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Impact of Foreign Direct Investment on Employment in Africa

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Executive Summary

In the past few years the flow of FDI towards the developing countries and especially towards the African countries is growing due to the pursuit of MNEs to maximize their profits, to lower their costs and to search for new markets. This is an opportunity for the African countries to work not only towards economic growth but also towards creating employment opportunities that can translate this growth into inclusive development. The changes brought about by technology including the wide spread use of internet and mobile phones have changed the way people work. There are even virtual markets, e-commerce activities and websites supporting for employment opportunities. Part-time or temporary employment is not uncommon e.g. in South Africa temporary workers comprise of about 7 percent of the labour force (The World Bank 2013). The employment impact of FDI needs to be looked at from such varied dimensions for the FDI policy perspective. Adoption of appropriate policies to create conducive factors for attracting employment generating FDI is the key to a bright future for Africa.

Based on the above, the main objective of this research is to address whether FDI is effective in creating employment opportunities in Africa. The research addresses three sub-problems. Firstly, whether FDI impacts the quantity and quality of employment in Africa. Secondly, the impact of various sectors of FDI on the different employment sectors. Thirdly, to see if there are geographical differences across different regions and cities. As a culmination of the research it is also intended to contribute towards policy recommendations on the subject, as the topic of research is of considerable socio-economic relevance for the region.

The literature analysing the correlation between FDI and employment uses a variety of methods and models and panel data analysis is often used for such research. The data used for the present research is panel data for the continent, region, country and city level analysis. Panel data is the data that consists of a number of observations with two dimensions i.e. time and space. Thus panel data analysis enables the study of data from multiple locations collected periodically over a certain period of time and is a combination of time series and cross sectional (Greene 2012). The period under research is a time span of twelve years from 2003 to 2014. An interaction between two variables is also used to avoid multi collinearity and thus to get more authentic results.

It is clear from the findings of the research that the aggregate FDI does not have any significant impact on the overall employment in Africa. However, at sectoral employment front, it has a negative impact on employment in agriculture and positive impact on industry sector employment. Sectoral FDI too does impact employment industry sector. The negative impact of hi-tech FDI on overall employment and the positive impact of resource FDI on employment in industry are noticeable. The service sector employment, however, remains hardly impacted by the inward FDI, both in terms of aggregate FDI and sectoral FDI. As regards quality of employment the aggregate inward FDI does not exert any significant impact, neither at the continent level, nor at the regional level.

The key variables of this research, both inward FDI and employment are pivotal for African countries to address the present development challenge and elevate them to the next level of development. The burgeoning youth population in Africa calls for urgent steps to generate employment opportunities. The research analyses the ways in which FDI has impacted employment in Africa during the research period that covers a span of twelve years i.e. 2003 to 2014. While historically, resource FDI has been a dominant other sectors are taking over,

manufacturing FDI has the largest share during the research period, and looking at the recent trends in FDI, in future services FDI may takes its place. Overall amongst the FDI sectors manufacturing FDI is the key driver of employment during the research period, which may be replaced by services FDI a few years hence. Africa's leaders need to pay heed to these aspects and take measures to attract suitable FDI for their country

Keywords

FDI, Employment, Africa, Sectoral FDI, Sectoral Employment, Impact, Quantity of Employment, Quality of Employment, City, Greenfield FDI

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Foreword

Developing this thesis has been a joyful as well as self-enhancing journey. The thesis topic is related to the forthcoming State of the African Cities 2017 Report which is being developed by Professor Dr. Ronald Wall on behalf of the UN—HABITAT. The central theme of the thesis is to assess the impact of inward FDI on employment in Africa. Employment is a vital socio-economic factor in the development prospects of Africa since the exponential expansion of working age population in Africa poses an alarming challenge. Can FDI prove to be a remedy to tackle this challenge, is an important question. Given this context this research makes an attempt to investigate the impact of FDI on employment not only at the aggregate level, but also at the sectoral level wherein sectoral FDI as well as sectoral employment have been taken into account. The study concludes that though at the aggregate level the implications of FDI on employment in Africa are not noticeable, it is essential to study the effects of FDI at the sectoral level where the impact of manufacturing, resource and hi-tech FDI is evident. The impact is found on the sectoral employment in agriculture and industry. The services FDI, however, is not yet yielding any significant impact on any of the employment sectors. Alternatively, the service sector employment does not get significantly influenced by any of the sectoral FDI. It is hoped that the reader finds this research intriguing and appreciates the results and the work.

Poonam Mehta

Abbreviations

FDI	Foreign Direct Investment
IHS	Institute of Housing and Urban Development Studies
ILO	International Labour Organisation
FEM	Fixed Effect Model
GDP	Gross Domestic Product
HDI	Human Development Index
KILM	Key Indicators of Labour Market
LFPR	Labour Force Participation Rate
M&A	Mergers and acquisition
MNEs	Multi National Enterprises
SSA	Sub-Sharan Africa
UNCTAD	United Nations Conference on Trade and Development
UMD	Urban Management and Development
WDR	World Development Report

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Chapter 1: Introduction

1.0 Chapter Framework

This thesis is aimed at investigating the impact of foreign direct investment (FDI) on employment in the continent of Africa. The chapter begins with a brief background of the present thesis which is followed by problem statement. Furthermore, it specifies the research objectives and research questions. The chapter concludes with the significance and limitations of the study.

1.1 Background

One of the greatest French writers Victor Hugo has rightly pointed out that "no force in the world can stop an idea whose time has come" (Hugo, 1877. pp.10). In recent times globalisation is such an idea, a process that has become unstoppable. Development of a nation, region or the world is primarily measured in terms of economic development. In recent decades, foreign direct investment (referred to as FDI henceforth) has become one of the key drivers of globalisation and has impacted the economic milieu across the world and in turn has influenced widely the social fabric in different parts of the world. FDI is a major component of globalization and its significance in the world economy has been growing over the past few decades, with increasing number of countries adopting policies of liberalisation and free trade. Africa is home to a number of such countries that are among the fastest growing economies in the world.

The present-day political economy engages greatly to assess the impact of globalisation on employment. The developed countries view globalisation as a threat due to its adverse effect on traditional jobs or their relocation in other parts of the world, whereas in developing countries it is viewed as a contributor to employment and thereby to poverty reduction (Jenkins, 2006). However, the debate on the impact of globalisation on employment is yet inconclusive.

Most literature on FDI takes note of the benefits caused by FDI on the host country. It is argued that the flow of FDI provides capital, increases growth and productivity, promotes technology transfer, facilitates access to foreign markets, and enhances employment opportunities. Thus FDI generally helps the economic integration of a host country into the global economy. Given these merits the developing world and particularly Africa needs significant inflows of FDI to achieve development and alleviate endemic poverty. (Ajayi, 2006).

On the other hand, a few studies have challenged the popular notion that FDI is beneficial to the host country and that it leads to economic growth and welfare. Herzer et al. (2008) use co-integration techniques on 28 developing countries to demonstrate that not a single country shows a positive uni-directional long term effect of FDI on its Gross Domestic Product (GDP).

Globalisation, liberalisation and privatisation processes in the developing world gathered momentum in the last two decades of the 20th century due to various reasons that included adoption of the neo-liberal approach manifested in the Washington consensus, countries gaining independence as a result of decolonisation or the balance of payment crisis (Moran 2006; Lall 2000). The role of the State shifted from a provider of services to a facilitator of conducive environments for economic growth and an insurer of social risks (Ernst 2005). In the liberalised world as the public sector shrank, the role of the private sector as key socio-economic player gained significance. The private sector has been increasing playing a crucial role as a driver for employment generation (Ernst 2005; Moran 2006; Lall 2000). In this

background, foreign investment gained great importance, with a prescription and hope to boost domestic economy and to give a boost to employment creation.

Developing countries are characterised by a high occurrence of poverty and unemployment. Most liberalised developing countries have taken to attracting FDI which is looked upon as a prospective solution to growth and development goals, and hence a strategy to poverty reduction

The World Development Report (2013) attributes the reduction in global poverty to employment generation. Employment is an indicator of how economic development translates into social development. Many other societal gains such as economy-wide productivity growth, social cohesion, empowering women, and stabilizing post-conflict societies, can be achieved through employment

Amongst the regions of the developing world, Africa has the unfortunate distinction of housing two thirds of the world's poorest countries. (Dicken 2011) . It has been argued that because income levels and domestic capital is low in Africa, FDI and foreign aid can boost the economic growth of the region. However, in the wake of the world economic crisis, the foreign aid to Africa has slowed down. Therefore, FDI remains a key determinant for economic growth in Africa- as a tool to fill the resource gap, generate growth, and alleviate poverty. (Asiedu 2004).

For a long time, the majority of Africa's population engaged in agriculture, has been a key factor of employment. However, a shift is taking place. as globalisation accompanied by urbanisation and economic growth, is causing structural transformation in many developing countries (The World Bank 2013, Szirmai 2013).

In its recent report, the ILO (2016) reported Africa to be one of the fastest growing regions in the world. Nevertheless, most countries in Africa are characterised by low wages and high unemployment rates. Also, a substantial proportion of the working population is engaged in the informal sector. The impact of FDI on employment generation is a key determinant for economic and social progress. The impact of employment generation through FDI is in both direct employment within MNEs and indirect employment through backward and forward linkages of MNEs. (Asiedu, 2004).

Empirical studies on the impact of FDI on formal employment in Africa, especially across FDI as well as employment sectors, is scant. Mayom (2015) examines the impact of FDI on labour measures, namely, employment ratio and unemployment rate, and also compares labour measures of the general population versus the youth population. However, the sectoral impact of FDI on employment has not been empirically examined. It is essential to explore which sectors have generated more employment and have benefitted people at large. This will be helpful in drawing a policy guideline for the type of FDI to draw to Africa in future. There is also a need to study how gender affects the employment created by FDI.

1.2 Problem Statement

Africa is the second largest most attractive investment destination in the world (Diop, M, et al., 2015). FDI in the region has grown five times its level in 2000. Diop, M, et al. further note that Investors in Africa nearly tripled their share of FDI projects over the last decade, from 8 percent in 2003 to 22.8 percent in 2013. Taking efforts to overcome considerable challenges, African countries are enhancing their productivity and adopting pro-poor policies. (Diop, M., et al., 2015). Thus while the economies of Africa are growing with unprecedented speed it is important to probe into whether the FDI growth has positively affected the employment scenario.

While Africa's growth rate is currently higher than the world average and the region has maintained a high growth rate over the past decade, its growth has not proved to be transformative- it has neither generated enough jobs nor created adequate infrastructure and has not resulted in decreasing poverty (UNCTAD, 2014). The unemployment rate remains substantial. (UNCTAD, 2014). This calls for a strategy to not just increase the size of investment but investigate the quality of investment that can create maximum employment in the formal sector.

There are also growing concerns about the burgeoning informal economy, inequality and the need for an inclusive growth model. It has been argued that globalisation has failed to create enough jobs in Africa and has stimulated the growing in formalisation of the region. (Chen, 2012). Benjamin, Golub, et al. (2015) explain that the informal economy in Africa is characterized by its massive scale- about 50 percent of the national output, more than 60 percent of employment and 90 percent of new jobs in African low-income countries. They state further that such high level of normalisation is undesirable because it not only undermines human dignity due to low wages and poor working conditions but also results in the loss of fiscal revenue and promotes unfair competition. Therefore, the creation of employment in the formal sector is of utmost importance to Africa and FDI is considered as a vehicle for that.

Furthermore, economic development in Africa is not uniform. In fact, considerable economic, political and social diversity exists within the 58 different countries. Some countries are rich in natural resources, while others are ravaged by internal strife and political instability. Also, FDI to countries differs too, in terms of volume and types of sector. There are eight major hotspots of FDI across the continent, while the rest of the region receives minimal volumes of investment. Therefore, it is necessary to explore the effect that FDI may exert on employment across different regions. There is also a variation in FDI in terms of FDI sectors and in terms of type of investment i.e. greenfield or merger and acquisition (M&A).

Thus the main problem that this research intends to address is whether inward FDI has proved to be effective in creation of employment opportunities in Africa and therefore, attempts to explain the impact of inward FDI on employment in Africa.

1.3 Research Objective

Based on the above, the main objective of this research is to address whether FDI is effective in creating employment opportunities in Africa.

The research addresses three sub-problems. Firstly, whether FDI impacts the quantity and quality of employment in Africa. Secondly, the impact of various sectors of FDI on the employment. Thirdly, to see if there are geographical differences across different countries, regions and cities.

As a culmination of the research it is also intended to contribute towards policy recommendations on the subject, as the topic of research is of considerable socio-economic relevance for the region.

1.4 Provisional Research Questions

The research questions have been formulated into a central research question and three sub-questions. The research questions are used as guidelines for further research. My main research question and three sub-questions are:

Central Question

In what way does inward FDI impact employment in Africa?

Sub-questions:

1. What is impact of the aggregate inward FDI on the quantity of overall employment in the continent of Africa, its regions and cities?
2. What is impact of the aggregate inward FDI on the quality of employment in Africa?
3. What is impact of the aggregate inward FDI on the sectoral employment in in Africa?
4. What are the differences in the impact of sectoral FDI on overall employment in Africa?
5. What are the differences in the impact of sectoral FDI on sectoral employment in Africa?

1.5 Significance of the study

This research aims to contribute to the literature on FDI and its effect on developing countries. There is much literature on FDI and its impact on economic growth. Moreover, until recently the effects of trade on employment have been given more attention than the effects of FDI on employment (Baldwin 1995; Jenkins 2006). Surprisingly, the employment effect of FDI, despite its huge significance has not been extensively researched. In most studies the effects of FDI on employment feature not as a stand-alone focus but as a component of spillovers and thus are combined with numerous other effects (Radosevic et al. 2003b).

Moreover, it needs to be noted that, the contribution of sectoral FDI to employment generated due to FDI in different sectors in the countries at different stages of development has not been found. The present study presents the sector-wise impact of sectoral FDI on sectoral employment. It also analyses the impact of FDI on employment across regions in Africa as well as urban areas. The study also analyses the impact of FDI on quality of employment in Africa where quality of employment is a critical aspect.

In light of the above, the study makes an important literary contribution to the existing scant literature on the topic. Along with the literary contribution, practical significance of the present study is to suggest policy recommendation for the countries under study.

1.6 Scope and limitations

The scope of the research concerns spatial scope, sectoral scope and temporal scope. Spatially, the research observes 52 countries in Africa and studies the effect of FDI inflow on employment. It also compares the five geographic regions of Africa i.e. North Africa, Western Africa, Central Africa, Eastern Africa and Southern Africa as given in Figure 1. Moreover, the study investigates the impact of FDI on employment at the city level, in seven major cities viz, Cairo, Cape Town, Casablanca, Johannesburg, Lagos, Nairobi and Tunis.

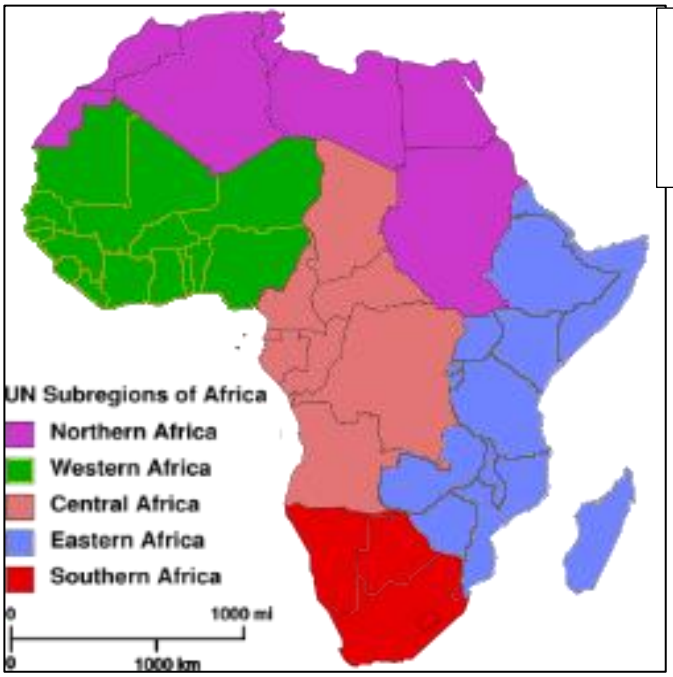


Figure 1: Regions of Africa

(Source: http://www.africaecon.org/index.php/regions/get_regions/northern_africa)

The study also investigates impact of FDI on employment from the quality perspective. It uses an index of different variables to represent quality of employment and examines the impact of FDI on it using country-wise data to make analysis for Africa.

Additionally, the research takes into consideration different sectors of FDI as well as different sectors of employment. The impact of FDI is assessed of aggregate FDI as well as of FDI sectors vis-à-vis overall employment as well as employment across different sectors by using country-wise data to find results for Africa as a whole. The FDI sectors considered for the study are hitech, resource, manufacturing and services. The sectors of employment taken into account are agriculture, industry and services.

Temporally, the impact of FDI on employment has been studied at country and regional level for the period between 2003 to 2014 while at city level the period considered for study is 2005 to 2015. This is based on the availability of panel data of recent past for the countries in Africa.

With regard to limitations, the study may be limited by inadequate panel data on employment because of missing data for some years. Though the aim of the study is to consider the impact of FDI on employment for all 54 countries in Africa due to the division of erstwhile Sudan into Sudan and South Sudan during the period of study, it was not possible to get data separately for the research period, therefore, these two countries have been omitted from the research. Moreover, though the data for 52 countries has been considered, due to missing values of the dependent and independent variables, the analysis in STATA may take lesser number of countries for the regression analysis.

An attempt has been made to study the effect of FDI on employment comprehensively considering various dimensions of employment. The study takes into consideration both the impact on quantitative and qualitative aspects of employment at the level of regions and countries in Africa. At the city level, although it was also intended to study the impact on qualitative aspect of employment, due to unavailability of data at city level, the impact on

quality of employment had to be restricted to the continent and regions. The city level employment impact of FDI has been studied in quantitative terms for seven African cities for which data could be available. Furthermore, the sectoral analysis at city level was not been possible due to insufficient data.

Moreover, it was intended to take five sub-indicators to indicate quality of employment as suggested by the ILO (2012), due to unavailability of data for two indicators for all countries in research, only three sub-indicators are used. The three sub-indicators used are the proportion of own-account and unremunerated workers or contributing family workers in total employment (vulnerable employment rate), labour productivity growth and female labour force participation rate. The sub-indicators not used are proportion of employed people living below poverty line and workers' income and expenditure.

The impact of FDI on employment can be both direct and indirect. Although this study focuses primarily on the indirect impact on employment in the overall economy, the direct employment generated by FDI is taken into consideration for analysis wherever found necessary.

With regard to the control variables, education was found to be a variable that can influence employment. However, since the data on education in African countries had many missing values, it could not be considered. Instead a control variable Human Development Index has been used

Chapter 2 Literature Review

2.0 Chapter Framework

In this chapter a review of the existing literature on FDI, employment as well as the impact of FDI on employment is presented. The review of literature provides arguments and contra-arguments of various researchers across the globe based on theoretical as well as empirical perspective, a deepened understanding of the issues and their significance in the context of the present study.

2.1 Globalization and the Shifting Contours of World Economy

In his famous poem "Idylls of the King" Alfred Tennyson wrote, "Old order changeth yielding place to new". His legendary words seem applicable in the context of the world economic order too. A glimpse at the economic history of the world gives a series of changes that transformed the way mankind made its living. (Dicken 2011). More recently globalization fueled by urbanization, technology revolution and information explosion are altering the face and pace of the world.

The dawn of the present millennium brought with it new hopes and promises for development. Neo-liberalism promoting free-market ideology reinforced by the Washington Consensus (1989) gave a push to globalization with the opening up of a number of economies in the developing world in the closing decade of the 20th century. When the world seemed poised to take new economic strides, the financial crisis of 2008 hit the world, which in its womb carried the seeds of altering the world order once again. It not only raised doubts about the notion of development that was perceived and advocated by the West but also highlighted the role of State in an era when a few thinkers had prophesied the "end of State" (Dicken 2011, Canuto and Giugale 2010).

While the developed world is still grappling with the aftermath of 2008-09 financial crisis, the economic power center is tilting towards the East with the emergence of China as an economic giant poised to take over the US to be number one position in world trade. The role that developing countries can play in the world economy is perceived differently. They are projected as "the growth engine of the world" and Africa is expected to join the club of "newly developed" countries from the present "developing countries" status. The advent of a multi-polar world is a new reality (Canuto and Giugale 2010).

Globalization has been viewed by some sceptics as a new form of imperialism by the developed countries (Yaffe 2003 in Nayak 2008) and others have pointed out that globalization is growth-inducing (Dreher 2006).

The process of globalization takes place mainly through its two key drivers – foreign trade and foreign direct investment. Foreign trade primarily denotes the international movement of trade i.e. export and import and FDI denotes the international movement of capital (Zhang and Zhang 2010). In past few decades the importance and volume of FDI is growing. As Dicken (2011) points out, FDI has grown faster than trade since 1980 due to the opening up of many economies for investment. The unprecedented growth of FDI has been instrumental in creating a variety of impacts on the developing world. The present research focuses on the FDI aspect of globalization and the employment impact of FDI in Africa.

2.2 Foreign Direct Investment

2.2.1 FDI: Concepts and Importance

Inward and outward FDI

The concept of FDI has been explained in literature with respect to its various types and aspects. Voinea (2005 in Carp 2013 pp. 155), describes FDI as "placement of equity by foreign investors (residents) in other countries in the establishment and development of companies in various fields of activity". Dicken (2011, pp. 20) differentiates FDI from portfolio investment explaining FDI to be an investment by foreign firm to gain control in a domestic firm or to establish an affiliate as against portfolio investment in which stocks or shares are purchased purely for financial purpose and not with the aim to gain control.

Foreign direct investment is made by foreign firms which are referred as MNEs or multinational corporations (MNCs) or transnational corporations (TNCs). MNEs possess "the power to coordinate and control operations in more than one country, even if they do not own them" (Dicken 2011, pp. 60). Thus control of MNEs on the activities of firms in which they have investment is an important feature of FDI.

FDI has been classified in different ways by the literature. With respect to the direction of flow of investment, FDI has been classified as inward FDI and outward FDI. In the context of type of firm in which investment is done, it has been differentiated as greenfield and merger and acquisition (M&A). Greenfield FDI denotes foreign investment in a new venture while M&A signifies investment in existing firms. In terms of the sectors in which the investment has been made FDI has been classified as agriculture, extractive, manufacturing and services. The present research focuses on the inward FDI and its impact on the host country employment. It also studies the impact on employment with respect to the greenfield FDI and the sectoral FDI.

2.2.2 Impact of Inward FDI on Host Economy

The effects of FDI on the host country, especially in the developing countries, has been a subject of debate in the current literature. Most studies point to the positive impact of FDI on host countries' growth and welfare, while a few illustrate neutral or negative effect of FDI on the host economy.

Nunnenkamp (2004) evaluates the role of FDI in the progress of the developing countries and argues even when a country is attractive for FDI, high volume of inward FDI is not a guarantee for effecting positive results such as economic growth or poverty alleviation in the third world. Carkovic and Levine (2002) demonstrate that FDI does not have any independent effect on economic growth. Negative externalities of FDI such as market-stealing and crowding out of less efficient local firms have been demonstrated by a few (Aitken and Harrison 1999; Lipsey and Sjöholm 2005). The conditions in the poor countries such as weak absorptive capacity, low level of human capital, non-conducive trade regime etc. inhibit the positive impact of FDI and may take long time to contribute to positive social returns in the very countries having most urgent development needs (Nunnenkamp 2004; Borensztein et al. 1998).

However, more recently the number of studies identifying the negative impact of FDI have reduced. This maybe because the developing countries are preparing themselves more and more not only to attract FDI but also to improve their own the absorptive capacity.

Recent studies indicate that the impact of FDI is more a factor of preparedness of a country to absorb FDI than the influence of FDI because increasingly, factors that cause spillover of FDI within a country are being considered of vital importance (Khordagui and Saleh 2013). The benefits that the domestic firms derive from the presence of MNEs can be an important criterion for FDI to impact the economy. The impact of FDI on the development of domestic firms

depends upon the level of absorptive capacity of domestic firms i.e. the capacity of the domestic firms to absorb the knowledge and technology that get spilled by the MNEs in the economy (Glass and Saggi 1998; Kalotay 2000; Girma and Görg 2002). A photosynthesis model is used by Nguyen et al. (2009) to explain the necessity of absorptive capacity of a country to benefit from FDI. An interesting analogy of the requirement of the parts of a green plant i.e. roots, stems, leaves, body in healthy condition for the process photosynthesis to convert sunlight and water into its growth and nourishment is used to indicate the need of a host developing country to have "sufficient absorptive capacity related to human capital resource, absorptive capacity of domestic firm, financial systems, physical infrastructure, technological, and institutional development" to derive positive impact from inward FDI (Nguyen et al. 2009 pp. 1). The link between absorptive capacity and employment has been summed up by Narula (2003 pp. 23) as "absorptive capacity plus technology flows generally result in innovation, upgrading and productivity growth which ceteris paribus increase the demand for skilled labour". The generation of new employment is closely linked with innovation which in turn depends on technology to upgrade or to design new products and services (Szirmai et al. 2013a). MNEs is an important medium through which the technology can percolate to domestic firms provided the capability of domestic firms to absorb the MNE technology.

As Inekwe (2013) points out, the positive effects of FDI seem stronger than the negative ones. There are a number of positive effects of FDI such as technology transfer, skill development, employment creation, enhancement in wages, increase in factor productivity etc. Also increased competition in the domestic market because of the entry of Multinational Corporations can boost the production capacity of domestic firms and may lead to an increase in exports of the host country. Based on data of 31 developing countries in Africa, Asia and Latin America, Hansen and Rand (2006) conclude a strong causal relationship between FDI and GDP and argue that the growth enhancing effect of FDI does not differ across continents under study.

In a nutshell, the benefits of inward FDI for the host country can be termed as it can add to the scant domestic resource, incentivizes transfer of technology and knowledge enhancing competitiveness of the domestic firms, creates linkages and enables domestic firms to participate in the globalized markets and economic activities. However its negative impacts are that the domestic investment may get affected by FDI and it may lead to competition among regions or cities in the same country for attracting FDI (Ernst 2005; Nahidi and Badri 2014)

In view of the heterogeneous results on the impact of FDI on economic growth of the developing countries, it is necessary to investigate whether FDI is useful for attaining employment growth in Africa. Many of the countries in Africa do not yet possess the necessary conditions to reap the benefits of FDI. In this era of globalization of economy FDI is being hailed as an integral ingredient of the development strategy of a country, particularly a developing country. Different types and sectors of FDI can have varying outcomes and government policies need to prioritize particular outcomes desirable for the country-specific situations (Hisarciklilar et al. 2014). In case of African countries, the situation demands that employment generation as an outcome of FDI, among others, is the targeted that is essential to be pursued while framing FDI policies.

2.2.3 Importance of FDI in Africa

Historically, Africa has lagged far behind the other regions in global comparisons of inward FDI (Anyanwu and Erhijakpor 2004). The share of FDI inflow in Africa accounted for only 2.6 percent of the global average annual inward FDI during the 1980s, 1.6 percent in the 1990s and slightly increased to 3.2 percent in the first decade of the new millennium (Anyanwu 2012). However, more recently, the picture is changing and Africa features among the fastest growing

regions of the world in terms of FDI inflow. Africa's share of global FDI inflow in 2014 increased to 17.1 percent which was more than double of its global share in 2013 at 7.8 percent (Memani and Sita 2015). One important reason for this is the rate of return on investment which is the highest among the developing world (Leke et al. 2010).

For the African countries the relevance of FDI as a source of capital has become increasingly important in the post-economic crisis world (Asiedu 2002). Income levels and domestic savings in Africa being very low there is a need of external capital for achieving economic growth. The international capital markets are underdeveloped in most countries of sub-Saharan Africa and therefore dependence on other two forms of international finance viz. FDI and official loan (from Multilateral organizations) remain the only options. However, official loans have declined due to various reasons. Thus raising finance through FDI has become an essential prerequisite of growth in Africa (Asiedu 2002). It is also necessary to note that the form of finance offered by FDI does not cause indebtedness (Hisarciklilar 2014) and generates positive impact on balance of payment (Carp 2012). Therefore, FDI is desired by a number of the developing countries and has led to a number of developing countries, including those in Africa, opting for liberalization of FDI regimes.

A study of the countries Côte d'Ivoire, Kenya, Madagascar, Senegal, and South Africa attributes the reduced impact of FDI in Africa on two factors, firstly, the dominance of resource FDI than manufacturing FDI and secondly, low absorptive capacity that inhibits the transfer of knowledge from the MNEs (Elmawazini and Nwankwo 2012).

Development of human capital is essential not only to attract FDI but also to improve the employment prospects of the people for which African countries must develop human capital. However, the more the efforts towards enhancing human capital to suit the job requirements, greater is the cost of education that the countries have to bear. Therefore, the countries should design the policies in such a way that education along with employment is possible (Atalay 2015).

2.3 Employment

2.3.1 General Concepts

Employment is one of the most important engines of achieving economic growth, poverty alleviation and inclusive development. In the globalized world of post-2008 financial crisis era, employment is being increasingly viewed as an important policy objective. The importance of both – quantity and quality of employment – is being recognized worldwide. The adoption of Global Jobs Pact by ILO in 2009 which prescribes a policy framework for promoting jobs and protecting people as well as the Goal 8 of the Sustainable Development Goals (SDGs) reiterate the significance of employment to the world and especially to the developing world.

Employment, more specifically referred to as "productive employment" is defined by the International Labour Organisation (ILO) as "employment yielding sufficient returns to labour to permit the worker and her/his dependents a level of consumption above the poverty line" (ILO 2012a pp. 3). Productive employment is a component of the Decent Work Agenda by the ILO and is also reflected in the Millennium Development Goals (MDGs) and more recently the Sustainable Development Goals (SDGs). The World Bank refers to employment as "jobs" and describes it as "activities that generate income, monetary or in kind, without violating human rights" (The World Bank 2013 pp.5).

Employment is viewed in terms of "productive employment" by ILO (2012a) which is the concept used in the research for the dependent variable. Usually the quantity of employment is

taken into consideration while investigating the impact of FDI. However, along with employment quantity this research also probes into the employment quality impact of FDI. The employment quality impact of FDI is necessary in the context of Africa as a large section of population is engaged in informal employment and vulnerability of employment is very high. The indicators suggested by ILO to measure productive employment incorporate the indicators for both quantity as well as quality of employment. The indicators to measure productive employment given by ILO (2012a pp 3) are given below:

1. Employment-to-population ratio

2. Growth rate of labour productivity (GDP per person employed)

3. Proportion of employed people living below the poverty line (working poverty rate)

4. The proportion of own-account and contributing family workers in total employment (vulnerable employment rate)

The indicators have been referred to during the present research to denote the quantity and quality of employment. As an indicator of quantity, however, the research uses total employment as an indicator instead of employment-to -population-ratio as the overall number of jobs created are under consideration and not its ratio with the population. Following ILO (2012b), considering the specific indicators suggested for Africa, this research also uses other indicator that have bearing upon the quantity of employment i.e. sector-wise quantity of employment (i.e. number of jobs) generated by FDI. The last indicator keeps in line with the sub-objective number two of this research. The two additional indicators to denote the quality of employment such as female labour force participation rate and workers' income and expenditure are used due to their importance in the context of the North African and SSA countries. This is because the largest number of working poor in the world reside in Africa (ILO 2007) and the gender discrimination at work still persists in Africa which is more glaring in the North African countries (ILO 2012b).

2.3.2 Employment in Africa

The present and estimated demographic configuration of Africa needs a special attention. Africa is the youngest continent in the world today with 70 percent of its population below the age of 25. The current youth population of Africa is 200 million and 10-12 million youths enter the labor market each year. While the governments in African countries are taking efforts to boost the employment scenario, they have so far failed to create enough job opportunities under the 'Youth Decade Plan of Action (2009-2018) launched by the African Union with an aim to reduce Africa's rate of youth unemployment by 2 percent annually (Ackah-Baidoo 2016; The World Bank 2013).

Moreover, it is important to note that the concern of employment in Africa gets compounded by the issue of underemployment which is hidden and more serious than the manifested unemployment problem. A very large section of the working population in SSA is engaged in agriculture and informal economy with low levels of productivity, earnings and sustainability (Szirmai et al. 2013b).

The literature illustrates various dimensions of employment scenario in Africa- unemployment, youth unemployment, underemployment, presence of large informal sector- with the issues of productivity, sustainability, quality and security that are needed to be addressed in a holistic manner.

2.4 FDI and Employment

2.4.1 General Concepts

The employment impact of FDI is a key dimension of socio-economic and political aspects. While it is necessary to study the dynamics and diverse facets of the employment effect induced by FDI, there is only a scant literature focusing exclusively on the employment effect of FDI as most studies focus on international trade (Pflüger et al. 2013). Additionally, most of the available literature on labor market effects of FDI primarily focus on productivity and wages (Girma 2005) and the employment issue features only marginally in spillover effects (Jude et al. 2015). Therefore, this research aims to study the impact of total FDI on the aggregate employment as well as the impact of sectoral FDI on sectoral employment in Africa.

The conditions in which FDI can have either a positive or negative impact on employment have been specified by Jenkins (2006). The author reasons that impact of FDI on employment is positive if the investment is "supplementary to the domestic investment", in "green-field" ventures and in "labor- intensive industries". He explains that the indirect effect of FDI on employment can be positive with increased employment in local firms if it results in creating "backward or forward linkages". Further, some MNEs due to mandates by home countries may introduce "higher labor standards and wages" and the training and technology transfer by MNEs may result in "spillovers to domestic firms" (Jenkins 2006 pp. 116). On the other hand, the impact of FDI on employment can be negative or negligible if it "displaces local investment" or if the investment is in "acquisition of local firms" instead of green-field investment or if the investment is in "capital intensive industries". Additionally, if the inputs used by MNEs are imported instead of developing "local linkages" and if the employment created is skilled one with skills that are not available locally, the impact of FDI is not positive (Jenkins 2006 pp. 117, UNCTAD 1994, Hisarciklilar et al. 2014).

2.4.2 Impact of FDI on Employment

Although the impact of FDI on employment, keeping in view the small percentage of FDI flowing to African countries at present, may look small, the long-term influence on economic growth and competitiveness is vital.

Literature on FDI and employment demonstrates a mixed effect of FDI on employment. While the debate over the positive, negative or neutral effect of FDI on employment persists, FDI is increasingly viewed as an essential aspect of development having positive effects on the quantity and skill profile of employment.

Most literature is vocal about the increase in the quantity of employment induced by FDI. FDI can not only create new employment opportunities with the capital investment and creating new establishment but also indirectly through linkages with domestic firms (Dupasquier and Osakwe 2006)

The existing literature does not detail the indirect effects of FDI on employment, however employment is an important component of spillover effects as pointed in many studies. UNCTAD (1994) claims that the indirect effects of FDI on quantity of employment are at least equal to the direct effects if not larger. The estimation of Iyanda (1999) is much higher for Namibia to the tune of 2 to 4 jobs per person employed in the MNEs. The backward linkages established by a MNE in host countries and reliance of MNEs on outsourcing and sub-contracting for technological, cost and flexibility reasons contribute indirectly to employment generation.

In a study on FDI and employment in the UK Bailey and Driffield (2007)note that though FDI benefits skilled labor in the UK it had negative impact on the unskilled labour.

Asiedu (2004) argues that the employment created by FDI is beneficial for the host country as it enhances wages, boosts transfer of technology and increases productivity of the host country. Radosevic et al. (2003b) claim that the MNEs not only preserved the existing employment but also generated new employment and acted as important safeguard against the decreasing employment in six economies of Central Europe. However the FDI-employment link is influenced by a number of macro and micro factors that are yet to be well-understood (Radosevic et al. 2003a).

While examining whether the jobs created by FDI are good jobs, (Javorcik 2014) describes 'good jobs' from the perspective of workers and from country's perspective and concludes that the employment created by FDI is 'good' both for the workers and the country. From worker's perspective good job means job with higher wages, worker training and job stability while from country's perspective good job means higher aggregate productivity, greater productive externalities and jobs with potential for productivity growth.

UNCTAD (1994, pp 173) describes three kinds of strategies of MNEs with differing employment effect. Firstly, stand-alone strategy which indicates local market-serving MNEs which generate not only higher direct employment but also higher indirect employment by establishing local linkages. Secondly, simple integration strategy in which MNE work is export-oriented and may create a few direct jobs but the effect on indirect jobs is not significant. Lastly, deep integration strategy in which "value adding activities are no longer replicated across different locations, but rationalised and consolidated so as to reap efficiency and scale advantages" which may cause reduction in employment in transition from stand-alone strategy.

However, literature mentions instances of negative or neutral impact of FDI on employment. The 'market stealing' by the MNEs may result in negative externalities and the pressure of competition on domestic firms vis-à-vis the MNEs may crowd out local firms (Djankov and Hoekman 2000). If the domestic firms are not efficient enough or technologically too backward to adapt to new changes, the effect maybe more severe. Danakol et al. (2014) examine the effects of Mergers and Acquisition (M&A) FDI on domestic entrepreneurial entry in seventy countries-both developed and developing economies and find negative relationship between FDI and domestic entrepreneurship.

2.4.2.1 Direct and Indirect impact of FDI on employment

The direct impact of FDI on employment can be noticed in terms of number of direct jobs created by the MNEs. On the other hand, the forward and backward linkages created by the MNEs with the host country firms and the spillover caused due to the skilled labor moving from MNEs to the domestic firms (Radosevic et al., 2003). It is argued by Asiedu (2004) that to reap the employment benefits of FDI a few prerequisites such as good infrastructure, higher income, openness to trade and an educated labor force are essential.

To explain the direct and indirect effects of FDI on employment in host country, Radosevic et al (2003) gives the following matrix:

Table 1 Impact of FDI on Employment

Focus	Direct Effects (intra-firm)	Indirect effects (inter-firm and inter-industry)
Qualitative (skills)	Changes in demand for skills through technology imported via FDI	Skill transfer from FDI to local affiliates. Focus on types of skills, mechanisms and determinants of their transfer (spillovers)
Quantitive (employment)	Direct employment generation (employment generation, reduction or substitution)	Indirect employment generation or reduction. Labour market effects (wages and labour mobility)

Source: Radosevic et al (2003) pp. 57

Thus FDI can have direct effect on skill demand and employment generation, reduction or substitution in an economy. The indirect impact of FDI on employment can be viewed in terms of both quality and quantity of employment. The indirect impact of FDI on quality of employment is in terms of spillovers and that on the quantity of employment can be explained by either generation of employment or reduction in the existing employment.

2.4.3 Types of FDI and Employment

Literature distinguishes between the employment effect of greenfield investment and that of M&A by the MNEs. Greenfield investment is considered to have greater job creation potential creating new jobs that did not exist before, while the employment effect of M&A on employment are not noticed immediately (Dunning 2008 in Jude 2016, Jenkins 2006). Ernst (2005) gives a comparative importance of different types of foreign investments such as portfolio investments and FDI and types of FDI with regard to employment generation capacity as shown in table 2.1.

Table 2 Types of Foreign Investment and their Importance for Employment

Sr. No	Type of Foreign Investment	Importance of investment for Employment
1.	Portfolio	Insignificant
2.	FDI	Medium
3.	Privatisation	Mixed
4.	Horizontal Investment	High
5.	Vertical Investment	Medium
6.	M&As	Mixed
7.	Greenfield	High
8.	Resource-seeking	Insignificant
9.	Market-seeeking	Medium
10.	Efficiency-seeking	Medium-high

Source: (Ernst 2005 pp. 14)

It can be noticed that while the foreign investment like portfolio investment has no significance for employment generation, the capacity of FDI in employment generation depends upon the type of FDI. The FDI with horizontal investment and the greenfield FDI have maximum capacity to generate employment. The greenfield investment implies creation of new enterprises, new places of production of goods and services, new capacities of production and recruitment of new labor force while M&A may involve reduction of existing labor force or recruitment of new labor force of there an expansion of the enterprise because of FDI (Carp, 2012). Resource-seeking FDI has no significant employment generation capacity because of its capital intensive and high technology intensive nature (Asiedu, 2015).

Three types of strategies of MNEs having employment effects have been pointed out by UNCTAD (1994). Firstly, stand-alone strategy, in which the MNE is local market-serving and may bring about a high firm-wide level of employment as well as indirect employment by establishment of local linkages. Secondly, simple integration strategy in which the MNE is export-oriented and may create a few direct employments with minimal indirect jobs as the MNEs rely on transformation of imported goods. Lastly, if a MNE follows a complex or deep integration strategy, it does not replicate the value-adding activities, but rationalizes and consolidates its activities to gain efficiency and scale advantages. In firms transitioning from stand-alone strategy to this one, reduction of employment may occur.

2.4.4 FDI and Employment in Africa

Sub-Saharan Africa is the most poverty stricken region in the world (Bluhm et al 2014) and as Asiedu (2004) points out generation of employment in host countries is an important effect of FDI that can reduce poverty. It is income from employment and not from other sources that constitutes the main source of income particularly in the poorest countries and therefore, employment is a decisive factor of living standards ((The World Bank 2013). While many African countries have demonstrated substantial growth over a decade, the growth has failed to translate into the creation of productive employment in the formal sector (Kapsos 2005). Moreover, massive unemployment persists in most countries of Africa. In such scenario can FDI prove to be the panacea for unemployment in the underdeveloped countries and Africa and bring hopes of prosperity and inclusive growth?

In a qualitative study by Thomo (2010) of 32 MNEs from Gauteng Province of South Africa on the impact of inward FDI on skills and employment, it is argued that the inward FDI impact positively on skills and employment thereby having an impact on the economy.

As stated earlier, the flow of FDI towards the developing countries and especially towards the African countries is growing due to the pursuit of MNEs to maximize their profits, to lower their costs and to search for new markets. This is an opportunity for the African countries to work not only towards economic growth but also towards creating employment opportunities that can translate this growth into inclusive development. The changes brought about by technology including the wide use of internet and mobile phones have changed the way people work. There are even virtual markets, e-commerce activities and websites supporting for employment opportunities. Part-time or temporary employment is not uncommon e.g. in South Africa temporary workers comprise of about 7 percent of the labour force (The World Bank 2013). The employment impact of FDI needs to be looked at from such varied dimensions for the FDI policy perspective. Adoption of appropriate policies to create conducive factors for attracting employment generating FDI is the key to a bright future for Africa.

2.5 FDI, Employment and Cities

Cities are playing increasingly vital role in the global economy. As against earlier predictions cities not only did not become obsolete in this era of information technology but are thriving, especially in the developing countries. As Sassen (2011 pp. ix) rightly points out "City has strengthened its role as strategic space where our major challenges become acute and visible- a lens to see a larger world that remains difficult to grasp."

Since major economic activities are concentrated in urban areas, the role of city in the creation of employment opportunities is of key importance. Therefore, along with countries and regions, this study includes the analysis of cities in Africa to see the impact on employment.

Basu (1989) explains that the developing countries, for many years, have been distinguished by dual economy which is represented by two sectors i.e. a larger agricultural sector and a small industrial sector. The industrial sector is denoted by urban sector and the agriculture sector by rural sector. The labour market in dual economy is also classified in two parts i.e workers in industrial sector and those in agricultural sector, the industrial workers earning more than the agricultural one.

The classical Lewis-model provides an analysis of the dual economy and explains the path of a poor country towards getting industrialised. The rural or agricultural with subsistence wage rate has excess supply of labour and the urban or industrial sector pays higher wage rate (Lewis 1954). He further explains that not the rural landlord but the urban capitalists save the surplus amount and reinvest, gradually leading to increase in the demand of labour in urban area and migration from rural to urban. This cycle of surplus, reinvestment and growth continues till the industrial sector absorbs optimum number of workers from the agricultural sector. Then on, the wages in both the sectors are at par and go on increasing and this is a turning point for the economy to a developed economy.

Though the Lewis model is the starting point of most of the discussion in literature on dual economy, it must be noted that the services too forms an important sector along with manufacturing in drawing labour in urban areas. In fact in the past few years there is a major shift to investment in services instead of extraction or manufacturing (Rogerson 2009).

2.6 Sectoral FDI and Employment

The sectoral composition of FDI differs from country to country. While for China and Canada the major sector of FDI is still manufacturing, for African countries the FDI in primary sector is dominant and for other countries service sector is taking a lead in FDI (Dilek and Sayek 2007). Within Africa too the differences in the sectoral composition of FDI persist.

The backward and forward linkages created by MNEs that play a significant role in employment creation. The size and volume of such linkages may differ from sector to sector. While primary sector has fewer linkages, the linkages by manufacturing and service sector are wide-ranging. (Dilek and Sayek 2007).

Therefore, to understand the dynamics between FDI and employment the sectoral composition of FDI and its impact on the sectoral employment are essential aspects to study in depth. In the context of a research on employment in Africa it becomes all the more vital as the structural dimension of employment is an important aspect of economic development of the region.

Agriculture is a major employer for a considerable proportion of population in poorer countries and as the country advances in economic development, employment in manufacturing and services becomes more prominent. Moreover, employment in agriculture and services in Africa is afflicted with informality (Szirmai et al. 2013). Traditionally, in the growth trajectory of a

country, economic development has led to a shift of labor from agriculture to manufacturing and in more advanced economies, from manufacturing to services.

As Tybout (2000) aptly indicates, policy-makers in developing countries have given great emphasis to the manufacturing sector hoping for employment generation and economic development. However, the experience in Africa, especially the SSA in industrial development has not been promising and there have been signs of deindustrialization in many countries (Szirmai et al. 2013). The existing manufacturing sector has failed to make any remarkable contribution to employment generation (Lall and Wangwea 1998; Szirmai et al. 2013). Moreover, the manufacturing sector shrank in many of the African countries where there has been an increase in the share of services (UNCTAD 2015).

While discussing the employment outcome of FDI, it is essential to investigate the impact of investment in different sectors on employment. A policy debate exists on which sector agriculture or secondary sector and/or services sector should be made a priority for attracting FDI so as to achieve economic growth and poverty reduction. And the sectoral impact of FDI has been discussed as a component of poverty reduction. Axarloglou and Pournarakis (2007) study the impact of FDI in different sectors on local economy in the United States (US) and argue that the sector in which the foreign investment is done is a crucial aspect in terms of its negative or positive impact on the economy including impact on employment.

Literature elaborates the impact of sectoral FDI on economic growth. Alfaro (2003) describes how the impact of FDI differs on overall growth as well as the growth in primary, secondary and services sectors. She argues that the impact of FDI on overall growth is equivocal while primary sector FDI has a negative impact. However, she finds that the manufacturing FDI has a positive effect on growth and the impact of FDI in service sector is inconclusive.

In the context of Africa, being rich in natural resources, traditionally natural resources like coal, oil, natural gas, minerals and metals has been the single largest sector for investments by MNEs. However, the picture is changing. Significant amount of FDI in recent years is flowing into manufacturing and services sectors. Table 2.3 shows the sector-wise break-up of FDI in Africa in the year 2014.

Table 3: FDIs in Africa in 2014

% Market share	Share ($bn)	Sector
38%	32.5	Coal, oil and natural gas
14%	12	Real Estate
11%	19.9	Alt/Renewable Energy
8%	6.6	Chemicals
7%	6.2	Communications
5%	3.9	Building & Const Material
3%	2.9	Metals
2%	1.9	Textiles
2%	1.7	Warehousing & Storage
2%	2.6	Food & Tobacco
9%	7.4	Other

Source: fDi Markets (Africa Investment Report 2015)

2.6.1 Agriculture

In terms of employment generation capacity of a sector, at present agriculture is the single largest source of employment in Africa, but it generates low quality employment with low productivity. A process of structural change is needed to absorb the redundant workers from agricultural sector into other sectors. "Sectors and activities that can potentially absorb workers leaving traditional agriculture include commercial farming and production of labor intensive higher value added crops; the rural and urban informal service sector; the formal service sector, in particular business services, tourism, transport, logistics and distribution; mining; construction; manufacturing and the public sector." (Szirmai et al. 2013 pp. 15). However the jobs provided by informal sector and traditional agriculture are of less quality and those provided by manufacturing and business services are productive (Fine et al. 2012).

Thus in the context of Africa wherein there is a large proportion of unskilled labor, it is necessary that the foreign investment is attracted to the sectors that can create opportunities of employment for the unskilled laborers like agriculture (Asiedu and Gyimah-brempong 2007). Sarbjit and Mukhopadhyay (2014) develop a three-sector factor HT-type general equilibrium model where the FWH is valid and arrives at a conclusion that for a developing country FDI in agriculture is desirable as it has positive effects on both employment and welfare. China has reaped immense socio-economic benefits by allowing and prioritizing FDI in agriculture.

2.6.2 Resource

It has been argued that the "natural resource curse" inhibits the growth of a resource-abundant country and an illustration of stagnation in growth of resource-rich countries since 1970s is exemplified to support the argument (Sachs and Warner 2001 pp. 837). On the other hand, it has also been held that the resource-rich countries have an opportunity to ride over the "commodity boom" taking place due to increased demand for raw material (Kjöllerström and Dallto 2005).

The FDI in natural resources, which has the largest percentage of FDI in Africa, has a very limited employment generation capacity. (Asiedu et al. 2015) explore the impact of FDI in natural resource on employment generation by using example of Tullow Oil, plc. Increase in the global energy demand has led to new explorations and production in SSA, but it has not created significant effect on employment in the region. They compare the jobs creation capacity of two sectors-mining and manufacturing which is illustrated in table 2.4.

Table 4: Employees per US$1 Millions of Foreign Direct Investment Stock in US Foreign Affiliates Abroad, by Sector and Region

Regions	Mining	Manufacturing	Elasticity Ratio
Africa	2	34	17
Asia and Pacific	2	15	7.5
Europe	1	10	10
Latin America	2	22	11
Middle East	2	10	5
World	1	12	12

Source: Bureau of Economic Analysis, US Department of Commerce, and calculations by Asiedu, Dzigbede, et al., 2015 pp.404

2.6.3 Manufacturing

It is clear from the table that if an equal investment is made both in manufacturing and mining, more jobs are created in manufacturing than in mining. In Africa, this ratio is 17 indicating much higher potential of job creation of the manufacturing i.e. 17 times more than the jobs that are created in mining for an equal amount of investment. It has been argued that a large share of the FDIs in the natural resources in Africa can crowd out FDI in the manufacturing industries as the host countries would be more susceptible to the "FDI-natural resource curse". (Asiedu, Dzigbede, et al., 2015)

It is also evident that contrary to the natural resource FDI the investment by MNE in manufacturing sector yields positive results for generation of employment. Dinh et al. (2011) demonstrate how light manufacturing can be beneficial for employment creation in Africa. Given the merit of lower labour cost and presence of raw material in most African countries, the region has a potential to attract FDI in light manufacturing and also possesses a possibility of switchover of the activity from East and South East Asia to Africa if certain necessary aspects such as development of human resource and ease of doing business are catered to (Dinh et al., 2011; Szirmai et al. 2013)

In a study on employment impact of FDI in Vietnam Jenkins (2006) argues the direct employment generated by manufacturing FDI is very low due to "high labour productivity and low ratio of value added to output" (Jenkins 2006 pp. 115). However, the charts and figures in annexure 1 illustrate that in case of Africa it is the manufacturing sector that has generated maximum direct jobs as compared to FDI in other sectors.

2.6.4 Services

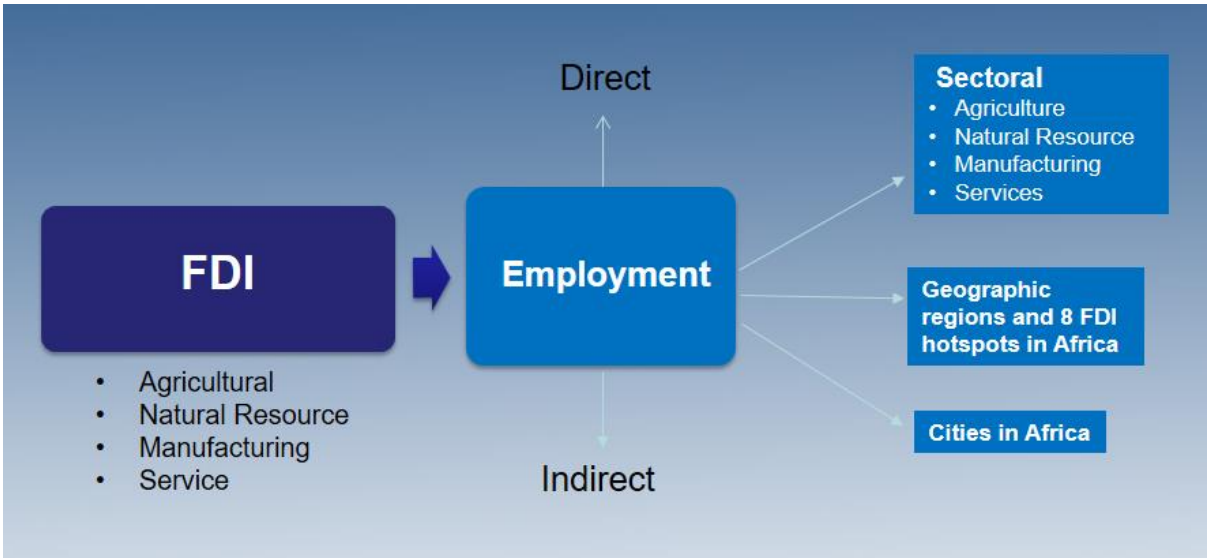
Manufacturing, however, is not the only hope for Africa. In the era of knowledge economy, information technology revolution and globalization, leapfrogging of employment from agriculture to services is not unconceivable and the case of India is often cited in literature where services such as information technology and business processing outsourcing played a crucial role in development as well as creation of employment on a large scale in service sector. (Kucera and Roncolato 2012). The relevance of such aspects of sectoral shift of employment in Africa in the context of FDI are needed to be studied.

Services has been hailed as one of the fastest growing sectors in recent times and more than 60 percent of the global output and is also being looked at a major source of employment (Hoekman and Mattoo 2008; Dash and Parida 2013). The FDI in services worldwide is also on rise. The (UNCTAD 2014) reveals that the share of extractive industries is reducing rapidly and that of manufacturing and services rising substantially which comprises of 90 percent of the projects announced in Africa and the Least Developed Countries. This calls for a probe in how the services sector FDI is impacting the employment scenario in Africa.

In view of the aforementioned discussion it can be seen that a paradigm shift in the notion of development is taking place in the increasingly globalizing inter-connected and consequently inter-dependent world. The 21st Century development models are more of "investment and business models than subsidies and philanthropy" (Tulder and Fortanier 2009). The birth of "philanthrocapitalism" (Bishop and Green 2015 pp. 541) has potential to change the way development has been hitherto conceived. In this context there is a need to carry out more research on FDI as driver of development and especially employment in Africa as *the "Sub*-Saharan Africa's growing youth population and unemployment rate is a 'ticking time bomb." [(Ighobor (2013) in (Ackah-Baidoo 2016) pp259].

2.7 Conceptual Framework

The conceptual framework of this research denotes the causal link between FDI and employment. It indicates the relationships among the concepts as implied in the research objectives and the research questions (Vershuren and Doorewaard 2010). Firstly, the study looks into the impact of aggregate FDI on overall employment in Africa. The direct impact and indirect impact on employment are analyzed. Secondly, the study also explains the impact of FDIs in different sectors such as agriculture, natural resource, manufacturing and services on overall employment as well as sectoral employment in Africa. Lastly, the research describes the impact of FDI on the five regions of Africa, eight economic hot-spots of FDI and major cities in Africa.



Chapter 3: Research Design and Methods

3.0 Chapter Framework

This chapter describes in detail the design of the research and the methodology followed. It begins with the research question that are revised and fine-tuned after the literature review and then goes on to explain the dependent, independent and control variables and indicators used in the research. Further it explains the research strategy, data collection and data analysis methods. This research uses desk research method and panel data analysis for arriving at the answers of the research question.

3.1 Revised Research Questions

The literature review provided a better insight related to the topic of research with the help of which the research questions were modified and fine-tuned to provide appropriate answer for the problem statement. The modified central research question and sub-questions are as given below:

Central Question

In what way does inward FDI impact employment in Africa?

Sub-questions:

1. What is impact of the aggregate inward FDI on the quantity of overall employment in the continent of Africa, its regions and cities?
2. What is impact of the aggregate inward FDI on the quality of employment in Africa?
3. What is impact of the aggregate inward FDI on the sectoral employment in in Africa?
4. What are the differences in the impact of sectoral FDI on overall employment in Africa?
5. What are the differences in the impact of sectoral FDI on sectoral employment in Africa?

3.2 Operationalization: Variables, Indicators

The concepts and their definition, the variables and indicators as well as the control variables have been derived from literature [Asiedu (2002), Asiedu(2004), Asiedu et al. (2015), ILO (2012), Carp (2012), Mayom (2015) and Szirmai (2013)]

The research involves two dependent variables and one independent variable. The dependent variables are quantity of employment and quality of employment and the independent variable is inward foreign direct investment. There are two sets of control variables that have been selected from literature to suit the purpose of research. The first set of controls is that of macroeconomic variables that can also act as controls of economic conditions in an economy. The second set of controls comprises other variables having a bearing upon the dependent and independent variables.

Employment is considered in terms of productive employment in this research. The definition of productive employment used is borrowed from ILO (2012 pp. 3). It defines productive employment as “employment yielding sufficient returns to labour to permit the worker and her/his dependents a level of consumption above the poverty line”

Out of the two types of FDI- Inward FDI and outward FDI –this study focuses on the inward FDI and studies the impact of inward FDI on employment in the continent, region and cities of Africa.

The study also incorporates control variables that have an effect on the dependent variable productive employment. There are two groups of such control variables. One group is the economic factors affecting the dependent variable and the second group is the non-economic factor affecting the dependent variable. Gross domestic product (GDP) growth, government expenditure and inflation are the economic control variables and human development index, population growth in each country and the level of trade openness exhibited by the sum of exports and imports for each country, mobile connections as an indicator of infrastructure, connectivity and information accessibility and international country risk guide are the non-economic control variables.

The concepts, variables, their indicators and sources at country as well as regional level and at city level are described in Table 5 and Table 6 respectively.

Table 5: Impact of FDI on employment in Africa- operationalisation for City

Concept	Variable	Indicator	Data Details and Unit	Data Source
Productive Employment	Dependent-1: Magnitude of total Employment	Employment to population ratio	Percentage	Euromonitor International Passport database
	Dependent-2: Magnitude of sectoral Employment	Sectoral employment	Oxford: 1) Agriculture 2)Industry 3)Transport, storage, information & communication services 4) Financial & business services 5) Consumer services 6) Public services Unit: Persons ('000)	Oxford database
Foreign Direct investment	Independent-1: Total Inward FDI	Total FDI	Million USD	FDIMarket database
	Independent-2: Sectoral Inward FDI	Sectorwise amount of FDI invested per country	For 4 sectors: hightech, manu, resources, services Million USD	FDIMarket database
Control Variables	Control Variables	Inflation	Percentage	Euromonitor International Passport database
		GDP growth	Percentage	Euromonitor International Passport database
		Education	Population by Educational Attainment [Higher] 2005-2015 Unit: Persons ('000)	Euromonitor International Passport database
		ICT infrastructure(Population with mobile phone)	Percentage of Households	Euromonitor International Passport database
		Population growth	Percentage	Euromonitor International Passport database

Source: Author, 2016

Table 6: Impact of FDI on employment in Africa- operationalisation for Country and Region

Source: Author, 2016

Variable	Indicator	Data Details and units	Data Source
Dependent-1: Magnitude of Total Employment	Employment to population ratio per country	Percentage	International Labour Organisation (ILO) -Key Indicators of Labour Market (KILM)
Dependent-2: Magnitude of Sectoral Employment	Sectoral employment	Oxford: 1) Agri 2) Industry 3) Transport, Storage, I&C serv 4) Fin & Bussiness serv 5) Consumer serv 6) Public serv ('000 Persons)	Oxford database
Dependent-3: Quality of Employment	1) the proportion of own-account and unremunerated workers or contributing family workers in total employment (vulnerable employment rate)	Percentage	World Development Indicators
	2) Labour productivity growth	Output per worker 2005 constant US$;	ILO KILM (estimates and projections)
	3) Female labour force participation rate	Percentage	ILO KILM (estimates and projections)
Independent-1 : Total Inward FDI	Total FDI	Million USD	FDI-Markets
Independent-2 : Sectoral Inward FDI	Sectorwise amount of FDI invested per country	Million USD	FDI-Markets
Control Variable	Government expenditure	General govternment total exp (as % of GDP)	International Monetary Fund
	Inflation	Annual percentage	World Development Indicators
	GDP growth	Annual percentage	ILO-KILM sourced from the World Bank national accounts data, and the Organisation for Economic Co-operation and Development (OECD) National Accounts data files.
	Human Development Index	*Life Expentancy at Birth *Mean years of schooling and expected years of schooling *GNI per capita (PPP US$)	UNDP
	Openness to trade	Sum of imports and exports	United Nations Conference on Trade and Development (UNCTAD) database
	Population growth	Annual Percentage	World Development Indicators
	Mobile connections	connections per 100 persons	World Development Indicators
	International Country Risk Guide (ICRG)	12 components measuring various dimensions of the political and business environment facing firms operating in a country	International Country Risk Guide

3.3 Research strategy

The present research mainly focuses on finding the correlation among the related variables. The research questions and the variables and indicators in the operationalisation lead to the inference that the research would require large data sets. Panel data for the ten-years period under study- from the year 2003 to 2014 for the countries and regions and from 2005 to 2014 for cities - is required for analysis. Collecting such large datasets will not be possible, in the available time, by way of the strategies involving primary data collection.

Additionally, the broader geographical scope of the research consisting of cities, countries, regions and a continent necessitates analysis of macro-level data as the strategies involving primary data collection would not be much effective.

Lastly, the required data is available through various authentic sources. Relying on such secondary data can lead to saving of time and cost ensuring efficiency. Therefore, the desk research strategy has been adopted.

3.4 Data Collection Methods

The sample size of the research comprises of the fifty-four countries in African continent, five regions and major cities in the continent. The cities are chosen as per the availability of data.

As stated above, the research follows a desk research strategy and is based on secondary data which is collected from multiple sources. Firstly, by studying the existing literature and collecting data references from authentic sources. Secondly, online databases of International Labour Organisation (ILO), United Nations Conference on Trade and Development (UNCTAD), the World Bank, Organisation for Economic Co-operation and Development (OECD), International Monitory Fund (IMF), World Development Indicator are used. Thirdly, data procured from Euromonitor International Passport database, FDIMarkets and Oxford database also features prominently in the research.

The choice of sources of data has been made with a view to not only get the required data but to also ensure the validity and reliability of data. Most of the sources mentioned above have their own mechanism of ensuring the authenticity and genuinity of data. Also, much of the data has been compiled from the government official sources which is considered as valid and reliable data for any country.

The internal validity of data is indicated through proper selection of variables, indicators and their values. The external validity can be achieved as the data is city level or country level and the results can be generalised for geographical and economic regions and the continent of Africa as a whole. Since data from reliable sources are used, the accuracy and consistency of the data is of utmost possible level. Measurement reliability is ensured because the city level and country level data used for the methodological analysis is usually official and does not vary.

3.5 Data Analysis Methods

Before the application of data analysis methods, the data collected from different sources is explored to gain detailed knowledge about the collection, codification and cleaning of data by the respective source agency. The data is then inspected to identify any missing values or outliers and then cleaned to make it free of any possible errors with respect to the statistical

methods and software to be used. Wherever necessary editing and merging of data and converting data from wide to long format for STATA is done. Subsequently, statistical methods of data analysis are employed, which are described in the subsequent paragraphs.

3.5.1 Panel Data Analysis

The literature analysing the correlation between FDI and employment uses a variety of methods and models and panel data analysis is often used for such research. The data used for the present research is panel data for the continent, region, country and city level analysis. Panel data is the data that consists of a number of observations with two dimensions i.e. time and space. Thus panel data analysis enables the study of the data from multiple locations collected periodically over a certain period of time and is a combination of time series and cross sectional (Greene 2012). As pointed out by Gujarati, panel data is useful for labour studies as it can capture the effects of change over time and the data being available for a large number of units, it lowers the bias in the data. It also involves an element of heterogeneity due to different locations and time period. "By combining time series of cross-section observations, panel data give more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency" (Gujarati 2004 pp 638).

On the other hand, panel data also suffers from a few drawbacks such as heteroscedasticity, autocorrelation etc. However, statistical methods provide for estimation techniques that can address these drawbacks of panel data and two of such important techniques are fixed effect model (FEM) and random effect model (REM). In case the "individual-specific intercept" in the regression model is correlated with the one or more independent variables FEM is suggested. If the "random intercept of each cross-sectional unit" is uncorrelated with the independent variables, REM is useful (Gujarati 2004 pp. 652). The results in FEM have internal validity while the results in REM are also externally valid.

The present research uses the panel regression models based on the panel data mentioned earlier. Though the data is sourced from authentic sources, to reduce the drawbacks of panel data, either FEM or REM is used with due consideration of the result of the Hausman test, for each panel regression model. Hausman test aids in the selection between the two models according to the correlation of the intercept with the independent variable. A fixed effect panel model is estimated for the panel data regression if the result of the Hausman test is significant (probability less than 0.05) and a random panel model is estimated if the result of Hausman test is non-significant ((probability more than 0.05)

The data also is put to various other statistical tests to ensure its suitability for the regression models. As the dependent and independent variables vary across the models, tests are carried out independently for all the models. The test for the identification of influential points as well as various assumption tests have been carried out on each of the models before estimating the fixed or random effect regression analysis. The assumption tests carried out are test for normality, test for homoscedasticity, test for multicollinearity, test for linearity, test for independence, test for model specification and finally Hausman test and the models used are in line with the test results. Wherever the tests gave the result indicating heteroscedasticity, robust model has been used along with FEM or REM. If the relationship between the dependent and independent or control variable was found non-linear, a logarithm of the skewed variable is used for the estimation.

The research used interaction models with GDP and HDP to avoid multicollinearity as the GDP is one indicator used for the index of HDI. The results are discussed in detail in chapter4.

The descriptive analysis of the dependent and independent variables has been carried out with relevant tables, bar charts, line graphs and pie charts with the help of Microsoft Office Excel.

Wherever necessary, geographic information system (GIS) is resorted to so as to support, strengthen and clarify the analysis.

3.5.2 Overarching Modelling Framework

The basic framework of econometric models for FEM and REM can be displayed by the following equations:

For fixed effect panel regression model:

$$Y_{it} = \alpha_i + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + u_{it}$$

And for Random effect panel regression model:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it +} \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \varepsilon_i + u_{it}$$

where i stands for ith country and t for the tth year. Y is the indicator of dependent variable specific to the type of employment (overall, sectoral or quality) estimated in the particular model. X_1 is the indicator of independent variable specific to the type of inward FDI (aggregate or sectoral) estimated in the particular model. α is the intercept for the equation and β_1 is the slope coefficient of the independent variable inward FDI. The control variables are represented by X_2, X_3, X_4, X_5, X_6 denoting GDP growth, government expenditure, inflation rate, population growth and trade openness respectively and $\beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ are the slope coefficients of the respective control variable. ε_i is the country specific error term and u_{it} is a combined country and year error component.

The models theoretically are sourced from the model by Anyanyu (2013) estimating the correlation between youth employment and its determinants and econometrically they are based on the econometric analysis by Greene (2012) and Gujarati (2004). The difference between the equations of FEM and REM are because in FEM the value of intercept for each country is the same (fixed) while in REM the intercept α is the mean value of intercepts for all the countries and the deviation of this mean value from the intercept value of each country is denoted by the error term ε_i (Gujarati 2004).

3.5.3 Model Specification

The study estimates five main models of panel data regression, either FEM or REM, respective to each research sub-question. Each model differs in the indicator of dependent variable and the indicator of independent variable used according to the context of the research sub-question. Variations in the indicator of dependent variable employment viz. overall employment, quality of employment, sectoral employment (in agriculture, industry and services) and variations in the indicator of independent variable inward FDI viz. aggregate inward FDI for countries, sectoral inward FDI (in hi-tech, manufacturing, resource and services) have been used in the five models. Within each of the five main model, there are different sub-models concerning either particular spatial or sectoral aspect. The control variables used in all the models related to country are similar viz. GDP growth, government expenditure, inflation rate, population growth and trade openness. In the model related to city used different control variables viz. GDP growth, inflation rate, attainment of higher education, percentage of households with mobile phone connections and population growth.

In the first main model estimated to answer the first research sub-question has different spatial components i.e countries aggregated for the continent of Africa, the five regions of Africa and seven major cities of Africa. The indicator of the dependent variable estimated here is overall employment to population rate for each country and the indicator of independent variable is aggregate inward FDI per country. These are estimated along with the five control variables in

the sub-models relating to the continent and the five regions in panel data regression analyses, either FEM or REM.

For the city level analysis, the indicator of the dependent variable estimated is overall employment to population rate for each city and the indicator of independent variable is aggregate inward FDI per city. These are regressed in a panel data regression with the aforementioned city-specific five control variables.

The second main model takes into consideration the quality of employment index as the independent variable and aggregate inward FDI as independent variable which are regressed in a panel data regression with five control variables in separate sub-models for the continent and the five regions.

The third main model estimates the indicator of dependent variable for each sector in each sub-model i.e. employment in agriculture, employment in industry and employment in services. Each sectoral employment dependent variable is regressed with the independent variable indicator aggregate inward FDI along with the five control variables in a panel data regression analysis.

The fourth main model relating to the fourth sub-research question estimates separately the overall employment as an indicator of the dependent variable with four different sectors of inward FDI i.e. hi-tech, manufacturing, resource and services as indicator of independent variable in four different sub-models, in a panel data regression model.

The fifth model takes into consideration the three sectors of employment and the four sectors of inward FDI. These are represented in three separate tables in chapter 4, each table corresponding to each employment sector. Each table consists of one sectoral employment as an indicator of dependent variable and the four sectors of FDI independently regressed as independent variable in four sub-models along with the five control variables, in a panel data regression model.

Chapter 4: Research Findings

4.0 Chapter Framework

This chapter is the heart of the study in which the data is descriptively as well as statistically investigated, results are discussed and analysis is carried out. In the beginning the details of research area are given along with the countries, regions and cities. The description of data of the dependent, independent and control variable is given and then the panel regression related to all the five research sub-questions is analysed and finally the lessons learnt from the entire exercise are enumerated.

4.1 Overview of the Research Area

The geographical area for the present research is the continent of Africa. It includes 54 countries. This earliest habitation of human beings is today the home to 16 percent of the world's population and has a distinction of being the second most populated continent in the world with over fifty percent of its population under 25 years of age. Geographically countries of the continent have been divided into five main regions such as North Africa (5 countries): Algeria, Egypt, Libya, Morocco and Tunisia; West Africa (18 countries): Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo; Central Africa (6 countries): Central African Republic, Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, and São Tomé and Príncipe; East Africa (15 countries): made up by the countries in the Horn (Eritrea, Ethiopia, Somalia, Djibouti), plus Sudan, South Sudan, Uganda, Kenya, Tanzania, Rwanda, Burundi and the islands (The Comoros, Mauritius, the Seychelles and Madagascar); Southern Africa (10 countries): Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe.

However, two common divisions of the continent that can be seen across literature and databases is Sub-Saharan Africa and North Africa due to the distinct socioeconomic and cultural differences in the two regions.

Figure 2: Map of Research Area

Source:
http://www.africaguide.com/afmap.htm

This research takes into consideration 52 out of the 54 countries in Africa. Two countries Sudan and South Sudan have been omitted due to limited data availability. The research makes use of the available yearly panel data of the variables under consideration which is for the period between 2003 and 2014 at country level and between 2005 to 2015 at city level sourced from various databases as described in Chapter 3.

4.2 Description of the Data

The data for the research, as indicated in Chapter 3, is of the indicators of dependent variables, independent variables and control variables based on the research sub-questions. This section describes the details of the data used for the research. The summary statistics of all the indicators of the dependent and independent variables along with number of observations, mean, standard deviation as well as minimum and maximum values is provided in annexure 6.

4.2.1 Dependent Variable

While the dependent variable in the study is productive employment, based on the context of each research sub-question, different aspects of employment are taken as a dependent variable. Thus to address the first research sub-question the dependent variable is quantity of overall employment, for the second research sub-question it is the quality of employment and for the third research sub-question it is the quantity of sectoral employment in each of the three sectors i.e. agriculture, industry and services is used as a dependent variable distinctly. The analysis of fourth research sub-question again uses quantity of overall employment as the dependent variable and that of the fifth sub-question has quantity of sectoral employment as a dependent variable.

4.2.1.1 Dependent Variable I: quantity of Employment- Country

Total employment is used as the indicator to denote the dependent variable quantity of employment to address the first research sub-question. The data for this indicator is accessed from the Oxford Database and comprises of the total number of persons in employment per country.

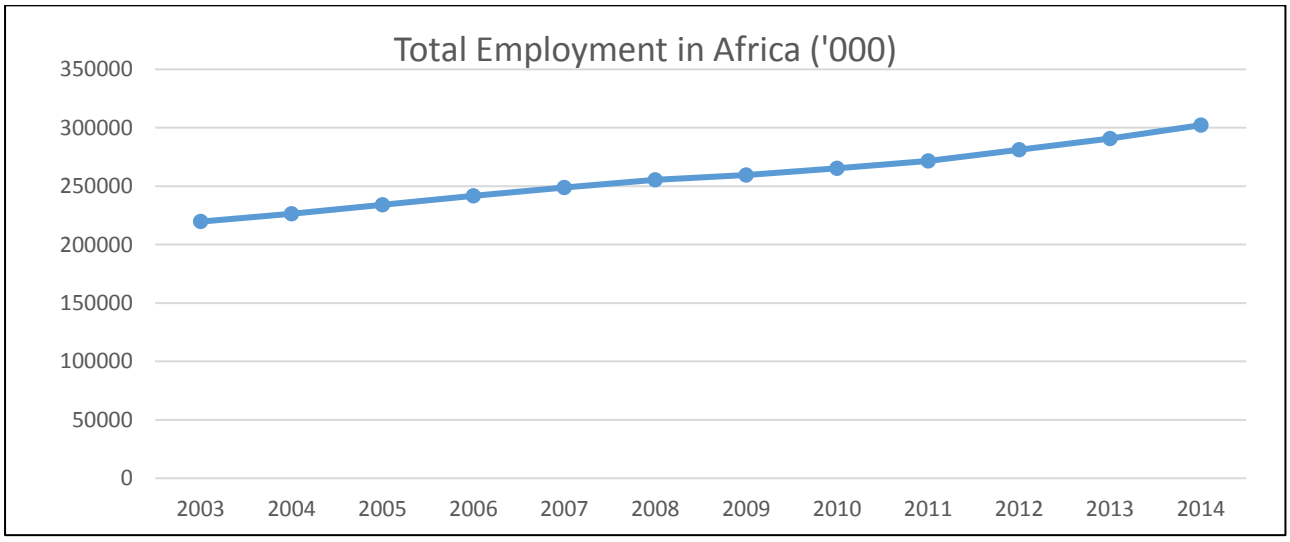


Chart1: Total Employment (in thousands) in Africa during 2003 to 2014
Source: Author, 2016. Based on Oxford Database

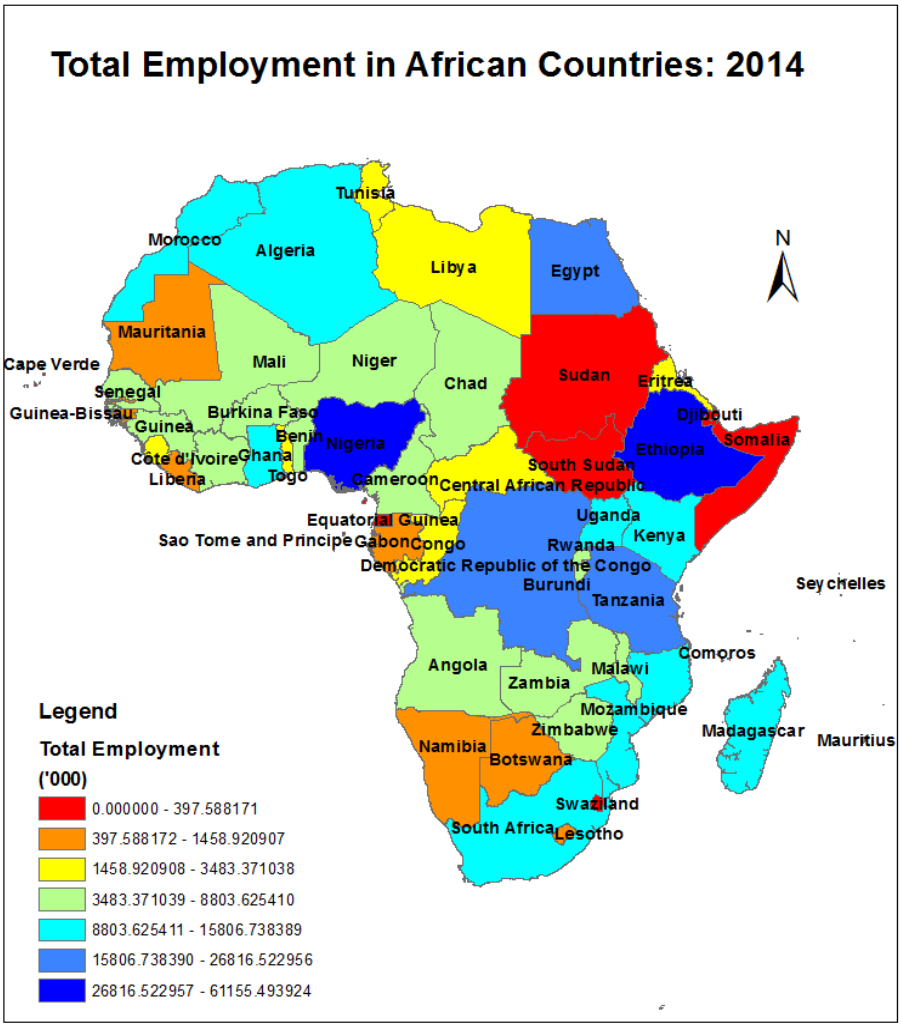


Figure 3: Total Employment in the Countries of Africa in 2014

Source: Author, 2016. Based on Oxford Database

As presented in Chart 1 the total number of persons in employment in Africa is steadily rising. It rose from 219,667,000 in 2003 to 302,205,000 in 2014. Figure 3 displays that Nigeria has the highest number of employed persons followed by Ethiopia, Democratic Republic of Congo, Egypt and Tanzania in that order. However, comparing the quantity of employment with total population of the country it is evident that the countries that have higher total employment, may have lower employment to population ratio. For example, as shown in Annexure 3, Figure 3.1, the countries Ethiopia, Democratic Republic of Congo and Tanzania that fare well in total employment also have higher employment to population ratio. On the contrary, Nigeria and Egypt are among the countries having lowest employment to population ratio. However, since the focal point of this study is the number of employment created by FDI, the study uses total employment is as an indicator.

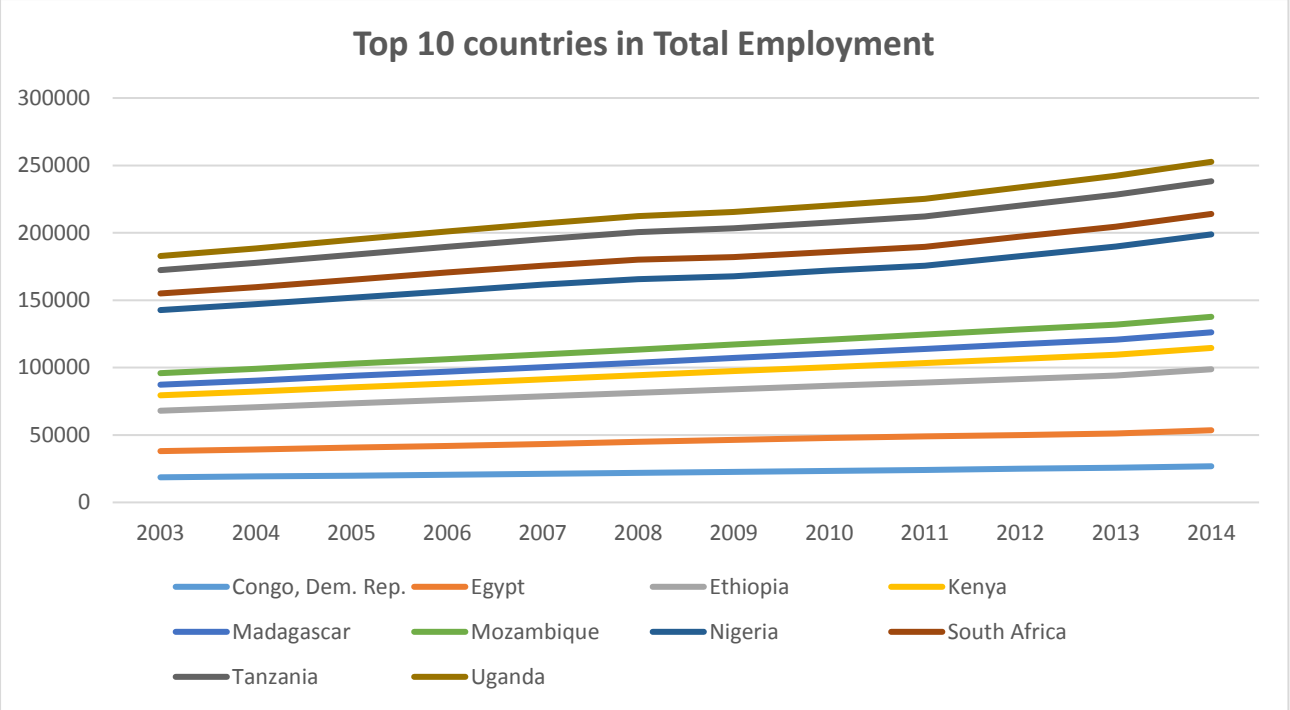


Chart 2. Total Employment in top ten countries of Africa
Source: Author, 2016. Based on Oxford Database

The total employment graph for the study period of top ten countries having maximum number of employed persons in Africa is shown in Chart 2. Nigeria and South Africa show a decline in total employment after the global financial crisis in 2008, however, they seem to have picked up after 2011.

4.2.1.2 Dependent Variable II: Quality of Employment

The ILO has given five sub-indicators for quality of employment, however, the data for one sub-indicator i.e. proportion of employed people living below poverty line was available only for four countries in Africa which cannot be considered as a representative data for Africa. Therefore, this sub-indicator is not used in the research. Data for another sub-indicator out of the five i.e. workers' income and expenditure was not available. Thus three of the five sub-indicators are used to indicate quality of employment and these are the proportion of own-account and unremunerated workers or contributing family workers in total employment (vulnerable employment rate), labour productivity growth and female labour force participation rate. An index of these three sub-indicators is calculated and is used to indicate quality of employment for the purpose of this study.

Annexure2 Chart 2.1 illustrates country-wise quality of employment in Africa for the year 2014. It can be noticed that Equatorial Guinea demonstrates the highest employment quality index while few other countries such as Botswana, Gabon, Mauritius, Namibia, Rwanda, South Africa score high in the quality of employment while countries such as Egypt, Somalia, Sudan perform poorly.

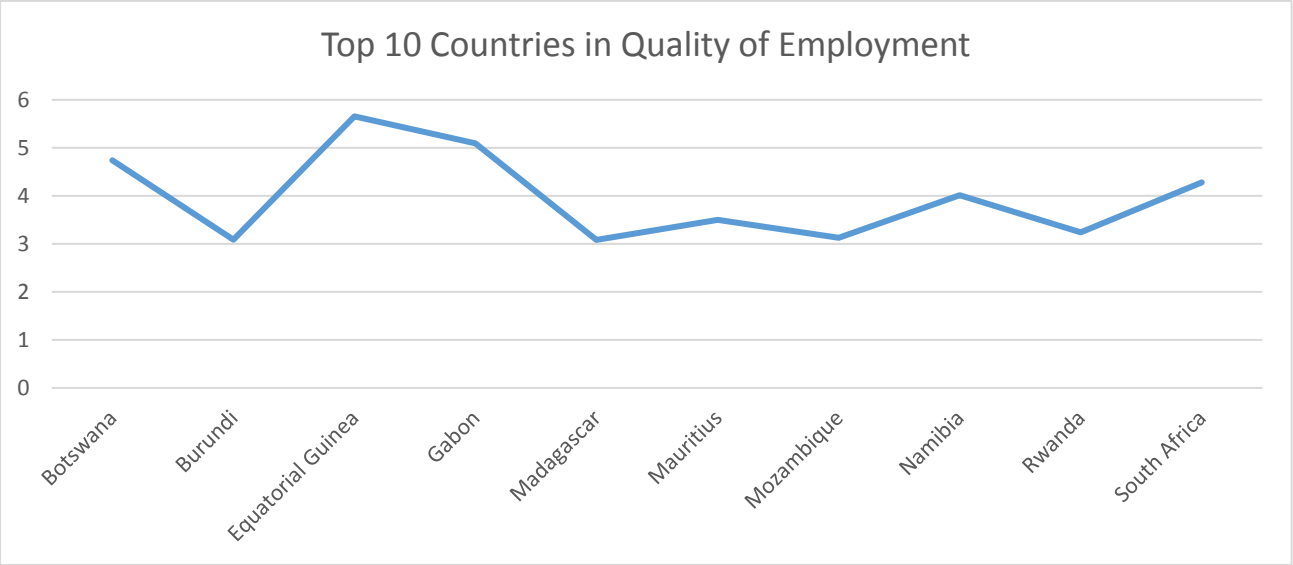


Chart 3: Top 10 countries with Quality of Employment in Africa for the year 2014
Source: Author, 2016. Based on data from different sources as mentioned in Chapter 3

Chart 3 demonstrates the top ten countries in quality of employment and it can be noticed that except South Africa, none of the ten countries figure in the top receiving countries of FDI. As against this, a look at chart 4 reveals that countries with higher amount of foreign direct investment are not better performers in quality of employment with the exception of South Africa. This is especially true for the North African countries i.e. Libya, Tunisia, Algeria and Egypt where the graph of FDI and quality of employment can be seen moving in opposite direction.

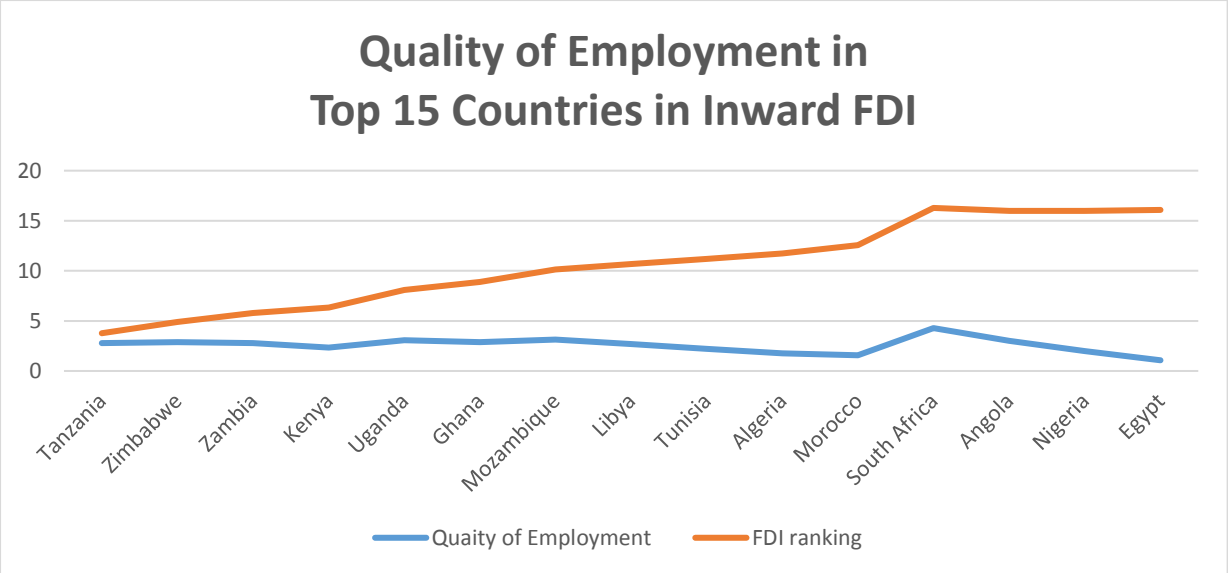


Chart 4: Quality of Employment in Top 10 countries in inward FDI for the year 2014
Source: Author, 2016. Based on data from different sources as mentioned in Chapter 3

4.2.1.3 Dependent Variable III: Sectoral Employment

The data for sectoral employment sourced from Oxford database provides the number of persons employed in six sectors viz. agriculture, industry, consumer services, financial services, public services and lastly transport and information technology services. Since the last four sectors relate to services, for the purpose of research they have been aggregated to one service sector and thus three sectors i.e. agriculture, industry and services are taken into consideration for the research.

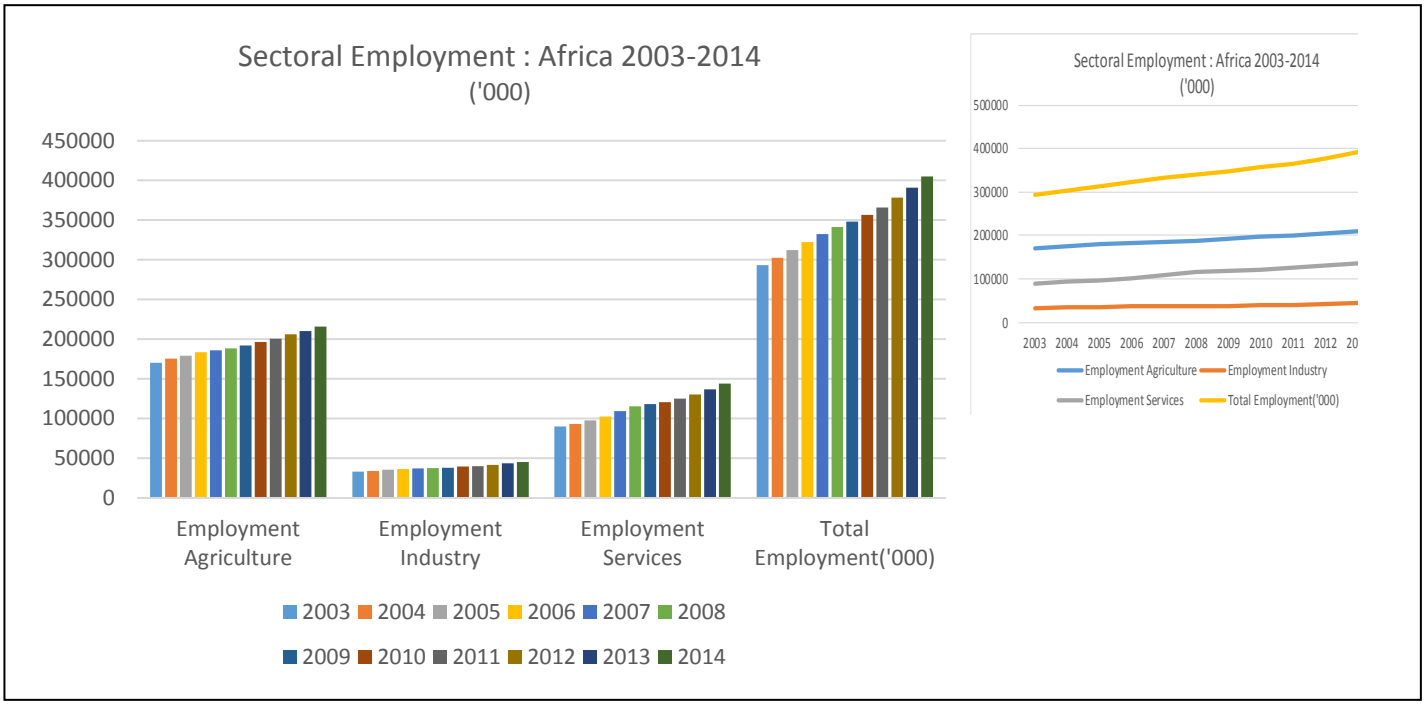


Chart 5. Sectoral Employment in Africa
Source: Author, 2016. Based on Oxford Database

The performance of each of the three sectors in terms of generation of employment during the twelve-year period of research is illustrated in Chart 5. Agriculture is the most dominant sector as maximum number of Africans are employed in agriculture sector followed by services and industry sectors. The trend over the research period is of gradual increase in employment in all three sectors.

With respect to the share of each sector in total employment it can be noticed in Chart 4.2 Annexure 4 that over the period of research the share of industry has remained unchanged at 11 percent, while the share of agriculture has reduced by 5 percent from 58 percent to 53 percent with an equal increase in the services sector which has risen from 31 percent to 36 percent. Looking at the trend in each of the twelve years as in Chart 4.3 Annexure 4, it is clear that the share of agriculture in generating employment reduced in each year from 2004 to 2008 by 1 percent, however, from 2008 it remained stagnant over a period of five years at 55 percent only to reduce by 1 percent in 2013 and 2014. This may be attributed to the global financial crisis in 2008 and then subsequent picking up of economy after 2011. This also indicates the pace of structural transformation taking place in Africa.

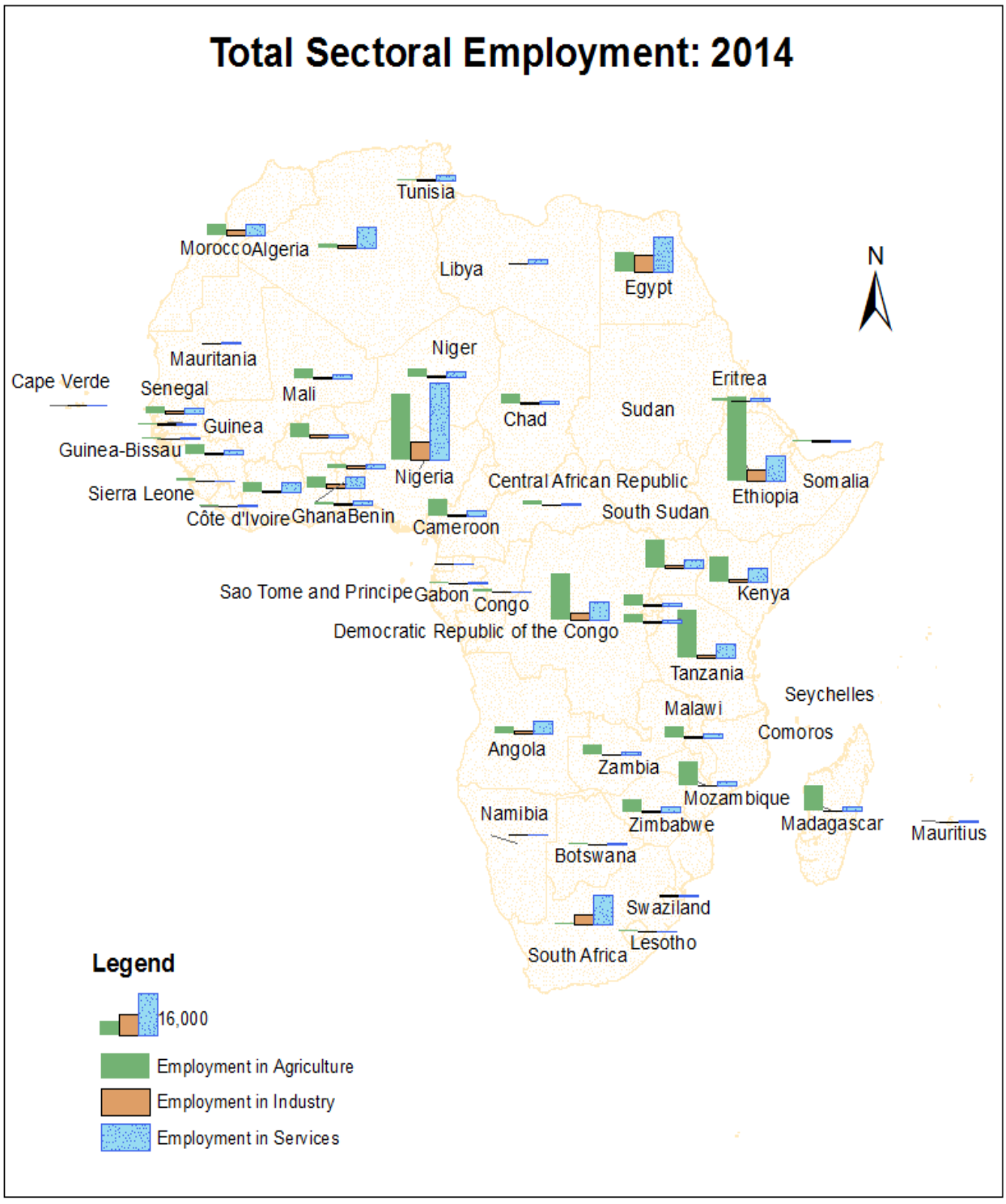


Figure 4: Country-wise sectoral employment in 2014
Source: Author, 2016. Based on Oxford Database

Country-wise distribution of sectoral employment in 2014 demonstrates a clear distinction between the countries in North Africa and the SSA, as can be noticed in Figure 4. Service sector employment has the largest share as compared to the other sectors in the North African countries of Algeria, Egypt, Libya, Morocco and Tunisia. On the other hand, in most countries in the SSA except Nigeria, South Africa and Botswana, agriculture is the largest employer.

4.2.1.4 Dependent Variable IV: Quantity of Employment- City

The indicator for quantity of employment at city level is total employment in city. The period of data chosen for the research is the years for which data is available for both dependent and independent variable and this is a span of nine years from 2005 to 2014. The data sourced from Euromonitor Passport database is available for eight cities in Africa out of which seven cities for which the data for inward FDI is available have been selected for the present research. These cities are Cairo, Cape Town, Casablanca, Johannesburg, Lagos, Nairobi and Tunis.

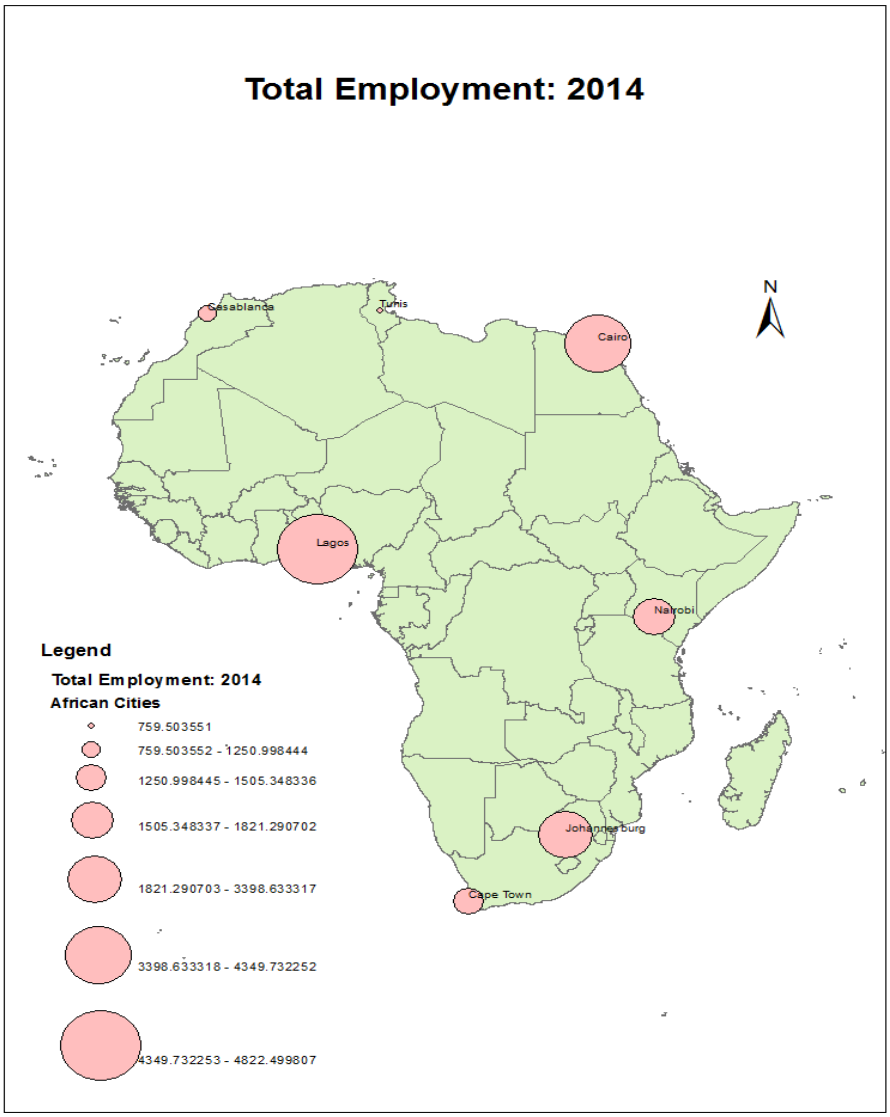


Figure 5: Total Employment in Cities

Source: Author, 2016. Based on Euromonitor Passport Database

Out of the seven cities under study, in 2014 Lagos had the largest number of persons in employment followed by Cairo and Johannesburg as denoted in Figure 5. In comparison with total population, however, it can be observed from Chart 6 that in major part of the research period highest employment ratio has been displayed by Johannesburg and the lowest by Cairo.

The highest increase in total employment is in Lagos, it improved from the lowest at 309,000,0 in 2005 to 504,300,0 in 2014.

4.2.2 Independent variable

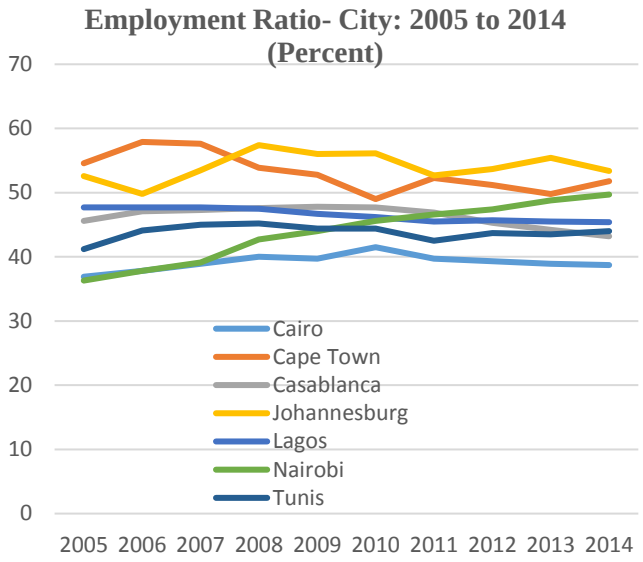


Chart 6. Employment Ratio at city level
Source: Author, 2016. Based on Euromonitor Passport Data

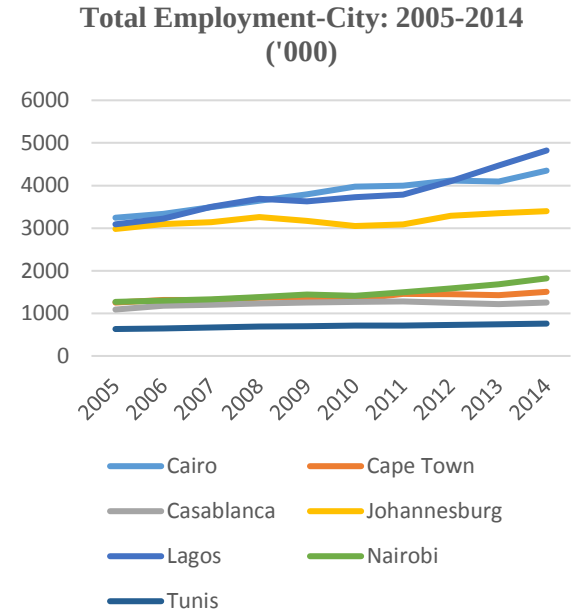


Chart 7. Total Employment in City
Source: Author, 2016. Euromonitor Passport Data

The independent variable FDI is represented in terms of inward FDI in each country and aggregated for entire Africa The first three research sub-questions use aggregated inward FDI of all sectors for all the countries and regions in Africa. In case of cities in Africa the inward FDI in cities is the independent variable. And for the fourth and fifth research questions, inward FDI for each of the four sectors for which data is available i.e. hi-tech, manufacturing, resource and services is used as an independent variable.

4.2.2.1 Independent Variable I: Inward FDI Total

Data sourced from fDimarkets is available for each investment in Africa has been aggregated to country level for both total FDI and has been used for the research analysis. It can be observed from Chart 8 that during the period of research the highest mark was reached in 2008 after which, however, it started decelerating until 2013 and again gained voluminously after 2013. However, it is yet to reach the 2008 level.

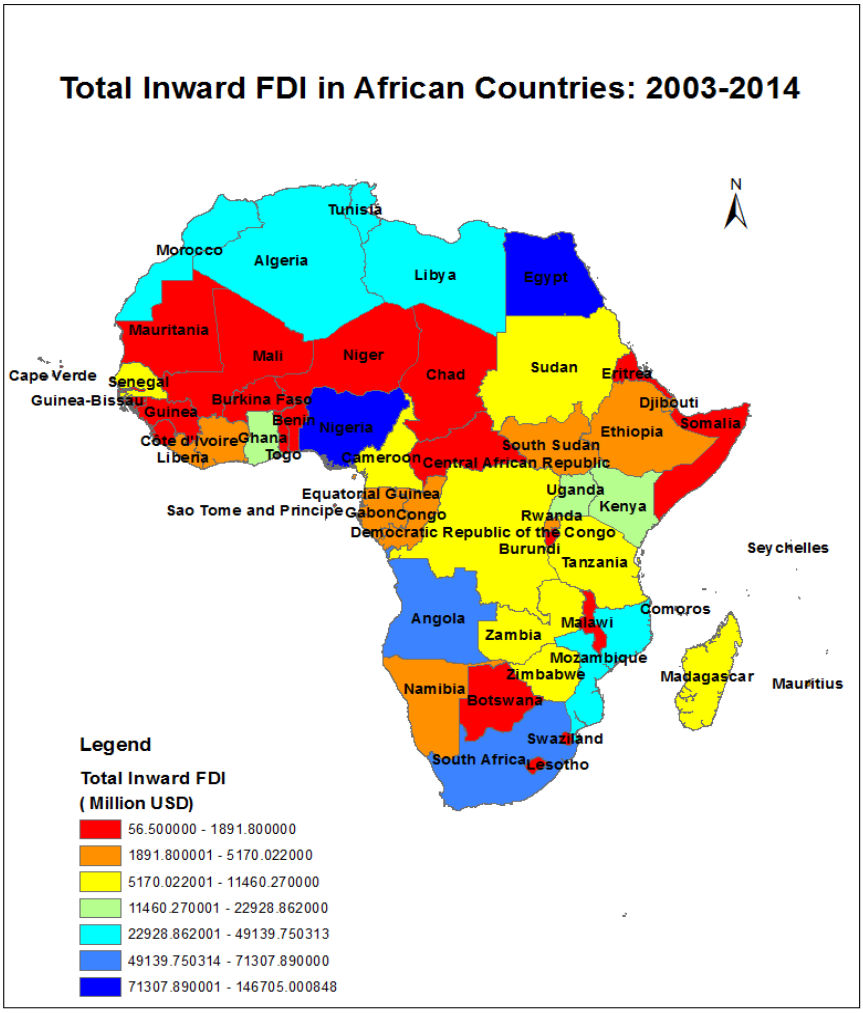


Figure 6: Total Inward FDI in Africa

Source: Author, 2016. Based on fDi Markets Data

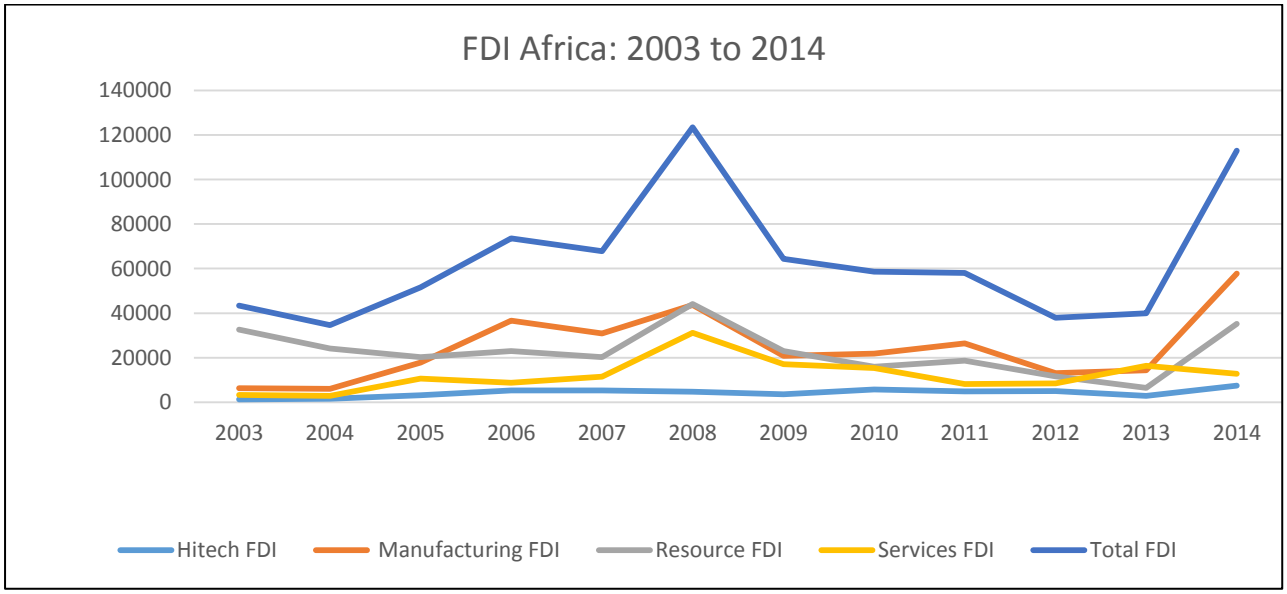


Chart 8. Total and Sectoral Inward FDI in Africa
Source: Author, 2016. Based on fDi Markets Data

Among the countries in Africa, as shown in Figure 6, Egypt records the highest amount of total investment during the research period, followed by Nigeria, Angola and South Africa.

4.2.2.2 Independent Variable II: Inward FDI Total Sectoral FDI

The sectoral FDI has an uneven distribution in Africa, as is evident from Chart 8, Chart 9 and Chart 10. The largest amount of investment is in manufacturing sector followed by resource sector. The two charts throw light upon the drastic reduction of FDI in 2009 in all sectors. However, the picture is changing after 2013 and a sharp rising trend in manufacturing and resource from 2013 is noticeable in the two sectors. While a comparatively lower increase in

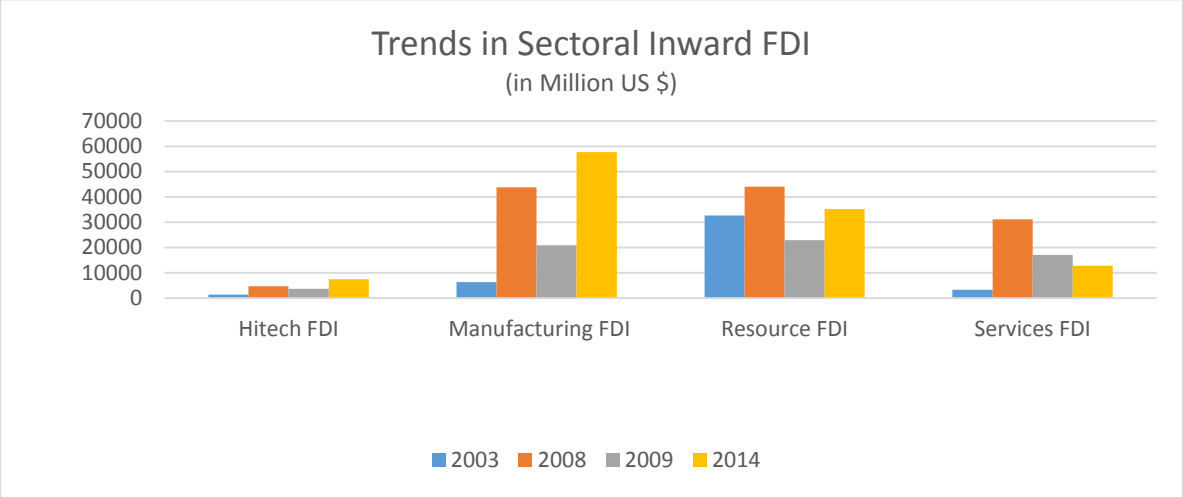


Chart 9. Sectoral Inward FDI in Africa
Source: Author 2016

FDI is seen in the hi-tech sector after 2013, the year 2014 marks hitherto highest amount of investment in hi-tech as well as manufacturing sector. On the other hand, the increase in the investment in services sector is not steady over the years and shows a downward trend after 2013.

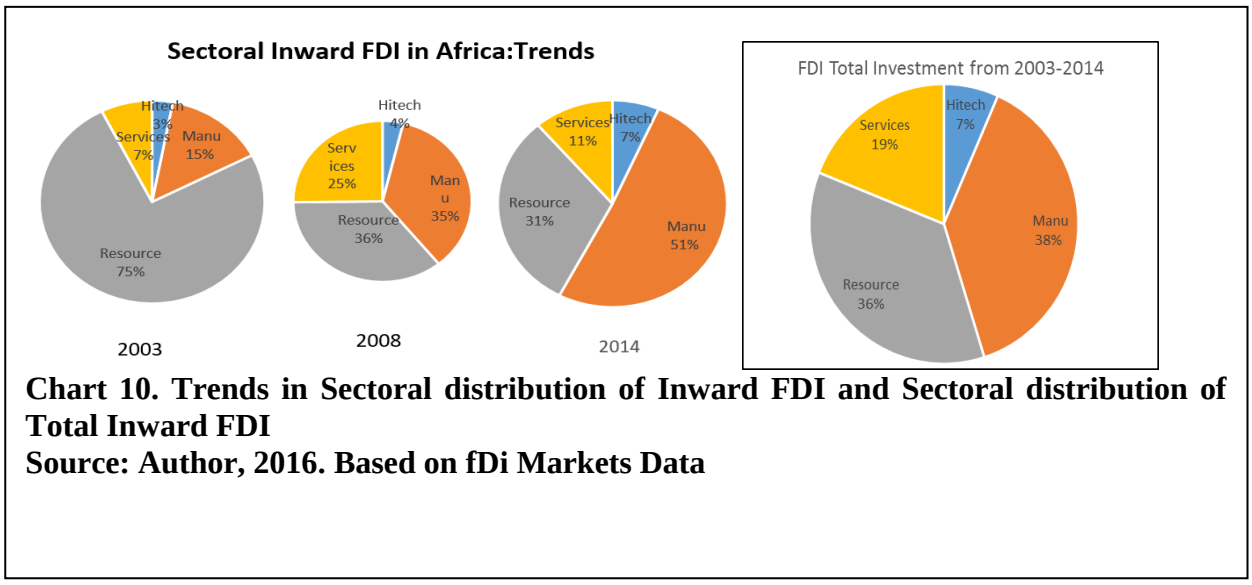


Chart 10. Trends in Sectoral distribution of Inward FDI and Sectoral distribution of Total Inward FDI
Source: Author, 2016. Based on fDi Markets Data

The pattern of sectoral FDI in Africa has been transforming over the years, as exhibited in chart 12. Initially resource FDI comprised three quarters of total FDI in Africa which however can be seen decreasing over the years and the share of the other three sectors increasing with a maximum increase in the share of manufacturing sector which increased from 15 percent in 2003 to 51 percent in 2014. The share of hitech too is on rise, though at a lower rate than the manufacturing sector. The share of services sector demonstrates an undulating trend from 7 percent in 2003 reaching the highest at 25 percent in 2008 but again reducing to 11 percent in 2014.

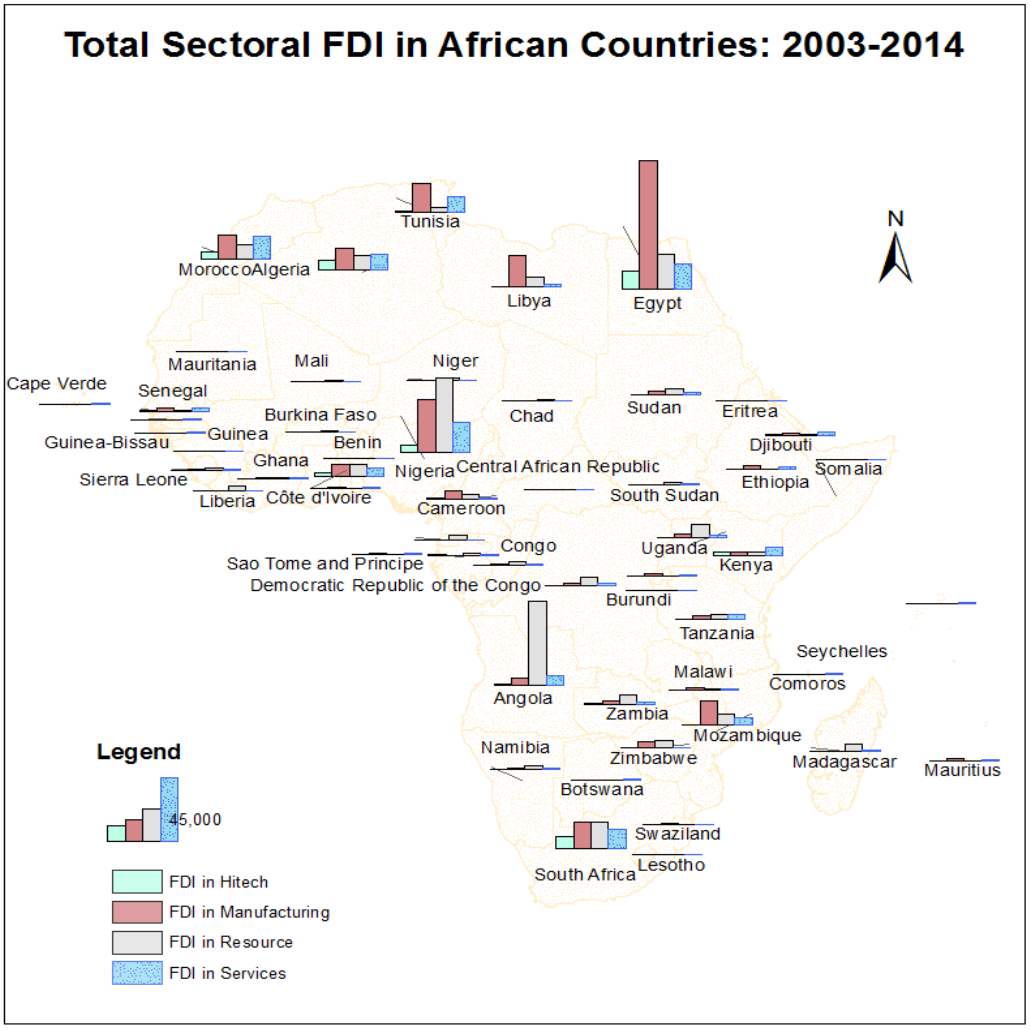


Figure 7: Country-wise sectoral FDI during 2003-2014 Source: Author, 2016. Based on fDi Markets Database

The country-wise sectoral FDI that the North African countries have received highest amount of FDI in manufacturing sector, resource FDI can be seen in the resource-rich countries and the volume of services FDI too is worth noting in these countries. In case of the countries in SSA the resource FDI is prominent in resource-rich countries such as Angola, Nigeria, South Africa and Uganda etc. The manufacturing FDI is conspicuous in the countries like Cameroon, Cote d'Ivoire, Ethiopia, Nigeria, Mozambique, South Africa etc. Interestingly, service FDI is also noticeable in some of the countries like Djibouti, Kenya, Ethiopia, Nigeria, South Africa etc.

4.2.2.3 Independent Variable III: Inward FDI Total Inward FDI Total: City

The independent variable for the research related to cities in Africa is inward FDI. The data sourced from fDi Markets shows (Chart 12) that so far Cairo has bagged the highest amount of FDI followed by Tunis and Casablanca. Thus the North African cities dominate the attractiveness for FDI. Among the Sub-Saharan Africa, Johannesburg attracts the highest amount of FDI followed by Lagos and Nairobi is the least attractive city for FDI.

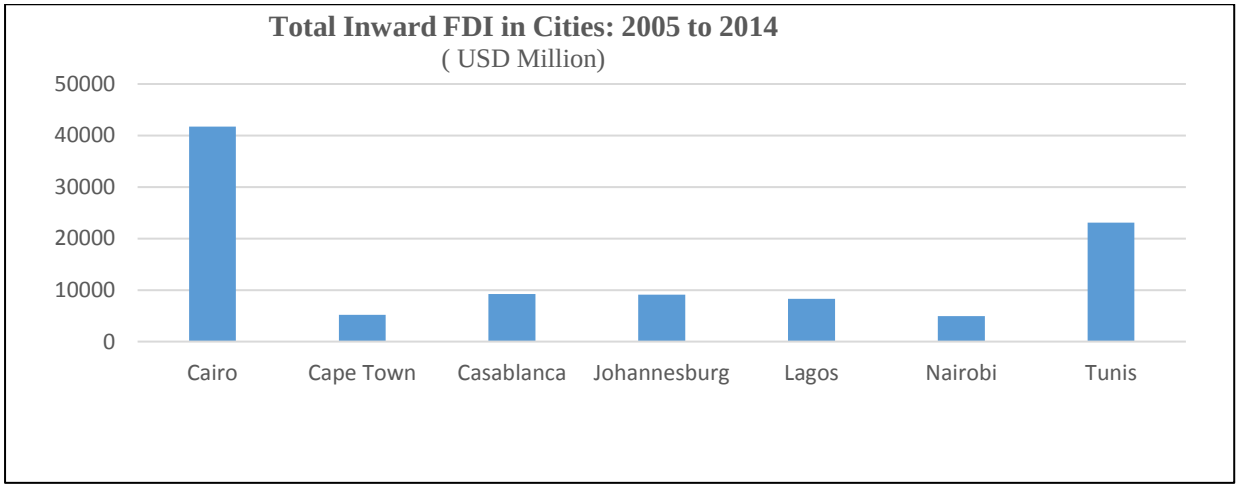


Chart 11. Total inward FDI in Cities from 2005 to 2014
Source: Author, 2016. Based on fDi Markets data

It can be seen from Chart 12 that the FDI to the cities varies to a high degree especially in the case of Tunis, Cairo and Lagos. However, the flow of FDI to the seven cities has decelerated to most cities except Casablanca during 2013-2014.

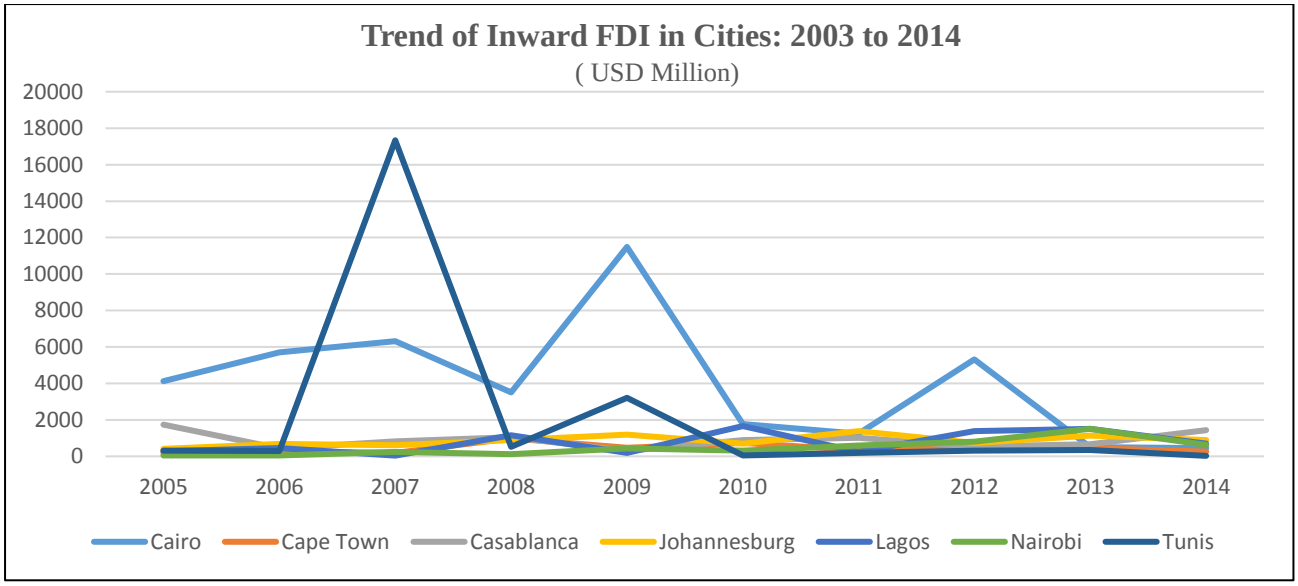


Chart 12. Total inward FDI in Cities from 2005 to 2014
Source: Author 2016. Based on fDi Markets Database

4.2.3 Dependent and Independent Variables: A Comparative Analysis

The volume of inward FDI has been undulating from 2003 to 2014 while the number of employment seems to be steadily rising and does not waver with the flow of FDI as is exhibited in Chart 13. The effect of investment on employment is not immediate but takes place over time, hence, for the sake of analysis, most descriptive statistics takes into account inward FDI of entire research period while in the case of employment the most recent figures i.e. of the year 2014 are utilised in the descriptive analysis.

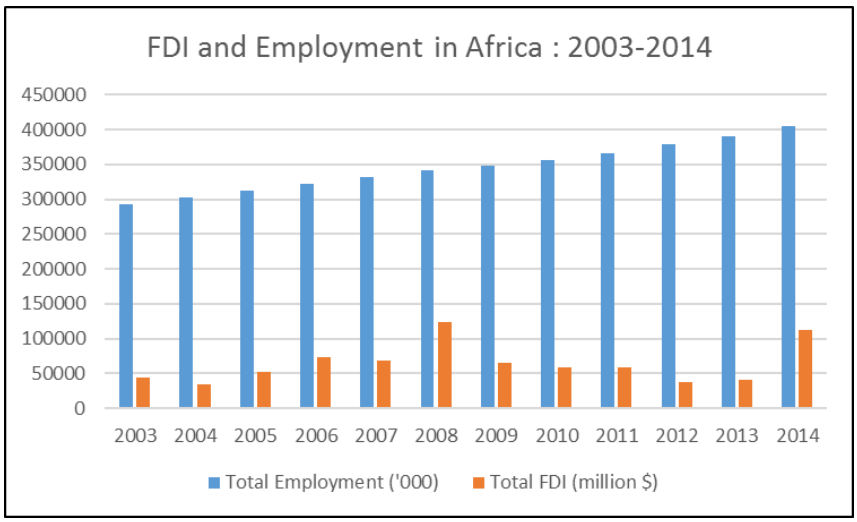


Chart 13. Inward FDI and Employment in Africa
Source: Author, 2016. Based on fDiMarkets and Oxford database

There is a large variation in the flow of FDI to the countries in Africa as well as the quantity of employment generated in the country as is evident from Chart 2.2, Annexure 2. While the flow of total FDI during the research period is largest in Egypt, on employment platform the country's performance is not that impressive as demonstrated in Chart 16. However Nigeria displayes high rates on both counts. Tanzania demonstrates lower FDI but higher quantity of

employment. Overall, at country level the volume of FDI inflow and quantity of employment generated does not necessarily match.

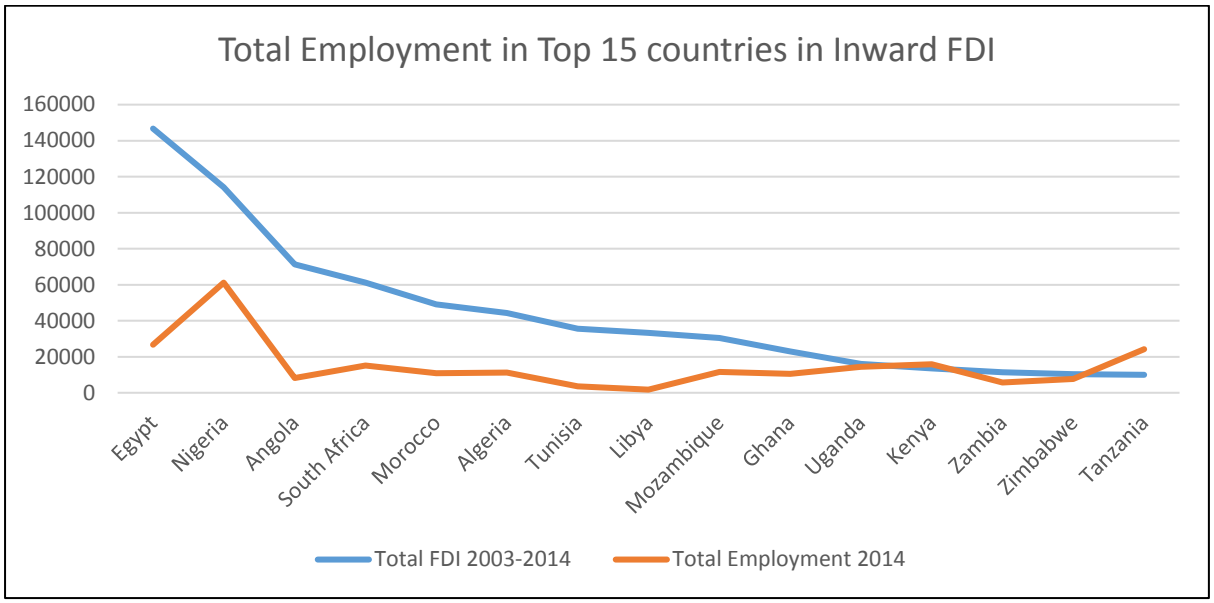


Chart 14: Comparison between inward FDI and total employment in top 15 countries in inward FDI
Source: Author, 2016. Based on Oxford and fDi Markets database

Table displays interesting employment facts of the top fifteen countries n inward FDI. It shows that the employment ratio and quality of employment do not rank as high as the FDI inflow in these countries.

Country	Total FDI (2003-2014)	FDI Ranking	Total Employment (2014)	Total Employment Ranking	Employment Ratio (2014)	Employment Ratio Ranking	Quaity of Employment	Quality of Employment Ranking
Egypt	146705.0008	1	26707.3284	4	42.86	43	1.068331326	52
Nigeria	114214.457	2	61155.49392	1	53.48	35	1.976995699	42
Angola	71307.89	3	8197.840623	15	63.22	25	2.995617895	14
South Africa	61100.4854	4	15146.5	7	39.59	47	4.278848295	4
Morocco	49139.75031	5	10813.1494	12	44.2	41	1.561556205	47
Algeria	44290.804	6	11166.02266	11	38.95	48	1.74377972	45
Tunisia	35491.27854	7	3483.371038	29	40.37	46	2.194303557	37
Libya	33200.69	8	1733.799062	34	42.43	44	2.683804279	26
Mozambique	30410.696	9	11495.18079	10	61.42	27	3.127329764	8
Ghana	22928.862	10	10567.17303	13	72.3	15	2.872298421	18
Uganda	15992.21	11	14420.17253	8	81.71	4	3.077824237	11
Kenya	13530.59084	12	15806.73839	6	60.75	28	2.320006015	36
Zambia	11460.27	13	5665.556705	22	68.04	19	2.779690686	23
Zimbabwe	10348.65	14	7729.733687	17	72.98	13	2.882694674	17
Tanzania	9961.64	15	24257.11544	5	76.17	9	2.769000216	24

Table: 7 Total Inward FDI, Total employment, Employment ratio and Quality of Employment along with the ranking

Source: Author, 2016. Based on fDi Markets, Oxford and ILO Database

4.2.4 Control variables

Apart from the independent variables mentioned herein, two groups of control variables are used for the analysis. One group is representing the economic factors of each country such as gross domestic product (GDP) growth, government expenditure and inflation.

The second group of control related to demographic and policy of aspects and the control variables are human development index, population growth in each country and the level of trade openness exhibited by the sum of exports and imports for each country, mobile connections as an indicator of infrastructure, connectivity and information accessibility and international country risk guide.

In the case of cities an attempt has been made to collect data for similar control variables, however a few different variables had to be selected as per the availability of data. Thus the control variables used for city are GDP growth, inflation rate, attainment of higher education, mobile phone connections per 1000 persons and population growth.

4.3 Analysis of the Data

Since the data used for the research is a panel data for the period 2003-2014, analysis of data has been carried out in STATA with two techniques of used for analysing panel data, namely, fixed effects and random effects. As mentioned in chapter 3 various assumption tests have been carried out on each of the models mentioned below, before estimating the fixed or random effect panel regression analysis.

4.3.1 Impact of Aggregate Inward FDI on Quantity of Overall Employment in Africa

4.3.1.1 Impact of Inward FDI on Employment in Africa and Regions

Based on the results of assumption tests, logarithm of the control variables GDP growth, government expenditure, inflation and population growth is calculated to enhance linearity among the variables. In line with the results of the Hausman test and the homoskedasticity test, FEM robust panel regression model is estimated.

In this model the indicator of quantity of overall employment, the employment to population ratio of each country is the dependent variable and the total aggregate inward FDI for each country is the independent variable. The **sub-model 1** is the result of panel regression of the dependent and independent variables along with all eight control variables. **Sub-model 2 to sub-model 5** display the result of the panel regression in FEM robust model of the dependent and independent variables and the eight control variables carried out separately for each of the five regions of Africa to identify the region-wise impact of inward FDI the particular region on the regional employment.

There is no significant result in these sub-models neither for Africa nor for any of the regions. The results indicate that the aggregate inward FDI does not impact the overall employment significantly in the continent of Africa as a whole. At the regional level too the aggregate inward FDI does not demonstrate any significant impact in the regions of North Africa, West Africa, Central Africa and East Africa and Southern Africa. However, as can be observed in Table 8 the number of observations for of North Africa, Central Africa and East Africa are very low because of missing data so the results for the three regions may not be conclusive and further investigation is required to ascertain.

Table 8.: Panel Regression: Total Employment and Aggregate FDI + Controls- Africa and Regions

VARIABLES	Africa	Regions				
	Sub-Model 1	Sub-Model 2	Sub-Model 3	Sub-Model 4	Sub-Model 5	Sub-Model 6
	Total Employment	Total Employment	Total Employment	Total Employment	Total Employment	Total Employment
	Africa	North Africa	West Africa	Central Africa	East Africa	Southern Africa
Aggregate FDI	6.87e-07	7.44e-07	-9.31e-07	1.53e-05	-3.51e-06	1.20e-08
	(1.14e-06)	(3.75e-07)	(1.78e-06)	(1.08e-05)	(2.13e-06)	(3.80e-06)
GDP Growth	-0.0773**	-0.194	-0.0676	-0.299**	-0.0424	-0.0919
	(0.0287)	(0.115)	(0.0458)	(0.0691)	(0.0633)	(0.0974)
HDI	0.580**	0.450	0.532	-0.964**	-0.367	0.255
	(0.237)	(0.492)	(0.447)	(0.113)	(0.370)	(0.636)
Interaction: GDP Growth &HDI	0.167***	0.284	0.145	0.607**	0.0906	0.199
	(0.0558)	(0.182)	(0.106)	(0.137)	(0.131)	(0.166)
Government Expenditure	-0.00798	0.0850	0.0194	0.103***	-0.0622	0.0156
	(0.0315)	(0.0534)	(0.0339)	(0.00735)	(0.0365)	(0.0640)
Inflation	-0.000209	0.0207*	-0.000738	-0.0229***	-0.0151*	0.0103
	(0.00319)	(0.00963)	(0.00203)	(0.00152)	(0.00668)	(0.0246)
Population Growth	-0.00835	0.0360	0.0823	0.0869	-0.532**	0.0146
	(0.0719)	(0.0663)	(0.0963)	(0.104)	(0.134)	(0.159)
Trade Openness	6.17e-08	8.88e-07*	-9.59e-07***	7.84e-06**	7.73e-06***	3.09e-07
	(4.14e-07)	(3.45e-07)	(2.74e-07)	(8.05e-07)	(1.47e-06)	(4.75e-07)
Mobile Connections	0.00201***	0.000438	0.00271***	0.00113***	0.00333***	0.00179***
	(0.000317)	(0.000381)	(0.000323)	(9.04e-05)	(0.000548)	(0.000495)
ICRG	-0.0924	0.381**	-0.103	0.00848	-0.152	-0.170
	(0.0759)	(0.131)	(0.0801)	(0.257)	(0.0980)	(0.204)
Constant	8.359***	8.171***	8.004***	8.252***	10.57***	8.015***
	(0.168)	(0.453)	(0.263)	(0.0523)	(0.0743)	(0.386)
Observations	289	40	110	22	47	70
R-squared	0.770	0.860	0.858	0.989	0.972	0.775
Number of countryid	35	5	14	3	5	8
Robust standard errors in parentheses						

Source: Author, 2016.

The FDI values sourced from fDi Markets database are only of greenfield FDI i.e. only a part of the total FDI is taken into consideration for the research. Though greenfield FDI generates more employment than the mergers and acquisitions, non-inclusion of the FDI flowing in the mergers and acquisition could be one of the reasons why no significant impact of aggregate FDI on overall employment is visible in table 1.

Another vital aspect that is necessary to note that most of the FDI flowing in Africa is actually going to only to eight macro-regions of Africa. While considering the impact of such spatially skewed FDI on the overall employment in the continent or the five regions of Africa in entirety, perhaps the overall result may not show the impact even if the employment in a few of the spatial areas may be impacted by the inward FDI.

Low absorptive capacity of the domestic firms in African countries as pointed out by Elmawazini and Nwankwo (2012) also maybe the reason behind the low capability of the domestic firms to absorb the innovative approached of the MNEs and thereby their failure to create new employment opportunities.

Alternatively, there is a possibility that substantial FDI in Africa is flowing to certain sectors and a few of the sectors may not attract significant FDI. And in case inward FDI has any significant impact on any of the sectors, perhaps the non-influenced sectors neutralise this sectoral impact of FDI while considering the employment in aggregate terms. Therefore, the impact of disaggregated sectoral FDI on sectorally segregated employment may provide more insights into how inward FDI acts upon the employment scenario in Africa. The sectoral dimension of FDI and employment is discussed in more details in the ensuing sections of this chapter.

4.3.1.2 Impact of Inward FDI on Employment in Cities

The impact of FDI at city level also is tested in the research. All the assumption tests have been carried out separately for the city level data. The results necessitated logarithm of the dependent variable total FDI and that of the control variables inflation and population growth. The data being heteroskedastic, robust is necessary. Since the Hausman test result is non-significant, random effect regression is carried out.

Table 9 indicates that the impact of FDI on employment at city level and it can be seen that at city level too no impact of FDI is noticeable both with and without the controls. It is rather surprising that at city level too the aggregate FDI does not impact overall employment as these are the cities that attract substantial volumes of FDI in Africa

Table 9: Panel Regression: Employment and Total FDI + Controls-City

VARIABLES	Total Employment
Total FDI- City	35.5
	-27.7
Inflation Rate	-23.1
	-62.16
GDP Growth	26.09
	-56.09
Higher Education Attainment	0.517**
	-0.235
Mobile Phones	9.810***
	-2.492
Population Growth	35.92
	-135.9
Constant	584.5
	-565.7
Observations	61
Number of cityid	8
R-squared	0.3432
Standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

Source: Author 2016

It can be observed from Chart 12 that the flow of FDI to the seven cities during the research period has been more or less erratic with occasional peaks. On the other hand, the total employment in the cities as illustrated in Chart 6 and Chart 7 respectively, has not proportionately oscillated as much as the FDI. This may indicate the dominance of domestic investment, whether formal or informal, on the employment scenario in Africa. However, this cannot be corroborated by this study as the data of domestic investments in Africa was not available for the research. Further investigation is needed to ascertain this.

4.3.2 Impact of Aggregate Inward FDI on Quality of Overall Employment in Africa

The results of assumption tests necessitated logarithm of the control variables GDP growth, inflation, population growth and trade openness which was calculated and incorporated in the regression to enhance linearity among the variables. In line with the result of the Hausman test, FEM robust regression was estimated.

As regards to the quality of employment is evident from Table 3 that with control variables in sub-model 1 no significant impact of aggregate inward FDI is exhibited. Additionally, the quality of employment in none of the five regions in Africa is getting impacted by the inflow of FDI in those regions.

It can be inferred from the result that the inward aggregate FDI does not cause any remarkable impact in the overall employment quality in Africa. As stated earlier, the employment quality index in the research is derived from three indicators viz labour productivity, female labour force participation rate and number of persons in vulnerable employment. Literature points out to very low female participation rate in employment in the North Africa (also evident from Annexure 5) which is the lowest for all the regions in the world. Additionally, the vulnerable employment rate in the SSA is very high. It is the highest among all the regions in the world which was 76.6 percent in 2014 as against the global average of 45.3 percent (ILO 2015).

It is possible that even if FDI created a small proportion of quality jobs in the continent its impact on quality maybe negated by the aforementioned factors. However, it must be noted that the result for the regions North Africa and Central Africa is based on very few observations i.e. 44 and 29 respectively because of missing values in the data.

Table 10: Panel Regression: Employment Quality and Aggregate FDI + Controls- Africa and Regions

VARIABLES	Africa	Regions				
	Sub-Model 1	Sub-Model 2	Sub-Model 3	Sub-Model 4	Sub-Model 5	Sub-Model 6
	Employment Quality	Employment Quality	Employment Quality	Employment Quality	Employment Quality	Employment Quality
	Africa	North Africa	West Africa	Central Africa	East Africa	Southern Africa
Aggregate FDI	-7.47E-06	-1.33e-05	1.22e-06	5.16e-05	-3.14e-06	7.20e-06
	(7.75e-06)	(1.37e-05)	(3.22e-06)	(3.27e-05)	(1.10e-05)	(1.09e-05)
GDP Growth	-0.15	0.260	0.0543	0.120	-1.721**	-0.0801
	(0.103)	(1.279)	(0.170)	(0.206)	(0.443)	(0.205)
HDI	-0.275	14.98	-0.252	-0.209	-6.089**	0.683
	(0.500)	(9.679)	(0.932)	(0.408)	(1.345)	(1.099)
Interaction: GDP Growth &HDI	0.328	-0.337	-0.124	-0.181	3.428**	0.147
	(0.231)	(1.818)	(0.423)	(0.464)	(0.874)	(0.424)
Government Expenditure	0.00503**	0.00391	0.00579	-0.00171	-0.00564	-0.00200
	(0.00244)	(0.00378)	(0.00399)	(0.000919)	(0.0116)	(0.00414)
Inflation	-0.0042	0.00944	0.00434	0.00107	-0.00646	-0.0282
	(0.0145)	(0.0320)	(0.0232)	(0.00465)	(0.00795)	(0.0207)
Population Growth	0.330**	-1.123	0.339**	-1.393**	0.144	0.547
	(0.159)	(0.546)	(0.128)	(0.241)	(1.235)	(0.293)
Trade Openness	-0.0348	0.453	-0.0568	-0.0251	-0.312***	-0.0137
	(0.0358)	(0.419)	(0.0715)	(0.0383)	(0.0611)	(0.0826)
Mobile Connections	8.98E-05	-0.00858	0.00186	-0.000533	0.00471**	-0.00212*
	(0.000638)	(0.00427)	(0.00107)	(0.000591)	(0.00106)	(0.00100)
ICRG	0.165	2.033**	-0.479*	1.394	0.0505	1.001
	(0.205)	(0.674)	(0.237)	(1.068)	(0.0676)	(0.602)
Constant	1.011***	-13.68	1.014	2.537***	6.971***	0.405
	(0.344)	(8.563)	(0.744)	(0.0927)	(0.633)	(0.931)
Observations	282	33	116	22	48	63
R-squared	0.09	0.483	0.189	0.826	0.234	0.307
Number of countryid	35	5	14	3	5	8
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Source: Author, 2016

4.3.3 Impact of Aggregate Inward FDI on Sectoral Employment in Africa

The assumption tests have been carried out separately for each of the sub-model comprising different sectors. All three sub-models in Table 4 required logarithm of the dependent variable aggregate FDI and the control variables GDP growth, inflation, HDI, population growth and trade openness. The result of the Hausman test is significant and therefore, FEM regression has been preferred for sub-model 1, while to take care of hereroskedasticity for sub-model 2 and sub-model 3 FEM robust regression is estimated.

The results revealed in Table 11 give a different picture than the tests indicated in earlier tables. It can be inferred that the aggregate inward FDI has a significant but negative impact on employment. One-unit increase in the inflow of FDI will cause a reduction in the employment in the agriculture sector by 0.0076 times. This can be explained by the possibilities of job

opportunities in non-agriculture sector causing a reduction in employment in agriculture sector, which gets aptly explained by Model 2.

The impact of aggregate FDI on employment in industry is highly significant and one-unit increase in FDI causes 0.0226 times increase of employment in the industry sector. It has been already elaborated in 4.2.2 that the volume and proportion of aggregate manufacturing FDI flowing in Africa is the highest among other sectors during 2003 to 2014 and is unprecedented in 2014. The results depict clearly that the inflow of FDI during the research period is useful for generation of employment in the industrial sector, thus generating opportunities of employment in industry.

Table 11. Panel Regression: Sectoral Employment and Aggregate FDI + Controls

Variables	Employment in Agriculture	Employment in Industry	Employment in Services
	Sub-Model 1	Sub-Model 2	Sub-Model 3
Aggregate FDI	-0.00776*	0.0226**	0.00574
	(0.00413)	(0.00985)	(0.00602)
GDP Growth	0.115***	-0.0826	0.117**
	(0.0398)	(0.116)	(0.0518)
HDI	0.0710	0.331	-0.489***
	(0.135)	(0.310)	(0.141)
Interaction: GDP Growth &	0.151***	-0.109	0.184**
	(0.0542)	(0.157)	(0.0802)
Government Expenditure	-0.00591***	0.000875	0.000214
	(0.00162)	(0.00568)	(0.00248)
Inflation	0.00106	-0.0421***	-0.00680
	(0.00803)	(0.0139)	(0.00656)
Population Growth	-0.0891	-0.162	0.169*
	(0.0687)	(0.167)	(0.0842)
Trade Openness	0.0163	0.309***	0.167***
	(0.0271)	(0.0917)	(0.0416)
Mobile Connections	0.00155***	-0.00125	0.00203***
	(0.000352)	(0.00192)	(0.000597)
ICRG	-0.149*	-0.00397	-0.165
	(0.0818)	(0.191)	(0.110)
Constant	8.190***	3.839***	5.540***
	-0.299	-0.84	-0.336
Observations	246	246	246
R-squared	0.421	0.38	0.682
Number of countryid	35	35	35
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Source: Author, 2016

However, the service sector employment does not get impacted by FDI inflow as can be inferred by sub-model 3. In fact, as pointed out in 4.2.1.3 the service sector employment in Africa has grown both in volume and proportion over the research period, however aggregate FDI does not seem to be a major cause of this growth in service sector employment. Due to comparatively lower volume and proportion of service FDI in total FDI, slower rate of increase in service FDI and its fluctuating nature as displayed in Chart 6, FDI may have failed to make a dent on the employment in the service sector. UNCTAD (2015) highlights the increasing importance of service sector in Africa, not only from growth but also from the employment

perspective. Klasa (2015) points out that financial services has been a leading sector for FDI from 2006 and topped by number of projects in 2014. The foreign investors are now more keen for service sector investment in countries like South Africa, Ethiopia, Nigeria, Mozambique, Kenya etc. This trend in service FDI may take some time to show an impact on employment.

4.3.4 Impact of Sectoral FDI on Overall Employment in Africa

In the earlier sections the impact of aggregate FDI on employment is discussed, and in this section the impact on sectoral FDI on the overall employment is probed.

While estimating all the four sub-models in Table, logarithm of inflation, mobile connectivity, HDI and population growth is calculated. The Hausman test result is in favours of FEM panel regression for all models and the heteroskedastic data in model 4 requires use of robust.

Table 12: Panel Regression: Overall Employment and Sectoral FDI + Controls

Variables	Sub-Model 1	Sub-Model 2	Sub-Model 3	Sub-Model 4
	Total Employment	Total Employment	Total Employment	Total Employment
Hitech FDI	-1.95e-05***			
	(7.41e-06)			
Manufacturing FDI		-1.95e-06		
		(1.76e-06)		
Resource FDI			-2.18e-06	
			(2.18e-06)	
Services FDI				-3.29e-06
				(3.36e-06)
GDP Growth	0.00132	0.00216	0.00123	0.00107
	(0.00273)	(0.00280)	(0.00296)	(0.00257)
HDI	0.149***	0.142***	0.139***	0.146***
	(0.0440)	(0.0448)	(0.0450)	(0.0425)
Interaction: GDP Growth &	0.00512	0.00615*	0.00476	0.00448
	(0.00346)	(0.00353)	(0.00368)	(0.00300)
Government Expenditure	0.000725	0.000986	0.00118*	0.00068
	(0.000602)	(0.000618)	(0.000629)	(0.000910)
Inflation	-0.00253	-0.00296	-0.00257	-0.00238
	(0.00319)	(0.00324)	(0.00326)	(0.00349)
Population Growth	0.0108	0.0165	0.0127	0.0195
	(0.0248)	(0.0253)	(0.0253)	(0.0537)
Trade Openness	0.0591***	0.0608***	0.0601***	0.0588**
	(0.0139)	(0.0142)	(0.0142)	(0.0218)
Mobile Connections	0.0645***	0.0632***	0.0642***	0.0653***
	(0.00622)	(0.00632)	(0.00633)	(0.0135)
ICRG	-0.0915**	-0.0947***	-0.0934**	-0.0758
	(0.0359)	(0.0364)	(0.0364)	(0.0584)
Constant	8.002***	7.971***	7.985***	7.959***
	(0.131)	(0.133)	(0.133)	(0.201)
Observations	308	306	304	312
R-squared	0.839	0.835	0.836	0.837
Number of countryid	35	35	35	35
Robust standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Source: Author, 2016

The result of panel regression in Table 12 shows that the impact of high-tech FDI on overall employment is very highly significant but negative. This means that increase in hi-tech FDI would cause negative impact on the employment scenario. None of the other three FDI sectors seem to impact the overall employment.

The negative impact of hi-tech FDI on employment can be explained by reduced requirement of manpower with the advanced technology as well as replacement of human work by use of technology. It is interesting to notice that during the period 2003 to2014 only 12 percent of the direct jobs created by FDI can be attributed to hi-tech FDI (Annexure 1: Chart 1.1 and Chart 1.2). Most of these jobs would be of highly skilled category and the tendency to employ highly skilled expatriates for at least few of such jobs cannot be ruled out. Such factor may cause negative impact on overall employment.

On the other hand, FDI in resource, manufacturing and services does not have a significant impact on total employment. The sectoral FDI is much less than the aggregate FDI and it is logical that in the absence of impact of aggregate FDI on overall employment, sectoral FDI too cannot have an impact on the overall employment. In such a scenario it becomes more intriguing to see whether sectoral FDI has any effect on the sectoral employment which is studied in the next section.

4.3.5 Impact of Sectoral FDI on Sectoral Employment in Africa

While the previous sections investigate the impact of FDI on employment taking into consideration the aggregations of either employment or FDI or both, this section further examines the ramifications of sectoral FDI on sectoral employment in Africa. Thus this section goes deeper and touches the unbundled components of both FDI and employment to scrutinize the impact on a subtler level. The ensuing three sub-section reveal the impact of the four sectoral FDI on the three sectors of employment.

4.3.5.1 Impact of Sectoral FDI on Employment in Agriculture Sector

In view of the results of the assumption tests, logarithm of respective sectoral FDI and that of control variables GDP growth and inflation has been used in all the four sub-models in Table 6. The data is found to be heteroskedastic hence, robust is calculated. Since the Hausman test result is significant, FEM panel regression is made use of.

Table 13: Panel Regression: Employment in Agriculture and Sectoral FDI + Controls

Variables	Sub-Model 1	Sub-Model 2	Sub-Model 3	Sub-Model 4
	Employment in Agriculture	Employment in Agriculture	Employment in Agriculture	Employment in Agriculture
Hitech FDI	-5.50e-06			
	(1.44e-05)			
Manufacturing FDI		2.57e-06		
		(2.00e-06)		
Resource FDI			-1.13e-06	
			(3.43e-06)	
Services FDI				0.00359
				(0.00479)
GDP Growth	-0.158***	-0.156***	-0.127**	-0.0659
	(0.0567)	(0.0567)	(0.0549)	(0.0870)
HDI	0.470	0.496	0.540*	1.111**
	(0.316)	(0.307)	(0.294)	(0.414)
Interaction: GDP Growth &HDI	0.320***	0.309***	0.252**	0.0887
	(0.109)	(0.108)	(0.106)	(0.173)
Government Expenditure	-0.00388*	-0.00387*	-0.00356*	-0.00422
	(0.00208)	(0.00207)	(0.00207)	(0.00271)
Inflation	-0.00236	-0.00251	-0.00241	-0.0146**
	(0.00554)	(0.00561)	(0.00539)	(0.00633)
Population Growth	-0.00775	-0.00300	-0.0140	0.0865*
	(0.0601)	(0.0596)	(0.0601)	(0.0505)
Trade Openness	-1.21e-06	-1.20e-06	-8.54e-07	-1.34e-06
	(7.50e-07)	(7.50e-07)	(7.89e-07)	(9.55e-07)
Mobile Connections	0.00171**	0.00168**	0.00172**	0.000778
	(0.000683)	(0.000656)	(0.000659)	(0.000758)
ICRG	-0.174	-0.175	-0.171	-0.0521
	(0.137)	(0.136)	(0.137)	(0.150)
Constant	7.903***	7.869***	7.873***	7.475***
	(0.212)	(0.210)	(0.205)	(0.244)
Observations	282	282	281	220
R-squared	0.445	0.448	0.455	0.412
Number of countryid	35	35	35	35
Robust standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Source: Author, 2016

Here the impact of sectoral FDI on employment in agricultural sector is explored. Table 13 demonstrates that all four types of FDI do not have any significant impact on employment in agriculture. Hitech comprises of a small proportion of total FDI which has increased from 3 percent in 2003 to 7 percent in 2014 but this percentage of is still humble to impact on employment in sector such as agriculture which is not correlated to hi-tech. The employment opportunities related to hi-tech FDI would require high skillsets. A shift of agriculture employment which is a low skilled sector to such highly skill-intensive sector is unlikely.

In case of resource FDI, though it is the second largest contributing sector in terms of investment, it is capital and technology intensive and is known to generate meagre employment opportunities (ref). This justifies the dearth of impact of these two sectoral FDI on employment in agriculture.

This result is surprising and contrary to the theory that the manufacturing FDI does not impact the employment in agriculture. The Lewis' dual economy model, as discussed in chapter 2, is based on the notion of agriculture labour shifting to industry as an economy advances in the development path. It has been stated earlier that the share of agriculture employment has reduced from 58 percent to 53 percent. The result suggests that this shift maybe due to domestic investment more than the FDI. A look at figure 7 demonstrates that the manufacturing FDI is more concentrated in the North African Countries than in the SSA while figure 4 suggests that agricultural employment is more dominant in the SSA and less prominent in North Africa. This explains why the total agriculture employment, being more concentrated in SSA, is not significantly impacted by the manufacturing FDI.

The service FDI too does not have any significant impact on employment in agriculture. Though the of service sector in Africa is growing over the past few years (UNCTAD 2015), the service sector FDI has been fluctuating during the research period, as shown in Chart 8. With such wavering nature the service FDI is less likely to cause any impact on the service sector. The recent rise of service FDI in few countries like Ethiopia and Mozambique will take some time to impact on employment as a whole and agriculture employment in particular.

4.3.5.2 Impact of Sectoral FDI on Employment in Industry Sector

The assumption tests have been carried out for all four sub-models in Table 7 separately. The tests necessitated logarithm of inflation. In view of the homoscedasticity test and Hausman test, FEM panel regression and robust has been estimated.

The four sub-models in table 14 throw light upon the response of employment in industry to the FDI in different sectors. It can be seen that the impact of manufacturing FDI on employment in industry is positively significant. As against the commonly held literary perspective that resource FDI that it is less useful in employment generation, it can be noticed here that the resource FDI is positive and highly significant in impacting employment in industry. The remaining two FDI sectors i.e. hi-tech and services do not have any impact on employment in industry.

This illustrates that the employment in industry is highly influenced by the inward FDI and explicates in detail the results in section 4.3.3 wherein the aggregate FDI is displayed significant in impacting employment in industry. It is also known from Chart 8, Chart 10 and Chart 11 that the amount of FDI in manufacturing sector is growing, notwithstanding a dip post 2008. The share of manufacturing FDI in aggregate FDI is maximum over the research period and is more than half in 2014. This dominance of manufacturing FDI seems to impact the employment in industry in Africa to a certain extent.

Resource FDI has a long history in the resource-rich countries of Africa, long enough to have impact on employment. The impact of resource FDI on employment in industry suggests the development of industrial activities related to the resource available in the respective countries.

The hi-tech FDI and services FDI do not have any significant impact on the employment in industry. Hi-tech by its inherent nature of technological advancement doesn't seem to have any driving force for proliferation of employment in industry. It has been theorised that service sector can give a boost to the industries thereby influencing the employment opportunities in industry. However, the services FDI in Africa doesn't seem to be ripe enough or beg enough to cast such an impact.

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Table 14: Panel Regression: Employment in Industry and Sectoral FDI + Controls

Variables	Sub-Model 1	Sub-Model 2	Sub-Model 3	Sub-Model 4
	Employment in Industry	Employment in Industry	Employment in Industry	Employment in Industry
Hitech FDI	0.0319			
	(0.0532)			
Manufacturing FDI		0.0229*		
		(0.0113)		
Resource FDI			0.0473**	
			(0.0219)	
Services FDI				-0.0235
				(0.0409)
GDP Growth	32.64	55.91	34.91	146.3
	(110.1)	(110.2)	(110.3)	(113.7)
HDI	2,908**	2,962**	3,003***	3,359***
	(1,078)	(1,106)	(1,072)	(1,139)
Interaction: GDP Growth &	-34.83	-89.44	-57.41	-319.2
	(230.7)	(233.1)	(229.4)	(238.8)
Government Expenditure	-185.5	-206.7	-219.5*	-206.5
	(129.2)	(135.5)	(128.4)	(142.7)
Inflation	-34.61	-34.44	-39.26*	-22.91
	(21.90)	(22.29)	(22.05)	(25.36)
Population Growth	-103.7	-111.3	-112.2	-95.42
	(104.1)	(107.1)	(110.2)	(91.66)
Trade Openness	0.000391	-0.000737	0.000489	-0.00369
	(0.00235)	(0.00237)	(0.00220)	(0.00312)
Mobile Connections	0.120	0.283	0.260	1.333
	(0.943)	(0.964)	(0.975)	(1.282)
ICRG	275.2*	262.5*	228.5	357.8**
	(150.0)	(150.3)	(149.3)	(173.0)
Constant	192.8	318.4	326.0	406.0
	(571.1)	(600.4)	(576.4)	(459.3)
Observations	277	279	275	293
R-squared	0.317	0.315	0.342	0.223
Number of countryid	34	35	35	35
Robust standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Source: Author, 2016

4.3.5.3 Impact of Sectoral FDI on Employment in Services Sector

In this section for all four sub-models mentioned in Table 8 logarithm of the control variables inflation, ICRG and population growth has been used to bring about linearity in the data for estimation. The data in all four sub-models is heteroskedastic and the robust panel regression is calculated. The Hausman test result in all four models is significant which necessitated FEM panel regression for all the models.

Table 15: Panel Regression: Employment in Services and Sectoral FDI + Controls

Variables	Sub-Model 1	Sub-Model 2	Sub-Model 3	Sub-Model 4
	Employment in Services	Employment in Services	Employment in Services	Employment in Services
Hitech FDI	-6.45e-06			
	(1.73e-05)			
Manufacturing FDI		6.29e-08		
		(1.90e-06)		
Resource FDI			-2.23e-06	
			(3.29e-06)	
Services FDI				3.11e-06
				(7.52e-06)
GDP Growth	-0.111**	-0.114**	-0.145**	-0.00716
	(0.0476)	(0.0482)	(0.0610)	(0.0144)
HDI	-0.501	-0.521	-0.535	-0.168
	(0.373)	(0.378)	(0.385)	(0.384)
Interaction: GDP Growth &HI	0.208**	0.214**	0.268**	
	(0.0813)	(0.0830)	(0.102)	
Government Expenditure	-0.0666	-0.0655	-0.0475	-0.0661
	(0.0616)	(0.0619)	(0.0640)	(0.0636)
Inflation	-0.00520	-0.00517	-0.00478	-0.00621
	(0.0105)	(0.0105)	(0.00979)	(0.0113)
Population Growth	0.0654	0.0651	0.0767*	0.0344
	(0.0410)	(0.0422)	(0.0434)	(0.0373)
Trade Openness	0.212***	0.213***	0.193***	0.219***
	(0.0443)	(0.0439)	(0.0501)	(0.0463)
Mobile Connections	0.00176***	0.00175***	0.00174***	0.00169***
	(0.000619)	(0.000611)	(0.000620)	(0.000604)
ICRG	-0.0954	-0.0964	-0.100	-0.101
	(0.0885)	(0.0894)	(0.0895)	(0.0890)
Constant	5.825***	5.821***	5.939***	5.691***
	(0.393)	(0.394)	(0.420)	(0.409)
Observations	287	286	285	286
R-squared	0.674	0.674	0.647	0.666
Number of countryid	35	35	35	34
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Source: Author, 2016

The four sub-models in Table 15 exhibit that none of the sectoral FDI has any significant impact on the employment in services. It is the services FDI which can impact most in generating more employment opportunities in the employment in services sector. However as illustrated in Chart 8, Chart 10 and Chart 11 above, it can be noticed that the services FDI has been

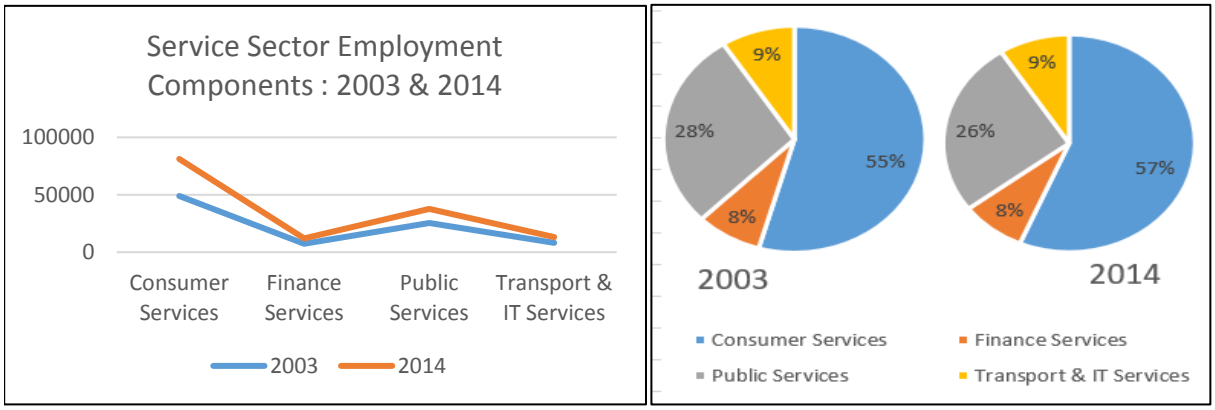

Chart 15: Share of different services in service sector employment
Source: Author, 2016.

oscillating during the research period, both in percentage term and in absolute amount of investment. It can be observed that the share of services FDI in aggregate FDI is 11 percent in 2003 which increased to 25 percent in 2008 and took a plunge after that to recover a little in 2013 but again plummeted to 11 percent in 2014. In absolute values too there is drastic reduction in the values of investment of service in 2014 as compared to 2008. This wavering pattern of services FDI might be a reason to scarcely impact the scenario of employment in services.

The composition of employment in service sector in 2014 is illustrated in Chart 15. Surprisingly this composition has only marginally changed over the twelve years. This illustrates that the inward FDI has not brought much impact in the employment pattern within the service sector.

It must be noted that as revealed in Chart 4, Chart 5 and Chart 6 service sector employment is growing slowly but steadily during the research period, however, the findings in Table 8 suggest that this growth cannot be attributed to inward FDI. The domestic economy maybe causing this positive change.

4.4 Lessons Learnt

The research findings throw light upon the nature of relationship between inward FDI and employment in Africa not only at the geographic level of continent, region and city but also dissects it to sectoral level including sectors of employment as well as sectors of FDI.

It is clear from the findings that the aggregate FDI does not have any significant impact on the overall employment in Africa. However, at sectoral employment front, it has a negative impact on employment in agriculture and positive impact on industry sector employment. Sectoral FDI too does impact employment industry sector. The negative impact of hi-tech FDI on overall employment and the positive impact of resource FDI on employment in industry are noticeable. The service sector employment, however, remains hardly impacted by the inward FDI, both in terms of aggregate FDI and sectoral FDI. As regards quality of employment the aggregate inward FDI does not exert any significant impact, neither at the continent level, nor at the regional level.

Chapter 5: Conclusions and Recommendations

5.0 Chapter Framework

This concluding chapter of the research takes an overview of the work that has been done in the previous chapter with a special focus on the research findings in the last chapter and while drawing conclusions also details the strengths, significance and limitations as experienced after going through the entire process of this research giving it a different perspective than the discussion in chapter one. Further recommendation for policy as learnt from the research are described. Finally, the chapter ends with concluding remarks.

5.1 Overview of Previous Chapters

The study has evolved within the frame of research methodology and working on each of the previous chapters. The entire process was like a "making of a paining" the way Verschuren & Doorewaard (2010 pp. 15) explain it, each chapter influencing the "shape and colour" of the other bringing in "quality and harmony to the whole". Chapter one explaining the background and problems relating to FDI as well as employment brings forth the objective of the research which is to explain the impact of inward FDI on employment. It gives the main research question and five research sub-question that are being answered in the ensuing chapters. The second chapter gives a thorough perspective on the theories and literature related to the topic. Chapter three explains the methodology in detail along with the explanation of data, sources, data cleaning and model specification. Lastly, chapter four analyses the data and the results in detail.

5.2 Research Findings and Conclusions

The analysis in chapter 4 speaks volumes on the impact of FDI on employment. It analyses the data collected for the purpose to find answers for the research question and five sub-questions. The key findings are as enumerated below.

Firstly, the aggregate FDI does not have any significant impact on employment at the level of country and city. At the regional level too similar result was found except for the region Southern Africa. This maybe because of two reasons. One, the FDI data used in the research sourced from fDi-Markets is only for greenfield FDI and excludes the FDI related to mergers and acquisitions. this may reduce somewhat the influencing capacity of FDI data on the employment scenario, even though the greenfield investment is theorised to generate more new employment. Another reason may be related to the fact that the structural composition of employment is such that it attributes more than half of the total employment (53 percent) to the agriculture sector. Although in totality no significant impact of FDI on employment is noticeable, the impact within sectors throws more light upon this. The result of research sub-question three amply illustrates that the impact of aggregate FDI on agriculture employment is negatively significant and that on industry is positively significant. Such two opposite impacts with opposite signs maybe cancelling each other giving the end result as no significant impact on overall employment.

Secondly, the aggregate FDI does not have any impact on the quality of employment in the African continent and all the five regions. This can be explained by the female labour force participation rate in North Africa which is one of the lowest in the world and also by high rate of vulnerable employment in the SSA (ILO 2015). Vulnerability of employment also indicates to the large proportion of informal sector characterised with low or no job and social security. There is a possibility that such factors maybe neutralising the positive effects that might have been generated because of formal sector employment generation as a result of FDI.

Thirdly, the investigation relating to the impact of aggregate FDI on sectoral employment reveals that aggregate FDI reduces the employment in agriculture sector and contributes positively towards employment in industry sector. These opposing forces acting on the two sectors as an impact of FDI with opposite signs, lead us to conclude that the reduction in agriculture employment is being replaced by addition in the industry employment. This is a vital aspect in the context of Africa where the structural transformation is needed and FDI can play an important role for such transformation to take place. The employment in services remains unaffected by aggregate FDI. This may be attributed to the composition of services employment in which public sector is a substantial contributor and which would be hardly affected by FDI. Additionally, the high levels of informality in consumer services, transport services and to some extent even financial services in Africa would neutralise any positive effect created by FDI in the service sector.

Fourthly, while examining the impact of sectoral FDI on overall employment it is found that there is a negative and very highly significant impact of hi-tech FDI on overall employment. Besides, no significant causal relationship among the other three sectors of FDI i.e. resource, manufacturing and services and overall employment is evident. The negatively significant result of the hi-tech FDI on overall employment is an insightful result that this research at sectoral level provides, which cannot be perceived at the aggregate level analysis done for answering the first research sub-question. The possibility of manpower being replaced by advanced technological option, more prominently in the hi-tech industry can be a reason for such negative impact. The absence of any impact of the remaining three sectoral FDI can be explained by less chances of the impact being seen on the overall employment in bundled form. The opposite signs of coefficients in agriculture and industry employment in the earlier result are a testimony to neutralising effect of the two on each other in the bundled form of employment.

Fifthly, the dynamics of causality of sectoral FDI on sectoral employment yield interesting results. The results throw light upon the causal relationship in a subtler manner. It is found that there is no significant impact of the four sectoral FDI on employment in agriculture as well as employment in services. In the other hand, the employment in industry exhibits positively significant impact of manufacturing FDI and resource FDI while it does not display any significant impact of hi-tech and service FDI.

As regards employment, in services none of the sectoral FDI have any significant influence on it. This may be due to the composition of services employment and other factors as mentioned earlier in this section.

5.3 Significance and Limitations of the Study

Given the current socio-economic scenario of Africa, employment is a crucial aspect of brainstorming and research. The need for employment generation has taken alarming proportions. This is precisely the reason why present research investigates the impact of FDI on employment in Africa. The causal relationship between FDI and employment is studied not only in totality but also goes to the extent of studying the causality of their sectoral components.

An important lesson conveyed by the results is that although in aggregate measures the causal effects may remain insignificant and therefore unexplained due to the of the play of factors opposing each other, unbundling of those aggregations and unraveling the impact of the constituent parts does provide vital insights in the field of study.

With such noteworthy findings throwing light upon a critical component of the African socio-economic ethos, the present research makes a rare contribution to the body of literature on the causal link between FDI and employment in developing countries. Very few research studies

have been undertaken solely to study this important aspect of impact of FDI on employment in the context of Africa. Moreover, exploring the impact by taking it further to the extent of unbundled sectors for both FDI and employment is a novel aspect that has not been hitherto studied. Given these unique features, the study makes a special contribution to the existing body of literature.

The availability of data of important variables was a major challenge. Domestic investment in an economy has a considerable impact on employment. The interrelation of domestic investment with the other variables is an important factor to assess the impact of FDI on employment. However due to unavailability of data this variable could not be taken into consideration. Education is another vital factor influencing employment, however, the available data on education had inordinately large missing values. Hence could not be used. However, the alternative of HDI proved useful, as the index consists indicators related to GDP, health and education which are vital for the employability of overall population and the interaction of this variable with GDP has given more robust results with increased R-squared value.

The data available commonly for dependent and independent variables id for 52 countries in Africa, however, due to the missing values of control variables, the number of countries that STATA took for regression estimate is 35, thus the analysis is for lesser number of countries than intended. Similarly, the in panel regression models for the five regions in Africa, both for quantity and quality of employment, the number of observations are less firstly, due to lesser number of countries in some regions i.e. North Africa and Central Africa and secondly, because of missing values of variables in the data i.e. East Africa.

While the study mainly focuses on indirect impact of FDI on employment in Africa, the analysis of the results of panel regression makes use of the data on direct employment created by FDI.

The sectoral and qualitative dimension at city level, though intended to be studied, was not feasible due to unavailability of sufficient data

5.4 Suggestions for Further Research

Considering the fundamental importance of employment in the socio-economic development of Africa, firstly, it is needed to study each sector of FDI separately and study the dynamics of each sector in depth in terms of its impact on employment.

Secondly, a comparative study of select countries in Africa attracting majority FDI in different sectors may throw more light upon the understanding of the sectoral impact of FDI on employment both in sectoral and total. Such a comparative study can also be undertaken for countries in Africa at different level of development

Thirdly, informal employment constitutes a major portion of employment in the developing world and cannot be neglected, more so in Africa. It is required to study whether and how FDI influences the informal sector employment. Such study can pave a way for devising ways to improve the working conditions of the informal sector in the developing world.

Fourthly, more elaborate and dedicated research is required on the causal link between FDI and quality of employment. Country and city case studies from the developing world on the impact of FDI on quality of employment can improve the understanding of this aspect of FDI impact at different levels.

Lastly, the research reveals that two sector of employment i.e. agriculture and industry get impacted by aggregate and sectoral FDI. However, employment in services is neither affected by aggregate FDI nor by sectoral FDI in a significant manner. As service sector employment

is believed to contribute substantially to the future employment scenario, more in-depth investigation is required to understand the causal linkages.

5.5 Recommendations

The results of the study amply throw light on the different aspects of implications of FDI vis-à-vis employment in Africa. This creates suitable ground to suggest policy recommendations necessary to derive maximum benefit of FDI in terms of employment.

The impact of FDI on employment is a complicated process having interrelations with many other factors such as "the size and degree of internationalisation of an economy" (Hisarciklilar et al. 2014 pp. 52), "macroeconomic factors specific to individual countries and industries, the dynamic effects due to reaction of firms in home and host countries to the changes in competition and industrial specialisation endangered by the activities of TNCs" (UNCTAD 1994 pp. 168). Thus, the country-specific factors constitute, to a great extent, the implications of FDI on employment. It would be ideal to base the policy recommendations based on the individual country context, however, since the objective of this study is to assess the impact of FDI on employment on Africa, the frame of recommendation here is broader and includes such recommendation as may be applicable to multiple countries.

5.5.1 Formulate Policies to Attract Industrial Growth Promoting FDI

The results indicate that it is the industrial employment that gets most significantly and positively impacted by FDI, more specifically the manufacturing and resource FDI which necessitates FDI promoting industrial growth. Moreover, to promote industrial growth, FDI proves to be an extremely powerful medium (Narula 2003). Thus it would be beneficial to attract FDI that promotes industrial growth- the manufacturing FDI as well as resource FDI.

In case of the resource-rich countries of Africa though resource FDI is theorised to have a low employment impact, the results of the study show that resource FDI has a highly beneficial impact on employment in industry. Africa being the land of ample resources, the potential for resource FDI will remain. In such a scenario pragmatic policy decisions are needed not only to attract FDI in resource-based industries but also to support and strengthen the domestic firms and improve their absorptive capacity in such a way that they undertake resource-based industrial activities which in turn can lead to employment creation. At the same time would be advisable to simultaneously adopt diversification policies to nurture the non-resource sectors and attract FDI in manufacturing and services on lines of Chile, a copper resource rich country that undertook diversification policies while managing the resource-risks creating a resource stabilisation fund.

In the context of other non-resource countries also the study shows interesting policy implications. The results of this study show that FDI not only has positive impact on employment in industry but it also has a negative impact on employment in agriculture. This is suggestive of the Lewis Model explaining the shift of labour from agriculture sector to industrial sector during the process of its development. This indicates the key role manufacturing FDI can play in structural transformation which is highly desirable in the African context where about 90 percent of population is engaged in either agriculture and services (Szirmai et al. 2013). In light of the this, it is crucial to frame policies to attract manufacturing FDI with a special focus on light manufacturing FDI which has proved to be labour-intensive. China and Vietnam have achieved spectacular strides in generation of employment along with other economic benefits by developing light manufacturing sectors such as apparel, leather products, wood and metal products etc. Similarly, a few countries in

the SSA such as Ethiopia, Kenya, Zambia, Tanzania have reaped the benefits from such activities (Dinh et al. 2011). Recently, the advantageous position of China in these sectors is reducing due to rise in labour cost and other reasons. This is a right time for African leaders to strike the iron by incentivising FDI in these sectors.

5.5.2 Strengthening of Agriculture Sector

As majority of African population (53 percent) is still engaged in agriculture, the sector carries crucial socio-economic and political relevance. The study results demonstrate a negatively significant result of aggregate FDI on employment in agriculture sector indicating FDI has an impact of displacing employment from agriculture. While this can lead to reduction of overemployment in agriculture, it would be desirable only if new employment opportunities are generated for the displaced labour, especially in the industry sector as it is a key generator of employment.

Malaysia and Thailand have been successful in giving an impetus to the industrial sector with agro-based activities (Kjöllerström & Dallto 2005). There are lessons to be learnt from Vietnam which in 1993 was an impoverished and famine stricken country with agriculture employment as high as 70 percent poverty to the tune of 58 percent and within a span of 20 years is a global leading exporter of rice, coffee, black pepper, cashew nuts, tea, rubber and seafood with remarkable poverty reduction and employment generation. Policies such attraction of agricultural FDI and domestic reform have made such success possible (The World Bank 2013). Within Africa many initiatives can be found such as business in flower and tea export in Kenya and highly developed fishery sector in Uganda and many more.

A two-pronged strategy can be adopted to maximise employment benefits. Firstly, strengthening and modernisation of agriculture, adopting increased commercial farming, following good agricultural practices (GAP) and making agricultural policy and produce worthy of export. as Africa has the potential to be the food basket of world and this possibility is needed to be explored. Leipziger & Yusuf (2013) advocate adoption of modernisation of agriculture for faster and sustainable growth. Secondly, Promotion of agro-based industries and agri-business with a view to generate entrepreneurial activities is of great importance in this context. Policy of incentivizing and subsidising for attracting FDI in agriculture on the lines of Vietnam and China can prove to be beneficial.

5.5.3 Promote Service Sector FDI

There is much debate in literature which of the two sectors – manufacturing or services can lead to enhanced employment opportunities. The present study unravels that service FDI does not have any significant impact on employment not even on service sector employment. However, service sector is conceived by scholars to be a key growth driver of the future economic milieu either as a “leading compliment” or a “lagging compliment” or a “substitute” of manufacturing (Leipziger & Yusuf 2013 pp 2-3). It has been also pointed out that service sector also carries potential of employment generation as it has done in the case of a few Asian countries.

Additionally, in the context of African countries service sector is important due to the crucial role it plays not only in boosting the other sectors agriculture, industry including manufacturing. Recent leap of 10 African countries (Burundi, Chad, the Congo, Côte d’Ivoire, Equatorial Guinea, Ethiopia, Ghana, Nigeria, Rwanda and Togo) with fastest growth of the services sector grew over 8 percent annually generates great hope for the development of the sector in the near future (UNCTAD 2015).

Service sector is growing globally and recent developments suggest powerful potential for employment in Africa. The service sector FDI during the research period is fluctuating with comparatively lesser volume of investment. However, the positive impact on a few African countries can give some guidelines for other countries. It would be prudent for the countries to study such best practices and how they can be adopted in their own context. It is also needed to raise infrastructure not only the physical infrastructure but also the ICT infrastructure. To improve the vital complementarity of service sector with other sectors, the technological innovation necessary for the development of the sector and the potential of the sector in employment generation, it is an imperative necessary to adopt policies not only to boost the domestic service sector but also to attract FDI in the sector.

5.5.4 Enhance Absorptive Capacity

The absorptive capacity of domestic firms is an essential factor in generation of new employment opportunities, as per the literature. The result of the study shows that aggregate FDI does not have a significant impact on overall employment in Africa. Low absorptive capacity of the countries and cities in Africa can be a crucial reason for the same. This is in line with the argument of Narula (2003) and Szirmai et al. (2013). This calls for investments not only in human capital but also in physical and technological infrastructure.

During the past few years mobile telephone network is spreading fast in Africa and mobile connections show high significance positively impacting employment in most regression models in chapter 4. Such infrastructure provides opportunities for faster spread of information and innovation. Necessary policies and programmes to maintain the growth would be needed.

Additionally, policy initiative to develop human capital through continuous education and skill development is necessary. The initiatives of India in skill development are noteworthy. It has not only established an independent ministry for skill development but has also started a public-private initiative of National Skill Development Mission (NSDM) which caters to the various aspects of policy, planning and implementation increasing the spread to a great extent.

The forecast of Oxford Economics on cities in 2030 predicts that Africa will be at disadvantageous position vis-à-vis manufacturing investments and employment due to deficiencies in infrastructure and may miss the bus of opportunities knocking at the door caused due to deindustrialisation of advanced Asian cities resulting in shift of manufacturing investment in search of low cost options. (Oxford Economics 2010). This is a warning bell for African countries and need to respond with steps to develop the absorptive capacity and to ride on the available opportunity.

5.5.5 Adopt Policies for Enhanced Quality of Employment

The study shows no significant impact of FDI on the quality of employment, two main causes are one of the lowest female labour force participation rate (LFPR) in North Africa and high vulnerable employment in the SSA. Targeted investment in social and physical infrastructure has shown to be beneficial in improving the female LFPR e.g. electrification of rural South Africa led to about 9 percent increase in female LFPR (The World Bank 2013). Additionally, legal measures such as labour laws and policies promoting equal opportunity of work and pay and removing discrimination in policy and practice can pave a way.

As stated earlier, employment scenario in Africa is fraught with informality with little or no security and therefore, employment vulnerability high. The employment vulnerability maybe reduced by providing social security to the own-account and unremunerated workers and the contributing family workers and also proving suitable vocational training opportunities along with certification. Among the resource-rich countries Norway is a remarkable example of

devising effective social security policies including excellent health care facilities by managing the resource fund. Implementation of such practices can help reduce the vulnerability of employment.

5.6 Concluding Remarks

The key variables of this research, both inward FDI and employment are pivotal for African countries to address the present development challenge and elevate them to the next level of development. The burgeoning youth population in Africa calls for urgent steps to generate employment opportunities. The research analyses the ways in which FDI has impacted employment in Africa during the research period that covers a span of twelve years i.e. 2003 to 2014. While historically, resource FDI has been a dominant other sectors are taking over, manufacturing FDI has the largest share during the research period, and looking at the recent trends in FDI, in future services FDI may takes its place. Overall amongst the FDI sectors manufacturing FDI is the key driver of employment during the research period, which may be replaced by services FDI a few years hence. Africa's leaders need to pay heed to these aspects and take measures to attract suitable FDI for their country. This will go a long way towards paving a way for inclusive development in Africa.

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Annexure 1 : Direct Employment Created by FDI

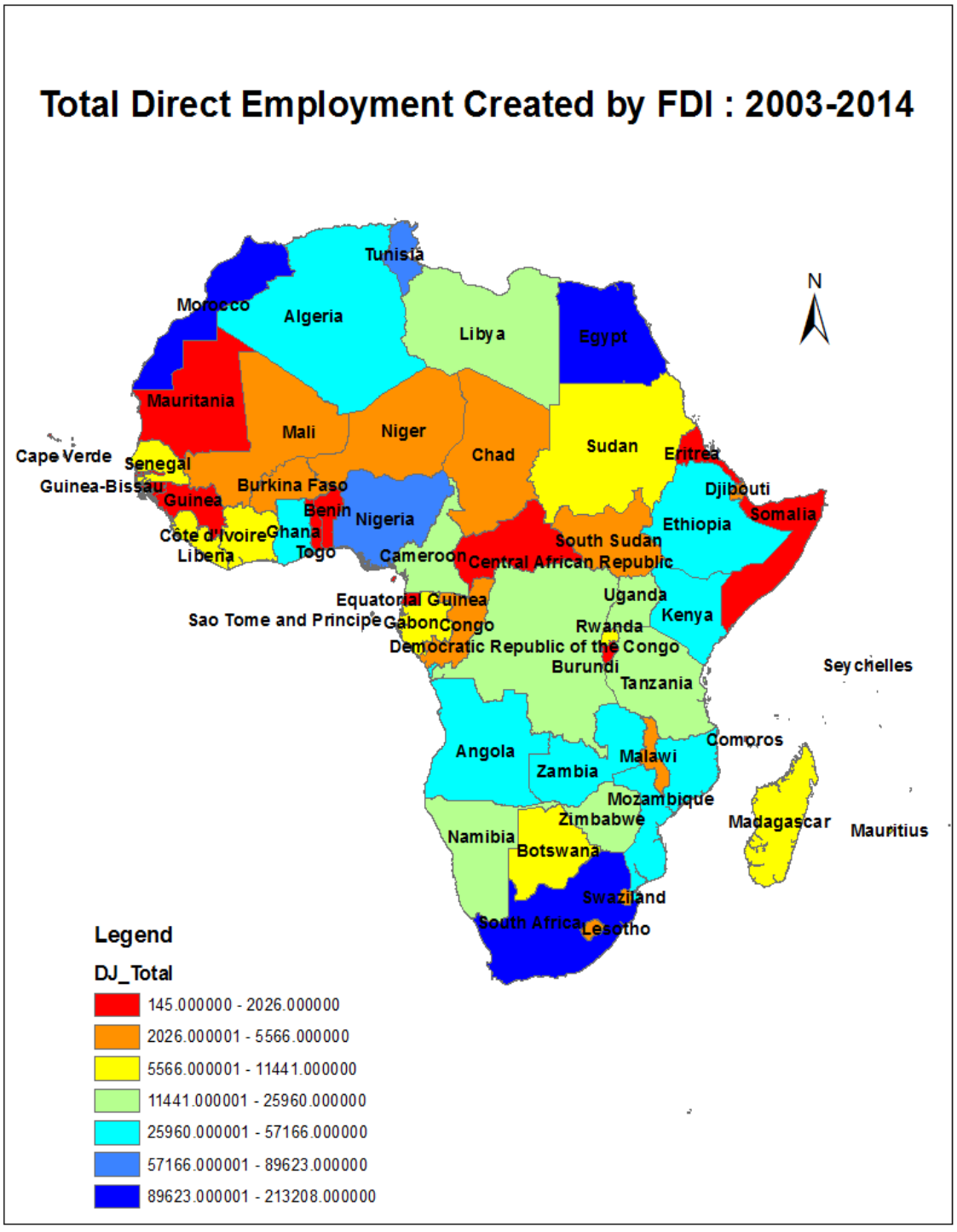


Figure 1.1: Total Direct Employment Created by FDI in Africa during 2003-2014

Source: Author, 2016 Based on fDi Markets Database

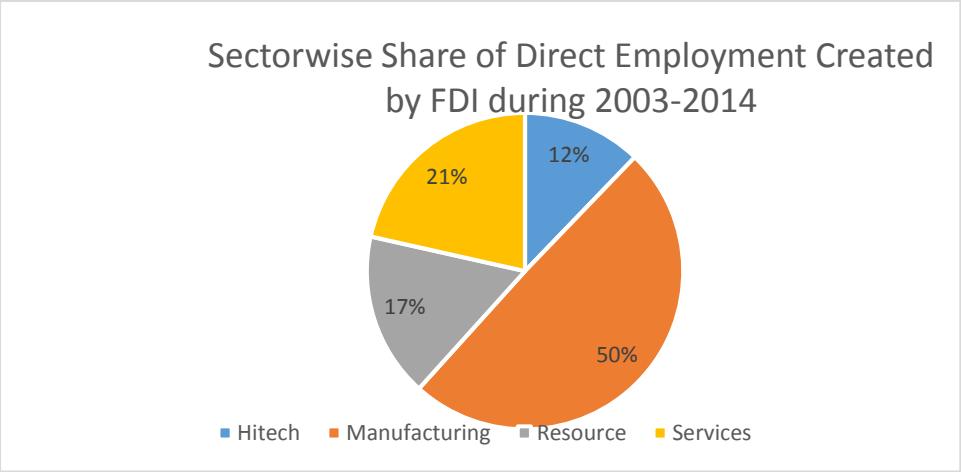


Chart 1.1: Sectorwise Share of Total Direct Employment Created by FDI during 2003-2014 Source: Author, 2016 Based on fDi Markets Database

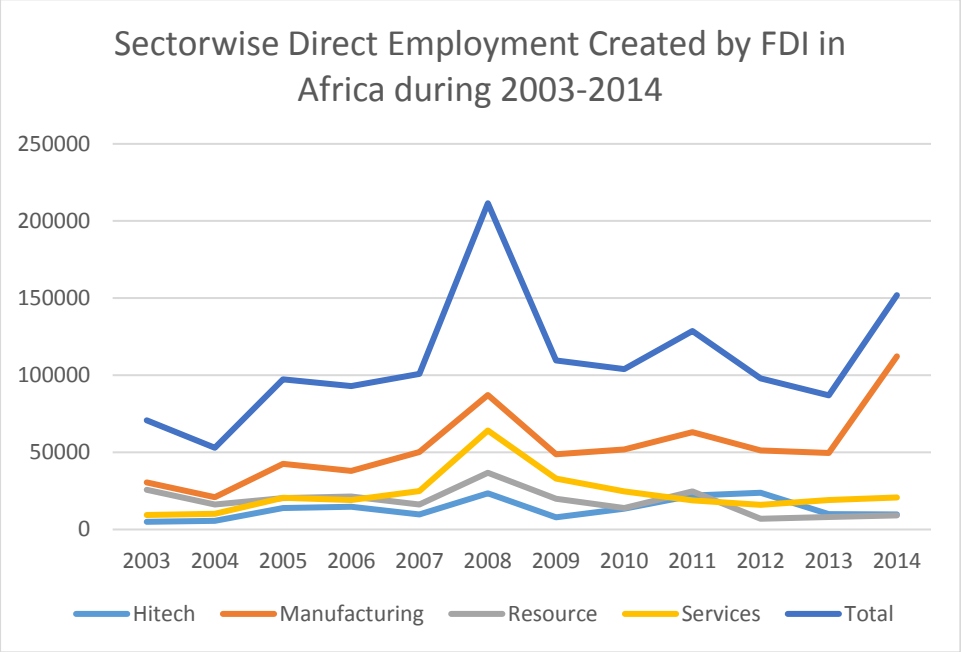


Chart 1.2: Sectorwise Total Direct Employment Created by FDI in Africa during 2003-2014 Source: Author, 2016 Based on fDi Markets Database

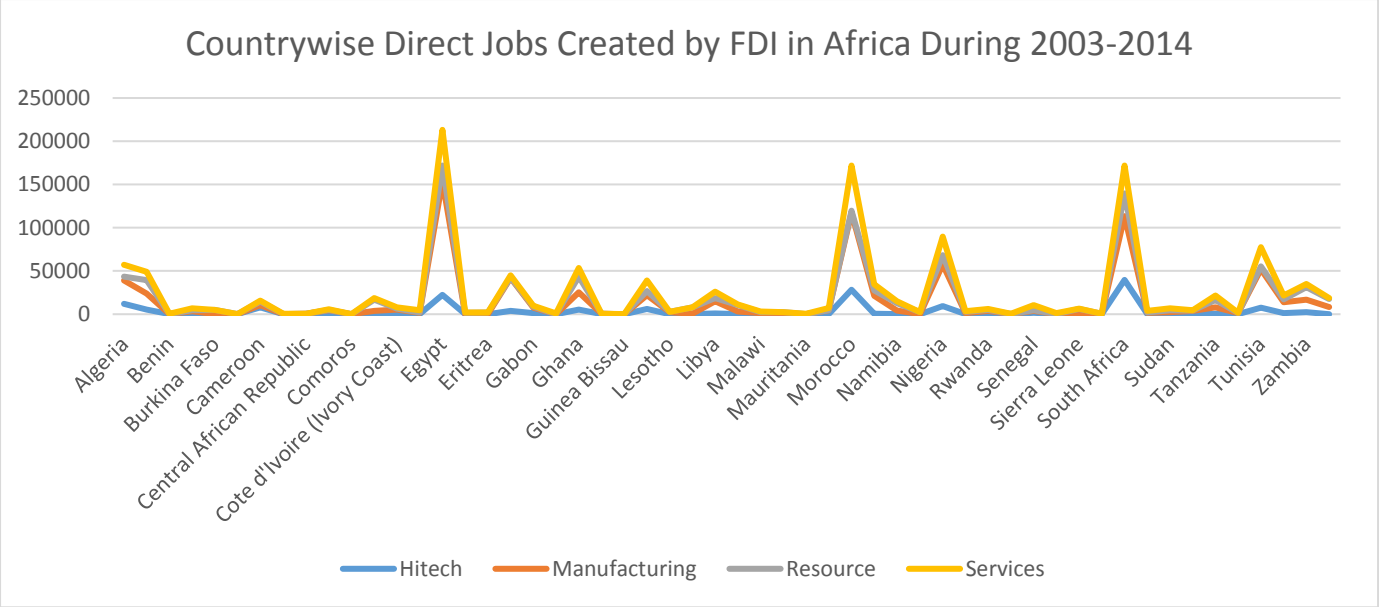


Chart 1.3 : Sectorwise Total Direct Employment Created by FDI in the Countries in Africa during 2003-2014

Source: Author, 2016 Based on fDi Markets Database

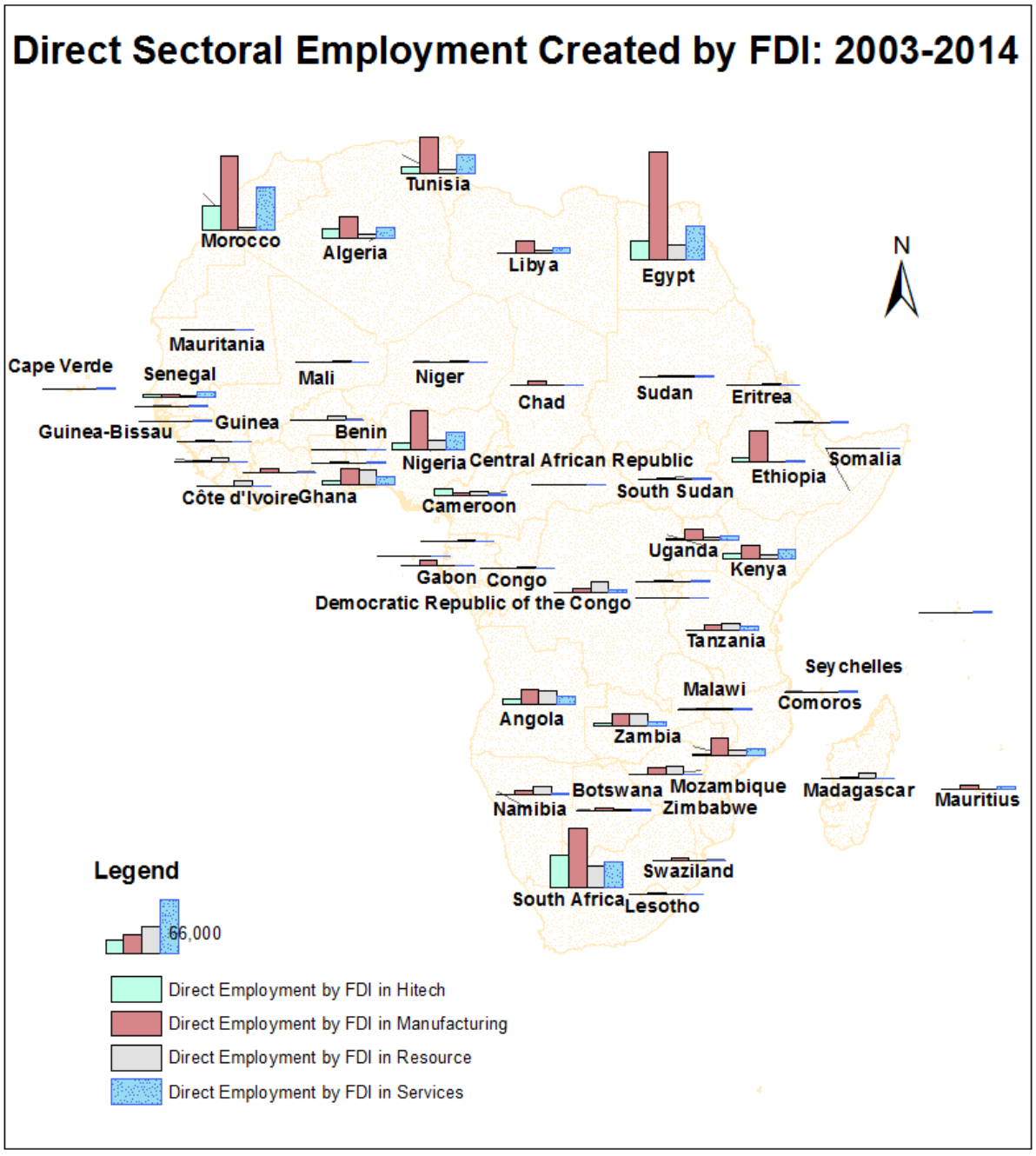
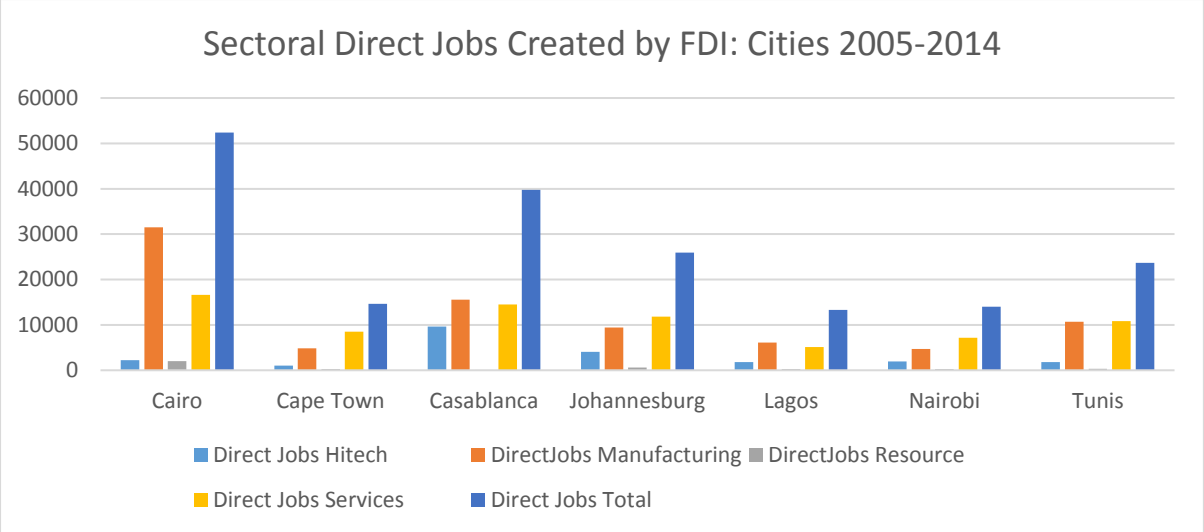
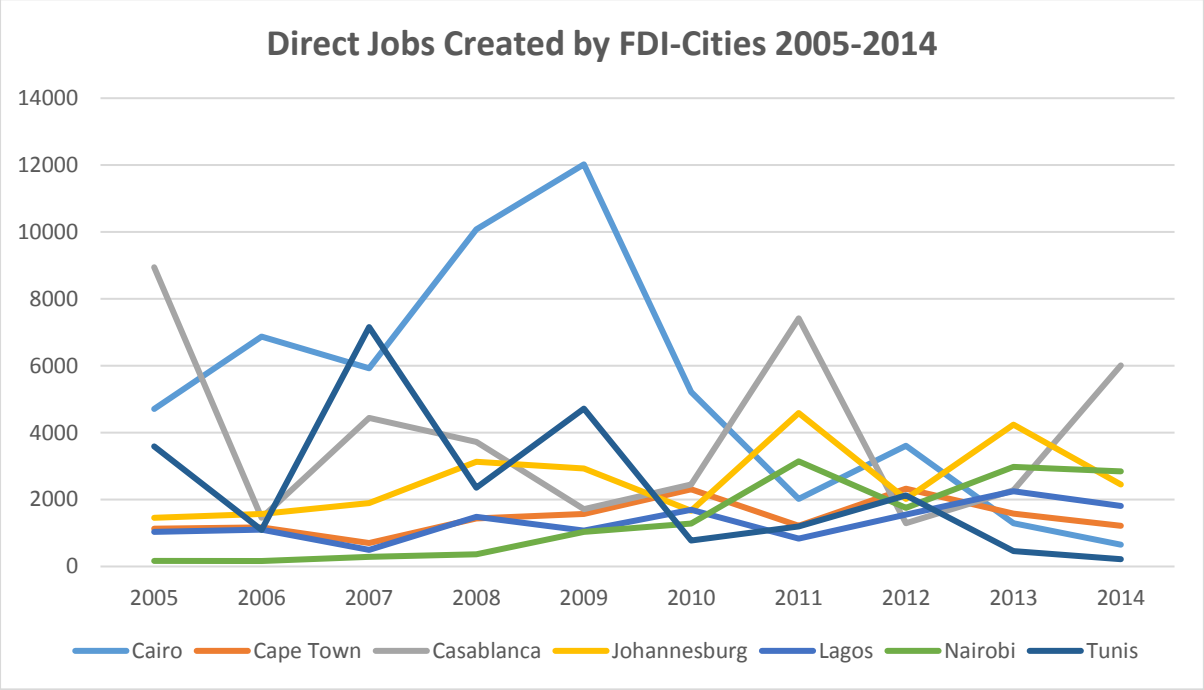
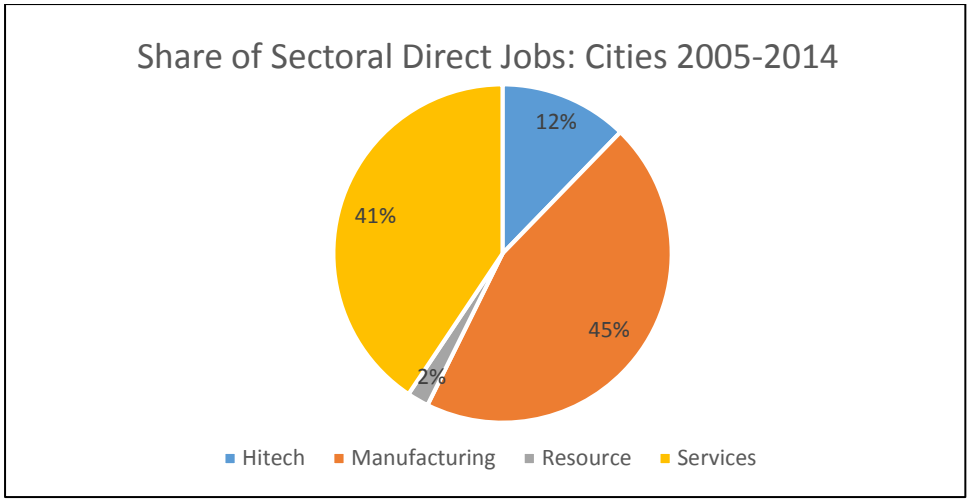


Figure 1.2: Sectorwise Total Direct Employment Created by FDI in the Countries in Africa during 2003-2014 Source: Author, 2016 Based on fDi Markets Database


Sectoral Direct Jobs Created by FDI: Cities 2005-2014
60000
50000
40000
30000
20000
10000
0
Cairo
Cape Town
Casablanca
Johannesburg
Lagos
Nairobi
Tunis
Direct Jobs Hitech
DirectJobs Manufacturing
DirectJobs Resource
Direct Jobs Services
Direct Jobs Total


Direct Jobs Created by FDI-Cities 2005-2014
14000
12000
10000
8000
6000
4000
2000
0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Cairo
Cape Town
Casablanca
Johannesburg
Lagos
Nairobi
Tunis


Share of Sectoral Direct Jobs: Cities 2005-2014
12%
45%
2%
41%
Hitech
Manufacturing
Resource
Services

Annexure 2: Multiple-Country Charts

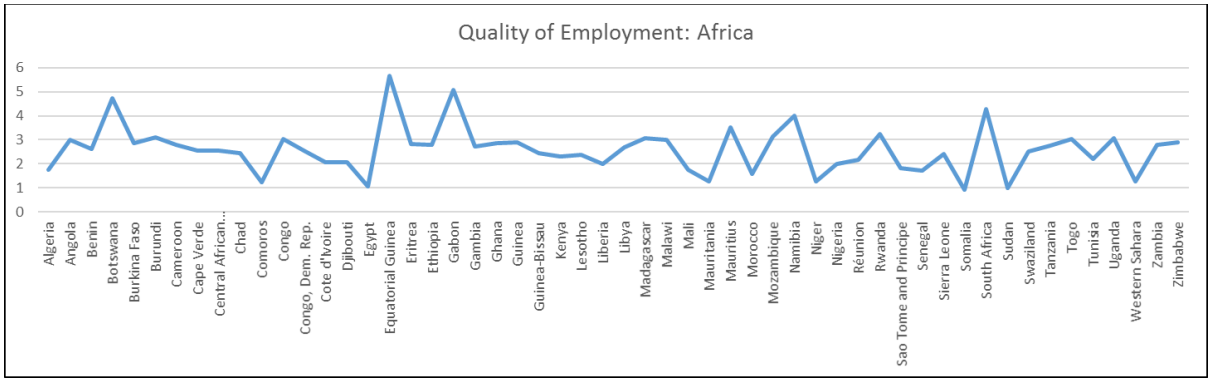


Chart 2.1: Quality of Employment in the countries of Africa for the year 2014 Source: Author, 2016

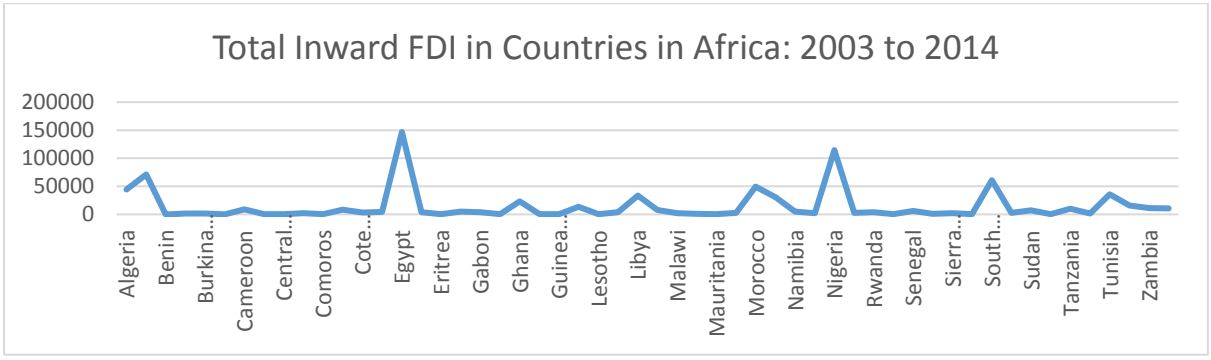


Chart 2.2. Total Inward FDI in the African Countries during 2003-2014 Source: Author, 2016. Based on fDi Markets data

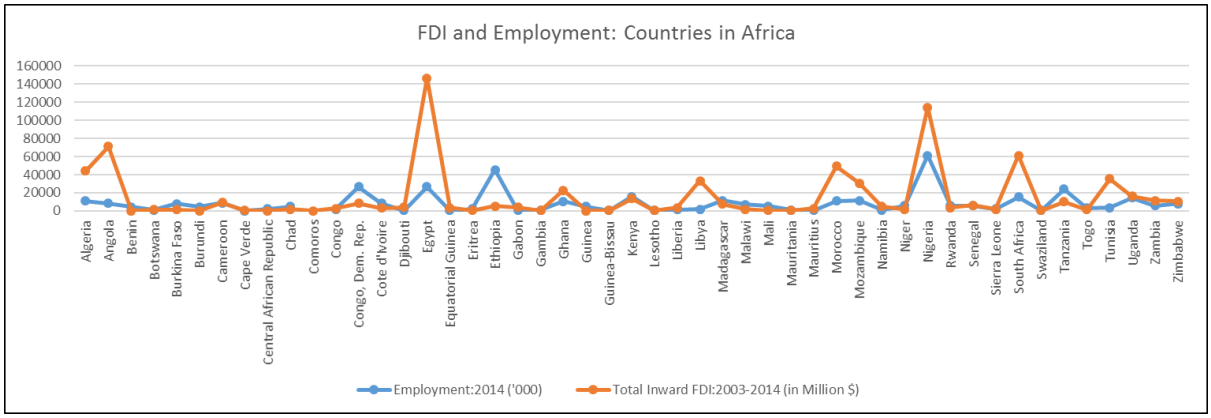


Chart 17. Total Inward FDI for the Period 2003-2014 and Employment in 2014 for the Countries in Africa Source: Author, 2016. Based on fDimarkets and oxford database

Annexure 3: Employment to Population Ratio in Africa

Employment ratio: the total number of persons in employment aged 15 and over per country, expressed as a percentage of the total population aged 15 and over.

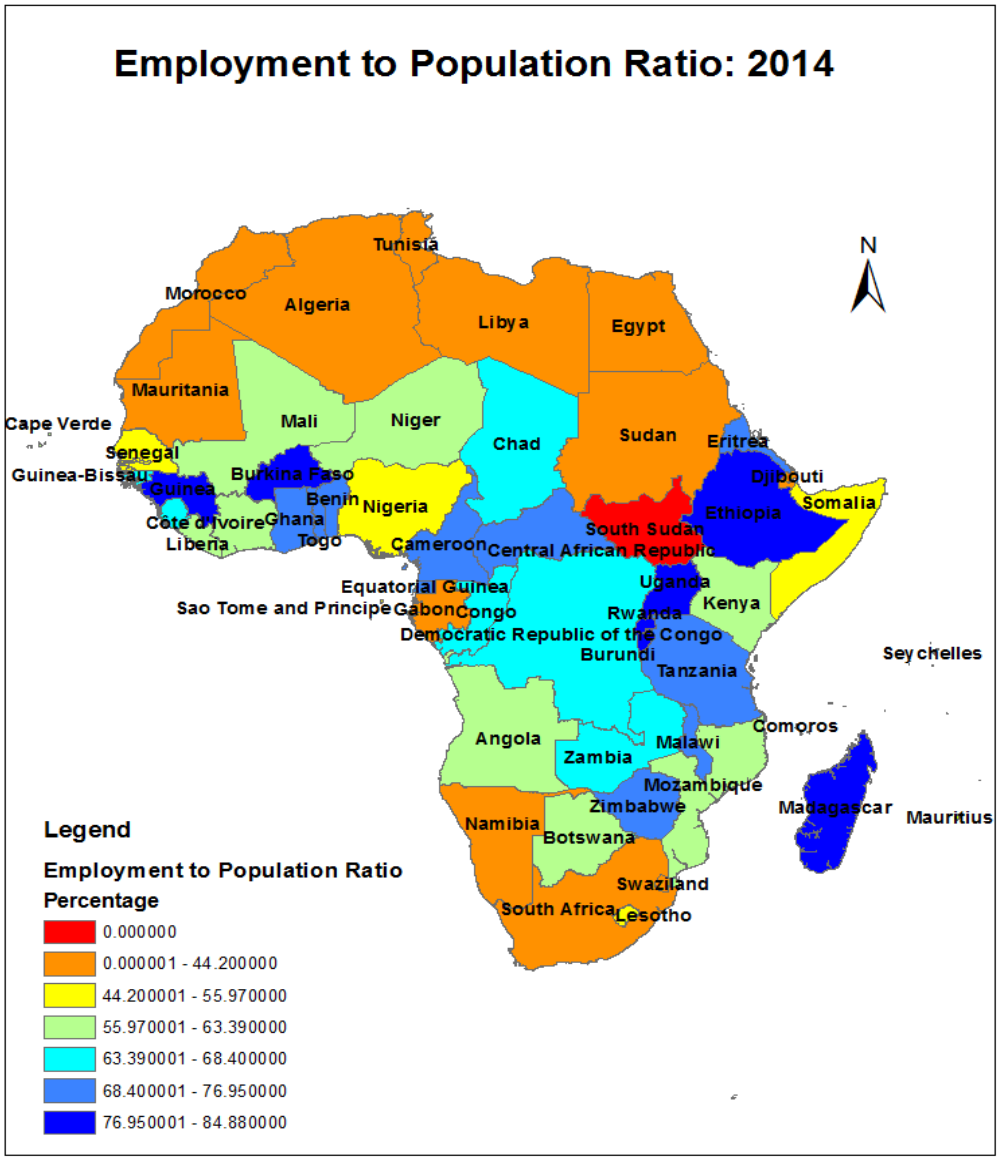


Figure 3.1: Employment to population ratio in Africa in 2014
Source : Author, 2016. Based on ILO-KILM data

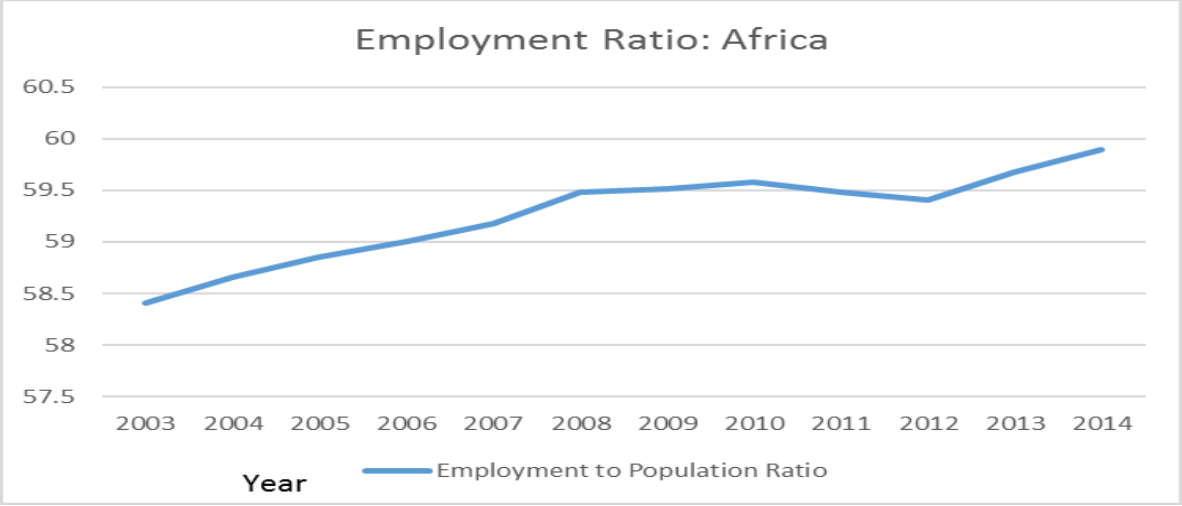


Chart 3.1. Employment to Population Ratio: Africa
Source : Author, 2016. Based on ILO-KILM data

Annexure 4: Sectoral employment

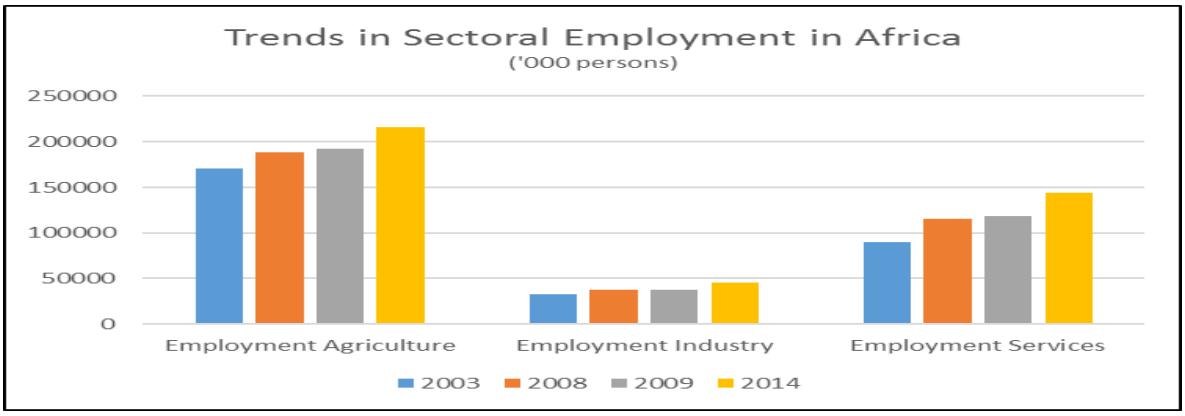


Chart 4.1. Sectoral Employment in Africa
Source: Author, 2016. Based on Oxford Database

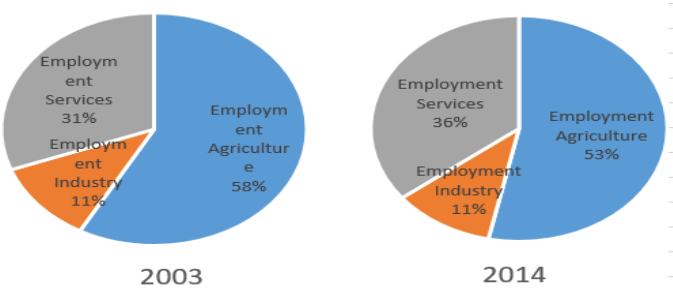


Chart 4.2. Change in th Share of Sectoral Employment in Africa over the research period

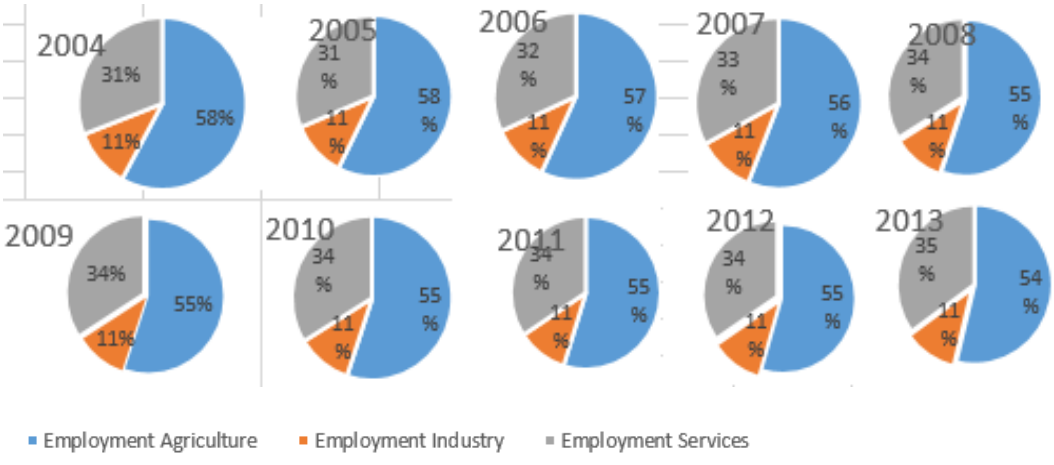


Chart 4.3. Trends in the Share of Sectoral Employment in Africa 2004-2013
Source: Author, 2016. Based on Oxford Database

Annexure 5: Female Labour Force Participation Rate (LFPR)

Table 5.1 Labour Force Participation Rate in the 5 Regions of Africa

North Africa			
Country	Year	LFPR (%)-Total	LFPR(%)-Female
Algeria	2014	43.56368	16.70461
Egypt	2014	49.2618	22.57778
Libya	2014	53.4478	27.87051
Morocco	2014	49.06144	25.20135
Tunisia	2014	47.63844	25.03055

Source: Author, 2016. Based on ILO database

Table 5.2 Labour Force Participation Rate in Africa

Country	Year	LFPR (%)-Total	LFPR(%)-Female
Algeria	2014	43.56	16.70
Angola	2014	68.40	59.94
Benin	2014	71.65	69.96
Botswana	2014	77.22	73.33
Burkina Faso	2014	83.55	76.69
Burundi	2014	83.62	84.62
Cameroon	2014	75.93	70.89
Cape Verde	2014	67.98	52.88
Central African Republic	2014	77.96	71.63
Chad	2014	71.59	64.02
Comoros	2014	57.27	35.12
Congo	2014	69.84	67.07
Congo, Dem. Rep.	2014	71.11	70.51
Côte d'Ivoire	2014	66.96	52.25
Djibouti	2014	52.20	36.46
Egypt	2014	49.26	22.58
Equatorial Guinea	2014	82.02	71.17
Eritrea	2014	83.87	77.64
Ethiopia	2014	82.94	76.94
Gabon	2014	48.43	39.49
Gambia	2014	77.34	72.17
Ghana	2014	76.82	75.33
Guinea	2014	82.31	79.49
Guinea-Bissau	2014	72.61	67.13
Kenya	2014	66.91	61.92
Lesotho	2014	66.16	59.06
Liberia	2014	60.88	57.95
Libya	2014	53.45	27.87
Madagascar	2014	86.47	83.88

Malawi	2014	80.94	81.20
Mali	2014	66.03	49.82
Mauritania	2014	47.12	29.01
Mauritius	2014	60.64	46.72
Morocco	2014	49.06	25.20
Mozambique	2014	79.10	82.57
Namibia	2014	58.95	55.37
Niger	2014	64.71	40.16
Nigeria	2014	56.18	48.33
Réunion	2014	54.11	48.39
Rwanda	2014	84.92	86.51
Sao Tome and Principe	2014	60.42	45.15
Senegal	2014	56.88	44.85
Sierra Leone	2014	66.70	65.00
Somalia	2014	54.25	33.21
South Africa	2014	52.71	46.06
South Sudan	2014	73.16	71.12
Sudan	2014	48.07	24.19
Swaziland	2014	51.38	39.72
Tanzania	2014	78.62	74.02
Togo	2014	80.84	81.13
Tunisia	2014	47.64	25.03
Uganda	2014	84.95	82.30
Western Sahara	2014	57.68	28.17
Zambia	2014	75.28	69.80
Zimbabwe	2014	82.30	77.61

Source: Author, 2016. Based on ILO database

Annexure 6: Summary Statistics of the Variables

Table 6.1 Summary Statistics of the Dependent Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
D_EMP_Totl~d	576	7203.412	9817.365	164.5707	61155.49
Q_EMP_Index	612	2.964392	1.487187	.8793821	12.02763
D_S_EMP_A	576	4000.705	5767.77	27.01009	31590.06
D_S_EMP_I	576	801.1211	1330.426	23.40115	7609.526
D_S_EMP_S	624	2216.848	3675.216	0	29312.27

Table 6.2 Summary Statistics of the Independent Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
I_FDI_Totl~y	624	1211.736	3616.477	0	57557.76
I_FDI_Hitech	624	80.93942	346.8272	0	5530.4
I_FDI_Manu	624	469.7179	2314.035	0	43598.76
I_FDI_Reso~e	624	431.4847	1410.689	0	16000
I_FDI_Serv~s	624	229.5941	667.2938	0	7529.7

Table 6.3 Summary Statistics of the Control Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
C1_GDP_Grwth	611	4.856792	7.169798	-62.1	104.5
C1_Govt_Exp	609	26.8307	10.34303	4.27	78.17
C1_Inflatn	612	7.954778	10.89668	.048	156.964
C2_Mob	620	44.92969	40.19362	0	214.75
C2_PoplnGr	621	2.369252	.8460678	.0835027	4.974578
C2_ICRG	432	.331983	.1203463	0	.6666667
C2_HDI	502	.4931255	.1238997	.262	.795
C2_TRD_Opnss	464	23925.6	42726.14	68.6081	250018.7