Tatoglu, 2020:205).

$$\Delta y_i = d\delta_{y.x_i} + \alpha_{y_i} y_{i.-1} + \omega_{i,-1}\gamma_i + \mu_i\pi_i + \varepsilon_{y.x_i} = \alpha_{y_i} y_{i.-1} + \varphi_i^d \lambda_i + \varepsilon_{y.x_i} \qquad \text{(Eq 31)}$$

In the rest of the formula, after the dimensions are estimated, vector A is expanded by D.

$$\mathrm{Ad} = (d, A)$$

After estimating the OLS at each stage of the test, the H0 hypothesis is tested with the help of the t-test.

(T-1-P)* (T-1-P) dimensional matrix.

$$M_A = I_{T-1-P} - A(A'A)A' \qquad \text{(Eq 32)}$$

OLS estimator when defined.

$$\widehat{\boldsymbol{\alpha}_{\mathbf{yı}}} = \frac{\mathbf{y}_{\mathbf{i},}'\mathbf{M}_{\mathbf{g_i^d}}\Delta\mathbf{y_i}}{\mathbf{y}_{\mathbf{i},-\mathbf{1}}'\mathbf{M}_{\mathbf{g_i^d}}\mathbf{y}_{\mathbf{i},-\mathbf{1}}} \qquad \text{(Eq 33)}$$

And variance,

$$\widehat{\delta_{y\iota}} = \frac{\delta^2_{\hat{\alpha}_{y,xi}}}{y'_{i,-1} M_{g_i^d} y_{i,-1}} \quad \text{(Eq 34)}$$

In the form of formal. Here are,

$$\delta^2_{\hat{\alpha}_{y,xi}} = T^{-1}\left(\Delta y_i - \widehat{\alpha_{y\iota}}, y_{i,-1}\right)' M_{g_i^d}\left(\Delta y_i - \widehat{\alpha_{y\iota}}, y_{i,-1}\right) \quad \text{(Eq 35)}$$

T statistics $t_{c_i} = t_{\alpha_{yi}} = \frac{\widehat{\alpha_{y\iota}}}{\widehat{\delta_{y\iota}}}$ is defined as the average of the test statistic by units is the statistic of the panel t-test.

$$\widehat{t_c} = \frac{1}{N}\sum_{t-1}^{N} t_{c_i}{}' \text{ is.} \quad \text{(Eq 36)}$$

Which is, Gengenbach, Urbain, and Westerlund's Panel Cointegration Test, which presents the cointegration test results for panel data, has been used in many studies since 2016.

3.2.9 Panel Causality Test

3.2.9.1 Dumitrescu and Hurlin (2012) Panel Causality Test

It is a method developed by Dumitrescu and Hurlin (2012) to determine the causality relationship between series prepared as a panel. Dumitrescu and Hurlin's (2012) panel causality test was used because the data of our study showed heterogeneous distribution and the probability of N>T and T>N did not show any difference. At the same time, the study's dependability is a more plausible scenario for this test's use. The Granger causality test was used to modify the Dumitrescu and Hurlin (2012) test for heterogeneous panels. In the first threshold of the VAR model, the causation link between X and Y is shown below.

$$Y_{i,t} = \alpha_i + \sum_{k=1}^{K} \gamma_i^k Y_{i,t-k} + \sum_{k=1}^{K} \beta_i^k X_{i,t-k} + \varepsilon_{i,t} \quad \text{(Eq 39)}$$

The series must be stationary in this situation. At the same time, the hypotheses of the test

H_0: There is no reason relationship from *X* to *Y*.

H_1: There is a reason relationship from *X* to *Y*.

As a result of these hypotheses, Dumitrescu and Hurlin (2012) test the statistics formula.Dumitrescu and Hurlin (2012),; While testing within the scope of the above hypotheses, it is more accurate to use test statistics in series that show an asymptotic distribution when T>N. When T<N, the use of test statistics in series showing a semi-asymptotic distribution gives more reliable results.

$$Z_{N,T}^{HNC} = \sqrt{\frac{N}{2K}}\left(W_{N,T}^{HNC} - K\right) \qquad \text{(Eq 40)}$$

$$Z_{N,T}^{HNC} = \frac{\sqrt{N}[(W_{N,T}^{HNC} - N^{-1}\sum_{i=1}^{N} E(W_{i,T}))]}{\sqrt{N^{-1}\sum_{i=1}^{N} Var(W_{i,T})}} \qquad \text{(Eq 41)}$$

The above Dumitrescu and Hurlin (2012) panel calculate the probability values of the test statistics with the causality relationship method.

The studies on Foreign direct investment, Economic growth, Unemployment, and Poverty, panel data analysis was used in general and researched selected similar countries such as Sub-Sahara African countries.

3.3 THEORETICAL FRAMEWORK

3.3.1 Research of the problem

Studies on poverty have started to be researched and presented with data since the beginning of the 1990s. The problem of poverty in countries was also experienced before the 1990s. However, although this situation was seen as a problem, it was not revealed by the data, and research was not carried out. Research on poverty has increased its importance on an international scale after the Foreign direct investments, unemployment, economic growth, and inflation is of great importance among the studies carried out as a means of intervention to the problem of poverty. These global studies are only part of the efforts to prevent poverty or alleviation it.

In recent years, the global competition between countries for FDI and Multinational investment has been progressing rapidly. The study, which is carried out considering the poverty reduction social dimension, will be examined and researched whether the foreign direct investments of the countries are transformed into economic growth, and how a solution can be reached to solve the problem of poverty.

3.3.2 Importance of the research

FDI flows and economic activities around the world are constantly expanding and developing. This study seeks to gather specific data by examining the impact of a country's growth performance on poverty rates as a result of the conversion of FDI into poverty reduction, as well as the results of an analysis of the trend in poverty rates in countries where economic growth investments are prioritized. The study was done for this aim by picking 20 distinct nations that are members of one union, one membership, and one area of the Sub-Saharan African countries.

Table 4: Abbreviations for Used Variables and Defined Abbreviations

Variables	**Variables of abbreviation**	
	Stata Program	**Eviews Program**
Foreign Direct Investment rate	FDI	FDI
Economic Growth rate	EG	EG
Unemployment rate	UN	UN
Inflation rate	INF	INF
Poverty rate	POV	POV

those variables were used in the Stata program and Eviews program, in the first model Poverty is the dependent variable, and independent variable Foreign direct investment, Economic growth, Unemployment, and Inflation are the independent variable. And the second model of poverty is a dependent variable the independent variables are unemployment, inflation, and economic growth.

The following are the models that will be estimated using the panel data technique

Model 1: $POV = Y_0 + Y_1 FDI_{it} + Y_2 EG_{it} + Y_3 INF_{it} + Y_4 UN_{it} + \varepsilon_{it}$

Model 2: $POV = Y_0 + Y_1 EG_{it} + Y_2 INF_{it} + Y_3 UN_{it} + \varepsilon_{it}$

Where FDI rate stands for Foreign Direct Investment Rate; EG stands for economic growth rate; INF stands for Inflation rate; UN stands for the Unemployment rate. $Y_0 - Y_4$ and ε are the cross-sectional and time dimensions of the panel, respectively, and the subscripts I and t are the parameter estimates and the error term, respectively.section and time dimensions of the panel.

It uses a panel data model and the purpose of using this model is that the data is annual data between 2000-2019. The time series obtained from the World Bank is more suitable for the model for panel data periodically. A model for panel data is formed by observing cross-sectional units such as individuals, households, regions, or countries at a certain time (Baltagi, 2005:4).

3.3.3 Assumptions

The study's assumptions and predictions are the existence of foreign direct investment in economic growth by 20 nations with varying degrees of development, poverty reduction, unemployment, and a decrease in inflation. However, the rise in FDI is also an improvement in economic growth, the growth-oriented movement of the country's economy begins, unemployment diminishes, inflation is lowered, and it is expected to contribute to poverty reduction.

3.3.4 Techniques for Data Collection

This study used quantitative data collection techniques. The information was obtained from the World Bank's official website (https://data.worldbank.org/indicator?tab=all) and Human Development Index (http://hdr.undp.org/en/data). The data collection is very

restricted which is why we selected 20 countries in Sub-Sahara Africa countries. Time Between 2000 and 2019 is selected and 20 countries with annual data are identified.

Table 5: Countries of the Study

Countries		Countries	
1	Benin	11	Kenya
2	Burkina Faso	12	Niger
3	Burundi	13	Nigeria
4	Cabo Verdi	14	Rwanda
5	Cameroon	15	Senegal
6	Chad	16	Sudan
7	Equatorial Guinea	17	Tanzania
8	Ethiopia	18	Uganda
9	Gabon	19	Zambia
10	Ghana	20	Zimbabwe

Sources: Created By Author.

Table 6: Variables of the Countries Involved in the Research and Where They Came From

Variables	Sources
Foreign Direct Investment rate	World Bank, Human Development Index, and African Development Bank
Economic Growth rate	World Bank and International Monetary Fund
Unemployment rate	World Bank and Human Development Index
Inflation rate	World Bank and Human Development Index
Poverty rate	World Bank and Human Development Index

Sources: Created By Author

Table 7: Definitions of Variables and Country References for the Research

Variables Used	How to Create and Calculate Data	Criteria for Data Use
Foreign direct investment rate	FDI net inflow rate	The variable was not used logarithmic
Economic growth rate	EG rate	The variable was not used logarithmic
Unemployment rate	UN rate	The variable was not used Logarithmic
Inflation rate	INF rate	The variable was not used Logarithmic
Poverty rate	POV rate of population	The information is applied to the same criterion.

Sources: Created By Author

Table 8:Model 1 summary statistics

R-squared	0.5234
Adjusted R- squared	0.5186
F-statistic	108.44
Prob (F-statistic)	0.0000

The table 8 above shows the summary statistics of the overall model of regression 0.5234, variation POV explained by FDI, EG, UN, and INF, as it can be seen from the table, the value of R-square is 0.5234. The R-square is jointly significantly, which means the model is strongly significant at 52 percent. Besides, the prob (F-statistics 108.44) value is less than 5 percent of the level of significance (that is less than 0.05 percent). This means that the overall model is statistically significant. The model result show model of regression, POV on FDI, EG, UN, and INF, is statistically acceptable.

Table 9: Model 2 summary of statistics

R-squared	0.5125
Adjusted R- squared	0.5088
F-statistic	138.78
Prob (F-statistic)	0.0000

The table 9 above shows the summary statistics of the overall model of regression, POV on EG, UN and INF. As it can be seen from the table, the value of R-squared is 0.5125 changes in POV can be explained by EG, UN, and INF, jointly significant. As can be seen from the table, the value of R-squared is 0.5125. On other hand, the Adjusted R-squared is 0.5088. Besides, the prob (F-statistics 138.78) value is less than 5 percent of the level of significance (that is less than 0.05 percent). This means that the overall model is statistically significant. The model results show that model of regression, POV on EG, UN, and INF is statistically acceptable.

3.4 Panel data analysis and results

In this research, the broad representations of the data were written in the Stata program initially. Secondly, the descriptive statistics values of the series are included in the Eviews program in Table 10. It is possible to obtain broad information regarding the number of poor individuals. The probability values of the Jarque-Bera test for all variables do not reflect a normal distribution since all of the values are less than 5 percent.

Table 10: Descriptive Statistics for Variables

Mean	**Mean**	**Media**	**Maximum**	**Minimum**	**Skewness**	**Kurtosis**
FDI	3.500318	2.455227	64.38410	-4.845830	6.391391	63.98582
EG	2.455227	5.250984	63.37988	-17.66896	2.868667	31.72063
INF	6.713545	4.775678	63.29251	-8.974740	2.495317	13.48037
UN	5.816025	3.695000	20.41000	0.3200000	1.267865	3.679694
POV	61.64100	68.20000	95.20000	5.3000000	-0.687519	2.429574

The above Table 10 explained over the E views program output, because of the ease of interpretation of all tests, and tests are simple to comprehend. The descriptive statistics of various variables in Table 10 are polarised into two measures: a measure of central tendency and measures of dispersion. A measure of central tendency utilises a single value to represent the centre of data distribution (Deshpande et al., 2016). . The common measures of central tendency are mean, median and mode. For the study, the mean value for all the variablesrang between 61.64100 for EG and 2.455227 for POV. The basic measures of dispersion are range, skewness and kurtosis. While the Positive skewness is linked with long right tails and implies that there are more higher values around the mean. However, negative skewness is linked with long left tails and suggests that there are more lower values around the mean. . Furthermore, kurtosis checks whether a variable is light- or heavy-tailed relative to a normal distribution. all the variables greather 3 eccept POV and thus they are leptokurtic while others are platykurtic. This implies that POV has a thinner tail than normal distribution and this has faced with fewer outlier. Similarly, skewness measures the symmetry of the data. Regarding our data, all are positively skewed, except for POV.

3.4.1.1 panel regression Results

The result shows an R-squared of 0.5234, implying that the independent variables explain 52.34% of the variations in our dependent variable. Also, three variables FDI, EG, and UN have a negative coefficient, while the remaining variables, INF have a positive coefficient. Each of the variables has very little of an effect on POV, whether it is positive or negative. Similarly, Positive effects of inflation on POV. Specifically, a 1% of FDI raise leads to a 0.56% fall in poverty rate (POV). Inflation rate and poverty rate are positive relationship similarly, the economic growth rate by 1% increase the Poverty rate reduces by 0.56%, and also 1% rise in unemployment causes a 3.2% decline in the poverty rate.

First Model 1: $POV = Y_0 + Y_1 FDI_{it} + Y_2 EG_{it} + Y_3 INF_{it} + Y_4 UN_{it} + \varepsilon_{it}$

Table 11: Ordinary Least Square Results Model 1

Dependent variable POV	***Coefficient***	***Std. Err.***	***T***	***P- value***
FDI	-.5574165	.1857356	-3.00	0.003
EG	-.5574165	.1638433	4.22	0.000
UN	-3.190322	.1708805	-18.67	0.000
INF	.3205457	.1059832	3.02	0.003
-CONST	76.33445	1.583824	48.20	0.000

R-squared = 0.5234

F(4, 395) = 108.44

The Second Model 2: $POV = Y_0 + Y_1 EG_{it} + Y_2 INF_{it} + Y_3 UN_{it} + \varepsilon_{it}$

The result shows an R-squared of 0.5125, implying that the independent variables explain 52.34% of the variations in our dependent variable. On the other hand, the results show that all of the variables are statistically significant at either the 5% or 10% significant levels, except inflation and poverty rate. Similarly, two variables EG and INF showed positive coefficients for the Poverty reduction rate, while one variable unemployment rate showed negative coefficients for the Poverty reduction rate.

Table 12: Ordinary Least Square Results Model 2

Dependent variable POV	***Coefficient***	***Std. Err***	***T***	***P- value***
EG	.4519097	.1444408	3.13	0.002
UN	-3.312967	.1675909	-19.77	0.000
INF	.341242	.1068224	3.19	0.002
-cons	76.22742	1.59935	47.66	0.000

R-squared = 0.5125

F(3, 396) = 138.78

3.4.2 Sway's Test-1 Results

The following are the Sway's Test hypotheses that we utilized to assess if the slope of our co-integration coefficients is homogenous or not.

H_0: $\beta_i = \beta$ the slope coefficients estimates are homogeneous.

H_1: $\beta_i = \beta$ the slope coefficients estimates are heterogeneous.

H_0 with probability values less than 0.05 is rejected, whereas *H_1* is accepted, resulting in heterogeneous slope coefficient estimations. It is seen that the parameters change from unit to unit (Talatoğlu, 2020:248). According to these results, as seen in Table 10, the results of the heterogeneous cointegration tests should be trusted.

Table 13: Sway's Test Homogeneity Test Results

	Test Statistic	**Probability value**
$\hat{\Delta}$	Chi2 (95)	Probe> Chi2
$\hat{\Delta}_{adj}$	674.58	0.0000
The estimation's significance levels are (*) 1% (**) 5% and (***) 10% shown in ascending order.		

The cointegration test selection to be applied in the continuation of the study will continue through the tests that are suitable for heterogeneous parameters.

3.4.3 Panel Unit Root Test Results

This research will first draw the graphs and then go on to the unit root tests since the study can observe the constant and trend by looking at the graphs of our variables before starting the unit root tests. When the researcher used the E views software to draw the graphs of our variables, the researcher saw that our five variables did not follow a fixed path, indicating that our series was not stationary. The variables' graphical representations are drawn and shown in the Stata program. There is also a visual representation of the models on the panel.

3.4.3.1 Second Generation First Group Panel Unit Root Tests

Unit root tests appropriate for the variables utilized and the models constructed were determined as Levin, Lin, and Chu (LLC) Panel Unit Root Test and Hadri Panel Unit Root Test, as stated in the methods part of the study, and the results were obtained. The following is a list of the hypotheses developed for unit root testing.

H_0: The entire panel is unit rooted.

H_1: There is no unit root throughout the panel.

Table 14: Panel Unit Root Test Results

Levin, Lin, and Chu (LLC) Panel Unit Root Test Results		
Variables	**POV**	
	Statistics	P- value
Unadjusted	-9.0993	
Adjusted	-4.2817	0.00***
Variable	**EG**	
	Statistic	P-value
Unadjusted	-11.04356	
Adjusted	-4.4356	0.00***
Variable	**UN**	
	Statistic	P- value
Unadjusted	-8.1606	
Adjusted	-42701	0.00***
Variable	**INF**	
	Statistic	P- value
Unadjusted	-11.4622	
Adjusted	-6.3520	0.00***
Variable	**FDI**	
	Statistic	P- value
Unadjusted	-64140	

Adjusted	-41579	0.00***
The estimation's significance levels are (*) 1% (**) 5% and (***) 10% shown in ascending order.		

According to the Levin, Lin, and Chu (LLC) panel unit root test results, only the POV variable is stationary at the 0.05% level. Other variables are stationary at the 0.01% level. $\mathbf{H_0}$ is rejected but $\mathbf{H_1}$ is accepted. The study says that our variables are stationary according to the test results.

These are Stata program outputs. To test its reliability again, the Hadri panel unit root test was performed afterward. We accept that all variables are stationary at the 0.01% level based on the results of this test. Other hand variables are stationary at a 0.1% level. According to our established hypotheses, $\boldsymbol{H_0}$ was rejected and $\boldsymbol{H_1}$ was accepted. Results of the Hadri panel unit root test improved the consistency of our variables.

Table 15: Hadri Panel Unit Root Test Results

Hadri Panel Unit Root Test difference		
Variable	**FDI**	
	Statistic	P- value
Z	15.3424	0.0000*
Variable	**EG**	
	Statistic	P-value
Z	20.1325	**0.0000***
Variable	**UN**	
	Statistic	
Z	**25.0731**	**0.0000***
Variable	**INF**	
	Statistic	**p-value**
Z	15.3410	0.0000*
Variable	**PVT**	
	Statistic	**P-value**
Z	46.7688	0.0000*
The importance levels of the estimate, in order (*) 1% (**) 5% and (***) 10% to expressed		

CONCLUSION AND RECOMMENDATIONS

This thesis has examined the impact of FDI on poverty in the Sub-Saharan african region. It also considered the FDI inflow trend to the sub-saharan africa region and the country specific differences of the impact of FDI on poverty. Results this study looked at how FDI affected poverty in the Sub-Saharan region of Africa. It also took into account the trajectory of FDI inflow into the Sub-Saharan African area, as well as country-specific variations on the impact of FDI on poverty. It also includes recommendations.

The research's major goal was to study and assess the influence of foreign direct investment on poverty in the Sub-Saharan African area. The research used a quantitative method (secondary data), a strategy for conducting a systematic literature review, and three estimation approaches (PLS, FEM, and REM), to achieve the study goals and respond to the study questions. FDI inflows to host nations are seen to be a key factor in improved economic growth and poverty alleviation.

Empirical Analysis' Crucial Findings in the literature on the influence of FDI on poverty are riddled with contradictions. Many past studies have concluded that FDI has a positive effect on poverty, while others have found a negative impact or no impact at all. It is an economic policy adopted by governments to maintain stable economic development, raise per capita income, and ensure that the country's inhabitants live in affluence. Poverty rates are low in these countries, and citizens have equal rights as a result of the policies in place. FDI contributes to poverty reduction accouding to pur study which covered the years 2000 to 2019. The data was gathered from the World Bank and the United Nations Development Programme's official websites and arranged into a panel, with the study's findings evaluated using two separate econometric programs. The results shows the influence of FDI on poverty. To establish policies that would attract more FDI inflows and lessen poverty in the area, SSA nations should implement policies that encourage FDI inflows.

REFERENCE

Balsvik, R., & Haller, S. A. (2010). Picking “lemons” or picking “cherries”? Domestic and foreign acquisitions in Norwegian manufacturing. *Scandinavian Journal of Economics*, *112*(2), 361-387.

Adams, S. (2009). Can foreign direct investment (FDI) help to promote growth in Africa? *African Journal of Business Management*, *3*(5), 178-183.

Aderemi, T. A., Alalade, Y. S., Modupe Ololade, Y., & Olubunmi, A. B. (2020). What Drives Foreign Direct Investment Inflows in China? ARDL Bound Tests and ECM Approach. *Acta Universitatis Danubius. Œconomica*, *16*(2).

Outlook, A. E. (2012). Cameroon. [Online] available: http://www. African economic outlook. Org/fileadmin/uploads/aeo/PDF. *Cameroon percentage 20Fullpercentage 20Countrypercentage 20Note. Pdf. (May 14, 2014).*

Outlook, A. E. (2012). Cameroon. [Online] available: http://www. African economic outlook. org/fileadmin/uploads/aeo/PDF. *Cameroon% 20Full% 20Country% 20Note. pdf. (May 14th, 2014).*

Ahmed, A. D., Cheng, E., & Messinis, G. (2011). The role of exports, FDI and imports in development: evidence from Sub-Saharan African countries. *Applied Economics*, *43*(26), 3719-3731.

Ahmed, D., & Buheji, M. (2018). The Distribution of Wealth¨ C Growing Inequality? ¨ CA Book Review. *Applied Finance and Accounting*, *4*(2), 1-1.

Akinlo, T., & Dada, J. T. (2021). The moderating effect of foreign direct investment on environmental degradation-poverty reduction nexus: evidence from sub-Saharan African countries. *Environment, Development, and Sustainability*, *23*(11), 15764-15784.

Ali, M., Nishat, M., & Anwar, T. (2009). Do foreign inflows benefit the Pakistani poor? [With comments]. *The Pakistan Development Review*, 715-738.

Alkire, S., & Jahan, S. (2018). The new global MPI 2018: aligning with the sustainable development goals.

Fauzel, S., Seetanah, B., & Sannassee, R. V. (2015). Foreign direct investment and welfare nexus in Sahara Africa. *The Journal of Developing Areas*, 271-283.

Asiedu, E. (2002). On the determinants of foreign, direct investment to developing countries: is Africa different? *World Development*, *30*(1), 107-119.

Asiedu, E. (2006). Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions, and political instability. *The world economy*, *29*(1), p, 63-77.

Ayadi, O. F., Ajibolade, S., Williams, J., & Hyman, L. M. (2014). Transparency and foreign direct investment into Sub-Saharan Africa: An econometric investigation. *African Journal of Economic and Management Studies*.

Balsvik, R., & Haller, S. A. (2010). Picking "lemons" or picking "cherries"? Domestic and foreign acquisitions in Norwegian manufacturing. *Scandinavian Journal of Economics*, *112*(2), 361-387.

Balsvik, R. (2011). Is labor mobility a channel for spillovers from multinationals? Evidence from Norwegian manufacturing. *The review of economics and statistics*, *93*(1), 285-297.

Bartels, F. L., Alladina, S. N., & Lederer, S. (2009). Foreign direct investment in Sub-Saharan Africa: Motivating factors and policy issues. *Journal of African Business, 10*(2), 141-162.

Karpaty, P., & Bandick, R. (2007). Foreign acquisition and employment effects in Swedish manufacturing. *University of Nottingham Research Paper*, (2007/35).

Jugurnath, B., Chuckun, N., & Fauzel, S. (2016). Foreign direct investment & economic growth in Sub-Saharan Africa: an empirical study. *Theoretical Economics Letters*, *6*(4), 798-807.

Broad, R. (2006). Research, knowledge, and the art of 'paradigm maintenance': the World Bank's Development Economics Vice-Presidency (DEC). *Review of International Political Economy*, *13*(3), 387-419.

Cape Verde (2012), Africa Economic Outlook, http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Cape%20Verde%20Full%20Country%20Note.pdf

Chakravarty, S. R., & Silber, J. (2008). Measuring multidimensional poverty: the axiomatic approach. In *Quantitative approaches to multidimensional poverty measurement* (pp. 192-209). Palgrave Macmillan, London.

Darley, W. K. (2012). Increasing Sub-Saharan Africa's share of foreign direct investment: Public policy challenges, strategies, and implications. *Journal of African Business*, *13*(1), 62-69.

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

Jenkins, C., & Thomas, L. (2002). *Foreign direct investment in Southern Africa: Determinants, characteristics, and implications for economic growth and poverty alleviation* (pp. 1-60). CSAE, University of Oxford.

Diana, N., Kombui, P., & Kotey, R. A. (2019). Foreign direct investment in an emerging economy: Exploring the determinants and causal linkages. *Academic Journal of Economic Studies*, *5*(1), P. 51-62.

Ayadi, O. F., Ajibolade, S., Williams, J., & Hyman, L. M. (2014). Transparency and foreign direct investment into Sub-Saharan Africa: An econometric investigation. *African Journal of Economic and Management Studies*.

Dunning, J. H. (2014). *Explaining International Production (Routledge Revivals)*. Routledge.

Dunning, J. H. (2014). *The globalization of business (Routledge revivals): the challenge of the 1990s*. Routledge.

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

CEPAL, N. (2018). Biennial report (2016-2017): Economic and Social Council, official records 2018. Supplement no. 20.

Jugurnath, B., Chuckun, N., & Fauzel, S. (2016). Foreign direct investment & economic growth in Sub-Saharan Africa: an empirical study. *Theoretical Economics Letters*, *6*(4), 798-807.

Ethiopia Economic Snapshot H2 (EES, 2017), https://assets.kpmg/content/dam/kpmg/za/pdf/2017/12/Ethiopia-2017H2.pdf.

Fan, S., Zhang, L., & Zhang, X. (2004). Reforms, investment, and poverty in rural China. *Economic Development and Cultural Change*, P. *52*(2), 395-421.

Fazel, s., seetanah, b., & Tennessee, r. v. (2015). foreign direct investment and welfare nexus in sub-Saharan Africa. *The journal of developing areas*, 271-283.

Foster, J., Greer, J., & Thorbecke, E. (2010). The Foster–Greer–Thorbecke (FGT) poverty measures: 25 years later. *The Journal of Economic Inequality*, *8*(4), 491-524.

Fowowe, B., & Shuaibu, M. I. (2014). Is foreign direct investment good for the poor? New evidence from African countries. *Economic Change and Restructuring*, *47*(4), 321-339.

From African countries, https://link.springer.com/article/10.1007/s10644-014-9152-4.

Fowowe, B., & Shuaibu, M. I. (2014). Is foreign direct investment good for the poor? New evidence from African countries. *Economic Change and Restructuring*, *47*(4), 321-339.

Ganić, M. (2019). Does foreign direct investment (FDI) contribute to poverty reduction? Empirical evidence from Central European and Western Balkan countries. *Scientific Annals of Economics and Business*, *66*(1), 15-27.

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

Görg, H., & Greenaway, D. (2004). Much ado about nothing? Do domestic firms benefit from foreign direct investment? *The World Bank Research Observer*, *19*(2), 171-197.

Gruz, Forster, Quillin &Schellekens (2003), Rural Welfare Reform, economic research service.

https://microcredentials.digitalpromise.org/explore/understanding-types-of-poverty.

Hung, T. T. (2005). Impacts of foreign direct investment on poverty reduction in Vietnam. *Discussed paper, GRIPS, Vietnam*.

Hung (1999), Impacts of Foreign Direct Investment on Poverty Reduction in Vietnam, https://www.grips.ac.jp/vietnam/VDFTokyo/Doc/18TTHungPaper.pdf.

Igboanusi, H. (2014). "The role of language policy in poverty alleviation in West Africa", *International Journal of the sociology of language*, *2014*(225), 75-90.

IMF (2014), "article iv consultation—staff report; press release; and statement by the executive director for Ghana", *IMF country report no.* 14/129.

International monetary fund (IMF). (1996) “benchmark definition of foreign direct investment”, third edition,

Walsh, M. J. P., & Yu, J. (2010). *Determinants of foreign direct investment: A sectoral and institutional approach*. International Monetary Fund.

Javorcik, B. S. (2015). Does FDI bring good jobs to host countries? *The World Bank Research Observer*, *30*(1), 74-94.

Jenkins, C., & Thomas, L. (2002). *Foreign direct investment in Southern Africa: Determinants, characteristics, and implications for economic growth and poverty alleviation* (pp. 1-60). CSAE, University of Oxford.

Scott-Kennel, J. (2004). Foreign direct investment: a catalyst for local firm development? *The European Journal of Development Research*, *16*(3), 624-652.

Kaliappan, S. R., KhaMIS, K. M., & ISMAIL, N. W. (2015). Determinants of Services FDI Inflows in ASEAN Countries. *International Journal of Economics & Management*, *9*(1).

Kurtishi-Kastrati, S. (2013). Impact of FDI on economic growth: An overview of the main theories of FDI and empirical research. *European Scientific Journal*, *9*(7).

Klein, M., Aaron, C., & Hadjimichael, B. (2001). Foreign direct investment and poverty reduction. *New horizons for foreign direct investment*, 51.

Kurtisha, S. (2013). Impact of FDI on economic growth: An overview of the main theories of FDI and empirical research. *European Scientific Journal*, *9*(7).

Kuzudisli, A. (2017). Fight against poverty from the Islamic point of view: the wealth distribution and share. *Economics World*, *5*(1), P. 9-15.

Makoni, P. L. (2015). An extensive exploration of theories of foreign direct investment. *RISK GOVERNANCE & CONTROL: Financial markets and institutions*, *5*(2), 77-83.

Marcus, M., Manea, S., Samman, E., & Evans, M. (2019). Financing the end of extreme poverty» updated, Briefing Note. *ODI, September*.

Markusen, J. R., & Venables, A. J. (1999). Foreign direct investment as a catalyst for industrial development. *European economic review*, *43*(2), P. 335-356.

Misturelli, F., & Heffernan, C. (2008). What is poverty? A diachronic exploration of the discourse on poverty from the 1970s to the 2000s. *The European journal of development research*, *20*(4), 666-684.

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

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

Nunnenkamp, P. (2004). To what extent can foreign direct investment help achieve international development goals? *World Economy*, *27*(5), 657-677.

Bassanini, A., Scarpetta, S., & Hemmings, P. (2001). Economic growth: the role of policies and institutions. Panel data evidence from OECD countries. *Panel Data Evidence from OECD Countries (January 2001)*.

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

Abdulai, J. O. H. N. (2019). *The Effect of Government Size, Foreign Direct Investment, On Economic Growth in Sub-Saharan Africa* (Doctoral dissertation).

Tsatsaridis, T. (2017). The impact of foreign direct investments on economic growth in Sub-Saharan Africa. *Retrieved*, *20*, 2020.

Jalan, J., & Ravallion, M. (1998). Transient poverty in post-reform rural China. *Journal of Comparative Economics*, *26*(2), 338-357.

Cammack, P. (2004). What the World Bank means by poverty reduction, and why it matter. *New Political Economy*, *9*(2), 189-211.

Reiter, S. L., & Steensma, H. K. (2010). Human development and foreign direct investment in developing countries: the influence of FDI policy and corruption. *World Development*, *38*(12), 1678-1691.

Rwanda economic snapshot h2,(2017), https://assets.kpmg/content/dam/kpmg/za/pdf/2017/12/KPMG_Rwanda_2017_V2.pdf.

Rwanda Economic Update (2019), https://www.worldbank.org/en/news/press-release/2019/06/25/rwanda-economic-update.

Anyanwu, J. C. (2011). *Determinants of foreign direct investment inflows to Africa, 1980-2007* (pp. 1-32). Abidjan: African Development Bank Group.

Sen, A. (1976). Poverty: an ordinal approach to measurement. *Econometrica: Journal of the Econometric Society*, 219-231.

Shamim, A., Azeem, P., & Naqvi, S. M. M. A. (2014). Impact of foreign direct investment on poverty reduction in Pakistan. *International Journal of Academic Research in Business and Social Sciences*, *4*(10), 465.

Solow, R. M. (1956). A contribution to the theory of economic growth. *The quarterly journal of economics*, *70*(1), 65-94.

Sondermann, D., & Vansteenkiste, I. (2019). Did the euro change the nature of FDI flows among member states?

Sumner, A. (2005). Is foreign direct investment good for the poor? A review and stock take. *Development in Practice*, *15*(3-4), 269-285.

Tambunan, T. (2005, May). The impact of Foreign Direct Investment on poverty reduction: A survey of literature and a temporary finding from Indonesia. In *consultative meeting on "Foreign Direct Investment and Policy Changes: Areas for New Research", United Nations Conference Centre, Bangkok, Thailand* (pp. 12-13).

Tuomi, K. (2011). The role of the investment climate and tax incentives in the foreign direct investment decision: evidence from South Africa. *Journal of African Business*, *12*(1), 133-147.

UNCTAD, (2011). "Foreign Direct Investment in LDCs: Lessons Learned From the Decade and the Way Forward". *New York and Geneva*, 2 011.

UNCTAD, 1999, World Investment Report- Foreign Direct Investment and the Challenge of

UNDP (2019, Hou, et, al, 2015) Human Development Report 2019 and The Relationship between Marine Biodiversity Conservation and Poverty Alleviation in the Strategies of Rural Development in China. : Journal of Coastal Research, 73(sp1): 781-785.

United Nations, 2007. World Investment Prospects Survey (2007–2009), New York and Geneva, 2007.

UNITED, 2002. World Investment Report 2002: Transnational Corporations and Export

UNITED, 2010. The Least Developed Countries Report 2010. United Nations, 86 New York and Geneva.

Uzuner, A. (2020). The Effect Of Educational Spending On GDP Growth: A Panel Data Analysis (*Master's thesis, Lisansüstü Programlar Enstitüsü).*

Walls, D. (1993), a Co-integration Rank Test of Market Linkages with an Application to the U.S Natural Gas Industry. University of California Berkeley, Working Paper 201.

World Bank (2018), "the republic of Burundi addressing fragility and demographic challenges to reduce poverty and boost sustainable growth", international development association country department afcw3 Africa region, report no. 122549-bi.

WBAR (2013). World Bank annual report, Poverty End Extreme Poverty and Promote shared Prosperity.

WBG (2016), "ethiopia's great run the growth acceleration and how to PACE IT",https://documents1.worldbank.org/curated/en/693561467988949839/pdf/99399-REVISED-PUBLIC-thiopia-Economic-Update-2-11-16-web.pdf.

WBG (2020), "Chad Economic and Poverty Update", Public Disclosure Authorized. In Burundi

World Bank (1993): "Foreign Direct Investment—Benefits Beyond Insurance," Development

World Bank, (1998): "Global Development Finance", Analysis and Summary Tables, Washington D. C.World Development Report 2013.

Zhang, K. H. (2006). Does international investment help poverty reduction in China? *Chinese Economy*, *39*(3), 79-90.

Zheng, B. (1993). An axiomatic characterization of the Watts poverty index. *Economics Letters*, *42*(1), 81-86.

Greene, W. H. (2003). *Econometric analysis*. Pearson Education India.

Gujarati, D. N. (2014). *Essentials of econometrics*. SAGE Publications.

Breusch, T. S., & Pagan, A. R. (1980). "The Lagrange multiplier test and its applications to model specification in econometrics". *The review of economic studies*, *47*(1), P. 239-253.

Pesaran, M. H., & Yamagata, T. (2008). "Testing slope homogeneity in large panels". *Journal of econometrics*, *142*(1), P. 50-93.

Hsiao, C., & Pesaran, M. H. (2004). "Random coefficient panel data models". *Available at SSRN P. 572783*.

Göçer, İ. (2013). "Ar-Ge harcamalarının yüksek teknolojili ürün ihracatı, dış ticaret dengesi ve ekonomik büyüme üzerindeki etkileri". *Maliye Dergisi*, *165*(2), P. 215-240.

Westerlund, J., & Edgerton, D. L. (2007). "New improved tests for co-integration with structural breaks". *Journal of time series Analysis*, *28*(2), P.188-224.

Pesaran, M. H. (2006). "Estimation and inference in large heterogeneous panels with a multifactor error structure". *Econometric*, *74*(4), P. 967-1012.

Baltagi, Badi H. "Worldwide econometrics rankings: 1989–2005." *Econometric Theory* 23, no. 5 (2007): P. 952-1012.

Pazarlıoğlu, M. V., & Gürler, Ö. K. (2007). Telekomünikasyon yatırımları ve ekonomik büyüme: panel veri yaklaşımı. *Finans Politik ve Ekonomik Yorumlar*, *44*(508), 35-43.

Yamagata, T. (2008). A joint serial correlation test for linear panel data models. *Journal of Econometrics*, *146*(1), 135-145.

Westerlund, J., & Edgerton, D. L. (2007). A panel bootstrap cointegration test. *Economics letters*, *97*(3), 185-190.

Gengenbach, C., Urbain, J. P., & Westerlund, J. (2016). Error correction testing in panels with common stochastic trends. *Journal of Applied Econometrics*, *31*(6), 982-1004.

Eberhardt, M., & Bond, S. (2009). Cross-section dependence in nonstationary panel models: a novel estimator.

Şentürk, S., & AŞAN GREENACRE, Z. E. R. R. İ. N. (2007). Bulanık mantıkta korelasyon katsayısı; meterolojik olaylarda bir uygulama. *Eskişehir Osmangazi Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi*, *20*(1), 151-161.

http://www.eviews.com/help/content/panelstats-Panel_Cross-section_Dependence_Test.html

Pesaran, M. H., Schuermann, T., & Weiner, S. M. (2004). Modeling regional interdependencies using a global error-correcting macro-econometric model. *Journal of Business & Economic Statistics*, *22*(2), 129-162.

Quah, D. (1994). Exploiting cross-section variation for unit root inference in dynamic data. *Economics Letters*, *44*(1-2), 9-19.

Phillips, P. C., & Moon, H. R. (1999). Linear regression limit theory for nonstationary panel data. *Econometrica*, *67*(5), 1057-1111.