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Foreign direct investment and Africa's social and economic development

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Foreign Direct Investment and Africa's Social and Economic Development

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management specialising in Finance and Investments

Johannesburg, 20 April 2020

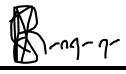
ABSTRACT

The study investigates the impact of FDI on social and economic development in Africa. This study analyses panel data for 52 African countries for the period 1990 to 2017 by undertaking a quantitative research strategy. The longitudinal/panel research design was used. Secondary data taken from the African Development Bank Group's Information Highway Portal was used. The study uses multiple regression models to analyse the impact of FDI on three dependent variables for social and economic development. To estimate the impact of FDI on economic growth, the model will control for some of the standard growth factors such as capital, labour, government expenditure, technology transfer, and inflation/price stability. When running the inequality and poverty regression models, the model will control for other factors such as level of literacy and education, employment and population growth, in addition to the standard growth factors.

The findings establish the importance of FDI in economic development, however, FDI did not make significant contribution towards reducing income inequality. The study also establishes the importance of FDI in poverty alleviation. The overall conclusion is that FDI is important to social and economic development. The study recommends that African countries create a favourable investment environment by improving institutional qualities (e.g. lower corruption, lower the number of days it takes to start a business, improve political stability, rule of law etc). The results of this study show that the internal factors (labour and domestic investment) are more effective than the external factors (FDI and technology transfer). FDI inflows should be directed to projects which fit with the host country development strategy and can transform host countries through the transfer of technology, human capital development and increased competition in domestic markets.

DECLARATION

I, Joan Rangwaga, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

X 

Joan Rangwaga

Joan Tsona Rangwaga

Signed at Pretoria

On the 20th day of April 2020

DEDICATION

To my family friends and loved ones, thank you for your patience and understanding during the time of my studies. Your love and support are highly appreciated. The Lord bless you and cause you to prosper in all that you do.

ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor Dr Chengete Chakamera for the useful comments, remarks and engagement through the learning process of this master thesis. You have imparted me with valuable skills and knowledge. Thank you for introducing the topic to me and for your patience and guidance throughout the process of completing my thesis.

To my family, friends and loved ones, thank you for your patience and support throughout my studies. I have missed out on a lot with you, but it will be worth it at the end. My parents and siblings, I love you all. God bless you richly.

Last but not least, thank you to Pastor Lawrence and members of Christ Embassy Pretoria, thank you for your prayers and support throughout my studies. I love and appreciate you.

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CHAPTER 1
INTRODUCTION

1.1 Background

In 2015, African countries signed up to the 2030 Sustainable Development Goals (SDG) that was adopted by the United Nations General Assembly on 25 September 2015. The SDGs include economic, social development and environmental protection. To meet the SDGs, Africa will need to significantly improve its GDP in order to close the financing gap (United Nations, 2017). Foreign Direct Investment (FDI) has been recognized as an important element in a country's overall strategy for economic development and is widely acknowledged as being beneficial to developing countries' economic growth (Samuel, 2013). These investments are meant to bring benefits to the recipient country, which include: the creation of new jobs, the transfer of scarce skills, technological transfers, increased productivity and increase in the income of the developing country.

According to the IMF and OECD definitions, foreign direct investment reflects the aim of obtaining a lasting interest by a resident entity of one economy (the direct investor) in an enterprise that is resident in another economy (the direct investment enterprise). The "lasting interest" implies the existence of a long-term relationship between the direct investor and the direct investment enterprise and a significant degree of influence on the management of the investment enterprise. A direct investment relationship is established when the investing organization owns at least 10 percent of the ordinary shares in a business enterprise operating in a country other than that of the investor (Duce, 2003).

Social and economic development has to do with economic growth, which can be measured using economic indicators such as GDP. It also has a social development aspect which has to do with issues of human development and can

be measured with indicators such as life expectancy, literacy and levels of employment. FDI has an impact on social and economic development by changing the economic growth, thereby changing wages and finally income equality, and alleviating poverty (Im and McLaren, 2015). Life expectancy and quality of life are also important aspects of social and economic development. Healthy labour leads to economic and social development (Bloom, Canning and Sevilla, 2004). Development is considered successful when it is continuous, fair, and aims to improve standards of life. FDI can contribute to a better quality of life for the residence of a country, which can result in increasing purchasing power and spillover effects, and also contribute to higher education and access to high quality of health services, thereby increasing life expectancy (Lehmart, Benmamoun and Zhao, 2013).

There are those who argue that there is a positive relationship between FDI and social and economic development. Nistor (2014) argues that FDI has an important role in economies where capital reserves are scarce, the level of technology is low and economies where capital is important to initiate economic growth. Asghar, Nasreen and Rehman (2012) support the assumption that FDI provide the economy with the required capital and also promote job creation, transfer of technical and managerial skills and increase opportunities for exports. Although FDI may have a positive impact on economic growth, it is dependent on the level of social and economic development, economic transformation. Alsan, Bloom and Canning (2006) argue that countries which have a healthy workforce attract more FDI inflows, meaning that FDI inflows do not necessarily improve economic growth. Uwazie, Igwemma and Eze (2015) advocate for the adoption of aggressive policy reforms to boost investors' confidence and promote the development of qualitative human capital to attract FDI that will spillover to the economy. Awolusi, Adeyeye and Pelser (2017) found that the impact of FDI on economic growth in African countries was negligible and that government policies on FDI play significant roles in facilitating improved economic growth. Mencinger (2003) reported that FDI does not have positive spillover effect on economic growth, but rather tend to force out domestic firms and thus reduce competition.

The impact of FDI on income inequality is determined by local conditions in the host countries, particularly in terms of absorptive capacity, human capital, technology diffusion and the quality of its institutions (Schneider and Soskice, 2009). There are those who argue that there is a negative relationship between FDI and social and economic development. Shu-Chin, Dong-Hyeon and Yi-Chen (2013) demonstrated that FDI improves income distribution for countries with low level human capital. They proved that FDI benefits the rich and harms the poor, therefore exacerbating income inequality. The inflow of FDI favours skilled labour, therefore increasing the demand for wages of skilled labour, ultimately increasing income inequality. The inequality is aggravated by the fact that foreign-owned firms pay their workers more than local firms (Te Velde, 2003).

Reiter and Kevin (2010) found that there exists a positive relationship between FDI and human development in countries which have a low level of corruption. Lehnert, Benmamoun and Zhao (2013) found that FDI had a positive impact on the life expectancy, education and standard of living for the host country nationals but had a negative effect on the intellectual knowledge of the host country. Magombeyi and Odhiambo (2017) found that there is overwhelming evidence that supports the theory that FDI has a positive impact on poverty. They also conceded that it was inappropriate to make general statements on the relationship between FDI and poverty because of the supposed negative or insignificant impact found in other studies. Ucal (2014) concluded that there is a significant positive relationship between FDI and poverty reduction in developing countries when FDI is labour intensive rather than capital intensive.

There are those who did not find any relationship between FDI and social and economic development. Spinova and Ougate (2014) concluded that there is a positive relationship between FDI and GDP, meaning that FDI has an impact on GDP. However, the study found that the relationship between FDI and social development is not significant, which means that FDI has no observable impact

on social development. Most research studies found evidence that FDI can have a positive impact on economic growth, however the impact of FDI on social development remains a subject of many debates. This study is an attempt to augment the knowledge of the impact of FDI on social and economic development in Africa.

1.2 Problem statement

Economic growth in Africa has been low and has lagged behind that of other developing regions. More than 50 percent of the world's poor in 2013 were in Africa (World Bank, 2016). This number increased by 15 percent from 1990. The number of people living in poverty in Africa increased by 42 percent from 276 million in 1990 to 391 million in 2002, with the exception of North Africa. After 2002, poverty remained constant at around 390 million, this is as a result of slow growth in the continent. Africa had robust growth since 2000 to 2012 however, its impact on poverty and inequality has not yielded an improvement in the quality of life for its citizens. This is as a result of a highly unequal income distribution where economic growth has a narrow base with weak connections to the rest of the economy. The bulk of the poor make a living from agricultural activities, which have grown at an even slower rate. Comparative social and economic indicators on African countries reveal that in 2016, labour force participation was at 65.7 percent, access to secondary school education was at 52.6 percent, access to safe water was at 71.6 percent and access to sanitation was at 39.4 percent of the population (World Bank, 2016).

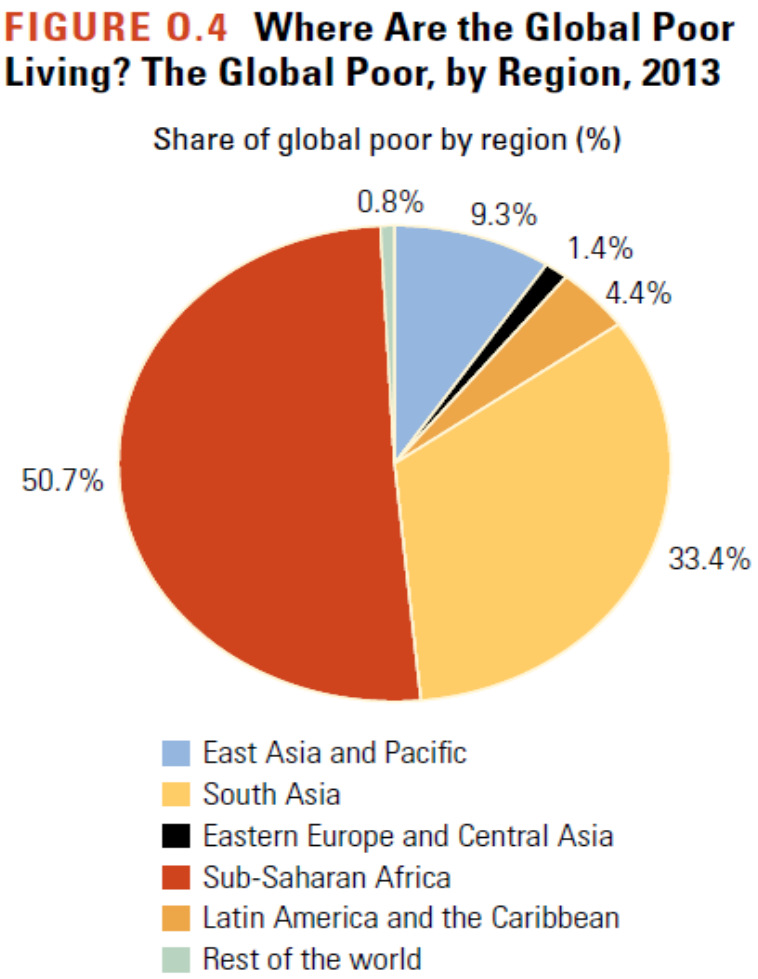

Figure 1: Global poverty by region

Source: World Bank Group Poverty and Shared Prosperity 2016

Figure 1. presents the share of the global population living in poverty in 2013 by region. Figure 2. presents the population data by region. Sub-Saharan Africa is home to 50.7% of the world's poor and is reported to have a population of 948.3 million in 2013. In comparison, South Asia has 33.4% of the world's poor population while having a population of 1,698.1 million; while East Asia and Pacific have 9.3% of the world's poor population and a reported population of 2,006.2 million in 2013. East Europe and Central Asia, Latin America and the Caribbean, and the rest of the world reported share of the world's poor in 2013 was 1.4%, 4.4% and 0.8% respectively, and their reported populations in 2013 were 479.1 million, 622.0 million and 7,176.0 million respectively. These statistics show that the African is largely poor and therefore in greater need of investments

such as FDI, which can contribute towards improving the quality of life of its citizens.

TABLE 3.1 Shared Prosperity, Circa 2008–13

Region	Countries (number)	Population (millions)	Population (%)	Countries, growth in mean < 0 (number)	Countries, SP > 0 (number)	Country average SP (%)	Countries, SP premium > 0 (number)	Population-weighted average, SP premium (pp)[a]	Countries, Palma premium, > 0 (pp) (number)[b]
East Asia and Pacific	8	2006.2	94	0	8	5.0	7	0.7	7
Eastern Europe and Central Asia	24	479.1	89	10	15	1.5	12	0.3	14
Latin American and the Caribbean	16	622.0	86	3	15	4.1	12	1.4	12
Middle East and North Africa	2	350.1	32	1	2	1.8	1	2.7	1
South Asia	4	1,698.1	87	0	4	3.7	3	–0.4	2
Sub-Saharan Africa	9	948.3	23	1	8	2.7	4	0.6	5
Industrialized countries	20	1,072.4	68	10	8	–1.0	10	0.2	11
World	83	7,176.1	75	25	60	2.0	49	0.4	52

Source: GDSP (Global Database of Shared Prosperity), World Bank, Washington, DC, http://www.worldbank.org/en/topic/poverty/brief/global-database-of-shared-prosperity.
Note: SP = shared prosperity (growth in average income or consumption of bottom 40). pp = percentage point. Population coverage refers to 2013.
a. Population-weighted shared prosperity premiums are relative to the covered population in each region or in the world.
b. The Palma premium (p) is here defined as the difference between the growth in the mean of the bottom 40 and the growth in the mean of the top decile ($p \equiv g_{40} - g_{t10}$).

Figure 2: Population and shared prosperity data by region

Source: World Bank Group Poverty and Shared Prosperity 2016

FDI is an important element in a country's overall strategy for economic and social development and is widely acknowledged as being beneficial to improving the economies of developing countries. These invests are meant to bring benefits to the recipient country, which include: the creation of new jobs, the transfer of scarce skills, technological transfers, increased productivity and increase in the income of the developing country. Despite economic and institutional reform in Africa, the flow of FDI is still low and uneven. Net FDI to Africa remained stable at about 2 percent of its GDP in 2015 and 2016 (United Nations, 2017). FDI flows to Africa fell by 21 percent from 2016 to 2017, decreasing to $47 million dollars. This is as a result of weak oil prices and the ongoing contraction in the economies of major African countries. FDI flows to North Africa fell by 4 percent to $13 billion, while in sub-Saharan Africa, FDI declined by 28 percent to 28.5 billion. FDI fell by 19 percent to $1.2 trillion in 2018 however, FDI in Africa increased by 3 percent, predominantly helped by growth in South Africa and Egypt. Several African countries have initiated economic reforms and have also improved their regulatory frameworks for FDI (UNCTAD, 2018).

FDI could be among the key solutions in addressing these challenges. The actual nature of the relationship between FDI and social and economic development is inclusive in the previous empirical literature. As sub-problems, it is not clear how FDI impacts economic growth, how FDI impacts poverty and how FDI impacts inequality, especially in the context of Africa. Looking at these problems, empirical evidence has not reached consensus. These have remained major empirical research gaps. Given the controversy and the ongoing debate concerning the impact of FDI on social and economic development, this study investigates the impact of FDI on social and economic development in Africa and aims to provide clarity on these sub-problems.

1.3 Research questions

In view of the above, this study is interested in the following research questions:

- Do FDI inflows have a significant effect on GDP per capita in Africa?
- Do FDI inflows have a significant effect on income inequality in Africa?
- Do FDI inflows have a significant effect on poverty alleviation in Africa?

Based on the above research questions, the next sections present the purpose and research objectives of the study.

1.4 Research purpose

The purpose of this study is to investigate the impact of FDI on social and economic development in Africa. FDI flows into the African continent have increased over the years, however, they are far below the rest of the world FDI flows. The statistics in section 1.2 show that African countries are struggling in terms of social and economic development. FDI is an important element of financing for development and it may play a major role in Africa. By understanding the impact of FDI on social and economic development in Africa, we can recommend suitable strategies of FDI coupled with government policies that will

at the least bring the African continent closer to achieving its sustainable development goals.

1.5 Research objectives

The research objectives of this study are as follows:

- To investigate the impact of FDI inflows on GDP per capita in Africa.
- To investigate the impact of FDI inflows on income inequality in Africa.
- To determine the impact of FDI inflows on poverty alleviation in Africa.

1.6 Delimitations

This study will be undertaken from a macroeconomic perspective, meaning that we will employ variables that are measured at national level rather than provincial or household level. Social and economic development has the economic aspect and the social development aspect. Data for economic growth is widely available for most countries. This study will use GDP per capita as it is a better measure for economic growth than GDP in economies with low standards of living for large populations. Social development has to do with human development. Data for variables such expenditure on health and education may not be available for all countries.

1.7 Justification

FDI has been recognized as an important resource for economic development with many arguing that it can bridge the gap between desired investments and host country savings (Nistor, 2014). Studies have been conducted on the impact

of FDI on social and economic development in developing European countries (example: Spinova and Ougate, 2017) and while there are extensive studies on FDI and economic growth in China (for example: Tang, Selvanathan and Selvanathan, 2008) and in India (for example: Chakraborty and Basu, 2002), there still remains a gap on the impact of FDI on economic and social development in the African context. Literature shows that different countries and regions derive different benefits from FDI. A few other studies were conducted on FDI and poverty reduction in Africa (example: Gohou and Soumaré, 2011), including Nigeria (example: Okpe and Abu, 2017). This study will investigate the impact of FDI on additional components of social and economic development by looking at GDP per capita, income distribution (or income inequality) and poverty.

In their study, Spinova and Ougate (2017) explored the effect of FDI on GDP per capita and the relationship between FDI and social development in transitional and developing European countries for years 1995 to 2016 by using panel data. The study found that there is a positive relationship between FDI and GDP, meaning that FDI has an impact on GDP. However, the study found that the relationship between FDI and social development is not significant, which means that FDI has no observable impact on social development. In their research, they found that FDI reduced income inequality in rich and fast-growing countries, and that there was no evidence of a relationship between FDI and social development in less developed countries. This shows that there is a gap that can be explored in order to determine the impact of FDI on social and economic development in less developed economies such as those in the African continent. This study will investigate the impact of FDI on economic growth and social development in African countries.

1.8 Conclusion

The purpose of this study is to investigate the impact of FDI on Social and economic Development in Africa. As presented in the brief literature review above, there are mixed results in current literature in terms of whether FDI has a positive impact on the social and economic development of developed and developing countries. This study will investigate the impact of FDI on Africa's social and economic Development. Also, most of the research conducted on FDI has been on developed economies and on developing economies such as those in Europe and Asia. This study aims to fill a gap by providing data on the impact of FDI on social and economic development in the African context, which can be used to inform further research studies in understanding the most effective use of FDI for Africa's social and economic development.

The rest of the study is structured as follows: chapter two details a review of the previous literature, both theoretical and empirical; chapter three breaks down the research strategy, design, data and method; chapter four analyses the results; and chapter five concludes the study and provides recommendations.

CHAPTER 2
LITERATURE REVIEW

2.1. Introduction

This chapter discusses previous literature related to the impact of FDI on economic growth and social development. FDI has been identified as an important contributor to a country's social and economic development in the current global economic environment. FDI is defined as an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity of one economy in an enterprise resident in an economy other than that of the foreign direct investor (Duce, 2003). In an attempt to respond to the research questions above, the literature review will be performed from the perspective of those who found that FDI has a positive impact on social and economic development, from the perspective of those who found that FDI has a negative impact on social economic development and from the perspective of those who derived inconclusive results on the impact of FDI on social and economic development. This chapter will discuss the main theoretical aspects of previous literature on the impact of FDI on social and economic development (Section 2.2.). This will be followed by a discussion on the empirical literature (Section 2.3).

2.2. Theoretical Literature

Classical theory is of the view that FDI plays an important role in the economic growth of host countries. The argument is that FDI inflows improve economic growth by increasing the capital stock (Lensink and Morrisey, 2001). According to the neoclassical growth theory, growth is stimulated by factor accumulation and total factor productivity which are often dependent on the host country's ability to negotiate capital requirements from international investors in an effort to attract FDI (Fedderke and Romm, 2006). Modern theory views FDI as an

important channel for the transfer of international technology to local firms. Modern growth theories illustrate that the growth rate of a country's economy is dependent on the growth of technology the nation has when compared to the other nations. Blomstrom and Sjoholm (1998) support the theory that FDI spillover effects through technology transfers and capital formation contribute towards improving the productivity and growth of local enterprises, thereby improving economic growth of host countries. The Cobb-Douglas production function is based on the relationship between capital and labour. The literature on FDI states that FDI can contribute towards increasing production output through the supply of foreign direct investment inflows and by creating skilled labour and promoting technology transfer, thereby improving the production capacity of local firms and increase economic growth of the host country (Asghar, Nasreen and Rehman, 2012).

Neoclassical theory on FDI and income inequality states that FDI stimulates higher economic growth and therefore, decreases income inequality due to the transfer of knowledge through the acquisition of new skills and training of the labour force (De Mello, 1999). On the other hand, dependency theories argue that FDI has a negative impact on economic growth and therefore leads to higher income inequality (Firebaugh and Beck, 1994).

Dependency theory was developed by Raúl Prebisch and Hans Singer to analyse and explain both development and underdevelopment within the international system. Scholars can use it to look at external matters, such as politics, economics, and culture, and attempt to come to an understanding of how these issues influence development policies. The main characteristics of dependency theory are that the international system is seen as the sum of dominant and dependents states; that external forces are critical for economic activity of dependent states; and that relationships between dominant and dependent states are a vibrant process, with exchanges taking place between the states playing a considerable role in the reinforcement of patterns of inequality. Dependency theory probe some of the previously held conceptions on economic development and asks questions that such as "why do some countries become

rich while others remain poor?". The following can be expected for dependent economies; underdevelopment, inequality and conflict; and reinforcement of authoritarian government (Joseph, 2017). Dependency theory is of the view that FDI does not result in positive spillovers in the economies of developing countries but rather favours the wealthy at the cost of the poor (Mencinger, 2003).

2.3. Empirical Literature

This section discusses empirical theory as it relates to the effect of FDI on economic growth (Section 2.31), the effect of FDI on income inequality (Section 2.3.2) and the effect of FDI on poverty (Section 2.3.3).

2.3.1 Foreign Direct Investment and Economic Growth

FDI is seen as a major factor and a more stable source of capital in financing current account deficits and alleviating balance of payment crises. It is an important component of international capital flows which is useful for closing the savings gap in developing countries. There is a widespread belief among policymakers that foreign direct investment (FDI) enhances the productivity of host countries and promotes development. Te Velde (2003) found that there is a positive and significant correlation between FDI and GDP per capita. Some scholars argue that FDI could stimulate technological change by introducing new technology and thus boosting host country economies. Campos and Kinoshita (2002) discuss how foreign direct investors condition the investment environment for their benefit. The consensus is that the motives of the investors drive how FDI inflows will be distributed within the host country. Foreign-owned firms tend to locate themselves close to each other in order to take advantage of each other's knowledge, skills and technological spillovers. Campos and Kinoshita (2002) concluded that the effect of FDI on economic growth in transition economies is positive and statistically significant.

Samuel, et al (2013) investigated the impact of FDI on economic growth in Ghana for the period 1980 to 2010. The various levels of government in Ghana developed legislation that conditioned the business and investment environment

of to attract FDI as they concurred with international policy that FDI provides much needed capital to stimulate economic growth and foster international technology transfer. Samuel et al (2013) found that FDI plays a significant role in the Ghanaian economy. The analysis shows that there is a positive relationship between FDI and economic growth in Ghana and that it is significant. The study further concluded that economic development of a country can be achieved by encouraging more FDI, which can help to create more employment in the host country. They do however concede that as multinational corporations (MNCs) bring in technology to enhance production, it comes at the cost local producers. Therefore, as FDI increases and GDP increases, it has a negative impact on local manufactures who ultimately lose their market to MNCs. The study recommends that government impose relevant policies such as joint ventures between MNCs and local producers thereby helping local producers to maintain their market share as they battle the transfer of advanced technologies.

More so, Adams (2009) found that FDI contributes to economic growth in Africa by augmenting of domestic capital and enhancing efficiency through the transfer of new technology, marketing and managerial skills, innovation and best practices. The study also concedes that FDI has both benefits and costs and its impact is determined by the host countries' specific conditions which include the policy environment, the ability to diversify, absorptive capacity and opportunities for linkages between FDI and domestic investments, suggesting that FDI is necessary but not a sufficient condition for economic growth. FDI create monopolies, which ultimately result in the under-utilization of domestic resources (Adams, 2009).

Motimore (2002) examine the evolution of the empirical findings on the original literature that supported benefits of FDI and the activities transnational corporations (TNC). The review of the empirical literature proves that the original literature on productivity spillovers can now be seen with hindsight to have been an extremely biased vision of potential impact of FDI impacts, which suggested that the mere presence of increasing levels of FDI and TNC activities improved the productivity of the host economy. Motimore (2002) argues that the spillover effects which result from FDI inflows, do not explain how spillovers occur.

Mencinger (2003) poses the question whether FDI in developing transitional economies enhance the economic growth of selected Eastern European countries during the post-transition period. The finding is that there is a negative relationship between FDI and economic growth in seven out of the eight countries observed. Mencinger (2003) is of the view that FDI does not result in positive spillover in the economies of developing countries. Chakraborty and Basu (2002) analysed the link between FDI and economic growth in India using a structural model and found little evidence of a positive relationship between FDI and economic growth. A vector error correction model was used to estimate the dynamics of FDI and growth which revealed that GDP in India is not granger caused by FDI, rather that the causality runs more from GDP to FDI. The results also revealed that trade liberalisation policy of the Indian government had a positive impact of FDI inflow and that FDI tends to lower the unit cost of labour. Braunstein and Epstein (2002) argue that FDI crowds out domestic investment and has an adverse effect on economic growth. They found that FDI increased wages in China but the impact on wages and employment was small, and FDI had a negative impact on domestic investment and tax revenue.

2.3.2 Foreign Direct Investment and Income Inequality

Mihaylova (2015) found that the impact of FDI on income inequality is dependent on the absorptive capacity of the host country's economy. The study further explains that FDI tends to increase income inequality at lower levels of human capital and economic development but is reduced as education spreads more widely and GDP per capita increases. FDI has the potential to exert influence on income inequality but this effect varies depending on the level of education and economic development of the host countries (Mihaylova, 2015). Foreign multinationals tend to be larger, pay higher wages, are more capital and skill intensive and introduce more up-to-date technology (Dunning, 1993). FDI have yielded few spillovers and have failed to transform the economic structure of the host countries' economies. As the levels of economic prosperity improved, real wages increased, which resulted in MNCs not having an appetite for labour intensive projects in these countries. MNCs tend to draw managerial, professional and technical workforce from their global employment pool Dunning

(2008). These factors imply that FDI may not address issues of inequality, MNCs are more concerned with production and not necessarily improving skills and wages in large pools. FDI increases inequality between management and labor, and between foreign and domestic firms, whereby foreign organisations pay higher wages compared to domestic organisations (Mahutga and Bandelj, 2008). FDI often also lead to higher income inequality in the host country (Milanovic, 2003).

One of the theoretical benefits of FDI is that it increases the host country's exports, however this is often due to the employment of cheap labour and raw materials (Kohpaiboon, 2002). At lower levels of human capital and economic development, FDI tends to increase income inequality but, after higher levels of human capital and economic development are reached, FDI can even contribute to a reduction of income inequality (Mihaylova, 2015). Even though FDI may be good for development, more can be done to improve its impact on income distribution either through appropriate government policies in the area of education, training and infrastructure or through incentives or partnerships with multinationals (Te Velde, 2003).

Te Velde (2003) examined the impact of FDI on wage inequality in Latin America and found that wage inequality did not decrease even though the supply of educated employees increased. He found that FDI did not reduce inequality in most Latin American countries. There were exceptions whereby FDI made minimal impact in reducing wage inequality in countries such as Colombia. Ultimately, FDI raises wages of skilled and educated workers thereby increasing wage inequality. Motimore (2002) states that in absence of a policy that addresses FDI inflows which align with the host country's development strategy, the benefits of FDI tend to accrue to the foreign investor. Mkandawire (2004) analysed the impact of FDI on economic development in Uganada in the 1990s and found the as FDI inflows increased, economic growth increased while poverty decreased but income inequality increased. He argues that governments need to implement policies that will influence the inflow of FDI to sectors that can increase the capacity of local entities to have a competitive edge, ultimately improving local infrastructure and increasing human and financial capital.

2.3.3 Foreign Direct Investment and Poverty

Majority of researchers argue that FDI is a key element required to drive technological transfer and increase economic growth and to finance development needs especially in poor countries. On the other hand, opponents argue that FDI does not have a positive impact on social and environmental develop. Te Velde (2003) advocates for a policy stance on FDI policy structures that fit in with the development strategies of the host country, which is more likely to produce greater developmental impact and has greater potential to reduce income inequality and poverty. In their study on the impact of FDI on poverty, Gohou and Soumaré (2011) confirmed that FDI has a positive effect on poverty and the results were significant. However, the study found that there were significant differences across the various African regions in terms of the impact FDI inflows made on poverty alleviation. The study found that FDI is more effective at reducing poverty in low-income African countries than in middle-income ones. Magombeyi and Odhlambo (2017) found that there is overwhelming evidence that supports the theory that FDI has a positive impact on poverty. Borenzstein, Gregorio and Lee (1998) have shown that the inflow of foreign private investments stimulates employment, income, consumption and economic growth, and therefore reduces poverty. Hung (2005) found that FDI contributes directly to economic growth and poverty alleviation by creating employment opportunities and concluded that FDI directed to labour-intensive industries can reduce poverty rapidly. Ucal (2014) concluded that there is a significant positive relationship between FDI and poverty reduction in developing countries when FDI is labour intensive rather than capital intensive. Okpe and Abu (2009) found that FDI can contribute significantly towards alleviating poverty in the host country if the foreign investors would sacrifice some level of their profits for projects that can enhance the standard of living of the host countries. Jillian and Weiss (2002) concluded that FDI weakens the incomes of the poor.

2.4. Conclusion

From the literature review it shows that there are mixed observations on the impact of FDI on economic growth and social development. The common theme that arises from the literature review is that FDI on its own is not enough to determine its impact on social and economic growth. The factors that are specific to each country's economy have a significant impact, therefore highlighting to importance of the role of policy makers in the host country. While there is a substantial number of studies on the effect of FDI on economic growth in Africa, there are limited studies on the effect of FDI on income inequality in Africa and even more limited studies on the effect of FDI on poverty. This paper will discuss all of these variables under one study. The next chapter discusses the research strategy, design, procedure and methods.

CHAPTER 3
RESEARCH STRATEGY, DESIGN, PROCEDURE AND METHODS

3.1 Research strategy

This section of the study provides a plan on how the questions to the three main research objectives raised in this study, will be answered. Generally, there are three research strategies, i.e. qualitative, quantitative and mixed research strategies. This is study analyses panel data for 52 African countries and is therefore undertaking the quantitative research strategy as it can collect numerical information from large groups which can be used objectively to arrive to conclusions. This approach was also applied in Saini and Singhania (2017) who investigated FDI determinants based on quantitative panel data analysis using static and dynamic modelling for 20 countries over the period 2004 to 2013. One of the advantages of using quantitative research strategy is that data analysis is less time consuming as it can through statistical software. Even large samples collected over a long period of time are not time consuming when analysed using statistical software. The second advantage is based on the positivism paradigm, which means data can be tested for reliability and validity. Reliability detects for consistency in the measures of data, while validity tests for stability of measure by reproducing research results. The third advantage of using quantitative research strategy is that the variables that are being analysed have qualities that are beyond the research, making the research analysis objective (Rahman, 2016).

3.2 Research design

The research design ensures that the data collected can be analysed in a manner that results in the research objectives being effectively addressed. There are five generic research designs as shown by Bryman (2012), which are cross-sectional, longitudinal, case study, comparative, and experimental. The study uses the longitudinal/panel research design. A longitudinal/panel research design

analyses data for a defined group of individuals or entities over a period of time. The advantage of using this research design is that it enables the researcher to track changes over time which can explain patterns of the variables and help understand the magnitude of the causal relationships. The data that is used in this study is secondary data that has been collected over time by world renowned organisations which have the expertise necessary to collect and validate a wide range of national data. Secondary data analysis involves using the information that has been collected to respond to the research objectives and questions. The advantage of using secondary data for research analysis is that it includes comprehensive data which has been collected over a long period of time. Asghar et al. (2011) employed this strategy in their study on the Relationship between FDI and Economic Growth in Selected Asian Countries: A Panel Data Analysis.

3.3 Research data

This study will analyse quantitative data for African countries for the period 1990 to 2017 in order to understand the impact of FDI on social and economic development. Data is collected for 52 African countries which exclude South Sudan and Seychelles due to limited availability of data. The data used is taken from the African Development Bank Group's Information Highway Portal and was verified and published in June 2019. Data available for the GDP model included 52 countries for the period 1990 to 2017, data available for the Gini index model included 52 countries for the period 1990 to 2017 and data available for the poverty model included 52 countries for the period 1997 to 2007. Table 1 shows details information about the variables.

For the analysis of economic development, GDP per capita was used as the dependent. It is more relevant for countries with varied economic conditions for households and individuals and it is an effective measure of output when comparing economic growth between countries. Therefore, in attempt to fully comprehend the effect of FDI on GDP, it is more relevant to use GDP per capita rather than GDP. The control variables are capital, labour, government consumption expenditure, inflation, technology transfer and foreign direct investment inflows, which is the variable of interest.

Table 1: Data information

Variable	Description	Period	Source
LDGDP	GDP per capita (current US$) GDP per capita is a measure of average output per person in a country, calculated by dividing a country's GDP with its population.	1990 – 2017	African Development Bank Group Source Id: NY.GDP.PCAP.KD
LFDI	Foreign Direct Investment Inflows from All Donors (Cur, US $)	1990 – 2017	African Development Bank Group
LCAPITAL	Gross fixed capital formation (% GDP) (WEO)	1990 – 2017	African Development Bank Group Source Id: NE.GDI.FTOT.WEO.ZS
LLABOUR	Total Labour Force Participation Rate (%) The labour force as a percentage of the working age population.	1990 – 2017	African Development Bank Group Source Id: POP.EAC.ZS
LGOV	General government final consumption expenditure (% of GDP) Comprises all current expenditure for purchases of goods and services by all levels of government, and capital expenditure on national defense and security.	1990 – 2017	African Development Bank Group Source Id: NE.CON.GOVT.ZS
LCPI	Inflation, consumer prices (annual %) Inflation as measured by the consumer price index.	1990 – 2017	African Development Bank Group Source Id: FP.CPI.TOTL.ZG
LTECH	Internet users per 100 inhabitants. Represent technology transfer.	1990 – 2017	African Development Bank Group Source Id: IT.NET.USER.P3
LSKILLS	School enrollment, secondary (% gross) The ratio of total secondary school enrolment to the population.	1990 – 2017	African Development Bank Group Source Id: SE.SEC.ENRR
LGINI	GINI index Measures income inequality	1990 – 2017	African Development Bank Group Source Id: SI.POV.GINI
LPOVERTY	Human Poverty Index Refers to deprivation in three essential elements of human life already reflected in the human development index – longevity, knowledge and decent standard of living.	1997 – 2007	African Development Bank Group Source Id: SP.DYN.HPIV
LPOP	Annual population growth rate	1997 – 2007	African Development Bank Group Source Id: SP.POP.GROW
LEMP	Employment population ratio, 15+ (%)	1997 – 2007	African Development Bank Group Source Id: SL.EMP.TOTL.SP.SZ

The data for FDI is in current US dollars, because that gives a better view on the inflow of FDI. Capital represents gross fixed capital formation as a percentage of GDP and labour represents the total labour force participation rate. General government final consumption expenditure as a percentage of GDP is represented by the variable GOV. CPI represents inflation for which the Consumer Price Index is used. TECH represents technology transfer and is measured by the number of internet users per 100 inhabitants.

3.4 Research procedure and method e research instrument

The study uses multiple regression models to analyse the impact of FDI on the three dependent variables for social and economic development. This technique is suitable for analysing the relationship between one dependent variable and multiple independent variables. Panel data will be constructed for the measurement of GDP per capita, income distribution and poverty. To estimate the impact of FDI on economic growth, the model will control for some of the standard growth factors such as capital, labour, government expenditure, technology transfer, and inflation/price stability. When running the inequality and poverty regression models, the model will control for other factors such as level of literacy and education, employment and population growth, in addition to the standard growth factors.

3.4.1 Models

The purpose of our study is to analyse the impact of FDI on social and economic development in African countries. This study will use a multifactor model based on Spinova and Ougate (2017) for all four variables of social and economic development.

3.4.1.1 Objective 1 -The impact of FDI on GDP

The relationship between FDI and GDP per capital is will be analysed based on the Cobb-Douglas production function:

$$Y = f(K, L) \quad (1)$$

where:

Y is the output level (GDP);

K represents gross capital formation as a percentage of GDP; and

L represents a country's labour force.

This study augments the production function and consider the following theoretical model:

$$Y = f(FDI, K, L, GOV, CPI, TECH) \quad (2)$$

The first objective, therefore, will be analysed using the following empirical model:

$$gdp_{i,t} = \beta_0 + \beta_1 fdi_{i,t} + \beta_2 cap_{i,t} + \beta_3 lab_{i,t} + \beta_4 gov_{i,t} + \beta_5 cpi_{i,t} + \beta_6 tech_{i,t} + \alpha_{i,t} + \tau_{i,t} + \mu_{i,t} \quad (3)$$

where:

- gdp represents Gross Domestic Product per capita, which in this case is the dependent variable;
- fdi represents the determinant variable, Foreign Direct Investment, which is the variable of interest;
- gov represents gross fixed capital formation as a percentage of GDP;
- lab represents the total labour force participation rate
- cpi represents Inflation as measured by the consumer price index;
- $tech$ represents technology transfer;
- $\alpha_{i,t}, \tau_{i,t}, \mu_{i,t}$ represent the fixed effect, time effects, and error term respectively. The fixed effects help to control for unobserved heterogeneity when using panel data.

3.4.1.2 Objective 2 -The impact of FDI on Income distribution (or Income inequality)

The second objective will be analysed using the following model for Income inequality model:

$$Gini\ Index_{i,t} = \beta_0 + \beta_1 fdi_{i,t} + \beta_2 gdp_{i,t} + \beta_3 gov_{i,t} + \beta_4 skills_{i,t} + \alpha_{i,t} + \tau_{i,t} + \mu_{i,t} \quad (4)$$

where:

- $Gini\ Index$ represents Income inequality, which in this case is the dependent variable;
- fdi represents the determinant variable, Foreign Direct Investment, which is the variable of interest;
- gdp represents Gross Domestic Product per capita;
- gov represents gross fixed capital formation as a percentage of GDP;
- $skill$ represents the ratio of total secondary school enrolment to the population
- the other variables are as defined in Equation (3).

3.4.1.3 Objective 3 - The impact of FDI on Poverty

The third objective will be analysed using the following model for Poverty:

$$Poverty_{i,t} = \beta_0 + \beta_1 fdi_{i,t} + \beta_2 gdp_{i,t} + \beta_3 pop_{i,t} + \beta_4 inf_{i,t} + \beta_5 emp_{i,t} + \alpha_{i,t} + \tau_{i,t} + \mu_{i,t} \quad (5)$$

where:

- $Poverty$ is the dependent variable;
- fdi represents Foreign Direct Investment, which is the variable of interest;
- gdp represents gross domestic product per capita growth rate;
- inf represents inflation as measured by the consumer price index;
- pop represents population growth rate;
- emp represents employment population ratio;
- $\alpha_{i,t} + \tau_{i,t} + \mu_{i,t}$ are as defined in Equation (3).

3.4.2 Estimation Technique

The purpose of this study is to analyse the impact of FDI on social and economic development in Africa. The study uses three models to address each of the three objectives, with FDI being the variable of interest. The dependent variables are GDP per capita, Income inequality and Poverty. The study employs techniques that are best suited for panel data. The Generalised Method of Moments (GMM)

is an optimal linear method of estimating dynamic panel data. In instances of nonstationarity, GMM applies a standard approach of first difference to remove permanent unobserved heterogeneity. It also uses lagged levels of the series as instruments for the predetermined and exogenous variables in first difference (Blundell, Bond and Windmeijer, 2000).

The properties of GMM estimators are that the estimator will converge to the true value of parameter when there is sufficient number of observations. This can be a challenge when working with cross-sectional data over a long period of time as the likelihood of missing observations increases when introducing multiple variables. However, if the population size is over a long period of time, techniques such as data interpolation can be adopted, which then improves the number of variables. GMM is suitable for variables that are cointegrated, such as the four variables identified for our analysis of the impact of FDI on social and economic development in Africa.

3.4.2.1 system GMM

To estimate the above three equation, this study presents a generalised model that demonstrates how the system GMM works. The above equations may show country specific effects. First, Arellano and Bond (1991) proposed to remove the country specific effects by considering the first-differences of any of the above equations above. The general difference model will be as follows:

$$y_{i,t} - y_{i,t-1} = (1 + \emptyset)(y_{i,t-1} - y_{i,t-2}) + \beta_i^{'}(x_{i,t} - x_{i,t-1}) + (\epsilon_{i,t} - \epsilon_{i,t-1}) \quad (6)$$

In equation (6), when there is no serial correlation in the error terms, and the independent variables ae weakly exogenous, lag values of the exogenous and endogenous variables provide valid instruments (Calderon and Serven, 2004). Consequently, the proposition is that:

$$E\left[y_{i,t-p}.(\epsilon_{i,t} - \epsilon_{i,t-1})\right] = 0 \quad (7)$$

$$E\left[yX_{i,t-p}.(\epsilon_{i,t} - \epsilon_{i,t-1})\right] = 0 \quad (8)$$

$$both\ for\ p \geq 2; t = 3, \dots, T$$

The above are conditions for all valid instruments in the differenced equation for period p. While the above conditions describe the difference-GMM estimator, if the regressors are persistent over time their lagged levels become poor instruments. To overcome this challenge, a system-GMM estimator that combines the regression in differences and in levels was developed by Arellano and Bover (1995) and Blundell and Bond (1998). As also demonstrated in Calderon and Seven (2004), the extra moment conditions for the regression in levels are as follows:

$$E\left[(y_{i,t-1} - y_{i,t-2}).(\eta_i - \epsilon_{i,t-1})\right] = 0 \quad (9)$$

$$E\left[(y_{i,t-1} - y_{i,t-2}).(\eta_i - \epsilon_{i,t-1})\right] = 0 \quad (10)$$

Through the application of the moment conditions in equations (7), (8), (9), and (10), this study use the system-GMM procedure to obtain consistent estimates of the coefficients of interest.

3.4.2.1.1 Specification/Diagnostic tests

(i) Sargan test of overidentifying restrictions

A well specified GMM estimator requires the above moment conditions (i.e. equations 7, 8, 9 and 10) to be valid. The Sargan test of over-identifying restrictions can be used to test the overall validity of instruments. The following is the null hypothesis of the Sargan test:

H0: overidentifying restrictions are valid

What it means is that the model is invalid if the null hypothesis is rejected. Failure to reject the null hypothesis suggest that the model is valid.

(ii) Arellano-Bond test for zero autocorrelation in first-differenced errors

It is important to test for second serial order correlation. Note that the first order serial correlation is expected, yet the focus is the second order serial correlation. The following is the null hypothesis of the Arellano-Bond serial autocorrelation test:

H0: no autocorrelation

In summary, an accepted GMM estimator must have valid instruments and show no evidence for second-order serial correlation. In other words, both the null hypotheses of the Sargan test and Arellano-Bond test for serial autocorrelation must not be rejected. This study ensures that all the models (i.e. growth model, inequality model, and poverty model), which are estimated using the system-GMM estimator are correctly specified by checking the validity of instruments and second-order serial correlation. The next chapter presents the results of this study.

CHAPTER 4
PRESENTATION OF RESULTS

4.1 Introduction

Under this chapter, the results of the impact of FDI on GDP, Gini index and poverty will be discussed separately and will be compared to previous studies. The study adopted the use of separate regression models to investigate the impact of FDI on social and economic development. Three regression models are used, and the outcomes are different. Each regression model includes a different number of countries depending on the availability of data for each country. Each regression model will be discussed separately. Section 4.2. discusses the findings in relation to research question/objective one, section 4.3. discusses the findings in relation to research question/objective two and section 4.4. discusses the findings in relation to research question/objective three.

4.2 Presentation and interpretation of results

4.2.1 The impact of FDI on DGP

4.2.1.1. Descriptive Statistics

The GDP regression model investigates the impact of FDI on GDP per capita in African countries, where LDGDP represents the logarithm of GDP per capita after first difference, which is the dependent variable. The explanatory variable, LFDI, is the logarithm of Foreign Direct Investment flows in current US Dollars, which is the variable of interest. Other control variables include LCAPITAL, LLABOUR, LGOV, LCPI and LTECH. All variables are in natural logarithms.

Table 2 presents the descriptive statistics and provides the mean, median, maximum, minimum and standard deviation values of the variables. The sample had 621 observation.

Table 2: Summary statistics for the impact of FDI on GDP per capita

Variable	LDGDP	LFDI	LCAPITAL	LLABOUR	LGOV	LCPI	LTECH
Mean	4.3548	19.1867	3.1664	4.3388	2.7292	1.8482	0.3479
Median	4.3251	19.5351	3.2109	4.3681	2.7835	1.9854	0.8711
Max	9.1231	23.3747	4.5104	4.6592	4.0501	6.0525	4.2972
Min	-1.8226	10.5347	1.4628	3.9045	-4.0251	-1.5031	-10.7766
Std. Dev.	1.4737	2.1311	0.4604	0.2051	0.5445	1.0445	2.5935
Skew	-0.0478	-0.8299	-0.3882	-0.3904	-3.3400	-0.3195	-1.1524
Kurt	3.5700	4.0367	3.5597	2.0343	40.3999	4.1344	4.2862
J-B	8.6419	99.1002	23.6998	39.8996	37347.3800	43.8628	180.2436
Prob	0.0133	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum	2704.3260	11914.9200	1966.3500	2694.3730	1694.8120	1147.7090	216.0528
Sum Sq. Dev.	1346.5980	2815.7820	131.4401	26.0783	183.8304	676.3779	4170.2080
Obs	621	621	621	621	621	621	621

Note:
Max denotes maximum; Min denotes minimum; Std. Dev. denotes standard deviation; Skew denotes skewness; Kurt denotes kurtosis; J-B denotes Jarcque Bera statistic; Prob denotes probability; Sum Sq. Dev. is the sum of the squared deviations; and Obs is the number of observations

LDGDP has a minimum value of -1.8226 and a maximum value of 9.1231. It has a mean 4.3548 and is negatively skewed as indicated by the value of -0.0478. The minimum and maximum values for LFDI are 10.5347 and 23.3474 with a mean of 19.1867 and is negatively skewed as seen by the value of -0.8299. LCAPITAL has a minimum value of 1.4628 and a maximum value of 4.5104. It has a mean 3.1664 and is negatively skewed as indicated by the value of -0.3882. LLABOUR has minimum and maximum values of 3.9045 and 4.6592 respectively. It has a mean of 4.3388 and a negative skewness of -3.3400. The minimum and maximum values for LGOV are -4.0251 and 4.0501 with a mean of 2.7292 and is negatively skewed as seen by the value of -0.8299. LCPI has minimum and maximum values of -1.5031 and 6.0525. It has a mean of 1.8482 and a negative skewness of -0.3195. LTECH has minimum and maximum values of -10.7766 and 4.2972. It has a mean of 0.3479 and a negative skewness of -1.1524.

All variables, except for LLABOUR have a kurtosis which is above the threshold of 3. Excess kurtosis and skewness violate the assumption of normal distribution for which the variables LDGDP, LFDI, LCAPITAL, LGOV, LCPI and LTECH are not normally distributed. This is corrected by the use of the GMM estimator which removes permanent unobserved heterogeneity by first-differencing the equation. It also uses lagged levels of the series as instruments for the predetermined exogenous variables. LGOV has the highest kurtosis. Figure 3 is a graphical presentation of the distribution of the variables.

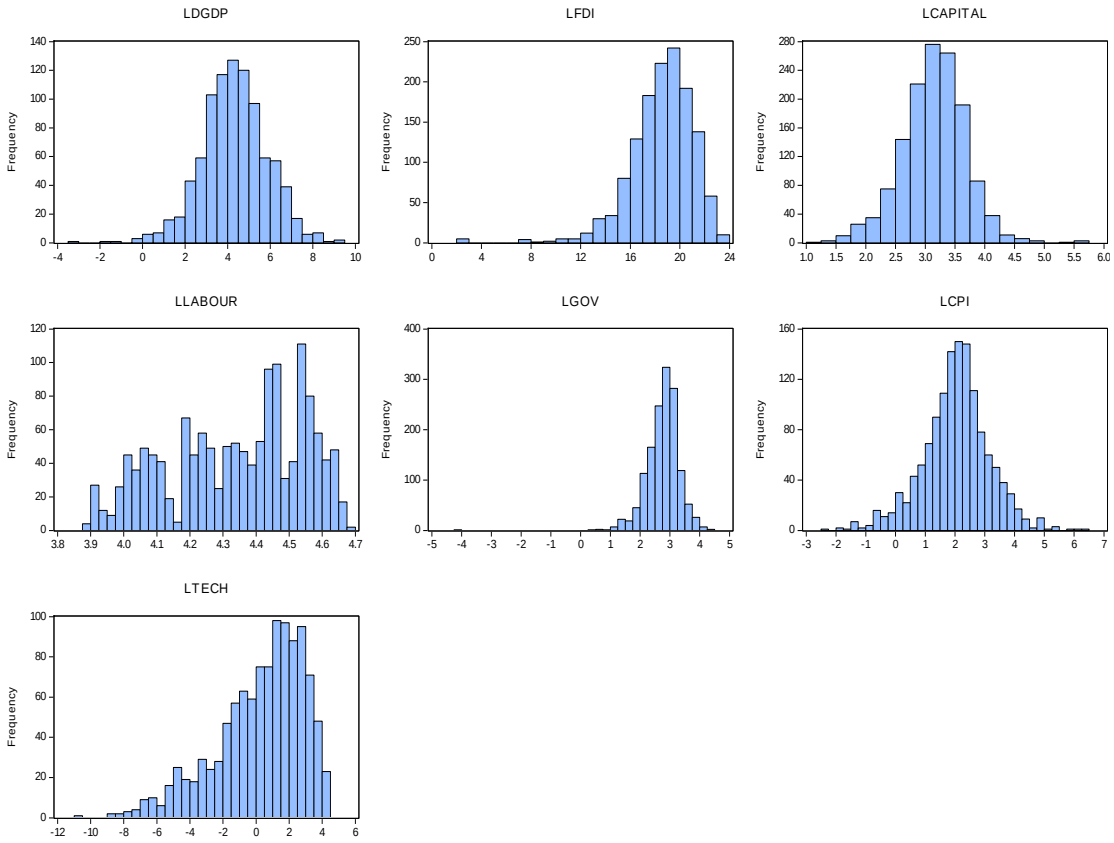

Figure 3: Distribution of variables around their means for the impact of FDI on DGP

Source: Author's computations

The histogram for LDGDP, LFDI, LCAPITAL, LGOV and LCPI presented in Figure 3 appear to be symmetric and mimics a normal distribution. However, the JB statistics in Table 4.1 shows that all the variables are not normally distributed.

As explained earlier, the GMM estimator overcomes any potential problems that may emerge from non-normality of data.

4.2.1.2. Unit root tests

Table 3 presents the results of the unit root test based on Im, Pesaran and Shin, which assumes the individual unit root process. The null hypothesis of the IPS unit root test is that the series is non-stationary, that is, the series contain a unit root. The alternative is that the series is stationary. When the test is at constant it refers to the individual fixed effects since the coefficients on the deterministic variables are heterogeneous. When the test includes trend, it adds individual-specific constant plus trend. Based on Table 3 all variables are stationary at level across both constant and constant plus trend unit root test, except for LLABOUR, which is stationary after first difference. LLABOUR is insignificant at level for the constant individual intercept. The importance of working with stationary variables is that the statistical properties of the estimation process do not change over time. Stationary variables are also important to avoid spurious results.

Table 3: Im, Pesaran and Shin unit root test for the impact of FDI on DGP

	Constant		Constant & Trend	
Variable	*Level*	*1st Diff*	*Level*	*1st Diff*
LDGDP	-8.2600***	-17.4657***	-3.8236***	-5.8768***
LFDI	-5.1635***	-38.4603***	-9.0645***	-34.4257***
LCAPITAL	-3.5333***	-30.9603***	-6.4991***	-24.8560***
LLABOUR	2.3694	-10.0284***	-1.6218*	-8.1587***
LGOV	-3.8961***	-29.5850***	-3.2263***	-26.5484***
LCPI	-10.7625***	-32.5641***	-10.7988***	-22.6801***
LTECH	-19.6987***	-21.1681***	-13.8811***	-15.5597***

Notes: All variables are in logs. IPS stands for Im, Pesaran and Shin
* denotes statistical significance at 10% level
** denotes statistical significance at 5% level
*** denotes statistical significance at 1% level

4.2.1.3. Regression results

The GDP regression model evaluates the impact of FDI on GDP. The control variables are LCAPITAL, LLABOUR, LGOV, LCPI and LTECH. Our interest is to examine the effect of FDI inflows on the GDP of African countries. Data for all variables is in natural logarithms, therefore all variables are expressed in percentages. The results from the regression as presented in Table 4. show that FDI has a positive impact on GDP in African countries and is significant under the 1% level of significance. A 1% increase in FDI inflows increases GDP per capita by 0.034%, which indicates that FDI inflows have a minimum impact on the economic growth of African countries. The result from this study is consistent with previous literature such as that by Awolusi *et al*. (2017) on foreign direct investment and economic growth in Africa which found that FDI inflows contributed minimally in explaining the level of economic growth in African countries during the study period.

Table 4: Im, Pesaran and Shin unit root test for the impact of FDI on DGP

Variables	Effect on growth/GDP
LDGDP (-1)	-0.05181**
	(-0.0217)
LFDI	0.0346***
	(-0.0069)
LCAPITAL	0.1131**
	(-0.057)
LLABOUR	1.6379**
	(-0.7744)
LGOV	-0.3210***
	(-0.0288)
LCPI	0.1521***
	(-0.0457)
LTECH	0.0991***
	(-0.0061)
Number of countries	49
Number of Observations	407
Specification tests	
Sargan	39.774
(P-value)	0.5691
2nd Order Correlation	-0.0108
(P-value)	0.9914

Note: robust standard errors are shown in brackets
* denotes statistical significance at 10% level
** denotes statistical significance at 5% level

*** denotes statistical significance at 1% level

Capital has a positive coefficient under the 5% level of significance and labour has a positive coefficient under the 5% level of significance. This is in line with the theory of production and previous studies. On the other hand, government consumption expenditure has a negative impact on economic growth, this is significant at the 1% level. A 1% in government consumption expenditure will result in a 0.32% decline in GDP. This could be reflection that local economies spend too much on consumption at the expense of productivity alternatives. CPI has a positive impact on GDP under the 1% level of significance. Technology transfer has a positive impact on GDP under the 1% level of significance. Labour has a positive impact on GDP under the 5% level of significance.

4.2.1.3.1. Specification/diagnostic tests

GMM uses multiple lags as instrument variables which make the system over-identified. This was tested using the Sargan test for overidentifying restrictions under the null hypothesis that all instruments are valid. In Table 4 the Sargan statistic is 39.7740 and its p-value is 0.5691. We do not reject the null hypothesis therefore; the instruments are valid.

GMM panel estimates also test that there is no serial correlation between the error terms. This was tested using Arellano-Bond test for second order serial correlation. The residuals in first order serial correlation test may be correlated but there should not be any serial correlation in second order serial correlation test. The null hypothesis is that there is no serial correlation. In Table 4 the statistic for second order correlation is -0.0108 and its p-value is 0.9914. We do not reject the null hypothesis therefore; the model is correctly specified.

4.2.2 The impact of FDI on income inequality

4.2.2.1. Descriptive Statistics

The Gini index regression model investigates the impact of FDI on income inequality in African countries, where LGINI represents the logarithm of the Gini coefficient, which is the dependent variable. The explanatory variable, LFDI, is the logarithm of Foreign Direct Investment flows in current US Dollars, which is the variable of interest. Other control variables include LGDP, LGOV and LSKILLS. All variables are in natural logarithms. Table 5 presents the descriptive statistics. The sample had 610 observations.

LGINI has a minimum value of 3.5091 and a maximum value of 4.3606. It has a mean 3.9223 and is positively skewed as indicated by the value of 0.2642. The minimum and maximum values for LFDI are 8.4574 and 23.3463 with a mean of 18.9784 and is negatively skewed as seen by the value of -0.8138. The minimum and maximum values for LGDP are 4.7390 and 9.7488 with a mean of 6.7858 and has a positive skewness of 0.4671. The minimum and maximum values for LGOV are -4.0251 and 4.4234 with a mean of 2.7510 and is negatively skewed as seen by the value of -3.9060. LSKILLS has a minimum value of 1.7482 and a maximum value of 4.7757. It has a mean 3.5979 and has a negative skewness of -0.4643.

Table 5: Summary statistics for the impact of FDI on Gini index

	LGINI	LFDI	LGDP	LGOV	LSKILLS
Mean	3.9223	18.9784	6.7858	2.7510	3.5979
Median	3.9124	19.2277	6.6697	2.8020	3.6995
Maximum	4.3606	23.3463	9.7488	4.4234	4.7757
Minimum	3.5091	8.4574	4.7390	-4.0251	1.7482
Std. Dev.	0.1815	2.0956	0.9528	0.5124	0.6931
Skewness	0.2642	-0.8138	0.4671	-3.9060	-0.4643
Kurtosis	2.8383	4.5700	2.6001	51.988	2.6221
Jarque-Bera	7.75912	129.99	26.2449	62546.79	25.5435
Probability	0.0207	0.0000	0.0000	0.0000	0.0000
Sum	2392.809	11576.81	4139.347	1678.098	2194.722
Sum Sq. Dev.	20.06027	2674.326	552.8806	159.8817	292.5774
Observations	610	610	610	610	610

Note: Sample: 1990 2017

Max denotes maximum; Min denotes minimum; Std. Dev. denotes standard deviation; Skew denotes skewness; Kurt denotes kurtosis; J-B denotes Jarcque Bera statistic; Prob denotes probability; Sum Sq. Dev. is the sum of the squared deviations; and Obs is the number of observations.

Table 5 also shows that LGINI, LGDP and LSKILLS all have a kurtosis below the threshold of 3, meaning that these variables are not fat tailed. LFDI and LGOV both have a kurtosis in excess of the allowable threshold and therefore violate the assumption of normality. This will be addressed by the use of the two-step system GMM estimator, which does not rely on distribution assumption. It also applies instruments when estimating the coefficients. LGOV has the highest kurtosis and has a negative minimum variable, indicating variations in government expenditure across the African continent. Table 5 also provides the mean, maximum, minimum and standard deviation values of the variables. Figure 4. is a graphical presentation of the distribution of the variables.

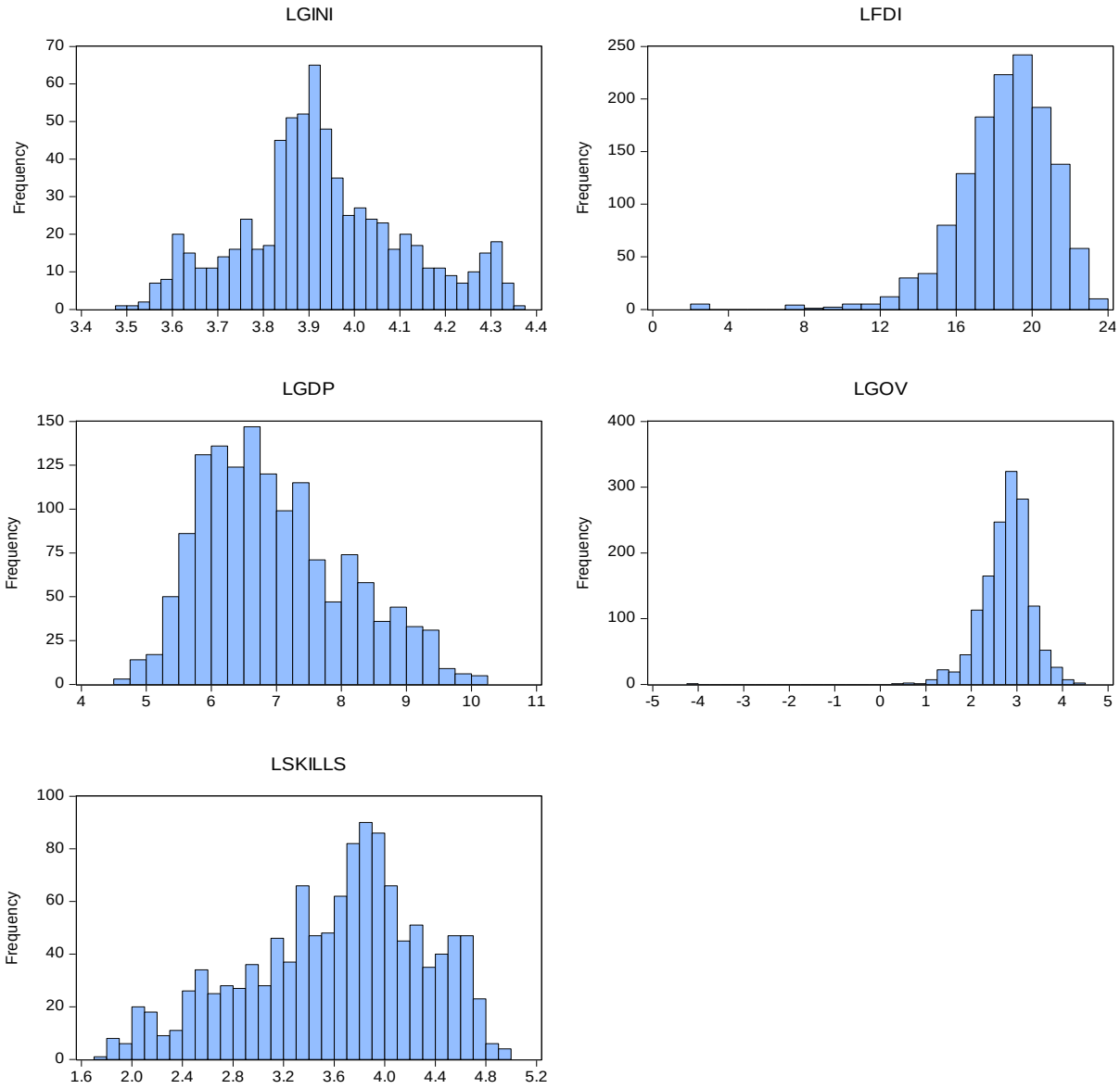

Figure 4: Distribution of variables around their means for the impact of FDI on income inequality

Source: Author's computations

The histogram for LGINI, LFDI and LGOV presented in Figure 4 appear to be symmetric and mimics a normal distribution, although the JB statistic suggests otherwise.

4.2.2.2. Unit root tests

Table 6: Im, Pesaran and Shin unit root test for the impact of FDI on income inequality

	Constant		Constant & Trend	
Variable	*Level*	*1st Diff*	*Level*	*1st Diff*
LGINI	-790.6480***	-794.6290***	47.05660	-133.4090***
LFDI	-5.1635***	-38.4603***	-9.0645***	-34.4257***
LGDP	4.7172	-23.0510***	-0.9884	-19.6143***
LGOV	-3.8961***	-29.5850***	-3.2263***	-26.5484***
LSKILLS	65.0868	60.1367	71.0882	-8.5362***

Note: LSKILLS becomes stationary in second difference
*** denotes statistical significance at 1% level

Based on Table 6, LGINI is stationary for all tests except at level for the constant plus trend test. LFDI and LGOV are stationary for both the constant and the constant plus trend test at level and first difference. LGDP becomes stationary after first difference for both the constant and constant plus trend tests. LSKILLS becomes stationary after first difference in the constant plus trend test

4.2.2.3. Regression results

The Gini coefficient regression model evaluates the impact of FDI on income inequality. The control variables are LGDP, LGOV and LSKILLS. Our interest is to examine the effect of FDI inflows on the Gini coefficient of African countries. The results from the regression as presented in Table 7. imply that FDI has a negative impact on income distribution in African countries, however it is insignificant, meaning that FDI in African countries have had little to no effect on reducing income inequality. The results from this study support the previous theory which found that FDI had little to no effect in reducing income inequality. The study by Kaur et al (2018) on the impact of FDI on income inequality in Africa confirms the argument of dependency theory that the relationship between FDI and income inequality is not direct. It is rather determined by local factors such as absorptive capacity, human capital, technology, innovation and institutional environments.

Table 7: Gini coefficient regression results

Variables	*Effects on inequality*
LGINI(-1)	0.7529***
	(-0.0096)
LFDI	-0.0001
	(-0.0001)
LDGDP	0.0011***
	(-0.0002)
LGOV	-0.0021***
	(-0.0005)
LSKILLS	-0.0032
	(-0.002)
Number of countries	43
Number of Observations	370
Specification tests	
Sargan	38.5138
(P-value)	0.4462
2nd Order Correlation	-0.0171
(P-value)	0.9864

Note: robust standard errors in brackets. *** denotes statistical significance at 1% level

GDP has a minimal positive coefficient under the 1% level of significance. A 1% increase in GDP will result in a 0.001% increase in income inequality. Government consumption expenditure has a negative impact on the Gini coefficient although this is negligent. A 1% in government consumption expenditure will result in a 0.002% decrease in income inequality. This could be a confirmation that those with lower earnings do not benefit much from funds spend by governments on consumption. Skills development from interventions such as access to education has a negative impact on income inequality, however it is not significant.

4.2.2.3.1 Specification/diagnostic tests

GMM panel estimates use two basic assumptions, that the lagged instruments are enough to explain the model and that there is no serial correlation between the error terms. The validity of the instruments was tested using the Sargan test for overidentifying restrictions under the null hypothesis that all instruments are valid. In Table 7. the statistic is 38.5138 and its p-value is 0.4462. We do not reject the null hypothesis therefore; the instruments are valid.

Serial correlation was tested using Arellano-Bond test for second order serial correlation. The residuals in first order serial correlation test may be correlated

but there should not be any serial correlation in second order serial correlation test. The null hypothesis is that there is no serial correlation. In Table 7. the statistic for second order correlation is -0.017085 and its p-value is 0.9864. We do not reject the null hypothesis therefore; the model is correctly specified.

4.2.3 The impact of FDI on poverty

4.2.3.1. Descriptive Statistics

The poverty regression model investigates the impact of FDI on poverty in African countries, where LPOVERTY represents the logarithm of the poverty index, which is the dependent variable. The explanatory variable, LFDI, is the logarithm of Foreign Direct Investment flows in current US Dollars, which is the variable of interest. Other control variables include LGDP, LCPI, LPOP and LEMP. Table 4.7. presents the descriptive statistics. The sample size for poverty is only from 19997 to 2007 due to limited availability of data, and it had 430 observations.

Table 8: Im, Pesaran and Shin unit root test for the impact of FDI on DGP

	LPOVERTY	LFDI	LGDP	LCPI	LPOP	LEMP
Mean	3.7298	18.6263	6.7215	1.8686	0.9923	4.2383
Median	3.7699	18.7234	6.5819	1.9348	1.1433	4.2733
Maximum	4.3560	23.3747	9.8393	6.4839	2.2829	4.6271
Minimum	2.4252	10.0774	4.7391	-1.4849	-0.5740	3.6208
Std. Dev.	0.3516	2.1133	0.9810	1.0475	0.4326	0.2569
Skewness	-1.1995	-0.7274	0.6368	-0.0074	-1.1075	-0.3082
Kurtosis	4.7523	4.3016	2.8152	4.7652	4.2123	1.9558
Jarque-Bera	158.1372	68.2760	29.6722	55.8336	114.2320	26.3437
Probability	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum	1603.822	8009.326	2890.248	803.4919	426.6943	1822.468
Sum Sq. Dev.	53.0416	1915.874	412.8223	470.6957	80.2939	28.2917
Observations	430	430	430	430	430	430

Note:
Max denotes maximum; Min denotes minimum; Std. Dev. denotes standard deviation; Skew denotes skewness; Kurt denotes kurtosis; J-B denotes Jarcque Bera statistic; Prob denotes probability; Sum Sq. Dev. is the sum of the squared deviations; and Obs is the number of observations.

LPOVERTY has a minimum value of 2.4252 and a maximum value of 4.356. It has a mean 3.7298 and a negative skewness of -1.1995. The minimum and maximum values for LFDI are 10.0774 and 23.3747 with a mean of 18.6263 and is negatively skewed as seen by the value of -0.7274. The minimum and

maximum values for LGDP are 4.7391 and 9.8393 with a mean of 6.7215 and has a positive skewness of 0.6368. LCPI has a minimum value of -1.4849 and a maximum value of 6.4839. It has a mean of 1.8686 and has a negative skewness of -0.0074. The minimum and maximum values for LPOP are -0.5740 and 2.2829 with a mean of 0.9923 and is negatively skewed as seen by the value of -1.1075. LEMP has a minimum value of 3.6208 and a maximum value of 4.6271. It has a mean of 4.2383 and has a negative skewness of -0.3082.

The variables for LGDP and LEMP have kurtosis within the threshold, while LPOVERTY, LFDI, LCPI and LPOP have excess kurtosis which violets normality assumption. As indicated earlier, this will be addressed by the use of the two-step system GMM estimator. LCPI and LPOP have negative minimum amounts, indicating that some countries experienced deflation and some had declining populations. Table 8 also provides the mean, maximum, minimum and standard deviation values of the variables. Figure 5 depicts the distribution of the mean variables.

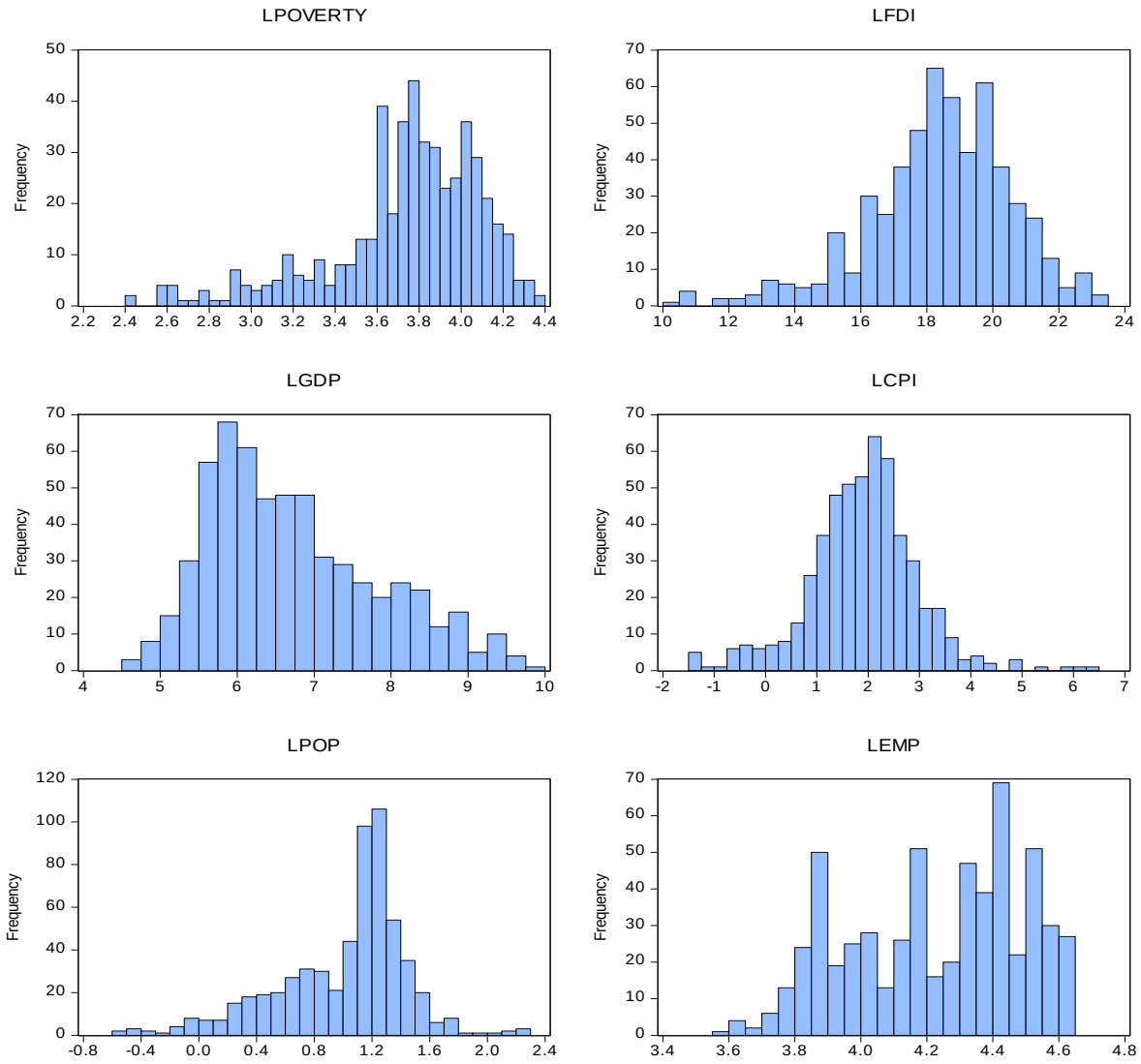

Figure 5: Distribution of variables around their means for the impact of FDI on poverty

Source: Author's computations

The histogram for LPOVERTY, LFDI, LPOP and LEMP presented in Figure 5 appear to be skewed to the left, while LGDP appears to be skewed to the right.

4.2.3.2. Unit root tests

Table 9 presents the results of the unit root test based on Im, Pesaran and Shin, which assumes the individual unit root process. When the test is at constant it refers to the individual fixed effects since the coefficients on the deterministic variables are heterogeneous. When the test includes trend, it adds individual-specific constant plus trend. Stationary variables are important in order to avoid spurious results.

Table 9: Im, Pesaran and Shin unit root test for the impact of FDI on poverty

	Constant		Constant & Trend	
Variable	*Level*	*1st Diff*	*Level*	*1st Diff*
LPOVERTY	2.9335	-8.9987***	1.3413	-6.3505***
LFDI	-2.4553***	-15.255***	-2.8343***	-5.7840***
LGDP	10.4367	-5.3087***	4.1263	-2.8303***
LCPI	-7.3419***	-19.483***	-2.2459**	-4.6417***
LPOP	3.0235	-4.2315***	3.1751	-4.6907***
LEMP	7.9047	-1.4845*	8.8148	-2.1654**

Note:
* denotes statistical significance at 10% level
** denotes statistical significance at 5% level
*** denotes statistical significance at 1% level

Based on Table 9 LPOVERTY, LGDP and LPOP become stationary after first difference for both the constant and constant plus trend unit root test. LFDI and LCPI are stationary for all tests both at level and first difference levels. LEMP becomes stationary after 1st difference for the constant unit root test and is significant under the 10% level, and for the constant plus trend test under the 5% level of significance.

4.2.3.3. Regression results

The poverty regression model evaluates the impact of FDI on poverty. The control variables are LGDP, LCPI, LPOP and LEMP. Our interest is to examine the effect of FDI inflows on poverty in African countries. Data for all variables is in natural logarithms, therefore all variables are expressed in percentages.

Table 10: Poverty regression results

Variable	*Effects on poverty*
LPOVERTY(-1)	0.8807***
	(-0.0046)
LFDI	-0.0112***
	(-0.0001)
LGDP	-0.0596
	(-0.0007)
LCPI	-0.0003
	(-0.0006)
LPOP	0.0544***
	(-0.0009)
LEMP	-0.2689***
	(-0.0429)
Number of countries	49
Number of Observations	256
Specification tests	
Sargan	42.8502
(P-value)	0.4777
2nd Order Correlation	1.1905
(P-value)	0.2338

Note: robust standard errors are in brackets
*** denotes statistical significance at 1% level

The results from the regression as presented in Table 10. show that FDI has a negative effect on Poverty in African countries, although the impact is negligent. A 1% increase in FDI inflows decreases GDP poverty by 0.0001%, which indicates that FDI inflows have little to no impact on alleviating poverty in African countries. Ucal (2014) and Okpe and Abu (2009) found that FDI has a significant on poverty alleviation when invested in labour intensive projects and when foreign investors reinvest profits into the host country. The results from this study may be an indication that FDI projects have not resulted in significant employment for host country nationals and that profits leaving the host country and directed to the foreign investors.

4.2.3.3.1 Specification/diagnostic tests

As in the previous models, the validity of the instruments was tested using the Sargan test for overidentifying restrictions under the null hypothesis that all instruments are valid. In Table 10. the statistic is 42.8502 and its p-value is 0.4777. We do not reject the null hypothesis therefore; the instruments are valid.

Serial correlation was tested using Arellano-Bond test for second order serial correlation. The residuals in first order serial correlation test may be correlated but there should not be any serial correlation in second order serial correlation test. The null hypothesis is that there is no serial correlation. In Table 7. the statistic for second order correlation is 1.1905 and its p-value is 0.2338. We do not reject the null hypothesis therefore; the model is correctly specified.

4.3 Discussion of results

Having presented and interpreted the results in section 4.2, this section discusses the results of this study.

4.3.1 The impact of FDI on GDP

The results of the dynamic panel and GMM estimation techniques suggest that FDI inflows across African countries for the period of study have a positive impact on GDP, although the effect is low. Most macro studies found that there is a positive relationship between FDI and economic growth, including those by Adegbite and Ayadi (2011) and Doku *et al*. (2018) on the impact of FDI on economic growth in Africa. Theory shows that FDI is needed in poorer countries to increase technological growth and finance development needs (te Velde, 2003). It is therefore expected that FDI will have a positive impact on the economic growth of African countries which are mostly underdeveloped and have poor populations. FDI contributes to economic growth by increasing the amount of capital available in the local economy. In addition, developing economies can grow their share of global productivity through production spillovers MNCs (Alfaro and Chauvin, 2017). FDI also benefit the local economy through technology transfer and human development (Samuel et al., 2013).

Our findings reveal that a 1% increase in FDI inflows will result in 0.034% increase in GDP per capita of African economies. The result from this study is consistent with previous literature which proved that the effect of FDI on the economies of African countries is negligible. Previous studies such as that by

Awolusi *et al.* (2017) have shown that South Africa and Egypt were able to utilise FDI inflows to improve their economies more efficiently than other African countries. The study by Siri *et al.* (2013) on the impact of FDI on economic growth in Pakistan FDI had a negative impact on economic growth in Pakistan while domestic investments benefitted its economy. Capital and labour have positive and significant effect on economic growth. A 1% increase in capital results in 0.1131% increase in GDP per capita. The results show that domestic investment is likely more effective and important than FDI. Labour also has a positive and significant impact on economic growth. A 1% increase the labour force participation rate results in 1.6379% increase in GDP per capita. According to neoclassical growth theory, capital and labour are important factors of production. It is expected that an increase in capital and the supply of labour will result in an increase in economic growth. Government expenditure has a negative and significant effect on economic growth. This is evidence of the leadership problem caused by corruption and mismanagement of state and public funds. Inflation and technology transfer have positive effect on economic growth, although the effect of technology transfer is low.

Economic growth is a principal driver of sustainable development. When this growth is sustained and inclusive, more people can escape poverty as opportunities for full and productive employment expand. To allow future generations to benefit from today's economic growth, such growth should be environmentally sound and not the result of unsustainable exploitation of resources (SDG 2017 report). The average annual growth rate of real gross domestic product (GDP) per capita expanded from 0.9 per cent over the period 2005-2009 to 1.6 per cent in 2010-2015. Real GDP growth in the least developed countries (LDCs) averaged 4.9 per cent in 2010-2015, short of the target of at least 7 per cent annually SDG (2017 report). The average annual growth rate of real GDP per capita for Sub-Saharan Africa was 2.5 per cent over the period 2005-2009 to 1.7 per cent in 2010-2015. FDI is widely acknowledged as being an important component to improving the economies of developing countries. FDI inflows to Africa have been gradually increasing and remained stable at about 2

percent of its GDP in 2015 and 2016 (United Nations, 2017). This reveals that the manner in which FDI inflows are being channeled and implemented is not proving to be effective. Studies have revealed that local economy investments are driving economic growth in most African countries (Ndambedia and Njoupouognigni, 2010). This merits further investigation into the gains that are expected to come from FDI inflows and how these investments should be structured.

4.3.2 The impact of FDI on income inequality

The results from this study indicate the negative impact of FDI on income inequality in African countries, however the effect is low. Classical theory argues that FDI is needed in poorer conditions to increase technological growth and to finance development needs, resulting in reduction of income inequality (Mkwandawire, 2004). Cho and Ramirez (2016) found that FDI flows tend to raise income inequality in the short run but reduce income inequality in the long run. The long run effect is highly dependent on the countries' absorptive capacity needed to benefit from FDI spillovers. African economies are characterised by poverty and underdevelopment. The expectation is that FDI will contribute to contribute to economic development and reduce income inequality. Industrial activity in African economies is low, therefore not offering vast opportunities for skilled labour. The results of this study show that FDI and government expenditure and human development have negative effect on income inequality, however, FDI and human development are insignificant. The state of most African economies supports the findings from this study. Critics of classical theory on FDI argues that FDI increases income inequality. MNCs tend to bring in skilled labour from their international organisations. Te Velde (2003) contended that even though contributes towards human development, the increased supply of skilled labour did not reduce income inequality in Latin America. MNCs prioritise profits and consider ownership advantage which allows them to bring in superior management and technology, locations that will result in lower costs of inputs and expanded market access (Hakizimana, 2015). Economic growth may be rising however poorly functioning capital markets such as those in African economies,

generate high return only for a few and ignore opportunities for the poor, thereby widening the income inequality gap.

Studies by those such as Schneider and Soskice (2009) suggest that the impact of FDI on income inequality is determined by local conditions in the host countries, especially in terms of their absorptive capacity, human capital, technology diffusion and the quality of the host countries' institutions to effectively manage and distribute FDI inflows. Kaur et al. (2018) compiled a report on the state of African cities which revealed that FDI leads to income inequality in host countries. The report also found that when controlled for other factors such as absorptive capacity, human capital, the level of technology and the quality of institutions, FDI can reduce income inequality. The evidence from this study supported by previous literature shows that FDI on its own is not adequate to address issues of income inequality. The current research also suggests that the insignificance of FDI in Africa could be linked to local condition that are not conducive enough to reduce inequality.

4.3.3 The impact of FDI on poverty

The results from this study show that FDI inflows can reduce poverty in African countries. Theoretical arguments that link FDI and poverty are that FDI can reduce poverty because these investments create jobs, develop local skills and stimulate technology transfer. FDI directly influences poverty reduction by creating the number of jobs greater than the number lost due to FDI related activities. If, however, FDI is used to purchase production inputs from a firm outside the host country, then the scope for job creation and spillover is limited. FDI indirectly impacts poverty through economic growth (Gouhou and Soumare, 2011). A 1% increase in FDI inflows resulted in a 0.01% decrease in poverty. Although FDI has a negative effect on poverty in African countries, a 0.01% impact is small. GDP and inflation are negative but insignificant. This suggests that economic growth and inflation indicators have no effect on poverty in Africa. It is expected that as the economy grows, poverty will be reduced. However, our results show that the realised growth does not necessarily translate into poverty reduction. Furthermore, the results indicate that the growing African population

has a positive effect on poverty, which is a matter of concern because the African economies are not growing at a rate that is faster than their populations. Employment has a significant effect on poverty reduction.

Most empirical studies such as that by Ucal (2003) have analysed the effect of FDI on poverty through its indirect impact on economic growth and found that FDI reduces poverty. Global economic growth has been slowing down since the financial crisis of 2008 while Sub-Saharan Africa is still home to more than 50% of the world's poor population (World Bank, 2016). The effect of the financial crisis still continues to impact Africa's largest economies, including South Africa and Nigeria, in greater measure than developed and other developing economies. The worldwide economic growth outlook continues to be revised downwards especially among commodity exporting countries, which is the case for many African economies. Economic theory has proven that economic growth is required to reduce poverty. These downward revisions of economic growth are projected to have a devastating effect on poverty reduction (World Bank, 2016). This study revealed that a 1% increase in FDI inflows results in 0.034% increase in GDP per capita of African economies, which is minimal. The results from this study indicate that FDI did not have a significant impact on GDP and therefore did not have a significant impact on poverty reduction in African countries for the period of study. For FDI to have a positive and significant effect on poverty reduction in the current environment of downward economic growth outlook, host country governments need to implement FDI strategies that encourage redistribution of wealth to the poor.

4.4 Conclusion

The aim of this chapter is to present and discuss the effect of FDI inflows on social and economic growth in Africa. GDP per capita is the economic development measure in this study. The findings establish the importance of FDI in economic development. Income inequality is one of the social development measures in this study. Based on this aspect, FDI did not make significant contribution towards

reducing inequality. Poverty is the second social development measures in this study. The findings from this aspect establish the importance of FDI in poverty reduction. The overall conclusion is that FDI is important to social and economic development. The next chapter concludes the study and discusses policy recommendations as well as suggesting areas for further study.

CHAPTER 5
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Research context

Classical theory argues that FDI can have a positive impact on a country's economic and social development by increasing factors of production such capital. Foreign owned firms can also contribute to the local economy by stimulating new industries, transfer of technology, and transfer of knowledge and skills. Foreign owned firms also have a direct impact on the living wages of skilled labour. FDI also has spillover effects in poverty reduction and reducing income inequality. Empirical studies have however, produced mixed results of the benefits of FDI on economic and social development (Lipsey and Sjoholm, 2004). This study aims to add to the body of knowledge and to help policy makers to design and implement policies that will achieve desired developmental goals by evaluating the effects of FDI on Africa's social and economic development for the period 1990 to 2017. The findings from this study and other previous studies can help host countries to evaluate their dependency of FDI as they have proven that the impact on economic and social indicators can be minimal or insignificant. Among the explanations, it seems the successful impact of FDI on Africa's social and economic development may largely be dependent on the countries' internal development factors. The conclusions from the study will be discussed separately according to the effect of FDI on economic growth, the effect of FDI on income inequality and the effect of FDI on poverty. Limitations, policy recommendations and areas of further study will follow.

5.2 Summary and conclusions

The results from this study proved that FDI influences social and economic development. The conclusions from the study will be discussed in detail in the subsections that follow.

5.2.1 Effect of FDI on economic growth

The results suggest that FDI inflows have a positive effect on growth in Africa over the period in question. The findings establish the importance of FDI in economic development. A 1% increase in FDI inflows resulted in a 0.034% increase in GDP per capita of African economies, and the impact is statistically significant. This result is in line with the hypothesis that is being tested. The effect of FDI inflows on economic growth in Africa is, however, small. FDI contributes to economic growth in Africa by providing capital which arises from the savings gap. The effect of this capital is limited by factors such as the underdeveloped financial markets and the inability of government institutions to effectively allocate FDI inflows.

5.2.2 Effect of FDI on inequality

The results from this study indicate that FDI have a negative but insignificant impact on income inequality in African countries over the period of the study. The findings show that FDI did not have an effect on income inequality in Africa. This result rejects the hypothesis being tested. The reason for this result could be that the absorptive capacity of African economies is not fast enough to allow the benefits of FDI activities to trickle down to the citizens. The results of the study also show that Government expenditure and skills development have the potential to reduce the income inequality gap.

5.2.3 Effect of FDI on poverty

The results suggest that FDI inflows have a negative and significant effect on poverty in Africa over the period in of the study. The findings establish the importance of FDI in poverty alleviation. A 1% increase in FDI inflows, resulted

in a 0.001% decrease in poverty. This result is in line with the hypothesis that is being tested. The effect of FDI inflows poverty alleviation in Africa is, however, small. Host country governments need to ensure that FDI inflows are linked to local companies to improve local competitiveness and ensure that these investments are directed towards projects that reduce poverty, otherwise the result will be that FDI inflows do not have an impact on poverty alleviation.

5.2.4 Control variables

This subsection summarises the findings of the control variables for the three econometric models for economic growth, income inequality and poverty.

The results suggest that capital, labour, inflation and technology transfer have positive effect on economic growth. Government consumption expenditure has a negative effect on economic growth.

The results of the control variables for the income inequality econometric model suggest that GDP has a positive and significant effect on income inequality. Government consumption expenditure and skills development both have a negative effect on income inequality, although skills development in insignificant.

The results of the control variables for the poverty econometric model suggest that GDP and inflation have no effect on poverty. Population has a positive and significant effect on poverty. Employment has a negative and significant effect on poverty.

5.3 Limitations

This study was undertaken at a macro level with a focus on a limited number of variables, therefore there are factors that may not have been taken into consideration in our analysis of the effect of FDI on the social and economic development of African countries. The second limitation is that data was not available for some of the variables which resulted in the employment of data inference for variables such as income inequality and poverty. In fact, the sample used for poverty was from 1997 to 2007 due to limited availability of data. There is limited literature of the effect of FDI on Africa's social development which has a direct impact on the choice of empirical theory used in this study

5.4 Policy implications and recommendations

This section highlights policy implications and recommendations based on the results from the study.

5.4.1 Implications and recommendations based on FDI-economic growth relationship

FDI inflows increase economic growth but the effect is small. Policy makers can attract additional FDI inflows by addressing the leadership problem which is marred with corruption and mismanagement of state and public funds. The government must do more to monitor the activities of FDI and ensure it is benefiting the communities. Policymakers may stimulate economic growth in Africa by attracting more FDI inflows. Yet the minor impact shows that the impact has not been enough. Policy wise, this may entail that the (i) FDI inflows have not been enormous enough to have a major growth impact, (ii) the current practices associated FDI in Africa are not very supportive of economic growth e.g. excessive exploitation of resources and massive repatriation of profits to home countries, environmental degradation etc). The study recommends that African countries create a favourable investment environment by improving institutional

qualities (e.g. lower corruption, lower the number of days it takes to start a business, improve political stability, rule of law etc).

The results of this study show that the internal factors (labour and domestic investment) are more effective than the external factors (FDI and technology transfer). The small effect of FDI could partly be associated with governments' failure to apply and practice rule of law and manage state funds, including corporate taxes derived from FDI activities. The study recommends that policymakers focus on internal factors (e.g. increase savings and the labour participation rate) to improve economic growth in Africa than on external factors (capital from FDI). In addition to these factors, for positive effects of capital to be channelled properly, there should be good fiscal policy, good governance and sound financial infrastructure.

5.4.2 Implications and recommendations based on FDI-inequality relationship

The results of this study show that the effect of FDI inflows on inequality is insignificant in Africa. The evidence from this study supported by previous literature shows that FDI on its own is not adequate to address issues of income inequality. MNCs tend to bring in their own skilled labour thereby limiting the demand for local skilled labour. FDI can create monopolies for MNCs thereby crowding out local businesses, which limits opportunities for human capital. Policymakers should ensure that FDI inflows effectively support the growth of local businesses and creating new business opportunities. Host country governments should focus on FDI inflows that promote industrialisation, e.g. ensuring that the power sector can supply adequate electricity. Another recommendation would be to focus on FDI inflows which grow the manufacturing sector that can absorb skilled and unskilled labour.

The effect of FDI on income inequality is dependent on the countries' absorptive capacity needed to benefit from FDI spillovers, which include human capital development and the ability to switch to new technologies quickly. Policymakers should adopt aggressive policy reforms that promote human capital development and FDI spillovers are absorbed into the local economy by improving local

conditions, e.g. improve the quality of the host countries' institutions to effectively manage and distribute FDI inflows.

5.4.3 Implications and recommendations based on FDI-poverty relationship

The results show that FDI inflows reduce poverty, but the effect is small. FDI directly influences poverty reduction by creating more jobs than the number lost due to FDI related activities. MNCs prefer to work in locations that will result in lower costs of inputs and be able to benefit geographical spillovers by working where other MNCs are located. These FDI activities limit the benefits of FDI to specific geographical areas thereby. Policymakers should focus on FDI inflows directed to projects that promote poverty alleviation e.g. by directing FDI inflows to the agricultural sector which can employ the poor living rural areas. FDI indirectly impacts poverty through economic growth. The results of this study were that there is a negative and significant relationship between FDI and poverty reduction. Policymakers should advocate for FDI inflows which fit with the host country development strategy and can transform host countries through the transfer of technology, human capital development, increased competition in domestic markets and the generation of corporate tax revenues. When FDI is used to purchase production inputs from local firms, employment opportunities will be created for host country residences.

5.5 Areas of further study

Future research may focus on specific country studies, examining at micro-level the actual activities of foreign corporations and how they contribute to socio-economic development. While this study examined the direct effects of FDI inflows on economic growth, poverty and inequality, future research may investigate the indirect channels through which FDI can impact economic growth. This may require approaches such as mediation analysis. Furthermore, further studies can be conducted which interrogate the various policies on receiving FDI inflows that favour Africa's development goals. African countries have made great improvements in adjusting their policies and investment environments in order to position themselves competitively to be recipients FDI inflows.

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LIST OF ACRONYMS AND ABBREVIATIONS

FDI:	Foreign Direct Investment
GDP:	Gross Domestic Product
GMM:	Generalised Method of Moments
IMF:	International Monetary Fund
MNC:	Multinational Corporation
OECD:	Organisation for Economic Co-operation and Development
SDG:	Sustainable Development Goals
TNC:	Transnational Corporations
UNCTAD:	United Nations Conference on Trade and Development
VECM:	Vector Error Correction Model
IPS:	Im, Pesaran and Shin Unit Root Test