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MARMARA ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İKTİSAT ANABİLİM DALI
ULUSLARASI İKTİSAT BİLİM DALI

GROWTH AND INCOME INEQUALITY EFFECTS OF FOREIGN DIRECT INVESTMENT IN AFRICA: THE ROLE OF DOMESTIC FACTORS

(AFRİKA ÜLKELERİNDE DOĞRUDAN YABANCI YATIRIMIN BÜYÜME VE GELİR EŞİTSİZLİĞİ ETKİLERİ : İÇ FAKTÖRLERİN ROLÜ)

Doktora Tezi

YEBOUA KOUASSI

İstanbul, 2019

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YEBOUA KOUASSI

DANIŞMAN: Prof. Dr. MEHMET ŞİŞMAN

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SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜ

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ÖZET

AFRİKA ÜLKELERİNDE DOĞRUDAN YABANCI YATIRIMIN BÜYÜME VE GELİR EŞİTSİZLİĞİ ETKİLERİ : İÇ FAKTÖRLERİN ROLÜ

Finansal küreselleşmenin temel unsurlarından biri olan doğrudan yabancı yatırımın (DYY), ev sahibi ülkeler için çeşitli yararları olduğu ileri sürülmektedir. DYY'ların, genel olarak, ekonomik ilerlemeyi teşvik eden bilgi ve teknoloji transferi için önemli bir kanal olduğu iddia edilmektedir. Ortaya çıkartılan faydalarından dolayı, birçok ülke, özellikle gelişmekte olan ülkeler, daha fazla doğrudan yabancı yatırım çekmek için "DYY dostu" politikalar uygulamaktadır. Bununla birlikte, şimdiye kadar ev sahibi ülkelerin doğrudan yabancı yatırımlardan elde ettiği ekonomik kazançları inceleyen ampirik çalışmalar farklı sonuçlara varmıştır. Bu konudaki son araştırmaların çoğunlukla ortaya koyduğu sonuçlara göre, DYY'ların pozitif etkilerinin açığa çıkması için bazı iç koşulların sağlanması gerekmektedir. DYY, ekonomik büyümeyi teşvik etmek ve yoksulluk ile gelir eşitsizliğini azaltmak amacıyla Afrika'nın önemli politika araçlarından biri olduğu için, Afrika ülkelerinde DYY'ların faydalarının hangi koşullarda ortaya çıkacağını anlamak oldukça önemlidir. Bu nedenle, bu tezin temel amacı, Afrika ülkelerine yönelik DYY'ların hangi koşullar altında ekonomik büyümeyi ve daha adil gelir dağılımını sağlayabileceğini incelemektedir. Bu amaç doğrultusunda, 1990-2013 dönemi için 26 Afrika ülkesini kapsayan dengesiz panel veri seti kullanılmıştır. Sabit Etki Regresyon Analizi, Genelleştirilmiş Momentler Yöntemi ve Panel Yumuşak Geçiş Regresyon Analizi kullanılarak varılan başlıca bulgu şu olmuştur:DYY sadece kurumsal gelişme, beşerî sermaye stoku ve finansal gelişme düzeyleriyle ilgili eşik koşulları sağlayan Afrika ülkelerinde ekonomik büyümeye katkı sağlamaktadır. Kurumsal ve finansal gelişme düzeyi ile beşeri sermaye stoku düzeylerinin düşük olduğu ülkelerde DYY'ların ekonomik büyümeye etkisi negatiftir. Ayrıca, sonuçlar göstermektedir ki DYY, beşeri sermaye stokunun düşük olduğu ülkelerde gelir eşitsizliğini artırmakta, beşeri sermaye stokunun belli bir eşiğin üzerinde olduğu ülkelerde ise gelir eşitsizliğini azaltmaktadır. Bu bulgular, Afrika ülkelerinde doğrudan yabancı yatırımları çekmeyi amaçlayan politikalar ile iç koşullarının iyileştirilmesine ya da özümseyici kapasitelerin iyileştirilmesine yönelik politikaların kesinlikle el ele gitmesi gerektiğini göstermektedir.

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ABSTRACT

GROWTH AND INCOME INEQUALITY EFFECTS OF FOREIGN DIRECT INVESTMENT IN AFRICA: THE ROLE OF DOMESTIC FACTORS

Foreign direct investment (FDI), which is one of the main facets of the current financial globalization, is believed to have several benefits for host countries. It is generally argued that it is an important conduit for knowledge and technology transfer which, in turn, stimulates economic progress. Based on these advertised benefits, several "FDI-friendlier" policies have been implemented by many countries, especially developing countries to attract more FDI. However, the empirical studies undertaken to investigate the economic gains from FDI have so far produced mixed results. According to the predominant message from the recent research on this subject, the benefits of FDI are not straightforward; certain domestic conditions should be met in order to unlock the positive effect of FDI. As FDI has become one of the key components of Africa's policy toolkit aimed at promoting economic growth and reducing poverty and income inequality, understanding the conditions under which the benefits from FDI can materialize in African countries has become strikingly relevant. The main objective of this thesis is, therefore, to investigate the conditions under which FDI flows to Africa can generate economic growth and reduce income inequality. To this end, we use an unbalanced panel data made up of 26 African countries over the period 1990-2013. Using Fixed Effects(FE) regression, Generalized Method of Moments(GMM) and Panel Smooth Transition Regression (PSTR), the key findings are that FDI promotes economic growth only in African countries that satisfy certain threshold conditions regarding the level of institutional development, human capital stock, and financial development. In countries with low levels of institutional and financial development and human capital stock, the effect of FDI on economic growth is negative. Also, the results indicate that FDI increases income inequality in countries with low levels of human capital stock while it contributes to reducing income inequality in countries where human capital stock is above a certain threshold. These findings suggest that policies aimed at attracting FDI in African countries should absolutely go hand in hand with policies oriented towards the improvement of their domestic conditions or absorptive capabilities.

This thesis is dedicated to my parents…

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LIST OF ABBREVIATIONS

FDI:	Foreign Direct Investment
GFDD	Global Financial Database
GMM	Generalized Method of Moments
ICRG	International Country Risk Guide
IHDH	Inequality-adjusted Human Development Index
IMF	International Monetary Fund
MNCs	Multinational Companies
NLS	Nonlinear Least Squares
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Squares
PSTR	Panel Smooth Transition Regression
SWIID	Standardized World Income Inequality Database
TNCs	Transnational Corporations
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
WDI	World Development Indicators

INTRODUCTION

With the triumph of Neo-liberalism and the subsequent financial market deregulation policies implemented by the United States and the United Kingdom respectively under the auspices of Ronald Reagan and Margaret Thatcher in the 1980s, and especially after the "Washington Consensus", the world is experiencing a new global economic order. One of the most striking features of this new global economic structure is the current increasing financial globalization. Since the financial liberalization that started in the 1980s for developed countries and generally in 1990s concerning the developing countries, international capital flow amounted roughly from 5% of world GDP to more than 20% in 2007 (Chen and Quang, 2014, p.475)[1]. As noted by UNCTAD (2012, p.15), in recent decades, financial globalization has accelerated at a faster pace than trade globalization.

Conventional wisdom suggests that financial globalization should improve capital allocation in the world by moving the capital from the relatively capital-abundant countries to the countries that are relatively capital scarce. It is therefore argued that financial globalization would be more beneficial for developing countries as it would provide capital to fuel investment, and stimulate economic growth. Financial globalization leads to several positive macroeconomic and microeconomic outcomes. For example, from a macroeconomic point of view, it is argued that a developing economy with access to global private capital markets can improve not only its level of investment, but also the distribution of its resources, thereby increasing its total factor productivity (TFP), and stimulates economic growth. Also financial globalization, by imposing discipline on the governments of developing countries, would require them to adopt sound macroeconomic policies, pro-poor growth reforms, and a market-friendly business environment. This, in turn, would improve income levels and reduce poverty. On the microeconomic front, it is argued that financial globalization, by introducing competition into the local financial system, would force financial institutions to allocate their resources to the most efficient and productive projects thereby improving the allocative

[1] International capital flow is now smaller than its level in 2007(pre-crisis level); it reached 6.9% of world GDP in 2017 after reaching 3.2% of world GDP in 2008.

efficiency and strengthening corporate governance (Obstfeld, 1998, p.10; Das, 2010, p.4; Prasad et al., 2003, pp.13-14).

In contrast to the short-term capital and other forms of capital flows that are believed to bear the seeds of the financial crisis, the foreign direct investment (FDI) component of the international capital flows is believed to be more stable with several benefits for the recipient economies. It is posited that the degree of reversibility of FDI is lower than that of the other types of capital flows, especially in the period of crisis. It is equally argued that foreign direct investment brings superior technology, new production process, and managerial know-how, among others to the domestic firms, which in turn, generate productivity gains. If transnational corporations or the multinational companies introduce new technologies or new production process into the host country, domestic firms, by interacting with the foreign firms or through labor mobility from foreign to domestic firms, acquire the new technology, and ultimately increases their productivity level.

It is also claimed that FDI complements domestic savings, creates jobs, diversifies exports, and modernizes the recipient economy. The potential benefits from FDI is summarized in the *"Monterrey Consensus"* agreed in 2002 at the United Nations (UN) summit on "*Financing for Development*" as follows: "*Foreign direct investment is especially important for its potential to transfer knowledge and technology, create jobs, boost overall productivity, enhance competitiveness and entrepreneurship, and ultimately eradicate poverty through economic growth and development"* (United Nations, 2003, p. 9). In a nutshell, FDI is viewed as a set of tangible and intangible assets with great potential to promote economic growth and development in the recipient country.

These advertised benefits of FDI have motivated all countries, without exception, to adopt positive attitudes toward FDI by eliminating or lowering numerous entry barriers, paying subsidies, offering attractive fiscal incentives, establishing investment promotion agencies, and improving the investment climate. Developing countries improve substantially their regulations towards FDI during the 1990s. Policies such as licensing requirements were removed; the sectors of the economy previously closed to FDI activity were opened and the laws concerning the protection of intellectual property right have been reinforced (European Round Table of Industrialists[ERT], 2000, pp.14-15). On average, between 1991 and 1998, 112 investment

regulatory regime reforms were implemented by a range of 35 to 76 countries in the world. Among the regulatory changes that took place in this period, roughly 94% of them were made to attract FDI (UNCTAD, 1999, p.115). Over the period 1991-2012, about 90% of the national regulatory investment regime reforms implemented by more than 100 countries, offer a more favorable environment for FDI (Demena and Bergeijk, 2016, p.1). Similarly, in 2017, 126 investment policy measures were adopted by 65 countries and about 84 % of them were favorable to FDI (World Investment Report [UNCTAD], 2018, p.80).

These "FDI-friendlier" policies have led to an upsurge of FDI flow in the world since the 1990s. The world FDI flow has more than tripled since 1990 and 50% of the private capital flows of the developing countries in 2000 was represented by FDI (Farkas, 2012, p.2). The world FDI inflows rose from US$ 205 billion in 1990 to a peak of US$ 1.909 trillion in 2007. However, the World FDI inflow still remains lower than its level of 2007 (pre-crisis level). It reached US$ 1.77 trillion in 2015 and 1.87 trillion in 2016 before dropping at 1.43 trillion in 2017. The share of developing economies was US$ 34 billion in 1990, it reached roughly US$ 538 billion in 2007 and US$ 752 billion in 2015. FDI inflows to Africa rose from almost US$ 3 billion in 1990 to a peak of US$ 72 billion in 2008 before dropping at US$ 59 billion in 2016 and 42 billion in 2017[2]. FDI flow to Africa is estimated to increase by 20% to reach US$ 50 billion in 2018 (World Investment Report [UNCTAD], 2018, p.14).

As a corollary of this increasing FDI flow in the world, the question of whether it is having the expected effects on the host countries has become important for academic researchers and policymakers. Although, in general, the theory predicts that FDI is a source of numerous benefits for the recipient country, the empirical studies aimed at confirming these benefits have not reached conclusive evidence. Particularly, empirical studies on the effect of FDI on growth and income inequality in host countries have reported conflicting results. In this regard, De Mello (1997, p.30) points out that "*whether FDI can be deemed to be a catalyst for output growth, capital accumulation, and technological progress is a less controversial hypothesis in theory than in practice"*. For example, in their recent empirical survey, Bruno and Campos (2013, p.4) report that 50% of the empirical studies find that FDI promotes economic growth, 11% of them find that FDI worsens growth (negative effect) and 39% find

[2] Source: UNCTAD 2017, Foreign Direct Investment (current US$) online data

no link between FDI and economic growth. Similarly, in the literature survey conducted by Hanson (2001), he concludes that only weak evidence exists regarding the positive spillover effects of FDI in host countries. Also, Görg and Greenaway (2004) conclude from their survey of micro-level empirical studies that the spillover effects of FDI are mostly negative while Lipsey (2002) notes from his survey of the macro-level empirical studies that there is no consistent link between the size of FDI inflows and economic growth.

While the vast bulk of the empirical studies have focused on the effect of FDI on economic growth, the question whether FDI improves or exacerbates income distribution is generally neglected and less documented (Figini and Görg, 2011, p.1455; Mah, 2012, p.1522; Lin et al. ,2013, p.874). However, the rising public concerns regarding the socio-economic repercussions of the intensified economic globalization and recently, the publication of books such as *Globalization and its Discontents* of Stiglitz (2002), and *Capital in the 21st Century* of Piketty (2014), among others, have rekindled the interest of the academic researchers and policymakers on the issue of inequality. However, empirical studies aimed at investigating the distributional impact of FDI in host countries have also failed to reach a clear-cut consensus (Clark et al., 2011).

Despite the recent good performance of some African countries in terms of economic growth, the continent, economically lags behind other regions with high levels of poverty rate and income inequality. Africa is ranked as the poorest region in the world, and the second most inequitable region after Latin America (African Development Bank [AfDB], 2012, p.2). To achieve sustainable growth and eliminate the current high level of poverty, Africa needs a sufficient inflow of external capital to fill its resource gap. Thus, convinced that FDI has several positive effects, such as accelerating growth and economic transformation, it is seen by African policymakers and development partners as a key element in solving Africa's problem. According to institutions such as the IMF and the World Bank, attracting substantial inflows of FDI would result in economic growth and development. In line with this view, FDI has become an important element in the development strategy of Africa, and incentives such as tax exemptions, and subsidies, among others, are being offered by many African countries with the hope of attracting more FDI to fuel their economic growth and development (Ajayi, 2006, p.2; Mwilima, 2003, p.34).

According to the World Bank (2014, p.1), Africa has now become the "bright spot*"* of FDI as it remains a fast-growing destination. However, according to the predominant message from the recent FDI literature, the benefits from this consistent increase in FDI inflows to Africa, especially in terms of economic growth, cannot be taken for granted (not automatic). The growth-enhancing effect of FDI is believed to depend on domestic factors or absorptive capacities[3] such as human capital stock, local financial development, trade policy, institutional development, business environment, macroeconomic policies, infrastructure development, market structure, among others (See, Alfaro, 2014, p.4). In other words, the benefits of FDI occur only if the host country has better domestic conditions. If certain domestic conditions are not met, FDI may even have a sufficient negative impact that the recipient country would be better off without these investments (Moran, 1998, p.25).

Görg and Greenaway (2004), Kose et al. (2006) and Bruno and Campos (2013) conclude in their survey of empirical findings that studies tend to find a negative effect or a very weak positive association between FDI and growth when developing countries are included in the samples. This would imply that the conditions under which FDI may be growth-enhancing are not satisfied in the majority of developing countries. If this is true, it would mean that the consistent increase in FDI flows to Africa in recent years, and the huge resources sacrificed by African countries to attract FDI may not have the desired effects, or the outcome may be well below the expectations, unless, these conditions are satisfied. Therefore, knowing the conditions under which FDI can be growth-enhancing in African countries is strikingly relevant and should take center stage in their quest for sustainable growth through FDI. This would help African policymakers to design the right policies to take full advantage of the potential growth-enhancing effect of foreign direct investment in order to achieve their ultimate aim of sustainable growth and poverty alleviation.

However, implementing policies to maximize growth gains from FDI without being certain of its potential effect on income distribution could lead to a negative response (backlash). Investigating the effect of FDI on income distribution has therefore important policy implications. For instance, if FDI stimulates economic growth and improves income distribution (reduces income inequality), African countries can achieve inclusive and

[3] We use the terms *"domestic factors "*and "*absorptive capacities"* interchangeably throughout this study.

sustainable growth through FDI, as FDI liberalization policies break the tradeoff (dilemma) between efficiency and equity which is often faced by policymakers. In contrast, if FDI promotes economic growth and worsens income inequality, unless appropriate policies are implemented, the growth gain from FDI may not be sustainable since growing inequality can lead to socio-political instability, which in turn, creates distortionary distribution pressures, reduces investment flows with a negative effect on economic growth (See, Alesina and Rodrick, 1994; Persson and Tabellini, 1994; Alesina and Perotti, 1996). It can also increase anti-FDI liberalization sentiments and protectionist pressures (Lin et al. 2014, p.2). Moreover, the poverty-reduction effect of economic growth can be seriously undermined by high inequality (Ravallion and Chen, 2007, p.2). It becomes clear that understanding how FDI can stimulate economic growth and its relationship with income distribution in Africa will be more fruitful in terms of guiding principles to policymakers in designing policy measures to maximize the growth gain from FDI while pursuing the goals of better distribution of income and poverty alleviation.

Unfortunately, the role of domestic factors in FDI-growth nexus in the specific context of Africa is under-researched. Recently, in an attempt to fill this gap, Agbloyor et al. (2014), Adams and Osei-Opoku (2015), and Agbloyor et al. (2016), among others, use a linear interaction model to examine the role played by domestic conditions in mediating the impact of FDI on growth in Sub-Saharan African countries. One of the major limitations of this methodology is that the interaction term, which is usually obtained as the product of FDI and the domestic factor variables, imposes *a priori* restriction that the effect of FDI on growth varies monotonically with domestic factors (absorptive capacities). However, there may be a possibility that a certain minimum level (threshold value) of the domestic factors (absorptive capacities) need to be satisfied before a country can reap the positive externalities of FDI in terms of economic growth (Girma ,2005, p.3; Azman-Saini et al. ,2010, p.1087; Baharumshah et al. 2015, p. 254). The identification of the threshold level of absorptive capacity beyond which the growth-enhancing effect of FDI is unlocked remains largely unexploited in the context of Africa. This calls for an improved methodology that can capture well the dynamic relationship between FDI, domestic factors, and economic growth in African countries.

The effect of FDI on income distribution in the context of Africa is also largely overlooked in the FDI literature. There is a dearth of systematic studies on the distributional

impact of FDI in Africa. Recently, Sharma and Abekah (2017) look into this issue; however, their study has some shortcomings: (i) the issue of endogeneity and the likely reverse causation between FDI and income inequality have not received adequate treatment. Failure to address properly the endogeneity issue may lead to a spurious relationship between FDI and inequality (Lin et al.2013, p.878). (ii) They ignore the likely role of domestic factors in modulating the effect of FDI on income inequality. Recently, the inconclusive results concerning the distributional impact of FDI has triggered a new generation of studies examining the role of domestic factors in mediating the impact of FDI on income inequality (See, for example, Wu and Hsu, 2012; Lin et al. 2014; Mihaylova, 2015). This new approach concerning the link between FDI and income inequality is largely overlooked in the specific context of Africa.

Seyoum et al. (2014, p.2) hold a position that the characteristics of African economies are unique from other regions of the world. In the same vein, Asiedu (2002, p.116) argues that policies that have been successful in other regions may not record the same success in Africa. It would, therefore, be inappropriate to rely on the conclusion from previous studies on other regions to draw inferences about the effect of FDI on economic growth and income inequality in Africa. This suggests the urgent need for a new study exclusively devoted to Africa in order to formulate sound and precise policy prescriptions applicable only to African countries.

Against this backdrop, this thesis seeks to answer the following important questions: (i) How does foreign direct investment affect economic growth in African countries? Put another way, under which conditions foreign direct investment may be growth-enhancing in African countries? (ii) Does foreign direct investment affect income inequality in African countries? If yes, does the relationship vary with domestic factors?

The general objective of this study is, therefore, to investigate the effects of foreign direct investment on economic growth and income distribution and verify whether these effects depend on certain domestic factors in African countries. Specifically, the study seeks to examine: (i) Whether local financial development, institutional development, trade openness, human capital stock, and macroeconomic stability play a role in the FDI-growth nexus in African countries. (ii) Whether the link between FDI and income inequality in African countries evolves with the level of human capital stock and financial development. For a better

understanding of the effects of FDI on economic growth and income inequality in African countries, the following two main hypotheses are tested:

Hypothesis 1: FDI promotes economic growth only in African countries that satisfy certain threshold conditions regarding the level of local financial development, human capital stock, trade openness, institutional development, and macroeconomic stability.

Hypothesis 2: There is a relationship between FDI and income inequality in African countries and this relationship varies with the level of local financial development and human capital stock.

This thesis is organized as follows: Chapter 1 focuses on the concepts of financial globalization and foreign direct investment. Specifically, we define financial globalization and present its components. We equally expose brief historical perspectives of financial globalization. We define the concept of foreign direct investment and highlight the motives behind foreign direct investment activities. Some recent stylized facts on multinational activity in the world economy are also exposed in this first chapter.

Chapter 2 is dedicated to the review of theoretical arguments and recent empirical evidence on the repercussions of FDI on economic growth and income distribution in host countries. The first part of the chapter highlights the theoretical perspective and previous empirical evidence regarding the effect of FDI on growth, while the second part deals with the theory and empirical evidence on the FDI-inequality nexus.

Chapter 3 focuses on the recent trend in FDI inflows, growth and income inequality in Africa. It is an overview of African economies with a focus on key socio-economic indicators. It is divided into three parts: the first part analyzes the recent trend in FDI inflows into Africa and FDI liberalization policies in the continent; the second part of the chapter shed some light on the recent trends in economic growth in African countries while the third part analyzes the trends in income inequality in Africa.

Chapter 4 presents our own empirical findings related to the impact of FDI flows to Africa on economic growth and income inequality. We take advantage of the recent developments in panel data modeling to contribute to the empirical debate regarding the potential effect of foreign direct investment on economic growth and income inequality in host

countries. The first part of the chapter focuses on the econometric analysis of the effect of FDI on economic growth, while the second part is dedicated to the econometric analysis of the relationship between FDI and income inequality in Africa. We end the study with the general conclusion and the policy prescriptions that derive from our findings.

CHAPTER 1: FINANCIAL GLOBALIZATION, TRANSNATIONAL CORPORATIONS AND FOREIGN DIRECT INVESTMENT

Although it seems to be a new concept, financial globalization in the world started about 150 years ago. The first age of financial globalization started from the 19th century to the first world war, and the second age started from the 1980s (Şişman, 2011, p.42). Financial globalization has proceeded at a rapid pace since the 1980s and provokes strong emotions between pro-globalist and anti-globalist. While trade globalization is less controversial among economists, financial globalization remains highly controversial among them. For instance, prominent economists such as Martin Wolf (2004), in his book, *Why Globalization Works*, and Fredrick Mishkin (2006), in his book, *The Next Great Globalization*, argue that financial globalization fosters economic growth and development. However, Jagdish Bhagwati (2004), in his book, *In Defense of Globalization*, holds a position that the effects of financial globalization may not be as positive as the effects of free trade, while Joseph Stiglitz (2002), in his book, *Globalization and Its Discontents*, draws attention that financial system can be destabilized if financial liberalization is done abruptly. Authors such as Robin Blackburn (2006) and David Harvey (2012) with Marxist perspective are very skeptical of financial globalization.

Foreign direct investment (FDI), the main channel through which transnational corporations (TNCs) expand their activities, is one of the major facets of financial globalization. It is, therefore, necessary to define financial globalization before we can well understand the concept of foreign direct investment and multinational activity. In this chapter, we firstly define financial globalization and present its aspects (international private capital flows), secondly, we present a brief historical perspective of financial globalization with a focus on FDI. We also present some recent stylized facts about the importance of transnational corporations in the world economy. Finally, the motives behind foreign direct investment and multinational activity are highlighted.

1.1. Definition of Financial Globalization

In simple terms, financial globalization can be defined as the ability of capital to move beyond national borders without encountering any restrictions. Prasad et al. (2003, p.2), define financial globalization as "*a global concept that refers to the growing global linkages created*

by cross-border financial flows". Mishkin (2006, p.2) defines financial globalization as "*the movement of capital and financial firms across borders*", while Das (2010, p.5) defines financial globalization as *"the integration of an economy's local finance system with the global financial markets and institutions. Financial globalization leads to increasing global linkages through trans-border financial flows".* Many concrete examples can be given to show what is really financial globalization. For instance, when a Turkey investor buys Germany treasury bill; when banks in Europe open branches in African countries or when a bank in Japan gives a loan to a Nigerian company involved in cement production, movement of capital occurs between countries, and these transactions are examples of financial globalization**.**

1.2. Types of Cross-border Private Capital Flows

One of the hallmarks of financial globalization is the increasing cross-border private capital flows. There are different types of international private capital flows and they are usually categorized according to their motivations and impacts. Overall, international private capital flows can be divided into three broad groups:

i) Foreign Direct Investment (FDI)

ii) International Portfolio Investment

iii) Bank and other Investments.

1.2.1. Foreign Direct Investment

UNCTAD defines FDI as a type of international investment in which a resident entity in one country acquires a lasting interest in a company resident in another country. A lasting interest means the existence of a long-term relationship between the direct investor and the enterprise and the willingness of the investor to have a significant degree of influence on the management of the company. For the IMF, net FDI inflows involve net investment in which the investor's aim is the acquisition of a lasting management interest (usually at least 10% of voting stock) in a company operating in a country different from the investor's country.

For the World Bank, FDI (net inflow) is the investment made with the ultimate objective to possess a lasting management interest (usually a minimum threshold of 10% of voting stock) in a firm operating in a country different from that of the investor. For U.S. Department of Commerce, FDI occurs when a foreigner (foreign investor) possesses at least 10 percent of a

domestic firm's equity. The criteria usually used to make the difference between FDI and other types of international investments is that direct investment is established when a resident in one country possesses at least 10 percent of the ordinary shares or voting power of an enterprise resident in another country. According to Moosa (2002, p.1), FDI is a process whereby a resident of one country acquires ownership of assets with the aim of controlling the activities (production, distribution, etc...) of a firm or an enterprise in another country.

Foreign direct investment is mainly undertaken by transnational corporations (TNCs) in order to expand their activities abroad. A transnational corporation can be defined as an enterprise that possesses and controls income-producing assets in at least two countries. These assets can be acquired through portfolio investment (foreign securities and bonds) or foreign direct investment. Foreign direct investment involves the creation or acquisition of an existing firm in a foreign country. When the foreign direct investment consists of an establishment or construction of new firm, it is called *greenfield investment*, and when the foreign direct investment involves the acquisition of an existing company in the foreign country, it is called mergers and acquisitions or *brownfield investment* (Alfaro, 2014, p.4).

1.2.2. International Portfolio Investment

According to UNCTAD, international portfolio investments are investments made by a resident entity in one country in the equity and debt securities of an enterprise resident in another country with the sole objective of obtaining capital gains without any significant and lasting interest in the enterprise. It includes investments in bonds, notes, money market instruments and financial derivatives other than those included under direct investments (investments which are below the 10% rule). International portfolio investment includes also the purchase of sovereign bonds (bonds issued by the governments) by foreigners. In sum, international portfolio investment is the acquisition of foreign bonds and securities.

Portfolio investments are very sensitive to the political, economic and financial conditions both in the investors' countries and the host countries. It is also sensitive to the expectations of the investors. The market for portfolio investments is more liquid than that of the FDI because bonds and stock are easier to sell than an enterprise or a company. Thus, investors can re-adjust quickly their portfolio investments if there is a positive or negative change in their expected returns. Foreign direct investments are therefore more stable than

portfolio investments. For example, one country can receive a large inflow of portfolio investments in a given year due to a higher expected return offered by this country. However, the country can experience a quick reversal of these inflows if there is a sudden event in the country that may affect negatively the expected return on the investors' assets. For example, during the 1990s and over the period 2000-2001, countries such as Mexico, Russia, Brazil, South Korea, Thailand, Turkey, and Argentina experienced these sudden and destabilizing reversals of portfolio investments.

1.2.3. Bank and other Investment

The third major group of international capital flows is Bank and other investment. Bank investment is the main component of this group. Deposit holdings by foreigners and loans to foreign governments, individuals, and business are Bank-related international investments. Bank investment is grouped with other miscellaneous types of investments which are very few when compared to FDI, portfolio investment or bank investment. Bank and other investment flows have significantly declined after the recent global financial crisis as compared to other types of international capital flows (Table 1.1).

Overall, bank-related and other investments are the most volatile component of international capital flows, followed by portfolio investment. These two types of private capital flows can have destabilizing effects on the macroeconomic and financial stability in the recipient country while direct investment is relatively more stable and constitutes, therefore, the main target of many countries, especially developing countries in order to fuel their development. As pointed out by Albuquerque (2000, p.354), in contrast to portfolio investment and bank-related investment, FDI cannot be easily withdrawn after the business is established; the long-term prospects and the policies of the recipient country are the key factors attracting FDI, and it is, therefore, more stable than other types of international private capital flows.

As we can see from Table 1.1, over the period 1980-1990, all types of cross-border private capital flows were limited. Financialization[4] which is a consequence of financial globalization was more concentrated on domestic markets rather than international markets during this period. On average, financialization peaked over the period 2000-2007, and the

[4] Financialization can be defined as the growing importance of financial sector in domestic and international economies.

increasing financialization since the 1990s has boosted global cross-border capital flows. As shown in Table 1.1, FDI responded relatively little to the recent global financial crisis, in contrast to other types of cross-border private capital flows. This confirms the stability of this type of international capital flows.

Table 1. 1: Global capital flows (% of world GDP)
yearly average

	1980-1989	**1990-1999**	**2000-2007**	**2008-2012**	**2013-2017**
Foreign direct investment	1.0	1.5	2.2	2.1	3.0
Portfolio investment	1.2	2.3	4.2	1.4	2.1
Bank and other investment	2.7	1.9	5.0	0.4	1.1

Source: Author's elaboration using data from Elliot et al. (2014, p.66); UNCTAD (2018, p.11)

Particularly, since the Asian crisis, the call for favorable policies toward FDI has intensified with the expectation that it would bring not only more stable capital inflows but also advanced technology, higher-paying jobs, entrepreneurial ability, managerial know-how, and access to international markets through new export opportunities (Ajayi, 2006, p.4). This thesis focuses therefore on foreign direct investment which is one of the most important aspects of the current financial globalization.

As previously said, in the majority of the cases, FDI activity is undertaken by transnational corporations (TNCs). From the perspective of the TNCs or the investors, there are three types of FDI, namely, horizontal FDI, vertical FDI and conglomerate FDI as highlighted by Caves (1971, p.3). Horizontal FDI occurs when the multinational company or the investor operates the same business or produces the same types of goods abroad (foreign country) as in the home country, for example, a computer provider based in Japan opening up a store in Turkey. This type of FDI is undertaken by the multinational companies to exploit monopolistic and oligopolistic advantages, especially, when sufficient actions are not taken by the host country to stimulate competition in the sectors where they are located.

Vertical FDI refers to the case where the multinational company or the investor establishes in a foreign country a business that is different or related to the one established in his country of origin, for instance, when a manufacturing company acquires interest in a foreign company which supplies raw materials or parts necessary for the manufacture of its products. This type of FDI is generally undertaken to acquire the distribution outlets in order to be closer to the consumers or to exploit raw materials.

Conglomerate FDI has received little attention in the literature related to international economics. It is the rarest type and most challenging FDI activity. Studies usually mention the major two types of FDI, namely horizontal and vertical FDI. A conglomerate FDI is a type of FDI where the multinational company or the investor establishes in a foreign country, a business that is totally different from its existing business in the home country. This type of FDI usually takes the form of a joint-venture because the multinational company does not have previous experience in the industry it intends to enter. In this case, the foreign company or investor associates with local companies that have acquired experience and knowledge in the targeted industry.

Although FDI is generally classified as horizontal and vertical FDI, it can also be categorized as resources-seeking FDI, efficiency-seeking FDI, strategic asset-seeking FDI, and market-seeking FDI. For instance, market-seeking FDI is an investment made with the purpose of supplying goods and services to foreign markets. In most cases, these foreign markets were previously served from the country of origin through exports. This type of FDI can be qualified as horizontal FDI. Efficiency-seeking FDI is the type of investment made to take advantage of lower production costs abroad. For example, a firm can move to a foreign country because production factors such as labor, machinery, and materials are cheaper there. This kind of FDI is usually associated with vertical FDI. Resource-seeking FDI generally refers to investment made abroad by firms with the aim of acquiring certain resources, particularly natural resources. Finally, strategic asset-seeking FDI is the kind of foreign investment undertaken by firms to acquire assets from other companies in order to strengthen their long-term strategic goals, such as maintaining and developing the company's international competitiveness. This type of FDI is often associated with vertical and horizontal FDI.

These types of FDI mentioned above can take the form of greenfield investment, mergers & acquisitions or brownfield investment, and Joint-ventures. Greenfield investment occurs when the multinational enterprise or the investor establishes a new production and distribution facilities in the host country. This form (entry mode) of FDI is particularly appreciated by the host country, and especially developing countries where unemployment is rampant because it is believed to generate additional production capacity, promote job creation and increases the level of capital accumulation in the host country. It is argued also that the most efficient firms prefer greenfield investment as a mode of entry to the foreign country (Ashraf, Herzer and Nunnenkamp, 2015, p.1), thus the benefits for the recipient economy in terms of technology diffusion is expected to be large with this form of FDI. However, Blonigen and Slaughter (2001) found that this form of FDI does not contribute much to improving skills in the recipient country.

The second form of FDI which is mergers and acquisitions (M&As), can be defined as a process whereby the multinational enterprise acquires or mergers with an existing company in a foreign country. In other words, mergers and acquisitions (M & As) mainly involve a change from local ownership to foreign ownership of existing assets or production units. In contrast to the greenfield investment which consists of a net creation of activity with output-increasing potential, it is argued that Mergers and Acquisitions have a limited effect on economic growth. In this regard, Wang and Wong (2009) find that greenfield investment and M&As affect differently economic growth in the host country. In addition, since Mergers and Acquisitions operations are often a mere transfer of ownership, it can lead to several layoffs UNCTAD (2000, p. 159). Harms and Méon (2011, p.2) hold a position that there is little doubt that greenfield FDI contributes to the physical capital accumulation in the host country, but whether mergers and acquisitions increase the physical capital stock in the host country remains highly an open question. This form of FDI (mergers and acquisitions) is, therefore, generally, not appreciated or resisted by the host country's policymakers. However, Bresman et al. (1999) find that mergers and acquisitions (M&As) enhance productivity in the host country. Also, for the investor, mergers and acquisitions form of FDI is cheaper, and it facilitates access to the foreign country's market.

The third form of FDI is a Joint venture which can be defined as a partnership with a domestic firm, a government institution or a foreign company which is already present in the host country in order to share the risk and expertise. Usually, in this form of investment, one side or one partner provides the managerial and technical know-how, and the financial resources while the other partner contributes to the success of the business through its knowledge of the local market and the laws and regulations of the host country. However, FDI is generally separated into two major forms, (i) greenfield investment and (ii) cross-border mergers and acquisitions (M&As). After highlighting the meaning of financial globalization, transnational corporations (TNCs) and FDI, it seems judicious to have a historical development of these issues. Therefore, the next subsection takes up the brief historical perspective of financial globalization with a focus on FDI.

1.3. Financial Globalization and FDI: Brief Historical Perspective

As said previously, financial globalization is far from being a new phenomenon; Moore and Lewis (1999), in their book, *Birth of the Multinational*, highlight the history of the multinational activity which has been overlooked in the literature. According to these authors, the first multinational activity dates back to 2000 B.C in the Assyrian Empire. The family companies located in the capital of the Assyrian Empire were the first to establish business outside their home country by opening up branches on territories that are known today as Syria and Iraq. However, in the modern era, the first wave of financial globalization took place from the 19th century to the first world war, specifically, over the period 1870-1914. This first wave of financial globalization was marked by an impressive integration of international capital markets. While the international capital flows were 7% of world GDP in 1870, it increased to roughly 20% of world GDP in 1914 (Obstfeld and Taylor, 2004, p.55).

Europe as a continent and especially, countries such as England, France, and Germany were the main foreign investors during this first wave of financial globalization. In 1914, about 42% of the world total foreign investment was detained by England followed by France (20%) and Germany (13%) [Table 1.2]. These leading investing countries combined with Belgium, the Netherlands and Switzerland accounted for 87% of the world total foreign investment in 1914 (O'Rourke et al., 2008, p.4). The total stock of FDI in the world in 1913 was estimated at US$ 36.7 billion (Twomey, 2000, p.32).

Table 1. 2: Foreign Investment of England, France, and Germany, 1870 -1914

	England			France	Germany
	Saving / GDP	Foreign Investment / GDP	Foreign Investment as % of Saving	Foreign Investment as % of Saving	Foreign Investment as % of Saving
1870 - 79	12.3%	4.0%	32.5%	23.9%	10.2%
1880 - 89	12.2%	4.7%	38.5%	5.1%	18.8%
1890 - 99	11.0%	3.4%	30.9%	16.5%	12.1%
1900 - 09	12.6%	3.7%	29.4%	19.1%	8.3%
1905 - 14	13.1%	6.5%	49.6%	17.3%	7.5%
Net national wealth held overseas in 1914	32.1%				
Share of global foreign investment	41.8%			19.8%	12.8%

Source: O'Rourke et al. (2008, p.27)

During the first wave of financial globalization, Transnational Corporations from England, France and Germany invested in services and infrastructures (railways, roads, etc.) in the colonies in order to find outlets for their products and to exploit the necessary raw materials (natural resources) for the factories existing in the home country. In the early 19th century, British banks were the first to establish overseas banking activities by opening branches in countries such as Australia, Canada, and India. Companies such as Siemens and Singer also performed their first multinational activity in this period. Singer Manufacturing Company became the world's first modern Transnational Corporation, and it was among the biggest firms in 1900 (Moosa, 2002, p.16).

Table 1. 3: Destination of English, French and German FDI, 1870-1913

	England	France	Germany
Europe			
Russia	3.4%	25.1%	7.7%
Ottoman Empire	1.0%	7.3%	7.7%
Austria-Hungary	1.0%	4.9%	12.8%
Spain and Portugal	0.8%	8.7%	7.2%
Italy	1.0%	2.9%	17.9%
Other Countries	2.5%	12.2%	
Total (Europe)	9.7%	61.1%	53.3%
Areas of recent settlement (outside Latin America)			
USA	20.5%	4.4%	15.7%
Canada	10.1%		
Australia	8.3%		
New Zealand	2.1%		
Total	41.0%	4.4%	15.7%
Latin America			
Areas of recent settlement		13.3%	16.2%
Argentina	8.6%		
Brazil	4.2%		
Total (areas of recent settlement)	53.8%		
Other countries			
Mexico	2.0%		
Chile	1.5%		
Uruguay	0.8%		
Cuba	0.6%		
Total (Latin America)	17.7%	13.3%	16.2%
Africa	9.1%	7.3%	8.5%
Asia			
India	7.8%	4.9%	4.3%
Japan	1.9%		
China	1.8%		
Total (Asia)	11.5%	4.9%	4.3%
Rest	11.0%	9%	2%
Total	100.0%	100.0%	100.0%

Source: O'Rourke et al. (2008, p.28)

Table 1. 4: Some large Transnational Corporations in 1914

Translational Corporations	Home country	Products	Number of factories in foreign countries in 1914
American Radiators	USA	Radiator	6
Bayar	Germany	Chemicals	7
J&P Coats	England	Cotton thread	20
Lever Brothers	England	Soap	33
L.M. Ericsson	Swiss	Telephone equipment	8
Nestlé	Swiss	Milk, Baby food	14
Saint-Gobain	France	Glass	8
Singer	USA	Sewing machines	5

Source: Jones (2005, p.81).

This liberal business environment was followed by the interwar disintegration. International capital flows, and especially FDI received heavy blows over the period 1914-1945. This period of international capital market disintegration started from World War I with the nationalization of foreign property in Russia in 1917 (Alfaro, 2014, p.26). The Great Depression in 1929 and the subsequent collapse of the Gold Standard rendered many international direct investments less attractive. In addition, protectionism measures increased worldwide in this period as countries became concerned about how to get a way out of the economic crisis. Thus, the free movement enjoyed by international capital, and especially the receptivity towards FDI significantly declined. For example, the foreign assets which were 7% of world GDP in 1870 and roughly 20% of world GDP in 1914, dropped to 8% of world GDP in 1930 and 5% in 1945 (Obstfeld and Taylor, 2004, p.55).

After the interwar period (1914-1945), the search for a new international economic order led to the creation of the Bretton Woods system which introduced a semi-fixed exchange rate system in the world. As shown by the Mundell-Fleming model, a country cannot simultaneously have a fixed exchange rate system, an independent monetary policy and a free flow of international capital (impossible trinity). Therefore, in contrast to the gold standard period, where, there was a combination of the fixed exchange rate and international capital mobility,

in the Bretton Woods System, control of international capital flows and fixed exchange rates were preferred.

However, from the mid-1950s, "Eurodollar" market started to emerge as large banks in Western Europe began to collect deposits and lent in foreign currency as well as in their local currency. These types of transactions were not limited to the dollar; they were later extended to other currencies such as yen, mark, and sterling. In addition, in the 1960s, the search for cheap labor due to wage rise in some developed countries, the favorable macroeconomic environment, and the willingness of some large Western companies to bypass trade barriers imposed by countries pursuing import substitution development strategies, led to a slow resurgence of FDI in the world. However, in contrast to the first wave of financial globalization where FDI was mainly concentrated in natural resources, the manufacturing sector had the "lion's share" of the slow resurgence of FDI in the 1960s with roughly 60% of FDI inflows concentrated in Western Europe, U.S and Canada (Alfaro, 2014, p.26).

The occurrence of the Eurodollar market and the slow resurgence of FDI in the world started to undermine the foundations of the Bretton Woods System as the international capital movement started to kick off again. The high external deficit run by the US in that period also threatened US gold reserves and reduced the confidence vis-à-vis US dollar which is the basis of the Bretton Woods system. The development of Eurodollar market which was out of government controls, and the growing balance-of-payments deficits in the United States(US) contribute substantially to the deterioration of the Bretton Woods system (Das, 2010, pp.19-20). The disintegration process of Bretton Wood regime started when the then US President, Richard Nixon, announced the end of the indexation of the dollar to gold in 1971, and the system completely collapsed in 1973.

The collapse of the Bretton Woods system, the increasing importance of the countries of Western Europe and Japan in the world economy, and the need for recycling the petrodollars obtained by the Gulf countries following the increase of the oil prices between 1973 -1979 were among the main driving forces behind the emergence of the new wave of financial globalization that really took off in the 1980s. Also, the free market policies adopted by Margaret Thatcher, British Prime Minister, and the US President Ronald Reagan in the 1980s, contribute significantly to the coming of this second wave of financial globalization. For instance, the

foreign assets which accounted for only 6% of world GDP in 1960, rose dramatically to 25% in 1980 (Obstfeld and Taylor, 2004, p.55). The global stock of FDI rose from US$60 billion in 1960 to more than US $500 billion in 1980 (Jones, 2005, p.33).

To reduce the high level of inflation generated by the 1970s oil crisis, the US along with other developed countries, increased the interest rate. This led to the appreciation of the US dollar and increased significantly the foreign debt of developing countries which was mainly denominated in US dollar. As a result, many developing countries, especially Latin American countries such as Mexico experienced sovereign debt crises in 1982. As a way out of these debt crises, developing countries, under the auspices of MF and World Bank, implemented a series of reforms brought by the "Washington consensus pack". These reforms are trade liberalization, privatizations, and the integration of local financial markets with global markets, among others. With the implementation of these reforms by developing countries, financial globalization spread rapidly all over the world. Foreign direct investment (FDI) has been one of the main drivers of the rise of the second wave of financial globalization.

Although, FDI flows in the world received a heavy blow between the 1970s and the early 1980s due to the oil crisis and the debt crisis in the developing countries, it recovered in the late 1980s (see, Table 1.5). It is worth mentioning that the increasing financial globalization since the 1980s has triggered financial crises in many countries such as Mexico, Turkey, Argentina, Brazil, Russia, Malaysia, Thailand and the recent global financial crisis in 2008. The recent global financial crisis affected negatively the increasing trend in FDI flows that started in the late 1980s. For instance, FDI flows into Turkey and India declined by 40% in 2008; it declined also by 20% in China in the same year (Ucal et al.,2010, p.29). Overall, according to UNCTAD's estimation, in 2008, the global FDI flows declined by 10% from its level of 2007 due to the global financial crisis. Although there is a recovery in foreign direct investment flows after 2009, it has still not yet returned to the pre-crisis level.

In sum, the global development of capital markets as well as privatization, and deregulation have brought a spectacular increase in the number of transnational corporations since the 1980s (Thomsen, 2000, p.3). For instance, in 1990, the number of transnational corporations' foreign affiliates was estimated at 150,000 (Jaworek and Kuzel, 2015, p.57). Transnational corporations, through their FDI activities, have become a major driving force

behind the second wave of financial globalization. They constitute a key element of the global economy and their importance seems to continue to grow. In the next section, we present some brief stylized facts to show the importance of transnational corporations in the world economy.

Table 1.5: Global FDI inflows, 1970-1990[5], US$ billion

Year	World	Developed economies	Developing economies
1970	13,2	9,5	3,7
1971	14,2	10,6	3,5
1972	14,7	11,5	3,2
1973	20,3	15,4	4,9
1974	23,8	21,6	2,2
1975	26,3	16, 8	9,5
1976	21,9	15,5	6,3
1977	27,0	20,1	6,9
1978	34,2	25,3	8,8
1979	41,8	33,7	8,1
1980	54,3	46, 9	7,3
1981	69,5	45,7	23,8
1982	58,22	31,7	26,5
1983	50,3	32,7	17,6
1984	56,1	39,1	17,0
1985	55,8	41,7	14,1
1986	86,7	70,9	15,8
1987	136,8	115,1	21,7
1988	164,2	133,6	30,6
1989	196,9	166,5	30,4
1990	204,9	170,2	34,6

Source: Retrieved from UNCTAD 2017, FDI (current US$) online database

[5] Recent trend in global FDI flows with a focus on Africa will be highlighted in chapter 3.

1.4. Transnational Corporations in the World Economy: Stylized Facts

Multinational activities have become key elements of the global economy and their importance seems to continue to grow. For instance, in 2010, the number of Transnational Corporations' foreign affiliates in the world was estimated at more than 890,000 (UNCTAD, 2011, Web table 34). Some of the Transnational Corporations have grown so much in size that they are often compared to national economies. Sales by the world's 500 largest firms almost tripled between 1990 and 2001, while world GDP at current prices increased only 1.5 times over the same period. The sales of the 100 largest firms also increased from $3.2 trillion to almost $4.8 trillion between 1990 and 2000 (UNCTAD, 2002, p.90). In 2016, the sales of the top 100 non-financial Transnational Corporations stood at $7.4 trillion while their assets and number of employees were respectively $13.2 trillion and 16.3 million (UNCTAD, 2017, p.29).

To determine the level of influence of the transnational corporations in the world economy, the size of large multinationals is often compared to that of countries' economies. This exercise was first undertaken by Anderson and Cavanagh (2000), and later by UNCTAD (2002). Anderson and Cavanagh (2000) compare firms' sales volumes with countries' GDP and find that the sales of the top 200 firms in the world represent 27.5 % of the world GDP. In addition, of the world 50 largest "economies" (combined country-company list), 14 were transnational corporations and 36 were countries. These results show that the size of some transnational corporations outweighs the size of many countries' economies in the world.

Since GDP is a value-added measure, firms 'sales also need to be recalculated as value added for proper comparisons. After correcting these methodological shortcomings in the study of Anderson and Cavanagh (2000), UNCTAD (2002, p.90), reports that, in the top 100 of a combined country-company list, there were 29 transnational corporations and 71 countries. In other words, in the top 100 largest economic powers in the world, 29 are transnational corporations. This is a clear indication that some transnational corporations(TNCs) are more influential in the world economy than some countries.

Table 1.6 shows some recent statistics about transnational corporations (TNCs)' foreign affiliates assets, employment rate, value-added, sales, and export volumes. An impressive increase in the TNCs' foreign affiliates assets can be observed in Table 1.6. The total assets of foreign affiliates increase by almost 20-fold from 1990 to 2017. Foreign affiliates account also

for about 33% of world export of goods and services. Kleinert (2004, pp. 26-28), even estimates that Transnational Corporations are involved in around 80% of all international trade. The value added of the foreign affiliates accounted for 9% of world GDP in 2017 while it was only 5% in 1990. Also, Transnational Corporations play a major role in job creation in the world economy. The total number of their foreign affiliates' employees has almost increased 3-fold from 1990 to 2017. In 2017, sales and value-added of TNCs' foreign affiliates increased by 4.2 % and 5.2 % respectively, while the number of employees stood at around 73 million in the same year (Table 1.6). The foreign assets of the top 100 non-financial Transnational Corporations increased by 3,2% in 2016 from its level of $8014 billion in 2015 (UNTAD, 2017, p.29).

Table 1.6: Selected indicators of international production, 1990–2017 (US$ Billions)

Item	1990	2005-2007 *pre-crisis average*	2015	2016	2017
Total assets of foreign affiliates	5871	54791	94781	98758	103429
Employment by foreign affiliates (thousands)	27034	57392	69683	71157	73209
Value added (product) of foreign affiliates	1264	5264	6454	6950	7317
Export of foreign affiliates	1444	14957	20953	29057	30823
Sales of foreign affiliates	6755	24217	27559	36069	37 570
Value added (product) of foreign affiliates to global GDP ratio[a]	0.05	0.10	0.08	0.09	0.09
Exports of foreign affiliates to global exports of goods and services ratio[b]	0.32	0.33	0.33	0.33	0.33
Sales of foreign affiliates to global GDP ratio[c]	0.29	0.46	0.37	0.48	0.47

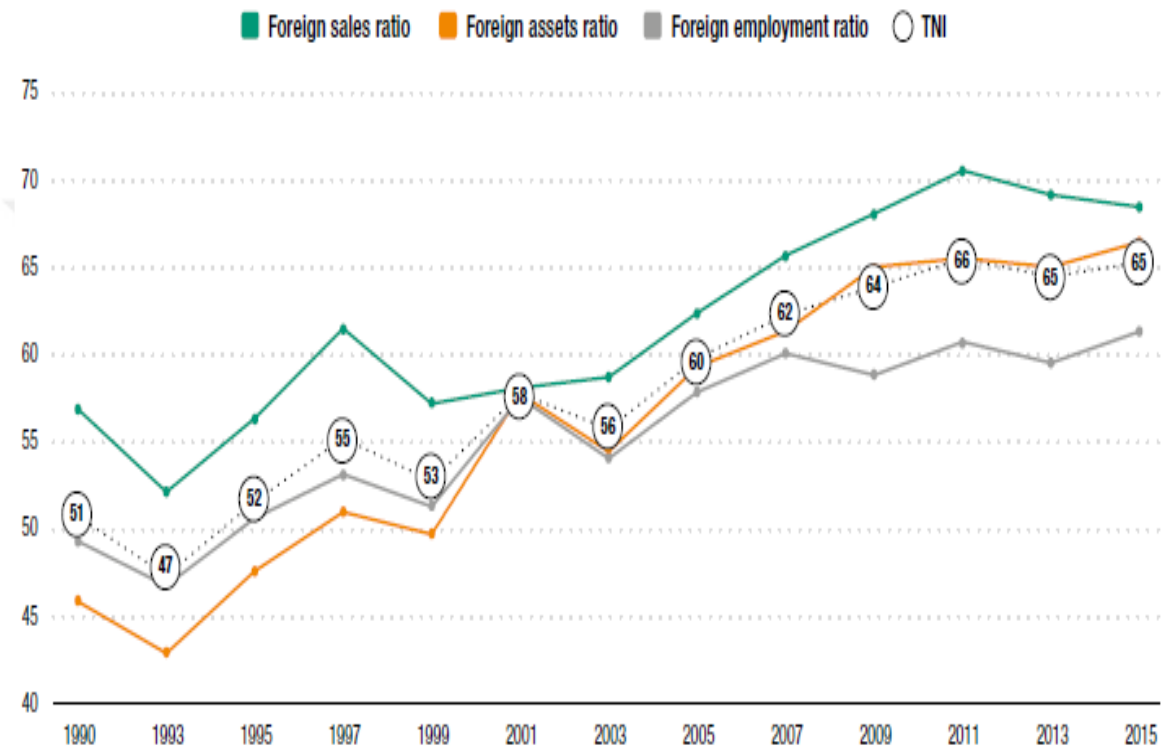
Source: Adapted from UNCTAD (2018, p.20)

[*a,b,c] : Author's calculations.

Multinational activity in the global economy is still increasing although the rate has slowed in recent years due to the decline in FDI flows following the global economic and financial crisis. Figure 1.1 shows the transnationality index (TNI) which indicates the

internationalization of the top 100 Transnational Corporations ranked by their foreign assets. The transnationality index (TNI) is calculated as the unweighted average of three ratios, namely, foreign assets to total assets, foreign sales to total sales, and foreign employment to total employment (UNCTAD, 2017, p.27).

Figure 1.1: Internationalization trends of the top 100 TNCs, 1990-2015 (percent)



Source: UNCTAD (2017, p. 27).

One can observe from Figure 1.1 that the internationalization was uneven during the period 1990-2015. The periods 1993-1997, and 2003-2010 are characterized by increasing expansion of the Transnational Corporations. However, since 2011, as shown by the transnationality index (TNI), the internationalization has remained relatively stable. Moreover, Transnational Corporations are very active in research development activities in the world. For instance, in 2002, 700 leading corporations represent 46% of the total global R&D expenditure, while in 2014, the top ten TNCs in terms of R&D expenditure allocated around $100 billion to research and development projects (Jaworek and Kuzel, 2015, pp.65-67). To sum up, one can conclude that transnational corporations occupy a key position in the world economy. All the

indications show that their position in the world economy will continue to grow bigger and bigger, and they will continue to shape the world economy for long. The economic power of some Transnational Corporations has so increased that they are often compared to countries' economies. The next section highlights the motives behind the internationalization of these corporations.

1.5. Motivations for Foreign Direct Investment Activities

Theories of FDI aimed at explaining the motivations (reasons) behind FDI activities revolve around the following questions: Why an investor or a firm decides to conduct investment activities such as firm creation or firm acquisition in a foreign country instead of contracting with local producers or distributors? What determines the location decision or why the foreign firm decides to establish a production unit in a particular foreign country? Several approaches related to international economics, international finance, and international business have been used in the attempts to answer these questions. In this section, we focus on the main theories of FDI.

In one of the first approach based on the traditional international finance, it is argued that FDI activities or multinational activities are motivated by the ordinary pursuit of profit. Investors move to a foreign country because they expect to gain higher cash flow or lower cost of capital. According to the "cost of capital theory", the structure and the size of the foreign firms allow them to enjoy flexible credit access conditions not available for domestic firms. For this approach, multinational firms are just arbitrageurs who move from one country to another to take advantage of the difference in returns on capital between countries (Alfaro 2014 p.6; Antràs and Yeaple, 2014, p.56). However, this explanation was far from being satisfactory. If interest rates differential (or lower cost of capital) is the only motivation behind FDI, why the investor does not consider portfolio investment instead of operating a firm in an unfamiliar environment in a foreign country? The traditional approach failed therefore to make a clear distinction between FDI and portfolio investment. As pointed out by Kindleberger (1969; cited by Alfaro, 2014, p.6), direct investment is more than capital movement. The limitations of the explanations of FDI by the early theories based on the traditional international finance and perfect competition framework triggered new approaches aimed at explaining the motivations behind FDI activities.

1.5.1. The Monopolistic Advantage Theory

The first widely accepted approach used to explain the motivation of multinational activity is the approach derived from industrial organization by Hymer (1976). He was the pioneer of the modern approach of FDI. Hymer's approach has been one of the first approaches to explaining international production in an imperfect market environment, and the essence is that domestic firms are in an advantageous position vis-à-vis the foreign firm in terms of their knowledge of the local market conditions, the culture, and the political and legal environment. They have also advantage in terms of their knowledge of the local business customs, the language, and the government network. In addition, activities in a foreign country incur additional costs, such as transportation and communication costs, and the foreign company may also be exposed to foreign exchange risk. There might be something that enables the investing firm to offset these disadvantages in order to engage in FDI activity. For Hymer, firms engage in FDI activities because they possess "firm-specific advantage"; also called "monopolistic advantage" by Kindleberger (1969), and it can be in the form of superior technology, management skills, new processes, patents, brand name, and economies of scale. This firm-specific advantage or monopolistic advantage helps the foreign investing firms to outperform domestic companies. In a nutshell, firms engage in FDI activity because they possess superior advantages over their competitors in the host country. According to Hymer, technological superiority is the most important firm-specific asset since it enables the introduction of new products with new characteristics. Moreover, it improves the production process and marketing skills.

Kindleberger (1969) refines and extends Hymer's hypothesis that firms engage in FDI-related activities because they have greater advantages than their competitors in the host country. Using the work of Hymer as a basis, Kindleberger develops his FDI theory on the basis of monopolistic power. For the author, FDI cannot occur in a world of perfect competition. In other words, Transnational Companies (TNCs) can enjoy their advantages only in a world of imperfect competition. Kindleberger argues that the monopolistic advantages may arise in the goods and factors markets, and can be in the form of product differentiation, superior managerial skills, superior technology, marketing skills, and flexible credit access conditions, among others. Kindleberger states that the monopolistic advantages may also arise through policies such as restrictions on imports implemented by the government of the host country

(Barclay, 2000, pp.30-31). In sum, according to the monopolistic advantage theory, FDI activity is motivated by market imperfections, rather than by differences in rates of return between countries.

Does this monopolistic advantage explain the motivations behind FDI activity in Africa? The response may be sector-specific. In general, the largest part of FDI flows to Africa is directed to extractive sectors. Investment in these sectors required high technology and sufficiently high amounts of financial capital which are beyond the capabilities of many domestic firms in Africa. Therefore, there is no effective domestic competition in these sectors in Africa. Consequently, the monopolistic advantage theory according to which multinationals undertake FDI activity because they possess a *specific asset* that allows them to outperform their domestic competitors is not generally the motivation behind FDI flows to extractive sectors in Africa. However, there are also market-seeking FDI into sectors such as manufacturing and services in Africa. In these sectors, there may be effective domestic competition and foreign firms may need a *firm-specific advantage* in order to outperform their domestic competitors. Thus, monopolistic advantage theory can explain the motivation behind FDI flows to these sectors in Africa.

1.5.2. Product Life Cycle Theory / International Trade Theory of FDI

The product life cycle theory developed by Vernon (1966) also explains the motivations for FDI. It is an approach based on the hypothesis of comparative advantage and factor endowments. The author went beyond the mere factor costs and includes information, uncertainty, and economies of scale in the explanation of FDI flows. It is the first dynamic explanation of the FDI flows and trade pattern. This theory was propounded as a response to the call for an alternative explanation of international trade pattern following Leontief paradox. Using US multinational corporation's data, the author attempts to explain when and where FDI takes place as Hymer's theory failed to answer this question. He argues that the life cycle of most of the manufacture products follow a sequence of three stages and each stage involves a different pattern of trade and FDI flows.

The first stage is the innovation stage. At this stage, a new product is invented and produced in a developed country such as the US, European Union, Japan among others. In the first stage, the production is mainly for the domestic market and the production also takes place

in the home country in order to minimize risk and uncertainty. By being closer to the consumers, their feedback helps to improve the product. Export to the highest income countries may take place at the end of this stage. If there is positive feedback from these countries, production and exports increase thereby marking the commencement of the second stage.

In the second stage (maturing product stage), the production process, the design of the new product is well mastered by the inventor, exports to other developed countries increase significantly as demand increases; the competitors also start to emerge in the foreign markets in order to supply the product locally. The firm inventor, at this stage, moves to the foreign country through an establishment of a production unit not only to respond efficiently to the increased demand but also to compete with the rival firms. In other words, the internationalization of the firm inventor begins at this stage.

In the final stage called also standardized product stage, the production process of the product is well-known; it is no longer the exclusive possession of the original producer. Thus, there is a need to move to other locations in the world where the production costs can be further minimized, preferably in developing countries where labor is generally cheap. In the final stage, the product is produced in a developing country and exported back to the original producer's country while the firm inventor is concentrated on the invention of new production. In sum, in the standardized product stage, the inventor or exporter becomes an importer.

Many products such as semiconductor chips, radio, black and white and color television, textile, and personal computer, among others followed the process described by the Product Life Cycle Theory. For example, the production of personal computers was introduced by the US, it moved later to Japan and now China which is one of the largest exporters of personal computers. However, the conclusions of this model are questionable nowadays. The business landscape which has considerably changed since the development of this theory has significantly weakened its predictive power. The model explained well what happened to the high-tech developed in the US in the 1960s and 1970s. But today, the increasing integration of the world economy (globalization) renders this theory less relevant. Nowadays, many new products are not introduced only in USA, Japan or the European Union; they are often introduced simultaneously in different countries.

1.5.3. Oligopolistic Reaction Theory

Oligopolistic reaction theory is another theory that attempts to explain the motivations behind FDI or multinational activity in the market imperfections framework. Although the idea was mentioned earlier by authors such as Caves (1971) among others, the paternity of this theory is attributed to Knickerbocker (1973) who investigated the issue in a systematic way. Using data from US multinational companies over the period 1948-1967, he concludes that firms in the oligopolistic industry tend to exhibit imitative behavior. They follow each other to a foreign country or market in which one of them has already established a production unit. The idea behind this action is that firms do not know with certitude the production cost in the country to which they are currently exporting their products. Thus, if one of the rivals, instead of exporting to the foreign country, takes the risk and set up a production unit in the host country, the other firm rivals run the risk of losing their market share in the host country. The firm that has switched from exporting to establishing a manufacturing subsidiary in the foreign country may benefit from lower production cost and outperform the rivals. To avoid this eventuality, they imitate the rival's action by engaging in FDI activity (Barclay, 2000, pp.36-37).

This investment behavior described as "follow-the-leader" is exemplified by many oligopolistically structured industries in the world such as automotive, petrochemical, and computer/electronics, etc. For example, in the automotive sector, Ford, Chrysler, and Nissan followed General Motors in Mexico; Ford and Volkswagen equally followed Fiat and General Motors in Brazil while Mitsubishi, Isuzu, Mazda, Nissan, and Peugeot followed Toyota in Thailand. The Japanese electronics firms also followed each other into Malaysia and Thailand (Moran, 1998, p.86). Criticisms made about this theory is that it is valid only when there is uncertainty regarding the production cost in a foreign country. In the absence of uncertainty about costs, the rival's FDI becomes less relevant in the decision for a firm to internationalize. Another criticism also is that the theory fails to provide an explanation concerning the reasons that lead the first firm to engage in FDI or multinational activity.

This theory explains the motivation behind some FDI flows to Africa. There are some countries in Africa where foreign firms in oligopolistically structured industries follow each other to set up production units. This investment behavior described as "follow-the-leader"

happened for example in Kenya where Pepsi followed Coca-Cola in setting production unit. Similarly, carmakers such as Toyota and Nissan followed General Motors in Kenya.

1.5.4. Internalization Theory

Internalization theory is another theory aimed at explaining FDI or multinational activity. This theory, propounded by Buckley and Casson (1976), attempts to answer a fundamental question: why firms involve in FDI instead of licensing? The essence of the theory is that a firm may elaborate on new technology, new production process, or other forms of intangible and knowledge-based assets that allow a cost advantage when setting up a foreign subsidiary. Thus, it becomes more advantageous for the enterprise to internalize these advantages by involving in FDI rather than producing locally and exporting or licensing this ownership advantage. In addition, the firm may not want its new technology or production process to be copied, thus the firm opens a subsidiary abroad in order to exercise control over the production and the sale of the final product which incorporates the ownership advantage. In sum, according to this theory, the firm engages in FDI activity when the internalization gain is higher than licensing the ownership advantage to foreign firms. In the absence of internalization gains, the firm will be better off by licensing its ownership advantage or by increasing its production at home and export to foreign markets.

Does this theory explain the motivation for FDI in Africa? This theory refers mainly to efficiency-seeking based FDI (cost reduction). Efficiency-seeking FDI is interested in cost minimization and it is usually undertaken in a location close to the home country, or a location with cheap labor. Many foreign investors go to Africa for efficiency-seeking reasons. For instance, the closeness of Morocco to European markets and its relatively skilled and cheap labor attract export-oriented FDI from European countries. This is the case of the French carmaker Renault which has set up a plant in Morocco to assemble and export cars. One can, therefore, argue that internalization theory may explain the motivation behind some FDI flows to Africa.

1.5.5. Eclectic Paradigm -OLI Paradigm

The Eclectic Paradigm remains the dominant framework for explaining FDI and international production (Dunning, 2001, p.187). This framework is known as OLI paradigm,

and asserts that a firm involves in FDI if the following three conditions are satisfied: (i) the firm should possess an ownership-specific advantage vis-à-vis its competitors in the host country (O); (ii) there are location advantages in using the ownership-specific advantage in a foreign country (L), and (iii) the internalization gain is higher than licensing the ownership advantages to foreign firms (I). In short, FDI decision making involves three conditions, namely, ownership advantage, location advantage, and internalization advantage.

Ownership advantages are firm-specific advantages in the form of tangible and intangible assets such as managerial skills, superior technology, economies of scales, brand reputation, marketing skill, and control over raw materials, etc. which enable the firm to compete in an unfamiliar environment in the host country, and outperform the domestic firms.

Location advantage refers to the motives of the firm to take advantage of certain opportunities such as abundant natural resources, cheap labor cost, easy access and low-cost inputs a foreign country may offer. Location advantage can be also in the form of political stability, favorable legal and cultural environment, lower transaction costs, lower risk, and host country government policies such as favorable tax treatments, etc. These factors allow the investment firm to select the foreign country where the investment will be located.

Internalization advantage refers to the motives of the firms to reduce cost or to protect their ownership advantage. Substantial cost reductions can sometimes be obtained by producing and distributing via foreign subsidiaries than producing locally and export. Also, in order to protect their prestige, brand, technology, and managerial know-how, firms undertake FDI activities instead of establishing a partnership or a license agreement with local firms. In the presence of significant internalization gain, it is more profitable for the firm to engage in FDI activity instead of exporting or licensing its ownership advantages to foreign firms (Dunning, 2001, p. 176).

The three conditions mentioned above should be simultaneously fulfilled before the FDI can take place. For example, if there are ownership advantages and location advantages but no internalization gains, the firm will most probably produce at home and export or license its ownership advantages to foreign firms. Despite its wide acceptance, the eclectic paradigm to FDI which integrates different motivations for FDI into one theory does not escape criticisms. One of the main criticisms is that the predictive value of the model is weak because so many

variables are involved; the model is static, the dynamics of the internationalization process of firms are not explained in the model.

Does this theory explain the reasons behind FDI flows to Africa? Eclectic paradigm combines monopolistic advantage theory, internalization theory, and location theory. Put another way, there are three main motives for FDI in Dunning's theory. Market-seeking, efficiency-seeking, and resource-seeking. The combination of these three motives seems to be suitable to explain the reasons behind a large proportion of FDI flows to Africa. Today many international investors are investing across Africa not only for resource-seeking reasons but also for efficiency-seeking and market-seeking reasons.

1.5.6. Theories Explaining FDI from Developing Countries

So far the theories we have reviewed regarding the motivations behind FDI mainly assume that foreign investments flow from the North (advanced countries) where capital is abundant to the South (developing countries) where capital is scarce. However, in recent times, a number of developing countries have turned into important sources of FDI. The Third World multinational companies' share of FDI is becoming increasingly important in the global FDI flows. Foreign direct investment from developing countries such as China, India, Brazil, Turkey, Malaysia, and South Africa, among others are increasingly prominent. For example, Brazil, China, India, Malaysia, and South Africa have now emerged as an important source of FDI inflows into Africa (World Bank, 2014, p.1). Are the motives behind this FDI different from those behind FDI from advanced countries?

It is argued that multinational companies from developing economies import technology from the developed world. Once the technology or the product is imported, it undergoes some modifications in the form of scaling-down[6] in order to make it suitable for consumers in other developing regions. The ability of these firms to modified technologies from the developed world to match them with local tastes and preferences allows them to obtain a competitive advantage in other developing countries with similar socio-economic conditions. Thus, they acquire ownership advantages which tend to be more beneficial to internalize than exporting or licensing. It is also argued that, in addition to their ownership advantage in the form of suitable

[6] Scaling-down means elimination of some features of the product to make it simpler.

technology, multinational companies (MNCs) from developing countries possess other ownership advantages over those from developed countries. They are familiar with the developing countries because the socio-economic conditions in which they operate in their home countries are not far from that of the other developing countries; most of the developing countries share many similarities regarding infrastructure and bureaucratic conditions, etc. This gives them (Third world firms) advantageous position to operate in other developing countries (Aggarwal and Weekly, 1982).

Also, in contrast to the MNCs from developed countries, MNCs from developing countries receive a warmer welcome in other developing countries such as African countries because they are not perceived as politically or economically cumbersome. For example, China is usually welcomed in Africa as an investor because it does not interfere in political issues as compared to MNCs from USA, UK or France which are sometimes perceived by many Africans as a vehicle of imperialism or neocolonialism. Other motives behind FDI by Third World firms are the restrictive policy regime of the home government, the role of the Diaspora, the willingness to hedge against the risk related to political instability at home (Aggarwal and Weekly, 1982). For example, Anwar and Mughal (2013) find in their study that Indian multinational companies usually engage in FDI in countries or regions having the largest concentration of Indian migrants. Overall, one can say that most of the motivations behind FDI from developing countries can be explained by the previously discussed FDI theories.

1.6. Factors Influencing FDI Location Decisions

Once a firm has made the decision to internationalize, the following step is to decide the foreign country where the production unit will be established. What are the motivations (reasons) behind the choice of a country or region where the production unit should be located? There is a fairly long list of factors that are believed to influence the location choice of FDI. Depending on the investor's aim, the location choice may differ from one investor to another. It is argued that investors choose the location for their investment based on the expected gain associated with each location. This profitability is also affected by country-specific factors and investment motivations. Thus, investors who are interested in market-seeking are attracted by countries with large and rapid growing markets; investors interested in resource access will locate their investment in resource-rich countries while investors with interest in efficiency-

seeking will focus on locations closer to their home countries due to lower transportation costs (Campos and Kinoshita, 2003, p.8). Investors seem to select the locations according to their comparative advantages. For instance, developing countries are usually the destination of investors seeking to secure access to natural resources, lower production costs, and labor-intensive activities.

The factors that are usually mentioned as determinants or reasons behind the location choice of FDI can be categorized into two main groups: policy factors and non-policy factors. Policy factors include liberal trade regimes, product and labor markets regulation, corporate tax, infrastructure, business facilitation measures, institutional quality, and macroeconomic stability, among others while non-policy factors include large domestic market size, political stability, natural resource endowments, distance/transport cost, among others (Mateev, 2009, pp.4-5). Overall, from a review of existing literature, Ajayi (2004, p.22) identifies the following factors as driving forces behind FDI inflows into African countries:

1.Size of the market and growth
2.Costs and skill of the labor force
3.Availability of good infrastructure
4.Country risk
5.The openness of the economy/ Liberal trade regimes
6.Institutional environment
7.Availability of natural resource
8.Agglomeration effects (Concentration of other investors)
9.Return on investment
10.Enforceability of contracts and transparency of the judiciary system
11.Macroeconomic stability
12.Investment incentives ("sweetener" policies)

A Larger domestic market, usually measured by per capita GDP of the country, is one of the key factors that drive market-seeking FDI to a particular location. Since the market size is a measure of market demand in a country, the stock of FDI is expected to be large in countries with large domestic markets, particularly when the exploitation of economies of scale for import-substituting investment is allowed in the host country.

The cost and skill of the labor force are also a major determinant of FDI location choice. Mody and Srinivasan (1998, p.784) argue that the cost of labor is highly important in location decision, especially when the FDI is export-oriented. Lower labor cost enables the firm to minimize the production cost (all other factors remaining unchanged) thereby increasing its competitiveness in the international market. Many firms from developed countries relocate a part of their production to developing countries like China in order to take advantage of cheap labor. However, nowadays FDI is moving towards activities that are technologically intensive thereby increasing the demand for skilled labor and making the low-cost unskilled labor less relevant to the location decision (Pigato, 2001, p.5). It is generally believed that the learning and adoption of new technology are faster when the firm's personnel are highly educated. Thus, the quality of the labor force is also a matter of concern for the investing firm. Foreign firms usually prefer countries where the government has a liberal approach regarding the employment of expatriate staff. This allows them to bring foreign workers to fill the skill gap of their local personnel.

Infrastructure development is also mentioned as an important reason for an investor to operate a business in a particular location or country. For instance, the existence of quality roads in the host country facilitates the transportation and reduces its cost while the availability of quality telecommunication facilities enables the investor to easily establish communication between the home and the FDI recipient country. Thus, countries with good infrastructures are likely to experience more FDI inflows because the profitability of the investment may be higher. Good financial infrastructure is also important for a country to attract FDI. For example, in some African countries like Uganda, Tanzania and Zambia, Bhinda et al. (1999; cited by Ajayi, 2004, p.17) report that problems associated with funds mobilization were among the key factors that discourage investors.

Political risks also influence FDI inflows, particularly in developing countries. Political uncertainty is a very important factor that influences FDI inflows into African countries. For instance, politically motivated assassination, riots, military coup, and internal conflict, among others are the common characteristics of many African countries. Despite some improvement, the perception of risk in Africa remains still very high and undermines the attractiveness of Africa in terms of foreign direct investment.

The extent of external liberalization of a country (Openness of the economy) is also known as an important factor that determines the selection of FDI location. It is argued that countries with more liberalized trade regimes (elimination of trade controls and quotas, reduction of tariffs among others), appropriate exchange rate regimes complemented with reduction of capital controls are more likely to enjoy higher FDI inflows.

The quality of the host country's institutions is one of the dominant factors that affect the location decision. There is a wide array of institutional factors that can promote or discourage FDI inflows. One of these factors is corruption and bribery. Corruption hinders the inflows of FDI because it generates an additional cost and uncertainty wherever it exists. Another factor is the level of bureaucracy associated with the establishment of a business in a country. Complex and time-consuming administrative procedures are known to discourage investment. The judiciary system is another important institutional factor. Sound and fair judiciary system are very important for the protection of property rights and law enforcement regulations. It is stated that foreign investors target countries with a better institutional environment such as strong enforceability of contracts. The lack of enforceability of contracts and transparency of the judiciary system in many African countries increases the risk of capital loss and therefore discourage FDI inflows.

The availability of natural resources is a key factor in attracting FDI. This is particularly true in Africa where many countries receive much FDI in natural resource-based sectors, as they are rich in minerals, oil, and natural gas. It is stated that the need to get secure access to natural resources is one of the main motivations driving multinational corporations to Africa. Indeed, the continent possesses large reserves of oil, gold, diamonds, and copper, and more than half of the world's cobalt and manganese, one-third of bauxite, and more than 80% of chromium and platinum.

Agglomeration effects: New foreign investors may be attracted to countries in which there are already more foreign investments. Insufficient information on local conditions increases the uncertainty and risks of the investment. Since foreign investors are less knowledgeable of a country's environment, if more investors exist already in the location, the new investors may consider it as a good signal of favorable conditions and decide to equally invest there in order to minimize uncertainty. This situation is called "agglomeration effects or

agglomeration economies". The agglomeration effects can generate positive externalities such as technological spillovers sharing among foreign investors.

Return on investment is another major reason driving multinational corporations to a particular location. It is argued that, in general, foreign investors select locations or countries that pay a higher return on capital to operate their business. Asiedu (2002, p.110) point out that the evaluation of the rate of return on capital in developing countries is quite difficult since most of them do not have a well-functioning capital market.

Macroeconomic stability is another important factor. It is argued that macroeconomic policy errors resulting in exchange rate misalignment and the lack of convertible currencies constrain FDI flows. For instance, a record of price stability is a good indicator of macroeconomic stability and the progress in market reforms. A country with a long history of low inflation and prudent fiscal policy signals to investors how committed and credible the government is. Such a country is, therefore, more likely to attract FDI.

Tax policy (fiscal incentives) also is another factor that determines FDI inflows into a host country. Many developing countries have designed attractive tax policies in order to attract more FDI. In general, fiscal incentives such as reduced tax rates, subsidies, exemptions from import duties, among others are offered by many African countries to attract FDI.

It is worth mentioning that factors mentioned above as determinants of FDI location decision are known as "classical" locational determinants. These "classical" locational determinants are changing over time because new industries, new types of players and Global Value Chain(GVC) modes have emerged. Now the locational determinants are becoming increasingly specific to Global Value Chain(GVC) segments and GVC modes. In other words, locational determinants vary according to the segment or sub-segment of the Global Value Chain(GVC) in question (UNCTAD, 2013, p.144). Global Value Chain segments can be categorized into three broad groups, namely knowledge creation (innovation, research and development, design and branding), main operational segment (raw materials and agricultural inputs, manufactured goods, including parts and subassemblies), and distribution and support services (distribution and logistics, services) [UNCTAD, 2013, p.145]. In addition to locational determinants that are relevant irrespective of the specific value segment, there are specific

factors that influence the location decision for each Global Value Chain segment. For example, the location of knowledge creating segment of GVC is determined by the quality of intellectual property right protection and the existence of skilled, but relatively cheap labor. This would mean that countries that offer poor intellectual property protection regime will hardly attract FDI in this segment of GVC.

1.7. Summary

The general aim of this chapter was to define financial globalization and present the motivations behind FDI and multinational activity. The analysis reveals that financial globalization, which can be defined in simple terms as the ability of capital to move beyond national borders without encountering any restrictions, is not a new phenomenon. It started about 150 years ago. This concept has regained momentum since the 1980s with the spread of neo-liberal policies all over the world. There are three main types of international capital flows in general, namely, foreign direct investments (FDI), international portfolio investments, and bank and other investments. FDI is the most important component of financial globalization. In the majority of the cases, FDI activity is undertaken by Multinational Companies (MNCs) or Transnational Corporations (TNCs). The importance of multinational activity in the world economy is steadily increasing since the beginning of the second wave of financial globalization. Some of the Multinational Companies have so increased in size that they often compared to national economies. From the perspective of the MNCs, there are two main types of FDI, namely, horizontal FDI and vertical FDI.

Concerning the motivations behind FDI, there are a large number of theories aimed at explaining why firms engage in FDI. The major theories are the Monopolistic Advantage Theory known also as industrial organization approach of FDI, Internalization Theory, Oligopolistic Reaction Theory, and the Eclectic Paradigm of FDI. Recently some developing countries have emerged as an important source of FDI; this has led to the modifications of these theories to include factors such as the familiarity with socio-economic conditions in other countries, restrictive policy regime of home government, the role of the Diaspora, the risk related to political instability at home, among others in order to explain the reasons why firms from developing economies engage in FDI. Overall, the motives behind FDI can also be categorized as resource-seeking, market-seeking, efficiency-seeking, and strategic asset -

seeking. The analysis shows also that no single theory is able to explain the motivations behind all FDI activities in Africa.

There is also a fairly long list of factors that are believed to influence the location choice of FDI. These factors range from the size of markets to the quality of labor, infrastructure, and institutions, to the availability of resources. However, these "classical" locational determinants are changing over time because new industries, new types of players and Global Value Chain(GVC) modes have emerged. Now the locational determinants are becoming increasingly specific to Global Value Chain(GVC) segments and GVC modes.

Although the main objective of this study is not to analyze the determinants of FDI, knowing these determinants is very important for policies aimed at attracting FDI to African countries. As argued by Nunnenkamp (2004, p.673), for FDI to contribute to development goals in developing countries, appropriate policies need to be implemented to attract more FDI and create a domestic environment that is conducive to favorable effects of FDI. Te Velde (2003, p.34) also argued that the impact of FDI on income inequality and growth may vary according to the motivations behind it.

After defining financial globalization and presenting its aspects as well as the motivations behind the internationalization of the transnational corporations, we shed light on the potential effects of FDI activities in host countries. This issue is the subject-matter of the next chapter.

CHAPTER 2: FDI, GROWTH AND INCOME INEQUALITY: THEORY AND PREVIOUS EMPIRICAL EVIDENCE

The effects of foreign direct investment (FDI) have been analyzed in the literature from the perspective of home and host country. There is an intense debate between pro-globalization and anti-globalization concerning the effects of FDI both on home and host country. For instance, in the home country, some group of people hold a position that foreign investment has a downward effect on domestic wages, erodes technology leadership, and destroys local jobs, among other aspects. In contrast, others argue that, in order to remain competitive in an increasingly global environment, it is necessary for firms to invest abroad. In the host countries, some scholars and policymakers view FDI as a key factor to promote economic growth and development while others contend that multinational companies monopolize domestic markets, exploit domestic resources, create economic dependence, threaten local culture, and generate environmental degradation.

This study focuses mainly on the effects of FDI on host countries, especially host developing countries. The impact of FDI on host countries is multidimensional; it can be economic, political and social. The economic effects of FDI deal with the implications of FDI for variables such as economic growth, income, market structure, and the balance of payments, among others. The political effects include mainly the implications for national sovereignty while the social effects include the question of the creation of enclaves and a foreign elite in the host country (Moosa, 2002, p.69).

This chapter focuses mainly on the economic effects of foreign direct investment on the recipient economy, particularly the impact of FDI on economic growth and income distribution. Both theoretical and empirical literature on the impact of FDI on growth and income distribution is so far inconclusive. This chapter mainly presents the theoretical arguments and recent empirical evidence on the effect of FDI on economic growth and income distribution in host countries.

2.1.FDI and Economic Growth Relation: Theoretical Arguments

In the theoretical literature, there are arguments in favor of both positive and adverse effects of FDI on economic growth in the host country. Traditionally, there are two main competing theories regarding the effect of FDI on economic growth. Proponents of modernization theory argue that FDI promotes growth while dependency theorists hold a position that foreign investment has negative implications for economic growth in developing countries. However, some theories which depart from these two standard theories have emerged recently. The predominant position from these new theories is that the effect of FDI on economic growth cannot be taken for granted; it depends on certain domestic factors and policies, also known as, absorptive capacities in the host country. In order words, FDI generates economic growth only in host countries that satisfy certain domestic conditions. We review these theoretical arguments in the first part of this chapter.

2.1.1. The Positive Effect of FDI on Economic Growth

The idea that FDI promotes economic growth in developing host countries is generally found in the modernization theories which revolves around neoclassical and endogenous growth theories (Adams, 2009, p.940). In the modernization theories, transnational corporations through their FDI activities are considered as important elements to fuel economic growth and development because they contribute to the capital accumulation and the diffusion of superior technology and management skills in the host country.

2.1.1.1. FDI in the Neoclassical Growth Theory

In the theoretical approach based on the traditional neoclassical growth model, FDI is considered as additional capital for domestic investment. In this framework, no difference is made between FDI and domestic investment. Therefore, an increase in FDI inflows augments the domestic savings, enhances the capital accumulation process, and ultimately stimulates economic growth in the recipient country. The best-known contributor to neoclassical growth theory is Robert Solow with his seminal papers, Solow (1956, 1957). The model describes the connection between an economy's output and inputs. The analysis of Solow starts with the following equations:

$$Y = Af(K, L), \tag{2-1}$$

where equation (2-1) is a production function and Y stands for the output or GDP, K is capital, L is labor and A is the Total Factor Productivity. The second equation establishing the link between investment (I) and capital stock (K) is known as capital accumulation equation, and can be described as follow:

$$\Delta K_t = I_t - \delta K_{t-1} \tag{2-2}$$

where Δ and δ are respectively the discrete change and the depreciation; equation (2-2) shows the role of investment in the capital accumulation. The gross investment I can be a proportion of output or GDP saved (sY) or it can be endogenously determined by profit-maximizing firms. In the model, the output or GDP is determined by the variation in inputs and productivity, as a result of improved technology and highly skilled labor; increase in inputs and productivity increases the output. The neoclassical model assumes perfect competition where all production factors are paid their marginal products. Therefore, the production function (equation 2-1) can be transformed as follow:

$$\frac{\Delta Y}{Y} = \left[(1-\theta) \times \frac{\Delta L}{L}\right] + \left(\theta \times \frac{\Delta K}{K}\right) + \frac{\Delta A}{A} \tag{2-3}$$

$$\text{Growth} = \begin{pmatrix} labour \\ share \\ of \\ output \end{pmatrix} \times \begin{pmatrix} labour \\ growth \end{pmatrix} + \begin{pmatrix} capital \\ share \\ of \\ output \end{pmatrix} \times \begin{pmatrix} capital \\ growth \end{pmatrix} + \begin{pmatrix} total \\ factor \\ productivity \\ growth \end{pmatrix}$$

The Total Factor Productivity or Solow residual is the variation in output that is not explained by the variation in the production factors. It is due to technological progress which is assumed to be exogenous in the neoclassical growth framework. As we can see in the equation (2-3), the contribution of capital accumulation to economic growth is proportional to the capital share of the aggregate output. In this model, FDI is assimilated with domestic investment;

increase in FDI inflow increases the domestic investment and capital accumulation, and ultimately, increases output (economic growth).

However, one of the limitations of the model is that it assumes a diminishing return of capital accumulation. Thus, economic growth is transitory in the absence of technical progress. In other words, the long run growth of per capita income is not affected by FDI but rather by exogenous technical progress of which the economic determinants have not been explained by Solow. The limitation of neoclassical growth models regarding the effect of FDI on growth is summarized by De Mello (1997, p.8) as follows:

> *The basic shortcoming of conventional neoclassical growth models, as far as FDI is concerned, is that long-run growth can only result from technological progress and/or population/labor force growth, which are both considered to be exogenous. FDI would only affect output growth in the short run and, in the long run, under the conventional assumption of diminishing returns to capital inputs, the recipient economy would converge to its steady state, as if FDI had never taken place, leaving no permanent impact on output growth.*

In contrast to the neoclassical growth models, endogenous growth models assume constant returns to inputs. In these models, technological progress is no longer exogenous; it is assumed to depend on a set of inputs such as investment in capital goods, the stock of research and development and human capital accumulation. In the new growth framework, FDI incorporates new technologies in the production function, and it is considered as a factor input along with labor and domestic capital. These models consider FDI as a source of physical capital, superior technology, new managerial skills, and marketing expertise. Thus, according to the endogenous growth theories, FDI, by increasing the level of capital stock and technology in the host country, affects permanently economic growth (both short and long run).

2.1.1.2. FDI in the Endogenous Growth Theories

Neoclassical growth theory has been the dominant framework of empirical and theoretical studies on capital accumulation and economic growth for about three decades. However, the dissatisfaction about the theory arises by the late 1980s (Dornbusch, Fischer and Startz, 2011, p.78). As we mentioned earlier, according to the neoclassical growth theory, technological progress is the source of long-run growth but the theory is unable to explain the economic determinants of that technological advancement. This flaw of the neoclassical growth

model triggered the development of new growth theories, known also as endogenous growth theories. The aim of the new school was to explain the determinants of technological knowledge and its diffusion. For this school, innovation, creation, and invention-driving incentives are the main sources of economic growth.

In contrast to the neoclassical assumption of diminishing marginal product of capital, the new growth models assume constant returns to scale to inputs such as capital and labor and the level of technology is assumed to depend on investment in capital goods or tangible assets (Arrow, 1962), stock of research and development (Romer,1986), and human capital accumulation (Lucas, 1988, Wang, 1990). Investments in capital goods, human capital, and research & development speed up technological progress which is needed to promote long-term economic growth. Many endogenous growth models can be expressed in the following simplified way:

$$Y_i = A(K) * f(K_i, L_i) \tag{2-4}$$

Where i stands for firm-specific variables, capital (K_i) and labor (L_i). According to Arrow (1962), technology is a direct function of tangible capital, therefore, in Arrow's model, *K* represents the aggregate tangible capital stock and *A(K)* stands for the technology function. This model was reviewed by Paul Romer (1986), Robert Lucas (1988), among others. For example, Romer (1986) models the technological progress A(.) as a function of the stock of research and development. According to Romer, a new knowledge or skills invented by one firm through investment in research and development raises the level of technology not only within the firm but in the entire economy because knowledge cannot be perfectly kept secret. Lucas (1988) also models the technological progress A (.) as a function of the stock of human capital[7]. In sum, while technological progress is assumed to be exogenous in the conventional neoclassical growth model, the endogenous growth theory attributes the technological progress to investment in capital goods, human capital, and research and development(R&D).

[7] The works of these authors who are responsible for much of the early development of the concept of endogenous growth has been pursued by authors such as Grossman and Helpman (1991), Aghion and Howitt (1992), Barro and Sala-i-Martin (1995) among others.

The new growth models attribute a significant role to FDI in promoting sustainable growth and development. The growth-development effect of FDI preached by the new growth theory is one of the main motivations behind the aggressive FDI promotion policies implemented by developing countries. FDI, through its ability to transfer technology to recipient economies, is seen as particularly important for developing countries which, in general, do not satisfy the necessary conditions to stimulate innovation; a key element to enhance economic growth.

According to the new growth theories, the essential part of the world's research and development activities is undertaken by transnational corporations (TNCs), thus their presence in developing economies give rise to technology diffusion, new managerial practices, marketing skills, and human capital augmentation, among others. As we can see, most of the determinants of technological progress identified by the new growth models can be initiated and nurtured through FDI. In other words, FDI plays an important role in the growth of technological progress in a host country, and this technological progress is the key driver of long-run economic growth. In a nutshell, according to the traditional neoclassical growth theory and the new growth theories, FDI can enhance significantly economic growth by increasing the capital accumulation (quantity of investment) and the Total Factor Productivity (TFP).

2.1.1.3.FDI and Productivity Spillovers: Transmission Channels

The main channel through which FDI affects economic growth consists of productivity spillovers from foreign firms to domestically-owned firms (Jude and Levieuge, 2016, p.4). It is argued that the technological advances embodied in FDI is not only limited to the FDI-recipient firms (foreign affiliates in the host country), it spreads or propagates to the entire economy through spillover effects. FDI is viewed therefore as one of the main conduits of technological diffusion in the recipient economy. These technology spillovers increase the productivity of domestic firms, which in turn, enhances economic growth.

The productivity spillovers from FDI occurs through several channels:(i) Demonstration or imitation channel where the local firms imitate or adopt the new technologies introduced by foreign firms; (ii) labor mobility and training channel where the workers trained with advanced technical and managerial skills in the foreign firms are hired by the domestic firms or set up their own business; (iii) competition channel where domestic firms improve their performance

in order to respond to the new competition generated by the presence of foreign firms ; (iv) backward and forward linkages where the local firms become suppliers to the multinational enterprise (backward linkages) or customers of the intermediate inputs produced by the foreign firms (forward linkages) ; (v) exports channel where the presence of the FDI activities increases the export capacity of the local firms. FDI spillovers occurring through demonstration and/or imitation channel, labor mobility or turnover channel and competition channel are known as horizontal spillovers. It generally takes place between firms operating in the same industry. The spillover effects occurring through other channels such as backward and forward linkages arise usually through interaction across industries and they are known as vertical spillovers.

The substantial part of the investment regarding research and development activities in the world is undertaken by multinational companies. Thus, they are among the firms that possess the most advanced technology. When transferring the technology to their foreign affiliates, they minimize the horizontal spillovers of productivity in order to keep their market power vis-à-vis the local firms that operate in the same industry or market. Since it is difficult to perfectly keep technology and knowledge secret, there will be a spillover of technology to the domestic competitors thereby enhancing productivity or efficiency of the local firms (Colen et al. 2008, p.17).

- ***Demonstration / Imitation Effect***

Demonstration or imitation channel where the local firms imitate the new technologies introduced by foreign firms is an important channel of FDI productivity spillovers. The high cost and the uncertainty of results associated with the introduction of new technology into a given market may discourage domestic firms to engage in such an endeavor. However, if a new technology is successfully used by a foreign firm, domestic firms will also be motivated to imitate and use such a new technology. The higher the similarity of the goods produced by the foreign and the local firms, the higher the willingness of the domestic firms to observe and imitate the new technology (Nuno and Fontoura, 2007, p.411). Local companies, by observing and imitating the multinationals' foreign affiliates' practices, they become familiar with the advanced technology and managerial skills used in foreign firms.

In regard to this issue, Findlay (1978) provides a simple dynamic model in which he explains how technology transfer occurs between developed and developing countries. The

author holds a position that transnational corporations are among the key conduits through which the propagation of new technology occurs. According to Findlay, the rate of technological change in the developing countries (backward regions) is positively associated with the degree to which they are opened to foreign capital and the gap in development between the home and host country of this foreign capital. However, he notes that the new technology can be transferred to the backward regions only if some local conditions such as demonstration effect are satisfied. The higher the demonstration effect in the FDI recipient country, the faster the technology transfer from the multinational firms to the domestic firms. He summarizes his idea as follows: "*Contact with firms of a higher level of efficiency enables the relatively backward ones to improve not only by copying or imitating but also by inducing them to try harder. The visible example of a high standard can inspire those with a lower level of achievement to perform better"* (Findlay, 1978, p.5). In other words, domestic firms improve their performance by imitating the "best practices" of foreign firms.

Das (1987) states that the demonstration or "the learning from observing" effect is probably the most evident channel through which the technology transfer from the multinational companies to the native firms occurs. He develops a model in which there are two aspects of the transfer of technology. Firstly, the transfer of technology takes place from the parent firm to its subsidiary in the foreign country, and secondly, the transfer of the technology occurs from the foreign affiliate firm to the native ones in the form of spillover of technology. The author uses the "price -leadership" model frequently employed in the oligopoly theory and assumes that the native firms 'efficiency level increases positively with the level of activity of the foreign affiliate firms. In other words, the larger the scale of operations of the foreign firms, the greater the opportunity for the indigenous firms to learn (imitate) and adopt the advanced technology. The author highlights therefore that, in the presence of the foreign affiliated firms, domestic firms that operate in the same sector or industry will acquire the new technology through demonstration effect and become more efficient. He concludes that even if the indigenous firms cannot imitate or absorb the new technology employed by foreign firms, the host country as a whole still benefits from FDI. Javorcik (2004, p.607) argues in the same direction that the local firms, by copying new technologies from the foreign ones, increase their rate of adoption of new technologies and consequently increase their efficiency or productivity.

In the same vein, Borensztein et al. (1998) argue that FDI is among the key elements for sound economic growth in less developing countries. The authors note that, with the presence of FDI or foreign-owned firms, domestic firms can enhance their productivity through "learning by watching effect" as they interact with foreign firms. For the authors, FDI is an important source of the propagation of advanced technology in the developing recipient countries. Through spillover effects, the local firms acquire new technologies and improve their productive capacity, which in turn, should promote economic growth. Also, Glass and Saggi (2002) show that the presence of multinational firms helps local firms reduce the cost of imitation when imitation and FDI serve as channels for international technology transfer to developing countries.

- ***Labor Mobility / Human capital formation***

Another channel of FDI productivity spillovers is related to labor turnover (mobility) and/or human capital formation. Domestic firms can hire workers who have been previously in a foreign firm with experience and knowledge of advanced technology. The transfer of new technology from foreign to domestic firms can occur through this labor mobility effect, and it is expected to influence positively the productivity of the native firms. The study by Fosfuri et al. (2001) is one of the influential studies on this issue. In the model elaborated by the authors, the transfer of technology and managerial skills from the foreign company to the domestic one is made through labor turnover. They argue that foreign firms come to the host country with advanced technology and this technology can only be used in their production process after the required training of local labor or local managers. After receiving the appropriate training, they can be "snatched" by the local firms or they may simply set up their own business (Spin-offs) and finally the advanced technology and managerial skills acquired from the foreign firms will spread to the local firms and contribute to their productivity growth.

Also, Alfaro (2014, p.8) argue that multinational companies focus more on labor training than domestic firms. The advanced technical and managerial skills provided by the foreign firms to the local workers and managers constitute a positive externality since it will improve the productivity of the local firms who are able to hire them. Even if the well-trained workers or managers do not leave the foreign company after acquiring the training to set their

own business or work for the local firms for higher wages, the knowledge transfer still can occur through interactions of people who do similar work for different firms.

It is claimed that the presence of MNCs' subsidiaries can boost human capital formation in the host country. The argument goes that, the relatively cheap labor cost in the developing countries (South) encourages firms in advanced countries (North) to move the labor-intensive parts of their production to the South. However, multinational companies are known to be generally more skill-intensive than local firms. As a result, the presence of the multinationals in the South may increase the demand for skilled labor, which in turn, raises the wage and job opportunities for the skilled workers. These incentives will stimulate investment in human capital. In sum, the presence of multinationals in the developing countries can stimulate investment in human capital resulting in positive spillover effects to the entire economy (Te Velde, 2002, p.10; Colen et al. 2008, p.18).

Similarly, it is argued that foreign-owned firms may provide direct training to their employees or, in the name of "Corporate Social Responsibility", they can assist higher education institutions such as universities and technical schools in the host country to improve the quality of education. MNCs can also engage in the startup of education centers to develop local skills for their high-tech industries (Blomström and Kokko, 2003, pp.12-13). In this regard, the example provided by Alfaro (2014, p.14) is very instructive: Intel and Shell involved in training cooperation with local universities in Costa Rica. Similarly, in 2000, the contribution of Shell in vocational training in Nigeria was estimated at $US1.2million and $US2.5million for secondary and tertiary scholarships (Te Velde, 2002, p.11). All these should improve human capital formation with a positive spillover effect on the productivity in the host country. It is worth mentioning that spillovers from labor training and investment in human capital can be horizontal and vertical.

- ***Competition effect***

Competition is one of the channels through which FDI can affect indirectly economic growth in the recipient country. The presence of foreign firms is likely to increase competition in the domestic market. To anticipate this probable competition, domestic firms can upgrade by adopting more efficient methods. Competition between multinationals and the indigenous firms in the domestic market exerts pressure on the latter to use more efficiently the existing resources

and adopt more efficient new technologies for survival. This, in turn, results in productivity gain and economic growth (Görg and Greenaway, 2004; Wang and Blomström,1992).

Another way through which FDI can affect indirectly economic growth is vertical spillovers. FDI vertical spillovers occur when the presence of foreign firms increases the performance of the native firms in a different industry or sector. Vertical spillovers arise mainly through interaction across sectors or industries and these interactions are known as "forward and backward linkages".

- ***Forward and backward linkages***

It is argued that linkages between foreign and domestic firms can occur both in intra-industry and inter-industry. However, due to competition, foreign firms are motivated to provide technical assistance to their local suppliers, but not to the local firms operating in the same sector with them. In other words, while they minimize technology leakage to their competitors, they deliberately transfer technology to suppliers with the expectations of reducing the price and improving the quality of inputs. Thus, the literature has focused more on vertical linkages (interactions across sectors) than the other types of linkages. Backward linkages occur when a domestic firm becomes the supplier of a foreign company while forward linkages occur when a native firm becomes the customer of intermediate inputs produced by a foreign-owned firm.

Concerning the backward linkages, it is argued that FDI activities may increase the demand for inputs from local suppliers. The foreign firm may require local inputs of a certain standard or quality and a certain speed of delivery. For the local suppliers to meet these requirements, the foreign firm may provide technical and managerial training. In addition, the presence of the multinational companies in a host country can trigger competition among domestic firms to become their suppliers of inputs; this, in turn, forces them to upgrade (Nuno and Fontoura, 2007, p.412). According to UNCTAD (2013, p.143), multinational companies recognize that the enhancement of local capabilities is a key factor for their long-term goal. Thus, they may provide technical assistance to their suppliers in the host country to help them upgrade their operational and innovative capabilities. All this may result in higher productivity and ultimately enhance economic growth.

Regarding the forward linkages, it generally occurs when foreign subsidiaries supply high-quality inputs at a lower price to domestic firms (Markusen and Venables, 1999). In addition, sales of these inputs by foreign-owned firms may be accompanied by the provision of additional services such as technical assistance that may not be available if the inputs were imported from abroad (Jovorcik, 2004, p.608). In sum, the acquisition of high quality or less costly intermediate inputs produced and supplied by MCNs' subsidiaries may increase the productivity of domestic firms.

- ***Export Effect***

Local firms may benefit from foreign firms in terms of production efficiency through export. It may happen both in intra-industry (horizontal) and inter-industry (vertical). domestic firms can upgrade their export performance by learning from foreign subsidiaries. However, foreign firms are less motivated to disclose their export process to the local competitors; they are more motivated to disclose it to their local suppliers (vertical spillovers). Export activity generates additional cost related to the establishment of distribution networks, transport infrastructure, knowledge of consumers' preferences, among other aspects. Foreign-owned firms, especially those that are export-oriented, are more likely to afford these issues than the indigenous firms. Therefore, by collaborating with the foreign firms, especially as suppliers and sub-contractors, domestic firms may get information on foreign markets conditions and consumers' tastes; they may also get distribution networks and export management skills, which in turn, reduce the entry costs into the international markets. This may result in increasing productive efficiency of indigenous firms (Aitken et al., 1997; Greenaway et al., 2004).

2.1.2. The Adverse (negative) Effects of FDI on Economic Growth

So far, the theoretical arguments reviewed revolves generally around the modernization theories exemplified by the neoclassical and endogenous growth theories. According to these theories, the presence of the transnational corporations in developing countries through FDI activities is necessary and highly desirable as they contribute to economic growth and development in these countries through capital accumulation and technology transfer. However, this optimistic view towards the presence of the transnational corporations in developing countries is challenged by other views such as the dependency and the world system theories, among others.

2.1.2.1. The Dependency Theory

Despite the huge criticism of the dependency theory, it is still present in political and theoretical discussions. Dependency theory is generally related to the causes of underdevelopment and the routes to overcome it. Although there is no unified theory of dependency, most of the dependency theorists are highly critical of FDI made by the transnational corporations in developing countries. There are two main approaches within dependency theory: an approach related to the Marxists point of view and the Structuralists approach.

According to the Marxist approach, underdevelopment is a cause of exogenous factors such as international trade and foreign investment. These factors lead to the integration of peripheral economies (developing economies) into the world economy dominated by the center (developed countries) and create a process of dependent development in the peripheral countries. According to this view, developing countries are forced to increase their export in order to keep their level of imports because of unequal exchange. The domination of the international market by "the developed capitalist countries" causes a consistent decline in the prices of the raw materials exported by the peripheral countries and the rise in the prices of the manufactured products exported by the center (developed countries). In other words, the terms of trade that prevail in the international market are biased in favor of the North. In addition, according to them, the pattern of international trade between the South countries and the North forces the South countries to concentrate on the backward form of production which undermines their development (Arghiri, 1972, Spero, 1990, p.149). For the Marxists, transnational corporations through their FDI activities have a negative impact on economic development in the South. They crowd-out local businesses through intense competition and monopolize the most dynamic sectors of the local economy; they gain huge benefits at the expense of developing countries; they use capital-intensive production process thereby exacerbating unemployment in the developing host countries. Summing up, Marxists see foreign investment as a factor that distorts development in the South. As a way out of this situation, they suggest a revolution: *"total destruction of the international capitalist system and its replacement with an international socialist system"* (Spero, 1990, p.150).

The structuralist approach focuses on the structure of the relations between the periphery and the center nations as well as the alignment of the economies of the periphery with the needs of the economy of the center. Raul Prebish is one of the prominent figures of this school of thought. According to this approach, structural changes are determined by the evolution of the global market. But these structural changes only lead to partial modernization affecting only the respective export sectors and subordinating other sectors of society to this respective export sector without integration. This lack of integration engenders a structural heterogeneity that characterizes the societies of the periphery while the societies of the center are fully integrated in a capitalist way. This interaction of different social structures in the periphery prevents the dynamics of productivity and growth.

As in the Marxist approach, structuralists attribute the main cause of underdevelopment in the periphery nations to international trade and foreign investment. For the structuralists, international trade does not promote growth in the South, it is rather a mere transfer of income from the South countries to the North because the terms of trade are biased against the peripheral or South countries. Structuralists argue that the repatriation of profits made by multinationals through their FDI activities leads to a decapitalization in the South, which in turn, hinders the capital accumulation process and productivity. They assert also that the FDI flows to the South tend to concentrate more in the export sectors, and hence, aggravate the negative effects of trade in the South (Spero, 1990, p.150). In addition, they argue that foreign investment in developing countries leads to an industrial structure where monopolies are predominant, and this leads to the "underutilization of the productive forces". For them, an economy controlled by foreign firms is not able to develop organically. It will rather develop in a disarticulated way because the multiplier effect by which demand in one sector generates demand in another sector will be small, and this has negative implications for economic growth in developing countries (Amin, 1974, cited in Adams, 2009, p.941).

Cardoso and Faletto (1979, p. 191-192) outline that, in the peripheral countries, political decisions, in general, and in particular those affecting economic policies, may be influenced by foreign investors. If foreign firms dominate specific economic sectors within the peripheral country, they can control to some extent decision-making at the national level. The creation of new economic sectors and the activities of the transnational corporations lead to an administrative, technological and financial reorganization of the domestic market in order to

adapt it to the capitalist economic system of the center. This gives rise to new forms of political and social control, and leave the peripheral country, host of these foreign firms, with less strategic control over its production system as well as its process of economic development.

In the same vein, Evans (1985, pp.194-195) argue that the integration of peripheral economies into the transnational corporations-dominated global economic system puts pressure on the peripheral countries that host them to conform to international economic policies because these multinational companies are highly involved in the process of international policy-making. Once a peripheral country has reached a certain level of industrialization, transnational corporations dominate the most dynamic economic sectors within the economy, and these transnational linkages may prevent the national economic policies from reaching their targeted goals.

As equally outlined by Evans (1989), developing countries, which are often prone to corruption, could offer transnational corporations various means to influence their political and economic decisions (corporate state capture). In these corrupt states also referred to as "predatory" states by Evans (1989), almost anything can be obtained by those who have enough money. Thus, the transnational corporations can influence the political decisions, as well as the decisions of justice, and the granting of licenses, among others in the peripheral countries that host them. According to Evans (1989, p.571), in these "predatory" states, rent-seeking politicians and the national bourgeoisie could join hands to serve the interests of foreign firms. If transnational corporations and national authorities are involved in corruption, the state becomes handicapped, and thus unable to formulate and autonomously implement policies that should lead to economic growth and development as decisions are for sale. In contrast to the Marxists and neo-Marxists who advocate a revolution as the only way to remedy this situation, Structuralists advocate a reform of the international market in a way that it allows the industrialization of the South countries.

In sum, according to the dependency theorists, FDI activities favor multinational companies at the expense of host developing countries (Prebisch,1968). Multinational companies, through their FDI activities, undermine the development of the local economies by crowding out domestic firms in the most dynamic sectors of the host countries' economies and monopolize the domestic markets. They use inappropriate capital-intensive technologies

thereby increasing unemployment in host countries. They deepen income inequality, undermine local culture, exploit natural resources and distorts the political processes in host developing countries through various means (Moran, 1978, p.85, Seyoun et al. 2014).

2.1.2.2. The World System Theory

The world system theory emerged in the 1970s, and relies on many theoretical aspects of the dependency theory, but encompasses a wider range of social and economic concepts, and thus goes beyond the scope of the dependency theory. One of the major practitioners of this school of thought is Immanuel Wallerstein. While the dependency theorists tend to focus mainly on the economic development of peripheral and semi-peripheral regions of the world, the world system theorists go further by focusing on the economic, political and cultural structure of the world system. As highlight by Bornschier and Chase-Dunn (1985, p. 10), in the world system theory, underdevelopment is determined by economic, political and social factors that are beyond the control of the affected societies. The economic dimension is constituted by world trade and a globalized economy dominated by multinational enterprises. This economic dimension affects the political dimension, and the cultural dimension, in turn, is linked to aspects of the economic and political dimension and ultimately determines the global diffusion of norms and values.

As the dependency theorists, the world system theorists have also a pessimistic view about the impact of foreign investment on developing countries. Transnational corporations constitute important elements in the world system theory. These multinationals firms are considered as the most powerful agent of the world system to promote hierarchical order in the global division of labor and thus to promote a capitalist world order. For the world system theorists, multinational corporations are the key institutions of the global economy that cause the internalization of economic relations that were previously considered international. They constitute a new form of organization of the economy. Concerning the political dimension, a transfer of power from the states of the national economies to a transnational economy is assumed. Nations are still important, but they are only one unit of this system, apart from other nations and the relevant political and economic institutions. Political regimes and international institutions constitute a political order in the world system, but this order may be subjected to economic interest and power (Bornschier and Chase-Dunn, 1985, p.14). In sum, as stated by

Petras (1981, p.149), "*the central theme of the world systems approach is the proposition that core regions exploit peripheral regions through various mechanisms of unequal exchange"*

2.1.2.3. Other Arguments Towards the Adverse Effect of FDI on Growth

It is claimed that the presence of foreign subsidiaries can result in tougher competition in the local markets. This leads, in turn, to the displacement of some domestically owned firms from the market (Markusen and Venables, 1999, p.342). Due to some specific asset they possess, foreign-owned firms can have lower marginal cost, which in turn, allow them to increase their market share at the expenses of the local firms. This effect can outweigh the positive spillover effect generated by FDI through competition and ultimately affect negatively economic growth (see, Aitken and Harrison, 1999, p.607).

In the same vein, UNCTAD (1999, p.171) point out that FDI may have a negative effect on economic growth by undermining domestic investment. This effect occurs when domestic investors abandon their investment projects due to higher competition generated by the presence of more efficient foreign-owned firms and the released resources are not employed in sectors where domestically owned firms possess greater competitive advantages. Agosin and Mayer (2000) also argue in the same direction. According to the authors, the technological know-how, new market opportunities, among other aspects brought into the host country by foreign-owned companies may stimulate domestic investment. However, in certain developing countries, this crowding-in effect may be hindered since governments most often are not able to direct FDI projects in a way that they do not hurt local firms. For instance, if FDI enters in sectors where there are already competing domestic firms, it may take away investment opportunities that were opened to domestic entrepreneurs prior to the foreign investments. Such FDI activities are likely to reduce domestic investments with a negative effect on economic growth.

There is another claim that FDI activities may open the door for reverse capital flows in the form of profit repatriation. In addition, foreign-owned firms often receive substantial tax reduction from the recipient country and the transfer of technology may be prevented by restrictive property rights or highly expensive royalty. All of this work to undermine the growth prospect of the recipient economy (Ramirez, 2010, p.145). Due to the large profit repatriation, it is often claimed that the impact of FDI in the South countries is overstated. This may be

particularly true for Africa where profit repatriation is typically high. For example, in the case of developing countries, it is reported that, over the period 2000-2001, for each dollar of net FDI inflows, about $US 0.30 left the host country in the form of profit repatriation (Colen et al. 2008, p.15).

Some authors argue that foreign investors may finance a substantial part of their investment or project from the local financial markets in the host country. Under conditions of scarcity of financial resources, foreign firms, by borrowing heavily from the domestic financial markets instead of bringing capital from abroad, may worsen domestically owned firms' financial constraints by crowding them out of the local financial markets (UNCTAD, 1999, p.171; Alfaro, 2016, p.6). With regard to this issue, Harrison and McMillan (2003) report that in Côte d'Ivoire, the credit constraints faced by the native firms are higher than that of the foreign firms. They further note that borrowing by foreign firms from domestic financial market exacerbates the credit constraints of domestically owned firms in Côte d'Ivoire because banks substitute lending to domestic firms with lending to multinationals. All of this may undermine economic growth by reducing domestic investment.

Considering two types of capital, Easterly (1993) constructs an endogenous growth model and shows that subsidies to one type of capital financed by a tax on the other may distort incentives in a way that reduces growth. As many countries compete fiercely to attract FDI by using various policies such preferential tax treatment and another form of concessions, Easterly's argument suggests that these preferential treatments for foreign firms may distort domestic incentives in the host country, which in turn, affect negatively economic growth. In addition, the government may borrow to invest massively in infrastructure in order to attract more FDI. Such a policy may increase foreign debt and distortionary tax burden thereby hindering economic growth (Iamsiraroj and Ulubaşoğlu, 2015, p.202).

It is also argued that FDI inflows, especially extractive FDI, may hinder the export performance of the manufacturing sector, and hence lead to a Dutch-syndrome. FDI in extractive industries is believed to have adverse macroeconomic effects such as exchange rate appreciation with negative effects on other sectors, particularly manufacturing sector and current account deterioration. For instance, the extractive industries accounted for most of the increase in FDI inflows to Africa and concerns have arisen in several mineral-rich countries

about the impact on exchange rates and the prospects for other export-oriented activities. In Zambia, for example, a tenfold increase in copper exports from 2000 to 2006 led to an appreciation of the real exchange rate, which in turn, undermined seriously the competitiveness of export-oriented sectors such as clothing and horticulture (UNCTAD, 2007, p.35). Rodrik and Subramanian (2009, p.136) argue in the same direction that the elimination of foreign investment barriers may lead to an overvaluation of the (real) exchange rate, which in turn, reduces domestic firms' price competitiveness with a negative effect on economic growth. They hold a position that countries that rely less on foreign capital inflows have been those that have grown most rapidly. Also, UNCTAD (2005) emphasizes the negative impact of FDI in extractive sectors on the balance of payments of some African countries due to profit repatriation outweighing new FDI inflows. Huge profit repatriation can have a negative effect on the balance of payments with a negative impact on the long-term growth of the FDI host country.

Another critical claim about FDI activities is that multinational companies often offer poor work conditions and pay little attention to corporate social responsibility and environmental protection in host countries, especially in developing countries. Some have argued that multinational companies are the main conduit of environmental destruction. This may be particularly true for extractive FDI. Extractive FDI tends to be associated with a strong environmental impact. For instance, FDI to Africa is mainly concentrated in the extractive sectors, and the exploitation of oil and gas can have considerable damage to the environment. Oil spills can pollute massively with a negative effect on fishery, tourism , and the populations' health, among others. A tangible example is the pollution caused by the oil extraction of the multinational Shell in Nigeria precisely in the territory of the Niger Delta which caused serious health problems due to the massive contamination of the soil and water of the delta, as well as conflicts and widespread violence in the region. Especially in Africa, where agriculture accounts for an important part of GDP, soil, water and environmental pollution associated with oil spills can have a negative effect on agricultural production, thereby affecting negatively economic growth.

In addition to environmental degradation, the work conditions offered by multinational companies in developing countries are sometimes not satisfactory. For example, in Africa, it is reported that some Chinese firms force employees to work unpaid overtime and retaliate against

unionized employees asking for better work conditions. It is also reported that some multinationals are involved in the worst forms of child labor and the workforce training they often provide is mostly limited to low-skilled levels which do not contribute to human capital formation in host countries. These companies can also be involved in corruption issues; they are often accused of granting or demanding bribes or other undue benefits in order to obtain a market or other improper advantage. Corruption can be detrimental to democratic institutions and discourage investment with negative effects on economic growth. To contribute to change these multinational companies' attitude towards corporate and social responsibility and environmental matters, the OECD has adopted guidelines for multinational enterprises to promote responsible business conduct in a globalized world, in accordance with internationally accepted standards. In the same vein, the ILO (International Labor Organization) has adopted a tripartite declaration of principles on multinational enterprises in order to provide direct guidance on how these companies can contribute to the achievement of decent work conditions for all. However, it is worth noting that these declarations of principles are non-binding.

2.1.3. FDI and Economic Growth: The Role of Domestic Factors

Recently, new literature which deviates from the standard neoclassical framework and dependency theory has emerged. This new literature suggests that the effects of FDI on economic growth, in general, can be either positive, negative or insignificant depending on the domestic factors and policies in the host country. This seems to be an intermediate position between modernization and dependency and world system theories about the effect of FDI on economic growth. The predominant position in this recent literature is that the economic gains from FDI are not straightforward; a country can reap the benefits from FDI only after satisfying certain domestic's conditions. In order words, the growth-enhancing effect of FDI cannot be taken for granted; it can only be materialized when some local prerequisites are satisfied. If some domestic conditions are not satisfied, FDI may have sufficient negative impact that the recipient country would be better off without FDI (Moran, 1998, p.25).

Görg and Greenaway (2004, p.175) argue that the effect of FDI inflows on productivity growth in host country depends mainly on its ability to absorb advanced technology and superior knowledge brought in by the foreign firms. The factors that condition the growth gain from FDI are known in the literature as "domestic factors" or "absorptive capacities". There are

several domestic factors that may determine the spillover effect of FDI in a host country, but the widely mentioned in the literature are: the technological gap or the level of economic development, human capital, institutional development, domestic financial development, trade openness, macroeconomic policies, business environment, and infrastructure development, among others. FDI spillovers can be materialized only when the recipient country has reached a certain optimal level of these factors; they modulate the effect of FDI on economic growth by affecting the extent of technological spillovers. In this section, we assess theoretically the intermediary role of these factors in the FDI- growth nexus.

- ***FDI and economic growth: the role of the level of economic development / technological gap***

According to the catch-up hypothesis, countries that copy the technology (followers) will grow faster than the inventor of new ideas (leaders) because copying or imitating technology is cheaper than innovation, therefore, less developed countries will grow faster and catch-up the advanced nations (Barro and Sala-i-martin, 1995). As a result, the magnitude of FDI spillovers, or the impact of FDI on economic growth in the recipient country is expected to be a positive function of the technological gap or the gap in development between the home and host countries (Findlay, 1978; Wang and Blomstrom, 1992). A moderate level of the technological gap between the foreign firms and the native ones is necessary for the latter to benefits from technological spillovers. It is argued that the benefits obtained by the local firms are negligible in countries where the technological gap between the foreign-owned firms and the indigenous firms is too small (Kokko, 1994). However, the domestic firms must have a minimum ability to absorb the positive spillovers from FDI, thus the technological gap should not be too large as it will prevent the indigenous firms from adopting the superior technology brought in by the multinationals (Wang and Blomstrom, 1992).

In contrast to this view, some scholars argue that developed countries with smaller technological gap gain more from FDI than less developed countries because higher absorptive capacities are needed to absorb the superior technology brought by the multinational companies. In this vein, Glass and Saggi (1998) argue that the quality of technology transferred through FDI depends on the technological gap between the home and host countries. Countries with a lower technological gap are more likely to attract FDI with advanced technologies. In

contrast, countries with a larger technological gap attract low-quality FDI, which in turn, leads to a transfer of low-quality technology. Nunnenkamp (2004) holds the same position with Glass and Saggi according to which FDI can have a positive effect on economic growth only when the technological gap between the foreign firms and the domestic firms is relatively small.

- ***FDI and economic growth: the role of human capital***

Borensztein et al. (1998) emphasize that the FDI recipient economy must possess adequate "absorptive capability" in order to reap the potential positive spillovers. They argue that foreign firms bring superior technology, and a sufficient level of human capital in the host country is necessary to adopt such technology. Quality education is a critical factor for recipient countries to reap the benefits of FDI. According to the authors, FDI cannot enhance economic growth in a country with a poor level of human capital because a minimum threshold of human capital in the host country is required before the positive impact of FDI on productivity growth or economic growth can materialize. This implies that developed countries, where skilled labor is abundant, are more likely to benefit from FDI than the less developed countries. The importance of human capital in channeling the spillover effect of FDI is also highlighted by Xu (2000) and Ford et al. (2008).

- ***FDI and economic growth: the role of institutional development***

Institutions can be defined as a number of rules governing political, economic and social interactions in a country. These rules can be categorized into two groups: formal and informal rules. As formal rules, we have elements such as a constitution, laws, property rights enforcement, and the police. Regarding the informal rules, we can mention elements such as codes of conduct, sanctions, customs, and taboos (North, 1990, p.3). Institutions affect the security of property rights, the prevalence of corruption, distorted or extractive policies thereby shaping the incentive structure of an economy. Quality institutions provide an incentive to invest in the human and physical capital which is among the key determinants of economic growth. It is argued therefore that institutional quality or institutional development is a key factor that affects the link between FDI and economic growth in a host country. It improves the gain from FDI in the recipient economy by promoting technology transfer and productivity growth. This implies that countries that receive the same amount of FDI may experience different outcome in terms of economic growth depending on the level of their institutional

development. Good institutions provide an environment conducive to prosperity. For example, less regulated market or free competitive market stimulates and encourages firms to involve in risky ventures such as FDI-related activities. In contrast, poor legal framework, lack of transparency in the public governance, and highly regulated market affect negatively resources allocation in an economy (Azman-Saini et al. 2010, p.1081).

Quality institutional framework stimulates competition, business and favor knowledge acquisition in a country. In a country with quality institutions, there will be a fair competition between foreign and local firms. Such a competition promotes innovation and technological upgrading and ultimately brings productivity gains. It is argued that democratic institutions facilitate the materialization of the positive spillover effects of FDI because they increase checks and balances and limit arbitrary government intervention, they lower the risk of policy reversal and strengthen property rights protection. In contrast, in a country with poor institutions such as high level of corruption and lack of transparency in public governance, the transactions costs are substantially high and long-term trade commitments become potentially risky. This may result in weakening the linkages between foreign companies and the local ones (Meyer and Sinani, 2009, p.1081; Jude and Levieuge, 2016, p.4). The quality of technology transferred by multinationals to their foreign affiliates depends on institutional development such as the level of property rights protection. When there is a high risk of technology leakage because of the poor level of property rights protection, multinationals often transfer only low-quality technology. However, a country with better protection of property rights attracts FDI of higher technological content and higher technology spillovers potential (Jude and Levieuge, 2016, p.4)

In countries with quality institutions, information asymmetries are minimized and the information is efficiently channeled to market actors, which in turn, allow them to take advantage of market opportunities. Lower information asymmetries may have a significant role in generating FDI spillovers through competition and imitation/demonstration channels. However, in countries with a lower level of institutional development, the level of information asymmetries is high and generates an additional cost of contracting new business (Jude and Levieuge, 2016, p.5).

It is also argued that weak institutions affect the entry mode of FDI. For example, in countries that experience a high level of corruption and bureaucracy, foreign investors prefer to

rely on local partners to facilitate their integration into the local market. Thus, the entry mode of FDI in such countries will be predominantly mergers and acquisitions or joint ventures as it is difficult for Greenfield investors to integrate into the local market where networking games and relationship-based strategies are the norms (see, Peng, 2003, p.286). As argued by Wang and Wong (2009, p.322), mergers and acquisitions (M&As) and greenfield FDI do not have a homogenous impact on economic growth. Wang and Wong argue that greenfield FDI which is a net creation of activity is more likely to foster economic growth than mergers and acquisitions (M&As) which is often a mere transfer of ownership from domestic to foreign hands without any effect on production capacity in the host country.

Another important thing also is labor laws. The institutional environment may prevent labor mobility or turnover between the foreign and the indigenous firms. It argued that very restrictive labor laws for hiring and firing of employees may prevent the workers who have mastered the superior technology in foreign companies from joining the domestic firms. As a consequence, the indigenous firms cannot benefit from FDI spillovers through labor mobility (see, Azman-Saini et al.2010, p.1080). To sum up, one can conjecture that strong institutions facilitate the synergies between the multinationals and the native firms thereby promoting productivity spillovers and economic growth.

- ***FD and economic growth: the role of domestic financial development***

Another important factor that allows domestic firms to respond appropriately to the challenges and opportunities associated with FDI is the local financial system. The importance of well-functioning financial markets in promoting economic development is the subject-matter of numerous studies in the literature. The function of the financial market as a catalyst for technological innovation and capital accumulation has been admitted by Schumpeter almost a century ago. Joseph Schumpeter (1934, cited by Beck et al., 2000, p.262) argued that *"financial intermediaries play a pivotal role in economic development because they choose which firms get to use society's savings"*. A well-functioning financial system reduces transactions costs and drains the capital towards the projects with higher returns, and hence, stimulates economic growth. Mckinnon (1973; cited by Alfaro, 2014, p.12) asserts that well-functioning capital markets are "*necessary and sufficient to promote the adoption of best-practice technologies and*

learning by doing". Domestic financial markets conditions are therefore considered as a crucial determinant of FDI spillovers.

Countries with better financial system gain more from FDI. In contrast, a weak financial system limits significantly a country's ability to take full advantage of the potential economic gains from FDI. The arguments go that, foreign firms bring new knowledge and advanced technology into the host country. In order to adopt this new production process, local firms need to reshape their organization structure, they need also to make some new investments such as replacement of the obsolete machines, and employment of adequate managers and skilled labor. To satisfy these requirements, some local firms may rely on internal financing but the majority of them will need external financing, especially when the gap between the new technology and the one used by the local firms is very huge. Most of the time, the only source of external financing available is the local financial market. Therefore, with a weak and inefficient financial system, these new investments will not be made and some new entrepreneurs will abandon their investment projects due to financial constraints[8]. A Well-functioning local stock market increases the sources of external financing for entrepreneurs and tightens the linkages between domestic and foreign firms. The ability of the domestic firms to adopt the superior technology brought by foreign firms is therefore severely limited in the absence of well-functioning local financial markets (Alfaro et al.2004, p.91).

A well-functioning financial system enhances the process of technology spillovers from FDI by lowering the risks associated with the investment made by the indigenous firms aimed at copying/ imitating the new technology or upgrading the skills of their workers. Well-developed banks and stock markets in the home country is the prerequisite for FDI spillovers to materialize. The growth-enhancing effect of FDI depends crucially on the conditions of the local financial markets in a host country (Hermes and Lensink, 2003, pp.145-147).

- ***FDI and economic growth: the role of trade policy***

The idea that the trade policy environment might condition the effect of FDI on economic growth in the recipient country is originated from Bhagwati (1978). Bhagwati hypothesized that the volume of FDI attracted by developing countries and its effect on

[8] For interesting anecdotes related to the idea that well-functioning financial market plays a key role in the materialization of spillovers associated with FDI, see Alfaro et al. (2004).

economic growth depends on the trade policy pursued by each country. His hypothesis has two components: i) countries that are export-oriented receive more FDI; and (ii) those countries enjoy greater productive efficiency. We are more interested in the second component in the context of our study. According to the author, in countries that pursue outward-oriented trade policy, FDI will be more efficient in promoting growth than countries that pursue import-substituting strategy.

The argument goes that, in countries that pursue outward-oriented trade regime, the domestic market size is no longer a constraint; resource can also be used efficiently and FDI is allowed to operate in an environment that is free from distortion. The presence of multinationals in the recipient economy may trigger tougher competition, which in turn, forces both foreign and domestic firms to invest in knowledge and human capital. Also, domestic firms facing tougher competition from imports will upgrade their ability to learn the latest technologies from foreign investors. However, in a country that pursues import-substituting trade policy, such investments may not occur since competition from both domestic and foreign sources are restricted. In contrast, in a country that adopts an export-oriented policy, the competition from both domestic and foreign sources stimulates investments in research and development and human capital formation which are considered by the endogenous growth theories as the key factors for economic growth. Also, in an environment of a liberal trade regime, the allocation of the resources is done on the basis of comparative advantage and the free play of market forces leads to specialization and economies of scale. The liberal trade regime has, therefore, the potential to generate more technology exchange in the host economy compared to the protectionist regime (Balasubramanayam et al.,1996; Meyer and Sinani, 2009).

In the same vein, Eichengreen (2001, pp.341-342) holds a position that financial integration without trade integration is more likely to lead to an inefficient allocation of resources as capital inflows may not go to sectors in which the recipient country has a comparative advantage, and this resources misallocation may hamper economic growth. The importance of trade liberalization in the acquisition of superior technology is also recognized by international institutions such as the IMF and World Bank. To get access to cheaper advanced technology, these institutions advocate export-promotion trade policies in developing countries. According to institutions such as IMF, outward-oriented trade policies are among the key factors that enhance growth and convergence in low-income countries. Also, Kose et al.

(2009, p.6) argue that trade openness reduces the probability of crises associated with financial openness. They further note that countries that pursue outward-oriented trade policy face smaller real exchange depreciation for a given current account adjustment; they also face less severe balance sheet effects from depreciation and, consequently, are less likely to default on their debt. This makes also those countries less vulnerable to sudden stops and financial crises.

However, some scholars do not share this optimistic view of liberal trade policy in channeling the effect of FDI on economic growth. In contrast, they argue that restrictive trade policy regime may enhance FDI spillovers more than outward-oriented trade policy regime. In this regard, Kokko et al. (2001) argue that the aim of much FDI that go to developing countries where inward-oriented trade policy is implemented is to substitute for imports coming from advanced countries. Since those products are relatively sophisticated, the Multinational Companies will come to import-substituting economies with relatively capital and skilled-intensive production technologies that are not available to indigenous firms. This is likely to generate more spillover effects through demonstration and/ or imitation channel. This may be particularly true as FDI spillovers are known to be an increasing function of the technological gap between the foreign firm and the domestic ones. However, in developing countries where trade liberalization policy (outward-oriented trade regime) is implemented, the aim of the Transnational Corporations is mainly to exploit the home country's comparative advantage, such as abundant raw materials or cheap labor in order to face tough competition from international markets; thus they will bring the production technologies that allow them to this end. In this case, the technological gap between the foreign and domestic firms may be narrow with limited spillover effects. Moreover, as stated by (Nuno and Fontura, 2007, p.415), in an outward-oriented trade policy environment, Multinational Enterprises are more concerned about their international distribution and marketing networks than new production technologies. Although in this case, spillovers can still occur through exports, such spillovers are expected to be less important as compared to inward-oriented trade policy.

- ***FDI and economic growth: the role of macroeconomic stability***

Sound macroeconomic policies also are believed to influence the contribution of financial openness to economic growth. It is argued that macroeconomic instability is unfavorable to capital accumulation and economic growth. For instance, high inflation and

external debt rate as well as government deficits are believed to increase uncertainty, deteriorate the business environment and ultimately undermine economic growth. A Poor macroeconomic environment can increase uncertainty, which in turn, discourage foreign capital inflows and reduce the productivity spillover effects of FDI (Alguacil et al.,2011, p.484).

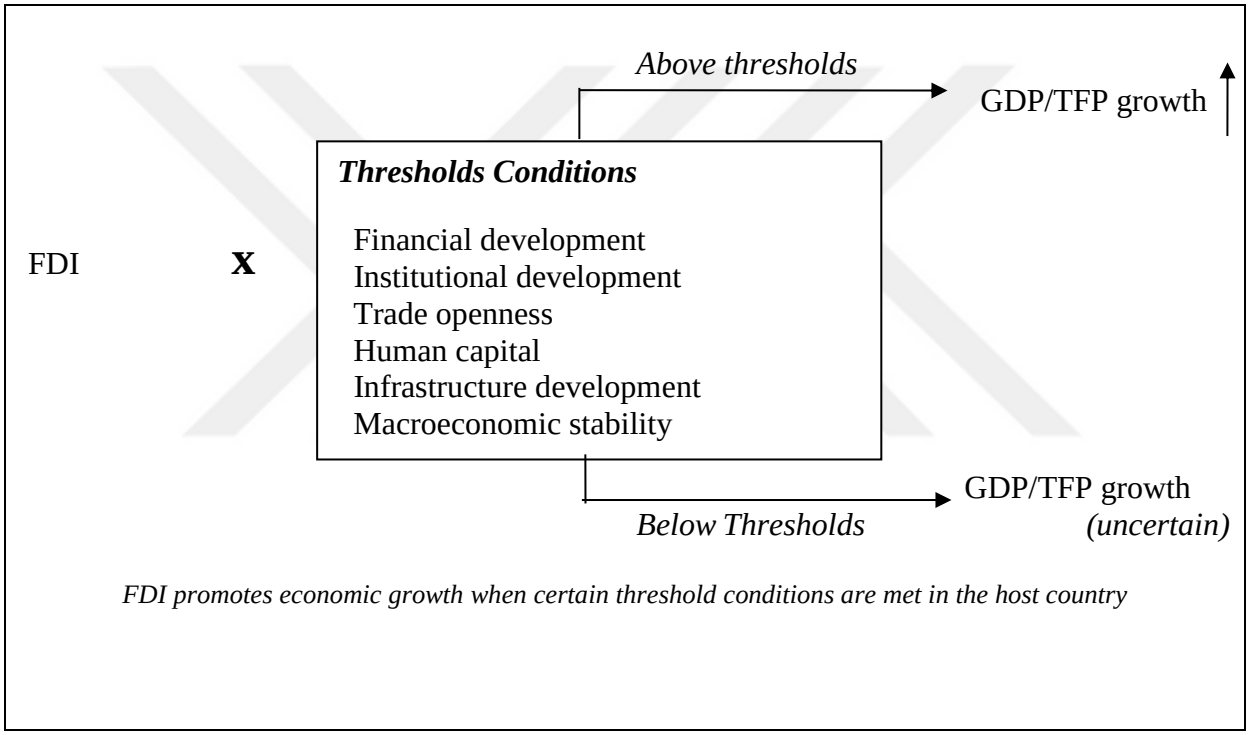
Kose et al. (2009, pp.6-7) emphasize that the liberalization of the capital account is more likely to be successful if it is backed by sound macroeconomic policies such as fiscal policy, monetary policy, and exchange rate policy. Poor macroeconomic conditions can trigger a financial crisis as a result of an open capital account. They further note that capital inflows management can be particularly challenging for developing economies with a large fiscal deficit and pro-cyclical fiscal deficit. They argue that sound macroeconomic policies enhance the growth effect of financial openness.

- ***FDI and economic growth: the role of infrastructure development***

Infrastructure development is also another important domestic factor that is believed to affect the link between FDI and economic growth in a host country. In this regard, Kinoshita and Lu (2006) extend Findlay's model by endogenizing the role of absorptive capacity in determining the degree of technology spillovers. They present an overlapping generations model in which the level of technology spillovers is an increasing function of FDI inflows to the recipient country and the technological gap between the home and the host countries conditional on the host country's absorptive capacity. They further proxy the host country's absorptive capacity by infrastructure development. The theoretical model shows that technology spillovers from FDI occur only when sufficient provisions of infrastructure exist in the host country. FDI has little effect on growth if the infrastructure level in the host country falls below a certain critical level as the country is trapped in low-growth equilibrium. The authors argue that a good level of infrastructure development does not attract only more FDI, but it is also a pre-requisite for positive spillovers from FDI to materialize. They further note that investment in infrastructure affects directly economic growth and indirectly through FDI. The availability of good infrastructure enhances the efficiency of FDI and together with a high-quality infrastructure promote higher economic growth. Overall, according to Kinoshita and Lu (2006), the extent to which a country can benefit from FDI inflows is crucially conditioned by its level of infrastructure development.

Figure 2.1 summarizes the idea that the effect of FDI on productivity and growth is conditional on the level of certain domestic factors in a host country. FDI increases productivity and growth when the levels of financial development, institutional development, trade openness, human capital stock, macroeconomic stability, and infrastructure development in a host country are beyond certain thresholds. Below these thresholds, the effect of FDI on productivity and growth is uncertain.

Figure 2. 1: Thresholds in the FDI-Growth nexus



Source: Adapted from Kose et al. (2009, p.33). *TFP**:** Total Factor Productivity

In summary, one can say that there are convincing theoretical arguments to believe that FDI may be growth enhancing in the recipient countries. There are also convincing theoretical arguments to believe that FDI may be harmful to economic growth in host countries. The dominant message from the recent theoretical literature is that FDI may have a positive or a negative effect on the host countries depending on domestic conditions and policies. On balance, which effect is dominant? The positive or negative effect? The answer to this question remains an empirical matter. We, therefore, present the empirical debate regarding the effect of FDI on economic growth in the next section.

2.2. FDI and Economic Growth Relation: Previous Empirical Evidence

The effect of FDI on economic growth in host countries is generally examined from macroeconomic and microeconomic perspectives. At the macro level, studies analyze the effect of FDI on the host country's GDP growth while the micro level approach examines the effect of FDI on the local firms' productivity. Both at macro and micro levels, empirical studies can be grouped in two categories: a generation of studies assumes that the benefits of FDI are independent of domestic conditions while the second strand of the literature admits that the spillovers generated by FDI depend on domestic conditions. In other words, the second strand of the literature assumes that better domestic policies and conditions are the prerequisites for the benefits from FDI to materialize. However, empirical studies have so far failed to yield conclusive results.

Empirical studies report a positive, neutral, as well as a negative effect of FDI inflows on economic growth in host countries. For instance, a review of micro-level studies conducted by Gorg and Greenway (2004) reveals that the effects of FDI on domestic firms' productivity are mostly negative. In the same vein, Demena and Bergeijk (2016) conclude from their meta-analysis that empirical results regarding the FDI-productivity growth relationship in developing countries are inconclusive and contradictory. Roughly, they find that only one-third (1/3) of the studies report a significant and positive effect of FDI on productivity growth, half of the studies did not find any impact of FDI on productivity growth while one in six (1/6) reports that FDI affects negatively the productivity of the local firms. Clark et al. (2011) conclude in their review of the literature that FDI does not always promote economic growth. Similarly, Bruno and Campos (2013) report in their literature survey that 50% of the empirical studies find that FDI stimulates economic growth, 11% of them find that FDI worsens growth (negative effect) and 39% find that FDI does not affect economic growth. The lack of the preconditions for the benefits from FDI to materialize and methodological issues such as poor quality and insufficient databases, inadequate econometric methods, among others are believed to be the reasons for the mixed results. As said previously, some studies focus on the micro level while others concentrate on the macro level[9]. This thesis focuses mainly on macro-level studies. We review

[9] For a comprehensive review of micro level studies, see Gorg and Greenway (2004), and Demena and Bergeijk (2016).

therefore macro-level empirical studies, especially those that have been published in international journals and have therefore been scrutinized by reviewers. Firstly, we present in details evidence from other regions of the world, and secondly, evidence from African case studies.

2.2.1. Empirical Evidence from Other Regions of the World

A generation of studies does not explicitly take into account domestic economic and policy factors that may affect the link between FDI inflows and economic growth. In other words, these studies examine the direct/exogenous effect of FDI on growth. Another generation of studies assumes that the impact of FDI on productivity and growth is not exogenous, it depends on domestic factors (absorptive capacities) in the host country.

- ***Direct effect of FDI on economic growth***

De Gregorio (1992) investigate the determinants of economic growth in 12 Latin American countries over the period 1950-1985. He uses neoclassical growth accounting framework and a panel dataset. The author estimates a random effect model by employing Generalized Least Squares (GLS) method. The results show that both domestic investment and FDI affect positively GDP growth but the effect of FDI appears to be higher than that of domestic investment.

Similarly, Khawar (2005) conducts an empirical cross-country growth analysis to assess the contribution of FDI to economic growth in the host countries over the period 1970-92. Using the method of Ordinary Least Squares (OLS), she finds that both foreign direct investment and domestic investment are positively correlated to GDP per capita growth. Moreover, the results indicate that FDI contributes to economic growth more than domestic investment. Specifically, a 1% increase in the ratio of FDI to GDP, leads to 0.37% growth in the GDP per capita while 1% increase in the ratio of domestic investment to GDP increases the growth rate by 0.1%. This study suggests that FDI is more efficient than domestic investment in generating economic growth. In the same vein, Pegkas (2015) investigates the impact of FDI on economic growth for 18 countries in the Eurozone over the period 2002-2012. The author estimates the empirical growth model by using the Fully Modified Ordinary Least Square (FMOLS) and the Dynamic

Ordinary Least Square (DOLS) methods. The results show a positive and statistically significant effect of FDI on economic growth in the Eurozone.

Baldwin et al. (2005) examine the effect of FDI on economic growth in the case of seven OECD countries over the period 1979-1991. They use industry-level panel data, and labor productivity growth, namely growth in value-added per employee as the dependent variable. After controlling for country-specific and sector-specific- effects, the results of the fixed-effect regression show a positive and significant effect of FDI on growth in value-added per employee. The authors conclude that FDI enhances economic growth by promoting technology transfer.

Feeny et al. (2014) examine the relationship between FDI and economic growth in 209 countries over the period 1971- 2010. The authors average the cross-country data over five-year periods. Based on the full sample, the estimation of the growth model by the now popular Generalized Method of Moments(GMM) show that FDI has a positive effect on GDP growth. Specifically, they find that, on average, a 10% increase in the ratio of FDI to GDP leads to about a 2% increase in the GDP. They further split the sample and focus on the case of Pacific Island Countries(PICs). Using the same method of estimation, they find that the impact of FDI on GDP growth is positive in the Pacific Island Countries but the effect is small. A 10% increase in FDI to GDP ratio is associated with just 0.1 to 0.4% increase in GDP in the case of the Pacific Island Countries.

Turkcan and Yetkiner (2010) investigate the interrelationship between FDI and economic growth in the case of 23 OECD countries over the period 1975-2004. They use simultaneous equations and the generalized method of moments as an econometric approach. The results indicate that FDI promotes growth but growth also is a key determinant of FDI inflows. They conclude that there is an endogenous relationship between FDI and growth. In a similar fashion, Omiri and Kahouli (2014) assess the interrelationship between FDI, domestic capital and economic growth in the case of 13 MENA countries over the period 1990–2010 by using simultaneous equations and Generalized Method of Moments. The results show that FDI affects positively economic growth. They find also that economic growth affects positively FDI inflows in MENA countries. Iamsiraroj (2015), examines the nexus between economic growth and FDI using panel data made up of 124 countries over the period 1971-2010. He equally estimates simultaneous equations by employing Three Stages Least Square method. Overall,

the results indicate that FDI stimulates economic growth, but growth also stimulate FDI inflows.

Agrawal (2015) investigates the impact of FDI on economic growth in the BRICS countries, namely Brazil, Russia, India, China, and South Africa over the period 1989-2012. As econometric methods, he uses panel cointegration and panel causality approach. The results show that there is a long run equilibrium relationship between FDI and growth. There is also a long-run causality from FDI to economic growth. In sum, the author finds that FDI stimulates growth in the five BRICS countries included in the sample.

A handful of papers have examined the effect of FDI on growth by disaggregating FDI by sectors (primary, manufacturing, and services) or by entry mode (greenfield FDI and Mergers and Acquisitions). An example is a study by Wang (2009), which examines the impact of sectoral FDI inflows on economic growth. The author uses data from 12 Asian countries over the period 1987- 1997. Weighted least squares (WLS) and feasible generalized least squares (FGLS) panel regression methods were employed. The results reveal that FDI inflows into manufacturing sector affect strongly and positively economic growth while FDI inflows into other sectors have an insignificant effect on economic growth. The author concludes that the non-disaggregation of FDI inflows by sectors may be the cause of controversial results in the empirical literature. Similarly, Alfaro (2003) examines the impact of FDI on economic growth using sectoral FDI. She uses a panel data made up of 47 countries during the period 1981-1999 and the findings show that FDI in manufacturing sector affects positively economic growth, while FDI in the primary sector has a negative effect on growth. The effect of FDI in the services sector on growth was ambiguous.

Biørn and Han (2017) investigate the impact of FDI on economic growth-using a panel data for 32 developed and developing countries over the period 2002-2010. They employ the generalized method of moments (GMM) as an estimation strategy, and the results indicate that aggregate FDI inflows promote growth in developing Asian countries. They further use sectoral FDI and the results show that manufacturing FDI improves both manufacturing GDP growth and service GDP growth; services FDI also affect positively manufacturing GDP growth; but, surprisingly, it does not affect service GDP.

Ashraf et al. (2015) also conducted an interesting study. The authors examine whether the non-disaggregation of FDI inflows by type and mode of entry is the cause of inconclusive results concerning the relationship between FDI and economic growth. To this end, they investigate the impact of greenfield FDI and cross-border mergers and acquisitions(M&As) on Total Factor Productivity(TFP) using a panel data made up of developed and developing countries over the period 2003-2011. The estimation of the empirical model by generalized method of moments(GMM) indicate that greenfield FDI does not affect TFP, while M&As have a positive effect on TFP in the total sample. They further split the sample into developed and developing countries. In the case of developed countries, the results show that M&As enhance economic growth via its positive effect on TFP. However, in the case of developing countries, both greenfield FDI and M&As appear to be irrelevant in increasing TFP. However, using data for 80 developing countries over the period 1987-2005, Harms and Méon (2011) find that greenfield FDI promotes economic growth while M&As do not.

In a single-country study, Yao (2006) examines the impact of FDI and exports on economic growth in China. He uses a panel dataset of 28 Chinese provinces over the period 1987-2000. Using dynamic panel estimation techniques, the results show that both FDI and export strongly promote growth in China. The author concludes that the two development strategy followed by China, namely "export promotion and adoption of world technology and business practices" are equally useful for other developing countries.

So far the macro level studies reviewed find generally a positive direct effect of FDI on growth. However, some other studies find a negative or neutral direct effect of FDI on growth. An example of these studies is Mencinger (2003). He examines the impact of FDI on growth for eight transition countries, namely the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia over the period 1994-2001. The results show a robust negative correlation between FDI and growth. In other words, FDI is detrimental to growth. Since the main form (entry mode) of FDI flows to the countries in the sample during the period of the study was mergers and acquisitions, the author conjectures that the entry mode of FDI might be a factor explaining this negative relationship between FDI and growth found in his study. In a similar vein, Herzer (2012) find that FDI inflows have a negative effect on economic growth in 44 developing countries. In contrast, Dimelis and Papioannou (2010), using panel data for 42 developed and developing countries over the period 1993-2001, find no correlation between

FDI and growth in the case of developing countries. They employ the generalized method of moments (GMM) as an estimation technique. Lensink and Morrissey (2006) also did not find any robust relationship between FDI and economic growth in the case of 87 countries over the period 1975-1997. Using data for 13 transition countries of Central and Eastern Europe over the period 1991-1995, Nath (2009) finds that FDI does not enhance growth, except after 1995, and only when the author controls for the effects of trade and domestic investment.

- ***The role of domestic factors in the FDI- growth nexus***

As said previously, another generation of studies assume that the impact of FDI on productivity and growth is not exogenous, it is conditioned by domestic factors or absorptive capacities in the host country. At the macro level, studies examine the intermediary role played by domestic factors such as trade policy, human capital stock, financial markets, and institutional development, among others in the relationship between FDI and GDP growth.

One of the pioneering studies in this direction is the study by Balasubramany et al. (1996). They test Jagdish Bhagwati 's hypothesis according to which, countries with export-oriented trade regime gain more from FDI in terms of economic growth than countries with import substituting trade policy. Using data relating to a cross-section of 46 countries over the period 1970- 1985, they find that the positive effect of FDI in countries that pursue an outwardly oriented trade policy is stronger than countries that pursue inwardly oriented trade policy. Their conclusion is that liberal trade regime enhances the growth effect of FDI in host countries. Following these authors, some studies have investigated the role of trade policy in facilitating the growth-enhancing effect of FDI. Nair-Reichert and Weinhold (2001) find that there is a causal relationship from FDI to GDP growth and the effect is higher in countries with liberal trade regime. Using a sample of 140 countries on the period 1970-2009, Iamsiraroj and Ulubaşoğlu (2015) find that FDI promotes growth and trade openness are among the key domestic factors that facilitate the materialization of this growth gain from FDI. In the same vein, Makki and Somwaru (2004) employ a Seemingly Unrelated Regressions and Three-Stage Least Square (3SLS) to assess the influence of trade policy and domestic investment on the link between FDI and economic growth. They use a sample of 66 developing countries for the period 1971-2003. The results show that liberal trade regime is the major domestic factor that unlocks the growth-enhancing effect of FDI.

Some studies explore another domestic factor, namely human capital stock. The most influential study in this group is the study by Borensztein et al. (1998). They examine the impact of FDI flows from industrialized countries to 69 developing countries over two decades (1970-1989). They interact FDI with the host countries' stock of human capital and estimate their model using a Seemingly Unrelated Regression method (SUR). The results show that FDI promotes growth only in countries where the secondary school attainment reaches a certain threshold level. In other words, a minimum threshold level of human capital stock is necessary for the positive effect of FDI on growth. The authors conclude that the growth effect of FDI occurs only in host countries where a sufficient absorptive capability is available to adopt advanced technologies from FDI.

Motivated by the study of Borensztein et al. (1998), Xu (2000) investigates the impact of US multinational companies on the productivity growth in 40 developed and developing countries over the period 1966-1994. The results show that technology transfer from US multinational companies leads to productivity growth in developed countries but not in developing countries. The results indicate that a minimum human capital threshold level is necessary for a country to reap the growth effect of FDI. He concludes that most of the developing countries do not satisfy this threshold condition.

In the same vein, Li and Liu (2005) investigate the role played by human capital and technology gap on FDI led growth nexus. They use panel data for 84 developed and developing countries during the period 1970-1999. The results indicate that FDI promotes directly economic growth but also indirectly through its interaction with human capital. In other words, human capital enhances the positive effect of FDI on growth. As for the role of technology gap measured by relative income, the authors find that it affects differently FDI-growth relation for developed and developing countries. In developing countries, higher technology gap undermines the effect of FDI on economic growth. A large technology gap between foreign and domestic firms in developing countries reduces the ability of the latter to adopt the new technology.

Ford et al. (2008) examine the relationship between FDI, human capital and economic growth in 48 US states over the period 1978–1997. The results show a negative effect of FDI on growth, however, this effect becomes positive for US states that are located beyond a certain

threshold level of human capital. Their paper demonstrates that a minimum level of human capital stock is a prerequisite for a host country to reap the growth gain from FDI. Tu et al. (2012) find the same results in the case of 10 Association of Southeast Asian Nations (ASEAN) countries for the period 1990-2008. FDI stimulates growth in countries with high levels of human capital stock.

Su and Liu (2015) investigate the impact of FDI and human capital on economic growth for the case of Chinese cities. Using a panel of 230 Chinese cities over the period 1991-2010, they find that FDI promotes economic growth, and the positive effect of FDI on growth is enhanced by the human capital endowment. They find also that the FDI-human capital complementary effect is stronger for technology-intensive FDI than for labor-intensive FDI. The authors conclude that human capital contributes to growth by serving as a facilitator for technology spillovers from FDI.

Financial development is another domestic factor that is believed to modulate the relationship between FDI and economic growth in a host country. Hermes and Lensink (2003) investigate the influence of financial markets in host countries on the link between FDI and growth for 67 developing countries over the period 1970-1995. They interact FDI with financial markets variables and conclude that local financial development is the prerequisite for the growth-enhancing effect of FDI to materialize rather than human capital. The authors conclude that a well-functioning local financial system enhances the ability of the domestic firms to adopt the advanced technology associated with FDI activities.

A similar study was carried out by Alfaro et al. (2004). They use data for 71 developed and developing countries over the period 1975-1995. After controlling for endogenous issues, they find that the role of FDI alone in contributing to growth is "ambiguous". However, when they interact FDI with financial markets variables, they find that FDI enhances significantly economic growth but only in countries with a well-functioning financial system. Alfaro et al. (2004, p.108) conclude that "*FDI plays an important role in contributing to economic growth. However, the level of development of local financial markets is crucial for these positive effects to be realized*"

Using a novel approach, Azman-Saini et al. (2010b) examine the role of local financial markets in mediating the impact of FDI on GDP growth using data for 91 countries over the

period 1975–2005. They use a threshold regression model and the results indicate that FDI promotes growth only after the development of local financial markets exceeds a certain threshold level. Before that, the growth-enhancing effect of FDI is non-existent. Particularly, they find that FDI promotes growth only when domestic private credit to GDP ratio, a measure of financial development, exceeds 49.7%. Using the same approach (threshold regression), Baharumshah et al. (2015) find that foreign direct investment, portfolio equity, and debt inflows exhibit a non-linear relationship with growth in the case of 80 countries over the period 1975-2007. Particularly, they find that these three types of capital inflows enhance GDP growth only in countries where the level of development of financial markets exceeds a certain threshold level. Below the threshold level, FDI, portfolio equity, and debt inflows impact negatively on economic growth.

Other studies suggest that institutional quality is another domestic factor that modulates the effect of FDI on economic growth. Durham (2004) investigate the conditions under which FDI and equity foreign portfolio investment (EFPI) enhance economic growth in the case of 80 countries over the period 1979-1998. Using a linear interaction model and instrumental variables approach to control for endogeneity issue, the results show that the effect of FDI and EFPI on economic growth are contingent on domestic factors in the host countries such as institutional and financial development. In short, countries with strong institutions and well-functioning financial system gain significantly from FDI.

Following the same approach, Azman-Saini et al. (2010a) investigate the role of institutional development in the link between FDI and growth using a panel of 85 countries over the period 1976- 2004. Particularly, they use economic freedom as a measure of institutional development. The results show that FDI does not have a direct (exogenous) effect on growth; the effect of FDI on growth depends on the level of economic freedom in the recipient countries. In short, countries with higher levels of economic freedom enjoy greater benefits from the presence of transnational corporations.

In a similar fashion, Alguacil et al. (2011) also examine the role of absorptive capacities, namely macroeconomic stability and institutional development in mediating the impact of FDI on economic growth for the case of low and lower-middle income, and upper-middle-income countries over the period 1976-2005. They employ System GMM (generalized

method of moments) and OLS (ordinary least square) as econometric methods. The results show that macroeconomic instability reduces the impact of FDI on economic growth in upper-middle income countries. They emphasize on the necessity to take into account institutional and macroeconomic environment when investigating FDI-growth nexus in emerging countries.

Using a threshold regression framework, Slesman et al. (2015) examine the role of institutional development in the link between portfolio equity, FDI, debt inflows and economic growth for 80 advanced, emerging and developing countries over the period 1975-2005. They find that FDI and other types of capital inflows increase economic growth only in countries where there are high-quality institutions. Countries that fall below the threshold level of institutional development record either insignificant or negative effects of capital inflows on growth.

Using the same approach (threshold model), Chen and Quang (2014) also investigate the conditions under which portfolio equity, FDI and debt inflows may be growth-enhancing using data for 80 countries over the period 1984-2007. The results show that only countries that satisfy certain thresholds regarding the level of economic development, institutional development, financial development, and government spending can gain from international financial integration. The results show also that the threshold condition for the positive effect of FDI on growth to materialize is less restricting than that of the other types of capital inflows.

Brahim and Rachdi (2014) also investigate the role of institutional development in FDI-growth nexus using a sample of 19 MENA countries over the period 1984-2011. They use a Panel Smooth Transition Regression (PSTR) approach to capture the nonlinear relationship between FDI and growth. Their results indicate that the effect of FDI on growth depends on the level of institutional development; only countries that have a good quality of institutional framework can enjoy the positive effect of FDI on economic growth.

Following the same approach (Panel Smooth Transition Regression), Jude and Levieuge (2016) examine the role played by institutional development in modulating the FDI-growth relation using a large sample of 93 developing countries over the period 1984-2009. The results show that FDI does not have a direct effect on economic growth. FDI exhibits growth-enhancing effect only in countries with a better institutional framework. In short, FDI does not promote growth in countries with a poor level of institutional development.

Solomon (2011) examine the simultaneous impact of domestic factors such as the level of economic development, human capital, financial development and the quality of the political environment on the link between FDI and growth in the context of 111 countries over the period 1981-2005. He employs the system GMM (generalized method of moments) estimator and the results show that the level of economic development, human capital, and quality of the political environment affect the link between FDI and GDP growth. Farkas (2012) uses a similar approach and finds that the contribution of FDI to economic growth depend on the level of human capital and financial development in the case of 69 countries over the period 1975-2000.

Shen and Lee (2010) investigate the impact of FDI and foreign portfolio investments on economic growth conditional on domestic factors for 80 countries over the period 1976-2007. The results show that only FDI has a positive effect on growth. Moreover, the results indicate that domestic factors such as human capital and low level of corruption mitigate the positive impacts of FDI on growth. Their findings are contradictory to the conventional belief: *"an increase in corruption and a decrease in human capital improve the positive effect of FDI on economic growth".*

Kinoshita and Lu (2006) explore another aspect of absorptive capacity, infrastructure development in host countries. They use a sample of 42 developing countries over the period 1970-2000. The empirical results indicate that FDI positive spillovers take place only in countries with sufficient level of infrastructure development. Below the threshold level, FDI has a negligible effect on growth.

Tanna et al. (2018) explore another domestic factor that may influence the effect of FDI on economic growth in host countries. Using a threshold regression based on a sample of 39 developing countries over the period 1984-2010, they find that the effect of FDI on economic growth depends on the level of external debt in a host country. In particular, they find that FDI stimulates growth until a certain threshold level of external debt, beyond this level, the effect of FDI on growth is statistically insignificant.

In contrast to the aforementioned studies, other studies find that domestic factors or absorptive capacities do not play any role in the link between FDI and growth. Woo (2009) investigates the effect of FDI on economic growth via Total Factor Productivity(TFP) growth for a panel of 92 developed and developing countries over the period 1970–2000. After

employing various econometric methods, the results show that the impact of FDI on Total Factor Productivity is not conditional on the level of institutional and financial development or of human capital stock He rather finds that FDI affects directly TFP, and hence economic growth. Similarly, Carkovic and Levine (2005) find that domestic factors such as the level of human capital, per capita income, or trade openness does not matter in the FDI-growth nexus. Using panel data made up of 71 countries over the period 1975- 2005, Hsu and Wu (2009) find that financial development does not play any role in the link between FDI and growth. As for Herzer et al. (2008), they find that FDI has a negative effect on economic growth, and absorptive capacities or domestic factors do not matter in the case of 28 countries over the period 1970-2003. After reviewing some key empirical studies related to FDI-growth nexus in other regions of the world, we focus in the next section on the key empirical studies dealing with the specific case of Africa.

2.2.2. Empirical Evidence from African Case Studies

Empirical studies focusing solely on African countries are scanty as compared to other regions in the world. We present studies that examine the direct effect of FDI on growth before proceeding to studies focusing on the role of domestic factors in mediating the effects of FDI on economic growth.

- ***Direct effect of FDI on economic growth in Africa***

Seyoum et al. (2014) examine the link between FDI and GDP growth in 23 African countries over the period 1970-2011. They employ a causality test, and the results reveal that FDI causes GDP growth and vice-versa. However, this causal link was not homogenous among individual countries. For instance, FDI causes GDP growth in Egypt, Gabon, and Mauritania, while GDP growth causes FDI inflows in Cote d'Ivoire, Kenya, South Africa, and Zambia. Likewise, Esso (2010) assesses the link between FDI and economic growth in 10 Sub-Saharan African countries over the period 1970-2000. As econometric techniques, he uses Pesaran et al. (2001) co-integration approach and causality test. The author finds a positive long-run relationship between FDI and growth but the direction of causality was not homogenous among countries in the sample.

Using a sample of 47 African countries over the period 1990-2003, Sharma and Abekah (2008) find a positive effect of FDI on economic growth. They employ robust Ordinary Least Squares (OLS) as an estimation method. Similarly, Ndikumana and Verick (2008) investigate the impact of FDI on growth in 38 Sub-Saharan African countries for the period 1970-2005. They employ robust OLS and causality test, and the results indicate that FDI promotes growth by crowding in domestic investment, which in turn, increases domestic capital accumulation.

Ndambendia and Njoupouognigni (2010) examine the relationship between FDI inflows and economic growth using a sample of 36 Sub-Saharan African countries over the period 1980-2007. They employ Mean Group(MG), Pooled Mean Group (PMG) estimator, and dynamic fixed effect as an econometric approach, and the results show a robust positive effect of FDI on economic growth. Seetanah (2009) also explores the impact of FDI on growth for the case of 39 Sub-Saharan African countries over the period 1980-2005. Various estimations techniques such as static random effects regression, generalized methods of moments(GMM), and causality test were employed. The results show that FDI promotes growth, and growth also is an important determinant of FDI inflows. Moreover, the findings reveal that the effect of FDI on growth is not significantly different from domestic private investment.

Adams (2009) explores the impact of FDI on economic growth using a panel of 42 African countries. The study covers the period 1990-2003, and the results based on OLS and fixed effects estimation did not show convincing evidence of a positive effect of FDI on economic growth. Macias and Massa (2009) explore the impact of international capital inflows, namely FDI, foreign portfolio investment and cross-border bank lending on economic growth with a sample of 45 African countries covering the period 1980-2007. The results indicate that foreign portfolio investment has no effect on economic growth; but, FDI and cross-border bank lending promote economic growth in Africa.

Ng (2007) assesses the impact of FDI on productivity growth in 14 Sub-Saharan African countries over the period 1970-2000. Using the Granger causality test, the results indicate that FDI does not affect productivity growth, however, he finds a positive but weak impact of FDI on productivity growth in two countries in the sample. In contrast, using a data for 19 Sub-Saharan African Countries(SSA) over the period 1985-2010, and Generalized Method of Moment(GMM) as econometric strategy, Elmawazini (2015) finds that FDI has a weak and

negative effect on productivity growth in SSA. He concludes that attracting quality FDI and manufacturing FDI is a challenge for SSA countries.

Some studies focus on country-specific analysis, instead of the panel framework. In this direction, Fedderke and Romm (2006) find a bi-directional causality between FDI and economic growth in South Africa. In other words, FDI promotes growth, which in turn, stimulates FDI inflows into the country. In contrast, Akinlo (2004), did not find any effect of FDI on growth in Nigeria for the period 1970–2001 while Oteng-Abayie and Frempong (2006) find that FDI has a negative effect on economic growth in Ghana for the period 1970 - 2002.

- ***The role of domestic factors in the FDI- growth nexus in Africa***

This section focuses on the review of some major papers that have taken into account the role of domestic factors in examining the link between FDI and economic growth for the case of African countries. Adjasi et al. (2012) investigate the influence of financial markets on the FDI-growth nexus in 32 African countries over the period 1997-2008. They employ Instrumental Variables approach (IV), and the results indicate that FDI alone does not affect growth; it promotes growth only when it is interacted with financial development indicators such as domestic private credit and savings. Using the same approach, Agbloyor et al. (2014) examine whether financial markets affect the relationship between private capital inflows and economic growth for a panel of 14 African countries over the period 1990-1997. The findings show that foreign direct investment, foreign equity portfolio investment and private debt flows affect positively economic growth only when they are interacted with financial development indicators. These studies show that local financial development is crucial for countries to benefit from international capital inflows.

Gui-Diby (2014), explores another aspect of absorptive capacity which is human capital. The author assesses the effects of FDI on GDP growth using a panel of 50 African countries covering the period 1980-2009. Based on the system generalized method of moments (SYS-GMM) estimators, the results indicate that FDI affects negatively economic growth during the period 1980-1994, and positively during the period 1995-2009. Using a linear interaction between FDI and human capital, he finds that human capital stock does not influence FDI-growth nexus in African countries.

Adams and Osei-Poku (2015) investigate the impact of credit market regulations, business regulations and labor market regulations on the FDI-growth nexus in 22 Sub-Saharan African countries. Using a panel data covering the period 1980-2011 and the general methods of moments (GMM) estimation approach, they find that FDI does not affect directly economic growth; it affects positively growth when interacted linearly with regulatory regime variables. In short, the findings indicate that FDI has the potential to stimulate growth in the presence of a better regulatory regime in a host country.

Agbloyor et al. (2016) examine the influence of institutional development on FDI-growth nexus in Sub-Saharan African countries for the period 1996-2010. They employ the system generalized method of moments (SYS-GMM) estimators, and the results indicate that FDI does not affect growth in the full sample. They equally find that institutions do not affect FDI-growth nexus. They repeat the estimation by excluding countries with well-functioning financial development, the results show no direct effect of FDI on growth. However, institutional quality affects positively the link between FDI and growth. Finally, they exclude countries with abundant natural resources, and they find a direct positive effect of FDI on economic growth.

Malikane and Chitambara (2017) explore the intermediary role of democracy in FDI led growth nexus with a panel of 8 Southern African countries over the period 1980–2014. Based on the system generalized method of moments (GMM) estimator, they find that FDI affects directly and positively economic growth. However, this positive effect is enhanced by strong democratic institutions. In a similar fashion, Zghidi and Abida (2016) assess the influence of economic freedom on the FDI-growth nexus for a panel of 4 North African countries, namely, Algeria, Egypt, Morocco, and Tunisia, over the period 1980-2013. Based on the system generalized method of moments (GMM), they find a direct positive effect of FDI on economic growth, and this growth-enhancing effect of FDI becomes stronger in the presence of higher economic freedom. Summing up, these findings imply that countries with better institutions gain significantly from the presence of Transnational Corporations.

Edmore and Mahembe (2016) explore another feature of absorptive capacity, namely the level of economic development. To identify, the influence of the level of economic development on the FDI-growth relation, they split their sample into two groups, namely, low

income and the middle-income countries. Using the Granger causality test, the results show no evidence of causality from FDI to GDP growth for SADC countries during the period 1980-2012. They conclude that the FDI-led growth hypothesis is not valid in SADC countries, irrespective of the level of economic development.

In a single country study, Sakyi et al. (2015) test the famous Bhagwati hypothesis according to which countries that implement export promotion trade policy gain more from FDI than countries that implement import-substituting trade policies. To this end, they investigate the role of trade policy in the link between FDI inflows and economic growth for the case of Ghana over the period 1970-2011. Using the autoregressive distributed lag bounds testing approach to cointegration, they find that FDI affects positively economic growth in Ghana, and the growth-enhancing effect of FDI in Ghana is intensified by export promotion policy. This finding is in line with Bhagwati hypothesis; liberal trade policy increases the welfare gain from FDI.

In the first part of this chapter, we review the theoretical arguments and the major previous empirical studies on the link between FDI and economic growth in host countries. In this second part of the chapter, we review the theoretical arguments and previous major empirical studies dealing with the impact of FDI on income inequality in host countries.

2.3. FDI and Income Inequality Relation: Theoretical Arguments

The question of whether the whole population benefit equally from FDI or not is less documented. Different views about the concept of inequality exist in the literature. For example, some people argue that inequality cannot be considered as a problem because it is the result of differences in talents and choices in a society or in a country. Another group of people also hold a position that global inequality is irrelevant but national or country-level inequality deserves much of concern because national inequalities are often "*the stuff of political discourse; they are used to form political parties or platforms and to organize interest groups. But at the global level, none of that exists because there is no global polity"* (Milanovic, 2006, p.13). It is equally argued that for the sake of "global justice", we must be concerned by the global inequality because the distribution pattern of resources among world's citizens mirrors the concern for inequality at the national level.

Several definitions and measures of inequality are provided also in the literature. Referring to Lakner and Milanovic (2013, p.6), we can identify three concepts of global inequality: (i) unweighted international inequality measured by GDP per capita; it captures the inequality in per capita income across nations in the world; (ii) Population-weighted international inequality which measures inequality amongst persons by assigning everybody the GDP per capita of his place of residence, and (iii) global interpersonal inequality, which captures the inequality of individual incomes in the world by giving everybody his or her own income.

Okojie and Shimles (2006), in their review of literature, reveal also several types of inequality, namely: (i) income/expenditure inequality; (ii) asset inequality; (iii) education inequality; (iv) inequality in health and nutrition; (v) inequality in use of public services; (vi) labor market inequalities; and (vii) multidimensional inequality. Multidimensional inequality is a composite measure of inequality including access to education, access to potable water, access to health services, nutrition, and type of habitation, energy, and communication. IMF (2015, p.6) identifies two broad types of inequality, namely inequality of outcomes and inequality of opportunities. Inequality of outcomes includes wealth inequality, income or expenditure inequality while inequality of opportunities includes education inequality, health inequality, and inequality in financial services access. Our study focuses mainly on income inequality, especially at the national level.

Generally, income inequality consists of the different distribution of income or economic assets within a group of individuals, a region or a country. Atkinson (1997; cited in Kaulihowa and Adjasi, 2017) defines income inequality as the extent to which income is distributed unevenly in a given country or region. For instance, if a large proportion of the national income is possessed by a small share of the population in a country, it is viewed as an unequal distribution of income, and this situation can trigger several problems in society. The widely known measure of income inequality is the Gini index. It is based on the Lorenz curve and measures the extent to which the income distribution in a country deviates from a hypothesized situation of perfect equality. However, the Gini index as a measure of income inequality may not express correctly income inequality because of some limitations. Lorenz curve on which the Gini index is based may understate the real level of income inequality. For example, if richer households are able to use income more efficiently than lower income

households, the level of income inequality measured might be the result of more or less efficient use of household incomes. Another problem related to the Gini index is the concept of income. Income can be defined at the household level or at the individual level and each income definition gives a different level of income inequality. Gini index calculated by using individual incomes is different from a Gini index obtained by using household incomes for the same country.

The rise of income inequality worldwide has coincided with increasing financial globalization. Financial globalization is considered as one of the main drivers of the current worldwide income inequality. According to IMF (2015, pp.18-21), financial globalization, technological change, redistributive policies, and changes in labor market institutions are the main causes of income inequality. The increasing financialization which is a consequence of financial globalization is viewed as one of the most important causes of the current rise of income inequality worldwide.

The debate on the impact of international trade and FDI on income distribution started between modernization and dependency theorists in the 1960s-1970s and has regained momentum in recent years with the proliferation of anti-globalization movements. However, most of the studies on the impact of economic globalization on income inequality have focused more on trade than FDI. In other words, the literature on the trade- inequality nexus is richer than the literature on the FDI-inequality nexus (Mah, 2003, p.159; Franco and Gerussi, 2013, p.1134). However, Obstfeld (1998, p.21) contends that the effect of FDI on income distribution is similar to the effect of trade on income distribution as predicted by Heckscher- Ohlin-Stolper-Samuelson model.

Theoretical arguments and empirical evidence on the FDI-income inequality nexus are inconclusive and contradictory. In other words, there is still no final verdict concerning the nature of the relationship between FDI and income inequality. Some arguments go in favor of the equalizing effect of FDI (FDI reduces income inequality), while some arguments go in favor of the disequalizing effect of FDI (FDI increases income inequality). Also, the predominant view from the recent literature is that FDI may worsen or reduce income inequality in host countries depending on domestic factors and policies. We firstly review the theoretical arguments related to the impact of FDI on income distribution from developing countries'

perspective, and secondly, we review the major previous empirical studies undertaken on this issue.

Although wage inequality is not a complete picture of income inequality, high wage inequality is likely to result in high-income inequality because wage constitutes the main source of income for the great majority of people (Figini and Gorg, 2011, p.1456; Cho and Ramirez, 2016, p.412). It is worth noting that high-income inequality may also increase wealth inequality because a high income can be used to accumulate more wealth. In our literature review, we use wage inequality and income inequality interchangeably.

2.3.1. Equalizing Effect of FDI

According to Heckscher–Ohlin's model, a country should specialize in the activities that use intensively its relatively abundant factor. Stolper–Samuelson theorem, which is one of the corollaries of Heckscher–Ohlin's model, predicts therefore that, openness will benefit a country 'relatively abundant factor. In other words, since developing countries are relatively abundant in unskilled labor, international trade will increase the demand for unskilled labor and decrease the demand for skilled labor thereby reducing wage inequality. In the Heckscher-Ohlin framework, FDI inflows resemble trade liberalization. Thus it is argued that cheap labor is one of the important determinants of FDI in developing countries. Therefore, FDI is expected to affect income distribution in these countries. The arguments go that, since developing countries are generally abundant in labor, they will attract FDI toward the production of tradable goods that use intensively the cheaper abundant labor. This process is expected to increase the demand for the abundant factor used in the export sector, which is conventionally assumed to be unskilled labor in less developed economies and, as a corollary, international trade and FDI should improve income distribution (equalizing effect) in developing countries (see, Lee and Vivarelli, 2006). In sum, according to Stolper-Samuelson theorem, economic globalization, namely international trade and FDI, improve income distribution in developing countries.

Similarly, Mundell (1957), hypothesized that FDI liberalization will lead to capital inflows from capital abundant countries (developed countries) to capital-scarce countries (developing countries) in order to take advantage of the returns on capital differentials. This process will increase the level of existing capital in developing countries. What follows is the competition between foreign capital and domestic capital for domestic labor. Consequently, the

labor income will increase and domestic firms profit will decrease. The relative returns on capital to labor fall thereby reducing income inequality in developing countries. In short, according to Mundell hypothesis, FDI inflows have an equalizing effect in developing countries.

Modernization theory asserts that FDI promotes growth and reduces income inequality. The foundation of this approach is the orthodox concepts of marginal productivity theory and the role of saving and consumption propensities (Tsai, 1995, p.470). The idea is that, if the propensity of saving for the rich is higher than that of the poor, then any income transfer that occurs from the poor to the rich is more likely to bring a higher steady-state level of capital per worker and output per worker. In other words, inequality would lead to higher income per capita. Thus, modernization theory emphasizes on the necessity of sufficient production before any distribution. In this approach, income inequality is therefore perceived as a prerequisite for a possible improvement in everyone's income. The position of the proponents of modernization perspective on income inequality is exemplified by what is referred to as "inverted U-shape hypothesis" or "Kuznets hypothesis" according to which income inequality tends to rise in the initial phase of economic development and then falls in the latter stages of development. Modernization theorists consider foreign and domestic capital as homogeneous goods. According to them, the origin of capital is not important, the most important is that it stimulates economic growth and its benefits spread throughout the economy. Thus, they argue that even if initially, FDI promotes growth in certain leading sectors and generates local elites or economic dualism, in the long run, this growth in the leading sectors has the potential to spread throughout the entire economy, and promotes a better distribution of income in the host country (Firebaugh and Beck ,1994; Mihaylova, 2015, p. 25).

Jensen and Rosas (2007, p.471) emphasize two ways through which FDI can affect income distribution in a host country. The first mechanism is that *ceteris paribus*, FDI inflows induce competition between domestic and foreign capital for domestic labor. This will increase the return on labor and decrease the return on capital. This income convergence process is expected to decrease income inequality. The second way through which FDI can improve income distribution is if the foreign affiliates employ unskilled workers and pay them a wage premium. This would increase the income of poor workers and ultimately reduce income inequality.

In a theoretical model, Bhandari (2007) hypothesized that FDI reduces income inequality in a country where there is a higher number of wage earners than capital owners. The argument goes that, FDI inflows, by increasing domestic capital base, reduce the relative returns on capital to labor (returns on the capital decrease, while return on labor increase), which in turn, decreases income inequality in the host country. Despite this optimistic view about the effect of FDI on wage and income distribution, some school of thought blame FDI to be responsible for this current increasing income inequality worldwide.

2.3.2. Disequalizing Effect of FDI

The debate on the impact of international trade and FDI on income distribution started between modernization theory and dependency and world system theory. Their predictions about the distributional impact of FDI in developing countries completely diverge. In contrast to the modernization theory, the dependency and world system theory is more critical of the distributional impact of FDI. This school of thought holds a position that the dependency of the less developed countries on the developed countries created through trade and FDI, is detrimental both economically and socially. This approach contends firmly that, by creating disparities and dualism in economies and productive structures, FDI inflows into developing countries retard economic growth and exacerbate income distribution. The argument goes that, multinational companies are distant and operate apart from the rest of the host economy due to the highly capital intensive production process they use. In addition, they consume the existing resource in the host developing countries and repatriate huge part of the profits generated from their activities. Multinational companies are accused also to have a divisive effect on the local communities because they produce and maintain highly paid local elites and a large number of marginalized unskilled workforce with low wages. To sum up, dependency and world system theory postulates that FDI undermines economic growth and increase income inequality in developing host countries (Firebaugh and Beck, 1994; Mihaylova, 2015, p.25).

Arguing in favor of dependency theory, Feenstra and Hanson (1997) develop a North-South model in which they show that capital movement from North to South can raise the relative wage of skilled labor both in the North and South. The authors argue that a relatively cheap labor cost in the South encourages firms in the North to move the low-skill- labor-intensive parts of their production to the South. However, the relatively low-skill-labor

intensive product that was previously produced in the North becomes relatively skilled labor - intensive in the South where it is now produced. In other words, activities that are known as low-skilled labor-intensive in the North (advanced regions) might be high-skilled labor-intensive in the South (developing countries). This results in skill intensity of the production in the South but the production in the South remains relatively less skilled labor intensive compared to that of the North. The increased demand for skilled labor increases the skill premium in the South. In sum, FDI, by increasing the wage differential between skilled and unskilled labor, exacerbates inequality in developing countries. This prediction is in contradiction with that of Heckscher-Ohlin-Stolper-Samuelson 'model.

Reuveny and Li (2003) discuss ways through which FDI made by Transnational Corporations may worsen income distribution in the host country. They argue that Transnational Corporations can gain significant political power and pressurize the host country's government for lower wages. They may equally threaten to leave the host country in order to weaken the labor union's bargaining power and get cheap labor. Finally, the intense competition generated in the domestic markets by the presence of multinationals may force the domestically owned firms to reduce wages in order to bring down their production costs.

According to the "Defensive Skill-Biased Innovation" theory, FDI activities lead to tough competition between foreign and domestic firms. The competition pressure from foreign firms forces the local firms to adjust their activities. Thus, local firms may increase their investment in research and development, and adopt more efficient technology than before the FDI liberalization. This reorganization will intensify skill-biased technological changes in the host country and hence exacerbates income inequality (Wood, 1995; Thoenig and Verdier, 2003). In the same vein, Acemoglu (1999) presents a theoretical model in which he shows that skill-biased technological changes create a change in job composition, and as a result, there will be an increased demand for the scarce skilled labor in the developing countries and ultimately increase the wage differential between skilled labor and unskilled labor. Skill-biased technological changes may spillover from foreign-owned firms to the local ones through demonstration effect. Since multinational corporations possess advanced and new technology, local firms will try to acquire new technology through imitation or by hiring skilled labor from foreign companies. However, the foreign firm may prevent its skilled workers to be hired by local firms by paying higher wages and offering better working conditions; this process will

increase the demand and the wage of the skilled workers (Fosfuri et al. 2001). In sum, the technological changes generated by FDI activities in the host country shift the labor demand in favor of skilled workers, which in turn, increase wage /income inequality.

Most of the arguments reviewed so far link directly FDI to income inequality through the demand for skill and unskilled labor in the host country. However, FDI can also affect indirectly income inequality in a host country. It is argued that Transnational Corporations can obtain tax rebates, investment allowances or avoid tax through several mechanisms such as "sweetheart" deals with governments and profit repatriation. This affects negatively government revenue, which in turn, reduces welfare expenditures in the host country, and subsequently result in greater inequality, especially if lower socioeconomic classes are disproportionately affected (Bogliaccini and Egan, 2017, p.212).

2.3.3.FDI and Income Inequality: The Role of Domestic Factors

The inconclusive view concerning the distributional impact of FDI has triggered a recent literature which investigates the possible role of domestic factors (absorptive capacities) in mediating the impact of FDI on income distribution. In the recent literature, domestic factors (absorptive capacities) such as human capital, financial development, institutional quality, and infrastructure development, among others are believed to affect FDI-inequality nexus (see, for example, Wu and Hsu, 2012; Lin et al.,2013; Lin et al.,2014). In sum, the message from the recent literature is that FDI may worsen or improve income distribution in host countries depending on the level of their absorptive capacities. In the following lines, we review the possible role played by these absorptive capacities (domestic factors) in mediating the impact of FDI on income inequality.

- ***FDI and income inequality: the role of human capital***

The adoption of the new technologies brought by multinational companies by the locally-owned firms may exacerbate income inequality in the short run and reduces it in the long run because the absorption of the superior technologies requires skills that are in short supply in the short run. Drawing on the endogenous growth model developed by Aghion and Howitt (1998), Figini and Gorg (1999) elaborate a theoretical model in which they establish a link between the presence of foreign-owned firms and wage inequality in a host country. They argue that the

impact of FDI inflows on income distribution varies according to stages: In the first stage of the presence of Multinational Companies, new technologies improve the skills of "white-collar" workers, thereby increasing their productivity and wage. "Blue-collar" workers remain initially unskilled, while white-collar workers become skilled. However, in stage two, through a process of ''learning by doing'', "blue-collar" workers eventually become more skilled in order to be able to work with the new technology. Therefore, Figini and Gorg postulate that the group of "blue-collar" workers upgrade over time from being ''unskilled'' to being ''skilled.''

Summing up, according to the authors, the stock of skilled labor in the recipient economy defines the association between FDI inflows and wage inequality. FDI inflows increase wage inequality between unskilled blue-collar and skilled white-collar workers in the short run, but, in the long run, as blue-collar workers become more skilled, wage inequality gradually declines. The mechanism described here suggests that the stock of human capital in the host country modulates the impact of FDI on income inequality. FDI increases income inequality when the stock of skilled labor in the host country is low and reduces income inequality when the stock of skilled labor is high (also, see Mah, 2003, p.160). In the same vein, Basu and Guariglia (2007), argue that FDI-induced inequality may persist until poor population segments of the society accumulate sufficient human capital necessary to handle modern technologies. They contend that the link between FDI and inequality depend on the initial distribution of human capital. In sum, the above-mentioned arguments suggest that human capital could mediate the impact of FDI on income inequality.

Another possible channel through which human capital may influence the link between FDI inflows and income inequality is as follows: firstly, as argued by Lin et al. (2013, p.877), accumulation of human capital promotes technological innovations. The adoption of new technologies in the production process will increase the demand for skilled labor. The net effect of human capital on income inequality will, therefore, depend on the stock of skilled labor in the economy. The greater stock of human capital reduces wage differential between skilled and unskilled workers. Thus, the possibility that human capital exerts a nonlinear effect on income inequality is well admitted in the literature. Secondly, FDI inflows tend to increase the level of human capital in the host country. It is argued that transnational corporations can improve the stock of human capital of the host country by providing direct training to their employees or they can assist high education institutions such as universities and technical schools in the host

country to improve the quality of education (Fosfuri et al. 2001, p.208; Blomstrom and Kokko, 2003, pp.11-12; Alfaro, 2014, p.14). Thirdly, it is argued also that FDI is attracted by countries with a better level of human capital stock. Multinationals corporations move their production to countries where they can minimize the cost of labor training in order to use their new technologies. In other words, they go to countries that have a certain minimum level of human capital (Dutta and Osei-Yeboah, 2010). Blomstrom and Kokko (2003, p.17) argue, in the same vein, that high technology-intensive FDI will flow mainly to countries with high educational attainment, while Lucas (1990) contends that the poor level of human capital impedes FDI inflows into less-developed countries. Summing up, the nonlinear effect of human capital on income inequality and the two-way relationship between FDI and human capital offer another possible channel through which human capital modulate the association between FDI and income inequality (Lin et al., 2013).

- ***FDI and income inequality: the role of domestic financial development***

The importance of financial development in income inequality reduction is widely acknowledged in the literature, and it is argued that financial development exerts a nonlinear effect on income inequality. A poor financial system increases transactions cost and credits constraints. These credits constraints affect particularly the poor people and the small entrepreneurs that lack collateral, credit histories, and connections. However, a well-functioning financial system increases economic opportunities for the poor and small entrepreneurs by allowing them to get access to credit and materialize their entrepreneurial projects (Lin et al., 2014, p.4; Beck et al.,2007, p.28; Aghion and Bolton, 1997, p.151). In the same vein, Demirgüç-Kunt and Levine (2009, p.1) state that: *"financial development can shape the gap between the rich and the poor and the degree to which that gap persists across generations*". Also, Greenwood and Jovanovic (1990) develop a model in which they predict a nonlinear relationship between financial development and income inequality. According to the authors, financial transactions costs are high in the early stages of financial development and only the rich and the largest firms can get access to external finance. But a higher level of financial development increases opportunities for a larger proportion of the population in society and reduce income inequality. Put another way, financial development, by reduction financial frictions and improving the capital allocation, reduces income inequality.

However, according to another view, financial development may increase income inequality. According to this view, it is mainly wealthier households and politically well-connected people that benefit from improvements in the local financial system because they can afford the required collateral, and they can also prevent the small entrepreneurs and poor people from getting access to loans thereby increasing income inequality (Acemoglu et al, 2005). This view, generally, found in the new political economy literature would imply that financial deepening does not necessary means financial inclusion.

It is also argued that financial development attracts FDI. Transnational corporations are attracted by countries with a better financial system that is able to allocate financial resources efficiently. Campos and Kinoshita (2010, p.356) argue that well-developed financial markets allow the foreign-owned firms' suppliers network to operate successfully in the host country. They equally argue that financial reform, trade liberalization, and privatization are among the most important reforms that attract FDI to a host country. The authors further note that financial development impacts more on FDI inflows than trade liberalization and privatizations. Similarly, according to Alfaro (2014, p.33), domestic conditions such as local financial development have dual effects of attracting FDI and increasing the benefits of FDI for the host country. Local financial development is, therefore, one of the key determinants of FDI inflows.

Finally, FDI inflow is believed to contribute to financial development in host countries. Financial openness can contribute to the development of a country's financial system in several ways. For instance, it is argued that financial openness increases the efficiency of domestic financial markets through increasing competition and introduction of international standards (Klein and Olivei, 2008, p.862; Demirgüç-Kunt et al.,2001, p.892). It is equally argued that financial liberalization enhances the functioning of a country's financial system by squeezing inefficient financial institutions out of the markets, and exerting pressure on the domestic government to introduce reforms aimed at improving the functioning of the financial system in order to avoid crisis (Demirgüç-Kunt et al.,2001, p.909; Lin et al.,2014, p.4). In summary, the nonlinear effect of financial development on income inequality and the two–way relationship between FDI and financial development create the possible channel through which financial development can shape the link between FDI and income inequality in a host country (Lin et al., 2014, p.4).

❖ ***FDI and income inequality: the role of infrastructure development***

Sufficient provision of infrastructure could help the poor to improve their investment conditions thereby catching up with the rich in the long run. Wu and Hsu (2012) argue that FDI makes income distribution more unequal in a country with a poor level of infrastructure development. They further emphasize that policy aimed at improving infrastructure development will improve investment conditions, attract foreign investors and reduce income inequality.

Summing up, the theoretical arguments on the effects of FDI on income inequality are inconclusive and contradictory. There are mechanisms for equalizing and mechanisms for disequalizing effects of FDI in the theoretical literature. However, the emerging position from the recent literature is that FDI can worsen or reduce income inequality depending on domestic conditions and policies. Domestic factors such as human capital, financial development, and infrastructure development, among other aspects, might play an important role in the relationship between FDI and income inequality in a host country. These contradictions have triggered empirical studies aimed at investigating the distributional impact of FDI. The next section takes up the empirical evidence on the FDI-income inequality nexus.

2.4. FDI and Income Inequality: Previous Empirical Evidence

In the empirical literature, the repercussions of FDI on income distribution has been investigated both in developed and developing countries. Overall, consistent with the division in the theoretical literature, empirical studies on the repercussions of FDI on income distribution in host countries are inconclusive. Empirical studies found positive, neutral, as well as negative effects of FDI on income inequality. Firstly, we review major studies from other regions and secondly, studies dealing solely with African cases.

2.4.1. Empirical Evidence from Other Regions of the World

A generation of studies assumes a linear relationship between FDI and income inequality. In other words, they do not take into account the likely role played by domestic factors in the FDI-inequality nexus. Recently, another group of studies which assume a nonlinear relationship FDI and income inequality has emerged. This new generation of studies assumes that the effect

of FDI on income inequality is conditional on the host country's level of absorptive capacity or domestic factors.

❖ ***Linear relationship between FDI and income inequality***

A generation of studies assumes a linear relationship between FDI and income inequality. This group of studies does not explicitly take into account the likely role played by domestic factors or domestic conditions in the FDI-inequality nexus. An example is the widely cited paper of Tsai (1995). He explores the relationship between FDI and income inequality for 33 developing countries during the 1970s. Based on ordinary least squares (OLS) technique, the author finds that the effect of FDI on inequality is not homogenous across geographical areas. Specifically, the results indicate that FDI worsens income inequality only in East and Southeast Asian countries. In a similar fashion, Alderson and Nielsen (1999) investigate the association between FDI and income inequality using panel data for 88 countries over the period 1969-1994. The findings show that inward FDI stock increases income inequality. Likewise, Reuveny and Li (2003) examine the effect of FDI on income inequality for 69 countries over the period 1960-1996. The results show that FDI increases income inequality.

Also, Choi (2006) finds that FDI inflows exacerbate income inequality for 119 countries over the period 1993-2002. Similarly, Basu and Guariglia (2007) assess the effects of FDI inflows on growth and educational inequality for 119 developing countries over the period 1970-1999. Using a fixed-effects and GMM regressions, they find that FDI promotes growth and increases inequality in human capital. The authors conclude that FDI inflows exacerbate economic inequality. Herzer et al. (2014) examine the long-run relationship between FDI and income inequality using data from Latin American countries over the period 1980-2000. Based on dynamic ordinary least squares (DOLS) technique, they find that inward FDI stock promotes income inequality in Latin American countries. Also, the results indicate that FDI increases income gaps in all individual countries in the sample with the exception of Uruguay. Using panel data for a group of 39 middle-income countries for the period 1981–2006, Huang et al. (2016) find that inward FDI tends to exacerbate income inequality in transition economies and Latin American countries.

Jaumotte et al. (2013) examine the effects of trade and financial globalization for 51 countries over the period 1981-2001. The estimation of their econometric model shows that

trade reduces income inequality while financial globalization, especially FDI promotes income inequality. In a similar fashion, Asteriou et al. (2014) examine the effect of globalization on income inequality for EU-27 during the period 1995-2009. They apply various econometric methods, such as fixed effects, random effects and generalized method of moments (GMM). Overall, the findings indicate that trade openness reduces inequality while financial globalization, especially FDI deepens income inequality. The findings show that FDI is the main driver of income inequality in the EU-27 since 1995.

Gopinath and Chen (2003) focus on wage inequality instead of income inequality. They investigate the effects of FDI on wage inequality for 26 developed and developing countries for the period 1970-95. Their results indicate that FDI flows increase income inequality in developing countries by increasing the wage gap between skilled and unskilled workers.

An interesting study on the FDI-inequality nexus which deviated from the other studies in terms of approach was conducted by Bogliaccini and Egan (2017). They examine the effect of sectoral FDI on income inequality. Using data for 60 middle-income countries over the period 1989- 2010, they find that FDI in services leads to higher income inequality, whereas FDI inflows into the primary and manufacturing sectors are not associated with higher income inequality. The authors attribute these results to the skill biases and changes in employment patterns associated with services sector investments.

Among country-specific studies, Feenstra and Hanson (1997) hypothesize that FDI flows from the North (developed countries) to the South (developing countries) increase wage differential between skilled and unskilled workers, thereby resulting in greater income inequality in developing countries. They applied this hypothesis to Mexico during the period 1975-1988. The results show that FDI flows to Mexico increase the relative demand for skilled labor, and hence, increase income inequality. Using China's provincial data for the period 1985-1998, Zhang and Zhang (2003) report that FDI inflows increase income inequality in China. In a similar fashion, Mah (2012) investigates the impact of FDI inflows and labor unionization on income distribution in South Korea over the period 1982–2008. Using a small sample cointegration test and the error correction model as econometric approaches, he finds that FDI increases income inequality in South Korea, irrespective of the measures of income inequality. He also finds that the decrease of labor unionization in Korea has increased income inequality.

In contrast to the aforementioned studies which generally report that FDI increases wage and/or income inequality, a group of studies finds that FDI reduces income inequality in host countries. An example is a study by Herzer and Nunnenkamp (2013). They assess the effects of inward and outward FDI on income inequality in 8 European countries over the period 1980 to 2000. Although, some countries in the sample exhibit a positive association between FDI flows and inequality, on average, the results show a negative long-run relationship between FDI and income inequality. In short, in the long-run, FDI has an equalizing effect.

Also, Im and McLaren (2015) examine the effects of FDI inflows on income inequality and poverty for a large panel of 127 developing countries over the period 1977-2012. Without controlling for the endogeneity issue, they find that FDI does not affect income inequality. They further control for the potential endogeneity issue associated with FDI-inequality nexus by using instrumental variables estimation approach. They find that FDI reduces income inequality and poverty. The authors emphasize the necessity to control for endogeneity issue while investigating the link between FDI and income distribution.

In a single-country analysis, Jensen and Rosas (2007) employ an instrumental variables approach as econometric strategy and find that FDI inflows reduce income inequality in Mexico's 32 states during the period 1990-2000. Using data for the period 1970-2008 and auto-regressive distributed lag (ARDL) modeling strategy, Ucal et al. (2015) find that FDI inflows reduce income inequality in Turkey both in the short run and long-run. In a similar vein, Chintrakarn et al. (2012) use state-level panel data to investigate the impact of inward FDI on income inequality in the U.S.A. Based on panel cointegration techniques, the results show that, in the long run, FDI reduces income inequality in the United States. However, the authors conclude that the distributional impact of FDI is not homogeneous across U.S. states. FDI increases inequality in some states in the sample. Bhandari (2006) reaches a similar conclusion; FDI has an equalizing effect in the United States with the exception of North-Eastern U.S where FDI deepens income inequality.

Another group of studies finds no link between FDI and income inequality. Sylvester (2005), find that FDI has no link with income inequality in a sample of 29 developing countries over the period 1970-1990. Gini index was used as a measure of income inequality. Similarly, Milanovic (2005) finds that FDI does not affect income inequality. He uses household surveys

for 129 countries for the year 1988, 1993 and 1998. Mah (2003) examines the impact of globalization on income distribution in South Korea for the period 1975-1995. The results indicate that FDI inflows do not influence the Gini coefficient. In short, FDI does not affect income distribution in South Korea. Bhandari (2007) investigates the impact of FDI on income inequality for transitional countries in Eastern Europe and Central Asia over the period 1990 - 2002. The author employs a fixed effect model, and the results show that inward FDI stock did not contribute to overall income inequality. In the same vein, Mahler et al. (1999) find no impact of FDI on income inequality.

So far the empirical studies reviewed assume a linear relationship between FDI and income inequality. However, another group of studies assumes a nonlinear relationship between FDI and income inequality. We review these studies in the next step.

❖ ***The role of domestic factors in the FDI- income inequality nexus***

Recently, the inconclusive results concerning the impact of FDI on income inequality has triggered a generation of studies examining the possible nonlinear relationship, and particularly the role of domestic factors (absorptive capacities) in the FDI- inequality nexus. Generally, this strand of the literature suggests that the effect of FDI on income inequality is determined by domestic factors or absorptive capacities.

Figini and Görg (2011) estimate an empirical model derived from a theoretical framework in which the stock of skilled labor modulates the link between FDI and wage inequality. They examine the nonlinear relationship between FDI and wage inequality for more than 100 countries over the period 1980-2002. They split the sample, into two groups: (i) developed countries and; (ii)developing countries. Using fixed effect and GMM regressions, they find a nonlinear relationship between FDI and wage inequality for developing countries. FDI increases wage inequality and the effect tends to reduce when there is a further increase in FDI. Concerning the case of developed countries, the authors did not find a nonlinear relationship between FDI stock and wage inequality. However, they find that FDI stock reduces wage inequality in developed countries. They conclude that the effect of FDI on wage inequality is likely to depend on certain domestic factors such as the education level of the workforce and the level of economic development in the host country. Also, using industry-level data for the United Kingdom, Taylor and Driffield (2005) find that the link between FDI inflows and wage

inequality is nonlinear; FDI inflows increase wage inequality but the effect tends to diminish over time.

Following the approach used by Figini and Görg (2011), Franco and Gerussi (2013) investigate the impact of trade and FDI on income inequality in 17 transition countries for the period 1990-2006. They employ fixed effects and GMM regressions, and the results indicate no effect of FDI on income distribution. However, when they take into account the role of education in the link between FDI and income inequality, they find different results and conclude that educational system is a crucial channel through which FDI affect income distribution in host countries.

Based on the same theoretical framework employed by Franco and Gerussi (2013), Cho and Ramirez (2016) estimate an empirical model related to the link between inward FDI and income inequality measured by the Gini coefficient. They use panel data for 7 Asian economies over the period 1990-2013 and employ a panel cointegration test and Fully Modified Least Square (FMOLS) estimator. The results indicate a nonlinear relation between FDI and income inequality. FDI inflows increase income inequality in the short run and reduce it in the long-run. The Gini coefficient starts falling after inward FDI (% of GDP) reach 5.6. Before this threshold level, FDI promotes higher income inequality. They conclude that "the *fact that the Gini coefficient reaches its maximum at a relatively low level of FDI inflows suggests that sample countries are endowed with substantial absorptive capacity"* (Cho and Ramirez, 2016, p.411). In summary, their results imply that absorptive capacities in host countries define the link between FDI inflows and income inequality.

Mihaylova (2015) examines the impact of FDI on income inequality in ten Central and Eastern Europe countries over the period 1990-2012. Based on fixed effects regressions, the results show that FDI has the potential to reduce income inequality but the materialization of this effect depends on certain domestic factors in host countries. Specifically, the findings show that, at lower levels of human capital and economic development, FDI increases income inequality but this inequality-enhancing effect of FDI diminishes when the higher levels of stock of human capital and GDP are reached. In short, the results indicate that FDI reduces income inequality in host countries with high levels of human capital stock and economic development.

Lin et al. (2013) examine the role of human capital in the link between FDI and income inequality using a large panel of 73 developed and developing countries for the period 1960-2005. In contrast to Mihaylova (2015) who uses a linear interaction model, Wu and Hsu (2012) employ a threshold regression model. They find that FDI increases income inequality when the level of human capital exceeds a certain threshold. Below this threshold level, FDI inflows reduce income inequality.

Wu and Hsu (2012) examine the FDI-income inequality nexus and verify if the relationship varies with domestic factors. They use panel data for 54 countries covering the period 1980-2005. They also employ a threshold regression model but they use infrastructure development as a proxy for absorptive capacity. The results show that FDI has a greater impact on income inequality in host countries where the level of infrastructure development is low. In other words, FDI increases significantly income inequality in countries where the level of absorptive capability is low. However, FDI has only a small effect on income inequality in countries where the level of infrastructure development is high. In short, the findings imply that a high level of absorptive capacity in a host country mitigates the inequality-enhancing effect of FDI.

Using a novel approach, namely a panel smooth transition regression model (PSTR), Lin et al. (2014) examine the role played by financial development in the link between FDI and income inequality for a panel of 42 developed and developing countries over the period 1976-2005. The results show a nonlinear relationship between FDI and income inequality. At a lower stage of financial development, FDI has a moderate effect on income inequality and the effect increases rapidly at a higher level of financial development. In short, the results indicate that FDI-inequality nexus is not linear; the relationship changes over time depending on the level of local financial development.

After reviewing the major and recent empirical studies related to the distributional effect of FDI in other regions, we focus on the studies dealing with the specific cases of African countries in the next subsection.

2.4.2. Empirical Evidence from African Case Studies

Systematic empirical studies on the distributional impact of FDI solely in the context of Africa is very scanty, probably due to data constraints. In the first part of this subsection, we review the major empirical studies that investigate the linear relationship between FDI and income inequality in African countries.

❖ ***Linear relationship between FDI and income inequality in Africa***

Anyanwu et al. (2016) examine the determinants of income inequality in 17 countries of West Africa over the period 1970-2011. Using the generalized method of moments(GMM) regression, the results show that FDI inflows are among the factors that deteriorate income inequality in West Africa. Using a panel vector autoregressive (PVAR) model, Adams and Klobodu (2017) investigate the effects of capital flows on income inequality in 21 Sub-Saharan African countries for the period 1984-2013. They find that FDI increases income inequality both in the short and the long-run. However, they did not find any robust effect of remittances, external debt and aid flow on income inequality.

In contrast, Sharma and Abeka (2017) find that FDI reduces income inequality in African countries. They investigate the effects of FDI and foreign aid on income inequality for a sample of 71 African and South American countries over the period 1970-2014. They split the sample into two groups: (i) African countries and, (ii) South American countries. They apply the ordinary least square (OLS) technique, and the results indicate that FDI reduces income inequality both in African countries and South American countries while foreign aid increases income inequality in both regions. However, the effect of FDI and foreign aid on income inequality was higher in South American countries than in African countries.

❖ ***The role of domestic factors in the FDI- income inequality nexus in Africa***

Studies investigating systematically the nonlinear relationship or the role played by domestic factors in modulating the link between FDI and income inequality in the specific context of Africa are almost non-existent. Kai and Hamori (2009) examine the impact of globalization on income inequality in 29 Sub-Saharan African countries over the period 1980-2002. Using a random effect model, the results show that globalization measured by FDI and trade worsen income inequality. However, they find that the inequality-increasing effect of FDI

depends on the level of economic development in the host country. In other words, the inequality-increasing effect of FDI diminishes as countries get richer (Kuznets effect). Also, Kaulihowa and Adjasi (2017) investigate the nonlinear relationship between FDI and income inequality for 16 African countries over the period 1980-2013. Using Pooled Mean Group (PMG) estimator, the results indicate that the relationship between FDI and inequality is nonlinear. Specifically, the findings reveal that FDI reduces income inequality in the short run and increases it in the long run.

2.5. Summary and Critiques

Throughout this chapter, we reviewed the theoretical arguments and empirical evidence related to the repercussions of FDI on economic growth and income distribution in host countries. Traditionally, there are two broad main competing theories concerning the impact of FDI on economic growth and income inequality: Modernization theory which revolves around neoclassical and endogenous growth theories, and the dependency and world-system theory. According to the modernization theory, the presence of transnational corporations in developing countries through FDI activities is necessary and highly desirable as they contribute to economic growth and development through capital accumulation and technology transfer. In other words, modernization theorists optimistically argue that FDI promotes economic growth and reduces income inequality.

However, according to the dependency and the world system theory, FDI undermines economic growth and increases income inequality in developing countries. In the dependency/world-system framework, underdevelopment is viewed as the cause of exogenous factors such as international trade and FDI. These factors lead to the integration of peripheral economies (developing economies) into the world economy which is dominated by the center (developed countries). This situation leaves little autonomy for the peripheral countries to adopt their own development path and this process of dependent development determines the level of inequality in the peripheral countries. The entry of FDI into developing countries leads to the formation of a new elite class with higher wages and a large class of unskilled workers with low wages. In addition, transnational corporations, through various means, can influence the political and economic decisions in the host developing countries thereby preventing an autonomous adoption of policies by the national authorities to promote growth and

development. In sum, the dependency and world-system theory asserts that FDI is not desirable in developing countries.

The recent FDI literature suggests that FDI can have either positive, negative or neutral effect on economic growth and income inequality depending on domestic conditions and policies in the host country. In other words, *ceteris paribus*, countries that receive the same volume of FDI may experience different outcomes depending on the local circumstances or the level of absorptive capacity. However, the theoretical development of the concept of absorptive capacity, and particularly how domestic factors mediate the impact of FDI on economic growth and income inequality is limited. While some efforts have been made to develop some theoretical arguments that underpin the role of domestic factors in modulating the link between FDI and economic growth, rigorous theoretical studies related to the effects of domestic factors on the FDI-inequality nexus are chronically lacking in the theoretical literature. Despite these limitations, this view which departs from neoclassical standard framework and the dependency and world system theory seems to be more plausible. It is true that transnational corporations may have a negative effect on growth and development in developing countries as argued by dependency and world system theory. However, we argue that this possible negative effect may be transformed into a positive effect if there are better domestic conditions and appropriate government policies are implemented. We acknowledge that FDI is not a panacea for development, but it is very difficult to defend that FDI has not contributed to the economic success of Asian countries such as China, South Korea, Singapore (city-state), Malaysia, and Taiwan.

Most of these Asian countries did not adopt a total *laissez-faire* attitude towards FDI but rather a *strategic* attitude. With appropriate domestic conditions and policies, they were successful in orienting FDI into strategic sectors that were in line with their development objective. For example, in South Korea, priority was given to export-oriented FDI with a great potential of generating jobs and foreign exchange. Some sectors were closed to FDI and in the sectors that were opened to FDI, joint-venture with domestically owned firms were encouraged in order to maximize technology and managerial skills transfer. Thus, in the mid-1980s for example, only 5% of transnational corporations' subsidiaries in South Korea were wholly under foreign ownership while it was 50% in Mexico and 60% in Brazil (Chang, 1998, p.106). Domestic conditions were improved in order to maximize technology spillovers and

transnational corporations that were ready to transfer technology were selected against those who were not. Screening policies were used to ensure that FDI does not hurt domestic investments or firms. China also is successful in using FDI to stimulate domestic investments due to appropriate domestic policies. In regard with this issue, Agosin and Mayer (2000) report that there is strong "crowding in" of domestic investments by FDI in Asia, while "crowding out" of domestic investments by FDI is the norm in Latin America and many African countries.

These examples, although not exhaustive, indicate that, even if the economic success of Asian countries such as China, South Korea, Singapore, Malaysia, and Taiwan is largely due to intelligently designed government policies and their commitment to development, the contribution of FDI cannot be ignored. Even Ireland which adopted open door policy towards FDI was able to leverage the growth benefits from FDI. Ireland was tagged the "poorest of the rich" but, with better domestic conditions such as skilled workforce and carefully designed government policies, the country was able to use FDI to support its economic growth and reduce significantly the income gap with the high-income countries in the European Union to become among the richest. Therefore, our position is that domestic factors and policies may condition the impact of FDI on economic growth and income inequality, and this is the position that will be tested in the context of Africa in our empirical investigation.

Regarding the empirical studies that have already been done on the impact of FDI on growth and income inequality, there is no clear-cut consensus. Some studies have reported positive, negative, as well as, neutral effect of FDI on economic growth and income inequality. In some studies, domestic factors or absorptive capacities are irrelevant in the link between FDI and economic growth while some studies report that only countries with high levels of absorptive capacities or better domestic conditions can extract the benefits from FDI. These inconclusive results can be explained by the econometric methods employed, countries included in the samples, study period, quality of data and measures of variables. For instance, some authors find different results when FDI stock is used instead of FDI flows.

Several methodological shortcomings associated with some previous empirical studies can be highlighted. Firstly, some studies employ only Ordinary Least Squares (OLS) to investigate the impact of FDI on growth and income inequality. The results from these studies should be taken with caution because they can be affected by endogenous bias and reverse

causation. While FDI can affect economic growth, growth also can affect FDI. Some scholars even claim that it is economic growth that attracts FDI and not the other way round. Many studies have shown that economic growth is a key determinant of FDI inflows. Similarly, FDI may affect inequality but inequality also may affect FDI inflows. High inequality can result in socio-political instability, which in turn, discourages foreign investors (Alesina and Perroti, 1996). Thus, a spurious relationship between FDI, growth and income inequality may be found in studies that fail to account for endogeneity issues. However, some studies have acknowledged this possible endogenous bias and reverse causation, and hence, employed the now popular generalized methods of moments (GMM) to control for this issue.

Secondly, the majority of the existing studies on the relationship between FDI, domestic factors and economic growth employs linear interaction models where FDI is simply interacted with domestic factor variables. Studies that employ a threshold regression framework to investigate the dynamic relationship between FDI, domestic factors and economic growth are very scanty, especially in the context of African countries. This modeling strategy is interesting because it helps to identify the minimum level of absorptive capacity which is required for a country to reap the growth benefits from FDI. Also, we notice that empirical studies investigating systematically the role of domestic factors in mediating the effect of FDI on income inequality are very rare in the literature. This type of study has hardly been undertaken in the specific context of Africa.

Overall, consistent with the division in the theoretical literature on the impact of FDI on growth and income inequality, empirical evidence to date on the impact of FDI on economic growth and income inequality in host countries is controversial and inconclusive. These issues remain therefore unresolved. Only further empirical studies can shed more light on these important issues. However, before our empirical investigation, it seems judicious to shed light on the recent trends in FDI, economic growth, and income inequality in Africa (chapter 3).

CHAPTER 3: RECENT STYLIZED FACTS ON FDI, ECONOMIC GROWTH AND INCOME INEQUALITY PATTERNS IN AFRICA

Africa comprises 54 countries grouped into five sub-regions, namely West Africa, Central Africa, Eastern Africa, Northern Africa, and Southern Africa. Africa is also usually divided into two broad regions: Sub-Saharan Africa which comprises 49 countries, and North Africa which is made up of five predominantly Arab countries (Algeria, Egypt, Libya, Morocco, and Tunisia). With its area of about 30, 4 million km², Africa is the third largest continent on earth if we count America as one continent. The continent is also bounded by several Ocean and Sea such as the Atlantic Ocean on the West, the Indian Ocean on the East, the Red Sea on the Northeast, and the Mediterranean Sea on the North. The population of Africa is estimated at about 1 billion; Nigeria, with its population estimated at 186 million in 2016, is known as the most populous country in Africa followed by Ethiopia 102 million, and Egypt 95 million in 2016.

Agriculture holds a very important position in African economies; roughly 65% of the economically active population in Africa is employed in the agricultural sector. In agriculture, cocoa is the highest output in Africa. About two-thirds (2/3) of world output of cocoa is from West Africa where Cote d'Ivoire (Ivory Coast) remains the leading producer in the world (Chauvin et al.,2012, p.31). Africa economy is mainly grounded in agriculture, oil and mining sector, manufacturing and services sectors which are still under-developed, and large informal sector. Raw materials constitute the largest part of the export of African countries as the continent is highly endowed with natural resources. In addition to crude oil, Africa contributes significantly to the global production of minerals such as bauxite, chromium, cobalt, gold, manganese, phosphate, platinum group metals, titanium, and diamonds. For instance, 10% of global production of minerals is from Africa, and, the region accounted for about 20 percent of world crude oil exports in 2010 (Adams and Opokou, 2017, p.149). Furthermore, Africa possesses about two-thirds (2/3) of the world's total non-cultivated arable land (United Nations Economic Commission for Africa [UNECA], 2016, p.8).

Despite these abundant natural resources, Africa lags behind other regions of the world in various measures of economic and social development. The levels of poverty and income inequality in the continent remain unacceptably high with low human development index. The

continent is equally lagged behind in terms of FDI inflows as compared to other regions of the world. The objective of this chapter is to present fresh stylized facts about Africa's economy with a focus on FDI inflows, economic growth, and income distribution.

3.1. Recent Trend in FDI Inflows into Africa

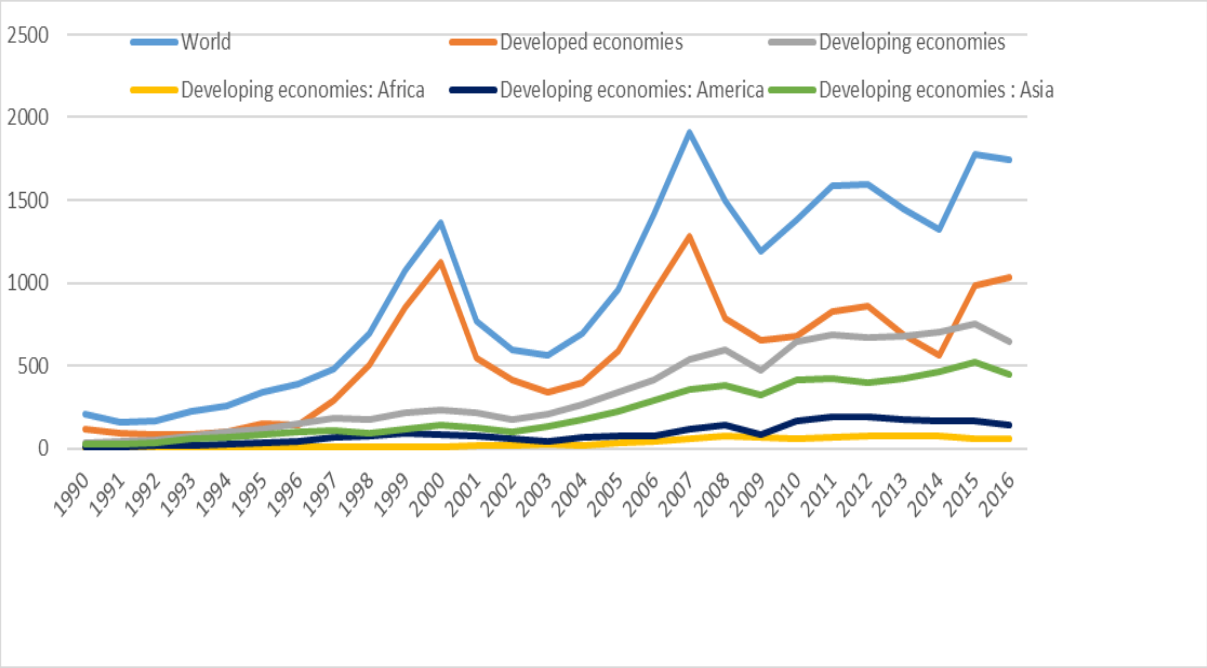
According to the World Investment Report (2013, p.33), in 2011, the rate of return on FDI was 9.3% for Africa, while it was 8.8% in Asia and 7.1% in Latin America and the Caribbean in the same year. In the same vein, over the period 2006-2011, the global average rate of return on FDI was 7%, 5.1% for developed economies, and 11.4% for Africa during the same period (Anyanwu and Yaméogo, 2015, p.350). Despite this high rate of return on investment in Africa, the continent has not yet been able to become a major destination of the global FDI inflows. Africa still lags behind other developing regions of the world in terms of FDI inflows. It seems that foreign investors still view investment in Africa as a high-risk activity because of its persistent political instability. Infrastructure deficiencies and the lack of an appropriate legal framework for contracts enforcement in many African countries may also explain this fact. However, following the Washington consensus, African countries, in the structural adjustment framework, implemented significant liberalization policies, accelerate the pace of deregulation and privatization from the 1990s. Since the 1990s, the level of FDI inflows into Africa has significantly improved although still remains far below other regions of the world. Thus, we start our discussion on the recent trend in FDI inflows into Africa from the 1990s. Specifically, we discuss the recent trend in FDI inflows into Africa by comparing it to other developing regions of the world.

3.1.1. FDI Inflows: Global, and by Major Regions and Economies

Figure 3.1 shows the trends of global FDI inflows as well as FDI inflows into the major regions of the world. It shows the impressive increase in global FDI inflows since 1990. It was about US$ 205 billion in 1990 before reaching a peak of US$ 1401 billion in 2000. However, from the following year, namely, in 2001, the global inward FDI started a steady decline to reach a minimum level of US$ 558 billion in 2003. A new peak of US$1908 was reached in 2007, just before the global financial crisis. A slight recovery started from 2011 after the financial crisis, however, a sharp decline estimated at 16% is observed from 2013 to 2014; global inward FDI declined from about US$ 1467 billion in 2013 to reach US$1230 billion in

2014 (see Figure 3.1). The fragility of the global economy, high geopolitical risks, and policy uncertainty for investors were the main reasons behind this sharp decline in global FDI inflows in 2014 (UNCTAD, 2015, p.2). However, recovery in global FDI inflow was strong in 2015. It jumped by 38% from its level of US$1230 billion in 2014 to almost US$1773 billion in 2015. Since the 2008–2009 global financial crisis, global FDI inflow reached its highest level in 2015, still below the pre-crisis peak (Figure 3.1).

Figure 3. 1: FDI inflows, global and by region and economies, 1990-2016, US$ billion



Source: Author's elaboration based on UNCTAD 2017, FDI (current US$) online database

From Figure 3.1, we notice also that developed countries receive the largest part of global inward FDI. The sharp decline in global FDI inflows in 2014 was mainly driven by a significant decrease in FDI flows to developed countries. Concerning the developed countries, FDI inflows declined by 28% from its level of 2013 to reach around US$ 500 billion in 2014. In contrast, developing countries took the lead in global FDI inflows in 2014. They recorded the highest level of FDI inflows at about US$ 700 billion in 2014(Figure 3.1 and Table 3.1). In 2014, the share of developing economies in the global FDI inflows stood at 53.2% against 42.6% for developed economies (Table 3.1).

Table 3. 1: FDI flows by region, 2014–2016 (US$ billion and percent)

Region	FDI inflows			FDI outflows		
	2014	2015	2016	2014	2015	2016
(US$ billion)						
World	1 324	1 774	1 746	1 253	1 594	1 452
Developed economies	563	984	1 032	708	1 173	1 044
Developing economies	704	752	646	473	389	383
Africa	71	61	59	28	18	18
Asia	460	524	443	412	339	363
Latin America and the Caribbean	170	165	142	31	31	1
Oceania	2	2	2	1	1	1
Transition economies	57	38	68	73	32	25
Structurally weak, vulnerable and small economies	68	64	58	26	14	10
Percentage share in World FDI flows (%)						
Developed economies	42.6	55.5	59.1	56.5	73.6	71.9
Developing economies	53.2	42.4	37.0	37.7	24.4	26.4
Africa	5.4	3.5	3.4	2.3	1.1	1.3
Asia	34.8	29.5	25.3	32.9	21.2	25.0
Latin America and the Caribbean	12.8	9.3	8.1	2.5	2.0	0.1
Oceania	0.2	0.1	0.1	0.1	0.1	0.1
Transition economies	4.3	2.1	3.9	5.8	2.0	1.7
Structurally weak, vulnerable and small economies	5.1	3.6	3.3	2.1	0.9	0.7

Source: World Investment Report (2017, p.42)

Regarding FDI flows to major developing regions of the world, Asian developing economies receive the highest level of FDI, followed by Latin America. As it is well-known, Africa receives the lowest amount of FDI compared to other major developing regions, namely, developing Asia and developing America (Figure 3.1 and Table 3.1). For instance, in 2014 where FDI inflows into developing countries grow to a historically high level, FDI inflows to developing Asia increased by 9% from its level of 2013, while inflows into Africa declined by 4% from its level of 2013 (UNCTAD, 2017, p.4).

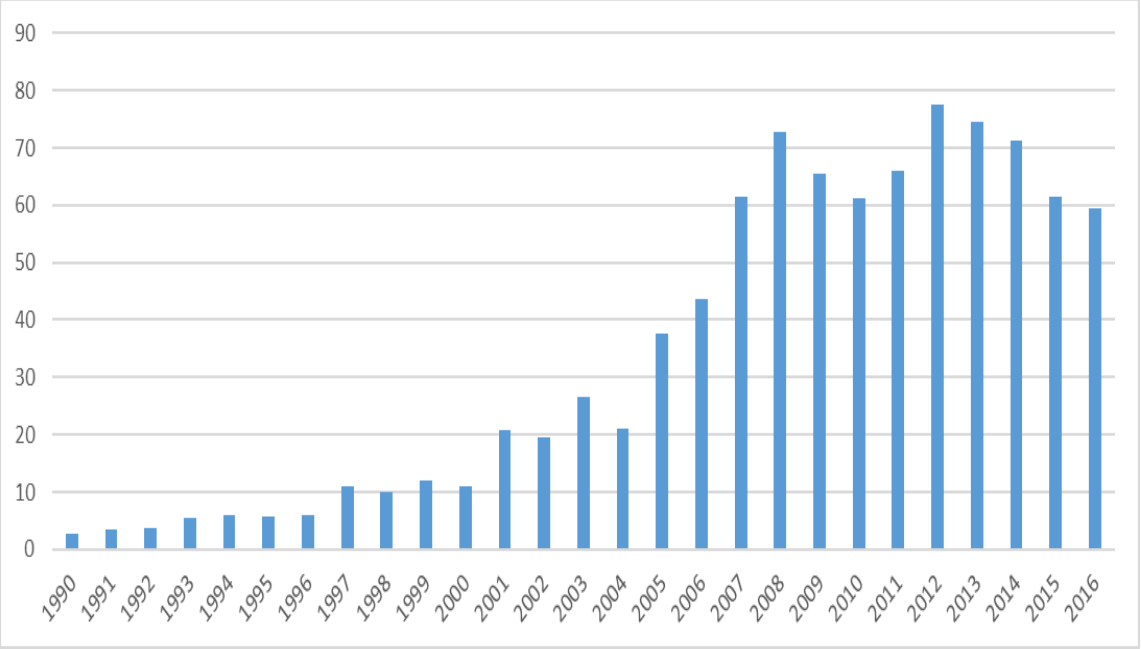
Figure 3.2 gives a clear picture of the recent trend in FDI inflows into Africa. It can be noticed that over the period 1990-1996, Annual FDI inflows into Africa never surpassed US$10 billion; while, on average, FDI inflows into developing Asia, and Latin America and the Caribbean were respectively US$54 billion and US$ 13 billion in the same period[10]. However, FDI inflows into Africa has significantly improved since 1997(see, Figure 3.2). Inward FDI to Africa reached a level of US$ 11 billion in 1997 before reaching a peak of US$ 72 billion in

[10] Own calculations using UNCTAD data

2008. After recording almost ten years of steady growth, FDI flows to Africa declined from a peak of US$72 billion in 2008 to US$ 65 billion in 2009, and US$ 61billion in 2010 (Figure 3.2).

This reverse trend between 2009 and 2010 is mainly attributed to the global financial and economic crisis that happened in this period. However, in 2012, a new peak was reached at US$ 77 billion. According to UNCTAD (2013, p.ix), this growth was mainly due to FDI in the mining sector. However, FDI flows to Africa experienced a steady decline from 2013 to 2016; it declined by 3% from its level of 2015 to reach US$ 59 billion in 2016 (Table 3.1 and Figure 3.2). This overall decline of 3% in FDI flows to Africa is mainly explained by weak commodity prices (UNCTAD, 2017, p.x). FDI flow to Africa declined by 21% from its level of 2016 to reach US$ 42 billion in 2017 due to weak oil prices, and it is expected to increase by 20% to reach roughly US$ 50 billion in 2018 (UNCTAD, 2018, p.4) Overall, from 1990 to 2016, FDI inflows into Africa has almost increased 20-fold[11].

Figure 3. 2: FDI inflows into Africa, 1990-2016, US$ billion



Source: Author's elaboration based on UNCTAD 2017, FDI (current US$) online database

[11] Own calculations using UNCTAD data.

On average, Africa's share of global FDI inflows was 1.8% over the period 1990-1999; it rose substantially to 3.5%, on average, during the period 2000-2009. Africa's share of global FDI inflows stood at 4.4% in 2010, while a slight decline to 4.1% was recorded in 2011. The share of Africa in the world FDI inflows reached the level of 5.4 %, in 2014 before dropping to 3.5 % in 2015, and 3.4% in 2016 (Table 3.2). Overall, one can observe from Table 3.2 that, over the period 1990-2016, Africa's share of global inward FDI has barely reached 5%. This share is far below that of developing Asia and developing America. For instance, on average, developing Asia's share of global inward FDI was 19.5 % during the period 1990-1999, and 20.6% over the period 2000-2009.

Table 3. 2: Shares of major developing regions in global FDI inflows (%), 1990-2016

Regions	**1990-1999 (average)**	**2000-2009 (average)**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Africa	1.8	3.5	4.4	4.1	4.8	5.1	5.4	3.5	3.4
Developing Asia	19.5	20.6	29.6	26.7	25.1	29.2	34.8	29.5	25.3
Developing America	9.0	7.8	12.2	12.1	11.8	12.1	12.8	9.3	8.1
Total	30.5	32.1	46.4	43.2	42.1	46.7	53.2	42.4	36.9

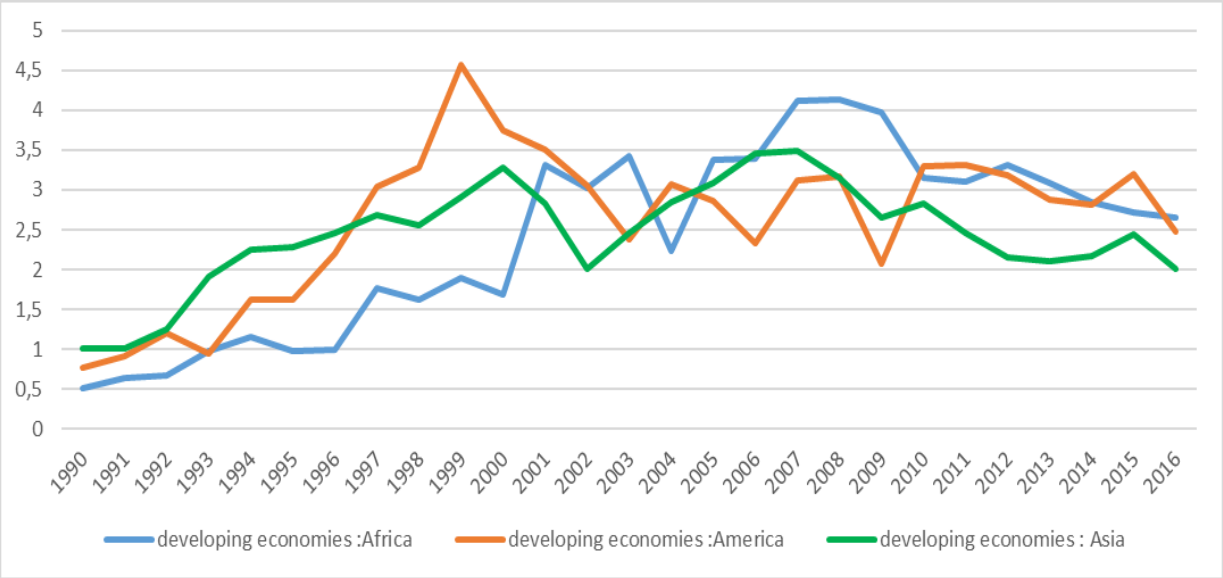
Source: Author's elaboration based on UNCTAD 2017, FDI (current US$) online database

Asian's share of world FDI inflows increased dramatically from 11.2 % in 1990 to 34.8 % in 2014; the share of Latin America and Caribbean (developing America) moved from 4.1% in 1990 to 12.8 % in 2014. It is worth noting that developing Asia's share has never been below 10% over the period 1990-2016, while the share of Africa just moved from 1.38% in 1990 to 5.4 % in 2014 (Table 3.2). In terms of global FDI projects, Africa's share increased from 3.6% in 2003 to 5.7% in 2013 (Ernst & Young, 2014, p.12). It is worth mentioning that in terms of

global inward FDI stock, the share of Africa was, on average, 2.6% over the period 1990-2016 against 6.2% for developing America, and 16.6% for developing Asia during the same period[12].

FDI inflows into Africa can also be analyzed from the perspective of the percentage of gross domestic product(GDP). Figure 3.3 shows FDI flows to Africa in the percentage of GDP as compared to other major developing regions of the world. We can observe that FDI inflows to Africa represent also a low percentage of its GDP just like its lower share of the global FDI flows. Over the period 1990-2016, the highest level of FDI inflows (% of GDP) stood at 4.1 in 2007 and 2008.

Figure 3. 3: FDI inflows (% of GDP) by major developing regions, 1990–2016



Source: Author's elaboration based on UNCTAD 2017, FDI (current US$) online database

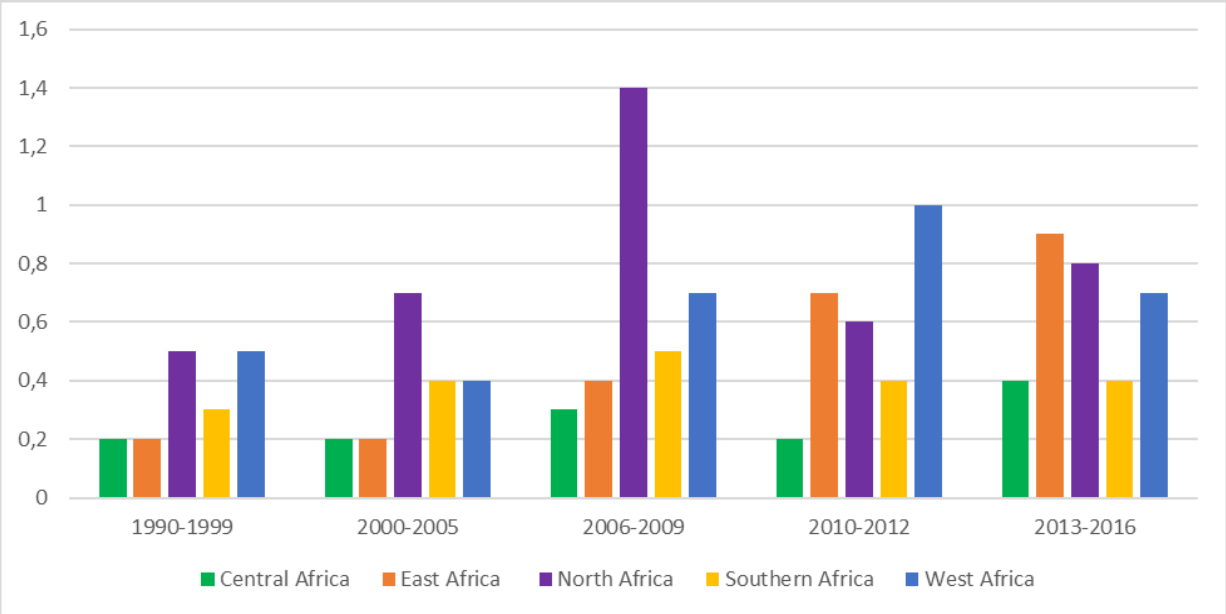
So far we have discussed the trend of FDI inflows into Africa from a general perspective. However, this general perspective masks regional differences. FDI inflows into Africa differ substantially across its sub-regions. Thus, we discuss FDI flows to Africa's sub-regions in the next sub-section.

[12] Own calculations using UNCTAD data.

3.1.2. FDI Flows to Africa's sub-Regions

FDI inflows to Africa is not homogenous across its major sub-regions. It differs significantly from one region to another. Figure 3.4 shows the recent trend in FDI inflows to Africa's regions in percentage of global FDI inflows; it shows clearly that FDI inflows are unequally distributed across Africa's sub-regions. As illustrated by Figure 3.4, North Africa has generally received more FDI than other sub-regions of Africa. This is particularly true over the period 2000- 2005 and 2006-2009. North Africa highly dominated the other sub-regions in terms of FDI inflows over the period 2000-2009. On average, the share of North Africa in the global FDI inflows was 0.7% during the period 2000-2005, and 1.4% over the period 2006-2009. It was followed by West Africa which had 0.4% and 0.7% respectively during the period 2000-2005 and 2006-2009. However, on average, West Africa took the lead over the period 2010-2012 followed by East Africa. The share of West Africa was roughly 1%, while East Africa had 0.7%; the share of North Africa in the world FDI inflows dropped to 0.6 % largely due to the Arab Spring that increased political instability in the region. On average, East Africa overthrew West Africa, and took the lead over the period 2013-2016 with 0.9% of global FDI inflows, followed by North Africa (0.8%) which is progressively coming back to its dominance, probably, due to improvement in political stability in the region (see Figure 3.4 and Table 3.3).

Figure 3. 4: Shares of Africa's sub-regions in world FDI (%, and average), 1990-2016



Source: Author's elaboration based on UNCTAD 2017, FDI (current US$) online database

It is worth noting that West Africa experienced a significant decline in FDI inflows estimated at 10% in 2014, largely due to regional conflicts, sliding commodity prices, and the scary disease called Ebola which was striking West African countries such as Liberia, Guinea and Sierra Leone (UNCTAD, 2015, p.34). On average, over the period 2005-2016, the share of African sub-regions in the total FDI flows to Africa was about 35% for North Africa, 26% for West Africa, 17% for East Africa, and respectively 14% and 8% for Southern Africa and Central Africa[13]

Table 3. 3: Shares of Africa's sub-regions in world inward FDI (%), 1990-2016

Sub-regions	**1990-1999**	**2000-2005**	**2006-2009**	**2010-2012**	**2013-2016**
Central Africa	0.2	0.2	0.3	0.2	0.4
East Africa	0.2	0.2	0.4	0.7	0.9
North Africa	0.5	0.7	1.4	0.6	0.8
Southern Africa	0.3	0.4	0.5	0.4	0.4
West Africa	0.5	0.4	0.7	1.0	0.7

Source: Author's elaboration based on UNCTAD 2017, FDI (current US$) online database

In 2016, FDI inflows to North Africa increased by 11% to reach US$14.5 billion largely due to gas discoveries in Egypt, and the rise in oil production in Algeria. Inward FDI to East Africa increased by 13% to reach US$7.1 billion, driven by the rise in FDI flows to Ethiopia, Madagascar, and Mauritius. West Africa also experienced a rise of 12% to establish at US$11.4 billion as a result of positive inflows to Nigeria, and increase in hydrocarbons and cocoa processing projects in Ghana. In contrast, Southern and Central Africa recorded a decline in FDI inflows in 2016. FDI flows to Central Africa fell by 15% to US$5.1 billion, mainly driven by a sharp decline in FDI flows to Democratic Republic of Congo and Equatorial Guinea. Similarly, FDI flows to Southern Africa recorded 18% decrease to establish at US$21.2 billion,

[13] Own calculations using UNCTAD data.

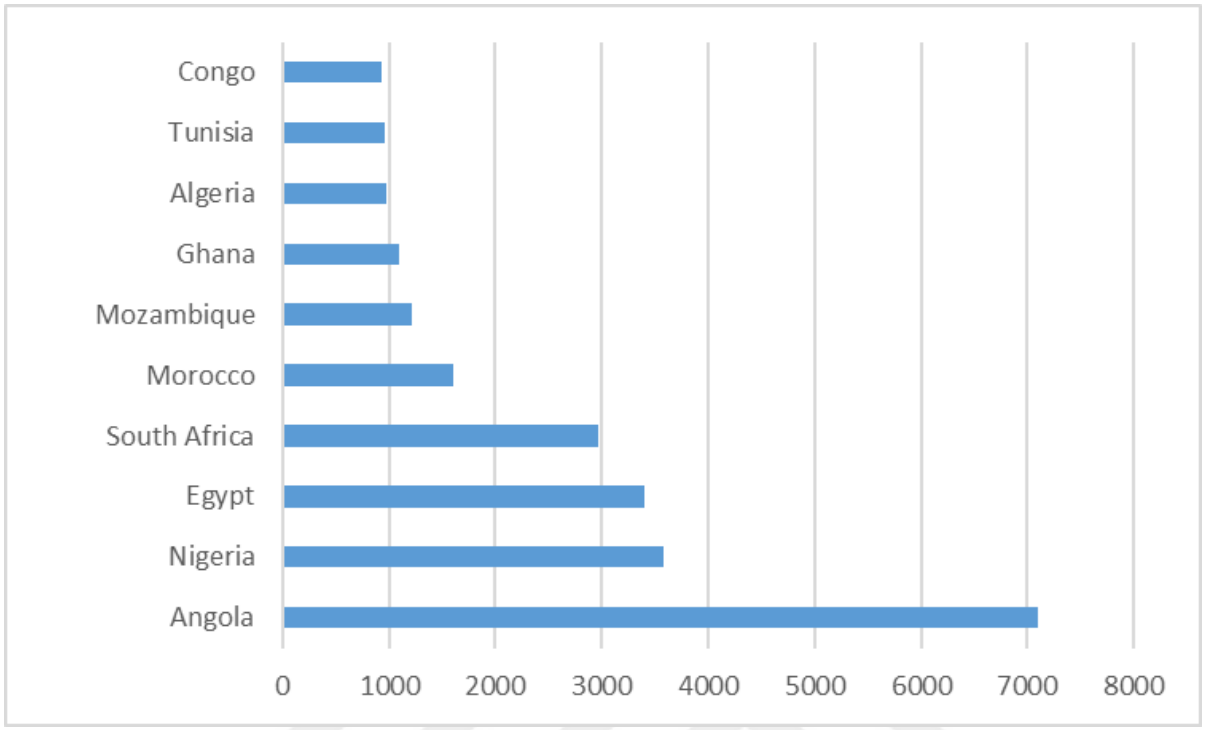
largely explained by a sharp decline in flows to Zambia, Mozambique, and Angola (UNCTAD, 2017, pp.46-47). It is worth mentioning that in 2016, Southern Africa has the largest share of FDI flows to Africa, followed by North Africa.

Regarding the number of FDI projects in Africa, on average, over the period 2007-2013, the share of North Africa was 30.4%, Southern Africa received 33.5%, 17 % for East Africa and West Africa, and finally 2.1% for Central Africa. In 2013, West Africa and East Africa outperformed North Africa for the first time in terms of FDI projects (Ernst &Young, 2014, p.22). However, North Africa's share increased by 22% in 2014 while West Africa experienced a 23 % decrease in terms of FDI projects in the same year. East Africa witnessed a decline of 11 %, while Central Africa recorded a 4.8 % decline in 2014; Southern Africa also saw its FDI projects falling by 11.4% in 2014 (Ernst &Young, 2015, p.14).

FDI flows to Africa differ also across countries. A small group of countries in Africa has the lion's share of the total FDI flows to Africa. For instance, in 2012, 15 countries together received at least 80% of the total FDI inflows into Africa (World Bank, 2014, p.1). Figure 3.5 shows the top ten average destinations of FDI flows to Africa over the period 1990-2016. They are Angola, Nigeria, Egypt, South Africa, Morocco, Mozambique, Ghana, Algeria, Tunisia, Congo. Almost all the North African countries appear in the top ten majors FDI destinations in Africa. This confirms North Africa's dominance in FDI inflows into Africa. Over the period 1990-2016, on average, Angola, Nigeria, South Africa, Mozambique, Ghana, and Congo were the top destinations in Sub-Saharan Africa. One can notice that most of the top destinations of FDI in Africa are natural resources-rich countries. It is worth noting that, in 2016, Ethiopia received more FDI than ever before (+45.8%), and entered the top 5 FDI recipient economies in Africa in the year 2016. In 2016, the top 5 FDI recipient economies in Africa were Angola (US$14.4 billion), Egypt (US$ 8.1 billion), Nigeria (US$ 4.4 billion), Ghana (US$ 3.5 billion), and US$ 3.2 billion for Ethiopia (UNCTAD, 2017, p.44).

However, in terms of announced greenfield FDI projects in 2016, the top ten African recipient economies were Egypt, Morocco, Angola, Ghana, Mozambique, Ethiopia, South Africa, Nigeria, Tanzania, and Kenya. These countries accounted for 92% of announced greenfield FDI projects in Africa (African Economic Outlook[AEO], 2017, p.48).

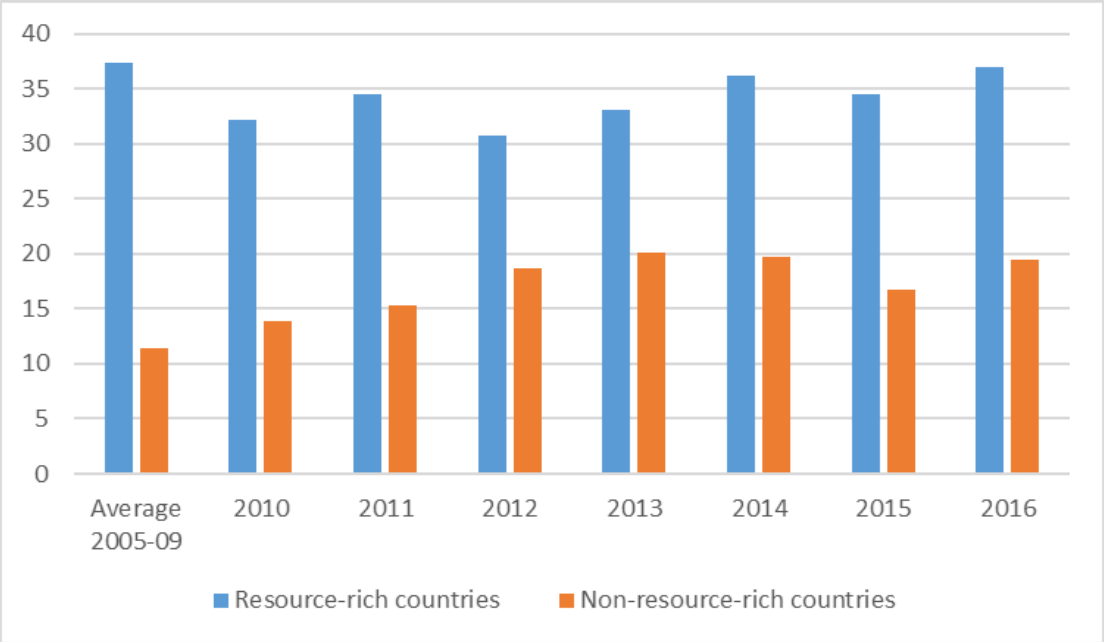
Figure 3. 5: Top ten African destinations for FDI (average), 1990–2016, US$ million



Source: Author's elaboration based on UNCTAD 2017, FDI (current US$) online database

As said earlier, most of the top FDI recipients in Africa are resource-rich countries. Figure 3.6 shows the comparison between FDI inflows to resource-rich and non-resource-rich countries in Africa over the period 2005-2016. Throughout the period resource-rich countries in Africa received the largest share of FDI flows to the continent. However, it is worth mentioning that the share of non-resource-rich countries is increasing over the years (Figure 3.6). While the share of non-resource-rich countries in FDI flows to Africa was 24% in 2009, it increased to 33% in 2015. This would imply that FDI flows to Africa is no longer solely resource-seeking as it is usually believed. FDI flows to Africa is diversifying into other sectors, such as manufacturing and services. Although the mining sector still has the largest share of the total FDI flows to Africa, many countries including resource-rich countries are making effort to attract FDI to services and manufacturing sectors in order to hedge against commodity price volatility (African Economic Outlook[AEO], 2017, p.48).

Figure 3. 6: FDI flows to Africa, resource-rich vs. non-resource-rich countries, 2005-2016 (US$ billion)



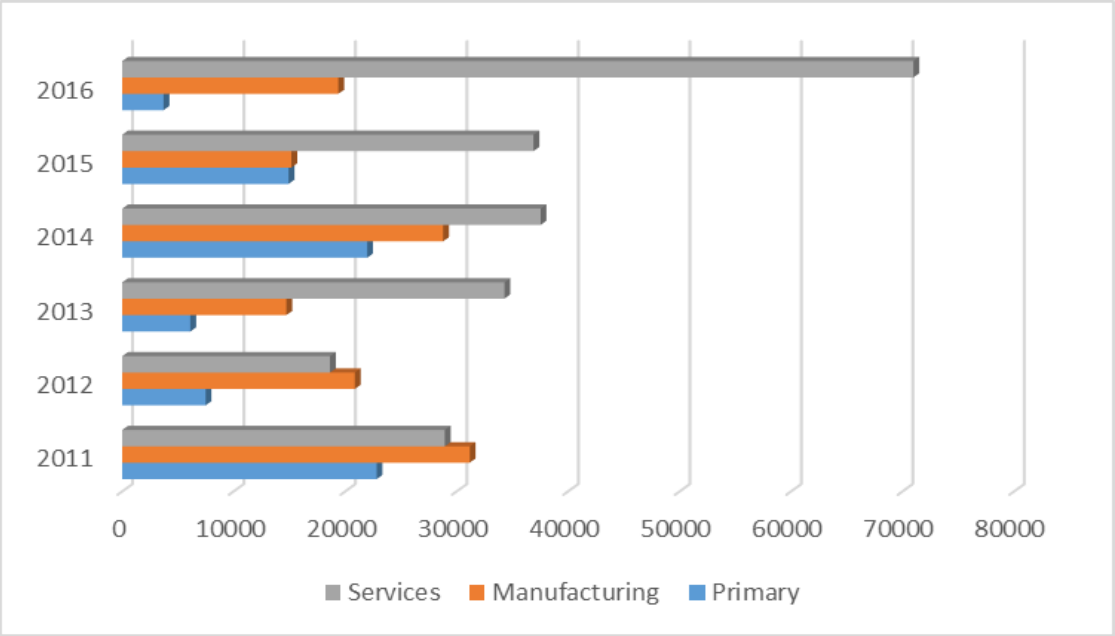
Source: Author's elaboration using data from African Economic Outlook ([AEO], 2017)

3.1.3. Sectoral Allocation of FDI Flows to Africa

There is a traditional belief that FDI flows to Africa is solely attracted by the abundant natural resource in the continent. However, in recent years, there is a consistent shift from extractive sectors to manufacturing and services sectors, especially consumer-facing industries. The primary sector (gas, mining, and metals), which was previously receiving the largest share of FDI flows to Africa is increasingly becoming less prominent over the years. For instance, in 2012, the services sector accounted for the largest share of the total FDI stock in Africa. The share of the service sector in the total FDI stock in Africa in 2012 was 48% against 21% for the manufacturing sector, and 31 % for the primary sector, and over the period 2001-2012, services FDI stock in Africa increased 4-fold. Similarly, in 2014, the services sector accounted for 60% of announced greenfield FDI projects, and 43% of related capital expenditures, while the share of the manufacturing sector was respectively 38% and 33% of announced greenfield FDI projects and capital expenditures in the same year (UNCTAD, 2015, p.35). Figure 3.7 shows the sectoral allocation of the value of announced greenfield FDI projects to Africa over the period 2011-2016. In terms of the value of greenfield FDI projects, we can see that the service sector has the highest value throughout the period 2011-2016, followed by the manufacturing

sector. The value of greenfield FDI projects to the primary sector is declining over the years. It reached the lowest level in 2016 after a dramatic decline in 2013 (Figure 3.7).

Figure 3. 7: value of announced greenfield FDI projects to Africa, by sector, 2011-2016, US$ million



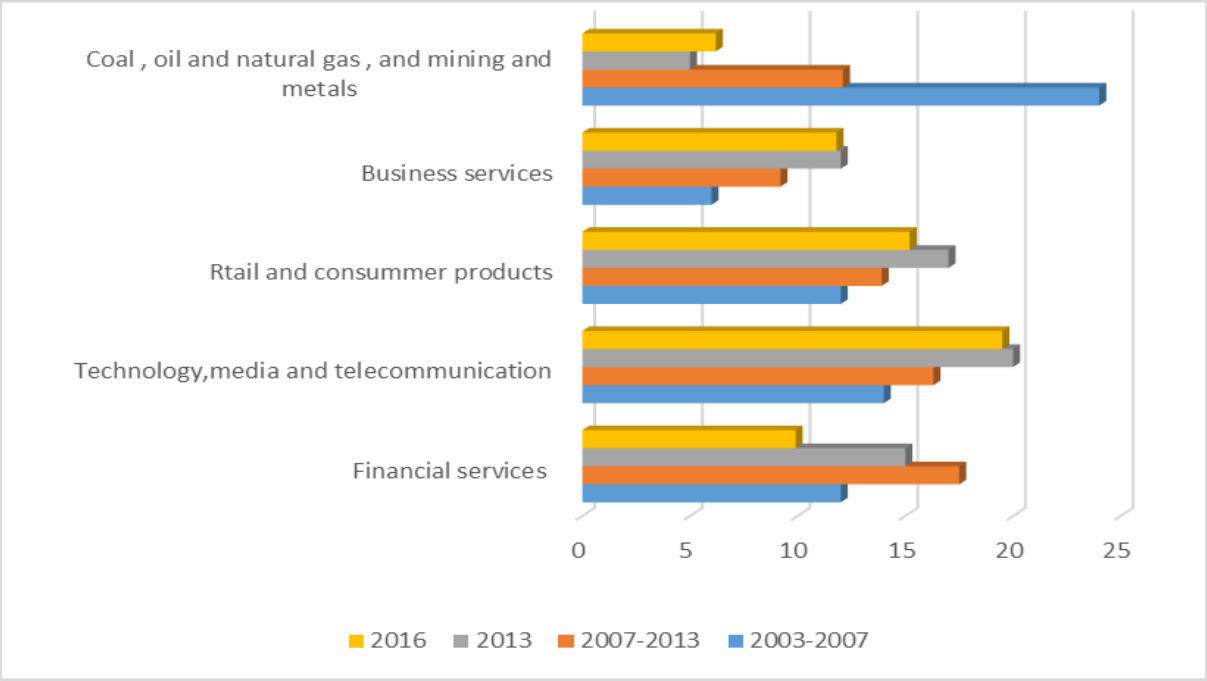
Source: Author's elaboration based on World investment reports 2013, 2015, 2017, UNCTAD.

The distribution of FDI flows to Africa is not also homogenous across sub-sectors; some sub-sectors such as technology, media and telecommunications, retail and consumer products, financial services, business services are rising in prominence in recent years. Consumer-facing industries such as technology, media and telecommunications, financial services, and retail and consumer products have been the top sub-sectors in terms of new FDI projects in Africa since 2009 (Ernst & Young, 2014, p.12).

Figure 3.8 shows the top five sub-sectors in terms of FDI projects in Africa. The largest share of FDI projects in 2016 went to technology, media, and telecommunications; this sub-sector accounted for 19.5% of the total greenfield FDI projects in 2016. It was 16,3%, on average, over the period 2007-2013. The sector of technology, media, and telecommunications was followed by retail and consumer products sector which accounted for 15,2% in 2016, and 13,9%, on average, over the period 2007-2013. The shares of business services and financial

services were respectively 11.8% and 9.9% in 2016. The share of financial services was 17,5%, on average, over the period 2007-2013, while that of business services was 9.2% during the same period (Figure 3.8). As we can notice from Figure 3.8, technology, media and telecommunications, financial services, and retail and consumer products accounted for nearly 50% of the total FDI projects in Africa in 2016.

Figure 3. 8: Share of FDI projects by top sub-sectors, 2003–2007, 2007–2013, 2013, 2016 (%)



Source: Author's elaboration based on data from Ernst & Young, 2017, 2014.

While the share of the extractive sector in new FDI projects was, on average, 24% over the period 2003-2007, it declines to 12,1% over the period 2007-2013, and 6,2% in 2016 (Figure 3.8). It is worth noting that, the share of the extractive sector in new FDI projects reached 5% in 2013, its lowest ever level while sectors such as manufacturing and consumer-focused services have substantially increased in relative importance. Transnational corporations are increasingly investing in Africa for efficiency and market-seeking reasons.

UNCTAD (2007, p.35) outlines that FDI inflows to Africa might not have the expected favorable effect since most FDI is directed to the extractive sector. Thus the increasing share of

services and manufacturing sectors in FDI flows to Africa in recent years is quite interesting. It is claimed that FDI in mining and raw material extraction creates enclave economies with limited effect on the recipient economy. The argument goes that FDI in the extractive sector has a few or no linkages with the local firms, thus the technology transfer or the spillover effect of such investment is negligible. It is also capital-intensive with limited effect on job creation in the host country. In sum, the overall development impact of FDI in the extractive sector is believed to be quite limited.

In contrast, FDI flows to the manufacturing and services sectors is believed to create more linkages with domestic firms and local entrepreneurs, and hence increase technology transfer and positive spillovers with a positive effect on productivity growth. Especially, the positive spillover effect of FDI is believed to be more likely to materialize in the manufacturing sector than in other sectors. Wang (2009) reports that FDI flows to the manufacturing sector has a potential to promote substantially economic growth while FDI in nonmanufacturing sectors does not play a significant role in promoting economic growth in the case of 12 Asian countries. The increasing share of services and manufacturing sectors in FDI flows to Africa will also contribute to nurturing structural transformation in African economies.

However, the increasing share of the services sector in FDI flows to Africa may also result in greater inequality. Some scholars argue that high investment in the services sector is often complementary to high and medium skilled labor but a substitute to low skilled labor. In other words, the increasing share of FDI in the services sector may increase the demand for skilled labor thereby increasing the wage gap between skilled and skilled workers. FDI in the services sector is believed to be more likely to result in greater inequality than investment in the manufacturing sector (Bogliaccini and Egan, 2017, p.210).

3.1.4. Sources of FDI Flows to Africa

OECD countries (Europe and the USA) remains the largest sources of FDI flows to Africa. They constitute also important trade partners for a number of African countries. Important trade policies such as “Everything but Arms”, and African Growth and Opportunity Acts (AGOA) initiated respectively by European Union in 2001 and the United States in 2000 with Africa have contributed significantly to boost the continent foreign trade and its attractiveness of foreign capital. “Everything but Arms” and AGOA are initiatives which grant

duty-free and quota-free access to respectively EU market and US market for some selected goods from Africa. "Everything but Arms" includes 33 African countries while AGOA includes 39 Sub-Saharan African countries. These policies have motivated many foreign investors coming to Africa to produce and export from Africa. Exports from the AGOA countries to the US market rose from US$8.15 billion in 2000 to roughly US$53.8 billion in 2011 (Adams and Opokou, 2017, p.152). Table 3.4 shows the source of FDI flows to Africa by global regions.

Table 3. 4. Distribution of FDI flows to Africa by global regions (%), 2003-2016

Regions	**Share (%) of FDI flows to Africa**
Western Europe	38
Asia and Pacific	20
North America	15
Africa	13
Middle East	11
East Europe	3
Latin America	1
Total	**100**

Source: Author's elaboration using data from UN-Habitat report (2018, p.45)

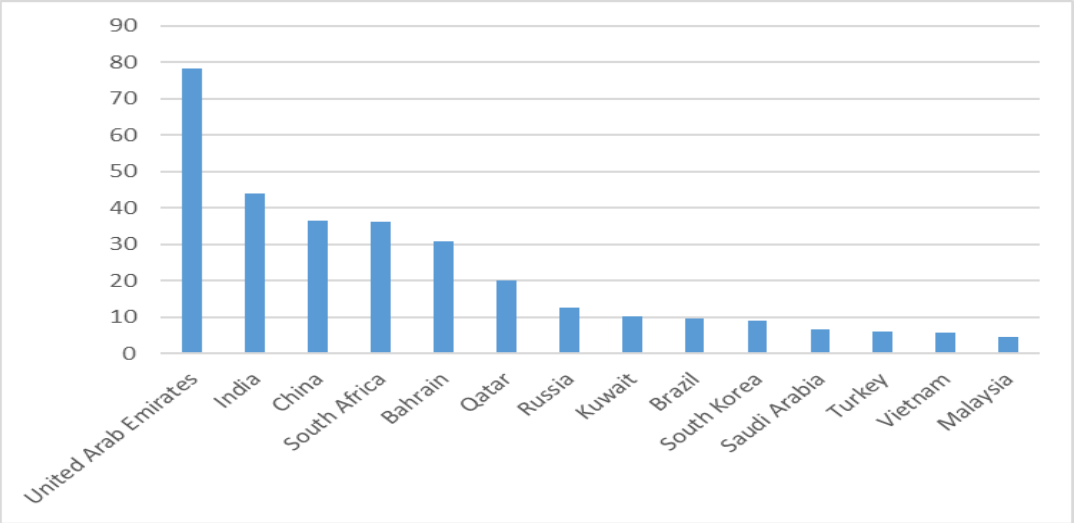
As we can see in Table 3.4, Western Europe, with 38% of FDI flows into Africa, is the largest investor in the continent, probably due to its proximity with Africa, and also its colonial legacy of trade and financial interest in Africa. After Western Europe, Asia and the Pacific constitutes the largest investor (20%), followed by North America in the third position with 15%. Interestingly, Africa appears as the 4th largest investor into itself. This indicates the importance of intra-African investment. The Table shows also that investment flows from Latin America into Africa is negligible; it represents roughly 1% of the FDI flows into Africa.

In terms of individual countries, the USA constitutes the main source of FDI to Africa; the country is the leading investor in Africa and accounts for 13,5% of inward FDI projects in Africa. In 2016, US multinationals were involved in 91 FDI projects in Africa with 28 projects in South Africa, 14 in Morocco, 13 in Egypt, and 11 in Kenya. South Africa is the primary destination of US-based companies (Ernst & Young, 2017, p.19).

Emerging economies, and especially BRICS are also increasing their share of FDI flows to Africa. Countries such as Brazil, China, India, and South Africa are increasing their FDI activities in Africa. For example, while FDI activity in Africa by developed economies increased by 7% between 2003 and 2010, FDI activity of emerging economies in Africa increased by 13% during the same period. Thus, in terms of the number of new FDI projects in Africa, the share of developed economies has declined from 70% in 2003 to 62% in 2010 (Anyanwu and Yaméogo, 2015, p.350).

Although countries from the European Union and the United States constitute still the largest sources of FDI flows to Africa, investment from emerging countries is becoming prominent for Africa too. For instance, the share of BRICS in FDI inflows to Africa reached 25% in 2010. Similarly, the share of BRICS in the total value of greenfield projects in Africa rose from 20% in 2003 to 25% in 2012 (Anyanwu and Yaméogo, 2015, p.350). India's share of new FDI projects (announced greenfield) increased from 3.3% over the period 2003-2008 to 6.1% over the period 2009-2015 while China's share, however, declined from 4.9% to 3.3% during the same periods (African Economic Outlook[AEO], 2016, p.57). China's FDI to the top 15 African recipient countries recorded a six-fold increase between 2004 and 2010 (World Bank, 2014, p.3). United Arab Emirates, India, China, South Africa constitutes the most important sources of FDI from emerging economies to Africa as illustrated by Figure 3.9.

Figure 3. 9: FDI flows to Africa from emerging economies, 2003-2015, USD billion



Source: Author's elaboration using data from African Economic Outlook ([AEO], 2017)

In recent years, China has been competing with the traditional investors in Africa, namely the US, UK, and France, to establish its influence on the continent. In 2016, FDI flows from China to Africa increased dramatically; China-sourced FDI projects in Africa increased by 106% in 2016, thereby making the country the third largest investor in Africa in terms of FDI projects (Table 3.5). It is worth noting that China has become not only an important FDI partner for Africa but also Africa's largest trade partner. For instance, in 2016, the value of China's total exports to Africa was US$82.9 billion, while its imports from Africa stood at US$54.3billion. China exports mainly consumer and capital goods to Africa and imports primary commodities such as oil and minerals. From 2005, till now, the number of China's FDI projects in Africa amounts to 293, totaling an investment outlay of US$ 66.4 billion (Ernst & Young, 2017, p.18). China's FDI in Africa is spread across sectors: oil, mining and metals, services, and manufacturing. Table 3.5 confirms that Western Europe is the main source of FDI flows into Africa. The United Kingdom (UK), leader of FDI flows from Western Europe saw its number of FDI projects declining by 46.8% from 2015 to 2016. The UK was outperformed by France to become the Western European leading investor in Africa in terms of FDI projects in 2016. France's FDI projects in Africa rose by 39.7% from its level of 2015 to reach 81 in 2016. China increased its number of FDI projects in Africa by more than 100% from its level of 2015 to become the third-largest investor in Africa in terms of the number of FDI projects in 2016.

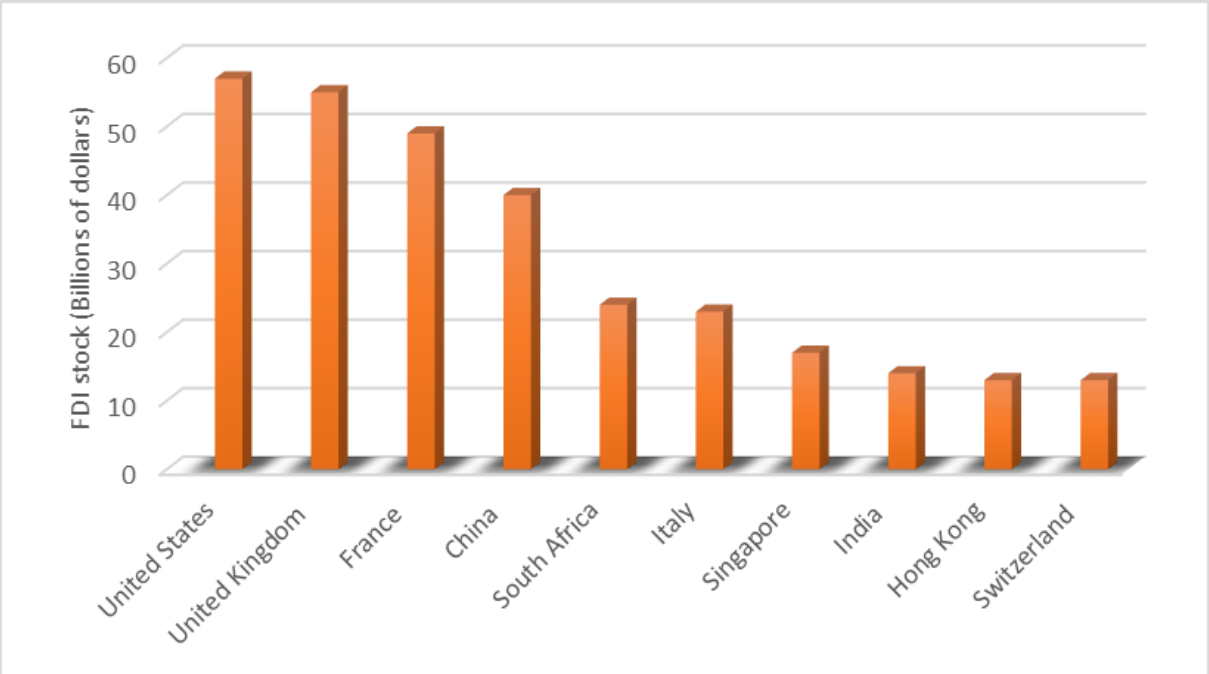
Table 3. 5: Top investors in Africa by number of FDI projects, 2015-2016

Source country	Number of FDI projects		
	2016	2015	Percentage change
United States	91	96	-5.2
France	81	58	39.7
China	66	32	106.3
United Kingdom	41	77	-46.8
United Arab Emirates	35	50	-30.0
South Africa	29	33	-12.1
Japan	27	12	125
Switzerland	27	18	50.0
Spain	23	16	43.8
Italy	20	16	25
Germany	19	38	-50
India	18	45	-60
Morocco	17	14	21.4
Kenya	14	36	-61.1
Nigeria	11	14	-21.4

Source: Adapted from Ernst & Young (2017, p.20)

South Africa, Morocco, Kenya, and Nigeria are among the top destinations of FDI inflows to Africa but at the same time, they have become an important source of FDI for the rest of African countries (Table 3.5). Intra-African investment is gaining momentum; the share of intra-African investors in FDI projects in Africa stood at 18.9% in 2015 before dropping at 15.5% in 2016. The share of intra-African FDI projects reached an all-time high level of 22.8% in 2013. Even in 2014, Western European and intra-African investors, with respectively a share of 36.8% and 19.2%, were the top investors in Africa in terms of FDI projects. South Africa has become the largest intra-African investor. It is worth noting also that Middle East countries are increasing their presence in Africa in terms of foreign direct investment. In 2014, the share of the Middle East in FDI projects in Africa was 9.1% [Ernst & Young (2017, p.21); Anyanwu and Yaméogo (2015, p.350)]. Overall, in terms of FDI stock, USA is the leading investor in Africa, followed by the UK (United Kingdom), France, and China (Figure 3.10). In 2016, the stock of FDI (aggregated FDI flows over the years) from the USA to Africa was US$ 57 billion. The second position is occupied by the UK with US$ 55 billion, followed by France with US$ 49 billion. China is the 4th largest investor in Africa with US$ 40 billion.

Figure 3. 10: Top 10 investor economies in Africa by FDI stock, 2016 (Billions of dollars)



Source: Author's elaboration using data from the World Investment Report (2018, p.38)

3.1.5. The Importance of FDI for Africa

To reach a sustainable growth level and eradicate the current high level of poverty, substantial inflows of external resources are needed to fill the saving and foreign exchanges gaps in Africa. For instance, external resources, and especially FDI is considered as a key element to materialize the vision of NEPAD (New Partnership for Africa's Development). We discuss the importance of FDI for Africa by considering four aspects: the share of FDI in gross fixe capital formation in Africa, FDI stock as a percentage of GDP, the share of FDI in the total external financial flows to Africa, and the contribution of FDI to job creation in Africa.

Analyzing inward FDI into Africa in terms of percentage of gross fixed capital formation helps to shed the light of the importance of FDI in capital accumulation in the continent. The share of FDI in the total gross fixed capital formation in Africa increased, on average, from 6.3% during the period 1990-1999 to 16.2% over the period 2000-2009. It stood at 15.4% in 2012 before declining to 13.5% in 2016 (Table 3.6). In 2007, the contribution of FDI in capital formation in Africa reached the highest level of 19.3%. This general perspective masks the case of some single countries where FDI is highly important for capital formation. For example, in 2015, the ratio of FDI to gross fixed capital formation (GFCF) stood at 83% for Angola, 84,5% for Mozambique, 45% for Congo, and 98% for Somalia (UNCTADstat online data, 2017).

Table 3. 6: FDI flows to Africa (% of GFCF) and FDI stock (% of GDP), 1990-2016

	1990-1999 ***Average***	**2000-2009** ***Average***	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
FDI inflows % GFCF	6.3	16.2	13.6	14.1	15.4	14.1	12.7	12.1	13.5
FDI stock % of GDP	15.3	27.8	32.2	29.3	29.4	30.0	29.8	34.3	38.5

Source: Author's elaboration based on UNCTAD 2017, FDI (current US$) online database

The importance of FDI can also be seen through the rising share of FDI stock in GDP. Looking at FDI stock as a percentage of GDP, we can see that it increased on average from 15.3% over the period 1990-1999 to 27.8% during the period 2000-2009 before reaching 38.5% in 2016. It is worth noting that FDI stock as a percentage of GDP in Africa was just 11% in 1990.

Another indication of the importance of FDI for Africa is its share in total financial flows to Africa. FDI constitutes one of the most important forms of external financial flows to Africa. Table 3.7 shows the share of FDI in the total external financial flows to Africa. On average, over the period 2005-2009, FDI was the leading source of external finance in Africa with a share of 33.9% in the total foreign financial flows to Africa. Since 2014, FDI has become the second leading source of external financial flow to Africa after remittances. Remittances from Africans working outside the continent is now the largest source of external financial flows to Africa (Table 3.7). Overall, remittances, FDI and official development assistance are the main types of capital flows to Africa.

Table 3.7. Share of FDI in the total external financial flows to Africa, 2005-2016 (%)

	2005-2009	2010	2011	2012	2013	2014	2015	2016
Inward FDI	33.9	26.2	27.2	24.7	26.9	28.1	28.0	31.7
Portfolio investment	7.3	16.2	11.8	17.1	11.6	10.7	8.5	3.6
Remittances	29.0	30.2	32.6	32.1	32.3	33.8	35.4	36.3
Official development assistance (*net total, all donors*)	29.6	27.2	28.2	25.9	28.8	27.3	27.8	28.7
Total foreign flows (US$ billion)	**143.6**	**175.4**	**182.7**	**199.8**	**196.7**	**198.8**	**182.8**	**177.7**

Source: Author's calculations and African Economic Outlook (2017, p.45)

In terms of the development aspect, FDI might have more impact than remittances. While remittances in Africa are usually directed to support consumption, small business and houses building, FDI helps to build infrastructure and contributes to the diversification of African economies as the share of services and manufacturing sectors in the total FDI flows to

Africa has been consistently increasing in recent years. Especially, FDI from emerging economies to Africa is believed to have a more developmental impact than FDI from the traditional source such as Western Europe and the US which is mainly directed to the extractive sectors with limited impact on job creation and technology transfer. FDI from emerging economies is well diversified into sectors such as natural resource, agriculture, construction, manufacturing and services with significant impact on job creation. FDI from emerging economies seems to be more in line with Africa's developmental goals. For instance, in terms of infrastructure development, it is reported that FDI flows from BRICS have contributed about 35% in electricity supply, 10% in railway lines and lower cost of telephony in Africa (Adams and Opokou, 2017, p.157). Specifically, Chinese FDI is often associated with infrastructural construction. Firms from China have contributed to establish complete industrial chains in some African countries (UN-Habitat Report, 2018, p.121). All these infrastructure constructions and improvements are highly likely to impact positively on the long-term development of Africa.

FDI flows into Africa have also contributed significantly to job creation in the continent. For instance, in 2016, jobs created from Chinese FDI projects reached the highest level ever. Since 2005, FDI projects initiated by China in Africa have created 130,750 jobs (Ernst & Young, 2017, pp.18-19). For instance, it is estimated that every US$ 1 billion of investment in infrastructure made by Chinese firms, has created roughly 110,000 jobs in Egypt, Morocco, and Tunisia (UN-Habitat report, 2018, p.123). Similarly, Odebrecht, a Brazilian firm operating in areas such as engineering, construction, and petrochemicals is the leading contributor to employment from the private sector in Angola with 26000 Angolans employed in 2011. It has also contributed largely to infrastructure development in many African countries such as Botswana, Liberia, South Africa, Mozambique, Congo, and Gabon (African Development Bank [AfDB], 2011, p.6).

Table 3.8 shows the number of jobs generated by FDI projects in Africa. Overall, between 2007 and 2016, 7527 FDI projects from all sources have been initiated in Africa, and these FDI projects generated about 1,477,200 jobs across the continent. Africa's share in the total jobs created in the world by FDI activities increased from 5.9% in 2013 to 8.7% in 2014 (EY's attractiveness survey Africa, 2015, p.10). Summing up, one can say that FDI is important for Africa; it not only an important source of external resources but also one of the important sources of employment and infrastructural development in the continent. High level of

unemployment rates and infrastructural deficiencies are among the important problems faced by African countries. For instance, Africa's infrastructural deficit is estimated roughly at US$ 93 billion annually (UN-Habitat report, 2018, p.121). FDI seems to be one of the vehicles to overcome these problems in Africa. Also, the recent diversification of FDI into sectors such as services and manufacturing is very promising in terms of technology transfer which is one of the main motives behind the aggressive FDI promotion policies implemented by African countries.

Table 3. 8: Number of jobs generated by FDI projects in Africa, 2007-2016

Year	Number of FDI projects	FDI value ($US billion)	Jobs created from FDI projects
2007	405	55.2	111,600
2008	874	140.0	238,600
2009	754	83.6	136,900
2010	694	70.4	132,100
2011	923	67.6	167,600
2012	826	47.2	121,400
2013	882	66.3	130,600
2014	722	88.5	160,500
2015	711	71.3	148,700
2016	676	94.1	129,200
Total	**7,527**	**784.2**	**1,477,200**

Source: Author's elaboration based on data from EY's Attractiveness Program Africa 2017.

3.1.6. FDI Promotion Policies in Africa

Africa, like other developing regions of the world, has engaged in several investment promotion activities in order to attract more FDI. Establishment of investment promotion agencies, investment treaties, and incentives are among the main initiatives taken by African countries to attract FDI. Incentives offered by African countries to attract FDI are in the forms of tax reduction for investors, duty-free exports and imports, subsidized infrastructures, among others. Profit repatriation is also permitted now in many African countries.

Many African countries have signed numerous bilateral investment treaties (BITs) dealing with the promotion and protection of FDI activities. 53 African countries have become members of the Multilateral Investment Guarantee Agency (MIGA), and 45 of them have ratified the Convention of the International Centre for Settlement of Investment Disputes (ICSID) [United Nations Economic Commission for Africa[UNECA], 2016, p.ix].Trade liberalization, export processing zones(EPZs), and many other forms of reforms have been implemented by African countries with the expectation to attract more foreign investments.

Today, investment promotion agencies (IPAs) are proliferating in Africa. Almost all African countries have established an IPA. The mandate of these IPAs is to seduce foreign investors, particularly FDI and to look after foreign investors once they have set their business in the host country. Investment promotion agencies have also a role to improve the image of the countries in which they are established by attending and organizing activities such as investors fairs. Although the business climate in many African countries can now be equated to that of most other developing countries, foreign investors still have a bad image of Africa; the continent as a whole continues, disappointingly, to suffer from a bad image as a place for investment. As UNCTAD (1999a, p.1) outlined: *"too often, many people outside the continent, refer to Africa as a place of civil unrest, war, poverty, and mounting problems. This has given many investors a negative image of the continent. While this image reflects the reality in some countries, it is not true for all African countries"*. Thus, investment promotion agencies have been established by many governments in Africa to polish the image of their countries in order to attract more FDI.

FDI promotion and facilitation policies are increasing rapidly in Africa. Resource-rich countries are also developing strategies to attract FDI into the manufacturing and services sectors in order to reduce their vulnerability to commodity price volatility. In this regard, Djibouti created a free trade area in 2015 to attract FDI into the manufacturing and services sectors. Egypt has introduced an amendment to its investment law to encourage investment in specific sectors or regions. Guinea has adopted a new investment code to grant new tax and customs exemptions, as well as protections for investments. Rwanda has adopted a new investment code to provide additional tax incentives for investment. The code also allows free transfer of funds and protection in case of expropriation. South Africa has also passed the Investment Promotion and Protection Act, while Angola has enacted new legislation to reduce the bureaucracy surrounding investment procedures (UNCTAD, 2016, p.92).

African regional economic communities such as COMESA (Common Market for Eastern and Southern Africa), ECOWAS (Economic Community of West African States), SADC (Southern African Development Community), EAC (East African Community) have also adopted regional regulations in favor of investment in general, and FDI in particular. Many regional regulations have been signed by States members of these regional economic communities. However, the common regulations among them are the guarantee of investor's protection against uncompensated expropriation. The investor also has the right to employ his or her key personnel from any country, and free movement of capital and transfer of assets is guaranteed (United Nations Economic Commission for Africa[UNECA], 2016, pp. ix-x).

However, African countries' policies towards FDI are not without criticisms. It is often argued that FDI policies in Africa favor foreign investors over domestic investors and reduce policy space for development in Africa. The impact of all these efforts to attract FDI on economic and social development in Africa is still unclear. For instance, the debate regarding the impact of FDI on economic growth, income inequality and poverty alleviation in Africa is still inconclusive. In addition, the effectiveness of these policies to attract FDI to Africa is debatable as Africa still receives roughly 5% of global FDI inflows.

African countries seem to adopt a total *laissez-faire* attitude towards FDI instead of a *selective* or *strategic* attitude like some Asian countries. Although the share of manufacturing and services FDI is increasing in Africa in recent years, extractive industries, such as minerals,

gas, and oil still receive the largest share of FDI flows to Africa. Domestic policies need to be implemented to direct FDI into sectors such as manufacturing with a huge potential of job creation and linkages with domestic economies. The high level of unemployment rate in Africa could be reduced if policies are designed to attract more labor-intensive FDI than extractive FDI which is highly capital-intensive. For instance, in the beginning, FDI flows to China were concentrated in low-wage labor-intensive manufacturing sectors. But with appropriate domestic policies and huge investment in education which has increased substantially the supply of skilled labor, the country has been able to direct recent FDI flows into technology-intensive productions in accordance with its developmental objective (Su and Liu, 2015, p.2). Summing up, African countries should develop their bargaining power, such as strong democracy, political stability, well-educated workforce, good infrastructure, and efficient legal system among others, which will enable them to set up conditions with regard to FDI and push foreign investors into sectors that are in line with their developmental goals.

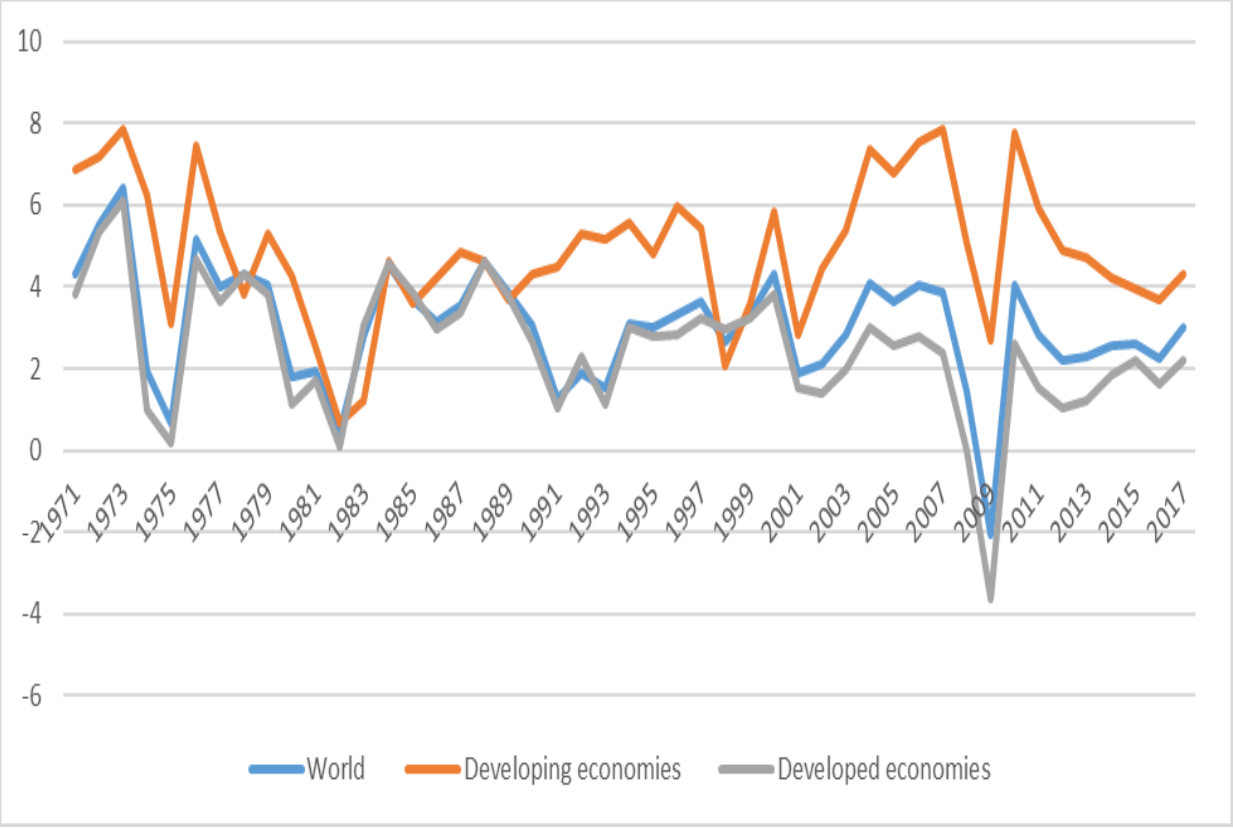
3.2. Recent Trends in Economic Growth in Africa

The economic history of Africa since 1960 is often described as "tragedy" because of unfulfilled potential with disastrous consequences. For instance, in 1960s Africa's growth potential was estimated to be higher than that of East Asia. However, this potential did not really fulfill. For instance, on average, over the period 1965-1990, the real per capita GDP in Africa did not grow, while, annual real per capita GDP growth was more than 5% for East Asia and the Pacific, and almost 2% for Latin America during the same period (Easterly and Levine, 1997, p.1203). However, after lost decades of the 1980s and 1990s, the continent seems to turn into a symbol of hope since the 2000s. Indeed, with annual economic growth rates sometimes exceeding 5%, many African countries have experienced robust economic growth over the past 15 years. Africa, however, continues to lag behind other major developing regions in terms of the pace of development. GDP per capita growth continues to lag behind that of developing Asia, especially East Asia. Before presenting in details the recent trends in economic growth in Africa, we present the trends in global economic growth as well as the trends in the economic growth of developing and developed economies.

3.2.1. GDP Growth: World and by Economies

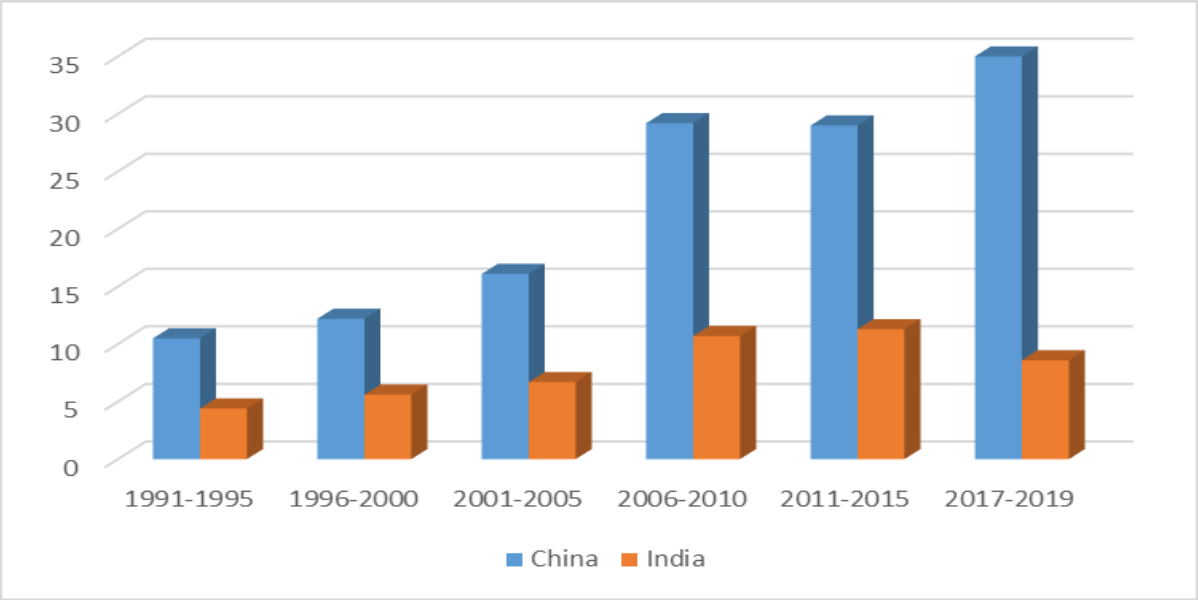
We can observe from Figure 3.11 that, since the year 2000 to date, developing economies have been growing faster than developed countries. This is mainly due to the good economic performance from developing Asia. Especially China and India have become the engine of world economic growth (see Figure 3.12). We observe also that the recent economic and financial crisis hit developed economies more than developing economies. The real GDP growth of developed countries was 0.01% in 2008, down from its level of 2.3% in 2007, and -3.6% in 2009 while the real GDP growth of developing countries was 7.8% in 2007, 5% in 2008 and 2,6% in 2009 (Figure 3.11).

Figure 3. 11: Trends in real GDP growth: World and by economies, 1970-2017



Source: Author's elaboration based on UNCTAD online data.

Figure 3. 12: Contribution of China and India to world GDP growth, 1991-2019 (%)

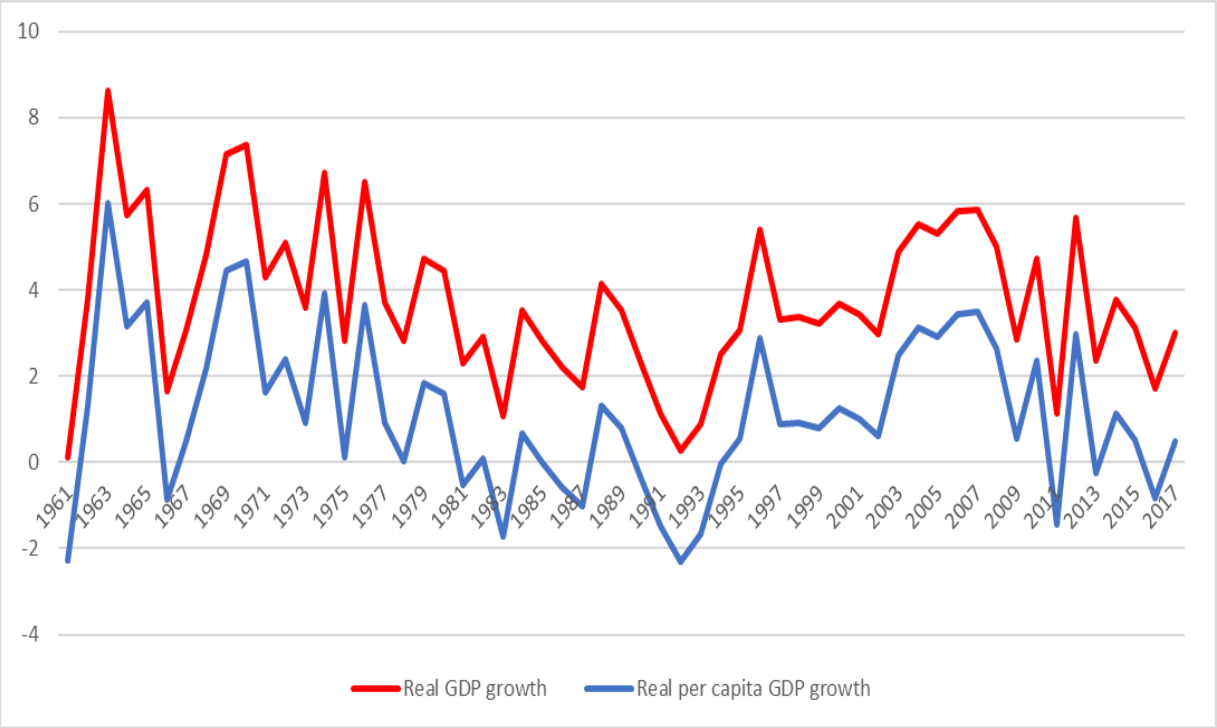


Source: African Economic Outlook 2016, World Bank 2018
*Note: The figure of 2017-2019 is an estimation from World Bank

Figure 3.13 shows the trends in real GDP growth and real per capita GDP growth in Africa over the period 1961-2017. As illustrated by Figure 3.13, economic growth in Africa since 1960, the year of the independence of many African countries, is characterized by numerous fluctuations. In general, from 1960 to date, the evolution of economic growth in Africa can be divided into three major periods: two periods of good economic performance (1960-70s and 2000-to date) and a long period of stagnation (1980- 1990s).

Over the 1960-70s, Africa experienced sustained growth, sometimes exceeding 5%. On average, the real GDP growth was 4.6% in Africa during the period 1960-70s. After this period of good economic performance, follows almost two decades of weak economic performance in the continent. The 1980s and 1990s often described as “lost decades” in the economic history of Africa, were characterized by debt crises, deterioration of terms of trade, high budget and current account deficits (twin deficits), socio-political instabilities such as military coups and inter-ethnic wars, low economic growth, among others. The real GDP growth in Africa which was around 5%, on average, during 1960-70s fell to just above 2%, on average, over the period 1980-90s. After implementing a series of reforms, sometimes under the auspices of IMF and the World Bank, Africa has entered a period of impressive economic growth since the 2000s.

Figure 3. 13: Real GDP growth and real per capita GDP growth in Africa, 1961-2017



Source: Author's elaboration based on Data from World Bank

On average, the real GDP growth in Africa was 4.7% over the period 2000- 2015, while it was 2.4% over the period 1980- 2000. However, this robust economic growth since the 2000s was interrupted in 2011 and 2016. The real GDP growth in Africa was 1.4% in 2011 down from its level of 4.7% in 2010 amid political instability in North Africa during the Arab Spring. Similarly, in 2016, economic growth in Africa stood at 1.7% from its level of 3.1% in 2015. This weak economic performance in 2016 was mainly due to low oil and commodity prices, unfavorable weather conditions such as drought in East and Southern Africa, and weak global economic conditions (United Nations Economic Commission for Africa[UNECA], 2017, p.3). Economic growth in Africa is projected by UN/DESA (United Nations Department of Economic and Social Affairs) to be 3.7% in 2019 largely due to recovery in three of Africa's largest economies, namely, South Africa, Nigeria, and Egypt.

Table 3. 9: Real GDP and real per capita GDP growth in developing regions, 1970-2017.

Regions	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017
Real GDP growth					
Africa	4.2	2.3	2.3	5.1	3.3
Asia	6.3	4.7	6.3	6.6	5.9
East Asia	8.1	8.8	8.1	8.8	6.6
Latin America and Caribbean	6.0	2.0	2.7	3.1	2.1
Real per capita GDP growth					
Africa	1.4	-0.4	-0.2	2.5	0.6
Asia	3.7	2.6	4.5	5.3	4.7
East Asia	6.1	7.1	7.0	7.3	6.0
Latin America and Caribbean	3.5	-0.01	1.0	1.7	0.9

Source: Author's calculations based on UNCTAD online database

From Table 3.9, one can observe the robust and strong economic growth experienced by Africa over the period 2000-2009. The real GDP growth in Africa which was 5.1% during this period was comparable to developing Asia, the world's fastest-growing region. It can equally be observed that despite the recent good performance of Africa in terms of economic growth, the continent is still lagged behind in terms of per capita GDP growth. Per capita GDP growth is very low in Africa as compared to developing Asia (Figure 3.13 and Table 3.9). On average, the real per capita GDP growth was negative during the period 1980-90s before recovering to 2.5% over the period 2000-2009, while real GDP per capita growth of developing Asia was 5.3% during the period 2000-2009 and 4.7% over the period 2010-2017.

As previously mentioned, in the 1960s, Africa's growth potential was estimated to be higher than that of East Asia. This potential did not really fulfill. Table 3.9 shows how Africa is lagged behind by East Asia in terms of real GDP growth and real per capita GDP growth. Africa, as a whole, has never been able to outperform East Asia in terms of economic growth since the 1970s. While, on average, per capita GDP growth in Africa reached the highest level of 2.5% over the period 2000-2009, per capita GDP growth in East Asia stood at 7.3% during the same period (see Table 3.9). It is worth noting that, on average, over the period 1970-2017, the real per capita GDP growth in developing East Asia stood at 6.7%.

Overall, the recent robust economic growth in Africa is barely higher than population growth unlike developing Asia and particularly East Asia. For instance, while economic growth in Africa is projected to be 3.7% in 2019, per capita GDP growth is projected to move from 1% in 2018 to 1.2% in 2019, which is not enough for Africa to make significant progress towards poverty alleviation. However, aggregate GDP growth in Africa masks considerable variation among its sub-regions.

3.2.2. Economic Growth in Africa's sub-Regions

As illustrated by Table 3.10, economic performance in Africa is not homogenous across its sub-regions. After a relatively good performance in the 1970s, especially North Africa with more than 5% GDP growth, on average, over the period 1970-1979, all Africa's regions underperformed in terms of economic growth during the period 1980-90s. However, since 2000, Africa's sub-regions exhibit strong and robust economic growth. East Africa, followed by West Africa and Central Africa with more than 5% GDP growth, on average, over the period 2000-2017, are the fastest growing regions in Africa.

Table 3. 10: Average real GDP growth for regions in Africa, 1970-2017

Regions	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017
North Africa	6.5	2.7	3.1	4.8	1.6
East Africa	3.0	2.8	2.9	5.2	6.6
Southern Africa	3.1	2.4	1.6	3.6	2.1
Central Africa	2.2	2.2	0.2	6.2	4.0
West Africa	4.7	1.7	2.9	6.8	4.5

Source: Author's calculations based on UNCTAD online database

Economic growth in North Africa was highly affected by the socio-political unrest in 2011 during the Arab Spring. For instance, the GDP growth of North Africa stood at -6% in 2011, before recovering to 6.5% in 2012. Southern Africa is lagged behind in terms of economic growth. Economic growth in Africa's sub-regions is projected by UN/DESA (United Nations Department of Economic and Social Affairs) to be 4.1% in 2019 for North Africa, 6.2% for

Eastern Africa, the fastest growing region in Africa, 2.5% for Central Africa, 3.4% for West Africa, and 2.5% for Southern Africa.

Economic performance in Africa differs also considerably across countries. Some African countries are now among the world's fastest-growing economies. For instance, according to the African Development Bank, in the 2000s, six of the world's ten fastest-growing economies were in Africa. Table 3.11 shows the recent fastest growing economies in Africa. We limit the list to countries with more than 5% GDP growth, on average, over the period 2012-2017. Countries such as Cote d'Ivoire (Ivory Coast) and Ethiopia, on the top of the list, have their recent economic growth comparable to that of East Asian countries, the world's fastest-growing region. Ethiopia in East Africa and Cote d'Ivoire (Ivory Coast) in West Africa have experienced a strong and robust economic growth in recent years. On average, their economic growth over the period 2012-2017, is above 8% (Table 3.11).

East Africa and West Africa have the largest number of countries among the recent top 15 fastest growing economies in Africa. For instance, with more than 6% economic growth, countries such as Cote d'Ivoire, Senegal, and Ghana experienced the highest economic growth in West Africa in 2017. Similarly, countries such as Djibouti, Ethiopia, Tanzania, and Rwanda with more than 6% GDP growth recorded the highest economic performance in 2017 in East Africa. The economic growth in these countries is generally driven by vigorous infrastructure investment, strong services sectors and a recovery in agricultural production (United Nations Economic Commission for Africa[UNECA], 2017, p.6).

To Sum up, one can say that the recent strong economic growth in many African countries, fueled generally by the commodity boom, is comparable to East Asia. However, the share of Africa in the world GDP is 3% while the share of East Asia is 22% and 7% for Latin America and the Caribbean. This implies that despite the robust economic growth in Africa in recent years, the value of Africa's GDP remains still very low as compared to developing Asia and Latin America.

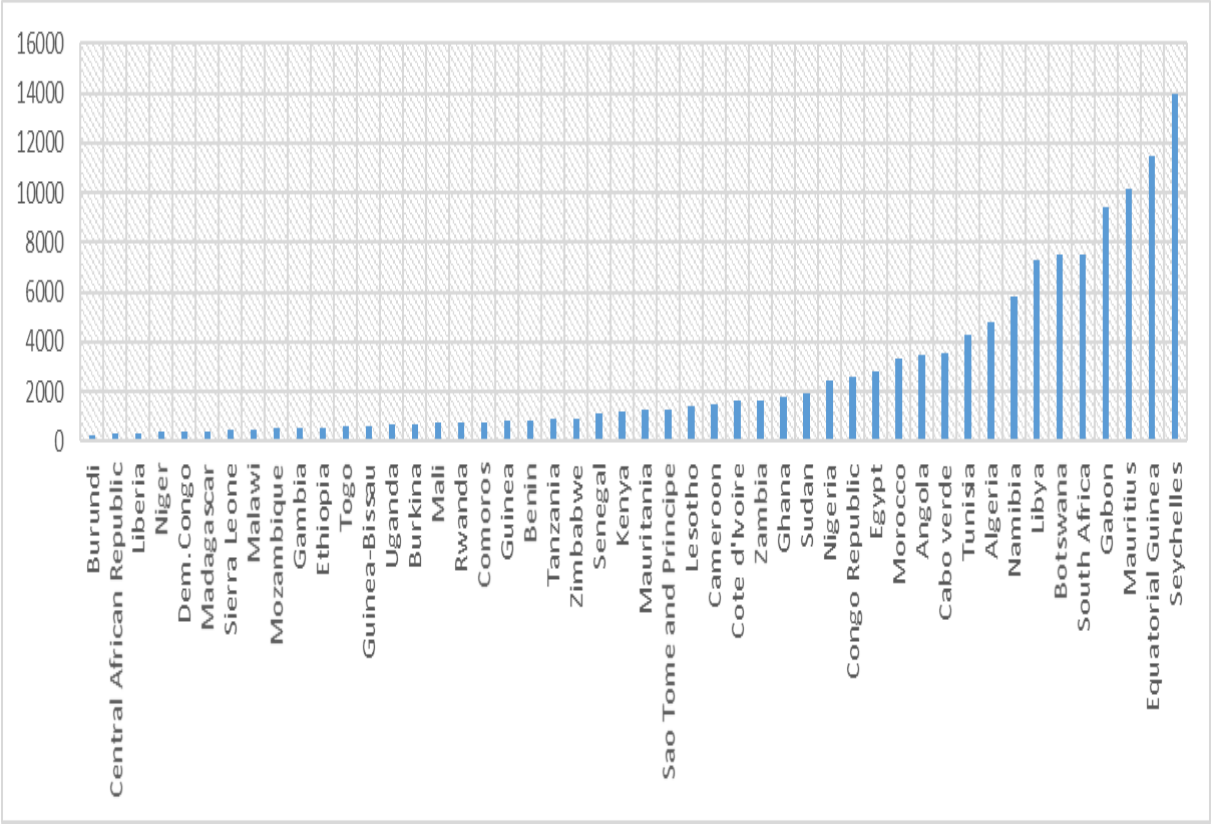
Table 3. 11: Recent Top 15 fastest growing economies in Africa, 2012-2017

Countries	2012	2013	2014	2015	2016	2017	Average 2012-2017
Côte d'Ivoire	10.7	9.2	8.5	9,4	8.1	7.0	8.8
Ethiopia	8.6	10.5	10.2	9.6	7.6	6.5	8.8
Mali	11.2	7.0	7.7	7.6	4.5	5.3	7.2
Rwanda	8.7	4.6	6.9	6.9	6.7	6.1	6.7
Tanzania	5.1	7.2	6.9	6.9	6.9	6.5	6.6
Dem.Rep.of Congo	7.0	8.4	9.4	6.9	4	3	6.5
Mozambique	7.1	7.1	7.4	6.6	4.2	4.1	6.1
Niger	11.8	5.2	7.0	3.6	4.1	5.2	6.1
Djibouti	4.8	5.0	6.0	6.5	6.7	6.8	5.9
Ghana	9.3	7.3	3.9	3.8	3.8	6.8	5.8
Togo	5.8	5.1	6.1	5.4	5.5	5.0	5.5
Kenya	4.5	5.7	5.3	5.6	6.0	5.2	5.4
Benin	4.6	6.8	6.5	5.2	4.2	5.4	5.4
Senegal	4.4	3.4	4.3	6.5	6.3	6.4	5.2
Burkina Faso	6.4	5.8	4.4	4.1	4.6	6.4	5.2

Source: Author's elaboration based on UNCTAD online database.

GDP per capita is still very low in many African countries including Africa's fastest growing economies. As illustrated by Figure 3.14, the GDP per capita for the large majority of African countries is less than US$2000.

Figure 3. 14: GDP per capita for African countries, 2017 (constant 2010 US$)



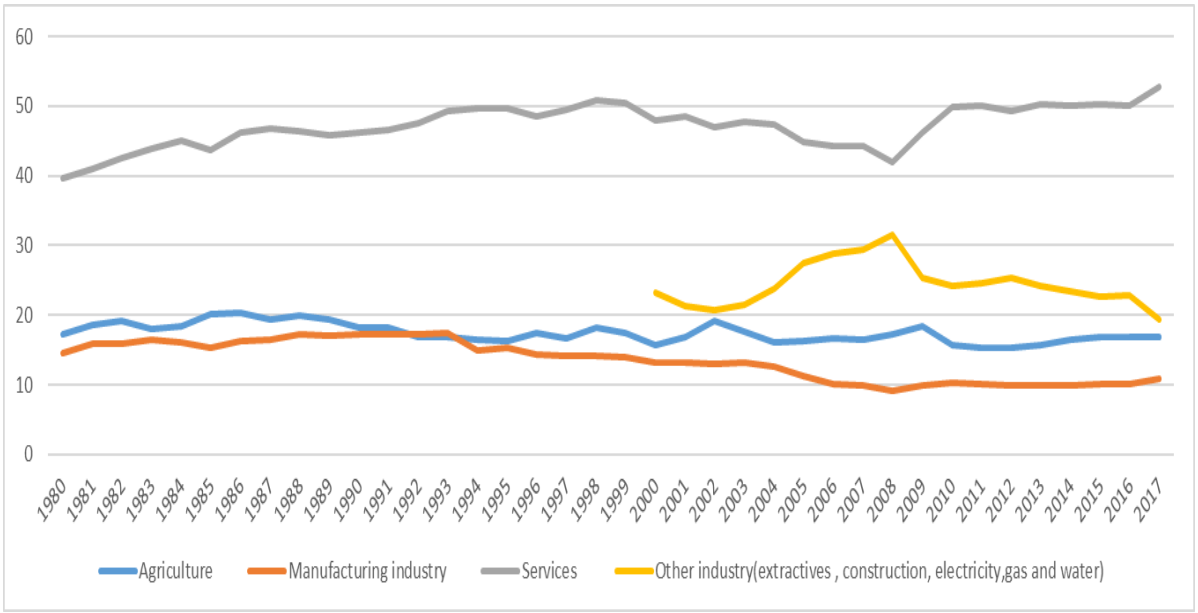
Source: Author's elaboration using data from World Bank (WDI, 2018)

As shown by Figure 3.14, African countries with per capita GDP higher than US$ 2000 in 2017 are Seychelles (US$ 13997), Equatorial Guinea (US$ 11486,6), Mauritius (US$ 10186), Gabon (US$ 9442), South Africa (US$ 7524,5), Botswana (US$7523), Libya (US$ 7314), Namibia (US$ 5854,8), Algeria (US$ 4825), Tunisia (US$ 4303,9), Cabo Verde (US$ 3536,9), Angola (US$ 3486,6), Morocco (US$ 3292,4), Egypt (US$ 2785), Republic of Congo (US$ 2576), and Nigeria (US$ 2412,4). These countries with per capita GDP higher than US$ 2000 are mainly oil or mineral-rich countries and countries with more diversified economies such as Egypt, Morocco, Mauritius, Tunisia, and South Africa.

3.2.3. Sectoral Contribution to Africa's GDP

As illustrated by Figure 3.15, the services sector has the largest contribution to GDP in Africa. The share of the services sector in Africa's GDP is increasing since 1980. It increased from 39.5% in 1980 to 52.8% in 2017. On average, the share of the services sector in Africa's GDP was 47.1% over the period 1980-2017. Transports, telecommunications, financial services, and tourism sectors are the main contributors to the GDP in the services sector.

Figure 3. 15: Contribution to Africa's GDP by sector, 1980-2017, percentage (%)



Source: Author's elaboration based on African Development Bank online database

Agriculture sector's share in Africa's GDP is decreasing but at a slower pace. It was 20% in 1985 against 17% in 2017. On average, the share of agriculture sector in Africa's GDP was 17.5% over the period 1980-2017. Agriculture sector's share in the GDP is low although about 65% of the economically active population in Africa is employed in the sector. This implies that productivity is very low in the agriculture sector in Africa. The share of other industry such as construction, electricity, gas, and water, and the extractives sector reached the highest level of 31.6% in 2008 before dropping at 19% in 2017(Figure 3.15). On average, over the period 2000-2017, the share of other industry (construction, electricity, gas and water, and mining) stood at 24.4%.

The share of the manufacturing sector (manufacturing industry) is consistently decreasing since 1990 (Figure 3.15). The share of the manufacturing industry in Africa's GDP is very low. It decreases from its level of 17.3% in 1990 to 10.8% in 2017. The manufacturing industry has the lowest share of Africa's GDP. It stood at 13.5%, on average, over the period 1980-2107. Africa's share of global manufacturing has fallen from about 3% in 1970 to less than 2% in 2013 (Page, 2015). Manufacturing production is concentrated in a few countries such as Algeria, Egypt, Morocco, Tunisia, and South Africa among others. The share of the manufacturing sector in total employment in Africa is reported to be just above 6%.

This decreasing share of the manufacturing sector in Africa's GDP is an indication of industrialization failure in the continent. This sign of premature deindustrialization in Africa is alarming and worrisome. In this regard, *The Economist*, in its 7th November 2015 issue expressed this view: *"Many African countries are deindustrializing while they are still poor, raising the worrying prospect that they will miss out on the chance to grow rich by shifting workers from farms to higher-paying factory jobs."* Also, Economist Dani Rodrik (2013, p.26) states that "*with the exception of a few small countries that benefited from natural resource windfalls and managed not to squander them, virtually all countries that have achieved rapid and sustained economic growth for decades, did so on the back of manufacturing*".

This would imply that the commodity-driven boom and bust in Africa may plunge the continent in another "lost decade" as in the 1980s if better policies are not implemented to attract investors into the manufacturing sector. With appropriate policies, some East African countries such as Ethiopia and Tanzania are doing well in attracting investors into the manufacturing sector. For instance, over the period 2005-2017, on average, output in Ethiopia's manufacturing sector has grown by 11% a year. Similarly, manufacturing output in Tanzania increased by more than 7% annually from 1997-2017. These countries seem to be an exception to this trend of premature deindustrialization in Africa.

3.3. Trends in Income Inequality in Africa

Evidence about trends in inequality in Africa is very scanty. It is difficult to highlight inequality patterns in Africa for a sufficiently large number of countries and years mainly due to the chronic lack of reliable data on income distribution in African countries. As pointed out by Bhorat, Naidoo, and Pillay (2016, p.3), the lack of strong statistical systems in most African countries prevents the adequate tracking of poverty and inequality trends, which also undermines the ability to clearly identify the driving forces behind these trends. For instance, some scholars claim that inequality and poverty levels have been declining in Africa in recent years, while others argue that income inequality has been rising in Africa.

In this section, we will try, as much as possible, with the available limited data on income inequality to shed light on inequality pattern in Africa. For comparison purpose, we begin with the trends in global income and wealth inequality before presenting the specific case of Africa. Although wealth inequality is not the primary focus of our study, we argue that both measures of inequality are related since higher income can be used to accumulate more wealth. In other words, rising income inequality may amplify wealth inequality.

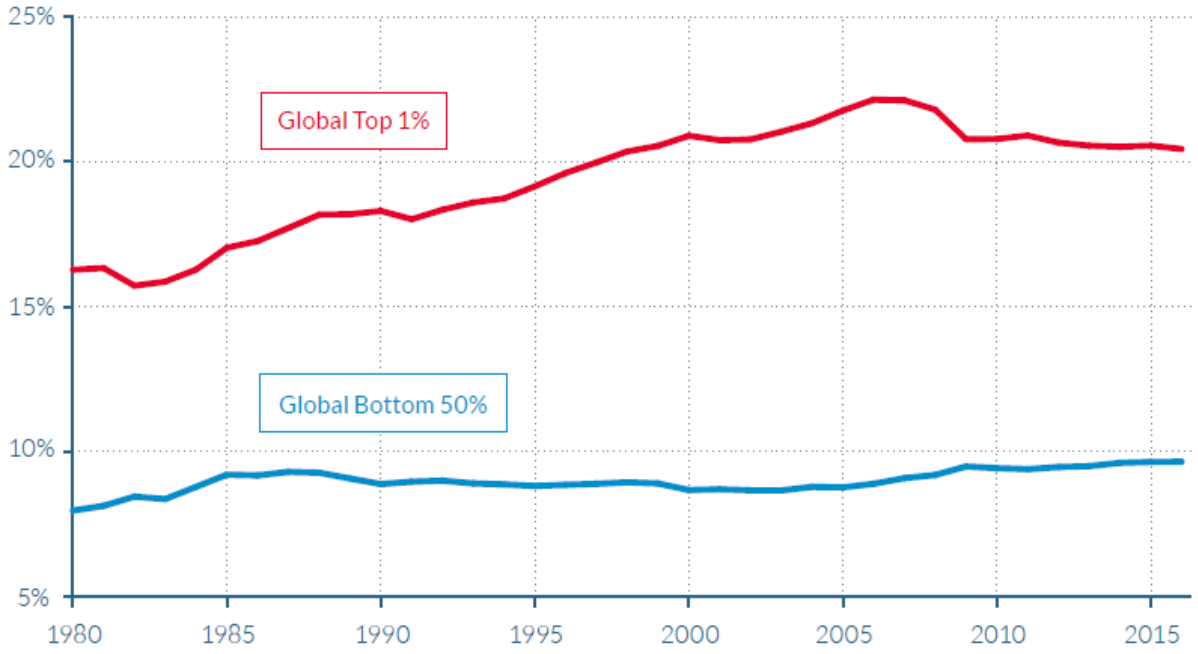
3.3.1. Global Income and Wealth Inequality

As illustrated by Figure 3.16 which shows the trends of the share of global top 1% and the global bottom 50% in the global income under purchasing power parity (PPP), global income inequality has been increasing since 1980. While the share of global income held by the global top 1% was 16% in 1980, it increased steadily to its highest level ever of 22% in 2007, just before the global financial crisis. Although it decreased to about 20% in 2016 from its level of 22% in 2007, the share of the global top 1% in the global income is still higher than its level of 1980.

The share of the bottom half (50%) of the world population in the global income has never reached 10% since 1980. It recorded a modest increase between 1985 and 2016 to stay at around 9%. Overall, in 2016, the global top 1% earners hold almost twice the share of world income held by the global bottom 50%. As pointed out by the recent World Inequality Report, the strong economic growth experienced by emerging countries such as China since the 2000s has not been enough to curb the increasing global income inequality. Another striking

observation from Figure 3.16, is that the period 2000-2007, which generally corresponds to the peak of financialization in the world coincides with the highest level of the income gap between the global top 1% and the global bottom 50%. This tends to confirm the claim that financialization has paved the way for the rising income inequality in the world.

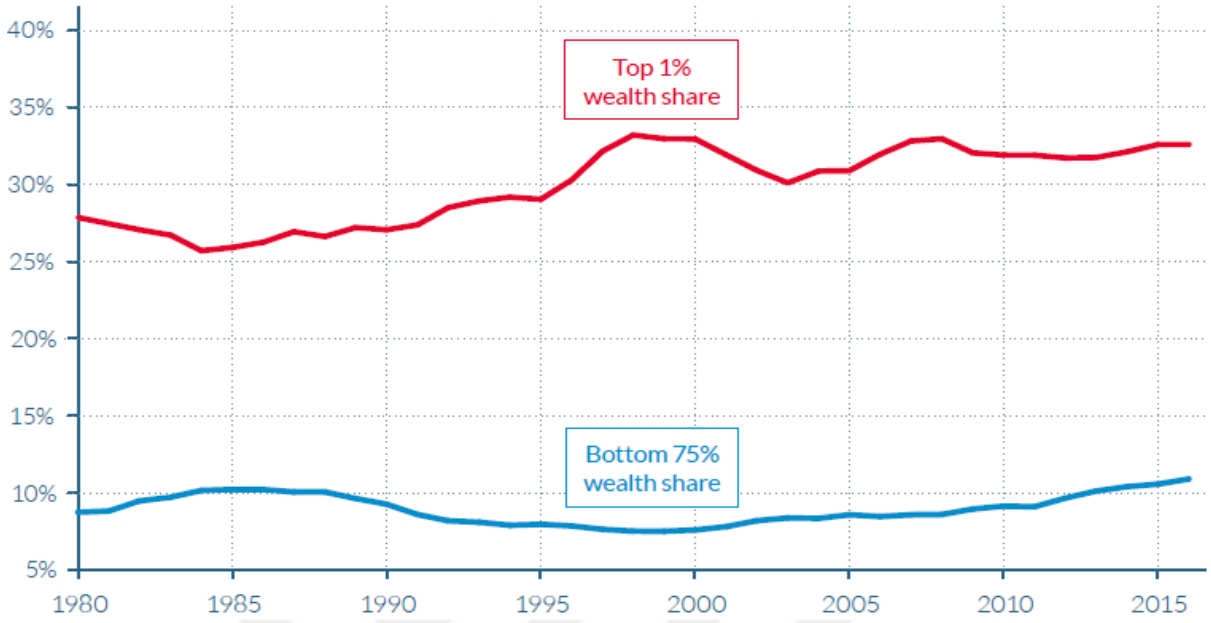
Figure 3. 16: Share of the global top 1% vs. global bottom 50% in the global income, 1980-2016



Source: World Inequality Report (2018, p.54)

Regarding global wealth inequality, it is worth mentioning that the pattern of global wealth inequality is difficult to highlight as many countries in the world have no comprehensive data on wealth inequality. This data limitation concerning global wealth inequality is expressed in the 2018 World Inequality Report as follows: *"Available data sources make it impossible at this stage to properly estimate the level and evolution of the global distribution of wealth*" (World Inequality Report 2018, p.199). However, based on a sample of 26 developed and developing economies, IMF (2015, p.11) reports that, on average, in the early-2000s, the Gini index of wealth distribution was 68% while the disposable income Gini index was 36%. In other words, global wealth is more unequally distributed than global income. This is confirmed in Figure 3.16 and Figure 3.17.

Figure 3. 17: Top 1% and bottom 75% shares of global wealth, 1980–2017.



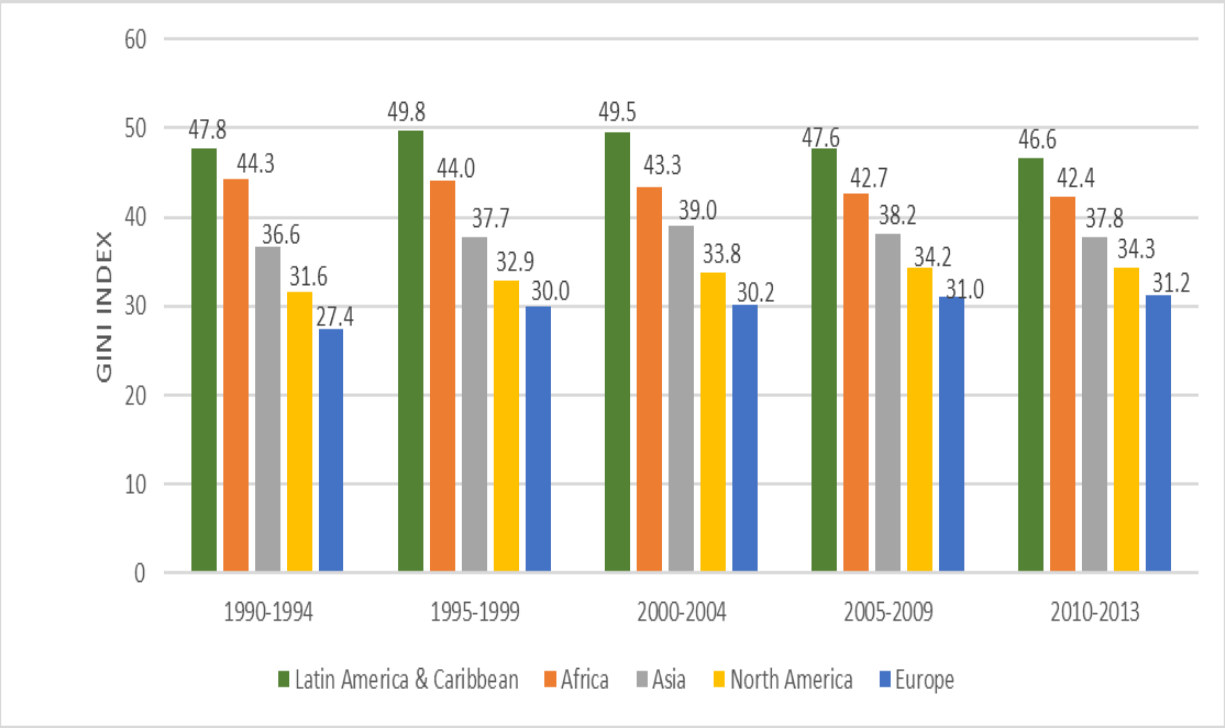
Source: World Inequality Report (2018, p.200)

The estimated global distribution of wealth shows that the global top 10% possesses more than 70% of the global wealth. While it was 28% in 1990, the share of the top 1% wealthiest people in the total wealth reached 33% in 2017. The share of the bottom 75% remains almost stagnant around 10% over the period 1980-2017(Figure 3.17). Finally, global inequality in financial wealth is believed to be higher than global inequality in non-financial wealth.

3.3.2. Income Inequality in the Major Regions of the World

Income Gini index measures the extent to which income distribution among individuals or households in a country deviates from a perfectly equal distribution. The Gini index takes the value 0 when there is complete equality in the income distribution. It takes the value 100 when there is complete inequality in the income distribution. In sum, the Gini index varies between 0 and 100. Despite its limitations mentioned earlier in this study, the Gini coefficient is the widely used measure of income inequality. Based on the Gini index, Figure 3.18 shows the general trends in income inequality in Africa as compared to other major regions of the world.

Figure 3. 18: Average Gini index in the major regions of the world, 1990-2013.



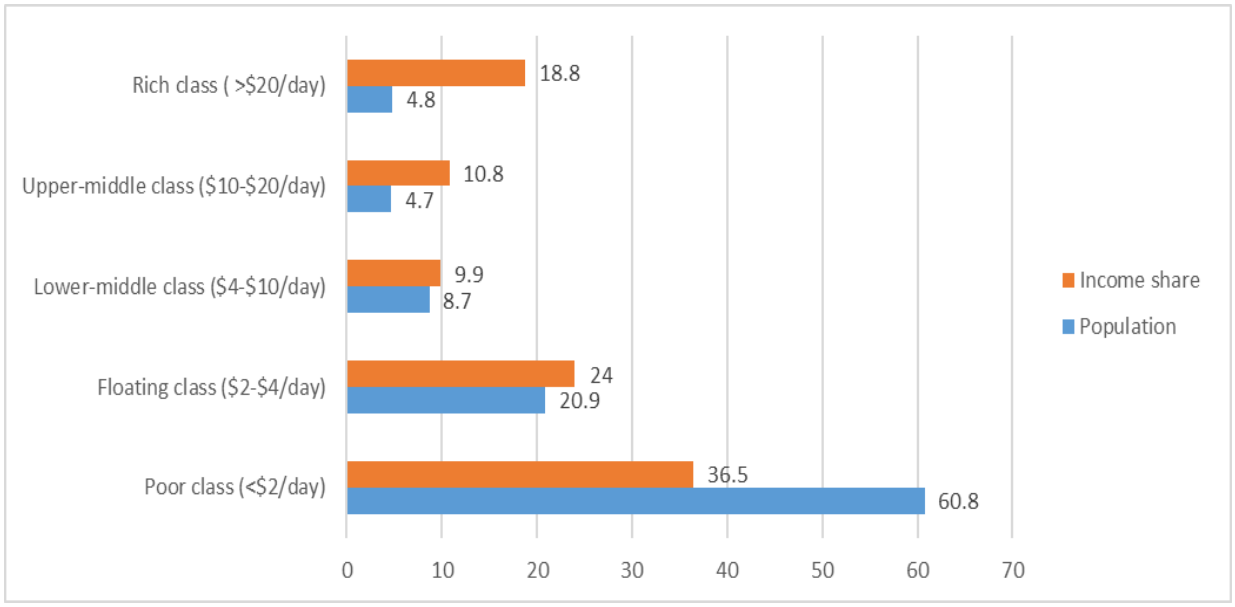
Source: Author's elaboration based on data from the Standardized World Income Inequality Database (SWIID) Version 5.1

Figure 3.18 confirms the claim that Africa is the second most inequitable region in the world after Latin America. We can observe that the level of income inequality in Latin America has recorded a slight decrease, but still remains the highest in the world, followed by Africa, Asia, North America and finally Europe with the lowest level of income inequality. The high level of income inequality in Africa has recorded only a slight decrease in recent years despite the strong and robust economic growth experienced by the continent since the 2000s. On average, the general level of income inequality in Africa measured by the Gini coefficient declined from its level of 44% in the 1990s to roughly 42% in the 2000s. This general trend in income inequality found in this study is line with Bhorat et al. (2016, p.5) who argue that the average level of income inequality in Africa has decreased in recent years as compared to its level of the 1990s. However, we argue that, given the poor quality of inequality data in Africa, this general trend in income inequality in the continent should be taken with caution.

The pattern of income inequality in Africa can also be observed through the share of income held by different population classes. Figure 3.19 shows the population and income

distribution by classes in Africa. As we can see, the rich class (>$20/day) which represents 4.8% of the population hold 18.8% of the total income while the poor class (< $2/day) which represent 60.8% of the African population has only 36.5% of the total income in Africa.

Figure 3. 19: Share of income by population classes in Africa (%)



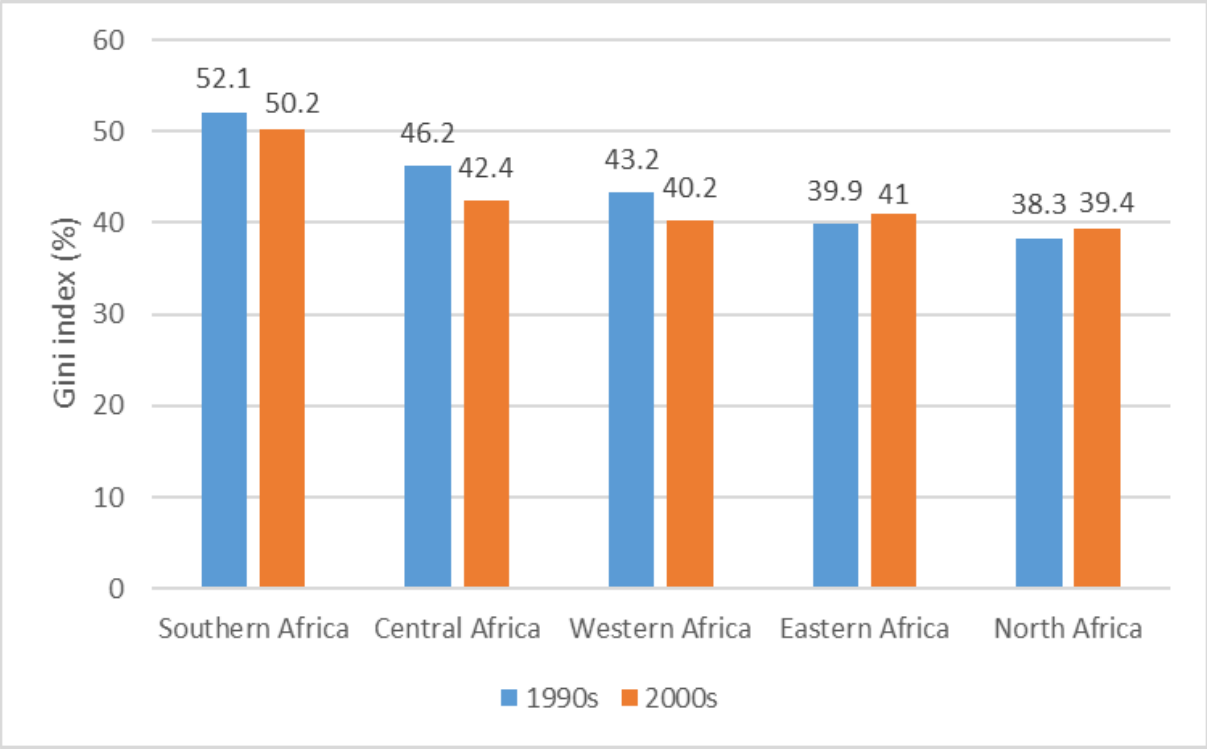
Source: Author's elaboration using data from African Development Bank.

The lower-middle class ($4-$10/day) which accounted for 8.7% of the population has 9.9% of total income in Africa. In other words, the share of the middle classes in the total income and their share in the total population are almost balanced. Overall one can conclude that income inequality is high in Africa when we look at the share of income held by the poor which represents the largest part of the African population (Figure 3.19). However, it is worth noting that this general pattern of income inequality in Africa masks considerable variations among Africa's sub-regions. Some regions of Africa have higher levels of inequality than others.

3.3.3. Income Inequality in Africa's Sub-Regions

Figure 3.20 shows the variations in income distribution in Africa's sub-regions. Southern Africa appears as the most unequal region in Africa, followed by Central Africa. The average level of income inequality has slightly declined in Southern Africa, Central Africa, and Western Africa while it has slightly increased in Eastern Africa and North Africa. Northern Africa still remains the region of Africa with the lowest level of income inequality.

Figure 3. 20: Average Gini index in Africa's sub-regions, 1990s vs. 2000s

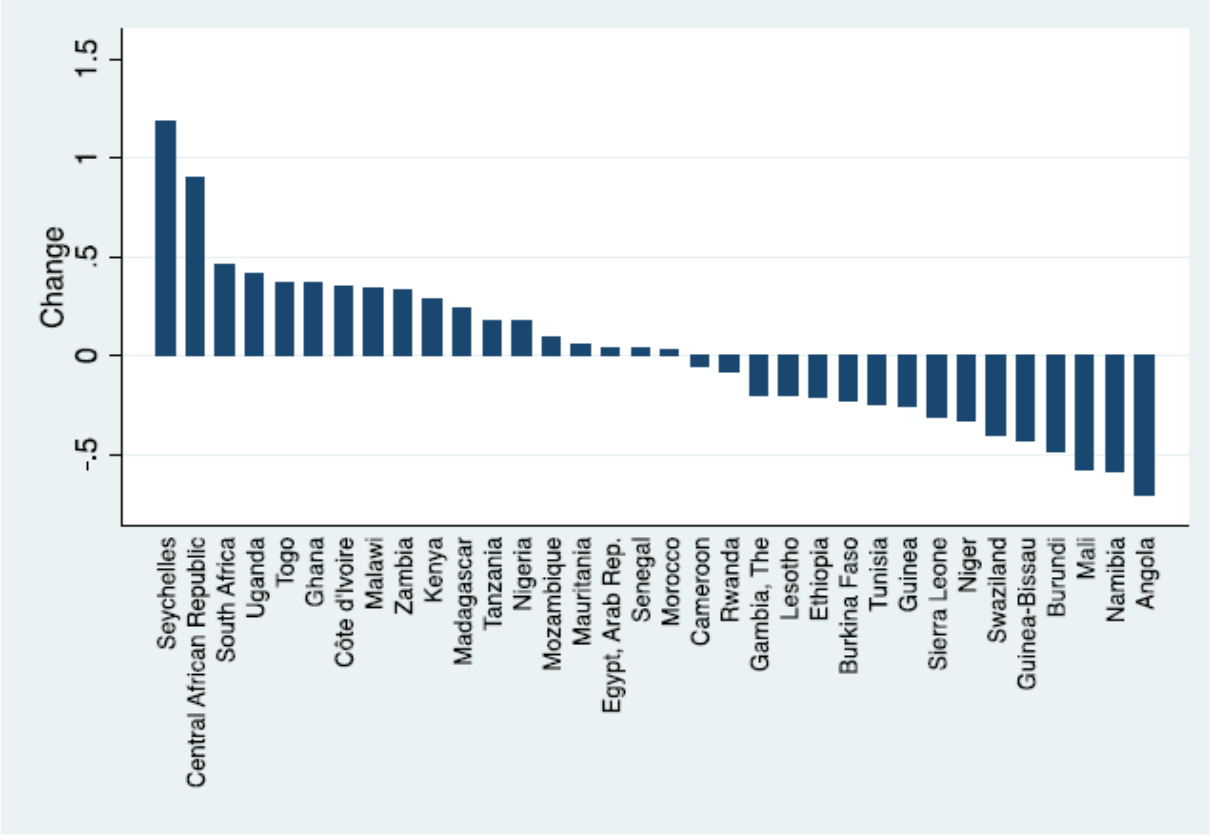


Source: Author's elaboration based on data from the Standardized World Income Inequality Database (SWIID) Version 5.1

The overall high level of income inequality in Africa is mainly driven by Southern African countries, in particular, Southern African countries such as South Africa, Namibia, Botswana, Zambia, Lesotho, and Swaziland. The average Gini coefficient of these countries is above 50 and they are among the top most unequal countries in the world. South Africa is the most unequal country in Africa with its latest Gini coefficient of 63.4 in 2011. In 2014, about two thirds (2/3) of the total income in South Africa was held by the top 10% of earners (World

Inequality Report 2018, p.146). About half of the 20 most unequal countries in the world are from Africa. They are South Africa, Namibia, Botswana, Central Africa, Zambia, Lesotho, Swaziland, Angola, and Zimbabwe. However, it is worth noting that, when these most unequal countries in Africa, often tagged as "outliers" are dropped, the general level of Africa's Gini index is comparable to that of other developing economies. In some African countries, income inequality has declined in recent years while it has increased or remained constant in others. For instance, income inequality has increased in Cote d'Ivoire (Ivory Coast), one of the fastest growing economies in Africa. It has also increased in Seychelles, Central Africa, Ghana and Nigeria among others. In contrast, inequality has declined in Burkina Faso, Sierra Leone, and Tunisia among others (Figure 3.21).

Figure 3. 21: Change in inequality in selected African countries (top 20% / bottom 20%)



Source : Bhorat et al. (2016, p.7)

**Notes*: The change in income inequality is calculated as the variation over time in the ratio of top 20% / bottom20%. A positive (negative) variation indicates an increase (decrease) in income inequality

Overall, the general level of income inequality is high in Africa although we acknowledge that it is difficult to get a credible picture of income inequality pattern in the continent due to the paucity of data. This high level of inequality is retarding the continent in the progress towards poverty alleviation. According to the latest World Bank estimates, the recent good performance of Africa in terms of economic growth since the 2000s has reduced the level of poverty in the continent. However, this progress towards poverty alleviation is minimal as compared to other developing regions with a comparable level of economic growth. For instance, based on the latest World Bank estimates, between 1990 and 2012, East Asia and the Pacific has reduced its poverty level by 88.1% while Sub-Saharan Africa which accounts for 49 countries out of 54 in Africa has reduced its poverty level only by 24.8% in 2012. In order words, the impact of economic growth on poverty alleviation in Africa is not as strong as in South and East Asia. The estimated growth elasticity of poverty reduction is reported to be around -0.7 in Sub-Saharan Africa, while for the rest of the world (excluding China), this elasticity is -2 (Bhorat et al. ,2016, p.10). The persistent and high level of income inequality is one of the reasons for this slow progress towards poverty reduction in Africa. As shown by Ravallion and Chen (2007) and others, high-income inequality reduces the poverty-reducing effect of economic growth.

Also, the high level of income inequality in Africa slows the progress towards human development. Although Africa has made significant progress on human development since the 2000s, it still lags behind other major developing regions. High-income inequality may exacerbate other types of inequalities such as inequality in health and education. Due to financial constraints, wealthier populations are more likely to access hospitals and better education than the poor. Thus, in 2010 UNDP Human Development Report (HDR) introduced the Inequality-adjusted Human Development Index (IHDI) in order to account for the impact of inequality in human development. The difference between the Human Development Index (HDI) and the Inequality-adjusted Human Development Index (IHDI) captures the loss of human development due to inequality. For instance, according to UNDP Human Development Report 2016, the overall loss of human development due to inequality is 32.2 % for Sub-Saharan Africa while it is 23.7% for Latin America and the Caribbean, and 19.3% for East Asia and the Pacific. In sum, many African countries have a high level of income inequality along with a high level of poverty, and low human development (see, Table 3.12).

Table 3. 12: Poverty and inequality indicators in African countries

	International poverty line Population below the poverty line (%)		Income Gini coefficient (%)		Inequality-adjusted Human Development Index (IHDI)		World rank of HDI 2016
	Latest year	Below US$1.90 (PPP)	Latest year	index	Value	Loss (%)	
Algeria	2011	0.5	2005	34.1	…..	…...	83
Angola	2008	30.1	2008	42.7	0.336	37.0	150
Benin	2015	49.5	2011	43.4	0.304	37.4	167
Botswana	2009	18.2	2009	60.5	0.433	37.9	108
Burkina Faso	2014	43.7	2014	35.3	0.267	33.6	185
Burundi	2013	73.7	2006	33.4	0.276	31.5	184
Cabo Verde	2007	8.1	2007	47.2	0.518	20.1	122
Cameroon	2014	24.0	2014	46.5	0.348	32.8	153
Central African Rep	2008	66.3	2008	56.2	0.199	43.5	188
Chad	2011	38.4	2011	43.3	0.238	39.9	186
Comoros	2004	13.5	2004	55.9	0.270	45.8	160
Congo	2011	37	2011	48.9	0.446	24.8	135
Congo, Dem. Rep.	2012	77.1	2012	42.1	0.297	31.9	176
Côte d'Ivoire	2015	27.9	2008	43.2	0.294	37.8	171
Djibouti	2013	22.5	2013	44.1	0.310	34.6	172
Egypt	…..	….	2012	46.3	0.491	29.0	111
Ethiopia	2013	33.5	2010	33.2	0.330	26.3	174
Gabon	2005	8.0	2005	42.2	0.531	23.9	109
Gambia	2003	45.3	2003	47.3	---	---	173
Ghana	2012	13.6	2005	42.8	0.391	32.5	139
Guinea	2012	35.3	2012	33.7	0.270	34.8	183
Guinea-Bissau	2010	67.1	2010	50.7	0.257	39.3	178
Kenya	2005	33.6	2005	48.5	0.391	29.5	146
Lesotho	2010	59.7	2010	54.2	0.320	35.6	160
Liberia	2014	38.6	2007	36.5	0.284	33.4	177
Madagascar	2012	77.8	2012	42.7	0.374	27.0	158
Malawi	2010	70.9	2010	46.1	0.328	31.2	170
Mali	2009	49.3	2009	33.0	0.293	33.7	175
Mauritania	2014	5.9	2014	32.4	0.347	32.4	157
Mauritius	2012	0.5	2012	35.8	0.669	14.4	64
Morocco	2006	3.1	2006	40.7	0.456	29.5	123
Mozambique	2008	68.7	2008	45.6	0.280	33.0	181
Namibia	2009	22.6	2009	61	0.415	35.2	125
Niger	2014	45.5	2014	34.0	0.253	28.3	187
Nigeria	2009	53.5	2009	43.0	0.328	37.8	152
Rwanda	2013	60.4	2013	50.4	0.339	31.9	159
Sao Tome	2010	32.3	2010	30.8	0.432	24.7	142
Senegal	2011	38%	2011	40.3	0.331	33.1	162
Seychelles	2013	1.1	2013	46.8	…..	…..	63
Sierra Leone	2011	52.3	2011	34.0	0.262	37.8	179

Table 3.12 (Continued)

	Population below the poverty line (%)		Income Gini coefficient (%)		Inequality-Adjusted Human Development Index (IHDI)		World rank of HDI (2016)
	Latest year	Below US$1.90 (PPP)	Latest year	index	Value	Loss (%)	
South Africa	2011	16.6	2011	63.4	0.435	34.7	119
South Sudan	2009	42.7	2009	46.3	….	…	181
Sudan	2009	14.9	2009	35.4	---	----	165
Swaziland	2009	42.0	2009	51.5	0.361	33.3	148
Tanzania	2011	49.1	2009	37.8	0.396	25.4	151
Togo	2015	49.1	2011	46.0	0.332	31.9	166
Tunisia	2010	2.0	2010	35.8	0.562	22.5	97
Uganda	2012	34.6	2012	41.0	0.341	30.9	163
Zambia	2015	57.5	2010	55.6	0.373	35.6	139
Zimbabwe	2011	21.4	2011	43.2	0.369	28.5	154

Source: Author's elaboration based on data from World Bank, SWIID Version 5.1, and UNDP.

3.3.4. Potential driving forces behind Income Inequality in Africa

Many factors are believed to be the driving forces behind the high level of income inequality in Africa. In the following lines, we discuss some of these factors. It is often argued that the high levels of inequality in many African countries have been inherited from colonization. The arguments go that, during the colonization, the wealth was concentrated in the hand of small European populations; they set up highly extractive administrations and focused on law and order rather than economic development. Thus, upon independence, the wealth was transferred to only a small group of African elite. This income polarization inherited upon independence was further exacerbated by neoliberal reforms implemented by African countries in the 1980s and 1990s under the auspices of IMF and the World Bank in the Structural Adjustment Program. The drastic austerity measures imposed by these institutions during the Structural Adjustment Program reduce significantly social expenditures and resulted in greater inequality as lower socioeconomic classes were disproportionately hurt. Even IMF recently admitted that it had overestimated the virtue of the Structural Adjustment Program.

Another factor affecting inequality in Africa is the sources of economic growth in the continent (output structure). In Africa, economic growth is mainly driven by sectors such as oil and mining, and services which are not unskilled-labor-intensive. These sectors are generally

capital and skilled labor intensive. The share in the GDP of manufacturing and agriculture sectors which are more labor-intensive and hence have equalizing effects is decreasing. African economies are following a path of structural transformation which is different from the one followed by the existing developed economies. They are moving from agriculture to services sectors with few potentials of jobs creation instead of the labor-intensive manufacturing industry. Thus, the fruit of the high economic growth experienced by many African countries is kept by only a few people.

The heterogeneity of African societies is also another factor that is believed to be the cause of persistent inequality in the continent. African countries are made up of several different ethnic groups. Many countries in Africa comprises at least 50 ethnic groups. Therefore, in these countries, access to public jobs, education or contracts is often based on nepotism or ethnicity. The ethnic group or region to which the President belongs is often favored in the recruitment of civil servants. All this work to exacerbate inequality. The tax policy which is mostly regressive in many African countries is another root of income inequality in the continent.

Transnational corporations through their FDI activities, in particular, FDI in extractives sectors, are also blamed to intensify income inequality in Africa. However, the impact of FDI on income inequality in Africa is a subject of debate. As we mentioned earlier, little research has been done so far to investigate the impact of FDI on inequality in Africa. The few existing empirical studies on this issue are contradictory. For instance, Anyanwu et al. (2016) report that FDI is among the factors that deteriorate income distribution in West Africa, while Sharma and Abeka (2017) report that FDI reduces income inequality in Africa. Only further and more detailed empirical studies can deepen our understanding of this issue. This study which aims at examining the effect of FDI on income inequality in Africa will certainly contribute to this direction by deepening our understanding of the FDI-income inequality nexus in the continent.

3.4. Summary

The aim of this chapter was to shed light on the pattern of FDI, growth and income inequality in Africa. Firstly, we discussed the trend in FDI flows to Africa. The analysis reveals that despite the high level of return on investment in Africa, the continent is lagged behind in terms of FDI inflows as compared to other developing regions. Annual FDI flows to Africa reached US$ 10 billion only in 1997. Before this period, the value of FDI flows to Africa was

very low. Since 1997, FDI flows to Africa has significantly increased but still remains a small share of the global FDI flows. The share of Africa in the global FDI inflows is around 5%. This is an indication of how the continent is marginalized in the context of financial globalization.

The large share of FDI flows to Africa is received by the extractives sectors (oil and mining). However, in recent years, FDI in Africa is diversifying into sectors such as manufacturing and services. Transnational Corporations in Africa are no longer investing only in extractives sectors (resource-seeking FDI), they are also investing for market and efficiency-seeking reasons. There are also considerable variations between Africa's sub-regions in terms of FDI inflows. North Africa seems to have the lion's share while Central Africa receives the least share. FDI, remittances and official development assistance are the main external financial resources for Africa. International portfolio investments and cross-border bank lending are marginal. FDI has also contributed to infrastructure development and job creation in Africa although still marginal as compared to other developing regions.

Secondly, we discuss the recent developments in economic growth in Africa. The recent trend in economic growth in the continent reveals three major periods. 1960-70s and 2000-to date, are the periods of robust economic growth in Africa. Between these two periods, 1980-90s, Africa experienced almost two decades of poor performance in economic growth as well as in other key socio-economic indicators. Since 2000, Africa has been experiencing impressive economic growth comparable to that of developing Asia, the world's fastest-growing region. Many African countries such as Ethiopia, Côte d'Ivoire, among others are currently among the fastest growing economies in the world. The fastest growing region in Africa is Eastern Africa while Southern Africa is lagged behind. Despite this impressive economic growth in recent years, the value of Africa's GDP is still low. The share of Africa in the world GDP is only 3% while the share of Latin America is 7% and 22% for East Asia. The performance of Africa in terms of per capita GDP growth is still poor as compared to other developing regions. The recent impressive economic growth in Africa is barely above or sometimes below the population growth. This retards considerably the progress towards poverty alleviation and other sustainable development goals. The GDP per capita in many African countries, including the fastest growing ones are below $US 2000. The analysis of the structure of Africa's GDP indicates that the share of the manufacturing sector is consistently decreasing while the share

of the services sector is growing. In order words, African countries are facing premature industrialization because they are deindustrializing while they are still poor.

Thirdly, we discussed the pattern of income inequality in Africa. Due to data constraints, it is quite difficult to get a clear and reliable picture of the overall income inequality in Africa. However, the available data suggest that Africa, as a whole, has recorded a slight decline in inequality in recent years; however, the continent still remains the second most unequal region in the world after Latin America. The high level of the overall income inequality in Africa is mainly driven by Southern Africa, the region with the highest inequality in Africa. The average Gini coefficient of Southern African countries is above 50. Almost half of the top 20 world's most unequal countries are in Africa, especially in Southern Africa. The countries with the highest Gini coefficient in Africa are South Africa, Namibia, Botswana, Central African Republic, Comoros, Zambia, Angola, Zimbabwe, and Lesotho. When these countries are dropped, the average level of income inequality in Africa is comparable to those of other developing regions such as developing Asia. South Africa is the most unequal country in Africa with its available latest Gini coefficient of 63.4, probably due to its long history of apartheid.

Overall, income inequality is high in Africa, and it is undermining the continent's effort in poverty alleviation and the progress towards human development. Factors such as output structure, expansion of mining enclaves, tax policies and social transfers, ethnic fragmentation of African societies and FDI, among others are believed to be the driving forces behind income inequality in Africa. After presenting the trends in FDI, growth and income inequality in Africa, we conduct, in the next chapter (chapter 4), a new and more detailed empirical investigation on the impact of FDI on economic growth and income inequality in the specific context of Africa.

CHAPTER 4: FDI, ECONOMIC GROWTH AND INCOME INEQUALITY: ECONOMETRIC ANALYSIS

The aim of this chapter is to investigate empirically the effects of foreign direct investment activities on economic growth and income distribution in African countries. According to the dominant conclusion from the recent literature, the impact of FDI on economic growth and income inequality may be determined by certain domestic factors and policies in the recipient countries. Examples of these factors are local financial development, infrastructure development, institutional quality, human capital, foreign trade policy, and macroeconomic environment. Thus, our empirical analysis will mainly focus on the role of these domestic factors in modulating the impact of FDI on economic growth and income inequality. As we mentioned earlier in the general introduction of this study, a handful of papers have attempted to address this question in the context of Africa. We take another look at the issue by using an improved methodology. The first section of this chapter focuses on the link between FDI and economic growth while the second section is dedicated to the relationship between FDI and income inequality.

4.1. Econometric Analysis of the link between FDI and Economic Growth

To empirically investigate the link between FDI and economic growth in African countries, we firstly present the conceptual framework before presenting our empirical models, the estimation strategies, and the results and discussions.

4.1.1. Conceptual Framework

The theoretical framework underpinning our empirical investigation builds on the work of Borensztein et al. (1998). The model is based on the idea of endogenous growth theory. We consider an economy that produces only one consumption good (Y) according to the following Cobb–Douglas production function:

$$Y_t = AH_t^{\alpha} K_t^{1-\alpha} \tag{4-1}$$

where, A stands for the state of "environment" prevailing in the economy, and H stands for the human capital endowment in the economy. The state of "environment" includes several

other factors which may affect the level of productivity in the economy. As in Romer (1990) and Barro and Sala-i-Martin (1995), the technical progress in the economy is generated by capital deepening through an increase in the number of capital goods varieties. The aggregated different varieties of capital goods determine the level of physical capital. Thus, as the number of capital goods varieties increases, capital accumulation in the economy also increases. The stock of domestic capital at each time can, therefore, be expressed as follows:

$$K = \left\{ \int_0^N x(j)^{1-\alpha} \, dj \right\}^{\frac{1}{1-\alpha}} \tag{4-2}$$

where $x(j)$ stands for each variety of capital goods. There are N different types (varieties) of capital goods in the economy produced by foreign firms and domestic firms. The varieties of capital goods produced by foreign firms are represented by n_1 while the varieties of capital goods produced by domestic firms are represented by n_2 . Thus, $n_1 \neq n_2$ and $N = n_1 + n_2$. Each type of capital good $x(j)$ is produced and rented to the producers of the final good at a rental rate $m(j)$ by a specialized firm. Assuming that the rental rate of the capital good $x(j)$ is equal to its marginal productivity in the production of the final good (optimality condition), we have :

$$m(j) = A(1-\alpha)H^{\alpha}x(j)^{-\alpha} \tag{4.3}$$

In order to increase the varieties of capital goods, firms need to adopt advanced technology which requires a fixed set-up cost (F). It is assumed that advanced technology exists in developed countries, and it is brought into the home country (developing economies) by foreign firms through FDI activities. It is equally assumed that the setup cost (F) required to imitate the advanced technology used by the foreign firms in order to produce new variety of capital good $x(j)$ is a decreasing function of the ratio of foreign firms to the total number of firms in the host country ($\frac{n_1}{N}$) because for the domestic firms, imitating the new technology used by the foreign firms is cheaper than breaking through the technology frontier. Furthermore, local firms imitate first the technology that is much easier. Thus, as more varieties of capital goods are produced in the host country, it becomes more difficult for the local firms to imitate

more advanced technologies in order to produce new varieties of capital good. Consequently, the setup cost (F) is assumed to be an increasing function of the ratio of the number of capital good varieties (N) produced in the host country to the number of capital good varieties (N^*) produced in advanced countries $\left(\frac{N}{N^*}\right)$. In order words, imitation possibilities reduce when the ratio $\left(\frac{N}{N^*}\right)$ is getting higher in the host country and hence the cost associated with the adoption of new technology increases. The setup cost (F) can, therefore, be expressed in the following functional form:

$$F = F\left(\frac{n_1}{N}, \frac{N}{N^*}\right), \text{ where } \frac{\partial F}{\partial\left(\frac{n_1}{N}\right)} < 0 \text{ and } \frac{\partial F}{\partial\left(\frac{N}{N^*}\right)} > 0 \quad (4\text{-}4)$$

It is assumed that a constant maintenance cost for each period of time is incurred by the owner once a capital good is introduced. This means that the marginal cost associated with the production of a capital good $x(j)$ is constant and equal to one ($c_{mj} = 1$). It means also that the capital goods depreciate fully each period. Thus, the profit obtained by a firm producing a new variety of capital good j at time t can be expressed in the following manner:

$$\pi(j)_t = -F\left(\frac{n_{1t}}{N_t}, \frac{N_t}{N_t^*}\right) + \int_t^{\infty}[m(j)x(j) - x(j)]e^{-r(s-t)}\mathrm{ds} \quad (4\text{-}5)$$

where r stands for the level of the interest rate which is constant when the economy is at its steady state. The equilibrium level for the production of each capital good $x(j)$ is obtained by maximizing Eq. (4-5) subject to the demand Eq. (4-3) :

$$x(j) = A^{\frac{1}{\alpha}}H(1-\alpha)^{2/\alpha} \quad (4\text{-}6)$$

The equilibrium rental rate $m(j)$ for a capital good $x(j)$ is therefore obtained by substituting Eq. (4-6) into Eq. (4-3). It follows that:

$$m(j) = (1-\alpha)^{-1} \quad (4\text{-}7)$$

It is assumed that there is a free entry into the market of capital goods, and hence, the rate of return r is such that profits are equal to zero. Solving for the zero profits condition and considering Eq. (4-6) and Eq. (4-7), we obtain:

$$r = A^{\frac{1}{\alpha}}\alpha(1-\alpha)^{\frac{(2-\alpha)}{\alpha}}F\left(\frac{n_1}{N}\ ,\ \frac{N}{N^*}\right)^{-1}H \tag{4-8}$$

We close the model by presenting the process of capital accumulation, which is determined by saving behavior. Thus, we assume that the following standard intertemporal utility function is maximized by individuals:

$$U_t = \int_t^{\infty} \frac{C_s^{1-\theta}}{1-\theta} e^{-\rho(s-t)} ds \tag{4-9}$$

where C stands for the consumption of the final good Y, ρ is the rate of time preference of utility and θ captures the willingness of individuals to substitute present consumption for future consumption (saving behavior). Maximizing (4-9) over time and solving for $\frac{\dot{C}}{C}$ yields the equation for the growth rate of consumption, γ_C .

$$\frac{\dot{C}_t}{C_t} = \gamma_C = \frac{1}{\theta}(r-\rho) \tag{4.10}$$

In a steady state equilibrium, the growth rate of consumption is equal to the growth rate of output (g). Thus, substituting Eq. (4-8) into Eq. (4-10), we obtain the following expression for the growth rate of the economy:

$$g = \frac{1}{\theta}\left[A^{\frac{1}{\alpha}}\,\alpha(1-\alpha)^{(2-\alpha)/\alpha}F\left(\frac{n_1}{N},\frac{N}{N^*}\right)^{-1}H - \rho\right] \tag{4-11}$$

The main idea of this theoretical model is that the long-run economic growth is determined by technological progress, and the foreign direct investment undertaken by the multinational companies is the main driver of this technological progress. This technological progress is introduced in the host country through the production of new varieties of capital goods by foreign firms. In addition, a sufficient level of absorptive capacity, such as human capital stock, among others in the host country is required in order to adopt the advanced technologies brought by foreign firms.

In the model, FDI is represented by the ratio of capital goods produced by foreign firms to the total number of capital goods in the host economy ($FDI = \frac{n_1}{N}$). Foreign firms possess advanced technologies which allow them to produce new varieties of capital goods at a lower

cost and therefore increase the rate at which new varieties of capital goods are produced in the host economy. Also, the theoretical model suggests that the effect of FDI on economic growth increases with the level of human capital stock (H). This is line with the predominant message from the recent FDI literature which claims that the effect of FDI on economic growth in a host country is affected by certain domestic factors.

4.1.2. Empirical Model

To specify the main empirical model, we start the modeling strategy by the following basic formulation:

$$g_{it} = \alpha_0 + \alpha_1 Y_{it-1} + \alpha_2 FDI_{it} + \alpha_3 H_{it} + \varphi A_{it} + \mu_i + \varepsilon_{it} \quad (4\text{-}12)$$

where the dependent variable g_{it} stands for economic growth rate for the country i at the time t; Y_{it-1} is the initial income of the host country used as a proxy for $\frac{N}{N^*}$ in the theoretical model. It represents the "catch-up" process across countries. As the cost of producing capital goods is assumed to be lower for imitators (developing countries) than innovators (advanced countries), poor countries tend to grow faster than advanced countries, and progressively reduces income differential. FDI_{it} is the foreign direct investment for the country i at the time t, and it represents $\frac{n_1}{N}$ in the theoretical model. H_{it} is the stock of human capital for the country i at the time t for i=1 ,……., N, and t=1, ……,T. A_{it} is a set of other control variables known as robust in determining economic growth by influential studies such as Levine and Renelt (1992). μ_i is country-specific effects , ε_{it} is a well-behaved error term , and α_0 is the constant term.

Model (4-12) has some limitations: it assumes that the effect of FDI on economic growth is constant and homogenous across countries. This assumption is unrealistic as the theoretical model suggests that the effect of FDI on economic growth is also affected by the level of human capital stock in the host country[14]. The predominant message from the recent FDI-growth literature is that the effect of FDI on economic growth may be determined by domestic factors

[14]To account for the effect of Human capital stock (H) on FDI-growth nexus , Borensztein et al. (1998) use the following linear interaction model: $g = c_0 + c_1 FDI + c_2 FDI \times H + c_3 H + c_4 Y_0 + c_5 A$. Due to the limitations of the linear interaction model, we deviate from this approach to adopt an improved methodology.

such as the human capital stock, financial and institutional development, trade policy, and macroeconomic stability, among others. As these domestic factors can improve or deteriorate over time according to the country, the impact of FDI on economic growth seems to vary with time and across countries.

In line with our theoretical framework and the recent literature, we modify equation (4-12) to account, not only for the role of domestic factors in the FDI- growth nexus but also to control for the cross country heterogeneity and time variability issues. The suitable model for this exercise is the Panel Smooth Transition Regression (PSTR) model propounded by Gonzalez et al. (2005). The PSTR model allows the FDI-growth coefficient to be country and time-varying; it provides a parametric approach of the cross-country heterogeneity and the time instability of the FDI-growth coefficients since these parameters change smoothly as a function of a threshold or transition variable.

Following Gonzalez et al. (2005) and Fouquau et al. (2008), if we consider the simplest version of PSTR model, namely a PSTR model with two extreme regimes and one transition function, our linear panel Model (Eq. 4-12) can be transformed into the following nonlinear panel model, which is our main empirical model.

$$g_{it} = \mu_i + \beta_0 \mathrm{Z}_{it} + \beta_1 Z_{it} f(q_{it}\,;\,\gamma, c) + \varepsilon_{it} \quad , \tag{4-13}$$

where g_{it} stands for economic growth and Z_{it} is a vector of explanatory variables which comprises FDI and the other control variables usually used in growth models. μ_i is the country-specific effect, ε_{it} is the error term, and $f(q_{it};\,\gamma, c)$ is the transition function of the threshold variable q_{it}[15]. γ stands for the slope of the transition function $f(.)$; it determines the speed (smoothness) of the transition from one regime to another and c represents the threshold (location) parameter. The transition function $f(.)$ associated with Model (4-13) is postulated in the following logistic function:

$$f(q_{it};\,\gamma, c) = \frac{1}{1+exp[-\gamma(q_{it}-c)]} \quad , \tag{4-14}$$

[15] In Model (4-13), in addition to FDI, all the other explanatory variables are also state- dependent.

where γ is positive ($\gamma > 0$) .The transition function $f(.)$ is continuous and bounded between 0 and 1. c is the threshold (location) parameter. In the first regime, the transition function tends towards 0, and it corresponds to lower values of the transition variable q_{it} In the second regime, the transition function tends towards 1, and it is associated with higher values of the transition variable q_{it}. It is worth mentioning that when $\gamma \to \infty$, the transition function $f(.)$ turns into an indicator function, that is: $f(q_{it};\gamma,c)=1$ if $q_{it} \geq c$, and $f(q_{it};\gamma,c)=0$ if $q_{it} < c$. In contrast, when $\gamma \to 0$, the transition function tends to become constant and the PSTR model amounts to a standard linear panel model with fixed effects. As the transition variable q_{it} increases, the effect of foreign direct investment (FDI) on economic growth (equation 4-13) moves gradually from β_0 in the first regime corresponding to the low level of absorptive capacity to $\beta_0+\beta_1$ in the second regime corresponding to a high level of absorptive capacity. The absorptive capacity features used as transition variables q_{it} in this study are domestic factors such as human capital stock, financial and institutional development, trade policy, and macroeconomic stability. The sensitivity of economic growth to FDI for the country i at the time t is captured as :

$$\frac{\partial g_{it}}{\partial FDI_{it}} = \beta_0 + \beta_1 \times f(q_{it};\ \gamma, c) \qquad (4\text{-}15)$$

As in the probit or logit model, the values of the parameters obtained from the estimation of a PSTR model are not directly interpretable; only their signs are interpretable (Fouquau et al.,2008, p.293). Thus, only the signs of the coefficients will be considered to indicate a positive or negative impact of FDI on economic growth depending on the level of the transition variable q_{it}.

4.1.3. Estimation Methods

In order to investigate thoroughly the link between FDI and economic growth in African countries, we will start by assuming that there is a linear relationship between FDI and economic growth. In other words, we assume that domestic factors do not affect the link between FDI and economic growth in African countries. Thus, we will begin our investigation by estimating a homogenous linear panel model (equation 4-12) using the fixed effects method, and the now popular Generalized Methods of Moments (GMM) as estimation techniques. Both

methods are used together for the purpose of robustness check of our results. In the second step, which is the main focus of this study, we will investigate the role of domestic factors in the link between FDI and economic growth by estimating a Panel Smooth Transition Regression (PSTR) model (equation 4-13).

4.1.3.1. Fixed Effects Regression

In a panel data analysis, as it is the case at hand in this study, there may be an unobserved heterogeneity across countries in the sample, and this issue needs to be controlled by using random effects or fixed effects approach. However, the fixed effects method is usually preferred as an estimation method because the random effects model relies on an important assumption that the country-specific effects are not correlated with the other explanatory variables in the model. This implies that in case such correlation prevails, estimating the model using random effects method leads to bias and inconsistent coefficients whereas the coefficients obtained with the fixed effects method are still unbiased. In other words, the fixed effects (FE) method is the suitable approach if the unobserved country-specific effects are correlated with the explanatory variables. In addition, it is theoretically difficult to justify the crucial assumption underlying the random effects method which is the absence of correlation between the country-specific effects and the explanatory variables. Hausman test is usually performed to guide the choice of the appropriate method between the fixed effects method and random effects method.

4.1.3.2. Generalized Methods of Moments (GMM)

The major concern about the use of the fixed effect method to investigate the link between FDI and economic growth is the potential endogeneity problem. Although the fixed-effects method helps to control the country-specific-effects which may affect FDI and economic growth, there may still be a problem of endogeneity. While FDI can affect economic growth, higher economic growth also can attract more FDI, specially market-seeking FDI. Some authors even claimed that, it is growth that attracts FDI and not the other way round. Many studies have shown that economic growth is a key determinant of FDI inflows. If this is true, results obtained with the fixed-effects method may be biased since it ignores endogeneity. In other words, failure to address such endogeneity and reverse causation problems, the estimated effect of FDI on economic growth may be biased. Thus, as a robustness check of the fixed

effects estimates, we will employ the now popular Generalized Method of Moments(GMM) estimator proposed by Arellano and Bond (1991). This method was extended by Arellano and Bover (1995), and Blundell and Bond (1998). The GMM approach has several advantages such as its ability to control for the country-specific effects and the simultaneity bias caused by some potential endogenous explanatory variables. The GMM version proposed by Arellano and Bond (1991) is known as first-differenced GMM estimator. In this approach, the lagged levels of the regressors are used as instruments. It is valid under the assumptions that (i) the error term is not serially correlated, and (ii) the lag of the explanatory variables are weakly exogenous. This method is able to control for simultaneity bias and country-specific effects. However, its major limitation is that, when the explanatory variables are persistent, the lagged levels of the explanatory variables tend to become weak instruments, and hence may lead to biased estimates (Blundell and Bond, 1998).

An augmented version of this approach, known as system-GMM, was introduced by Arellano and Bover (1995) and Blundell and Bond (1998). It is based on a system of two equations. One with the variables in levels and the other with the variables in differences. The lagged levels of the explanatory variables are used as instruments for the equation with variables in differences, and the lagged differences of the explanatory variables are used as instruments for the equation with variables in levels. The system-GMM approach circumvents the shortcomings associated with the approach proposed by Arellano and Bond (1991), namely, the first-differenced GMM estimator.

It is worth noting that the validity of the GMM estimator is based on the fulfillment of some important conditions. First, there should be no second order serial correlations of the first-differenced residuals (Arellano and Bond, 1991). The Arellano-Bond test for autocorrelation is used to examine this hypothesis. The second condition is that there should be no correlation between the instruments and the error term. In other words, the instruments should be valid. This condition is tested by using the Hansen (1982) J- test of over-identifying restrictions. The J statistic follows a χ^2 distribution with degrees of freedom equal to the degree of overidentification. The non-rejection of the null hypothesis of both tests, namely the Arellano-Bond test for autocorrelation and the Hansen (1982) J- test of over-identifying restrictions indicates that the results obtained are valid. Another issue concerning the GMM method is the

possibility of instruments proliferation. According to Roodman (2009), using too many instruments may lead to biased estimates. One way of dealing with this problem, as suggested by Roodman (2009), is to use the Stata command *"collapse"*. Consequently, we estimate our model by following the recommendation of Roodman.

4.1.3.3. Panel Smooth Transition Regression (PSTR)

As we mentioned earlier, we will employ a PSTR model to examine the role of domestic factors in the link between FDI and economic growth in African countries. We adopt this model because it has more advantages relative to the linear interaction model, and the previous panel threshold regression approaches. It allows to investigate the role played by the domestic factors (absorptive capacities) in the link between foreign direct investment(FDI) and economic growth in a more convenient and flexible way. According to Gonzalez et al. (2005), Fouquau et al. (2008), the estimation of the PSTR model follows a three-step procedure. The first step is the linearity test. In our case here, the linearity test consists of testing if the relationship between FDI and economic growth can be captured by a homogeneous linear panel model or by a PSTR model (heterogeneous nonlinear panel model). This first step, known also as the specification stage, allows to determine whether a PSTR model is appropriate to examine the impact of FDI on economic growth in African countries. Thus, the null hypothesis of linear model ($H_0 : \gamma = 0$ or $H_0 : \beta_1 = 0$ in Model 4-13 specified earlier) is tested against the alternative hypothesis H_1 of PSTR model with at least one threshold or two regimes.

However, due to the presence of unidentified nuisance parameters in the PSTR model under the null hypothesis, the associated test is non-standard (Gonzales et al., 2005). To circumvent this identification problem, an auxiliary regression is generated by replacing the transition function $f(q_{it} ; \gamma, c)$ in Model 4-13 by its first-order Taylor expansion around $\gamma = 0$ which is specified as follows:

$$g_{it} = \mu_i + \beta_0^* Z_{it} + \beta_1^* Z_{it} q_{it} + \beta_2^* Z_{it} q_{it}^2 + \ldots + \beta_m^* Z_{it} q_{it}^m + \varepsilon_{it}^* \quad (4\text{-}16)$$

The parameters $\beta_0^*, \ldots, \beta_m^*$ are multiples of γ, and $\mu_{it}^* = \mu_{it} + R_m \beta_1 Z_{it}$ where R_m, represents the remainder of the Taylor expansion. In this case, testing $H_0 : \gamma = 0$ in Model (4-13) is equivalent to testing the null hypothesis $H_0^* = \beta_1^* = \cdots = \beta_m^* = 0$ in Model (4-16).

According to Gonzalez et al. (2005), this linearity test can be carried out using Fischer's version of the Lagrange Multiplier test (Fischer LM test). Overall this test can be performed by using the Fisher LM test, Wald test, and the likelihood ratio test (Colletaz and Hurlin, 2006). Following Colletaz and Hurlin (2006), the statistics of Fischer LM test, the Wald LM test, and the likelihood ratio(LR) tests can be respectively computed as follows:

The Fischer LM test : $$LM_f = \frac{(SSR_0 - SSR_1)/K}{SSR_0/(NT-N-K)} \quad (4\text{-}17)$$

The Wald LM test : $$LM_w = \frac{NT(SSR_0 - SSR_1)}{SSR_0} \quad (4\text{-}18)$$

The likelihood ratio test : $$LR = -2\left[\log(SSR_1) - \log(SSR_0)\right] \quad (4\text{-}19)$$

where SSR_0 denotes the sum of squared residuals under H_0 (linear panel model with individual effects). SSR_1 stands for the sum of squared residuals under H_1 (PSTR model with two regimes). It is worth noting that the Fischer LM test (LM_F) has an approximate $F(K, NT-N-K)$ distribution, where K, N, T represent respectively the number of explanatory variables, the number of countries and the number of years. The Wald and the likelihood ratio tests follow a $\chi^2(K)$ distribution under the null hypothesis.

If linearity is rejected against the PSTR alternative, then the relationship between FDI and economic growth in countries in our sample is nonlinear, and hence, can be captured by a Panel Smooth Transition Regression (PSTR) model. In this case, the second step of the estimation procedure is the test of no remaining nonlinearity which consists of testing whether a PSTR model with one threshold or two regimes is enough to capture the nonlinearity between FDI and growth in the context of African countries. The null hypothesis H_0 is a PSTR model with one threshold or two regimes while the alternative hypothesis H_1 is a PSTR model with at least two thresholds or three regimes. We, therefore, consider the following Model:

$$g_{it} = \mu_i + \beta_0 Z_{it} + \beta_1 Z_{it} g_1(q_{it};\, \gamma_1, c_1) + \beta_2 Z_{it} g_2(q_{it}; \gamma_2, c_2) + \varepsilon_{it} \quad (4\text{-}20)$$

From Model (4-20), the null hypothesis of a PSTR model with two regimes or one transition function is formulated as $H_0 : \gamma_2 = 0$. Here also , there is a problem of identification , and as

before , it is overcome by using a Taylor expansion of $g_2(q_{it};\gamma_2,c_2)$ around $\gamma_2 = 0$. This gives us the following auxiliary regression:

$$g_{it} = \mu_i + \beta_0^* Z_{it} + \beta_1^* Z_{it} g_1(q_{it}\,;\,\gamma_1\,,c_1) + \beta_{21}^* Z_{it} q_{it} + \cdots + \beta_{2m}^* Z_{it} q_{it}^m + \varepsilon_{it}^* \quad (4\text{-}21)$$

The null hypothesis of a PSTR model with two regimes or one transition function ($H_0 : \gamma_2 = 0$) in Model (4-20) is therefore restated as $H_0^* : \beta_{21}^* = \ldots = \beta_{2m}^* = 0$. Similar to the previous step, this test is carried out using the Fischer LM test, the Wald LM test, and the likelihood ratio test. However, the test of no remaining nonlinearity is a sequential procedure, and it is as follows. If the null hypothesis H_0 is accepted, the procedure ends, and we conclude that a PSTR model with one threshold or two regimes captures properly the relationship between FDI and growth we intend to investigate. In contrast, if the null hypothesis H_0 is rejected, we continue the procedure by testing the null hypothesis H_0 of PSTR model with three regimes against a PSTR model with four regimes H_1. The testing procedure continues until we obtain a first acceptance of the null hypothesis H_0. In other words, the testing procedure will continue until the first acceptance of the null hypothesis of no remaining nonlinearity. Once the number of thresholds and the number of regimes are determined, the final step of the PSTR model estimation strategy, is to eliminate the individual effects by removing the country-specific means and then apply the Nonlinear Least Squares (NLS) method to estimate the parameters of the model as suggested by Gonzalez et al. (2005).

While estimating the impact of FDI on economic growth, there may be a problem of endogeneity which may lead to bias estimates as we mentioned earlier. However, Fouquau et al. (2008, p.299) conclude that *"using the PSTR model limits the potential endogeneity bias, because, for each level of threshold variable, there is a particular value of the estimated regression parameter"*. Despite this assurance, we will still mitigate any potential endogeneity problem by using the first lag of FDI (FDI_{it-1}), and hence, the first lag of the threshold variables known as domestic factors which may condition the impact of FDI on economic growth (see, for example, Jude and Levieuge, 2016).

4.1.4. Variables descriptions and data sources

To investigate thoroughly the relationship between foreign direct investment (FDI) and economic growth, we will use an unbalanced panel made up of 26 African countries over the period 1990-2013. The selection of the countries and the study period is based on several reasons. Firstly, the year 1990 is chosen as the starting point of our study because most of the African countries received significant amounts of FDI only from the end of the 1980s following the waves of liberalization and privatization brought by the "Washington Consensus". Secondly, the choice of the study period and the countries is dictated by the availability of data. The period 1990-2013, enables us to gather more observations within each country in our sample. Thirdly, the second main objective of this study is to examine the impact of FDI on income inequality, and income inequality data is not available for many African countries. In the source where income inequality data is extracted, there is no data for African countries after 2013. As we want to examine the impact of FDI on growth and income inequality using the same countries and the same period, 1990-2013 is chosen as the study period. Using the same period of study and the same group of countries to investigate the impact of FDI on economic growth and income inequality can give a better picture of the effect of FDI on African countries. For instance, if we find that FDI promotes growth, we can also see whether FDI has improved or exacerbated income inequality in the same group of countries during the same period (see, for example, Sylwester, 2005; Basu and Guariglia, 2007; Lin et al., 2013).

Averaging the data over three-year periods, four-year periods or five-year periods has recently become a standard practice in the empirical literature concerning economic growth. We follow this practice by averaging our data over three-year periods in order to minimize the potential effects of year-over-year fluctuations(volatility) in the data. We chose three-year periods in order to allow more variation in the data. Thus, based on data availability, there is a maximum of eight (8) observations per country (1990-1992, 1993-1995, 1996-1998, 1999-2001, 2002-2004, 2005-2007, 2008-2010, 2011-2013). Overall, we examine the impact of FDI on economic growth using an unbalanced panel made up of 26 African countries over eight-time periods. All the countries among the top ten destinations for FDI in Africa are in the sample. The list of the countries included in the sample is presented in Table A.1 in the Appendix. The share of the 26 countries selected in the total FDI flows to Africa was 79,5% in 2013 and 83,5% in 2016. Similarly, the share of these countries in the total inward FDI stock

in Africa was 80,2% in 2013 and 79,2% in 2016[16]. This makes our sample more representative to investigate the effects of FDI in Africa. Having justified the selection of the study period and the number of countries in our sample, we turn to the description of the variables selected for the study.

- **The dependent variable**

In the analysis of the impact of FDI on economic growth in African countries, the growth rate of the real GDP per capita is used as a proxy for economic growth. This is a standard practice in the empirical literature. In this study, the growth rate of per capita real GDP is measured as the logarithm difference (log difference) of the real GDP per capita in 2011 US dollar purchasing power parity(PPP). Using the PPP real GDP per capita allows to control for any potential heterogeneity stemming from country-specific price and exchange rate levels (Neuhaus, 2006, p.97). The same approach was followed by Wang (2009), Chen and Quang (2014), Su and Liu (2015), and others. Data on the PPP real GDP per capita for each country is collected from the World Bank database, World Development Indicators (WDI).

- **The explanatory variables**

In the literature, there is no clear-cut list of the variables that should be included in the growth model. According to the aim of the study, various explanatory variables are used in the growth regression literature. However, some influential studies such as Levine and Renelt (1992) have shown that only a few of the large number of explanatory variables used in the literature affect robustly economic growth.

***-Foreign direct investment(FDI)*:**

In this study, our main variable of interest is foreign direct investment (FDI). In the empirical literature, different measures of FDI are used to examine the impact of foreign capital on economic growth. For instance, some studies use FDI inflows, while others use the stock of FDI. FDI inflows are the value of new foreign direct investment flows to a recipient economy in a particular year, while the stock of FDI refers to the total cumulated value of FDI in a host country (see, for example, Alfaro et al.,2004). The preferred measure of FDI in this study is the

[16] Author's calculations using UNCTAD 2017, FDI (current US$) online database.

inward FDI stock as in Nunnenkamp (2004), Ford et al. (2008), Su and Liu (2015) and Chen (2017), among others. The reasons of using the current stock of FDI instead of new FDI flows are as follows: One of the main reasons why developing countries are implementing aggressive policies to attract FDI is its ability to transfer technology to the domestic firms in the host country. As the imitation or learning new technology may take time, the impact of FDI on productivity and economic growth in the host country is not likely to materialize immediately. As the technologies embodied in previous FDI are still important for domestic firms, using FDI stock is better to capture the sustaining effect of foreign capital on economic growth in the host country. Another important reason why FDI stock is the appropriate measure to capture the real impact of FDI on economic growth is that using FDI stock minimizes considerably the problem of endogeneity biases that may be associated with FDI-growth link as higher economic growth may trigger an increase in FDI flows (Nunnenkamp, 2004, p.670). Even the main reason put forward by previous studies that use FDI flows instead of the stock of existing FDI in the host country, is the lack of data regarding FDI stock. Since data regarding FDI stock is available for countries selected in this study, FDI stock as a percentage of GDP is used in this study. The data regarding inward FDI stock (after depreciation) is collected from UNCTAD. Previous empirical studies have reported a positive, negative or neutral effect of FDI on economic growth, thus the expected sign is uncertain.

-Convergence variable (initial income)

According to the convergence hypothesis, lower income countries tend to grow faster than higher income countries and therefore tend to reduce progressively the income differential. In order to control for convergence or catch-up process across countries, we use the logarithm of real GDP per capita lagged one period (initial GDP per capita), measured in 2011 US dollar purchasing power parity(PPP). This approach was used by Chen and Quang (2014), and others. Initial income is among the variables that have a robust link with economic growth according to Levine and Renelt (1992). The relationship between the initial income and economic growth will be negative if the convergence hypothesis holds. The raw data regarding this variable is collected from the World Bank (WDI).

-Domestic investment:

Domestic investment is known to be among the variables that are robustly correlated with economic growth. Many studies have concluded that domestic investment is an important determinant of growth. In the literature, the gross fixed capital formation is used as a proxy for domestic investment. Many existing studies regarding the effects of FDI on economic growth use this approach. We will not follow this approach because FDI is also part of the total capital accumulation in African countries. If we do, the impact of FDI will be captured twice in the regression. To circumvent this problem, we follow Neuhaus (2006) and Wang (2009), and others by removing the FDI component from the gross capital formation. The difference between the gross capital formation and the net FDI inflows is used in this study as the proxy for domestic investment. We expect a positive relationship between domestic investment and economic growth. The raw data used to construct this variable is extracted from the World Bank database (WDI).

-Human capital

Human capital is an important determinant of economic growth in the endogenous growth model (Lucas, 1988). A well-educated workforce allows the domestic firms to adopt the technology brought into the country by foreign firms through FDI activities. In other words, a sufficient level of human capital improves the imitation capabilities of domestic firms. Human capital is known as one of the important domestic factors that condition the impact of FDI on economic growth. In a much-cited paper, Borensztein et al. (1998) find that FDI promotes growth only in countries with a level of human capital stock exceeding a certain minimum threshold. According to Levine and Renelt (1992), human capital is robustly correlated with economic growth. Barro, Mankiw, and Salai-i-Martin (1995) also emphasize on the importance of human capital in growth regression. We, therefore, expect a positive relationship between economic growth and human capital. We equally postulate that a minimum level of human capital stock in African countries is necessary for the positive effect of FDI on economic growth to materialize. The Barro and Lee dataset on secondary schooling is commonly used in the literature as a proxy for human capital. However, this data is not available for many African countries, and the latest year available is 2010. Since this data is not available in recent years, we find another proxy for human capital which is also widely used in the literature. We use the

secondary school enrollment ratios in each country as a measure of human capital stock (see, for example, Zhang, 2001a; Makki and Somwaru, 2004; Wu and Hsu, 2012; Gui-Diby, 2014, among others). It is worth noting that gross secondary school enrollment ratio is defined by UNESCO as the number of students enrolled in the secondary level of education, regardless of age, as a percentage of the population of the official secondary school age. The data regarding human capital is collected from the World Bank (WDI) and the African Development Bank (AfDB) online database.

-Population growth

Population growth is also another variable commonly used in the growth regression. According to the Solow growth model, high population growth leads to lower steady-state income as each worker has less capital to work. In the Solow growth model, high population growth has a negative effect on economic growth. We postulate that population growth affects negatively economic growth, and the data regarding this variable is from the World Bank database (WDI). According to Levine and Renelt (1992), Population growth along with initial income, domestic investment and human capital are the variables that maintain robust correlation with economic growth. In addition to these variables, other variables such as trade openness, institutional and financial development, inflation, and government consumption expenditure are also usually used in growth regression. These variables, including human capital, are also considered in the literature as domestic factors that may condition the impact of FDI on economic growth in the host country.

-Trade openness:

In the standard neoclassical trade theory, trade openness enables countries to specialize in the production of goods that use intensively its relatively abundant factor. This specialization based on comparative advantage brings more efficiency in the production of goods and services, and hence, fosters economic growth. Also, openness to trade enhances knowledge and technology diffusion in the economy by facilitating the imports of capital goods intensive in high technology. According to Bhagwati hypothesis, the gain from FDI in terms of economic growth is greater for countries implementing export-oriented policy than those pursuing import substitution strategy. We, therefore, expect a positive and statistically significant effect of trade openness on economic growth. We also expect trade openness to enhance the growth-effect of

FDI in African countries. As it is commonly done in the literature, the sum of exports and imports as a percentage of GDP ($\frac{X+M}{GDP}\times 100$) is used as a proxy for trade openness. The data is collected from the World Bank.

-Government final consumption expenditure:

Government expenditure is one of the indicators usually used as a measure of internal macroeconomic stability. It is a proxy for fiscal discipline or fiscal policy. This type of government expenditure is believed to be less productive. The financing of this expenditure may create tax distortion in the economy and crowd-out private investment. Although not always statistically significant, government consumption expenditures appear to have a negative correlation with economic growth in many growth regressions (see, for example, Barro, 1990; Akinlo, 2004; Iamsiraroj, 2015). A Higher level of government final consumption expenditures is expected to be harmful to economic growth in African countries. We also expect an increasing level of government expenditures to undermine the growth-enhancing effect of FDI. This variable is measured as a percentage of GDP, and the data is from the World Bank.

-Inflation

Inflation is another indicator of macroeconomic stability. It is usually used as a proxy for monetary policy. High inflation discourages savings by reducing the real return on it. This may cause credit rationing with a negative effect on investment and growth. High inflation is an indicator of high macroeconomic instability which creates uncertainty, discourages private investment, and consequently hinders economic growth. We expect a negative correlation between high inflation and economic growth. We equally postulate that increasing inflation undermines the growth-enhancing effect of FDI. As in Alguacil et al. (2011), Alfaro et al. (2004), and others, inflation is measured in this study as the annual growth rate of the GDP deflator, and it is collected from World Bank.

-Financial development

One or more indicators of financial development are usually used as control variables in growth regressions. The domestic financial system can contribute to economic growth by mobilizing savings and increasing the resources available for investment. It also screens and

monitors investment projects, and consequently increases the efficiency of the projects undertaken in the economy. The higher the level of development of the domestic financial system, the better it can perform the above-mentioned functions and contribute to economic growth (see, for example, Greenwood and Jovanovic, 1990). It is also pointed out by several authors that a positive FDI-growth nexus arises only in countries with a better financial system (see, for example, Hermes and Lensink, 2003; Alfaro et al. 2004).

Finding an accurate indicator representing the level of domestic financial development is not an easy task. In the literature, many indicators are used as a measure of financial sector development. Akinlo (2004), for example, used $M2$ (% of GDP) as an indicator of local financial development. However, Hermes and Lensink (2003), Chen and Quang (2014), and others used the level of credit provided by the financial sector to the private sector as a measure of financial development. Alfaro et al. (2004) used several indicators such as liquid liabilities of the financial system, commercial bank assets as a ratio of total bank assets, credit to the private sector by financial intermediaries, and credit to the private sector by banks. According to Levine et al. (2000), private credit by financial intermediaries to the private sector is a good measure of the level of local financial development because it improves on other existing indicators. They further argue that a higher level of private credit indicates a higher level of financial services, and hence a greater level of financial development. In this study, two indicators are selected as a measure of financial development. These variables are the liquid liabilities of the financial system and the private sector credit as a percentage of GDP. The choice is based on existing literature and data availability. With the exception of South Africa, data regarding many indicators of financial development used in the literature are not sufficiently available for many African countries.

Liquid liabilities of the financial system is the broadest measure of financial intermediation. It is calculated as currency plus demand and interest-bearing liabilities of banks and nonfinancial intermediaries divided by GDP. It involves three types of financial institutions, namely, the central bank, deposit money banks, and other financial institutions. Therefore, this indicator provides a measure for the overall size of the financial sector without distinguishing between different financial institutions. The second measure of financial deepening is private credit. It is calculated as the ratio of the value of credits provided by financial intermediaries to the private sector divided by GDP. It reflects more accurately the

actual volume of funds channeled into the private sector; therefore, this indicator is more directly linked to investment and economic growth. The data is from the Global Financial Development Database (2016). We expect a positive correlation between financial development and economic growth. We equally postulate that sufficiently developed financial system is required for a positive FDI-growth nexus.

-Institutional development

Institutional variables are usually included in growth regression. Recent literature reveals that institutional reforms have a great potential to promote growth (see, for example, Acemolgu et.al, 2005, Adams, 2009). In addition to its direct effect on economic growth, it is argued in the literature that the positive impact of FDI on economic growth arise only in countries with a minimum level of institutional development (see, for example, Durham, 2004; Kose et al., 2009). In this study, we expect a direct positive effect of institutional development on economic growth. We equally expect that well-functioning institutions are required for the growth-enhancing effect of FDI to materialize. We construct a proxy for institutional development using data from the International Country Risk Guide (ICRG) database. ICRG database is a widely used source of institutional data in the literature. This database contains various aspects of institutional quality in a country. In this study, we construct our institutional variable using six political risk components, namely government stability, investment conditions, corruption, democratic accountability, bureaucratic quality, and law and order. A summary of variables descriptions and data source are shown in Table A.2 in the Appendix.

-*Government stability:* this component assesses the government's ability to carry out its declared programme and to stay in office. The risk rating assigned is the sum of three subcomponents: government unity, legislative strength, and popular support. The maximum score assigned to a country is 12 and the minimum score is 0. A score of 12 points means a very low risk while a score of 0 points indicates a high risk.

-*Investment profile*: this component evaluates investment conditions in a country. It assesses the factors affecting the risk to investment that are not covered by other political, economic and financial risk components. The risk rating assigned is the sum of three subcomponents: contract viability/expropriation, profits repatriation, payment delays. The

maximum score assigned to a country is 12 points and the minimum is 0 points. A score of 12 points equates to very low risk and a score of 0 points indicates a very high risk.

-*Corruption*: It is more concerned with actual or potential corruption in the form of demands for special payments and bribes related to import and export licenses, exchange controls, tax assessments, excessive patronage, nepotism, secret party funding, and suspiciously close ties between politics and business. The maximum score attributed to a country is 6 points (very low level of corruption) and the minimum score is 0 points (very high level of corruption).

-*Democratic accountability*: It assesses how responsive government is to its people, assuming that the less responsive it is, the more likely it is that the government will fall, peacefully in a democratic society, but possibly violently in a non-democratic one. The maximum score is 6 points (very high level of democracy) and the minimum score is 0 points (very low level of democracy).

-*Bureaucracy quality:* It assesses the institutional strength and quality of the bureaucracy. High points are given to countries where the bureaucracy is autonomous from political pressure. The score is between 0 points (poor quality of bureaucracy) and 4points (high quality of bureaucracy).

-*Rule of Law / Law and Order:* It assesses the strength and impartiality of the legal system and the popular observance of the law in a country. In other words, it is more concerned with the assessment of the quality of the legal framework in a country. The maximum score is 6 points (well-functioning legal framework) and the minimum score is 0 points (very weak legal system).

We construct a proxy for institutional quality using a composite index made up of the annual sum of the six political risk components presented in Table 4.1. Thus, the index constructed ranges from 0 to 46. Higher values of the index equate to a high level of institutional development or institutional quality while lower values indicate a poor level of institutional development. A similar approach was used by Chen and Quang (2014). In addition to the composite index constructed, each of the components of the aggregate institutional quality indicator is used to assess in more details the role of institutional development in the FDI-growth nexus.

Table 4. 1: Institutional quality index

Political risk components	Minimum points	Maximum points
Government stability	0	12
Investment conditions	0	12
Corruption	0	6
Democratic accountability	0	6
Bureaucracy quality	0	4
Law and order	0	6
Total	**0**	**46**

Source: International Country Risk Guide (ICRG) database

Table 4.2 presents some descriptive statistics of the variables. The average level of FDI stock as a percentage of GDP in our sample is 21.74. The average level of domestic investment is roughly 19% of GDP. The average level of human capital measures as gross secondary school enrolment ratio is 35.82%. The average level of secondary school enrolment ratio is less than 50%. This indicates the lower level of human capital stock in Africa. For instance, Bhorat et al. (2016) report that the median secondary school enrolment in Sub-Saharan Africa is roughly 30 percentage points below that of South Asia, 57 percentage points below that of Western Asia, and around 55 percentage points below the median for the world as a whole. The average level of trade openness measured as the sum of imports and exports is around 62% of GDP. This indicates that African countries are relatively opened to foreign trade. The average level of private sector credit, which is financial development indicator is 22.27% of GDP. This shows that the level of financial development in Africa as a whole is low.

Concerning the institutional development in Africa, the descriptive statistics in Table 4.2 show that the average level of the aggregate institutional indicator is 25.92 points out of a total of 46 points. Looking at the components of this indicator, we can see, for example, that African countries have a very low score in control of corruption. The average level is 2.54 points out of a total of 6 points. This result suggests that the level of corruption in Africa as a whole is high. The levels of bureaucracy quality, democracy, and rule of law are also low in Africa as a whole. All in all, it can be said that institutions are weak in Africa as a whole.

Finally, the results also suggest that the level of macroeconomic instability is high in Africa as a whole. For instance, the average level of inflation measured as the annual growth rate of GDP deflator is 25.4%.

Table 4. 2 : FDI and Growth : Descriptive statistics

Variables	Observations	Mean	Std.dev	Expected signs
Growth[a]	142	0.052	0.081	
FDI	168	21.174	19.465	Uncertain
Domestic investment	168	19.062	6.192	+
Human capital	168	35.828	23.964	+
Population growth	168	2.511	0.828	-
initial income[b]	142	7.759	0.874	-
Trade openness	168	61.909	22.270	+
Inflation rate	168	25.407	144.328	-
Government spending	168	14.825	5.287	-
Private credit	168	22.275	27.830	+
Liquid liabilities	168	29.876	18.060	+
Institutional quality index	168	25.925	4.545	+
Government stability	168	8.362	1.917	+
Democratic accountability	168	3.169	1.041	+
Corruption	168	2.540	0.882	+
Bureaucracy qauality	168	1.499	0.827	+
İnvestment profile	168	7.031	1.814	+
Rule of law / Law and Order	168	3.293	1.092	+

Source: Author's calculations

Note: a. Included as logarithm difference of GDP per capita
b. Included as logarithm of GDP per capita lagged one period

Table 4.3 shows the correlation matrix of the main variables included in the growth model. as expected human capital stock, domestic investment, trade openness, financial and institutional development are positively correlated with economic growth. Similarly, in line with our expectation, population growth, government final consumption expenditure, and inflation are all negatively correlated with economic growth. FDI stock is negatively correlated with economic growth. This suggests that the relationship between FDI and economic growth in Africa might not be linear, it may depend on domestic conditions as suggested by the recent FDI literature. However, it is worth noting that correlation does not mean causation which is the relation in which our study is interested. We will employ rigorous econometric techniques to investigate the link between FDI and economic growth in the context of Africa. The small size of the correlation coefficients between the explanatory variables indicates no risk of multicollinearity.

Table 4. 3: FDI and Growth: Correlation matrix of variables

	Growth	Init. GDP/cap	FDI	Investment	Human capital	Trade	Pop. growth	Gov.spending	Inflation	Private credit	Liquid liab.	Inst. quality
Growth	1.00											
Init. GDP/cap	-0.12	1.00										
FDI	-0.17**	0.32*	1.00									
Investment	0.26*	0.62*	0.24*	1.00								
Human capital	0.17**	0.67*	0.29*	0.48*	1.00							
Trade	0.19*	0.40*	0.64*	0.40*	0.25*	1.00						
Pop. growth	-0.05	-0.59*	-0.18*	-0.30*	-0.58*	-0.17*	1.00					
Gov.spending	-0.11	0.33*	0.32*	0.31*	0.20*	0.48*	-0.11	1.00				
Inflation	-0.06	0.01	0.14**	0.12	-0.09*	0.34*	0.03	0.33*	1.00			
Private credit	0.07	0.60*	0.25*	0.22**	0.70*	0.06	-0.44*	0.25*	-0.07	1.00		
Liquid liab.	0.13	0.63*	0.18**	0.31*	0.70*	0.05	-0.49*	0.10	-0.08	0.56*	1.00	
Inst. quality	0.33*	0.31*	0.19**	0.26*	0.44*	0.21*	-0.13*	0.30*	-0.08	0.37*	0.34*	1.00

Source: Author's calculations

****** and ***** denote respectively the significance levels at 1% and 5% level

4.1.5. Empirical Results and Discussions

This subsection presents and discusses the empirical results regarding the relationship between FDI and economic growth. We first assume that the relationship between FDI and economic growth is linear. Thus, we estimate a linear panel model using fixed effect and GMM estimators.

4.1.5.1. FDI and Economic Growth: Fixed Effects and GMM Estimates

To verify the suitability of fixed effects (FE) regression over the random effects model, we perform the Hausman (1978) specification test. Table 4.4 shows the results of the Hausman specification test. Model 1 includes FDI and other control variables such as the initial income, domestic investment, population growth, human capital, trade openness, government consumption expenditure, and inflation. In model 2, we control for financial and institutional development. As it is clearly shown in Table 4.4, the Hausman test rejects the random effects model(RE) at 1% level of significance (P-value = 0.0000). In order words, the Hausman test suggests the use of fixed effects (FE) regression.

Table 4. 4: FDI and Growth: Hausman specification test

	Model 1	**Model 2**
Hausman test	Chi-square(χ^2) = 34.90 P.value = 0.0000	Chi-square(χ^2) = 37.43 P.value = 0.0000

Source: Author's elaboration.

Table 4.5 reports the results from both fixed effects and GMM regressions. We use System-GMM estimator because, in our sample, tests on instruments validity perform better using System-GMM rather than Difference-GMM approach. As shown in Table 4.5, the P-values associated with the Hansen test of over-identifying restrictions and the Arellano–Bond test for second-order autocorrelation are all higher than 5% or 10%. In other words, the null hypothesis of the valid specification and the null hypothesis of no second-order autocorrelation cannot be rejected. Failure to reject the null hypothesis of the Hansen test and the null hypothesis of Arellano–Bond test for second-order autocorrelation reveals the validity of the GMM estimates.

Table 4. 5: FDI and Growth: Fixed-Effects and GMM estimations

	Fıxed Effects		System-GMM	
	Model 1	**Model 2**	**Model 1**	**Model 2**
FDI	-0.0016** (-2.07)	-0.0017** (-2.13)	-0.0018** (-2.39)	-0.0016* (-1.89)
Initial income	-0.309*** (-2.85)	-0.288** (-2.55)	-0.375*** (-3.34)	-0.274** (-2.00)
Domestic investment	0.0033** (2.17)	0.0029** (2.00)	0.0034* (1.75)	0.0035** (2.11)
Human capital	0.006*** (3.69)	0.0051** (2.62)	0.0057** (2.59)	0.0035** (2.11)
Population growth	-0.010 (-0.71)	-0.0066 (-0.59)	-0.0170 (-0.68)	-0.015 (-0.77)
Trade openness	0.0026** (2.75)	0.0024** (2.49)	0.0043*** (3.76)	0.0040*** (3.01)
Government spending	-0.0043 (-1.10)	-0.0044 (-1.04)	-0.0022 (-0.42)	-0.0053 (-1.06)
Inflation	-0.0011*** (-3.93)	-0.001*** (-3.72)	-0.0013*** (-3.37)	-0.0013*** (-3.93)
Financial development		0.0014 (1.06)		0.0015* (2.85)
Institutional quality		0.004 (1.04)		0.0065* (1.76)
Constant	1.986** (2.68)	1.740** (2.15)	2.422** (2.38)	1.755** (2.55)
R-squared	0.462	0.488		
AR(2) test (p-value)			0.137	0.309
Hansen test(p-value)			0.339	0.647
Observations	142	142	142	142

Source: Author's estimations.

Note: t-statistics based on robust standard errors are in parentheses. ***; **; * indicate respectively the significance levels at 1%, 5%, and 10%.

In cross-country regressions, what is important is the signs of the variables and whether they are significant or not (Srinivasan, 1995; Maddala and Wu, 2000, p.641). Thus, we focus on the interpretation of the signs of the coefficient estimates to indicate the positive or negative impact on economic growth. As expected, the initial income has a negative and statistically significant effect on economic growth both in fixed effects and GMM regression. This finding confirms the conditional convergence hypothesis in our sample. According to this hypothesis, countries with an initial lower level of GDP per capita tend to grow faster than countries with higher initial GDP per capita. In other words, poor countries tend to grow faster than advanced countries. This finding is in line with Levine and Renelt (1992). In line with our expectation, domestic investment has a positive and statistically significant impact on economic growth in African countries both in fixed effects and GMM regressions. Physical capital investment is an important variable in growth models. For instance, the augmented Solow growth model highlights that physical capital investment is an important factor in economic growth. Our finding is in line with Barro and Sala-i-Martin (2004). Also, in the specific context of Africa, previous studies such as Adams (2009), report a positive and statistically significant effect of domestic investment on economic growth.

Consistent with Mankiw et al. (1992), human capital stock measured as gross secondary school enrollment ratio, affects positively and significantly economic growth in African countries both in fixed effects and GMM estimates. In the endogenous growth model, human capital is one of the key elements of long-run economic growth. A well-educated labor force improves the overall productivity level in the economy. In addition, a country with a high stock of human capital is likely to develop superior technologies that ultimately improve productivity and growth. Our results suggest that African countries can significantly improve their economic growth by investing more in education.

The findings show that high population growth is negatively correlated with economic growth although statistically not significant both in fixed effects and GMM regression. As predicted by the Solow growth model, overpopulation tends to undermine economic growth. According to Levine and Renelt (1992), population growth is among the variables that are robustly correlated with economic growth. The statistically non-significant effect of population growth on economic growth found in this study may be explained by the poor quality of data on population size in African countries. Due to the poor civil registration system in many

African countries, the estimation of the size of the population is often based on non-exhaustive data (Gui-Diby, 2014, p.15). A negative and statistically insignificant effect of population size on economic growth was found in a panel of 50 African countries by Gui-Diby (2014).

The coefficient of trade openness is positive and statistically significant at 5% level in the fixed effects regression and 1% level in the GMM regression. This finding indicates that openness to foreign trade promotes growth in African countries. In other words, African countries might gain in terms of economic growth if they adopt a more liberalized trade policy regime. This finding is consistent with the standard neoclassical trade theory and the endogenous growth theory. According to the neoclassical approach, trade openness promotes growth by improving efficiency as countries specialize in the production of goods that use intensively their abundant production factor. Regarding the endogenous growth theory, openness to foreign trade enhances economic growth by promoting technological diffusion between countries. In the context of Africa, the results found in this study are in line with Adams and Osei-Pokou (2015), and Sakyi et al. (2014).

As expected the results show a negative effect of government final consumption expenditure on economic growth, however, it is statistically insignificant both in fixed effects and GMM regression. This finding is in line with Barro (1990), Akinlo (2004) and Gui-Diby (2014). Since the coefficient of government final consumption expenditure is not statistically significant, a firm statement cannot be made concerning the impact of this variable on economic growth in African countries. However, we can speculate that government final consumption expenditure is likely to be harmful to economic growth in Africa. The absence of strong institutions in many African countries makes the government final consumption expenditure more opaque and highly biased towards non-productive and unnecessary expenditures. This, in turn, can undermine economic growth as the funding of this expenditure may create tax distortion in the economy and crowd-out private investment and consumption.

In line with our expectation, inflation has a negative and statistically significant effect on economic growth. The coefficient of inflation variable is highly significant (1% level) in all the regressions (fixed effects and GMM). This finding implies that high macroeconomic instability undermines economic growth in African countries by increasing uncertainty and

deteriorating the business climate. This empirical outcome is in line with the results found by Omri and Kahouli (2014), and Alguacil et al. (2011).

The coefficient of the institutional quality variable is positive as expected in all the regressions, however, it is statistically significant only in the GMM regressions. This is not surprising since the institutional development variable is endogenous in growth regression and this endogeneity cannot be properly handled by the fixed effects regression. The results, therefore, suggest that the non-significance of the institutional variable in the fixed effects regression is due to the endogeneity problem which is adequately controlled for when GMM estimation technique is employed. Our finding reveals that strong institutions are likely to promote economic growth in Africa. In other words, institutional reforms aimed at improving democracy, the rule of law, property rights protection, political stability, and corruption, among others will result in higher economic growth in African countries. The results found in this study regarding institutional development and economic growth are consistent with Acemoglu and Johnson (2005), Adams (2009) and Alguacil et al. (2011).

The financial development variable measured as the private credit (% of GDP), appears with a positive coefficient in all the regressions as expected. However, as in the case of the institutional variable, the coefficient of financial development variable is statistically significant only in the GMM regression. This is understandable as financial development seems to be endogenous in growth regression. Higher economic growth is likely to improve the efficiency of the local financial markets (Alfaro et al.,2004, p.103). Such probable reverse causality might not be properly addressed by the fixed effect regression while it is adequately handled by the GMM approach. Overall, our results show that financial development promotes growth in African countries. A well-functioning domestic financial market is able to channel efficiently domestic credit to the productive sectors in the economy and ultimately stimulate investment and growth. This finding is consistent with Levine et al. (2000).

Regarding the link between FDI and economic growth, which is the main focus of our study, the results indicate an overwhelmingly negative and statistically significant effect of FDI on economic growth. This finding is robust to all the specifications and estimation methods (Table 4.5). As sustained by Nunnenkamp (2004, p.670), using FDI stock has minimized the potential endogeneity issue that may affect the FDI-growth nexus as FDI has a negative and

statistically significant impact on economic growth irrespective of the estimation methods (fixed effects and GMM). According to our findings, FDI does not promote economic growth in African countries. Even though the results are mixed in the literature, we were expecting FDI to have a positive direct effect on economic growth in Africa. We disappointedly found a negative impact of FDI on economic growth. Although deceptive, this outcome is consistent with the dependency theory and some other existing empirical studies. For instance, in the context of Africa, Agbloyor et al. (2014) find that FDI has a negative direct effect on economic growth in African countries over the period 1990-2007. In the same vein, Gui-Diby (2014) reports a negative direct impact of FDI on economic growth in the context of African countries over the period 1980-1994. Asamoah et al. (2019) find similar results for the case of 32 Sub-Saharan African countries. In the context of developing countries, Herzer et al. (2008) and Dutt (1997) find a negative effect of FDI on economic growth. Overall, our finding is consistent with Dutt (1997), Herzer et al. (2008), Agbloyor et al. (2014), and Asamoah et al. (2019), among others though most of them used FDI flows instead of FDI stock as in our study[17].

The negative effect of FDI on economic growth in African countries may be explained by several reasons: (i) Although FDI flows to Africa is now diversifying into service and manufacturing sectors, the large share of FDI flows to Africa still go into the extractive sectors. This type of FDI is believed to have a very few linkages with other sectors of the economy. In addition, the huge profit obtained by foreign investors in the mining sectors is generally repatriated instead of re-investing in Africa. Alfaro (2003) finds that the primary sector FDI has a negative effect on economic growth. (ii) Another important reason is the possible crowding out effect of FDI on domestic investment in Africa. The presence of the Transnational Corporations in Africa may generate though competition in the domestic market and squeeze some local firms out of the market. Foreign entrants can also increase the credit constraints of domestic firms as domestic banks prefer to do business with foreign companies than domestic firms in many African countries (Harrison and McMillan, 2003). These financial constraints may drag the domestic firms out of the market, and consequently undermine economic growth. Agosin and Mayer (2000) report that FDI crowd in domestic investment in Asia while, in general, crowding out effect is the norm in Latin America and Africa. Similarly, Adams (2009)

[17] As robustness check, we used FDI flows, the results are qualitatively similar. FDI affects negatively economic growth.

finds a net crowding out effect of FDI on domestic investment in Sub-Saharan African countries. (iii) Another plausible explanation of the negative relationship between FDI and economic growth found in the linear panel model is that the positive impact of FDI on economic growth in Africa may depend on certain domestic conditions. In other words, the relationship between FDI and economic growth in African countries might not be linear, it might depend on the level of certain domestic factors. Borensztein et al. (1998) and Durham (2004), among others, argue that the negative effect of FDI on economic growth is due to the insufficient level of absorptive capacity in the recipient economy. In other words, most of the African countries might not satisfy the necessary domestic conditions in order to benefit from FDI. Thus, in the next sub-section, we examine the conditions under which FDI may promote economic growth in African countries by estimating a Panel Smooth Transition Regression model (PSTR).

4.1.5.2. FDI and Growth: Panel Smooth Transition Regression Estimates

The predominant message from the recent FDI literature is that the growth-enhancing effect of FDI is not automatic, it can be materialized only if certain domestic conditions are satisfied. Domestic factors such as institutional development, local financial development, human capital, trade policy, and macroeconomic stability among others are believed to determine the effect of FDI on economic growth. In sum, the relationship between FDI and economic might not be linear. The estimation of the PSTR model follows a three-step procedure. Table 4.6 contains the results of the first step which consists of verifying if the relationship between FDI and economic growth in African countries can be captured by a linear panel model or by a PSTR model (nonlinear panel model). We consider each domestic factor as a threshold variable or transition variable in the PSTR model. The linearity test is conducted by using three main tests, namely the Wald (LM) test, Fisher(LM_F) test, and the likelihood ratio (LRT) test.

When institutional quality variable is used as a threshold variable, the null hypothesis(H_0) that a homogeneous linear panel model is suitable to investigate the link between FDI and economic growth in African countries is highly rejected at 1% level of significance by the LM test, LM_F test, and the LRT test (Table 4.6). In order words, a PSTR model with at least one threshold is accepted (H_1). This reveals that the impact of FDI on economic growth in Africa is affected by the level of institutional development.

Table 4. 6: FDI and Growth: Linearity test

Threshold variable	Wald (LM) test		Fisher (LM_F) test		LRT Test	
	Statistic	P-value	Statistic	P-value	Statistic	P-value
Institutional quality	37.652	0.000	3.811	0.000	42.429	0.000
Credit in private sector	18.264	0.006	3.776	0.001	19.926	0.004
Liquid liabilities	34.452	0.000	3.407	0.001	38.367	0.000
Human capital	18.381	0.010	2.382	0.025	19.414	0.007
Trade openness	15.241	0.124	1.325	0.223	15.950	0.101
Government expenditure	17.598	0.062	1.553	0.127	18.553	0.046
Inflation	15.834	0.104	1.381	0.195	16.601	0.084

H_0: Linear panel model **H_1:** PSTR model with at least one threshold.

We consider another domestic factor as a threshold variable, namely the local financial development. Two indicators (credit in the private sector and the liquid liabilities of the financial system) are used to capture the level of development of the domestic financial markets. Again the null hypothesis of linear panel model is highly rejected at 1% level of significance by all the three tests. In other words, the impact of FDI on economic growth in Africa depends on the level of development of the local financial system. We test also if human capital stock exerts a nonlinear effect on the link between FDI and growth. The null hypothesis of homogeneous linear panel model is rejected at 1% level of significance by the Wald (LM) test and the LRT test, and 5% level of significance by the Fisher (LM_F) test. The impact of FDI on economic growth is therefore conditional on the level of human capital stock in African countries.

The null hypothesis of homogeneous linear panel model is accepted by all the three tests when trade openness is used as a threshold variable (Table 4.6). This reveals that the impact of FDI on economic growth in countries in our sample is independent of the level of trade openness. This is in contrast to our expectation. According to Bhagwati (1978), countries that pursue outward-oriented trade policy benefit more from FDI in terms of economic growth than countries that pursue import-substituting strategy. However, our finding is not inconsistent with some previous studies. Using a threshold regression approach, Chen and Quang (2014) report that trade policy is not among the main domestic factors that condition the impact of

international financial integration on economic growth. Bhagwati hypothesis was also rejected by the findings of Nobakht and Madani (2014).

We consider another domestic factor, namely macroeconomic stability. Government expenditure and inflation are used as a proxy for macroeconomic stability. While the null hypothesis of linear panel model is weakly rejected at 10% level of significance by the Wald test and the LRT test for inflation and government expenditure, the Fisher(LM_F) test which has better size property in small samples like ours, strongly accept the null hypothesis of linear panel model both for inflation and government expenditure. We, therefore, conclude that the impact of FDI on economic growth in the countries in our sample is independent of the level of government expenditure and the level of inflation. All in all, the linearity test has shown that local financial development, institutional quality, and human capital stock exert a nonlinear effect on the link between FDI and economic growth in African countries[18]. In other words, the link between FDI and growth can be captured adequately by a PSTR model with at least one threshold or two regimes.

The second step is to identify the number of threshold or the number of regimes in the PSTR model. This is done by performing the test of no remaining non-linearity. The null hypothesis(H_0) of the test is that a PSTR model with one threshold or two regimes is suitable to capture the link between FDI and economic growth while the alternative hypothesis (H_1) is that a PSTR model with at least two thresholds or three regimes is suitable. From the results presented in Table 4.7, we can clearly observe that the null hypothesis (H_0) cannot be rejected regardless of the type of the test and the threshold variable used. This indicates that a Panel Smooth Transition Regression(PSTR) model with one threshold or two regimes is suitable to capture properly the nonlinear relationship between FDI and economic growth in the countries included in the sample.

[18] Due to data constraints, we could not test whether the impact of FDI on economic growth is conditional on the level of infrastructure development in African countries.

Table 4. 7: FDI and Growth: Test of no remaining non-linearity

(Test for the number of regimes)

Threshold variable	Wald Test		Fisher test		LRT Test	
	Statistic	P-value	Statistic	P-value	Statistic	P-value
Institutional quality	7.530	0.675	0.534	0.863	7.697	0.658
Credit in private sector	9.551	0.388	0.781	0.634	9.824	0.365
Liquid liabilities	5.533	0.853	0.389	0.950	5.623	0.846
Human capital	15.325	0.320	1.758	0.101	16.034	0.250

H_0: PSTR model with one threshold (two regimes) **H_1**: PSTR model with at least two thresholds (at least three regimes).

Having identified the number of regimes or threshold, the next and last step of the estimation procedure is to apply the Nonlinear Least Squares (NLS) to estimate the parameters of the retained PSTR model as suggested by Gonzalez et al. (2005). Although using FDI stock and the PSTR model minimizes considerably endogeneity issue associated with the link between FDI and growth, we eliminate any doubt of endogeneity bias by using the first lag of FDI, and hence, the first lag of each threshold variables as in Jude and Levieuge (2016). It is worth mentioning that the results from the estimation of a linear panel model in the previous section indicate that the threshold variables retained for the PSTR model, namely institutional quality, financial development, and human capital stock, have also a direct effect on economic growth. Therefore, in all the tests and estimations done in this sub-section, these variables are used as threshold variables and also as additional explanatory variables. Failure to do so may lead to erroneous switching (Fouquau et al., 2008, p.291).

Table 4.8 shows the results obtained from the estimation of the PSTR model with one threshold or two regimes using institutional development or institutional quality index as a threshold variable. We focus on the impact of FDI on economic growth as the impact of the other explanatory (control) variables on economic growth are already presented in the previous sub-section. In addition, as these variables are regime-dependent in the PSTR model, they are not much interesting. A very interesting finding concerning the impact of FDI on economic growth in African countries appears from the estimation of the PSTR model using institutional development index as a threshold variable.

Table 4. 8: FDI and Growth: Institutional quality threshold

	Regime of low institutional quality ($\boldsymbol{\beta_0}$)	Regime of high institutional quality ($\boldsymbol{\beta_1}$)
FDI	-0.0034***	0.0052***
	(-3.06)	(3.47)
Initial income	-0.350***	-0.037**
	(-5.02)	(-2.41)
Domestic investment	0.0036*	0.0017**
	(1.89)	(1.97)
Human capital	0.0057***	0.0041***
	(4.90)	(3.50)
Population growth	-0.0038	-0.0524**
	(-0.26)	(-2.09)
Trade openness	0.0012**	0.0011**
	(2.49)	(2.06)
Government spending	-0.0085***	0.0115***
	(-2.92)	(3.76)
Inflation	0.001***	-0.0055***
	(4.28)	(-4.45)
Financial development	0.0029**	-0.0026*
	(2.23)	(-1.92)
Institutional quality	0.0098**	0.0071*
	(2.01)	(1.76)
Threshold (c)	24.78	
Slope parameter (γ)	1.095	
Number of countries	26	

Source: Author's estimations.

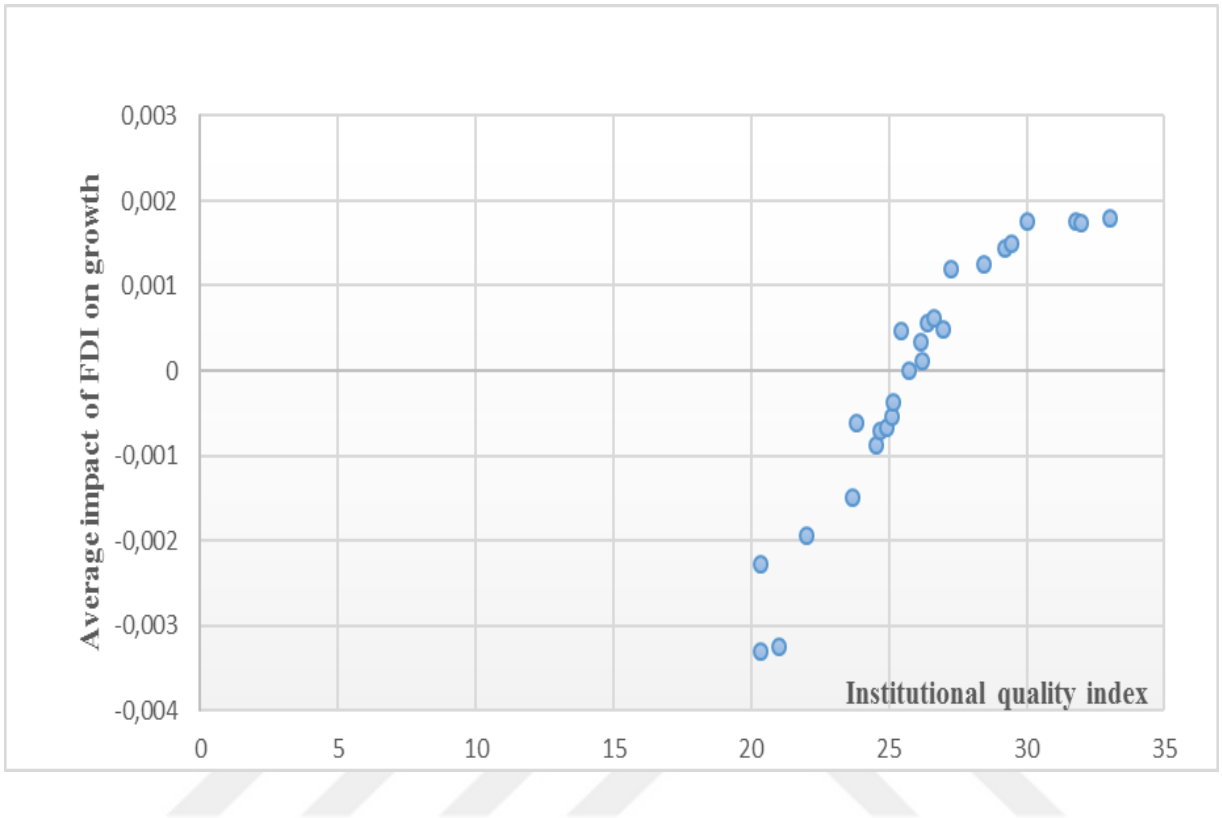
Note: t-statistics based on standard errors corrected for heteroskedasticity are in parentheses. ***; **; * indicate respectively the significance, levels at 1%, 5%, and 10%. γ is the speed of adjustment from the first regime to the second regime. The institutional quality index ranges from 0 to 46. The first regime is a low- institutional-development regime and the second regime is a high-institutional development regime.

The impact of FDI on economic growth is negative and statistically significant at 1% level in the regime of low institutional quality (ß$_0$). However, this negative effect is transformed into a positive and statistically significant effect as the economy moves from a regime of poor quality of institutions to a regime of better level of institutional quality. In other words, the

impact of FDI on growth is positive and statistically significant at 1% level in the regime of high institutional quality ($ß_1$). The institutional quality index ranges from 0 to 46 in the case of this study and the estimated threshold of the institutional quality index is 24.78. This implies that countries in which the institutional quality level is below the estimated threshold, FDI does not promote economic growth; it undermines economic growth. However, countries in which the level of institutional development is above the threshold, FDI contributes to economic growth. The slope parameter (γ) which indicates the speed of adjustment from the regime of weak institutional quality to the regime of high institutional quality is 1.095. The slope parameter is relatively small and indicates that the transition from the lower regime to the upper regime is quite smooth and gradual.

The negative effect of FDI on economic growth is mitigated by the presence of strong institutions in the host country. Thus, an important message from these results is that the impact of FDI on economic growth is not homogenous across African countries. While FDI stimulates economic growth in some countries, it might be harmful to economic growth in other countries depending on their level of institutional development (see, Figure 4.1). In other words, the growth-enhancing effect of FDI is materialized in African countries that have reached a certain optimal level of institutional development. In the sample, 14 out of 26 (or 53 percent) countries satisfy this threshold value of institutional quality in 2013. These results indicate that, studies that investigate the impact of FDI on economic growth across countries by estimating only a homogeneous linear panel model may lead to a serious misleading conclusion. Our findings are qualitatively in line with Chen and Quang (2014), Slesman et al. (2015), and Jude and Levieuge (2016), among others.

Figure 4. 1: Average estimated impact of FDI on growth across countries conditional on the level of institutional development



**Note*: For each country, the observation represents the average estimated impact of FDI over the total period under consideration against the corresponding average level of institutional development index.

After investigating the effect of aggregated institutional quality on the FDI-growth relationship, we go deeper into our analysis by focusing on each of the indicators used to construct the aggregated institutional quality index. These institutional quality indicators are government stability index, Rule of law index (Law and Order), democracy index, bureaucracy quality index, investment profile index, and corruption index. We use sequentially each of these indicators as a threshold variable to examine how they define the association between FDI and economic growth and the results are summarized in Table 4.9.

Table 4. 9: FDI and Growth: Thresholds of institutional quality components

Variable	Government Stability		Law and Order		Democracy		Bureaucracy Quality		Investment profile		Corruption	
	$ß_0$	$ß_1$	$ß_0$	$ß_1$	$ß_0$	$ß_1$	$ß_0$	$ß_1$	$ß_0$	$ß_1$	$ß_0$	$ß_1$
FDI	-0.009** (-2.10)	0.010** (1.99)	-0.063*** (-5.52)	0.073*** (5.79)	-0.004** (-2.06)	0.014*** (4.32)	-0.025** (-2.43)	0.032** (2.65)	-0.001 (-1.15)	0.002* (1.65)	-0.007*** (-4.53)	0.006*** (3.50)
Threshold	8.99		1.98		3.04		0.93		6.61		1.48	
Slope(γ)	146.40		151.45		21.70		24.82		3.06		148.51	
LM_{F1} (P-value)	0.003		0.000		0.003		0.002		0.000		0.080	
LM_{F2} (P-value)	0.480		0.616		0.620		0.422		0.518		0.680	

Source: Author's estimations.

Note: t-statistics based on standard errors corrected for heteroskedasticity are in parentheses *, **, *** display the significance levels at 10%, 5%, and 1% respectively. LM_{F1} Represents the Fischer test of linearity while LM_{F2} stands for Fischer test of no remaining non-linearity. Government stability index ranges from 0 to 12 points. Law and order index ranges from 0 to 6 points. Law and order index ranges from 0 to 6 points. Democratic accountability index ranges from 0 to 6 points. Bureaucracy quality index ranges from 0 to 4 points. Investment profile index ranges from 0 to 12 points, and corruption index ranges from 0 to 6 points.

LM_{F1} represents the Fisher test of linearity while LM_{F2} stands for Fisher test of no remaining non-linearity. The null hypothesis of homogeneous linear panel is rejected by the Fisher test of linearity(LM_{F1}) at 1% level of significance for all the institutional variables except for the corruption index where the null hypothesis of linearity is rejected at 10% level of significance. The Fisher test (LM_{F2}) of no remaining non-linearity cannot reject the null hypothesis of a PSTR model with one threshold or two regimes for each institutional variable.

The government stability index ranges from 0 to 12, and the threshold obtained is 8.99. As shown in Table 4.9, FDI has a negative and statistically significant effect on economic growth when the government stability index is below 8.99. This negative effect becomes positive and statistically significant when the government stability level is beyond the threshold. In other words, only countries with lower political risk can reap the positive spillover effects of FDI in terms of economic growth. The higher stability of the government reduces political risks and thus allows investors to have a guarantee on the viability of their investment projects. However, in countries with high political instability, investors are exposed to high risks such as changes in laws or agreements. This discourages the required investments by the local firms to exploit the technology spillovers from the Transnational Corporations. The slope parameter (γ) which is the speed of adjustment from a regime of lower political stability (high political instability) to a regime of higher political stability is relatively high (146.40). This means that any effort aimed at improving the political stability by a country just below the threshold value of 8.99, will quickly lead to a positive effect of FDI on economic growth. Our finding is consistent with Brahim and Rachdi (2014), and Trojette (2016).

When the legal system index (Law and Order) is used as a threshold variable, the results show that FDI promotes growth in countries with a strong legal system. In contrast, in countries with a poor legal framework, FDI is harmful to economic growth. The Law and Order index ranges from 0 to 6, and the threshold found in this study is 1.98. This finding is in line with Jude and Levieuge (2016) who found a threshold of 2.09 for a panel of 93 developing countries. The slope parameter (γ) which is the speed of adjustment from a regime of weak legal system to a regime of strong legal system is relatively high (151.45). This means that any effort aimed at improving the legal framework by a country just below the threshold value of 1.98, will quickly lead to a positive benefit from FDI in terms of economic growth. Better quality of the

legal system is a guarantee for both foreign and domestic investors as it favors the enforcement of contracts. This creates a conducive environment for the growth-enhancing effect of FDI to materialize. However, the benefits of FDI in a country with a weak legal system is highly limited. For instance, in countries where property rights are not sufficiently protected, foreign investment goes generally into sectors where it is possible to earn money easily in the short term, rather than focusing on R & D activities with potential positive spillover effects for the host economy. According to Javorcik (2004), in countries where intellectual property rights are not well protected, multinationals are reluctant to invest in technology-intensive sectors because they fear that their patents will be stolen and their products imitated.

The results presented in Table 4.9 show that the impact of FDI on economic growth in African countries depends also on their level of democracy. The democratic accountability index ranges from 0 to 6, and the threshold found is 3.04. FDI impacts negatively on economic growth when the level of democracy is below the threshold. However, this negative effect is transformed into a positive effect when the level of democracy is above the threshold. The slope parameter (γ) which is the speed of adjustment from a regime of low level of democracy to a regime of high level of democracy is relatively small (21.70). This means that the transition from one regime to another is smooth and slow. In sum, democracy appears to be an important domestic factor that modulates the impact of FDI on economic growth in African countries. This outcome is in line with Jude and Levieuge (2016) who found a threshold level of 4.08 for 93 developing countries. Democratic institutions, by limiting arbitrary government intervention, lower the risk of policy reversal, strengthen property rights protection, and ultimately enhance the positive spillover effects of FDI.

The quality of bureaucracy affects the impact of FDI on economic growth in Africa. FDI does not promote growth in countries with poor quality of bureaucracy. The results show that, in these countries, the impact of FDI on economic growth is even negative and statistically significant. However, in countries with a better quality of bureaucracy, FDI has a positive and statistically significant effect on economic growth (Table 4.9). The bureaucracy quality index ranges from 0 to 4, and the threshold found in this study is 0.93. This means that FDI promotes growth, only when the level of bureaucracy quality index is above 0.93 in countries in our sample. The slope parameter (γ) which is the speed of adjustment from a regime of low quality

of bureaucracy to a regime of high quality of bureaucracy is relatively small (24.82), and indicates the smoothness of the movement from the lower regime to the upper regime. This finding is consistent with Jude and Levieuge (2016) who report a threshold of 0.69 for the case of 93 developing countries. Many bureaucratic or administrative procedures regarding the set-up of business are time and resource-consuming. This unfavorable doing business climate may prevent the FDI flows from being reallocated to the most productive sectors (Busse and Groizard, 2008, p.863).

Investment profile index evaluates investment conditions in a country. It assesses the factors affecting the risks to investment that are not covered by other political, economic and financial risk components. Our results show that investment profile or investment conditions affect the impact of FDI on economic growth in African countries. Investment profile index range from 0 to 12 and the threshold found is 6.61. The results show that below this threshold, FDI has a negative effect on economic growth but statistically insignificant. However, when the level of investment profile is above the threshold, the impact of FDI on growth is positive and statistically significant. The slope parameter (γ) which is the speed of adjustment from a regime of poor investment regime to a regime of better investment profile is small (3.06), and indicates that the transition from the lower regime to the upper regime is quite smooth and slow. Jude and Levieuge (2016) found similar results in a panel of 93 developing countries. However, the threshold level found in their study is 4.77. This difference in the threshold level provides additional justification for a study exclusively devoted to Africa. Results from other regions should not be blindly applied to the context of Africa.

Our results indicate that FDI is harmful to economic growth in countries with a high level of corruption. The corruption index ranges from 0 to 6, and the threshold found is 1.48. FDI has a negative and statistically significant impact on economic growth in countries where the level of corruption is below 1.48 (high level of corruption). In contrast, FDI has a positive and statistically significant effect on economic growth in countries where the level of corruption is above 1.48 (low level of corruption). The slope parameter (γ) which is the speed of adjustment from a regime of high level of corruption to a regime of low level of corruption is relatively high (148.51), and indicates that the transition from the lower regime to the upper regime is relatively sharp. In sum, the impact of FDI on economic growth in African countries

is conditioned by the level of corruption. Our finding reveals that the high level of corruption in Africa limits considerably the gain from FDI in terms of economic growth. This finding is consistent with Ajide et al. (2014), and Trojette (2016) concerning the case of Sub-Saharan Africa. High level of corruption increases the transactions costs and the risk associated with long-term trade commitments. This, in turn, by weakening the linkages between foreign and domestic companies, prevent the positive spillover effect of FDI from materializing (Meyer and Sinani, 2009, p.1081). All in all, these results imply that African countries can gain from FDI by improving the quality of their institutions. In countries with strong institutions, property rights are better protected, transparency is ensured, there is rule of law, and a low level of corruption, which enable them to benefit more from financial globalization because they can channel efficiently international financial flows to the high productivity sectors. Strong institutions also prevent the elites in the host countries from blocking the adoption of new technologies (Acemoglu and Johnson,2005).

Table 4.10 summarizes the results obtained by estimating a PSTR model with the credit to the private sector (% of GDP) as a measure of the level of development of the local financial system. The results show that FDI has a negative and statistically significant impact on economic growth in a regime of low financial development. However, as the countries move from low financial development regime to high financial development regime, the impact of FDI on economic growth becomes positive and statistically significant. The estimated threshold level of financial development above which FDI promotes growth is 15.6. In other words, FDI enhances economic growth in countries where the domestic credit to the private sector is above 15.6 percent of GDP. The slope parameter (γ) which is the speed of adjustment from a regime of low financial development to a regime of high financial development is relatively high (91.77), and indicates that the transition from one regime to another regime is relatively sharp. A well-functioning domestic financial market is one of the preconditions for the positive effect of FDI on economic growth to materialize in African countries. This finding is consistent with Hermes and Lensink (2003). Using the same indicator of financial development (private credit as % of GDP), Hermes and Lensink find a threshold of 14.6% of GDP for the case of 67 developing countries.

Table 4. 10: **FDI and Growth: Financial development threshold**

	Regime of low financial development ($\boldsymbol{\beta_0}$)	Regime of high financial development ($\boldsymbol{\beta_1}$)
FDI	-0.0013***	0.0061***
	(-2.90)	(4.60)
Initial income	-0.293***	- 0.054***
	(-3.31)	(-4.60)
Domestic investment	0.0017**	0.0086***
	(2.33)	(2.80)
Human capital	0.0031***	0.0018**
	(3.74)	(2.32)
Population growth	-0.0072	-0.0304
	(-0.68)	(-1.51)
Trade openness	0.0013*	-0.0021
	(1.73)	(-1.61)
Government spending	-0.0029	-0.0088***
	(-1.03)	(-2.33)
Inflation	-0.0001*	-0.0030**
	(-1.66)	(-2.17)
Institutional quality	0.0088**	0.0068*
	(3.61)	(1.74)
Financial development	-0.0031	0.0045*
	(-1.15)	(1.74)
Threshold (c)	15.60	
Slope parameter (γ)	91.77	
Number of countries	26	

Source: Author's estimations.

Note: t-statistics based on standard errors corrected for heteroskedasticity are in parentheses. ***; **; * indicate respectively the significance levels at 1%, 5%, and 10%. γ is the speed of adjustment from the low-financial-development regime to the high-financial- development regime.

Although the financial development threshold seems to be less restrictive, many African countries are still below it**.** For instance, in the sample, 16 out of 26 countries or 61 % of the countries are above the threshold found. A sufficiently developed financial system reduces considerably the financial constraints of domestic firms thereby allowing them to make the necessary investments such as technology and employees 'skills upgrading in order to avoid

being squeezed out of the market by the foreign firms through competition. Also, investments associated with the adoption of new technology may be risky; thus, sound financial institutions may contribute to reduce this risk and stimulate the adoption of the new technologies brought in by the multinational companies (Hermes and Lensink, 2003, p.147). In addition, some foreign companies finance a large part of their investment projects by borrowing from the financial markets of the host country. A better domestic financial system will encourage their innovative activities, and consequently increase the technology spillover to the indigenous firms. Similarly, in order to adopt the advanced technologies brought by the foreign firms to improve their productivity, local firms, often need to make some new investments such as the replacement of their obsolete machines and the employment of highly skilled labor. Some local firms may rely on their internal financing for these investments but the majority of them may need external financing, especially when the gap between the new technology and the one used by the local firms is very huge. Most of the time, the only source of external financing available is the local financial market. Thus, a well-developed domestic financial sector will allow the local firms to get the necessary external financing to materialize their investments (Alfaro et al.,2004, p.91).

To check the robustness of our results, we use another financial development indicator, namely the liquid liabilities of the financial system as a percentage of GDP. It is worth noting that the liquid liabilities of the financial system do not reflect accurately the efficiency of the financial sector. It is used in this study only for comparisons purpose. The results presented in Table 4.11 are qualitatively in line with the previous findings. The impact of FDI on economic growth is conditioned by the level of development of the local financial system. In Table 4.11, the results show that FDI impacts negatively on economic growth when the liquid liability of the financial system is less than roughly 26% of GDP (regime of low financial development). In contrast, FDI has a positive and statistically significant effect on economic growth when the liquid liability of the financial system is above 26% of GDP (regime of high financial development). Although the threshold level of financial development seems to change according to the financial development indicator, the conclusion remains the same: a minimum threshold level of local financial development is a prerequisite for the materialization of the growth-enhancing effect of FDI in African countries.

Table 4. 11: FDI and Growth: Financial development threshold –Robustness check

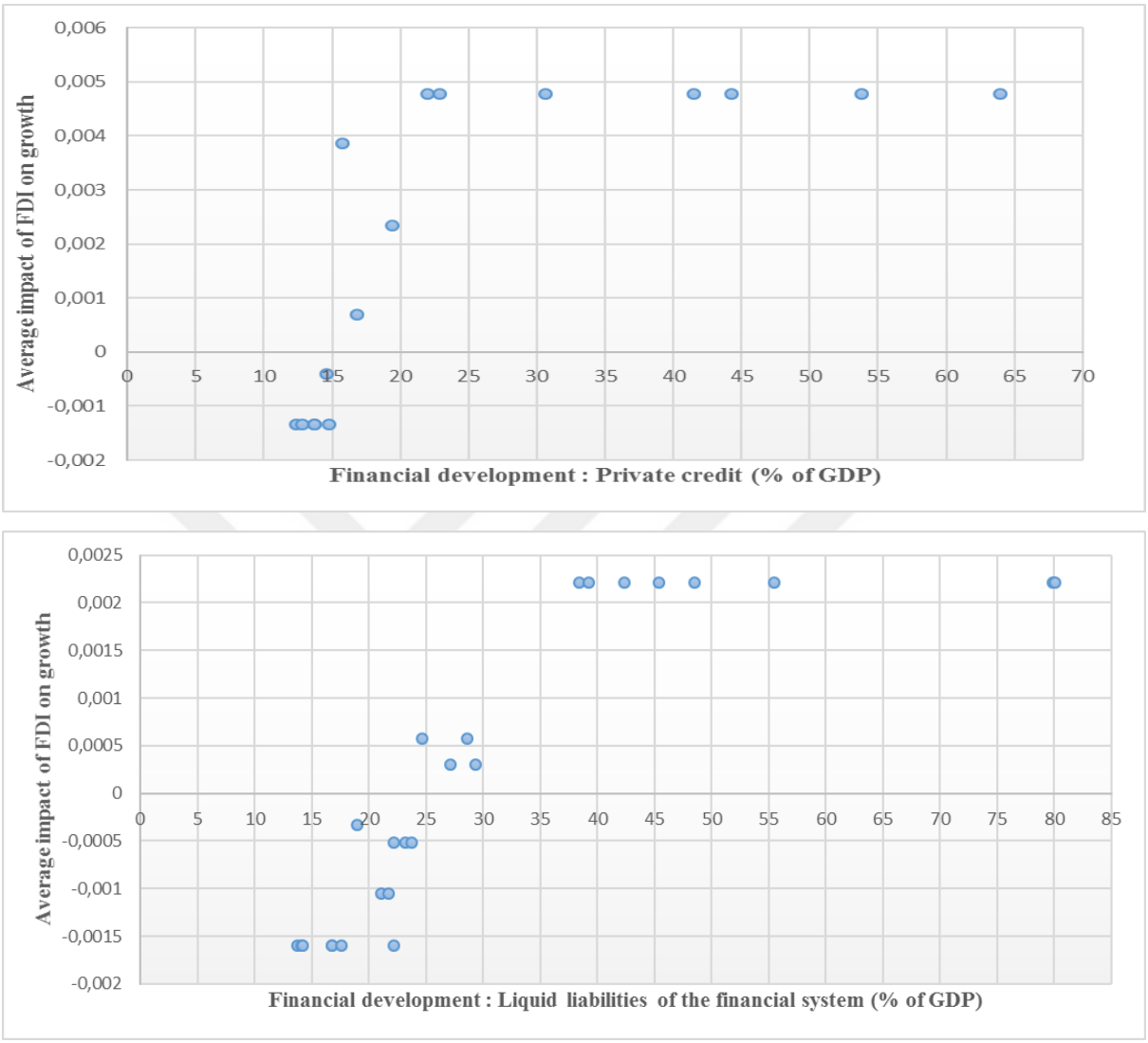
	Regime of low financial development ($\boldsymbol{\beta_0}$)	Regime of high financial development ($\boldsymbol{\beta_1}$)
FDI	-0.0016***	0.0038***
	(-3.07)	(3.88)
Initial income	-0.356***	-0.0258*
	(-3.84)	(-1.85)
Domestic investment	0.0022*	0.0063***
	(1.75)	(3.03)
Human capital	0.0066***	0.0042**
	(3.53)	(3.59)
Population growth	-0.0037	-0.0863
	(-0.37)	(-1.53)
Trade openness	0.0014*	-0.002
	(1.94)	(-0.22)
Government spending	-0.0046	-0.0061*
	(-1.49)	(-1.73)
Inflation	-0.0001**	-0.0046**
	(-2.66)	(-2.98)
Institutional quality	0.0081***	0.0062**
	(3.03)	(2.13)
Financial development	-0.001	0.0002
	(-0.39)	(0.007)
Threshold (c)	25.68	
Slope parameter (γ)	59.77	
Number of countries	26	

Source: Author's estimations.

Note: t-statistics, based on standard errors corrected for heteroscedasticity, are in parentheses. ***; **; * indicate respectively the significance levels at 1%, 5%, and 10%. γ is the speed of adjustment from the low-financial-development regime to the high-financial- development regime.

Figure 4.2 shows that some countries in Africa enjoy the growth benefits from FDI while some countries do not. All in all, our results show that, in African countries with a weak local financial system, increases in FDI inflows undermine economic growth and this is in line with the findings of Baharumshah et al. (2015).

Figure 4. 2: Average estimated impact of FDI on growth across countries conditional on the level of financial development



**Note*: For each country, the observation represents the average impact of FDI on growth over the total period under consideration against the corresponding average level of financial development indicator.

We turn now to another domestic factor that conditions the impact of FDI on economic in African countries, namely human capital stock measured as gross secondary school enrollment ratios. Table 4.12 shows the results from the estimation of a Panel Smooth Transition Regression (PSTR) model with one threshold (two regimes) using human capital stock as a threshold variable. Consistent with our previous findings, FDI has a negative and statistically significant impact on economic growth in a regime of low human capital stock. Conversely, FDI has a positive and statistically significant impact on economic growth in a

regime of high human capital stock. The findings imply that FDI may be harmful to economic growth in countries with a poor level of human capital stock while it constitutes a catalyst to unlock the growth-enhancing effect of FDI in countries that are sufficiently endowed with human capital.

Table 4. 12: FDI and Growth: Human capital threshold

	Regime of low human capital stock ($\boldsymbol{\beta_0}$)	Regime of high human capital stock ($\boldsymbol{\beta_1}$)
FDI	-0.0021***	0.0046**
	(-3.11)	(2.14)
Initial income	-0.3683***	-0.0536***
	(-3.73)	(-3.25)
Domestic investment	0.0037**	0.001
	(2.20)	(0.39)
Population growth	-0.012	-0.118***
	(-0.94)	(-5.18)
Trade openness	0.004***	-0.0044***
	(4.18)	(-4.21)
Government spending	-0.0081**	0.0086*
	(-2.02)	(1.80)
Inflation	-0.0001	-0.0026**
	(-1.15)	(-2.39)
Institutional quality	0.011***	0.0104***
	(4.69)	(3.30)
Financial development	0.0049*	-0.0052*
	(1.79)	(-1.70)
Human capital	0.0065***	0.0032*
	(3.97)	(1.85)
Threshold (c)	36.07	
Slope parameter (γ)	100.02	
Number of countries	26	

Source: Author's estimations.

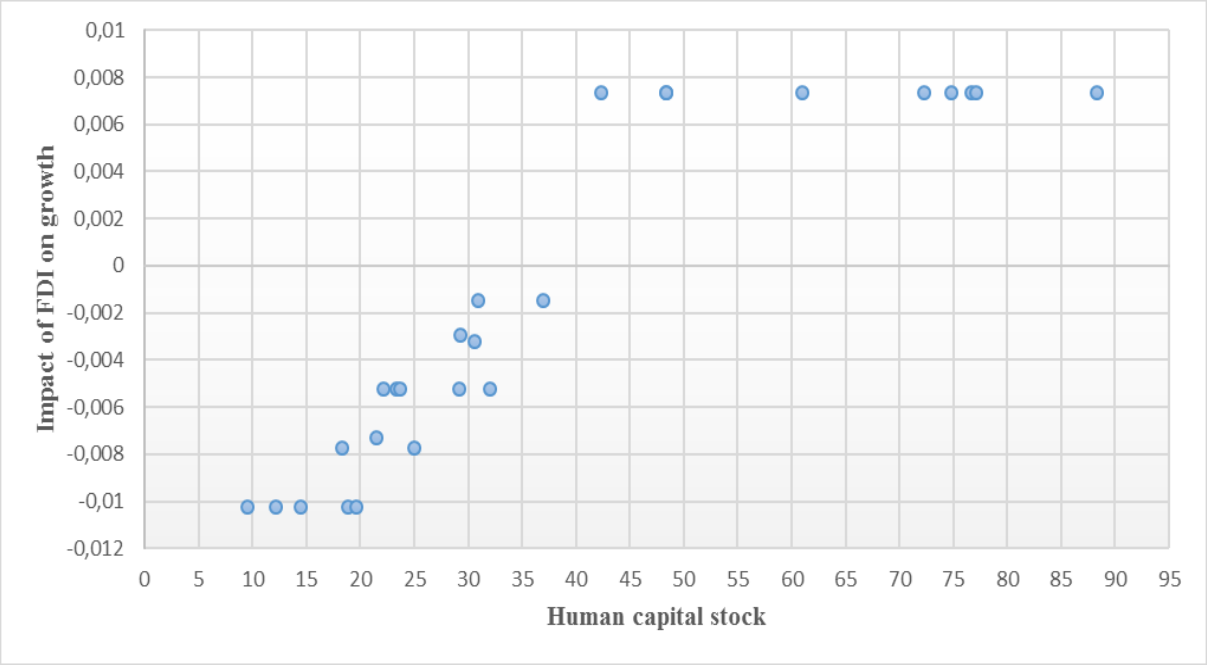
Note: t-statistics, based on standard errors corrected for heteroscedasticity, are in parentheses. ***; **; * indicate respectively the significance levels at 1%, 5%, and 10%. γ is the speed of adjustment from the low-human- capital regime to the high- human- capital regime.

The threshold of human capital stock found in this study is 36.07%, and it is slightly above the average level of gross enrollment ratio in secondary education in the sample which is 35.82%. The slope parameter (γ) which is the speed of adjustment from a regime of low human capital stock to a regime of high human capital stock is relatively high (100.02), and indicates that the transition from the lower regime to the upper regime is relatively sharp. FDI affects economic growth mainly through the transfer of advanced technologies, and a sufficient level of human capital stock in the host country is required for the adoption of such advanced technologies. Thus, in the absence of adequate human capital stock in the host economy, the growth gain from FDI may be highly limited or non-existent. This is in line with the assertion of Ayanwale (2007) that the lack of growth-enhancing effect of FDI in Nigeria could be due to the low level of human capital stock.

The key message from these findings is that African countries should have a certain optimal level of human capital stock in order to enjoy the positive spillover effects of FDI. Human capital is necessary to learn, imitate or copy the advanced technology from the multinational companies. The more the human capital stock, the more the domestic firms are able to absorb the latest technologies from overseas and improve their productivity (Meyer and Sinani, 2009, p.1081). Also, the availability of human capital allows domestic firms to respond adequately to the competition brought by foreign entry into the domestic market. In the sample, 18 out of 26 countries satisfy the threshold condition regarding human capital stock.

In the literature, only a handful of papers have identified the minimum threshold level of human capital stock beyond which the positive spillover effect of FDI can materialize. This leaves us with few comparable results. Meyer and Sinani (2009) use the gross enrolment ratio in tertiary education as a proxy for human capital stock and find a threshold of 33%. Ford et al. (2008) use the percentage of the US population with a college degree and find a threshold ranging from 12.04% to 15.56%. Borensztein et al. (1998) use the initial-year level of average years of male secondary schooling and find a threshold of 0.52 years. Xu (2000) finds a threshold ranging from 1.4 to 2.4 years of male secondary schooling. Although our measure of human capital stock is slightly different due to data constraints, the finding is qualitatively in line with the main conclusion of these previous studies: countries with sufficient level of human capital stock enjoy the growth benefits from FDI (Figure 4.3).

Figure 4. 3: Average estimated impact of FDI on growth across countries conditional on the level of human capital stock



**Note*: For each country, the observation represents the average estimated impact of FDI on growth over the total period under consideration against the corresponding average level of the human capital indicator.

To sum up, the empirical results found in this section reveal that the relationship between FDI and economic growth is nonlinear and non-homogenous across African countries. Using only a homogeneous linear panel model to investigate the link between FDI and economic growth in African countries may lead to a misleading conclusion. FDI promotes growth in some African countries and undermines economic growth in others. Domestic factors play an important role in the link between FDI and economic growth. Specifically, sufficient levels of institutional development, financial development, and human capital stock are the preconditions for the growth-enhancing effect of FDI to materialize in African countries. Some countries, especially North African countries satisfy all the domestic conditions identified, others satisfy one or two conditions. However, the methodology adopted does not allow us to know if all the domestic conditions should be simultaneously satisfied before a country can reap the growth benefits from FDI or satisfying at least one domestic condition is sufficient to reap the economic gain from FDI.

4.2. Econometric Analysis of the Link between FDI and Income Inequality

In this section, we investigate empirically the effect of FDI on income inequality in African countries. To this end, we first present the conceptual framework which motivates our empirical strategy. We further present the empirical model, estimation strategy, variables description, and finally the results and discussions.

4.2.1. Conceptual framework

With the lead of Figini and Gorg (2011), Franco and Gerussi (2013), and Cho and Ramirez (2016), the conceptual background adopted to investigate the link between FDI and income inequality builds on the model developed and refined by Aghion and Howitt (1999). The model is based on the following production function:

$$Y_t = \left\{ \int_0^1 A_{it}^{\alpha} x_{it}^{\alpha} d_i \right\}^{1/\alpha}, \qquad 0 \le \alpha \le 1 \tag{4-22}$$

where Y is the output obtained by using intermediate inputs x including labor. A stands for technology; the old technology is used when $A = 1$, and the new technology is used when $A > 1$. A can also be interpreted as a productivity parameter. It is assumed that there are two types of labor available in the economy: skilled labor and unskilled labor. It is equally assumed that the stock of skilled labor increase over time due to improvement in education and training. At the initial stage, there is no segmentation of the labor market as domestic firms need time to adopt the new technology which requires skilled labor. Thus, in the initial stage, both skilled and unskilled workers are employed in the old-technology sectors. However, as the technological transition process continues and more firms adopt successfully the new technology, the demand for skilled labor increases and the fragmentation of the labor market occurs. As the process of adoption of the new technology continues, all the skilled labor will be employed in the new- technology sectors while the unskilled labor will remain in the old sectors with relatively lower wages. Since there is high demand for skilled labor which is scarce in the early stages, the skill premium increases thereby raising inequality. However, in the long run, when the new technology is adopted by all the sectors and the supply of skilled labor has increased, the real wages of the skilled labor decrease, and inequality diminishes.

If we assume that new technologies are introduced in the host economy through FDI, this model becomes relevant to the purpose of our study. Based on this assumption, it can be said that, in the early stages (short run), the presence of foreign firms increases wages differential between skilled and unskilled workers in the host country. But in the long run, as the supply of skilled labor has increased, the wage gap between skilled and unskilled labor decreases, and consequently inequality decreases. The main idea from this theoretical framework is that there is a nonlinear relationship between FDI and income inequality. FDI widens inequality in the short run and reduces it in the long run. The speed of the transition from the inequality-enhancing effect of FDI to the inequality-reducing effect of FDI depends on the host country's absorptive capacity (Franco and Gerussi, 2013, p.1136). In other words, FDI has the potential to contribute to reducing income inequality in countries with sufficient level of absorptive capacity.

4.2.2. Empirical model

The empirical model is in line with the main idea from the above conceptual framework. As a starting point, we consider the following linear panel model:

$$INEQ_{it} = \beta FDI_{it} + \varphi X_{it} + \eta_i + \nu_{it} \quad (4\text{-}23)$$

where $INEQ_{it}$ represents income inequality indicator for country i at the time t, FDI_{it} stands for foreign direct investment received by country i at the time t, X_{it} is a vector of control variables including the constant term . η_i is a country-specific effect, ν_{it} is the error term , and α_0 is the constant term. FDI increases income inequality in African countries if $\beta > 0$ and conversely, FDI reduces income inequality if $\beta < 0$.

According to the main idea depicted by the conceptual framework adopted in this study, domestic factors or absorptive capacities modulate the link between FDI and income inequality in the host country, and it is the dominant conclusion from the recent literature. If the impact of FDI on income inequality depends on domestic factors (absorptive capacities) in the host country, then countries with different level of absorptive capacities may experience different effects of FDI on income distribution. Countries may differ substantially in terms of their institutions, human capital stock, among others. Such differences may cause variations in the

effect of FDI on inequality across countries. Thus, assuming that the link between FDI and income inequality is linear, constant and homogenous across countries as in equation (4-23) may be misleading. Consequently, we modify Model (4-23) by adopting a threshold regression framework, specifically, a Panel Smooth Transition Regression (PSTR) approach developed by Gonzalez et al. (2005). It is the suitable approach to capture, not only the likely nonlinear relationship between FDI and inequality but also to solve the problems of heterogeneity and time variability (Lin et al., 2014; Jude and Levieuge, 2016). Assuming a two-regime PSTR model, equation (4-23) is transformed into the following nonlinear panel model which is our main empirical model.

$$INEQ_{it} = \beta_0 X_{it} + \beta_1 X_{it}\, g(q_{it}; \gamma, c) + \eta_i + \nu_{it} \tag{4-24}$$

where X_{it} is a vector of explanatory variables which comprises FDI, our main variable of interest , and the other controlled variables. $g(q_{it}; \gamma, c)$ is the transition function, q_{it} is the transition variable or the domestic factor modulating the link between FDI and inequality. γ is the speed of transition from the first regime to the second regime, and c is the location (threshold) parameter[19]. Following Gonzalez et al. (2005), we specify the following logistic transition function associated with Model (4-24):

$$g(q_{it};\, \gamma\,, c) = \frac{1}{1+exp[-\gamma(q_{it}-c)]} \tag{4-25}$$

As the transition variable increases, the effect of FDI on income inequality moves gradually from the first regime to the second regime. For a given transition variable q_{it} , the FDI coefficient for country *i* at time *t* is:

$$\frac{\partial INEQ_{it}}{\partial FDI_{it}} = \beta_0 + \beta_1 g(q_{it};\, \gamma, c) \tag{4-26}$$

[19] In this section, we only describe briefly the PSTR model as it has already been presented in details in the previous section.

4.2.3. Estimation Methods

4.2.3.1. Fixed Effects Regression

To examine the relationship between FDI and income inequality in more details, we start by assuming that the relation between these two variables is linear. Thus, we estimate the linear panel model (equation 4-23) using the fixed effects regression. This method is described in details in the previous section.

4.2.3.2. Generalized Method of Moments (GMM)

If FDI may affect inequality, inequality also may affect FDI inflows. The underlying reason is that high inequality can result in socio-political instability, which in turn, discourages foreign investors, and reduces FDI inflows. Thus, the estimation of the relationship between FDI and inequality may be affected by the problems of endogeneity bias. Thus as a robustness check, we employ the now popular Generalized Methods of Moments (GMM) techniques. This approach is more efficient in dealing with endogeneity and reverse causation issues. The method is described in details in the previous section.

4.2.3.3. Panel Smooth Transition Regression (PSTR)

In the second step, as suggested by the conceptual framework adopted, we investigate the role of domestic factors or absorptive capacities in the link between FDI and income inequality by estimating a Panel Smooth Transition Regression (PSTR) model (equation 4-24). The PSTR model is estimated using the same procedure described in details in the previous section.

4.2.4. Data and variables descriptions

To investigate the effect of FDI on income inequality in Africa, we use an unbalanced panel of 26 countries in Africa over the period 1990-2013 as in the previous section. The selection of the study period and the countries is dictated by data availability, especially income inequality indicator. Due to data constraints, and the fact that the yearly changes in income inequality in African countries are very small, the data is averaged over non-overlapping three-year (3-year) periods as in Lin et al. (2014), among others. Thus, as data permits, we use an unbalanced panel made up of 26 countries over 8 time periods (1990-1992, 1993-1995, 1996-

1998, 1999-2001, 2002-2004, 2005-2007, 2008-2010, 2011-2013). Regarding the variables selected for the analysis, we follow the existing studies related to the link between FDI and inequality.

- **Dependent variable**

The dependent variable is income inequality measured by the Gini index. This index takes the values between 0 (perfect equality) and 100 (perfect inequality). We acknowledge that the Gini coefficient is not the only way of measuring income inequality. Our choice is highly motivated by the relative availability of the Gini coefficient as compared to the other existing inequality measures. Also, the Gini coefficient is the widely used income inequality indicator in the literature, and as pointed out by Clarke (1995), it is highly correlated with the other existing indicators of income inequality. The lack of income inequality data in African countries is one of the main reasons why studies on the distributional impact of FDI in the context of Africa is chronically lacking. Fortunately, data collection on inequality has been improved recently. The Gini index used as income inequality indicator in this study is sourced from the Standardized World Income Inequality Database by Solt (2016). This database allows to assess the relationship between FDI and income inequality much more profoundly than most of the previous studies that often have to struggle with more missing observations and a low number of degree of freedom. This data was used by Lin et al. (2014), IMF (2015), Anyanwu et al. (2016), Kaulihowa and Adjasi (2017), among others.

- **Explanatory variables**[20]

- Foreign direct investment:

The main variable of interest is FDI. As we mentioned in the previous section, in the literature some studies use FDI flows while others use FDI stock. It is argued that annual FDI inflows capture only the short-run effects of FDI activities while FDI stock, which is the accumulated FDI in the host country, capture more effectively the long- run effects. As pointed out by Milanovic (2005, p.28), the impact of FDI on income distribution may not be felt

[20] The definition and the sources of data regarding most of the variables are already presented in the previous section as some variables included in growth model are also included in inequality model.

instantaneously, it may take time to materialize. For these reasons, FDI stock as a percentage of GDP is used as in Tsai (1995), Herzer and Nunnenkamp (2013), Mihaylova (2015), and Kaulihowa and Adjasi, (2017), among others. In addition to our main variable of interest, we include in the regression, variables that are usually used in the FDI-inequality literature.

-Human capital(education)*:*

It is argued that the spread of education increases the level of human capital stock, and consequently increases the supply of skilled labor. Increasing supply of skilled labor has a downward effect on the skilled wage premium (Figini and Gorg, 2011). In other words, the increase in the stock of human capital contributes to a decrease in wage/income inequality. A negative correlation between this variable and the Gini coefficient is expected. Also, the impact of FDI on income inequality is expected to be modulated by the level of human capital stock in African countries.

-The level of economic development:

An indicator of the level of economic development is usually included in income inequality regression in order to account for the famous *Kuznets effect*. Kuznet (1955) hypothesized that inequality increases in the early phase of development and decreases as the country moves towards the later phase of development. Following Wu and Hsu (2012), Franco and Gerussi (2013) and others, we use the natural logarithm of the real GDP per capita measured in 2011 constant US dollar purchasing power parity(PPP) to control for the effect of economic development on income inequality in African countries. As African countries are at their early stage of development, we expect the GDP per capita growth to increase inequality.

-Trade openness*:*

According to the standard trade theory, trade openness would favor owners of the abundant production factor. Since African countries are abundant in unskilled labor, one might expect trade openness to reduce wage differentials between unskilled labor and skilled labor in Africa, and ultimately reduce the overall level of income inequality. However, empirical evidence on the effect of trade openness on inequality is inconclusive. We hypothesized that the effect of trade on income inequality can be positive or negative.

***-Government expenditure**:*

Government fiscal policy may shape income distribution within a country. By taxing high income and wealth, the government can contribute to inequality reduction. Government redistributive spending tends to reduce income inequality as it favors particularly the poorer sections of the society. For instance, spending in public education and healthcare improves the human capital endowment of the poor, and consequently, increases competition in the labor market (Cho and Ramirez, 2016, p.416). Government expenditure is therefore expected to reduce income inequality in African count

-Inflation:

Inflation is usually included in the inequality model to account for the effect of unstable macroeconomic conditions on inequality. Poor people are more affected by high inflation than the rich, especially in countries where the nominal income is not adjusted with inflation. High inflation hurts disproportionately the purchasing power of those at the bottom of the distribution and tends to worsen income inequality. A positive correlation is expected between the Gini coefficient and inflation.

-Financial development:

It is argued that financial development is one of the factors that may affect income inequality in a country. Demirgüç-Kunt and Levine (2009) hold a position that financial development could worsen or improve income distribution through the labor market. Financial development can exacerbate inequality if it results in skilled-biased employment. Conversely, financial development can reduce inequality if it results in higher demand for low-skilled labor. The recent literature also suggests that financial development is one the channel through which FDI affect income inequality. In other words, financial development shapes the link between FDI and income inequality (Lin et al., 2014). We, therefore, expect, a direct positive or negative effect of financial development on income inequality. We equally expect financial development to affect the link between FDI and income inequality. As discussed in the previous section, we use private credit as a percentage of GDP and liquid liabilities of the financial system as a percentage of GDP to measure financial development.

-Initial inequality

The initial level of income inequality is usually used as a control variable in inequality regression in order to take into account the persistence of inequality over the time (see, for example, Wu and Hsu, 2012, Franco and Gerussi, 2013, and Lin et al., 2014). It also allows to control for omitted important structure variables such as the ethnic and demographic structures of the society (Reuveny and Li, 2003, p.586). We use the Gini index lagged one period (initial Gini) as a measure of initial income inequality. We expect the past inequality to affect positively (exacerbate) the current level of income inequality in African countries.

Table 4.13 shows the summary statistics and the expected signs of the variables. We focus only on the Gini index since the summary statistics of the other variables have already been presented in the previous section. As shown by the table, the average level of the Gini coefficient in our sample is 43.048. This shows that the level of income inequality is high in Africa as a whole.

Table 4. 13: FDI and Income Inequality: Descriptive statistics

Variables	Observations	Mean	Std.dev	Expected signs
Gini index	168	43.048	7.906	
Initial Gini	142	43.408	7.991	+
FDI	168	21.741	19.465	Uncertain
Human capital	168	35.828	23.964	-
GDP per capita[a]	168	7.789	0.885	+
Trade openness	142	61.909	22.270	Uncertain
Inflation rate	168	25.407	144.328	+
Government spending	168	14.825	5.287	-
Private credit	168	22.275	27.830	Uncertain
Liquid liabilities	168	29.876	18.060	Uncertain

Source: Author's calculations

Note: a. Included as Log (variable)

Table 4.14 presents the correlation matrix of the variables. FDI is positively correlated with the Gini coefficient. Human capital and trade openness are negatively correlated with the Gini coefficient while inflation and financial development are positively correlated with the Gini coefficient. However, correlation does not mean causality which is the relation in which our study is interested. More rigorous econometric methods are necessary. The small size of the correlation coefficients between the explanatory variables is an indication of no risk of multicollinearity.

Table 4. 14: FDI and Income Inequality: Correlations matrix of the variables

	Gini	Initial Gini	FDI	Human capital	Trade openness	Gov. spending	Inflation	GDP per capita	Private credit	Liquid liabilities
Gini	1.00									
Initial Gini	0.94*	1.00								
FDI	0.33*	0.30*	1.00							
Human capital	-0.35*	-0.35*	0.29*	1.00						
Trade openness	-0.31*	-0.28*	0.64*	0.25*	1.00					
Gov.spending	0.43*	0.41*	0.32*	0.20*	0.48*	1.00				
Inflation	0.08	0.10	0.14**	-0.09	0.34*	0.33*	1.00			
GDP per capita	0.34*	0.33*	0.35*	0.66*	0.42*	0.33*	0.02	1.00		
Private credit	0.41*	0.42*	0.25*	0.60*	0.06	0.25*	-0.07	0.60*	1.00	
Liquid liabilities	0.11	0.11	0.18**	0.70	0.05	0.10	-0.08	0.63*	0.56*	1.00

Source*:* Author's calculations.

****** and ***** denote respectively significance at 1% and 5% levels

4-2-5-Empirical Results and Discussions

This subsection presents and discusses the empirical results regarding the relationship between FDI and income inequality. We first assume that the relationship between FDI and income inequality in the countries in our sample is linear. In other words, we assume that the

effect of FDI on income inequality is not determined by any domestic factor or absorptive capacity.

4.2.5.1. FDI and Income Inequality: Fixed Effects and GMM Estimates

We firstly perform Hausman (1978) specification test to ensure that Fixed Effects regression is suitable for our analysis. Table 4.15 shows the results from the Hausman specification test. Model 1 includes FDI and other control variables such as the initial Gini, GDP per capita, human capital, trade openness, government expenditure, and inflation. In model 2, we control for financial development. As it is clearly shown in Table 4.15, the Hausman test rejects Random Effects model (RE) at 1% level of significance in model 1 (P-value = 0.0013) and model 2 (P-value = 0.0033). The Hausman test suggests, therefore that fixed effects(FE) model is suitable to investigate the linear relationship between FDI and income inequality.

Table 4. 15: FDI and Income Inequality: Hausman specification test

	Model 1	**Model 2**
Hausman test	Chi-square(χ^2) = 23.73 P.value = 0.0013	Chi-square(χ^2) = 23.05 P.value = 0.0033

Source: Author's elaboration.

Since the initial inequality is included in the model as an explanatory variable, fixed effects regression may lead to biased estimates. Thus, as in Basu and Guariglia (2007), we use both fixed effects and GMM regressions for robustness check and the results are summarized in Table 4.16. In the GMM regression, the P-values associated with the Hansen test statistic of over-identifying restrictions and the Arellano–Bond test statistic for second-order autocorrelation are all higher than 5% (Table 4.16). In other words, the null hypothesis of the valid specification and the null hypothesis of no second-order autocorrelation cannot be rejected. Failure to reject the null hypothesis of the Hansen test and the null hypothesis of Arellano- Bond test for second-order autocorrelation reveals the validity of the GMM estimates.

Table 4. 16: FDI and Income Inequality: Fixed-Effects and GMM estimations

	Fıxed Effects		System-GMM	
	Model 1	**Model 2**	**Model 1**	**Model 2**
FDI	0.049***	0.047***	0.061*	0.072***
	(3.84)	(3.18)	(1.76)	(4.29)
Initial inequality	0.654***	0.646***	0.722***	0.703***
	(9.65)	(9.74)	(3.53)	(3.48)
GDP per capita	0.057	0.055	0.054	0.122
	(0.70)	(0.65)	(0.28)	(0.55)
Human capital	-0.054*	-0.064**	-0.030**	-0.033**
	(-1.71)	(-2.03)	(-2.07)	(-2.67)
Trade openness	-0.047	-0.052*	-0.136**	-0.159***
	(-1.58)	(-1.79)	(-2.46)	(- 4.76)
Government spending	0.011	0.010	0.262	0.233
	(0.07)	(0.06)	(0.89)	(1.33)
Inflation	0.042***	0.043***	0.038*	0.046**
	(2.98)	(3.23)	(1.71)	(2.61)
Financial development		0.042*		0.044
		(1.80)		(0.96)
Constant	17.466***	17.566***	14.685**	16.651**
	(5.09)	(9.74)	(2.00)	(2.47)
R-squared	0.614	0.618		
AR(2) test (p-value)			0.313	0.544
Hansen test(p-value)			0.770	0.858
Observations	142	142	142	142

Source: Author's estimations.

Note: t-statistics, based on robust standard errors are in parentheses. ***; **; * indicate respectively the significance levels at 1%, 5% and 10%.

As expected, the results show that the initial inequality has a positive and statistically significant coefficient both in the fixed effects and GMM regression. This implies that income inequality is highly persistent across time in African countries. Our finding is consistent with

the results of Anyanwu et al. (2016) for the case of West African countries. It is also in conformity with the findings of Franco and Gerussi (2013). The results support the idea that income inequality in Africa is a historical issue. It was inherited from the colonization and has been perpetuated over time partly due to the high ethnic fragmentation of African societies. In sum, the ethnic and demographic structures of African societies seem to perpetuate income inequality in the continent.

In line with our expectation, the GDP per capita used as a proxy for the level of economic development appears with positive coefficient but statistically insignificant both in the fixed effects and GMM specifications. The use of GDP per capita as a proxy for the level of economic development in inequality regressions has reached mixed results in the empirical literature (Franco and Gerussi, 2013, p.1140). Although not statistically significant, the positive coefficient of the GDP per capita indicates that if the coefficient were to be significant, GDP per capita used as a proxy for the level of economic development would most probably increase income inequality in African countries. This tends to support the *Kuznets hypothesis* according to which at the early phase of economic development, economic growth increases income inequality. Our finding is in line with Cho and Ramirez (2016), Im and Mclaren (2015), and Jensen (2007), among others who find a positive but statistically insignificant effect of GDP per capita on income inequality.

As expected, education (human capital) has a negative and statistically significant coefficient both in the fixed effects and GMM estimates. This implies that education is a very important tool to reduce income inequality in Africa. Improving the human capital stock by allowing a large portion of the African population to have access to education will reduce income inequality in the continent because it will allow the poor to get better jobs and incomes. This finding is in line with the study of Anyanwu et al. (2016) who find that education reduces income inequality in West African countries. The results are equally in line with the findings of Barro (2000), Mihaylova (2015), and Cho and Ramirez (2016).

The results show that trade openness has a negative and statistically significant effect on income inequality. While the coefficient is non-significant or weakly significant in the fixed effects regression, it becomes highly significant in the GMM regression. This is not a surprise since GMM is able to deal with endogeneity issue more than the fixed effects method. In other

words, the lack of significance or the weakly significance of trade openness coefficient in the fixed effects estimates is due to econometric problems such as endogeneity bias which is controlled for in GMM specification. The results indicate that trade openness has the potential to reduce income inequality in African countries. The benefits generated by foreign trade seem to benefit more people in African countries. This is in conformity with the results of Jaumotte et al. (2013) who find that trade globalization has an equalizing effect. Our results are equally in line with the findings of Reuveny and Li (2003), and Wu and Hsu (2012).

In contrast to our expectation, government expenditures appear with positive coefficient both in fixed effects and GMM estimates, however, the coefficient is statistically insignificant. Our findings confirm the results of Odedokun and Round (2004), and Anyanwu (2011) who find no significant effect of government expenditure on income inequality for African countries. Cho and Ramirez (2016) also reach a similar conclusion. The positive sign and the non-significance of the coefficient associated with the government expenditures variable may be explained by the fact that the variable does not capture only the government redistributive expenditures which has a potential to influence significantly income inequality, but other expenses such as expenditures on defense and security. However, due to data constraints, we are forced to use this broad measure of government expenditures like previous studies.

Inflation has a positive and statistically significant effect on income inequality in both the fixed effects and the GMM estimates. This implies that inflation increases income inequality in African countries. The inequality-increasing effect of inflation is intensified when the wages are not adjusted to the level of inflation as it is the case in many African countries. Weak institutions and weak labor unions in many African countries leave workers with less or no rise in wages in case of high inflation. Our finding is in conformity with the results obtained by Bhandari (2007).

Financial development measured as credit to the private sector (% GDP) appears with a positive coefficient both in fixed effects and GMM specifications. However, the coefficient is weakly significant in the fixed effect regression, while it loses its significance in the GMM regression. Since GMM is more reliable due to its ability to control for endogeneity and measurement errors problems, we conclude that financial development variable has a positive and statistically insignificant impact on income inequality in the countries in our sample.

Although not significant, the positive sign of the coefficient tends to suggest that financial development might increase income inequality as financial development does not necessary means financial inclusion. As sustained by the new political economy literature, the development of the financial system may favor only the rich not only because they have sufficient wealth to provide collateral, but they can also prevent the poor from getting access to credit thereby undermining their ability to improve their economic well-being (Acemoglu et al., 2005; Lin et al., 2014).

Now we turn to the main focus of the study which is the link between FDI and income inequality. The results presented in Table 4.15 show an overwhelmingly positive impact of FDI on the Gini index. The coefficient of FDI is positive and highly significant both in the fixed effects and GMM regressions. This implies that FDI increases income inequality in African countries. This finding tends to support the dependency and world-system theory which claims that FDI increases income inequality in developing countries. There are several plausible explanations for this inequality-increasing effect of FDI in the context of Africa. The large share of FDI flows to Africa go into the extractive industries and to a lesser extent the services sector. Since these two sectors tend to be skilled labor intensive, increasing FDI inflows raise the demand for skilled labor. The increasing demand for skilled labor increases the wage gap between the skilled and unskilled workers, and subsequently increases the overall level of income inequality. In sum, FDI affects income inequality through the labor markets. Our finding is consistent with the results obtained by Anyanwu et al. (2016) in the case of West African countries. The finding is also in conformity with Alderson and Nielsen (1999), Reuveny and Li (2003), Jaumotte et al. (2013), Asteriou et al. (2014), and Herzer et al. (2014), among others.

Another plausible explanation of this finding is that the relationship between FDI and income inequality is nonlinear as suggested by the recent literature related to the FDI-inequality nexus. The effect of FDI on income inequality may be defined by domestic factors or domestic conditions. If this is true, limiting our investigation method to a linear panel model may lead to a misleading conclusion regarding the impact of FDI on income inequality in African countries. Thus, we proceed to the estimation of a nonlinear panel model in order to control for the effect of domestic factors.

4.2.5.2. FDI and Income Inequality: Panel Smooth Transition Regression Estimates

The dominant conclusion from the recent literature regarding the relationship between FDI and income inequality is that the impact of FDI on income inequality might be conditioned by certain domestic factors. Domestic factors such as local financial development, human capital stock, among others are believed to determine the impact of FDI on income inequality. Table 4.17 shows the results of the linearity tests which consists of verifying if the relationship between FDI and income inequality in African countries can be captured by a linear panel model or by a PSTR model (nonlinear panel model). We consider each domestic factor as a threshold variable or transition variable in the PSTR model. The linearity test is conducted by using three tests, namely the Wald(LM) test, Fisher (LM_F) test, and the likelihood ratio (LRT) test.

Table 4. 17: FDI and Income Inequality: Linearity tests

Threshold variable	Wald (LM) Test		Fisher(LM_F) Test		LRT Test	
	Statistic	P-value	Statistic	P-value	Statistic	P-value
Human capital	35.310	0.000	3.934	0.000	40.465	0.000
Credit to private sector	12.540	0.129	1.124	0.354	13.116	0.108
Liquid liabilities	17.344	0.027	1.618	0.130	18.464	0.018

H_0: Linear panel model **H_1**: PSTR model with at least one threshold.

When Human capital is used as a threshold (transition) variable, the null hypothesis (H_0) that a homogeneous linear panel model is suitable to investigate the link between FDI and income inequality in African countries is highly rejected at 1% level of significance by the LM test, LM_F test, and the LRT test (Table 4.17). In other words, human capital exerts a nonlinear effect on the link between FDI and income inequality. This implies that the impact of FDI on income inequality is conditioned by the stock of human capital in African countries. We consider another domestic factor as a threshold variable, namely the local financial development (credit to the private sector and the liquid liabilities of the financial system). The null hypothesis of linear panel model cannot be rejected by all the three tests when credit to the private sector by financial intermediaries is used as a threshold variable. When we use the liquid

liabilities of the local financial system as a threshold variable, LM test, and the LRT test reject the null hypothesis of linear panel at 5% level whereas the Fisher (LM_F) test which is the main test, especially in small sample like ours, cannot reject the null hypothesis of linear panel model. Summing up, we conclude that the impact of FDI on income inequality depends on the level of human capital stock, but independent of the level of development of the local financial system in the context of the countries included in our sample.

Since the linearity test using human capital as threshold variable has shown that the relationship between FDI and income inequality can be captured by a PSTR model with at least one threshold, the second step is to identify the number of threshold or the number of regimes in the PSTR model. This can be obtained by performing the test of no remaining non-linearity. The null hypothesis(H_0) of the test is that a PSTR model with one threshold or two regimes is suitable to capture the link between FDI and income inequality while the alternative hypothesis (H_1) is that a PSTR model with at least two thresholds or three regimes is suitable. The results presented in Table 4.18, show that the null hypothesis(H_0) cannot be rejected by all the tests performed. This implies that a Panel Smooth Transition Regression(PSTR) model with one threshold or two regimes is suitable to capture properly the nonlinear relationship between FDI and income inequality in the countries included in our sample.

Table 4. 18: FDI and Income Inequality: Test of no remaining non-linearity

(Test for the number of regimes)

Threshold variable	Wald(LM) Test		Fisher(LM_F)Test		LRT Test	
	Statistic	P-value	Statistic	P-value	Statistic	P-value
Human capital stock	11.553	0.240	0.885	0.542	12.039	0.211

H_0: PSTR model with one threshold (two regimes)

H_1: PSTR model with at least two thresholds (at least three regimes).

After identifying the number of regimes or threshold, the next and last step is to estimate the parameters of the PSTR model by applying the Nonlinear Least Squares (NLS) as suggested by Gonzalez et al. (2005). Although using the PSTR model minimizes considerably the

potential endogeneity issue associated with the link between FDI and income inequality, we still mitigate any potential endogeneity problem by using the first lag of the explanatory variables including FDI and the threshold variable (human capital) as in Lin et al. (2014). In addition, the results from the estimation of a linear panel model in the previous sub-section indicate that the threshold variable retained for the PSTR model, namely human capital stock or education has a direct effect on income inequality; thus, it is included in the model both as threshold (transition) variable and explanatory variable in all the tests and estimations in order to avoid erroneous switching (see, for example, Fouquau, Hurlin, and Rabaud, 2008, p.291).

Table 4.19 shows the results obtained from the estimation of the PSTR model with one threshold or two regimes using human capital stock as a threshold variable. It is worth noting that, in the PSTR model, the signs of the estimated parameters are the most important since their values are not directly interpretable. We focus on the impact of FDI on income inequality as the impact of the other explanatory (control) variables on income inequality are already presented in the previous sub-section. In addition, as these variables are regime-dependent in the PSTR model, their coefficients represent conditional correlations rather than a causal relationship with income inequality.

Interesting results concerning the impact of FDI on income inequality in African countries appear from the estimation of the PSTR model (Table 4.19). The coefficient of FDI is positive and statistically significant at 1% level in a regime of low human capital stock ($ß_0$). However, this coefficient becomes negative and statistically significant at 5% level in the regime of high human capital stock ($ß_1$). The threshold of human capital stock found is 60.04%. This implies that, in countries where the secondary school enrollment ratio used as a proxy for human capital stock is below 60.04%, FDI increases income inequality whereas, in countries where the human capital stock is above 60.04%, FDI contributes to reducing income inequality. A higher level of human capital stock mitigates the inequality enhancing-effect of FDI. The slope parameter (γ) which indicates the speed of adjustment from the low regime to upper regime is 35.03. The relatively small size of the slope parameter suggests that the transition from the lower regime to the upper regime is quite smooth and gradual. These findings indicate that using only a homogenous linear panel model to investigate the link between FDI and income inequality in African countries may lead to a misleading conclusion, as the impact of

FDI on income inequality may vary from one country to another and changes over time depending on the level of human capital stock or domestic conditions.

Table 4. 19: FDI and Income Inequality: Human capital threshold

	Regime of low human capital stock ($\boldsymbol{\beta_0}$)	Regime of high human capital stock ($\boldsymbol{\beta_1}$)
FDI	0.079***	-0.093**
	(3.93)	(-2.42)
Initial inequality	0.715***	-0.049
	(3.17)	(-0.49)
GDP per capita	0.075	-0.111
	(2.20)	(-0.32)
Trade openness	-0.002**	- 0.099*
	(-2.66)	(-1.68)
Government spending	0.215	0.065
	(1.52)	(0.41)
Inflation	0.006**	0.034***
	(2.67)	(3.45)
Financial development	0.071	-0.119**
	(1.16)	(-2.29)
Human capital	-0.210***	-0.237***
	(-3.53)	(-3.59)
Threshold (c)	60.04	
Slope parameter (γ)	35.03	
Number of countries	26	

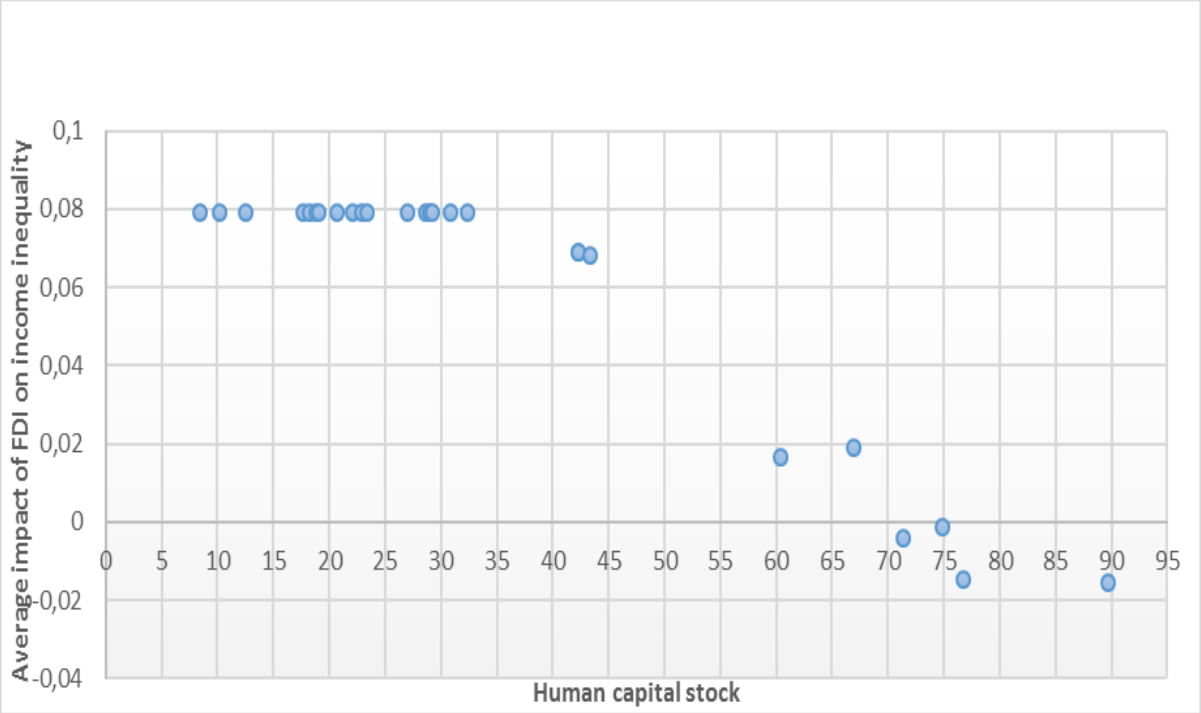
Source: Author's estimations.

Note: t-statistics, based on standard errors corrected for heteroskedasticity are in parentheses. ***; **; * indicate respectively the significance levels at 1%, 5%, and 10%. γ is the speed of adjustment from the low-human capital regime to the high human capital regime.

The moderating effect of human capital stock in the FDI-inequality nexus found in this study is in line with the theoretical framework adopted following Figini and Gorg (2011). The inequality-increasing effect of FDI is due to the technology transfer associated with FDI activities in the host country. Since the adoption of advanced technologies required skilled labor, increasing FDI inflows lead to higher demand for skilled labor which is initially limited

in the host country. As a result, the wages of skilled workers increase and consequently increase the wage gap between skilled and unskilled workers. However, as a large share of the population is getting access to education, the supply of skilled labor also increases. This gradual improvement in the human capital stock and the adoption of new technologies by the domestic firms exert downward pressure on income inequality in the host country. Using a different approach, Mihaylova (2015) find that FDI increases income inequality in Central and Eastern European countries where the human capital stock measured by the secondary school enrollment ratio is below 81%. Above this threshold, FDI tends to improve income distribution.

Figure 4. 4: Average estimated impact of FDI on income inequality across countries conditional on the level of human capital stock



**Note*: For each country, the observation represents the average estimated effect of FDI on income inequality over the total period under consideration against the corresponding average level of the human capital indicator.

The key message from these results is that the impact of FDI on income inequality is not homogenous across African countries. While FDI reduces income inequality in some African countries, it increases income inequality in others (Figure 4.4). Looking into our sample, countries that have their human capital stock above the threshold found in this study are Algeria, Botswana, Egypt, Ghana, Kenya, Morocco, Namibia, South Africa, Tunisia. Based

on our results, we can conclude that FDI contributes to reducing income inequality in these nine (9) countries. These nine (9) countries have also a sufficient level of absorptive capacity for the growth-enhancing effect of FDI to materialize. This suggests that FDI promotes growth and reduce income inequality in these countries. For these countries, policymakers can use FDI liberalization policy to break the tradeoff between efficiency and equity often confronted when designing their policies.

4.3. Summary

The aim of this chapter was to investigate empirically the impact of foreign direct investment (FDI) on economic growth and income inequality in the context of African countries. The first section of the chapter focuses on the relationship between FDI and economic growth whereas the second section deals with the link between FDI and income inequality. We used an unbalanced panel dataset made up of 26 African countries over the period 1990-2013. The estimation of a linear panel model using fixed effects and GMM regressions revealed that FDI has a negative and statistically significant impact on economic growth.

According to the predominant conclusion from the recent literature, the impact of FDI on economic growth may be conditioned by certain domestic factors and policies in the host country. Thus, we go deeper into our investigation and estimate a nonlinear panel model, namely a Panel Smooth Transition Regression(PSTR) model. We test several domestic factors such as institutional quality, financial development, human capital, trade openness, and macroeconomic stability (inflation and government expenditure). The results show that the impact of FDI on economic growth is conditional on the level of institutional and financial development, and human capital stock in African countries. In other words, FDI contributes to economic growth only in countries that have reached a certain optimal level of institutional and financial development, and human capital stock. The institutional quality index ranges from 0 to 46, and the threshold found is 24.78. The threshold of financial development found is 15.60 % of GDP when the total credit to the private sector as a percentage of GDP is used as an indicator of financial development, and 25.68% of GDP when the liquid liabilities of the local financial system is used as a measure of financial development. The threshold of human capital stock (secondary school enrollment ratio) found is 36%. FDI is harmful to economic growth in countries that are below these thresholds while FDI promotes growth in countries that are above

these thresholds. Overall, the results show that the impact of FDI on economic growth is not homogenous across African countries. FDI promotes growth in some countries and undermines growth in others depending on their level of absorptive capacities (domestic factors).

In the second section of the chapter, we investigate the relationship between FDI and income inequality using the same econometric methods and dataset. The estimation of a linear panel model shows that FDI increases income inequality. We extend our investigation to determine the conditions under which FDI could reduce income inequality. In other words, we verify if the impact of FDI on income inequality varies with the level of absorptive capacity in African countries. To this end, we use human capital stock and financial development as domestic factors or absorptive capacity measures. The estimation of a PSTR model shows that the impact of FDI on income inequality depends on the level of human capital stock, but independent of the level of development of the local financial system. The minimum threshold of secondary school enrolment ratio (a proxy for human capital stock) is roughly 60%. This suggests that FDI contributes to reducing income inequality in countries where the level of human capital stock is above the threshold. Conversely, FDI increases income inequality in countries with the level of human capital stock below the threshold. These findings indicate that the impact of FDI on income inequality is not homogenous across African countries. FDI reduces income inequality in some countries and increases income inequality in others depending on their local conditions.

Overall, the empirical results found reveal that FDI promotes economic growth in some African countries while it undermines economic growth in others. It also contributes to reducing income inequality in some African countries while it increases income inequality in others. In other words, FDI stimulates economic growth and reduces income inequality in African countries with better domestic conditions or sufficient level of absorptive capacity. Countries in our sample where FDI promotes simultaneously growth and reduces income inequality are Algeria, Botswana, Egypt, Ghana, Kenya, Morocco, Namibia, South Africa, and Tunisia. All in all, this study has shown that the impact of FDI on economic growth and income inequality is heterogeneous across countries and time-varying. The conclusion from previous studies assuming homogeneity and constant impact of FDI on growth and income inequality across countries should be taken with caution.

CONCLUSION AND POLICY IMPLICATIONS

Foreign direct investment, which is one of the main facets of financial globalization, is believed to have great potential to stimulate economic progress in the recipient country. Thus, in line with the neo-liberal approach, international organizations such as IMF and the World Bank, among others recommend that developing countries implement appropriate reforms to attract more FDI in order to fuel their economic development. Based on these advertised benefits of FDI, several "FDI-friendlier" policies have been implemented by many countries, especially developing countries in order to attract more FDI. However, the empirical studies undertaken to confirm this panoply of gain from FDI activities have produced mixed results. As FDI has become a key component of Africa's policy toolkit aimed at promoting economic growth, poverty, and income inequality reduction, among others, the current study investigates the conditions under which FDI flows into Africa can generate economic growth and better distribution of income in order to formulate appropriate policy advice towards FDI liberalization policies in Africa.

To this end, the current study is divided into four chapters. In chapter one, we define financial globalization and present the motivations behind FDI activities. The analysis reveals that financial globalization is not a new phenomenon. It started about 150 years ago and it has regained momentum since the 1980s. Although there are three main types of international capital flows in general, namely, foreign direct investments, international portfolio investments, and bank and other investments, FDI appears as the most important component of financial globalization. The analysis has revealed also that the importance of multinational activity in the world economy is consistently increasing since the beginning of the second wave of financial globalization. There are many theories explaining the motives behind FDI activities and the major ones are the Monopolistic Advantage Theory known also as industrial organization approach of FDI, Internalization Theory, Oligopolistic Reaction Theory, and the Eclectic Paradigm of FDI. Overall, FDI activities can be categorized as resource-seeking, market-seeking, efficiency-seeking, and strategic asset-seeking. The analysis revealed also that no single theory is able to explain the motivations behind all FDI activities in Africa.

In the second chapter, we focus on the review of the theoretical arguments and the previous empirical studies regarding the impact of FDI on economic growth and income inequality. Traditionally, there are two main competing theories concerning the impact of FDI on economic growth and income inequality: Modernization theory which revolves around neoclassical and endogenous growth theories, optimistically argue that FDI promotes economic growth and reduces income inequality while the dependency and world-system theory asserts that FDI undermines economic growth and increases income inequality in developing countries. However, the recent FDI literature suggests that FDI can have either positive, negative or neutral effect on economic growth and income distribution depending on the domestic conditions and policies in the host country. This means that *ceteris paribus*, countries with the same level of FDI inflows may experience different gain depending on their local conditions or absorptive capacity. Some important domestic factors that are believed to determine the impact of FDI on economic growth and income inequality are institutional quality, financial development, human capital stock, infrastructure development, trade policy, and macroeconomic stability, among others. Consistent with the division in the theoretical literature, empirical evidence on the impact of FDI on economic growth and income inequality in host countries also is inconclusive. Some studies have reported positive, negative, as well as, neutral effect of FDI on economic growth and income inequality. Also, in some studies, domestic factors or absorptive capacities do not determine the effect of FDI on growth and inequality while others report that only countries with better domestic conditions and policies can gain from FDI liberalization policy.

Chapter three shed light on the pattern of FDI, growth and income inequality in Africa. Firstly, we focus on the trend in FDI flows into Africa and the analysis reveals that despite the high level of return on investment in Africa, the continent is lagged behind in terms of FDI inflows as compared to other developing regions. The share of Africa in the global FDI inflows is roughly 5%. Africa is therefore marginalized in the context of financial globalization. The large share of FDI flows to Africa is received by the extractives sectors (oil and mining). However, FDI in Africa is now diversifying into sectors such as manufacturing and services. Transnational corporations in Africa are no longer investing only in extractives sectors, they are also investing in the manufacturing and services sectors. The analysis reveals that the USA is the leading investor in Africa followed by United Kingdom (UK), France and China. FDI has

also contributed to infrastructure development and job creation in Africa although still marginal as compared to other developing regions. Concerning FDI liberalization policy, the analysis reveals that Africa has adopted a *laissez-faire* attitude towards FDI, unlike Asia which has adopted a *selective* attitude. In other words, all types of FDI seem to be accepted in Africa while it is not the case in Asia, especially East Asia.

Secondly, the analysis of the recent developments in economic growth in Africa is presented. The recent trend in economic growth in the continent reveals three major periods. 1960-70s and 2000-to date are the periods of robust economic growth in Africa. Between these two periods, 1980-90s, Africa experienced almost two decades of poor performance in economic growth as well as in other key socio-economic indicators. Since 2000, Africa has been experiencing impressive economic growth comparable to that of developing Asia, the world's fastest-growing region. Many African countries are now among the fastest growing economies in the world. The fastest growing region in Africa is Eastern Africa while Southern Africa is lagged behind. Despite this impressive economic growth in recent years, the value of Africa's GDP is still low. The share of Africa in the world GDP is around 3%. The performance of Africa in terms of per capita GDP growth is still poor as compared to other developing regions. The recent impressive economic growth in Africa is barely above or sometimes below the population growth. This seems to retard Africa's progress towards poverty alleviation and other sustainable development goals. The analysis of the structure of Africa's GDP indicates that African countries are deindustrializing while they are still poor (premature industrialization) because the share of the manufacturing sector is consistently decreasing while the share of the services sector is growing.

Finally, we discussed the pattern of income inequality in Africa. The available data suggest that Africa, as a whole, has recorded a slight decline in inequality in recent years; however, the continent still remains the second most unequal region in the world after Latin America. The high level of the overall income inequality in Africa is mainly driven by Southern Africa, the region with the highest inequality in Africa. The average Gini coefficient of Southern African countries is above 50%. Overall, the analysis reveals that income inequality is high in Africa, and it is undermining the continent's effort towards poverty alleviation and human development.

In Chapter four, we investigate the effects of FDI on growth and inequality using improved methodologies. Firstly, we investigate the potential impact of FDI on economic growth in the African context. As a starting point, we assume that domestic factors do not affect the link between FDI and economic growth. Thus, based on a sample of 26 African countries over the period 1990-2013, we estimate a linear panel model using the fixed effects regression and the Generalized Method of Moments (GMM) techniques. We find that FDI affects negatively economic growth in all the regressions. In other words, FDI undermines economic growth as predicted by the dependency theory.

Secondly, we investigate the conditions under which FDI can promote growth in African countries by using a novel threshold regression model, namely the panel smooth transition regression model which is suitable to control for cross-country heterogeneity. We found that FDI has the potential to stimulate economic growth in Africa but only in countries with institutional quality, financial markets development, and human capital stock beyond a certain threshold. These results suggest that the effect of FDI flows to Africa is not homogenous across African countries. It affects differently economic growth depending on a country's domestic conditions. African countries with sufficient level of absorptive capacity tend to gain from FDI in terms of economic growth. However, in African countries with weak domestic conditions such as poor quality of institutions, weak financial systems, and very low levels of human capital stock, FDI does not promote economic growth. For instance, Adams (2009) concludes that if there is any growth-enhancing effect of FDI in Sub-Saharan African countries, it might be due to productivity gain for local firms through knowledge, technology and management skills transfer rather than augmentation of domestic capital. Our findings indicate that these productivity spillovers of FDI can only be materialized within an environment that promotes quality education (human capital), sound and credible institutions, and active local financial markets. Weakness in these areas undermine, not only the ability of the local firms to adopt the advanced technologies but also reduce their capacity to respond to the challenges associated with FDI activities. In this case, the pursuit of economic growth through FDI liberalization will be fruitless.

Finally, we investigate if there is any impact of FDI on income inequality in African countries. Using the same sample of countries and the same period of study (1990-2013), we apply the fixed effects regression and the Generalized Method of Moments (GMM) as

estimation strategies. The estimation of a linear panel model reveals that FDI increases income inequality as argued by the dependency theorists. We go deeper into the investigation to find if the effect of FDI on income inequality depends on domestic factors or conditions in host countries. To this end, we estimate a panel smooth transition regression model and we find that FDI generates income inequality in countries where the human capital stock is below a certain threshold. However, in countries where the human capital stock has reached a certain optimal level, FDI contributes to improving income distribution. In other words, the findings indicate that the impact of FDI on income inequality in African countries is determined by domestic factors or conditions. Thus, FDI affects inequality differently depending on a host country's domestic conditions. Overall, the key message from the study's findings is that the effect of FDI on economic growth and income inequality is not constant and homogenous across African countries. It varies over time and from country to country depending on their local conditions and policies. In countries with better domestic conditions and policies, FDI stimulates economic growth and reduces income inequality while it undermines growth and increases income inequality in countries with poor domestic conditions. Thus, one cannot state that FDI is inherently bad or good for African countries; its impact is determined by the domestic conditions and policies in the host country.

Several policy implications can be derived from this study. We recommend African countries to continue to implement policies to attract FDI but these policies should absolutely go hand in hand with policies aimed at improving domestic conditions or their level of absorptive capabilities in order to avoid the potential detrimental effect and maximize the economic gain from FDI. In particular, effort should be made to promote an environment that stimulates quality education, strong institutions, and well-functioning local financial markets. Concretely, African countries should increase their investments in education in order to allow a large share of the population to get access to quality education. Training cooperation between local training institutions and the existing foreign firms in African countries should be established in order to promote skills development, especially skilled technical labor. To provide an appropriate institutional framework, special agencies should be established to fight the rampant corruption in African countries, sound and credible judiciary environment should be established by granting the judges more autonomy and independence. Also, administrative bottlenecks (bureaucracy) should be significantly reduced by computerizing the administrative

procedures related to business. Actions and measures aimed at reducing political uncertainty and instability in Africa should be promoted. Effort should equally be made by financial policy-makers in African countries to build sound domestic financial systems that are capable of steering credit and liquidity towards productivity-enhancing investments. For instance, credit guidance policies can be implemented to ensure that bank credit is mainly oriented towards productive investments because when the financial system is left to its own devices, the credit allocation tends to be biased towards speculative assets markets (Schumpeter-Keynes-Minsky's hypothesis). UN-Habitat (2018) report that institutional quality, especially political stability, well-educated labor force, effective banking and financial system along with infrastructure development are among the key determinants of FDI inflows into Africa. This report along with the results found in this study suggests that improvements in human capital stock, institutional quality, and local financial development will not only generate more FDI inflows but also maximize the economic gains from FDI in African countries.

However, this is not to suggest that once there are better domestic conditions, all types of FDI are good for Africa. For instance, the large share of food FDI in Africa is directed towards agricultural land acquisition. Studies indicate that the bulk of 115 million acres of agricultural land acquired by foreign investors worldwide is in Africa. The food production by multinational companies in Africa is mainly tailored towards crops that are not the staple food of African people. Hence, it is predominantly exported to feed people outside the continent. This type of FDI is highly likely to pose a serious threat to food security in Africa as it displaces many African farmers. African countries should abandon the *laissez-faire* attitude towards FDI and follow the *selective attitude* (targeted approach) towards FDI as in Asia, especially East Asian countries. With better domestic conditions and a *selective* attitude towards FDI, these countries were able to acquire advanced technologies and knowledge that enable them to compete globally (Hill, 2009). Similarly, Agosin and Mayer (2000) argue that FDI has been more effective in Asian countries, especially in China, Taiwan, and South Korea than all the other developing regions of the world because of their sufficient level of absorptive capabilities and their targeted approach (selective attitude) to FDI. Although FDI is not the panacea for development in Africa, it can contribute if there are better domestic conditions and policies. African countries should, therefore, improve their local conditions and target the type of FDI

that is in line with their development objective, especially those that can boost the structural transformation and industrialization.

This thesis contributes to the FDI related literature in several ways: Firstly, it addresses the methodological limitations of many previous studies on the effect of FDI on growth and income inequality by using a novel threshold regression approach, namely a panel smooth transition regression model which is rarely used in the literature to investigate these issues. This method has more advantages than the linear interaction model which is usually used to investigate the relationship between FDI, domestic factors, and growth. Many existing studies assume that the effect of FDI on growth and income inequality is constant and homogenous across countries. With the methodology employed in this research, we are able to relax this restrictive assumption by allowing the effect of FDI on growth and income inequality to be country and time-varying. Secondly, to the best of our knowledge, this study is the first to investigate systematically the role of domestic conditions in the FDI- inequality nexus in the specific context of African countries using a threshold regression framework. All in all, the major contribution of this study is the adoption of an improved methodology to capture the dynamic relationship between FDI, domestic factors, economic growth, and income inequality. It allows us to determine the threshold levels of institutional development, financial development and human capital stock required for the materialization of the economic gains from FDI in African countries. Previous studies on this issue in the context of African countries were not able to establish such conclusions.

Finally, as our empirical investigation focuses mainly on aggregate FDI due to data constraints, if data become more available, future research could extend this study by using sectoral FDI (agricultural, manufacturing and services) or the entry mode of FDI (Greenfield and Mergers and Acquisitions) as the impact of FDI on growth and income inequality may vary across sectors or entry mode. Also, the compatibility of FDI with domestic factors may vary across sectors or entry mode. Another avenue for future research which may be a little bit challenging is to develop a panel smooth transition regression model that can accommodate simultaneously all the domestic factors variables (absorptive capability features). This improved model will allow to know if one domestic factor can substitute or complement another in mediating the effect of FDI on economic growth and income inequality in African countries.

APPENDIX

Table A.1: List of the selected countries

Algeria	Malawi
Angola	Mali
Botswana	Morocco
Burkina Faso	Mozambique
Cameroon	Namibia
Cote d'Ivoire	Niger
Egypt	Nigeria
Ethiopia	Senegal
The Gambia	Sierra Leone
Ghana	South Africa
Guinea	Tanzania
Kenya	Tunisia
Madagascar	Uganda

Table A .2: Summary of variables descriptions and data sources

Variable	Description/Definition	Data sources
Growth	Log difference of real GDP per capita in 2011 US dollar purchasing power parity(PPP).	WDI (2017)
FDI	Stock of FDI inflows as a percentage of host country GDP	UNCTAD (2017)
Initial income	Logarithm of real GDP per capita lagged one period in 2011 US dollar purchasing power parity(PPP)	WDI (2017)
Domestic investment	Difference between gross fixed capital formation(GFCF) and net FDI inflows as a percentage of GDP	WDI (2017)
Human capital	Secondary school enrolment ratio	WDI (2017) AfDB(2017)
Population growth	Annual growth rate of the total population	WDI (2017)
Trade openness	Sum of exports and imports as a percentage of GDP	WDI (2017)
Government expenditure	Government final consumption expenditure as percentage of GDP	WDI (2017)
Inflation	Annual growth rate of the GDP deflator	WDI(2017)
Financial development	Private credit as a percentage of GDP Liquid liabilities of the financial system as a percentage of GDP	GFDD (2016)
Institutional quality	Composite index made up of the annual sum of six political risk components (government stability, democratic accountability, corruption, bureaucracy quality, investment conditions, law, and order)	ICRG (2017)

*Note: WDI: World Development Indicators; AfDB: African Development Bank, GFDD: Global Financial Development Database, ICRG: International Country Risk Guide.

REFERENCES

Acemoglu, D., S. Johnson, and J. A. Robinson (2005). Institutions as the fundamental cause of long-run economic growth. *In Handbook of Economic Growth*, edited by P. Aghion and S. Durlauf. Amsterdam: Elsevier.

Acemoglu, D. (1999). Changes in unemployment and wage inequality: An alternative theory and some evidence. *American Economic Review*, 89, 5, 1259–78.

Adams, S. and E. E.O. Opoku (2017). BRICS versus OECD Foreign direct investment impact on development in Africa. E. Wamboye, E.A. Tiruneh (eds.*), Foreign Capital Flows and Economic Development in Africa.*

Adams, S., Klobodu, E.K.M (2017). Capital flows and the distribution of income in sub-Saharan Africa. *Economic Analysis and Policy*

Adams, S., Opoku, E.E.O. (2015). Foreign direct investment, regulations, and growth in sub-Saharan Africa. *Economic Analysis and Policy*.

Adams, S. (2009). Foreign direct investment, domestic investment and economic growth in Sub-Saharan Africa. *Journal of Policy Modelling*, 31, 939–49.

Adjasi, C., Abor, J., Osei, K. A., and Nyavor-Foli, E. E. (2012). FDI and economic activity in Africa: The role of local financial markets. *Thunderbird International Business Review*, 54, 429 – 439.

Agbloyor, E.K., J. Y. Abor, C. K. D. Adjasi, and A. Yawson (2014). Private capital flows and economic growth in Africa: The role of domestic financial markets. *Journal of International Financial Markets, Institutions & Money*, 30, 137–152

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

Aghion, P., and P. Howitt (1998). *Endogenous Growth Theory*, Cambridge, MIT Press.

Aghion, P., and P. Bolton (1997). A theory of trickle-down growth and development. *Review of Economic Studies,* 64(2), 151–72.

Agosin, M. R. and R. Mayer (2000). Foreign investment in developing countries. UNCTAD Discussion Papers, No. 146.

Aggarwal, R. and J.K. Weekly (1982). Foreign operations of Third World multinationals: A literature review and analysis of Indian companies. *The Journal of Developing Areas*, 17, 13-30

Agrawal, G. (2015). Foreign direct investment and economic growth in BRICS economies: A panel data analysis. *Journal of Economics, Business, and Management*, 3, 421–424.

Aitken, B., Hanson, G., and Harrison, A. (1997). Spillovers, foreign investment and export behavior. *Journal of International Economics*, 43, 103–132

Ajayi, S.I. (2006). FDI and economic development in Africa. *ADB/AERC International Conference on Accelerating Africa's Development Five years into the Twenty-First Century*, Tunis, Tunisia.
http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.458.6394&rep=rep1&type=pdf
(09 April 2017)

Ajayi, S.I. (2004). The Determinants of foreign direct investment in Africa: A Survey of the Evidence. African Economic Research Consortium, AERC, Nairobi, Kenya.
https://www.africaportal.org/documents/5981/FDI_papers_booklength_volume.pdf
(09 April 2017)

Ajide, K., Adeniyi, O., Raheem, I. (2014). Does governance impact on the foreign direct investment-growth nexus in Sub-Saharan Africa? *Zagreb International Review of Economics and Business*, 17(2), 71–81.

Aitken, B. J, Harrison A. E (1999). Do domestic firm benefits from direct foreign investment? Evidence from Venezuela. *American Economic Review* 89(3): 605–618.

Aitken, B., Hanson, G., and Harrison, A. (1997). Spillovers, foreign investment and export behavior. *Journal of International Economics*, 43, 103–132.

Akinlo, A. E. (2004). Foreign direct investment and growth in Nigeria: An empirical investigation. *Journal of Policy Modeling*, 26, 627–63

Alderson, A. S., and Nielsen, F. (1999). Income inequality, development, and dependence: a reconsideration. *American Sociological Review*, 64(4), 606–631.

Albuquerque R., (2003). The composition of international capital flows: risk sharing through foreign direct investment. *Journal of International Economics*, 61 (2): 353-383.

Alguacil, M., Cuadros, A., and Orts, V. (2011). Inward FDI and growth: The role of macroeconomic and institutional environment. *Journal of Policy Modelling*, 33, 481 – 496.

Alesina, A., and R. Perotti (1996). Income distribution, political instability, and investment. *European Economic Review*, 40, 1203–1228.

Alfaro, L. (2016). Gains from foreign direct investment: Macro and Micro approaches. *World Bank Economic Review*, pp. 1–14.

Alfaro, L. (2014). Foreign direct investment: Effects, complementarities, and promotion. Harvard Business School Working Paper No. 15-006.

Alfaro, L., A. Chanda, S. Kalemli-Ozcan, and Sayek.S. (2010). How does foreign direct investment promote economic growth? Exploring the effects of financial markets on linkages. *Journal of Development Economics* 91: 242–56.

Alfaro, L., Chanda, S., Kalemli-Ozcan, S. and Sayek, S. (2004). FDI and economic growth: The role of local financial markets. *Journal of International Economics* 64(1), 89-112.

African Development Bank (2012). Income inequality in Africa. Briefing Notes 5. https://www.afdb.org/.../afdb/.../FINAL%20Briefing%20Not (15 May 2017)

African Development Bank (2011). Brazil's economic engagement with Africa. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Brazil%27s_Economic_Engagement_with_Africa_rev.pdf (12 October 2017)

Anderson, S. and Cavanagh J. (2000). The Rise of corporate global power. Institute for Policy Studies, Washington, http://s3.amazonaws.com/corpwatch.org/downloads/ top200.pdf (15 September 2017).

Antras, P., and S. R. Yeaple. (2014). Multinational firms and the structure of international trade. *In Handbook of International Economics*, ed. Gita Gopinath, Elhanan Helpman, and Kenneth Rogoff. Oxford: North Holland.

Anwar, I. and M. Mughal (2013). The role of diaspora in attracting Indian OFDI. *International Journal of Social Science*, vol. 40, No. 11.

Anyanwu, J.C., Erhijakpor, E. O and Emeka, O. (2016). Empirical analysis of the key drivers of income inequality in West Africa. *African Development Review*, Vol. 28, No. 1, 18–38.

Anyanwu, J. C. and N. D. Yaméogo (2015). Regional comparison of foreign direct investment to Africa: Empirical analysis. *African Development Review*, Vol. 27, No. 4, 345–363

Anyanwu, J. C. (2011). International remittances and income inequality in Africa. *Review of Economic and Business Studies*, Vol. IV, Issue 1, pp. 117–48.

Amin, S. (1974). *Accumulation on a world scale: A critique of the theory of underdevelopment*. New York: Monthly Review Press.

Arellano, M., and Bond, S. (1991). Some tests of specification for panel data: Monte Carlo Evidence and an application to employment equations. *The review of economic studies*, 58(2), 277-297.

Arghiri, E. (1972). *Unequal exchange: A study of the imperialism of Trade*. New York: Monthly Review Press.

Arrow, K. (1962). Economic welfare and the allocation of resources for invention. In K. Arrow (Ed.), *The rate, direction of inventive activity: Economic, social factors* (pp. 609–626). MA: NBER.

Asamoah, L.D., Mensah, E.K., and Bondzie, E.A (2019). Trade openness, FDI and economic growth in sub-Saharan Africa: do institutions matter? *Transnational Corporations Review*

Ashraf, A., D. Herzer and P. Nunnenkamp (2015). The effects of Greenfield FDI and Cross-border M&As on total factor productivity. *The World Economy*

Asiedu, E. (2002). On the determinants of FDI to developing countries: Is Africa different? *World Developmen*t, 30(1), 107-119.

Asteriou, D. S. Dimelis, A. Moudatsou (2014). Globalization and income inequality: A panel data econometric approach for the EU27 countries. *Economic Modelling*.

Ayanwale, A. B. (2007). FDI and economic growth: Evidence from Nigeria. African Economic Research Consortium, Research Paper No.165.

Azman-saini, W, A., Baharumshah and S. H. Law (2010). Foreign direct investment, economic freedom and economic growth: International evidence. *Economic Modelling*, Vol. 27, No.5, 1079-89.

Azman-saini, S. H. Law, A.H. Ahmad (2010). FDI and economic growth: New evidence on the role of financial markets. *Economics Letters*,107, pp. 211–213

Baldwin, R., Braconier, H., and Forshid, R. (2005). Multinationals, endogenous growth, and technological spillovers: theory and evidence. *Review of International Economic*s, 13, 945–963.

Bhagwati, J., (2004). *In Defense of Globalization*. New York, NY: Oxford University Press.

Bhagwati, J. (1978). Anatomy and consequences of exchange control regimes. *National Bureau of Economic Research*, USA.

Baharumshah, A.Z; Ly, S. and E. S. Devadason (2015). Types of foreign capital inflows and economic growth: new evidence on the role of financial markets. *Journal of International Development*

Barclay (2000). *Foreign direct investment in emerging economies: Corporate strategy and investment behavior in the Caribbean*. Volume 16, Routledge studies in international business and the world economy.

Barro, R. J. (2000). Inequality and growth in a panel of countries. *Journal of Economic Growth*, Vol. 5, No. 1, pp. 5–32.

Barro, R.J. and Sala-i-Martin X., (1997). Technological diffusion, convergence, and growth., *Journal of Economic Growth*, 2(1): 1-26.

Barro, R.J., Mankiw, N.G., and Sala-i-Martin (1995). Capital mobility in neoclassical models of growth. *American Economic Review*, 85, pp.103-115.

Barro, R.J. (1990). Government spending in a simple model of endogenous growth. *Journal of Political Economy*, 98, pp.103-125.

Basu, P., and A. Guariglia (2007). Foreign direct investment, inequality, and growth. *Journal of Macroeconomics*, 29 (2007) 824–839

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

Beck, T., Demirgüç-Kunt, A., Levine, R. (2007). Finance, inequality and the poor. *Journal of Economic Growth*, 12, 27–49

Beck, T., Levine, R., and Loayza, N. (2000). Finance and the sources of growth. *Journal of Financial Economics* 58: 261–300.

Bhandari, B. (2007). Effect of inward foreign direct investment on income inequality in transition countries. *Journal of Economic Integration*, 22(4), 888–928.

Bhinda, N., S. Griffith-Jones and M. Martin (1999). The scale and monitoring of capital flows. In Nils Bhinda, Jonathan Leape, Matthew Martin, and Stephany Griffith-Jones, eds., *Private Capital Flows to Africa: Perception and Reality*. The Hague: Forum on Debt and Development.

Bhorat, H., K. Naido and K. Pillay (2016). Growth, poverty and inequality interactions in Africa: An overview of key issues. UNDP Working Paper Series No.1/2016. https://ideas.repec.org/p/ags/undpae/267778.html(11 November 2017)

Biørn, E., and X. Han (2017). Revisiting the FDI impact on GDP growth in errors-in-variables models: a panel data GMM analysis allowing for error memory. *Empirical Economics*

Blackburn, R., (2006). Finance and the fourth dimension. *New Left Review*, 39, 39-70.

Blomstrom, M. and A. Kokko (2003). Human capital and inward FDI. Stockholm School of Economics, Working Paper No. 167.

Blomstrom, M., and A. Kokko, A. (1998). Multinational corporations and spillovers. *Journal of Economic Surveys*, 12(3), 247–277
.
Blonigen, B. and M. Slaughter (2001). Foreign-affiliate activity and U.S. Skill upgrading. *Review of Economics and Statistics*. 83: 362–376.

Bogliaccini, J. A, Egan, P.J. W (2017). Foreign direct investment and inequality in developing countries: Does sector matter? *Economics and Politics*, 29:209–236.

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

Bornschier, Volker and C. Chase-Dunn (1985). *Transnational corporations and under-development*. New York: Praeger.

Brahim, M., Rachdi, H. (2014). Foreign direct investment, institutions and economic growth: Evidence from the MENA Region. *Journal of Reviews on Global Economics*, 3, 328–339.

Bresman, H., Birkinshaw, J. and R. Nobel (1999). Knowledge transfer in international acquisitions. *Journal of International Business Studies*. 30: 439–462.

Bruno, R.L., Campos, N.F. (2013). Reexamining the conditional effect of foreign direct investment. IZA Discussion Paper No. 7458. http://ftp.iza.org/dp7458.pdf (25 February 2017)

Buckley, P.J. and M. Casson (1976). *The future of the multinational enterprise.* Macmillan, London.

Busse, M, Groizard, J. L. (2008). Foreign direct investment, regulations, and growth. *World Economy*, 31(7): 861–886

Calvo, G. A., L. Leiderman, and C. M. Reinhart (1996). Inflows of capital to developing countries in the 1990s. *Journal of Economic Perspectives*, 10, 123-139.

Campos, N. F., and Y. Kinoshita (2010). Structural reforms, financial liberalization, and foreign direct investment. *IMF Staff Papers*, 57, 2010, 326–65.

Campos, N.F., and Y. Kinoshita. (2003). Why does FDI go where it goes? New evidence from the transition economies. IMF Working Paper, No. WP/03/228.

Cardoso, F.H. and Faletto, E. (1979). *Dependency and development in Latin America*. University of California Press.

Caves, R.E. (1971). International corporations: The industrial economics of foreign investment. *Economica*, vol. 38, No. 149.

Caves, R. E, (1974). Multinational firms, competition and productivity in host-country Markets. *Economica*, 41(6):176-793.

Chang, H.J. (1998). Globalization, transnational corporations, and economic development: Can the developing countries pursue strategic industrial policy in a globalizing world economy? *In Globalization and Progressive Economic Policy*, Cambridge University Press.

Chao-H. H, Kai-F.T. and P-L., Tsai (2016). Inward and outward foreign direct investment and inequality: Evidence from a group of Middle-Income countries. *Global Economy Journal*.

Chauvin, N. P, Mulangu, F., and G. Porto (2012). Food production and consumption trends in Sub-Saharan Afric.Working paper No. 2012-011, UNDP Regional Bureau for Africa. http://www.africa.undp.org/content/rba/en/home/library/working-papers/food-production-consumption-trends.html (20 October 2017)

Chen, C. (2017*). Foreign direct investment and the Chinese economy: A critical assessment*. Edward Edgar Publishing, Cheltenham, UK.

Chen, J. and Quang, T. (2014). The impact of international financial integration on economic growth: New evidence on threshold effects. *Economic Modelling*, 42(2014), 475-489.

Chintrakarn, P., D. Herzer, and N. Nunnenkamp (2012). FDI and income inequality: Evidence from a panel of U.S. States. *Economic Inquiry*, 50, 2012, 788–801.

Cho, H. C., and M. D. Ramirez (2016). Foreign direct investment and income inequality in Southeast Asia: a panel Unit Root and Panel Cointegration Analysis, 1990–2013. *Atlantic Economic Journal*, 411–424

Choi, C. (2006). Does foreign direct investment affect domestic income inequality? *Applied Economics Letters*, 13, 811–814.

Claessens, S, A., Demirgüç-Kunt and H. Huizinga (2001). How does foreign entry affect domestic banking markets? *Journal of Bank and Finance*, 25, 891-911.

Clark, D.P., Highfill, J., Campino, J. d O., and Rehman, S.S. (2011). FDI, technology spillovers, growth, and income inequality: A selective survey. *Global Economy Journal*, 11, 1–44.

Colletaz, G. and Hurlin, C. (2006). Threshold effects of the public capital productivity: An international panel smooth transition approach. Document de Recherche du Laboratoire d'Economie d'Orléans. https://halshs.archives- ouvertes.fr/halshs-0008056 (16 January 2018)

Colen, L., Maertens, M. and J. Swinnen (2008). Foreign direct investment as an engine for economic growth and human development: a review of the arguments and empirical evidence. Working Package FDI-1, No.16, Leuven Centre for Global Governance Studies. https://lirias.kuleuven.be/1742226 (16 September 2017)

Das, D.K., (2010). *Financial globalization: Growth, integration, innovation and crisis*. New York, NY: Palgrave Macmillan.

Das, S. (1987). Externalities and technology transfer through multinational corporations. *Journal of International Economics*, 22, 171–182.

De Gregorio, J. (1992). Economic growth in Latin America. *Journal of Development Economics*, 39, 59– 84.

De Melo, L.R.Jr. (1999). Foreign direct investment-led growth: Evidence from times series and panel data. *Oxford Economic Papers*, 51, 133-151.

De Melo, L.R. Jr (1997). Foreign direct investment in developing countries and growth: A selective survey. *Journal of Development Studies*, 34:1, 1-34.

Demena, B. A. and P. A. G. van Bergeijka (2016). A meta-analysis of FDI and productivity spillovers in developing countries. *Journal of Economic Surveys*, 1–26.

Demirgüç-kunt, A. and Levine, R. (2009). Finance and inequality: Theory and evidence. World Bank Policy Research Working Paper Series, No. 4967.

Dimelis, Sophia P., and Sotiris K. Papaioannou. (2010). FDI and ICT effects on productivity growth: A comparative analysis of developing and developed countries. *European Journal of Development Research*, 22(1), 79-96.

Dornbusch, R., Fischer, S., Startz, R. (2011). *Macroeconomics*. 11th Edition. New York, McGraw-Hill Companies Inc.

Dunning, J.H., (2001). The Eclectic (OLI) paradigm of international production: Past, present and future. *International Journal of the Economics of Business*, vol. 8, No. 2., 173-190.

Durham, J. (2004). Absorptive capacity and the effects of foreign direct investment and equity foreign portfolio investment on economic growth. *European Economic Review*, 48(2), 285-306.

Dutta, N. and K. Osei-Yeboah (2010). A new dimension to the relationship between foreign direct investment and human capital: The role of political and civil rights. *Journal of International Development*.

Eichengreen, B. (2001). Capital account liberalization: what do cross-country studies tell us? *World Bank Economic Review*, 15(3), 341-365.

Elliot, J., K., McLoughlin, and E., Rankin (2014). Cross-border capital flows since the global financial crisis. Reserve Bank of Australia Bulletin.
https://www.rba.gov.au/publications/bulletin/2014/jun/pdf/bu-0614-8.pdf (14 March 2017)

Ernst & Young (2017). Ernst & Young's attractiveness program Africa 2017: Connectivity redefined, EYGM Limited. https://tr.scribd.com/document/382317200/Ey-Attractiveness-Program-Africa-2017-Connectivity-Redefined (10 April 2018)

Ernst & Young (2016). Ernst & Young's attractiveness program Africa 2016: Navigating Africa's current uncertainties, EYGM Limited. https://www.tralac.org/images/docs/9673/ey-attractiveness-program-africa-2016.pdf (10 April 2018)

Ernst & Young (2015). Ernst & Young's attractiveness survey Africa 2015: Making Choices, EYGM Limited. https://www.avca-africa.org/media/1267/ey-africa-attractiveness-survey-2015-making-choices.pdf (10 April 2018)

Ernst & Young (2014). Ernst & Young's attractiveness survey Africa 2014: Executing growth, EYGM Limited. https://www.eatradehub.org/_ernst_young_attractiveness_survey(10 April 2018)

Esso, L. J. (2010). Long-run relationship and causality between foreign direct investment and growth: Evidence from ten African countries. *International Journal of Economics and Finance*, 2, 168–177.

ERT (2000). European roundtable of industrialists. *Improved investment conditions: Third survey on improvements in conditions for investment in the developing world*, Brussels. https://www.ert.eu/sites/ert/files/generated/files/document/improved_investment_conditions.pdf(14 March 2017)

Evans, P. B (1989). Predatory, developmental, and other apparatuses: A comparative political Economy perspective on the Third World State. *Sociological Forum* 4:561-587.

Evans, P. B. (1985). Transnational linkages and the economic role of the State: An analysis of developing and industrialized nations in the Post-World War II Period. *In Bringing the State Back*, edited by P. B. Evans, D. Rueschemeyer, and T. Skocpol. Cambridge: Cambridge University Press.

Farkas, B. (2012). Absorptive capacities and the impacts of FDI on economic growth. Discussion Paper, DIW Berlin. http://www.diw.de/discussionpapers. (11 November 2017)

Feenstra, R. C., and Hanson, G. (1997). Foreign direct investment and relative wages: evidence from Mexico's maquiladoras. *Journal of International Economics*, 42(3/4), 371–393.

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

Feeny, S. Iamsiraroj, and M. McGillivray (2014). Growth and foreign direct investment in the Pacific Island countries. *Economic Modelling* 37, 332–339.

Figini, P., and Gorg, H. (2011). Does foreign direct investment affect wage inequality? An empirical investigation. *World Economy*, 34(9), 1455–1475.

Findlay, R. (1978). Relative backwardness, direct foreign investment, and the transfer of technology: A simple dynamic model. *The Quarterly Journal of Economics*, 92, 1–16.

Firebaugh, G. and Beck, F. (1994). Does economic growth benefit the masses? Growth, dependence, and welfare in the Third World. *American Sociological Review* 59, 5, 631-653.

Ford, T.C, Jonathan, C. R, and Bruce, T. E. (2008). Foreign direct investment, economic growth, and the human capital threshold: Evidence from US States. *Review of International Economics,* 16(1), 96–113, 2008.

Fosfuri, A., Massimo M., and T. Ronde (2001). Foreign direct investment and spillovers through workers' mobility. *Journal of International Economics*, 53, 205–222.

Fouquau, J., C. Hurlin and I. Rabaud (2008). The Feldstein–Horioka Puzzle: A panel smooth transition regression approach. *Economic Modelling*, 25, 2, 284–99.

Franco, C., and Gerussi, E. (2013). Trade, foreign direct investments and income inequality: empirical evidence from transition countries. *The Journal of International Trade and Economic Development*, 22(8), 1131–1160.

Girma, S. (2005). Absorptive capacity and productivity spillovers from FDI: A threshold regression analysis. *Oxford Bulletin of Economics and Statistics*, 67 (3): 281-306.

Glass, A., and Saggi, K. (2002). Intellectual property rights and foreign direct investment. *Journal of International Economics*, 56, 387- 410.

Glass, A., and Saggi, K. (1998). International technology transfers and the technology gap. *Journal of Development Economics*, Vol. 55, 369-398.

Gonzalez, A., Teräsvirta, T., and Dijk, D.V. (2005). Panel smooth transition regression models. Stockholm School of Economics, Working Paper Series in Economics and Finance No. 604.

Gopinath, M., and W. Chen (2003). Foreign direct investment and wages: A cross-country analysis. *Journal of International Trade and Economic Development*, 12, 285–309.

Gorg, H., Greenaway, D. (2004). Much ado about nothing? Do domestic firms really benefit from foreign direct investment? *World Bank Research Observer* 19(2): 171–197.

Graham, E., and P. Krugman (1995). Foreign direct investment in the United States. 3rd Edition, Peterson Institute Press, Washington, DC.

Greenwood, J., and B. Jovanovic (1990). Financial development, growth, and the distribution of income. *Journal of Political Economy*, 98, 1990, 1076–107.

Greenaway, D., Sousa, N., and Wakelin, K. (2004). Do domestic firms learn to export from multinationals? *European Journal of Political Economy*, 20(4), 1027–1043.

Gui-Diby, S. L. (2014). Impact of foreign direct investments on economic growth in Africa: Evidence from three decades of panel data analyses. *Research in Economics*, Vol. 68, 248–56.

Haddad, M., and Harrison, A. (1993). Are there positive spillovers from direct foreign investment? Evidence from panel data for Morocco. *Journal of Development Economics*, 42, 51–74.

Hanson, G. H. (2001). Should countries promote foreign direct investment? G-24 Discussion Paper 9. http://www.unctad.org/en/Docs/pogdsmdpbg24d9.en.pd (15 February 2019)

Harrison, A. E., and McMillan, M. S. (2003), "Does direct foreign investment affect domestic credit constraints? *Journal of International Economics*, 61(1), 73–100.

Harrison, A, and A. Rodrı´guez-Clare (2010). Trade, foreign investment, and industrial policy for developing countries. *In Handbook of Development Economics*, vol. 5, ed. Dani Rodrik, and Mark Rosenzweig, 4039–214. Oxford: North Holland.

Harms, P., and P.-G. Méon (2011). An FDI is an FDI is an FDI? The growth effects of Greenfield investment and Mergers and Acquisitions in developing countries. Proceedings of the German Development Economics Conference, Berlin 2011.
https://www.econstor.eu/bitstream/10419/48294/1/38_harms.pdf (9 November 2017).

Harvey, D., (2012), *The Enigma of Capital: And the crises of capitalism.*

Hermes, N., Lensink, R., (2003). Foreign direct investment, financial development and economic growth. *Journal of Development Studies* 40 (1), 142–163.

Herzer, D., Hühne, P., and Nunnenkamp, P. (2014). FDI and income inequality: Evidence from Latin American economies. *Review of Development Economics*, 18(4), 778–793, 2014

Herzer, D., and Nunnenkamp, P. (2013). FDI and income inequality: Evidence from Europe. *Review of World Economics*, 149:395–422

Herzer, D. (2012). How Does foreign direct investment really affect developing countries growth? *Review of International Economics*, 20(2), 396–414, 2012

Herzer, D., Klasen, S., and Nowak-Lahman, D. (2008). In search of FDI-led growth in developing countries. *Economic modeling* 25, 793-810.

Hill, C.W.L. (2009). *International business competing in the global marketplace*

Hsu, C.-C. and J.-Y. Wu (2009). FDI and economic growth: revisiting the role of financial market development. Far East and South Asia Meeting of the Econometric Society, Tokyo
https://pdfs.semanticscholar.org/ba05/e7c5aa976e34f839c407e91d06219402345e.pdf
(13 December 2017)

Hymer, S.H. (1976). The *international operation of national firms: A study of direct foreign investment*. MIT Press, Cambridge, MA, United States.

Iamsiraroj, S. (2015). The foreign direct investment-economic growth nexus. *International Review of Economics and Finance.*

Im, H., McLaren, J. (2015). Does foreign direct investment raise income inequality in developing countries? A new instrumental variables approach. https://www.rse.anu.edu.au/media/772451/Im-Hyejoon.pdf (4 November 2017)

IMF (2015). Causes and consequences of income inequality: A global perspective. IMF Staff Discussion Note No.SDN/15/13. https://www.imf.org/external/pubs/ft/sdn/2015/sdn1513.pdf (12 February 2018)

Javorcik, B. S. (2004). Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages. *American Economic Review*, 94(3): 605-627.

Jaumotte, F., S. Lall, and C. Papageorgiou (2013). Rising income inequality: Technology, or trade and financial globalization? *IMF Economic Review*, 61(2): 271-309.

Jaworek, M., Kuzel, M. (2015). Transnational corporations in the world economy: Formation, development and present position. *Copernican Journal of Finance & Account*ing, 4(1), 55–70

Jensen, N.M., and G. Rosas (2007). Foreign direct investment and income inequality in Mexico, 1990– 2000. *International Organization*, 61, 467- 487

Jones, G., (2005). *Multinationals and global capitalism from the nineteenth to the twenty-first century.* Oxford University Press, New York, NY:

Jude, C., and G. Levieuge (2016). Growth effect of foreign direct investment in developing economies: The role of institutional quality. *The World Economy*

Kai, H. and S. Hamori (2009). Globalization, financial depth, and inequality in Sub-Saharan Africa. *Economics Bulletin*, Vol.29, issue 3, 2025-2037.

Kaulihowa, T., and Adjasi. C. (2017). FDI and income inequality in Africa. *Oxford Development Studies*.

Khawar, M. (2005). Foreign direct investment and economic growth: A cross-country analysis. *Global Economics Journal*, pp 1–10.

Kindleberger, C.P. (1969). American business abroad. Yale University Press, New Haven, CT, United States.

Kleinert J. (2004). The role of multinational enterprises in globalization. Springer-Verlag, Berlin and Heidelberg and New York.

Klein, M. W., and G. P. Olivei (2008). Capital account liberalization, financial depth, and economic growth. *Journal of International Money and Finance*, 27, 861–75.

Knickerbocker, F.T. (1973). Oligopolistic reaction and multinational enterprise. Division of Research, Harvard University, United States.

Kokko, A., Zejan, M., and Tansini, R. (2001). Trade regimes and spillover effects of FDI: evidence from Uruguay. *Weltwirtschaftliches Archiv*, 137(1), 124–149.

Kokko, A. (1994). Technology, market characteristics, and spillovers. *Journal of Development Economics*, 43(2), 279–293.

Kose, M.A., Prasad, E., Rogoff, K., Wei, S. J. (2006). Financial globalization: a reappraisal. IMF Working Paper, No. 06/189.

Kose, A., Prasad, E.S., Taylor, A.D. (2009). Threshold in the process of international financial integration. *National Bureau of Economic Research(NBER) working paper,* No.14916.

Lakner, C. and B. Milanovic (2013). Global income distribution: From the fall of the Berlin wall to the great recession. World Bank Policy Research Working Paper, No. 6719

Lee, E., and Vivarelli, M.(2006b). The social impact of globalization in developing countries. *International Labor Review*, 145(3), 167–184.

Lensink, R., and O. Morrissey (2006). Foreign direct investment: Flows, volatility, and the impact on growth. *Review of International Economics*, 14(3), pp. 478-493.

Levine, R., Loayza, N., Beck, T. (2000). Financial intermediation and growth: Causality and causes. *Journal of Monetary Economics* 46, pp. 31-77.

Levine, R. and Renelt, D. (1992). A sensitivity analysis of cross-country growth regression. *American Economic Review*, 82(4): 942-63.

Li, X., and X. Liu. (2005). Foreign direct investment and economic growth: An increasingly endogenous relationship. *World Development*, 33(3), 393-407.

Lin Shu-Chin, Kim Dong-Hyeon, and Yi-Huey Lee (2014). Financial development and the FDI-Inequality nexus. *Contemporary Economic Policy*.

Lin Shu-Chin, Kim Dong-Hyeon, and Yi-Chen Wu (2013). Foreign direct investment and income inequality: human capital matters*? Journal of regional science*, vol. 53, NO. 5, 2013, 874–896

Lipsey, R. E. (2002). Home and host country effects of FDI. National Bureau of Economic Research (NBER) working paper, No. 9293.

Liu, Z (2008). Foreign direct investment and technology spillovers: Theory and evidence. *Journal of Development Economics* 85 (2008) 176–193

Lucas, R. (1990). Why doesn't capital flow from rich to poor countries? *American Economic Review*, 80, 92–96

.

Lucas, R. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22, 3–42.

Macias, J. B., and Massa, I. (2009). The global financial crisis and Sub-Saharan Africa: The effects of slowing private capital inflows on growth. Overseas Development Institute (ODI) working paper No.304. https://www.odi.org/publications/3367-global-financial-crisis-and-sub-saharan-africa-effects-slowing-private-capital-inflows-growth(12 October 2017)

Mclaren, J. and M. Yoo (2017). FDI and inequality in Vietnam: An approach with census data. *Journal of Asian Economics* 48, 134–147

Maddala, G.S. and S. Wu (2000). Cross-country growth regressions: problems of heterogeneity, stability and interpretation. *Applied Economics*, 32:5, pp.635-642.

Mahembe, E. E (2016). Does foreign direct investment cause economic growth? A dynamic panel data analysis for SADC countries., *International Journal of Emerging Markets*, Vol. 11 Iss 3.

Mahler, V.A., David K. J, and Douglas D. R. (1999). Exploring the impact of trade and investment on income inequality. *Comparative Political Studies*, 32, 363–395

Mah, J.S. (2003). A Note on globalization and income distribution: The Case of Korea, 1975–1995. *Journal of Asian Economics*, 14, 157–164.

Mah, J. S. (2012). Foreign direct investment, labor unionization and income inequality of Korea. *Applied Economics Letters*, 19:15, 1521-1524.

Makki, S. S. and A. Somwaru (2004). Impact of foreign direct investment and trade on Economic growth: Evidence from developing countries. *American Agricultural Economics Association*, Vol. 86, 795–801.

Malikane, C. and P. Chitambara (2017). Foreign direct investment, democracy and economic growth in Southern Africa. *African Development Review*, Vol. 29, No. 1, 2017, 92–102.

Mankiw, N., Romer, D., and Weil N. (1992). A contribution to the empirics of economic growth. *National Bureau of Economic Research*, No. w3541, pp. 407-437.

Markusen, J. R., and Venables, A. J. (1999). Foreign direct investment as a catalyst for industrial development. *European Economic Review* 43(3), 335-338.

Mateev, M (2009). Determinants of foreign direct investment in Central and Southeastern Europe: New empirical tests. *Oxford Journal*, Vol. 8, N. 1, 133-149.

Mckinnon, R. I. (1973*). Money and capital in economic development*, Washington, DC: Brookings Institute.

Mencinger, J. (2003). Does foreign direct investment always enhance economic growth? *International Review of Social Sciences* 56 (4), 491-508.

Meyer, K. and Sinani, E. (2009). Where and when does foreign direct investment generate positive spillovers? A meta-analysis. *Journal of International Business Studies* 40, 1075-1094.

Mihaylova, S. (2015). Foreign direct investment and income inequality in Central and Eastern Europe. *Theoretical and Applied Economics*, XXII, pp.23–42.

Milanovic, B. (2005). Can we discern the effect of globalization on income distribution? Evidence from household surveys. *World Bank Economic Review* 19, 21–44.

Milanovic, B (2006). Global income inequality: What it is and why it matters? United Nations Department of Economic and Social Affairs Working Paper No. 26.

Mody, A. and K. Srinivasan (1998). Japanese and United States firms as foreign investors: Do they march to the same tune? *Canadian Journal of Economics*, 31(4): 778–99.

Moran. T. H. (1998). *Foreign direct investment and development: The new policy agenda for developing countries and economies in transition*. Peterson Institute Press, Washington, DC.

Mishkin, F.S., (2006). *The next great globalization: How disadvantaged nations can harness their financial system to get rich*. Princeton, NJ: Princeton University Press

Moosa, I. A., (2002). *Foreign direct investment: Theory, evidence and practice*. Palgrave, New York. Anthony Rowe Limited.

Moran, T. H. (1978). Multinational corporations and dependency: A dialogue for dependentistas and nondependentistas. *International Organization*, 32, 79–100.

Mundell, R. A. (1957). International trade and factor mobility. *American Economic Review*, 47(3), 321–335.

Mwilima, N. (1994). Foreign direct investment in Africa. Social observatory pilot project – final draft Report. Africa Labour Research Network. https://sarpn.org/documents/d0000883/P994African_Social_observatory_pilotproject_FDI.pf (15 May 2017)

Ndikumana, L., and Verick, S. (2008). The linkages between FDI and domestic investment: Unraveling the developmental impact of foreign investment in Sub-Saharan Africa. *Development Policy Review*, 2008, 26 (6): 713-726.

Nath, H. K. (2009). Trade, foreign direct investment, and growth: Evidence from transition economies. *Comparative Economic Studies*, 51(1), pp. 20-50.

Ndambendia, H., and Njoupouognigni, M. (2010). Foreign aid, foreign direct investment and economic growth in Sub-Saharan Africa: Evidence from pooled mean group estimator. *International Journal of Economics and Finance*, 2, 39–45.

Neuhaus, M. (2006). *The impact of FDI on economic growth: An analysis for the transition countries of Central and Eastern Europe*. Physica-Verlag, Springer Science and Business Media.

Ng, T. H. (2007). Has foreign direct investment led to higher productivity in Sub-Saharan Africa? UNIDO Staff working paper No. 08/2008.

Nobakht, M. and S. Madani (2014). Is FDI spillover conditioned on financial development and trade liberalization: Evidence from UMCs? *Journal of Business and Management Sciences*, vol. 2: 26-34.

North, D.C., (1990). *Institutions, institutional change, and economic performance*. Cambridge University Press, Cambridge.

Nuno, C. and Fontoura, M.P. (2007). Determinants factors of FDI spillovers –What do we really know? *World Development* Vol.35, No.3 pp 410-425

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

Obstfeld, M. (1998). The global capital market: Benefactor or menace? *Journal of Economic Perspectives*, 12(4), 9-30.

Obstfeld, M. and Taylor, A.M. (2004). *Global capital markets: Integration, crisis, and growth.* Cambridge: Cambridge University Press.

Odedokun, M. O. and J. I. Round (2004). Determinants of income inequality and its effects on economic growth: Evidence from African Countries. *African Development Review*, Vol. 16, No. 2, pp. 287–327.

Okojie, C. and Simeles, A. (2006). Inequality in sub-Saharan Africa: a synthesis of recent research on the levels, trends, effects and determinants of inequality in its different dimensions. Organization for Economic Cooperation and Development, 1996. *Benchmark Definition of Foreign Direct Investment*, 3rd Edition, Paris

O'Rourke, K. H. Daudin, G., M., and Morys (2008). Globalization, 1870-1914. Discussion paper series No. 395, Department of Economics, Oxford University.

Omri, A., and Kahouli, B. (2014). The nexus among foreign investment, domestic capital and economic growth: Empirical evidence from the MENA region. *Research in Economics*, 68, 257–263.

Oteng-Abayie, E.F. and Frimpong J. M (2006). Bounds testing approach to Cointegration: An Examination of Foreign Direct Investment Trade and Growth Relationships. *American Journal of Applied Sciences* 3 (11): 2079-2085.

Page, J. (2015). Made in Africa: Some new thinking for Africa Industrialization Day. www.brookings.edu/blog/africa-in-focus/2015/11/19/made-in-africa-some-new-thinking-for-africa-industrialization-day(5 March 2018).

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

Peluffo, A. (2015). Foreign direct investment, productivity, demand for skilled labor and wage inequality: An analysis of Uruguay. *The World Economy*

Peng, M.W. (2003). Institutional transitions and strategic choices. *Academy of Management Review*, 28(2): 275–296.

Persson, T. and G. Tabellini (1994). Is inequality harmful for growth? *American Economic Review*, 84, 600–621.

Petras, J. (1981). Dependency and World-System theory: A critique and new directions. *Latin American Perspectives*, Vol. 8, No. 3/4, pp. 148-155

Pigato, M. (2001). The foreign direct investment environment in Africa. Africa Region Working Paper Series No. 15. The World Bank, Washington, D.C.

Piketty, T. (2014). *Capital in the 21st century*. Harvard University Press

Prasad, E, K. Rogoff, S-J. Wei, and M. A. Kose. (2003). Effects of financial globalization on developing countries: Some empirical evidence. IMF Occasional Paper No.220.

Presbisch, R. (1968). Development problems of the peripheral countries and the terms of trade. In *D. James (Ed.), Economics of trade, development*. New York: Wiley.

Ramírez, M. D. (2010). Foreign direct investment in Mexico: A cointegration analysis. *Journal of Development Studies*, Vol.37, No.1, 138–162

Ravallion, M. and S. Chen (2007). China's (Uneven) progress against poverty. *Journal of Development Economics*, 82(1): 1-42.

Reuveny, R., and Li, Q. (2003). Economic openness, democracy, and income inequality: An empirical analysis. *Comparative Political Studies*, 36(5), 575–601

Roodman, D. (2009). How to do xtabond2: An introduction to Difference and System GMM in Stata. *The STATA Journal, 9(1), 86-136.*

Rodrik, D. (2013). The past, present, and future of economic growth. Working paper, Global Citizen Foundation. http://www.gcf.ch/wp-content/uploads/2013/06/GCF_Rodrik-working-paper-1-6.17.131.pdf (14 June 2018)

Rodrik, D. and Subramanian, A. (2009). Why did financial globalization disappoint? *IMF Staff Papers*, Vol. 56, No. 1.

Romer, M. (1986). Increasing returns and long-run growth. *Journal of Political Economy*, 94, 1002–1037.

Sakyi, D., Commodore, R., and Opoku, E. E. O. (2015). Foreign direct investment, trade openness and economic growth in Ghana: An empirical investigation. *Journal of African Business*, 16(1–2), 1–15.

Seetanah, B. (2009). Is foreign direct investment growth conducive? New evidence from Sub-Saharan African countries, 1980-2005. *Applied Econometrics and International Development*, Vol- 9-2.

Seyoum, M., Wu, R. And Lin, J. (2015). Foreign direct investment and economic growth: The case of developing African economies. *Social Indicator Research*, 122: 45.

Sharma, B and J. Abekah (2017). Foreign direct investment, foreign aid and incomes inequality: Empirical insights from African and South American countries. *Transnational Corporations Review*.

Sharma, B., and Abekah, J. (2008). Foreign direct investment and economic growth of Africa. *Atlantic Economic Journal*, 36, 117–118.

Shen, C-H, C-C, Lee, and Chi-Chuan Lee (2010). What makes international capital flows promote economic growth? An International Cross-Country Analysis. *Scottish Journal of Political Economy*, 57(5), 515-546.

Schumpeter, J. (1934). *The theory of economic development*. Harvard University Press, Cambridge, MA

Slesman, L., Baharumshah, A.Z., and Wohar, M. E (2015). Capital inflows and economic growth: Does the role of institutions matter? *International Journal of Finance & Economics*, 20: 253–275

Solomon, E. M (2011). Foreign direct investment, host country factors and economic growth. *Ensayos Revista de Economía*, Volumen XXX, No. 1, 41-70.

Solow, R.M., (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics*, 70: 65-94.

Solow, R.M., (1957). Technical change and the aggregate production function. *Review of Economics and Statistics*, 39: 312-320.

Solt, F. (2016). The Standardized World Income Inequality Database. *Social Science Quarterly* 97. SWIID Version 5.1.

Spero, J.E. (1990). *The politics of international economic relations*. 4th Edition, Routledge

Srinivasan, T. N. (1995). Long-run growth theories and empirics: anything new? in *Growth Theories in light of the East Asian Experience*, T. Ito and A. C. Krueger (eds), University of Chicago Press, pp. 37-70.

Stiglitz, J.E., (2002). *Globalization and its Discontents*. New York, NY: W.W. Norton and Company.

Su, Y. and Liu, Z. (2015). The impact of foreign direct investment and human capital on economic growth: Evidence from Chinese cities. *China Economic Review*.

Sylwester, K. (2005). Foreign direct investment, growth and income inequality in Less Developed Countries. *International Review of Applied Economics*, 19(3), 289–300.

Şişman, M. (2011). *Uluslararası paranın ekonomi politğgi ve kriz*. Kalkedon Yayınlari, Istanbul.

Tanna, S., Li, C., and De Vita, G. (2018). The role of external debt in the foreign direct investment - growth relationship. *International Journal of Finance & Economics*, 1-20

Taylor, K., and N. Driffield (2005). Wage inequality and the role of multinationals: Evidence from UK Panel Data. *Labor Economics*, 12, 223–49.

Te Velde, D.W. (2003). Foreign direct investment and income inequality in Latin America: Experiences and policy implications. *Research reports and studies*, Overseas Development Institute, London, UK.

Te Velde, D. W., and Morrissey, O. (2003). Do workers in Africa get a wage premium if employed in firms owned by foreigners? *Journal of African Economies* 12: 41-73.

Te Velde, D.W., (2002). Government policies for inward foreign direct investment in developing countries: implications for human capital formation and income inequality. OECD Working Paper No. 193.

Thoenig, M. and T. A. Verdier (2003). A Theory of defensive skill-biased innovation and globalization. *American Economic Review*, 93, 709–728

Thomsen, S. (2000). Investment patterns in a longer-term perspective. OECD Working Paper on International Investment? No. 2000/02

Trojette, I. (2016). The effect of foreign direct investment on economic growth: the institutional threshold. *Région et Développement n° 43-2016.*

Tsai, Pan-Long (1995). Foreign direct investment and income inequality: Further evidence. *World Development*, 23, 469–483.

Tu, Y., Xiao, T., and Zhao, X. (2012). Technology spillovers of FDI in ASEAN sourcing from local and abroad. *China Finance Review International*, 2(1), 78-94.

Turkcan, Burcu, and I. Hakan Yetkiner. (2010). Endogenous determination of FDI growth and economic growth: The OECD case. *International Journal of Public Policy*, 5(4), pp. 409-429.

Twomey, M.J., (2000). *A century of foreign direct investment in the Third World*. London: Routledge.

Ucal, M. A. A. Haug and M. H. Bilgin (2015). Income inequality and FDI: evidence with Turkish data. *Applied Economics*

Ucal, M. Ozcan, K.M.; Bilgin, M.H. and Mungo, J. (2010). Relationship between financial crisis and foreign direct investment in developing countries using semiparametric regression approach. *Journal of Business Economics and Management*, pp.20-33

UN-Habitat (2018). The state of African cities 2018: The geography of African investment, Nairobi, Kenya. https://unhabitat.org/books/the-state-of-african-cities-2018-the-geography-of-african-investment/ (4 January 2019)

UNCTAD (2018). *World Investment Report: Investment and new industrial policies*, UNCTAD. New York and Geneva.

UNCTAD (2017). *World Investment Report: Investment and the digital economy.* UNCTAD New York and Geneva.

UNCTAD (2012). *Development and globalization: Facts and figures.* UNCTAD, New York and Geneva.

UNCTAD (2007). *World Investment Report*: *TNCs in extractive industries and development*. UNCTAD, New York and Geneva.

UNCTAD(1999a). *Foreign direct investment in Africa: Performance and potential*. UNCTAD, New York and Geneva.

UNECA (2017). *Economic Report on Africa 2017*. United Nations Economic Commission for Africa. Addis Ababa, Ethiopia. https://www.uneca.org/sites/default/files/PublicationFiles/web_en_era-2017_01.pdf (11March 2018)

UNECA (2016). *Investment policies and bilateral investment treaties in Africa: Implications for regional integration*. United Nations Economic Commission for Africa. Addis Ababa, Ethiopia. https://www.uneca.org/sites/default/files/.../eng_investment_landscaping_study.pdf

United Nations (2003). *Financing for development, Monterrey consensus of the international conference on financing for development.* http://www.un.org/esa/ffd/monterrey/ MonterreyConsensus.pdf (08 November 2017).

Vernon, R. (1966). International investment and international trade in the product cycle. *Quarterly Journal of Economics*, vol. 80, No. 2.

Wang, Jian-Ye and Magnus Blomstrom. (1992). Foreign investment and technology transfer: A simple model. *European Economic Review*, 36, 137–155

Wang, M. (2009). Manufacturing FDI and economic growth: evidence from Asian economies. *Applied Economics*, 41:8, 991-1002

Wang, J. (1990). Growth technology transfer, and the long-run theory of international capital movements. *Journal of International Economics*, 29, 255–271

Wang, M. and M. Wong (2009). What drives economic growth? The case of Cross-border M & A and Greenfield FDI Activities. *Kyklos*, 62, 2, 316–30

Wolf, M., (2004). *Why Globalization works*. New Haven, CT: Yale University Press.

Wood, A. (1995). How trade hurt unskilled workers. *Journal of Economic Perspectives*, 9, 57–80.

Woo, J. (2009). Productivity growth and technological diffusion through foreign direct investment. *Economic Inquiry*, Vol. 47, No. 2, 226–248.

World Bank (2014). Foreign direct investment flows into Sub-Saharan Africa. Documents & Reports, No.86060.

Wu, J-Y., and Chi-C, Hsu (2012). Foreign direct investment and income inequality: Does the relationship vary with absorptive capacity? *Economic Modelling* ,29, 2183-2189.

Xu, B. (2000). Multinational enterprises, technology diffusion, and host country productivity growth. *Journal of Development Economics*, 62, 477–93.

Yao, S. (2006). On economic growth, FDI and exports in China. *Applied Economics*, 38:3, 339-351

Zghidi, N. Imen, M. S., and Z. Abida (2016). Does economic freedom enhance the impact of foreign direct investment on economic growth in North African Countries? A Panel Data Analysis. *African Development Review*, 28, 64–74.

Zhang, X and K. H. Zhang (2003). How does globalization affect regional inequality within a developing Country? Evidence from China. *Journal of Development Studies*, 39, 47–67.