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**The impact of foreign direct investments on economic growth in
Sub-Saharan Africa**

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PREFACE AND ACKNOWLEDGEMENTS

This dissertation, as one of my most significant academic challenges I have ever faced, helped me to discover the unknown aspects of myself. Hard work, research, and specialization in my chosen field of study seemed to be a one-way road for me from the beginning, as my aim is to achieve the highest possible level of professional integrity and competence. I was alone. I was trying to solve problems with all mental and physical forces that I had, aiming to find the desired results. The results that they would lead me to serenity and calmness. It was like knowing an old story. I knew the place where the hidden gold was buried at, and I was digging into my thoughts more and more deeply. The story, which in this case was the body of a prevailing literature, indicated to me that the hidden gold was somewhere close. And for this reason, I was digging with even more courage and desire. The field of my mind is the greatest asset that I have, and it belongs only to me. However, I have no illusions. I know that such a large area cannot be fully guarded by intruders. Who can manage to filter deliberately every stimulus that gives food for thought? Firstly, I would like to thank the body of literature in the field of foreign direct investment and all the authors that provided me insights and immense knowledge. Secondly, I would like to thank my brother Argyris, and my mother Xrysa, for supporting me at all times. Last but not least, a special mention to my supervisor Dr. Maurizio Montone for his omniscience, support, and guidance.

ABSTRACT

Employing data from the World Bank consisted of forty-three countries in the region of Sub-Saharan Africa for the years between 1996 and 2016, this paper grants a theoretical and empirical research on the way foreign direct investment affects the growth of gross domestic product in the countries of Sub-Saharan Africa. I also test for a discrepancy in the impact of foreign direct investment between two set of nations associated with the level of education. Research in this area lacks clarity. The methodology of this study based on ordinary least squares regressions with country fixed effects and cointegration tests of the series. The empirical findings underpin a statistically significant impact of foreign direct investment inflows on the growth of gross domestic product and a negative relationship between the education and inward foreign direct investments.

Keywords:

Foreign Direct Investment, GDP growth, Sub-Saharan Africa, Panel Data, Fixed Effects Model.

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1 Introduction

1.1 Definition of Foreign Direct Investment

Foreign direct investment defined as the investment of a company or individual abroad in the form of incorporating a wholly owned subsidiary or associate company, acquiring a controlling interest in ordinary shares or voting shares in an associated foreign enterprise, through merger and acquisition or participating in a joint venture with an international company. The foreign direct investments entail the control of affiliate company by the parent company. The parent company affects the decision making and determines its behavior in crucial issues *id Est*. The element of power and the decision making, in terms of management, transfer of technology and expertise, and critical inputs are the key features of foreign direct investments. The minimum threshold that stipulates control in a foreign direct investment is 10% of ordinary or voting shares of a foreign company.

The categories of foreign direct investments are the Horizontal, Vertical and Conglomerate. The type of Horizontal foreign direct investment refers to the establishment of business at the same operation sector. Vertical foreign direct investment refers to the creation of a different firm in a foreign country related to the chain of third party suppliers and customers. Conglomerate foreign direct investment is the erection of an unrelated to the existing business in a host country through foreign direct investment.

1.2 *A historical perspective of Foreign Direct Investment in Sub-Saharan Africa*

In this chapter, a review of historical background on the industrial development impact of foreign direct investments is provided. The discussion of this part commences with how and why multinational companies are entered in the play of industrial evolution in Sub-Saharan African countries. Therefore, is paid attention to the incremental change in foreign direct investments, the actions adopted by Governments and the supporting role of multinational corporations in the industrial growth of these countries.

1.2.1 Source Countries

According to UNCTAD, the initial countries that came into play of foreign direct investment in the region of Sub-Saharan Africa are the United States, Germany, United Kingdom and France. In the last decade, new home countries took a piece of the pie in the share of foreign direct investments from the traditional lands. There has been a significant contribution of total inflows from Netherlands, Italy, Canada and in a certain degree from Norway, Spain, and Portugal.

Upon further inspection, according to the Africa Investment Report (2016), Western Europe was keeping the lion's share as the top source region for capital investments in Africa accounted for \$30.1bn in 2015. In spite of the 38% decrease of inflows in 2014, Western Europe leads the source regions having achieved a 45% market share. The United States is the top country dealing with the projects into Africa with a value of \$6.8bn. The United Kingdom comes next as the second bountiful source country in terms of foreign direct investments projects with an increase of 50% in project numbers and 93% in capital investments. A major contribution of foreign direct investments inflows in 2015 comes from Italy with projects valued at 7.4bn in African territory. Concerning to Asian investors, India and China are the main countries. India has a precedence with 5% market share of inward projects in Africa.

1.2.2 Sectoral Data & Influence factors in the attraction of Foreign Direct Investments in Sub-Saharan Africa.

The landmark determinant of Foreign Direct Investment in Sub-Saharan African countries are the abundant natural resources. According to the Natural Resource Watch (2015), in the land of Sub-Saharan Africa, there is the 30 percent of the world's minerals and above 20 percent of world's undiscovered crude oil. As its underground contains huge amounts of undiscovered non-renewable natural resources, there is an excellent potential for future Foreign Direct Investments in the Sub-Saharan African area. These natural resources could be an antidote, helping in the alleviation of poverty and economic and social evolution of this underdeveloped society. However, the extraction of non-renewable natural resources needs fine management in terms of governance and awareness of the environment in order to avoid the resource curse. Upon further inspection, the total value of the natural resource in 2012 was \$300 billion. Specifically, the exports of natural resources, as a share of total exports from Sub-Saharan Africa, have increased from 56% in 2002 to 75% in 2012. So far, 28 countries in Sub-Saharan Africa can be classified as resource-rich, and the principal exports of these countries are iron ore, precious stones, oil, gas, gold and other metals and minerals. Next, I analyze ten states with a high volume of inward foreign direct investments following the LA Olatunji et. Al. Review of the evidence.

The ecology of Botswana is very sensitive because the 95 percent of the land is not arable. In addition, water availability is very poor, and Botswana's agriculture environment has no potential for growth. The result of this situation is that the country is based mainly on the process of obtaining coal and other minerals from mines in order to achieve the desired economic growth. The mineral wealth includes, also, diamonds in the Kalahari Desert, copper deposits at Selebi-Phikwe, and soda ash. More than 50 percent of GDP comes from mining. Also, the total revenue intake includes more than 50 percent government revenues from mineral taxes and almost 75 percent of total exports based on diamonds. Botswana relying on foreign direct investments for the development and export of its natural resources has managed to upgrade its status from the group of the poorest countries in the world to the group of middle-income countries by 1990.

Namibia is a rich country in terms of natural resources, mainly of diamonds and uranium ores. Mining is the primary factor in GDP growth, but marine fishing and agriculture also play an important role. Namibia is classified between the wealthiest countries in Africa, with an

average income per capita about 2,000US\$. It is observed a notable increase in its FDI inflows over past few years.

Manufacturing and labor-intensive manufacturing of fabrics, in Lesotho, are factors with a great contribution to economic and political stability. About 30.5 percent of total value added come from fabrics and clothing materials, as there is a commendable number of FDI coming from South Africa.

Swaziland's economy is closely associated with South Africa's one, as almost 90 percent of Swaziland's imports and 75 percent of exports respectively are linked to South Africa. Swaziland's economic development depends on agriculture and manufacturing as these factors contribute nearly 48 percent in the share of GDP in 1990-1995.

The economy of Mauritania was mainly connected with the sugar industry. Due to the lack of mineral resources, in this case, it was necessary to invest in human capital in order to reach the desired level of development. The actions of evoking interest for foreign investments were a combination of different policies, such as economic diversification strategies, liberalization policies, Mauritania's political stability and workforce fluent in two languages. Economic growth is level-headed mainly by agriculture, sugar industry, tourism manufacturing and lately in financial services. Furthermore, lately, the inflation rate in the country has been limited to reasonable rates for years.

After the end of civil war, the prevalence of political stability contributed to the financial stability, economic growth and poverty reduction in Mozambique. The average growth was approximately 8.5 percent yearly in the period 1995-1999 and the inflation of 75 percent sunk to normal levels recently. The stable exchange rate, the friendly investment climate, and the long-term macroeconomic stability were the main poles of attraction of foreign direct investments.

One of the countries with the most Foreign Direct Investment inflows in Africa is the South Africa. The gist of these FDI's involved in the sectors of manufacturing, drinks and foods, telecommunication and financial services. The financial stability and the positive investment climate are the key factors that influenced the investment decisions and caused attractiveness for investments in the country.

The second country in terms of foreign direct investment inflows in Africa was Nigeria. The sector which the foreign direct investments are mainly directed is the extraction of natural resources and specifically oil. Recently, there is an interest in the field of manufacturing also. The climate of uncertainty, the lack of transparency, the corruption, the weak judicial system

and the inadequate rules are the aggravating factors for economic development and the exploitation of foreign direct investment.

Ghana is famous for its natural resources and mainly in the sector of gold mining. However, there is a reduction of foreign direct investment inflows recently due to the lack of capital investments to preserve and restore the mines, the zero level of research and development and the maladministration in terms of management and expertise in the field of mining.

The agro-industry and the cement industry are the sectors of the concentration of foreign direct investments in Kenya. The initial almost zero levels of inward foreign direct investments in the eighties and the nineties became about 114 multinational corporations in 2001.

1.2.3 Sectoral activities of foreign direct investments in Africa

According to the Africa Investment Report (2016), sectoral data shows that the foreign direct investments in Africa are carried out mainly in the fields of Business Services, Marketing and Support, and Manufacturing. Upon further inspection, the downturn from 2011 upturned in 2015 with an increase of 5 percent in the amount of project. Despite the fact that there was an increase of 14 percent in capital investment as well, the value of extraction projects was \$15.1bn after the decrease of 32 percent in 2015. The field of manufacturing had foreign direct investments with a value of \$14.4bn in 2015. Specifically, plastics, pharmaceuticals, and consumer electronics had accelerating growth rates and the sector of automotive equipment took the lion's share of capital expenditure. The field of infrastructure with business associated with construction, internet and especially the electricity accounted for 13 percent of the total projects and 44 percent of capital investment in Africa. Encouraging numbers as well in the field of education and training indicated a doubling in projects with \$400m investments.

1.2.4 Reasons which obstruct the attraction of foreign direct investments

The primary reason which holds the foreign direct investment back from Sub-Saharan Africa is the uncertain investment climate. The multinational companies are called to face the external economic and political risks even wars that are presented in such an environment. These unexpected facts may change the plans and paralyze the companies. The lack of transparency and the intricacy of tax legislation owing to the multitude of tax jurisdictions as

well as the complex local tax regulations and jurisprudence make the risk higher. According to Frank Bartels et. Al (2008) the public businesses suffer from excessive bureaucracy in terms of red tape, corruption, managerial and judicial incapacity which burden with extra costs the processes of foreign direct investments. The governments need to pay attention to render wise both regulatory framework and fiscal and financial incentives because the one cannot outweigh the other in order to promote a positive investment climate.

1.2.5 Proposed policies

The problems mentioned above indicate that the creation of favorable investment environment is one of the leading challenges for policymakers in Sub-Saharan Africa region. The countries with the most natural resources should build a framework which is characterized by strong tax policies with transparency and without tax exemptions and wastage of profits which are yielded from natural resources. The meritocratic fiscal system and status quo, and the creation of long-term investment relationships are better strategies to attract foreign direct investments than the tax motives. The elimination of illegal activities and tax evasion could be achieved by the compliance with global standards, rules, and laws. The resource wealth countries should cooperate and canonize an intergovernmental system of taxation and take actions to reduce, eliminate and prevent the undesirable activities of extractive industries. The states in order to enhance their reputation and transparency should be conformed to EITI rules and designated as compliant. This fact will compel the extractive industries to comply with the rules. The government should also spend prudent and wise the revenues from foreign direct investments in order to promote the development and fight against poverty and disparity. The government-owned investment funds are responsible for managing the advisable distribution of revenues to government expenditures and taking care of the future as well. The maladministration can be avoided by a steadfast fiscal structure with public audits and clarity. The development of local level and the independence is one more significant issue for the developing resource-rich countries. The creation of linkages from the extractives industries can send up the regional and national level of the private sector, contributing to the prosperity and well-being.

2 Literature Review

2.1 *The effect of foreign direct investment on economic growth*

A major side effect of poverty is the underdevelopment. The governments to deal with this problem, need to embolden the inward foreign direct investments. The facts and the side-effects of foreign direct investment is an essential issue in the field of international economics. Inward foreign direct investments can benefit the workers and the host countries. The employees in foreign firms receive more training than in domestic firms and consequently higher wages. From country's point of view, governments are bidding to the inability of multinationals to protect its superior technology and management (Görg H, Greenway D. 2004). The effect of knowledge spillover due to the advanced level of productivity of foreign affiliates and interactions between local firms, also increase the aggregate country's productivity. Görg H and Strobl E. (2005) also noticed that the entrepreneurs with a background in multinationals of the same industry transmit the knowledge that they have acquired from the foreign business to their own new firms; as a result to have higher growth of productivity than the other domestic companies. Additionally, the survey of Joanna Scott-Kennel (2004) in New Zealand, a small developed country, concludes that foreign direct investments are a catalyst for local firm development. The direct transfer of resource from parent to affiliate and between affiliate to local firms contribute to the firms' growth. Generally, the labor mobility from multinationals to domestic firms is a channel for spillovers according to Balsvik R. (2011). Evidence from Norwegian Manufacturing shows that the employers are having a background in MNEs have higher productivity than the others and consequently higher wages. So, according to Javorcik (2013) foreign direct investments do not only create jobs but also bring "good" jobs to host countries.

Many pieces of research in the field of foreign direct investments indicate a positive relationship between the international capital and the growth performance of the host countries. Makki and Somwaru (2004) investigate the impact of foreign direct investment and trade on economic growth with shreds of evidence from 66 developing countries. They found a positive interaction between foreign direct investment and trade in terms of invigoration of domestic investment, implying the promotion of economic growth. In addition, Hansen and Rand (2006) examine the Granger causal relationships between foreign direct investment and Gross Domestic Product using a dataset of 31 developing countries. They found bidirectional causality

between Foreign Direct Investment and Gross Domestic Product and moreover long-run effects from Foreign direct investment to Gross Domestic Product. They construed this finding as to the transfer of knowledge, and the espousal of new technology is the cause that Foreign Direct Investment affect the Gross Domestic Product. Lim (2001) also contributed to the body of literature for the relationship between Foreign Direct investments and economic growth. His research points out that even though the support of literature is essential for positive spillovers from foreign direct investments, there is no consensus on causality.

A relevant study of Alexiou and Tsaliki (2007) in Greece explored the foreign direct investment-Led Growth Hypothesis for the period 1945-2003. Their empirical findings indicate a long run relationship between Gross Domestic Product and Foreign Direct Investment. However, respecting the Granger causality test, the Foreign Direct Investment-led growth hypothesis for the case of Greece in that period cast the existing academic literature.

For Balsvik and Haller (2010), the foreign investors pick the “Cherries” and have the ability to make them better than the pre-acquisition condition, while domestic investors pick the remaining “Lemons” and cannot do anything to improve them. Consequently, the employment, wages, and productivity are different. They draw the above conclusion from pieces of evidence of acquisitions of Norwegian manufacturing plants by new domestic and foreign investors.

Loris Gui-Diby (2014) using the system generalized method of moment investigate the effect of the foreign direct investment on economic growth in 50 African countries. The results indicate that foreign direct investment affects the economic growth significantly. Furthermore, the impact of foreign direct investments was not restricted because of the low level of human capital.

2.2 *The effect of foreign direct investment in labor*

It is commonly observed a high wage premium in foreign companies. Malchow-Moller et Al. (2013) based on their results of a Danish case and on major papers from the literature of foreign direct investment, state that there are three types of explanation for this high wage premium. The first explanation concerns a real selection phenomenon, in which international firms can detect more effectively ex-ante the skills of their employees. The second type of explanation supports the pure learning phenomenon, as the higher yielding of employees in foreign firms is due to the better training, useful experiences and generating worth ideas. The

third interpretation of wage premium in foreign firms is about the heterogeneity, different working conditions, and imperfect labor markets.

Much work in this area has furthered our understanding of the effects of foreign direct investments on wages. According to the research of Stobl and Thorntorn (2004) on five developing African countries (Cameroon, Ghana, Kenya, Zambia, and Zimbabwe), large firms pay higher wages in general. Specifically, this premium is higher for white collar and skilled workers than for blue workers. Te Velde D and Morrissey (2003) examine if the wage premium exists on the employment of the workers in firms owned by foreigners in these countries. Their findings are in agreement with the prevailing literature concluding that the wage premium applies to all education and occupation groups and specifically there is a strain for skilled workers. Lipsey R and Sjöholm F. (2004) in Indonesian manufacturing also find the transcendence of foreign-owned plants in terms of wages in labor market for a given educational level. However, the higher salaries mirror, the higher inputs of workers in foreign firms and the larger size of foreign-owned plants. In agreement with the above conclusion, the research of Conyon MJ et al. (2002) in the United Kingdom finds that the higher wage level in foreign firms is transmitted by the higher level of labor productivity that occurs in them.

To investigate if the employment-size wage premium holds apart from the origin of firms, I also cite the survey of Lipsey R, Sjöholm F. (2006). They examine foreign firms and acquisitions, and domestic acquisitions of foreign firms and they find that only the activity from outside corresponds to wage gains. On the other hand, Heyman F et al. (2007) tried to answer the question of whether really exist a foreign ownership wage premium. They tested the entire Swedish private sector having detailed matched employer-employee data. In contrast with the prevailing literature, this paper shows that there is a smaller wage premium in foreign-owned firms than the findings of other studies and especially the wages in foreign takeovers of Swedish firms have a tendency to remain unchanged or reduced. Furthermore, a recent survey of Runar Brännlund et al. (2016) in Sweden concluded that there is no significant effect of foreign ownership on employment and wages. Consequently, the answer to the degree foreign direct investments impact on employment and wages cannot be clear-cut.

The employment is an additional phenomenon that can be attributed to foreign direct investments. Lipsey R. and Sjöholm F. (2010) investigated the foreign ownership and employment growth in Indonesian manufacturing. The authors proxied the employment growth using a rich data of plants for the period 1975-2005, focusing on acquisitions of domestic firms by foreigners. The high rate of employment growth, notably in the year of acquisitions, in this case, is associated with the changes of ownership from domestic to foreign and not from foreign

to domestic. This phenomenon implies a direct positive impact on employment. Girma S. (2005) further studied the relationship between the acquisition of foreign direct investments and employment in United Kingdom manufacturing. The author investigates whether the jobs created by foreign direct investments are safeguarding jobs. Foreign direct investments increase the efficiency of the utilization of labor force due to intangible assets. This fact has an immediate impact on employment by creating and destroying jobs simultaneously. However, in the long run, there is a belief that the reduction of labor use inefficiency by foreign establishments improves the general safety of jobs and avoid dangers that would have faced erstwhile domestic establishments.

Bandick R. and Karpaty P. (2007) further emphasized that there is no effect on the employment when foreign firms acquire domestic MNEs. Only acquisitions of domestic non-MNEs by foreign investors affect the labor demand positively. This finding implies that the structure of domestic MNEs is close to foreign MNEs. In addition, Huttunen K. (2007) examine the effect of foreign acquisition on employment and wages in Finnish establishments. Using panel data for 1988-2001 and distinguishing between the level of skill of workers, he finds that foreign takeover has a positive impact on wages and the magnitude of this impact becomes larger when the level of education is higher. Contrariwise, the employment of highly educated people is reduced after the acquisition.

2.3 The role of Government in inward foreign direct investments

Many studies are addressing the economic growth and the labor market impact of foreign direct investments. It would be naïve also to analyze the available policy tools to exploit foreign direct investments targeting the economic development via a liberated in terms of trade world, but also the limitations of doing this. The foreign direct investments help to increase the productivity and exports. However, they do not promote the growth of domestic industrial sector if this sector does not have the capability to exploit the foreign direct investments and profit from the side effects of external industrial activities that affect other parties. So, utilizing the externalities will lead to a long-run economic growth, and that is the goal of government and their policies. Many real-life examples of Asian countries exemplify the incapacity to improve their industrial development through passive foreign direct investments strategies (Sanjaya Lall and Rajneesh Narula, 2004). This view started to shape into a belief that foreign direct investments are not a sure solution for economic development. However, the majority of

literature contributions define the cross-border economic activity and liberalization connected totally with the globalization. This fact implies that the old policy tools are not efficient as they were in the past and we need a new Agenda to forward the development.

According to Michael Mortimore and Sebastian Vergara (2004), the strategy of targeting winners of foreign direct investments can help developing countries to industrialize. The word “winners” represent the valuable foreign direct investments that meet with the development strategy of a host country. The Authors tested two cases, one taking advantage an opportunity of foreign direct investment and one of lost opportunity. In the first case, Costa Rica and Intel cooperated successfully. Costa Rica helped Intel in its geographic risk diversification while simultaneously satisfied country’s development strategy and interests such as an internationally competitive electronics diversification and setting up a foundation for cluster formation. In the second case, Mexico missed a unique opportunity to enhance country’s industrialization. When the Automobile leader Toyota decided to incorporate Mexico into its production base, Mexico selected to follow the national policy and not cooperate with Toyota’s plans.

The benefits of foreign direct investments in developing countries are more than pure capital gains. The host countries have the opportunity to exploit the multinational companies and gain innovations and knowledge which lead to growth and development. Lynn K. Mytelka and Anne Barclay further investigate how Trinidad and Tobago and Costa Rica operate the foreign direct investments in order to strengthen their local innovation systems. The government of Costa Rica as we saw, adopt a strategic attitude, and take charge of the possible future benefits of learning, innovation, and linkages. Consequently, Costa Rica diversified into electronics, becomes competitive and set up the foundation for cluster formation. The government of Trinidad and Tobago, on the other hand, failed to develop the national system of innovation. Despite that the foreign direct investments in the sector of natural gas played a significant role in the prosperity of the state, the government did not look ahead to promote the knowledge and the expertise in the nationals and local firms. Thailand was another one country that also had a poor state governance during the 1990s according to Laurids S. Lauridsen (2004). There were no policies to support and upgrade the existing firms, and the competitive global suppliers crowded out the local suppliers.

Investigating the regulation of foreign direct investments in historical perspective, we saw that now-developed countries had an unjust and prejudicial distinction in the treatment of foreign investors. They enhanced and armed their national industries with practices such as barriers to entry, limits on ownership, local suppliers, technology transfer, etc. Ha-Joon Chang

concluded that the advantages of liberalization and indiscreetness of foreign direct investments outmatch the disadvantages the time that the domestic industry has reached a determinate level of competitiveness and maturity. This article supports that the multilateral investment agreement at the world trade organization is harmful to the developing countries. So, the conclusion is that a nation that pursuit development should give priority to developing the domestic sector first including the quality of work-force, institutions, infrastructure and political constancy. The government plays a decisive role and should act strategically in order to convert the foreign direct investments into benefits.

As it was stated before, all these concerns are not justified since evidence that foreign direct investments lead to adverse effects on the host country is, at least mixed. Economic theory using different models and assumptions predicts various possible results. Hence, this theoretical uncertainty created the need for quantitative results. Without empirical tests, any prediction of the theoretical models remains doubtful. Working further on this issue is required, and this paper is going to give some light on the impact of foreign direct investments in the Sub-Saharan African economy in recent years based both on theoretical and empirical results.

2.4 *Determinants of Foreign Direct Investment*

Many studies tried to understand the driving forces behind the observed differences of foreign direct investments in terms of quantity among the countries universally. The findings support that specific factors such as market size, infrastructure quality, political and economic stability, free trade zones affect significantly foreign direct investments decisions. On other determinants such as the business investment climate, openness and climate there is no a clear-cut answer. (Lim, 2001, Pitelis, 1997, Pantelidis et al. 2012)

According to James Walsh and Jiangyan Yu (2010), the foreign direct investments into the secondary and tertiary sectors influenced differently in emerging and advanced economies based on the income level of countries, valuation of the exchange rate, level of education, financial depth, judicial transparency and flexibility of labor market. However, there is a lack of explanatory power of these variables for foreign direct investments into the primary sector.

The research of Demirhan and Masca (2008) investigate how the variables growth rate of GDP, inflation rate, telephone lines, labor costs, openness, risk and corporate tax rates in developing countries affect the inward foreign investment decisions in them. According to their results, the positive and significant determinants of foreign direct investments in developing

countries are the growth rate of GDP, telephone lines and the degree of openness. The determinants that affect the foreign direct investment decisions negatively are the inflation rate and the tax rate.

For Schneider and Frey (1985) the economic and political determinants of less developed countries determine substantially the inwards of foreign direct investments. They support that the high level of real per capita GNP and the low level of balance of payments deficit are favorable conditions for foreign direct investments. Regarding political issues, the bilateral aid emanated from Western countries and the cooperation with them arousing the interest of foreign investors, while the relief coming from communist countries has a repellent role for foreign investors.

The host country and the market size are significant factors that attract foreign direct investments as they affect the expectations of the international company in terms of its potential market and the future earnings. The infrastructure quality is a subjective determinant. The high-quality infrastructure could be attractive for some foreign companies (i.e., logistics company), as well the poor infrastructure for telecommunication companies for example. Furthermore, the politic stability creates a propitious climate that promotes the economic stability, ensures the effective operations and minimize the distortions. This fact enhances the business investment climate, and it is a lure for foreign direct investments.

2.5 *Foreign direct investments in Sub-Saharan Africa*

The body of literature in the field of foreign direct investment lacks clarity, specialization, and depth for the region of Sub-Saharan Africa yet. I attempt to make applicable the established relationship between foreign direct investment and economic growth to the Sub-Saharan African countries, diversifying my methodology from the similar researches in this area.

The research of Samuel Adams (2009) examines the effect of foreign direct investment and domestic investment on economic growth in Sub-Saharan Africa during the period 1990-2003. The results of this study indicate that the foreign direct investment is statistically significant in the OLS but not in fixed effects estimation. Generally, the findings show a

positive trend of foreign direct investment on economic growth, even though it is observed a crowding out the impact of domestic investment initially.

For the period 2008-2014, Bhavish Jugurnath et. Al (2016) find a significant positive relationship between foreign direct investment and economic growth for selected Sub-Saharan African countries. Based on their fixed effects regressions the link of foreign direct investment and economic growth is positive but not statistically significant too. However, by applying static random effect model and dynamic panel GMM estimation, the relationship between foreign direct investment, domestic investment and working population with economic growth is positive and significant. They also support that crisis of Eurozone did not deflect their results in spite of its negative consequences on economic growth.

In addition to existing research, my study based on ordinary least squares fixed effects regressions. I also investigate the impact of foreign direct investments on countries, conditioned on the level of education characteristic, looking at the different responsiveness of multinational firms to Sub-Saharan African countries across different levels of human capital. To my knowledge, a research of this nature has not been done before and provides new insights into human capital-related multination enterprise behavior in Sub-Saharan Africa region.

In summary, most of the researchers consider the foreign direct investments as a substantial keystone for development, and it is commonly observed through the impacts of foreign direct investment in gross domestic product and labor of host countries. Hence, the discussion about the effects as well as the determinants to attract the foreign direct investments is a critical issue for the developing nations. The literature review above is presented in order to enhance the beneficial nature of foreign direct investment and give some directions regarding the right policies of governments.

3 Data collection and Analysis

The present study is elaborated in order to examine whether the inwards of foreign direct investments affect the Gross domestic product. Having explained the possible effects of foreign direct investment, I will describe my data collection process. My panel data set consist of forty-three countries in the region of Sub-Saharan Africa over a span of two decades covering the period 1996-2016. The selection criteria of my time-period are the availability and reliability. I have neglected to investigate the data prior to the year of 1996 because the pieces of evidence are not so plentiful and pellucid. The selection of countries is based on data availability as well, allowing me to investigate forty-three low and middle-income Sub-Saharan Africa countries out of forty-seven. The data on all variables is derived from World Development Indicators (WDI) database of the World Bank.

Since the countries of my study vary in terms of culture, history, and economy, I inspect to some extent these differences with the variables of human capital, domestic investments, labor force and government expenditures. These variables are widely used in the body of literature. The following description of variables is defined as reported in the World Bank.

The variable net inflows of foreign direct investment are the direct investment equity inflows in Sub-Saharan Africa countries; specifically, they are the net inflows of investment that acquire a lasting management interest with ten percent or more of a business share in an external economy. It is calculated as the total amount of equity capital, reinvestment of profits, other long-term and short-term capital derived from the balance of payments. The data is divided by GDP. The sources of the data set, as it is stated in the World Bank, are the International Monetary Fund, International Financial Statistics and Balance of Payments databases, World Bank, International Debt Statistics, and World Bank and OECD GDP estimates.

The variable GDP in constant 2010 US dollars is estimated as the total amount of gross value added by permanent producers and taxes of products excluding any subsidies not contained in the value of the products. The estimation is done without deductions for fabricated assets depreciation or exhaustion and relegation of natural resources. Domestic currencies for GDP are changed to the dollar with official exchange rates of 2010.

The percentage of annual growth rate of GDP at market prices is estimated with domestic currencies while the data are in constant 2010 United States dollars. The dataset comes from World Bank national accounts data, and OECD National Accounts data files.

The adult population numerate the total residents between the ages of 15 to 64 years old regardless of despite their legal status or nationality. For the reason that the data is not available to the greatest extent, I use the adult population as a proxy for the labor force.

The gross school enrollment in secondary education is the ratio of total enrollment, irrespective of age, to the population of the generation that corresponds officially to secondary education. Secondary education aims to consummate the fundamental knowledge which acquired the students during the primary training. It is a bridge and a priming for lifelong learning that contribute to human development. Its structure provides specialization having expert teachers and organized system of knowledge. The source of dataset comes from the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

The variable General Government Final Consumption Expenditure includes the total amount of current expenses of purchases and payments for goods and services, national defense and security, excluding the part of government military costs correspond to government capital formation. The data, according to the World Bank, comes from World Bank national accounts data, and OECD National Accounts data files.

The variable gross domestic savings is the difference between GDP and final consumption expenditure id est. Total consumption. I use this variable due to the lack of specific data, permitting me to look into the scope of domestic investment in Sub-Saharan Africa economies. The idea comes from the thought that savings are potential domestic investments and there is a confident expectation of their effect on economic growth. The data based on World Bank national accounts data, and OECD National Accounts data files.

Table 1

Descriptive Statistics for Sub-Saharan African countries during the period 1996-2016

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP growth (%)	903	5.040844	8.487033	-36.69995	149.973
Lagged logarithm of GDP	903	22.74967	1.413956	19.29655	26.86376
Foreign direct investment, net inflows (% of GDP)	859	4.927286	10.76843	-82.8921	161.8238
Gross Domestic Savings (% of GDP)	838	10.89486	20.93137	-141.9739	83.28704
Logarithm of Population ages 15-64	903	19.87079	1.354737	16.80928	23.01711
School enrollment, secondary (gross)	492	38.21921	22.34859	5.13232	98.81967
General government final consumption expenditure (% of GDP)	832	14.47412	5.655417	2.047121	42.50581

Table 1 illustrates descriptive statistics for all variables which are incorporated in this study. GDP growth varies greatly from -36.7% to 150%. The minimum growth rate is recorded in the Central African Republic in 2013 and the maximum in Equatorial Guinea in 1997. The variance of FDI inflows is significant as well; the minimum percentage of FDI (-82.9%) is noticed in Liberia in 1996, the period of country's civil war, while the maximum percentage of FDI (162%) is observed in Equatorial Guinea in 1996, possibly due to the finding of oil. (McSherry 2006).

4 Methodology

In this section, I develop my empirical framework. Given the panel structure of my data, I begin with an ordinary least squares fixed effects regression customized with the prevailing literature in order to investigate whether there is an economically significant effect of foreign direct investments on the growth of the gross domestic product.

The traditional two-variable equation includes only capital stock/services (K) and labor supply (L). In order to derive an equation involving FDI and economic growth, I separate the capital stock into domestically-owned (K_d) and foreign-owned capital stock (K_f). The amended production function is formulated as:

$$Y = f(K_d, K_f, L)$$

Where Y is output, K_d is domestic capital stock, K_f is foreign capital stock, and L is labor.

My main hypothesis is based on existing literature. The positive relationship between foreign direct investment and growth of gross domestic product is well known and proved by theoretical and empirical findings. If the external validity of their findings holds, I suspect to find a similar result in a different geographical area, and thus my main hypothesis is as follows:

H1: "There is a positive effect of the foreign direct investment on the growth of gross domestic product in Sub-Saharan Africa."

The model of my analysis is essentially identical to the modified production function, besides the replacement of foreign and domestic capital stock with the inflows of foreign direct investment and gross domestic savings as a share of gross domestic product respectively. The pensiveness to use gross domestic savings as a proxy to measure the stock of capital available in a country is derived by the conception of savings equals investments. This replacement was caused on account of difficulties related to the data of the available stock of capital in countries. The adult population represents the labor force, and it is the population with ages between 15 and 64 years old, this proxy of the labor force is used due to data unavailability for the majority of Sub-Saharan African countries. I incorporate as well lagged Gross Domestic Product in my panel regression, in order to measure the convergence. The high level of GDP in lagged period affect positively the growth the following period but negatively the rate of growth. It is observed that the growth of low-level GDP countries is more rapid than high-level GDP countries.

Considering that my research includes nations with diversification in terms of culture, history, and economy, I incorporate the variables government expenditure (govexp) and secondary education (sec) as a proxy variable representing the human capital.

I also select to use fixed effects model in my regressions so that to remove the omitted variable bias and control for contingent omitted variables across time and countries in my study.

My univariate regression specified as:

$$GDPgr_{i,t} = \beta_0 + \beta_1 \ln gdp_{i,t-1} + \beta_2 gds_{i,t} + \beta_3 fdi_{i,t} + \beta_4 \ln adpop_{i,t} + \beta_5 govexp_{i,t} + \beta_6 sec_{i,t} + \eta_i + \varepsilon_{i,t} \quad (1)$$

Where t indicates year; i indicates country; GDPgr_{it} is the percentage of growth of GDP in year t; lngdp_{i,t-1} is the lagged natural logarithm of GDP; gds_{i,t} is gross domestic savings as a percentage of GDP; fdi_{i,t} is net inflows of foreign direct investment as a share of GDP; lnadpop_{i,t} is the logarithm of the adult population; govexp_{i,t} is the general government final consumption expenditure as a percentage of GDP; sec is the gross school enrollment in secondary education; η is a country-specific effect and ε is the error term.

My conclusion of the effect of Foreign direct investments on the growth of Gross Domestic Product depends on the coefficient β₃. The finding of positive and significant coefficient reveals the positive relationship between Foreign direct investment and growth of the gross domestic product.

Taking into account of the fact that maybe the new capital has affection in the posterior period after it received, or there are delays in the use of new capital, I then control for some differences using all the variables lagged in the regression.

$$GDPgr_{i,t} = \beta_0 + \beta_1 \ln gdp_{i,t-1} + \beta_2 gds_{i,t-1} + \beta_3 fdi_{i,t-1} + \beta_4 \ln adpop_{i,t-1} + \beta_5 govexp_{i,t-1} + \beta_6 sec_{i,t-1} + \eta_i + \varepsilon_{i,t} \quad (2)$$

As the last step, I separate my data into two group of countries, above median enrollment in secondary education and below median enrollment in secondary education respectively. I modify the regression (2), adding the interaction term of FDI * Countries with above median level of human capital. Consequently, the modified version of initial regression becomes:

$$GDPgr_{i,t} = \beta_0 + \beta_1 \ln gdp_{i,t-1} + \beta_2 gds_{i,t} + \beta_3 fdi_{i,t} + \beta_4 \ln adpop_{i,t} + \beta_5 govexp_{i,t} + \beta_6 sec_{i,t} + \beta_7 fdi * above_median_sec + \eta_i + \varepsilon_{i,t} \quad (3)$$

The estimated effect of FDI in a high human capital country is $\beta_3 + \beta_7$, while the estimated impact of FDI in a low human capital country is just β_3 . If the coefficient, β_7 , is significantly different from zero, then I can conclude that FDI has a different effect in high human capital countries than in low human capital countries.

Ultimately, I perform cointegration tests in my nonstationary time series to specify whether exist a stable, long-run relationship between the growth of Gross Domestic Product and Foreign Direct Investment inflows. Cointegration exists when the series wander together, implying that there is a long-run equilibrium relationship. I use the Kao test for cointegration, Pedroni test for cointegration and Westerlund test for cointegration which include a variety of test statistics (Modified Dickey-Fuller, Dickey-Fuller, Augmented Dickey-Fuller, Unadjusted modified Dickey-Fuller, Unadjusted Dickey-Fuller, Modified Phillips-Perron, Phillips-Perron, Augmented Dickey-Fuller).

5 Findings and Discussion

Table 2

Effect of FDI on GDP growth: panel data of two decades (1996-2016) for Sub-Saharan African countries

	(1)	(2)	(3)
	GDP growth (annual %)	GDP growth (annual %)	GDP growth (annual %)
Logarithm of lagged GDP	-11.2120*** (-5.50)	-11.6521*** (-5.73)	-11.1360*** (-5.53)
Foreign direct investment, net inflows (% of GDP)	0.1688*** (4.64)	0.2135*** (5.28)	
Gross domestic savings (% of GDP)	0.1941*** (6.39)	0.1975*** (6.54)	
Logarithm of population ages 15-64	10.1279** (2.51)	9.6856** (2.42)	
School enrollment, secondary (% gross)	0.1272** (2.54)	0.1516*** (2.99)	
General government final consumption expenditure (% of GDP)	-0.1772** (-2.07)	-0.1934** (-2.27)	
FDI * Countries with above median level of human capital		-0.1378** (-2.46)	

Lagged Foreign direct investment, net inflows (% of GDP)			0.0863**
			(2.36)
Lagged Gross domestic savings (% of GDP)			0.0901***
			(2.86)
Lagged Logarithm of population ages 15-64			10.7584***
			(2.81)
Lagged School enrollment, secondary (% gross)			0.0827*
			(1.69)
Lagged General government final consumption expenditure (% of GDP)			0.1128
			(1.36)
Constant	54.2808	72.5224	38.9823
	(0.97)	(1.30)	(0.74)
Observations	454	454	471
R^2	0.15	0.17	0.09
Adjusted R^2	0.06	0.07	-0.01
<i>AIC</i>	2583.40	2578.64	2698.19
<i>BIC</i>	2612.22	2611.58	2727.27

Notes:

OLS multivariate regressions with country-fixed effects; t statistics in parentheses; Statistical significance is marked as follows: * $p < .10$, ** $p < .05$, *** $p < .01$

In this section, I present and discuss my findings from my empirical tests. My results are largely in line with my expectations which based on prevailing literature in section 2. My analysis began with a multivariate regression of my variables of interest with time-fixed effects. The dependent variable for all regressions is the annual growth of GDP. The table includes estimated regression coefficients, R^2 values, number of observations, t-statistics, p-values, AIC and BIC. The time-period of my analysis is 1996-2006. Finally, I find that foreign direct investments have a significant positive effect on the growth of GDP.

As depicted in the results of Regression (1), I find that FDI is positively associated with growth, having a strongly significant coefficient at 1% significance level. The FDI/GDP coefficient can be thus interpreted as a one percentage point increase over a year causes 0.1688 percentage point increase in the annual growth of GDP. The coefficient of the natural logarithm of the adult population is significant at 5% significance level having a value larger than 10, which implies that a one percent increment in the labor force is associated with an upcoming 0.10 increment in GDP growth. I also noted a significant positive relationship between Gross Domestic Savings and the growth of GDP. This result accords with the conclusion of prevailing literature that domestic investments have a positive impact on the economic growth rate. With regards to Gross School enrollment in secondary education, I find a positive and strongly significant coefficient. This outcome is in agreement with my expectation and hypothesis that human capital help in increasing of economic growth. Next, as opposed to Barro (1991) and Garrison and Lee (1995), government consumption may affect the economic growth negatively by introducing distortions and disincentives of investment and growth, such as high tax rates. This argument conforms with my finding of the significant negative coefficient in General government final consumption expenditure. The initial GDP has a significant negative coefficient as well, supporting the assumption that countries display faster growth at lower GDP levels.

I also distinguish my approach from similar studies, including the interaction term FDI* Countries with above median level of human capital in regression (2). I seek to find heterogeneity in foreign direct investment sensitivities across the human capital level of countries. This attempting prompt consideration of the underlying link between the human capital and the driver of foreign direct investments. The interaction term is incorporated in order to capture any difference in the effect of FDI in countries with different levels of human capital. The coefficient of this term is negative and significant at 5% level with a value of -0.1378. This finding shows us that FDI has a different effect on the low level of human capital countries than in high level of human capital countries. The more positive the human capital is, the more

negative becomes the effect of the foreign direct investment on GDP growth. The underlying explanation for this phenomenon is that the protagonists of foreign direct investment inflows in developing countries are companies with large quantities of physical effort requirements and lower levels of skills and education. The majority of multinational companies exploit the natural resource of developing countries primarily, and most of the activities such as the extraction of raw materials and goods do not need a high level of knowledge. This fact entails that the dominant aspect of economic growth associated with foreign direct investments is mainly the government revenues from the exportation of natural resources and the creation of jobs and employment of local people in the primary sector. However, the generated jobs from resource-seeking investments in developing countries are bad remunerated, taking advantage of the weak economies of host countries. Loris Gui-Diby (2014) has also noticed that the impact of foreign direct investments was not restricted because of the low level of human capital. The coefficient of FDI remains positive and statistically significant at 1% level. Government expenditure has a significant negative coefficient again, indicating that higher government spending is associated with lower GDP across the sample. The coefficient of lagged GDP is negative and significant at the 1% level too. School enrollment in secondary education has positive and significant coefficient at 1% level instead of 5%. Last, Gross domestic savings and logarithm of the adult population have significant positive coefficients again.

Additionally, in Regression (3), I test the hypothesis that the effect of my variables of interest on the growth of GDP, has not a direct form but appears the following period on output or there are delays in the mechanism of usage of new capital. To test for this, I examine the same regression replacing all the variables with lagged variables. Lagging all variables by a year, I find no material differences between the regressions. The coefficient of lagged foreign direct investment remains positive and significant but with a lower value, which is about a half of no lagged value at 5% level. The value of the coefficient of lagged gross domestic savings is also positive and significant but with a half coefficient value as well. Similarly, the lagged secondary school enrollment variable has a positive and significant coefficient, but with a half value at 10% level. The coefficient of the lagged logarithm of adult population remains identical, while the lagged general government consumption expenditure has altered to positive but at insignificant levels without explanatory power in determining the annual growth of GDP.

5.1 Cointegration tests

As the last step, I perform cointegration tests in my nonstationary time series to specify whether exist a stable, long-run relationship. Cointegration exists when the series wander together, implying that there is a long-run equilibrium relationship.

Table 3

Kao test for cointegration

Ho: No cointegration		Number of panels	= 43
Ha: All panels are cointegrated		Avg. Number of periods	= 17.884
Cointegrating vector: Same			
Panel means:	Included	Kernel:	Bartlett
Time trend:	Not included	Lags:	1.51 (Newey-West)
AR parameter:	Same	Augmented lags:	1

		Statistic	p-value

Modified Dickey-Fuller t		-12.2831	0.0000
Dickey-Fuller t		-25.6581	0.0000
Augmented Dickey-Fuller t		-6.4919	0.0000
Unadjusted modified Dickey-Fuller t		-25.5865	0.0000
Unadjusted Dickey-Fuller t		-29.3410	0.0000

As depicted in table 3 the null hypothesis of no cointegration is rejected. The rejection of no cointegration hypothesis is true for all the five tests statistics (Modified Dickey-Fuller, Dickey-Fuller, Augmented Dickey-Fuller, Unadjusted modified Dickey-Fuller, Unadjusted Dickey-Fuller) reported in the table and this fact provides strong evidence that there is cointegration in all panels of the dataset.

In the next part of my analysis, I perform some more tests to ensure whether the above results are robust.

Table 4***Pedroni test for cointegration***

Ho: No cointegration		Number of panels	= 43
Ha: All panels are cointegrated		Avg. Number of periods	= 18.93

Cointegrating vector: Panel specific			
Panel means:	Included	Kernel:	Bartlett
Time trend:	Not included	Lags:	2.00 (Newey-West)
AR parameter:	Panel specific	Augmented lags:	1

	Statistic	p-value
Modified Phillips-Perron t	-8.3407	0.0000
Phillips-Perron t	-17.0074	0.0000
Augmented Dickey-Fuller t	-18.1673	0.0000

The rejection of no cointegration hypothesis is true for all the three tests statistics in this case too. Independently of the method of tests, the conclusions are the same, holding the finding that the panels are cointegrated.

Table 5***Westerlund test for cointegration***

Ho: No cointegration		Number of panel	= 43
Ha: Some panels are cointegrated		Avg. Number of periods	=19.977

Cointegrating vector: Panel specific			
Panel means:	Included		
Time trend:	Not included		
AR parameter:	Panel specific		

	Statistic	p-value
Variance ratio	-4.9905	0.0000

Finally, I examine another approach using the Westerlund test. This test necessitates fewer restrictions, differentiating the alternative hypothesis. The null hypothesis remains the same with the previous tests, but now the alternative hypothesis has altered, examining that some panels are cointegrated, not necessarily all. The Westerlund test also rejects the null hypothesis under this circumstance.

The efforts to shed light on whether exist a long-term relationship between Foreign direct investment and Gross domestic product have yielded a deliberated subject in the existing literature. Herzer et. Al (2008), using Granger causality tests can manage to identify neither a long-term nor a short-term relationship in their research of 28 developing countries. Nevertheless, a study of De Mello (1999) argued that the long-term effect of the Foreign direct investment on economic growth are not stable and varies from positive to negative over periods of time in non-OECD-countries. The procedure in Greece, Alexiou and Tsaliki (2007), indicate a long run relationship between Gross Domestic Product and Foreign Direct Investment. However, respecting the Granger causality test, the Foreign Direct Investment-led growth hypothesis in that period cast the existing academic literature. As concerned to Asian countries, the results of Baharumshah and Thannon (2006) are in line with my results in Sub-Saharan African countries in terms of the existence of a long-term relationship between economic growth and foreign direct investments.

6 Conclusion, Limitations & Further Research.

I aim to broaden the scope of existing literature on foreign direct investments by attempting to understand the general foreign direct investments effect in a different context. My analysis makes use of a dataset spanning Sub-Saharan Africa region over a period of twenty years. I find that the established relationship between foreign direct investments and GDP growth observed in other countries is also applicable to Sub-Saharan Africa countries. Further on, by analyzing data, I provide insights into more immediate firm-responses to investment decision drivers related to the level of human capital. I primarily separate my data into two group of countries, countries which have above median enrollment in secondary education and below median enrollment in secondary school respectively. Subsequently, I use an interaction term of multiplication of foreign direct investments with the above median enrollment in secondary education. I conclude that FDI has a positive effect on GDP growth in Sub-Saharan African countries. However, this impact has differed from high human capital countries to low human capital countries as the coefficient of the FDI*above median enrollment in secondary education interaction term has a significant negative sign. According to this finding, the more positive the human capital is, the more negative becomes the effect of a foreign direct investment on GDP growth. I acknowledge that the potential theoretical interpretation is that most of the foreign direct investment inflows in developing countries are companies with large quantities of physical effort requirements and lower levels of skills and education. Most of the multinational enterprises exploit the natural resources of developing countries primarily, and the most of the activities such as the extraction of raw materials and goods do not need a high level of knowledge.

By using gross domestic savings as a proxy variable for domestic investments, gross school enrollment in secondary education as a substitute for human capital, and the population group aged between fifteen and sixty-four years old, as a proxy representing the labor force, my study is prone to the limitations. The lack of statistics and the data unavailability is a common phenomenon in developing countries. However, my results are in line with the prevailing literature, highlighting clearly the existence of the relationship between GDP, FDI and the determinants of the Labor force, Human capital, Government expenditures and Domestic investments which are examined in the majority of existing studies as well.

Further work in this area would, data availability permitting, look into extending the scope of the determinants of foreign direct investment inflows and the appropriate government policies empirically. There are many drivers which cause the phenomenon of foreign direct

investment to happen or to develop. The openness of the economy, consumption, gross domestic product, wages, investment climate, are some of them. The identification and the evaluation of the relationship between them is also an important and critical issue. Research and specialization in this field and particularly in the area of Sub-Saharan Africa is a substantial effort for the poverty alleviation. I am glad to have contributed to the elimination of this unacceptable for the modern world phenomenon, putting a small stone in the foundation of happiness and the right to life.

REFERENCES

- Ahmad Zubaidi Baharumshah & Marwan Abdul-Malik Thanoon (2006). Foreign capital flows and economic growth in East Asian countries. *China economic review* 17 (1), pp. 70-83.
- Balsvik R. 2011. Is Labor Mobility a Channel for Spillovers from Multinationals? Evidence from Norwegian Manufacturing. *Review of Economics and Statistics* 93(1): 285-297.
- Balsvik R, Haller SA. 2010. Picking “Lemons” or Picking “Cherries”? Domestic and Foreign Acquisitions in Norwegian Manufacturing. *The Scandinavian Journal of Economics* 112(2): 361-387.
- Bandick R, Karpaty P. 2007. Foreign Acquisition and Employment Effects in Swedish Manufacturing. *Örebro University Working Papers No. 10*.
- Bhavish Jugurnath, Nitisha Chuckun, Sheereen Fauzel (2016). Foreign direct investment & Economic Growth in Sub-Saharan Africa: An Empirical Study. *Scientific Research Publishing, Theoretical Economics Letters*, 6, pp. 798-807
- Brendan McSherry (2006). The Political Economy of Oil in Equatorial Guinea. *African Studies Quarterly Volume 8, Issue 3*
- Charles B. Garrison and Feng-Yao Lee (1995). The effect of macroeconomic variables on economic growth rates: A cross-country study. *Journal of Macroeconomics*, vol. 17, issue 2, 303-317
- Constantinos Alexiou & Persefoni V. Tsaliki (2007). Foreign Direct Investment-Led Growth Hypothesis: Evidence from the Greek Economy. *Zagreb International Review of Economics* 10(1), 85-97.
- Canyon MJ, Girma S, Thompson S, Wright P. 2002. The Productivity and Wage Effects of Foreign Acquisition in the United Kingdom. *Journal of Industrial Economics* 50(1): 85-102.
- Erdal Demirhan, Mahmut Masca (2008). Determinants of foreign direct investment flows to developing countries: A cross-sectional analysis. *Prague Economic Papers*
- Frank L. Bartels, Stefan Kratzsch, Markus Eicher (2008). Foreign Direct Investment in Sub-Saharan Africa: Determinants and Location Decisions. *Research and statistics branch working paper, UNIDO*
- Friedrich Schneider & Bruno S. Frey (1985). Economic and political determinants of foreign direct investment. *World Development*, Volume 13, Issue 2, Pages 161-175.
- Girma S. 2005. Safeguarding Jobs? Acquisition FDI and Employment Dynamics in U.K. Manufacturing. *Review of World Economics/Weltwirtschaftliches Archiv* 141: 165–178.

- Görg H, Greenway D. 2004. Much ado about nothing? Do domestic firms really benefit from foreign direct investment? *World Bank Research Observer* 19(2):171–197.
- Görg H, Strobl E. 2005. Spillovers from Foreign Firms through Worker Mobility: An Empirical Investigation. *Scandinavian Journal of Economics* 107(4): 693-709.
- Ha-Joon Chang (2003). Regulation of foreign investment in historical perspective. *United Nations University -INTECH Discussion Paper Series, No. 12*
- Hansen, H., & Rand, J. (2006). On the causal links between FDI and growth in developing countries. *The World Economy*, 29, 21–41.
- D. Herzer, S. Klasen, F. Nowak-Lehmann D. (2008). In search of FDI-led growth in developing countries: The way forward. *Economic Modelling* 25, pp. 793-810.
- Heyman F, Sjöholm F, Gustavsson Tingvall P. 2007. Is there really a foreign ownership wage premium? Evidence from matched employer–employee data. *Journal of International Economics* 73(2): 355–376.
- Huttunen K. 2007. The effect of foreign acquisition on employment and wages: evidence from Finnish establishments. *The Review of Economics and Statistics* 89(3): 497–509.
- James P. Walsh & Jiangyan Yu (2010). Determinants of Foreign Direct Investment: A Sectoral and Institutional Approach. *International Monetary Fund WP/10/187 IMF Working Paper Asia Pacific Department*
- Javorcik B. 2013. Does FDI Bring Good Jobs to Host Countries? *Background Paper for the World Development Report 2013*.
- Joanna Scott-Kennel (2004). Foreign direct investment: A catalyst for local firm development? *The European Journal of Development Research* 16(3), 624-652.
- Kamal Malhotra (2004). Will a trade and investment link in the global trade regime be good for human development? *The European Journal of Development Research* 16(3), 716-736
- Lateef Ademola Olatunji & Muhammad Sadiq Shahid (2015). Determinants of FDI in Sub-Saharan African Countries: A Review of the Evidence. *Business and Economic Research, Vol. 5, No. 2*
- Laurids S. Lauridsen (2004). Foreign direct investment, linkage formation and supplier development in Thailand during the 1990s: The role of state governance. *The European Journal of Development Research* 16(3), 561-586.
- Lim, E. G. (2001). Determinants of, and the relation between, foreign direct investment and growth: A summary of the recent literature. *IMF Working Paper, No. WP/01/175*
- Lipsey R, Sjöholm F. 2004. Foreign Direct Investment, Education, and Wages in Indonesian Manufacturing. *Journal of Development Economics* 73(1): 415-422

- Lipsey R, Sjöholm F. 2006. Foreign firms and Indonesian manufacturing wages: an analysis with panel data. *Economic Development and Cultural Change* 55(1): 201–221
- Lipsey R, Sjöholm F. 2010. Foreign ownership and employment growth in Indonesian manufacturing. *NBER Working Paper* No 15936.
- Luiz de Mello (1999). Foreign Direct Investment-Led Growth: Evidence from Time Series and Panel Data. *Oxford Economic Papers*, vol. 51, issue 1, pp. 133-51
- Lynn K. Mytelka, Lou Anne Barclay (2007). Using foreign investment strategically for innovation. *The European Journal of Development Research* 16(3), 531-560.
- Makki, S. S., & Somwaru, A. (2004). Impact of Foreign Direct Investment and trade on economic growth: Evidence from developing countries. *American Journal of Agricultural Economics*, 86, 795–801.
- Malchow-Moller N, Markusen J, Schjerning B. 2013. Foreign firms, domestic wages. *The Scandinavian Journal of Economics* 115(2): 292–325.
- Michael Mortimore, Sebastian Vergara (2004). Targeting Winners: Can foreign direct investment policy help developing countries industrialise? *The European Journal of Development Research* 16(3), 499-530
- Nicola D. Coniglio, Francesco Prota, Adnan Seric (2014). Foreign direct investment, employment, and wages in sub-Saharan Africa. *United Nations Industrial Development Organization*.
- Pantelidis, P. and Nikolopoulos, E. (2008). FDI Attractiveness in Greece. *International Advances in Economic Research*, 14(1), 90-100.
- Robert J. Barro (1991). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, Vol. 106, No. 2. pp. 407-443.
- Runar Brännlund, Jonas Nordström, Jesper Stage and Dick Svedin 2016. Foreign ownership and its effects on employment and wages: the case of Sweden. *IZA Journal of European Labor Studies* 5 p.1-17
- Samuel Adams (2009). Foreign direct investment, domestic investment, and economic growth in Sub-Saharan Africa. *Journal of Policy Modeling* 31 pp. 939–949
- Sanjaya Lall, Ranjneesh Narula (2004). Foreign Direct Investment and its Role in Economic Development: Do We Need a New Agenda? *The European Journal of Development Research* 16(3), 447–464
- Steve Loris Gui-Diby (2014). Impact of foreign direct investments on economic growth in Africa: Evidence from three decades of panel data analyses. *Research in Economics* Volume 68, Issue 3, Pages 248-256.

- Strobl E, Thornton R. 2004. Do large employers pay more? The case of five developing African countries. *Journal of Economic Development* 29(1): 137-161
- te Velde D, Morrissey O. 2003. Do Workers in Africa Get a Wage Premium if Employed in Firms Owned by Foreigners? *Journal of African Economics* 12(1): 41-73.
- Πιτέλης, Χ. (1997), Ξένες Παραγωγικές Επενδύσεις: Στρατηγικές Προσέλκυσης στην Ελλάδα, Αθήνα, Υπουργείο Ανάπτυξης.

APPENDIX

Further sources

Africa Investment Report (2016)

Natural Resource Watch (2015)

UNCTAD

The World Bank

Investopedia

Stata website