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Dedicated

..................to my family

( Mum - Mrs. Regina Shileche & Sisters) & Mr. & Mrs Rod & Avis Converse.
Summary

A competitive economy is the one that attracts the most foreign investors and with the potential to grow at a faster rate over time. The African continent is a renowned region richly endowed with natural resources. Records show that at the decolonization period of the 1950s & 60s, African economies grew rapidly awakening the manufacturing activities and the modernization of infrastructure and increased urbanization. However the current development scenario is demeaning, characterized of subsistence production inhibiting savings with low consumption resulting in reduced investments that leads to economic growth stagnation, positioning the region on the periphery of the economic competitive paradigm. Such measures as international trade policies as the “Washington Consensus” and import compression have in the past resulted into deindustrialization, minimal utilization and investment capacities limiting the region to meet world trade requirements curtailing the Sub Saharan Africa (SSA) manufacturers to compete with highly performing industries located in Europe, Asia and North America.

Many theories and studies have focused on defining the development strategies for SSA to grow by assessing the economic position of the region as a ‘half glass empty’ rather than a ‘half glass full’. A number of these studies propose development frameworks that are beyond the ability of SSA to realize in respect to its level of production and budgetary allocation. Others copy paste economic policies and strategies from the developed economies archives assuming that, modernization takes a night, a week or even a month to be created. However, none of these researches has ever posed the question; how wealthy is SSA? This thesis picks from the empirical truth that, if the per capita gross domestic product (GDP) and GDP growth of Africa were higher than that of Asia in 1960s, then SSA was and is wealthy. Global competitiveness determines the levels of development growth of a region in the network systems and economic development undergoes phases of growth. Globalization, competitive advantages, location factors, agglomeration and economic networks define development advancement through global economies.

The study aims at adding knowledge to the subject of global competitiveness and economic development recognizing that, many economies hold untapped potentials to grow. In addition, it gives an insight on how the level of development advancement determines how a region or country competes in the world economies and outlines recommendations SSA should take to reignite its capacity to compete efficiently with the highly ranked economies of the world. The policy makers ought to prioritize development projects depending on the need and the budgetary allocation of every developing economy.

The research uses the data on fDi markets for 2006-2012 to analyze the patterns and trends of FDI flows at global, regional (Europe, S.E Asia and S.S. Africa), continental (West, East, Middle & Southern Africa) and at country (Singapore & Kenya) levels respectively. The capacity of the regions to compete was also computed. Further, analysis on the data resulted in determining the factors of production influencing foreign investments to locate in SSA.

The study concludes that; the time is ripe for S.S Africa to have an economic take off.

Key words:

Global economies, development advancement, global competitiveness, capacity of development.
Acknowledgement

I grew out of a small village in Western Kenya, and as I took off from my primary education level, I had a dream ..........”I will fly someday”.

Sincerely, my thesis was based upon this realized dream, that though S.S Africa is still propelling at the resource driven economy (primary production), one day it shall “fly” and compete among the innovative driven economies some time in future!

I pass my warm gratitude to my supervisors Dr. Ronald Wall and Dr. Spyridon Stavropoulos as well as Monserrat Budding-Polo for their humble time and dedication which helped me build up self confidence of completing my thesis. Indeed they made me “fly” around the global (glocal) economies: highly specialized with competitiveness and resilience knowledge and skills. Immense regards also to all the lecturers and supporting staff at the Institute for Housing and Urban Development studies (IHS), especially my mentor Saskia, Cocky and Ruud just to mention a few. I am also indebted to the support of my friends and classmates of the UMD10 and for voting me in as their student representative. It was a pleasure leading the class through the study period.

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To my family (Mum – Mrs. Regina Shileche & Sisters) and my sponsors (Mr & Mrs Rod & Avis Converse) and my very special team (Rod, Anne, Alice, Maureen & Emma) thank you for your sincere prayers, encouragement, advice and ….especially accepting to take a walk beside me throughout my masters study period. Thank you!

Above all, to Almighty God be the GLORY....
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>1st, 2nd, 3rd</td>
<td>First, Second, Third</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>FE</td>
<td>Fixed Effect</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
</tr>
<tr>
<td>GCI</td>
<td>Global Competitive Index</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GPN</td>
<td>Global Production Network</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IHS</td>
<td>Institute for Housing and Urban Development</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>Mergers and Acquisitions</td>
</tr>
<tr>
<td>MNCs</td>
<td>Multinational Corporations</td>
</tr>
<tr>
<td>ODA</td>
<td>Official Development Assistance</td>
</tr>
<tr>
<td>OECD</td>
<td>The Organization for Economic Co-operation and Development</td>
</tr>
<tr>
<td>R &amp; D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>RE</td>
<td>Random Effect</td>
</tr>
<tr>
<td>SAPs</td>
<td>Structural Adjustable Programmes</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Programme for Social Sciences</td>
</tr>
<tr>
<td>SSA</td>
<td>Sub Saharan Africa</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference for Trade and Development</td>
</tr>
<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>USA</td>
<td>United States of America</td>
</tr>
<tr>
<td>VIF</td>
<td>Variance Inflation Factor</td>
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<tr>
<td>WTO</td>
<td>World Trade Organization</td>
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</table>
**Glossary**

**Bilateral donor flows:** Funding granted directly by a donor country to the recipient government.

**Capacity:** The ability of a region / country to perform and produce.

**Competitiveness:** A condition Global regions participate to attract investments (FDI) by firms, knowledge and people.

**Development advancement:** A strategic progress from a lower to a higher rank of development.

**FDI inward stock:** Total foreign investments to a host country over a given period of time.

**Foreign direct investments (FDI):** Investments from foreign countries, acting as a catalyst for development and a measure of competitiveness for regions.

**Level of production:** The ability of a region or a country to produce quality goods and services efficiently within a given period in reference to the Global Competitive Index rating.

**Multilateral donor flows:** Funding from a donor government to a recipient government channeled through international organizations as UN, World Bank and IMF.

**“Nose diving”**: A sharp decline in economic trend performance.

**Pattern:** The regular composition in which FDI investments take place in the global economies.

**Production:** A condition involving economic activities that aim directly or indirectly to make goods and services in the world.

**Trend:** The general shift of FDI investments over a given period (2006-2012) in the world economies.

**Hausman test:** Examining the appropriate model (FE & RE) to use for reporting results of regression analysis by STATA.

**Glocal economies:** In reference to the integration and networking of global and local economies.
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CHAPTER 1: INTRODUCTION

The overall theme of this study; reigniting the capacity of developing countries to compete in the global economies: case of Sub Saharan Africa (SSA) is a practical case, given that other parts of the world in Asia, Europe and America are growing economically, and the capacity of Sub Saharan Africa to compete in the global economies has drastically declined over decades. This work takes into consideration, through the literature review the reasons that may have led to this economic stagnation. The chapters and research questions are therefore structured around; the level and trends of development advancement, the location factors, competitiveness and how Sub Saharan Africa, compares with the other first and second world economies.

1.1 Background

The African continent is a renowned region of endowed natural resources with its unique culture and roots in human origin. Dating back the 15th – 19th centuries overwhelmingly majority of Africans were engaged in subsistence agricultural economy. The continent was linked to the other parts of the world through the long distance trade which involved export of gold, ivory and slaves to Maghreb and Europe in return to salt, cloth and beads. In addition, Africans nurtured craftsmanship specializing in making jewelry, baskets, iron items, pots and furniture goods. It is noted that, the level of craft skills in iron making was not adequate to manufacture the muskets from Europe, unlike in Asia which adopted the skills and techniques more quickly. The exploration of gold and long distance trade increased slavery leading to human beings at their age of productivity being taken away from the continent; limiting the continent’s personal security. (Acharya, S. N. 1981).

As the volume of trade increased gradually, the involvement of Europeans in sub-Saharan Africa picked up in late 1870s, with the introduction of colonial rule which ended slavery. At this period the railway and road construction were introduced leading to an increase in trading levels, transportation of gold and agricultural production. In 1884-1885, the administrative boundaries of African countries were formalized in the Berlin Conference enhancing a deeper integration of the continent into the world trade (Heldring, Leander 2012). Crops such as cocoa, sisal, cotton, tea, coffee, and maize were introduced and propagated. Further public health facilities and schools were built by both the missionaries and the colonial administrations (Acharya, S. N. 1981).

Sub-Saharan Africa comprises of 47 countries with an approximate population of 911.5 million people; a population that is projected to rise to 1.2 billion and 2 billion by 2025, and 2050 respectively. It is anticipated that, 31 countries out of the region’s 47 are projected to double their population by 2050. In 2010, only 37% of the population as compared to 52% of the world population lived in urban areas, though this population is expected to increase from 298 million in 2010 to about 1.1 billion in 2050, representing 8% and 17% of the global urban population respectively (PAI, 2012).

The region holds a Gross Domestic Product (GDP) of 1.290 trillion and with a small contribution of 1.7 % to the world production (Vickers, B. 2012). Most economies of the Sub Sahara nations are small and poor, and trapped in a growth vicious circle of heavy subsistence production inhibiting savings; low consumption leading to reduced investments which culminate into economic growth stagnation. Indeed these economies face difficulties in realizing sustainable,
diversified development by applying strategies that focus on domestic and foreign markets. This phenomenon has resulted into widened welfare gaps between the developed nations as seen by the per capita income of African nations and the developing countries. Regardless of this, Africa is still richly endowed with natural resources (Vickers, B. 2012).

According to analysis, the per capita gross domestic product (GDP) and GDP growth of Africa were higher than that of Asia in 1960s, and were expected to rise since Africa still held massive natural resources. However, this was a dream that never happened, and instead the SSA economies failed to cope with the changing world structures and the population growth thus falling into an economic depression for decades till early 2000s. Evidently, in 1970s, SSA registered an annual growth rate in real per capita income of 0.7%, but negative progressive rates in 1980s and 1990s. There has been a considerable economic improvement since 2000, as SSA countries used the primary commodity –driven recovery approaches to push through the global economic crises. Further, the recent pre-crisis real GDP growth rate has been as a result of the strong commodity boom especially to the newly opened markets in Asian nations. However, notwithstanding the recovery, the region still wobbles in abject poverty, has a serious infrastructure gap and sustains a small export base (Kwame,J. 2011).

The slow growth of economic development in SSA, has been squarely linked to the inefficiency of the African policy makers to formulate proper reforms to spear head development. It is also noted that, the donor funded programmes such as the Anti-Inflationary Macroeconomic Stabilization Programmes by the International Monetary Fund (IMF) and the medium-term market-liberalizing, Structural Adjustment Programmes (SAPs) have in the past contributed immensely to the poor economic performance of the SSA countries (Vickers, B. 2012). The profound consequences of these programmes were the weakening of the manufacturing sector in SSA, while at the same period such regions as East Asia, realized rapid industrialization growth and structural transformation. Additionally, it has been realized that, growth based on resource extraction has boldly contributed to the rising inequality and limited employment growth, thereby economic stagnation. Evidently, Africa is still at the comparative disadvantage stage with agricultural exports, to Asia, Latin America and to the developed world of stringent subsidies and industrial farming. Further the global economic crisis of 2008 and the growth deceleration of 2009 threatened the small progress that had been made on the Millennium Development Goals (MDGs), mainly on poverty reduction and on industrialization sectors. This saw the fall of total exports from 18% to 11% in the production periods of 1995-2000 and 2000-2008 (UNCTAD, 2010). The depression in agricultural exports is mainly due to a cluster of higher oil and other mineral prices above the rising prices of agricultural production. For instance while Asian economies export 28% of total manufactured exports in the world, only a small amount of less than 0.5% is exported by SSA.

Colin, McCarthy, (2010) derived that the recent trade improvements was greatly influenced by the export of primary goods and that is why SSA did not expand its export bases during 1995-2008. The growth prospects of SSA, are awakening in the current times, due to the overall progress on economic governance, macroeconomic policies, infrastructural upgrading, introduction of advanced technological skills and equipments and the effort to ensure peace and stability (Kwame,J. 2011). Moreover, it has minimized its dependency on the developed nations to buy its products as it used to seek their markets, and rather it is exploring other markets across
the world for diversity, which reduces the vulnerability of SSA to the trade spectrum of the advanced economies, and enabling the region to recover quickly from the Great Recession of 2008-2009. Indeed the growth of China’s industrialization sector and demand for raw materials from SSA since the late 1990s has underpinned this trends of trading (UNCTAD, 2010). Although the competitiveness of African production remains dubious for most goods for export, a vibrant, up to date and integrated growth strategy seems to be the only possible precursor to alleviating the threatening SSA development challenges. In retrospect, trade facilitation should be a priority in reigniting the competitiveness of SSA exports, in addition to the hard infrastructure and technical advices, which would create opportunities for the continent’s exporters reinforced by properly structured policy reforms.

1.2 Problem statement

During the decolonization period of the 1950s and the 1960s, African economies accelerated in growth leading to the realization of the manufacturing activities and the modernization of infrastructure and quickening of urbanization. Nevertheless, this catching up trend declined in the mid 1970s, worsening into economic deformation, import substituting industrialization, political instability, civil conflicts and high economic dependency (Danny, L. 2012). This situation declined further following the economic crisis of the western countries, which were the main African exporter markets; forcing SSA countries to experience a prolonged economic deformation till mid 1990s. According to the United Nations Industrial Development Organization (UNIDO) (1990), SSA countries were enjoying the comparative advantages of labour-intensive manufacturing. International trade policies such as the “Washington Consensus” limited the ability of the SSA industries to compete in the world market, precipitating into deindustrialization phenomenon. Consequently, the import compression as a result of the debt crisis limited the utilization and investment capacities, making SSA countries unable to adjust to the global trade requirements, thus exposing the newly launched SSA manufacturers to world competition against the more mature industries. Due to this, the continent was reduced to a net importer of food products from being a net exporter. (Kwame,J. 2011)

Currently, the SSA nation’s economies have been seen improving over the past decade, with the growth ranging over 5% per annum during 2000 and 2011. This economic revival is mainly due to the global growth as a result of globalization, creativity and innovative strategies underpinned by the internet and advanced digital technologies, exploration of new international trade networks, extensive discovery and extraction of the available natural resources such as natural oil and gas, and internal clustering of SSA firms among countries. These strategies have been broadly linked to the theories of; a) Globalization by Held, McGrew, Goldblatt, & Perraton, (1999), b) Global networking by Robert Huggins and Piers Thompson, (2013) c) Location factors by Weber A, (1929); d) Comparative advantages by Ricardo, (1817), e) Competitiveness by Porter, (1990) and Global economies . Foregoing, SSA holds an endowment of resources which can be factored into operationalization to enhance economic growth and development. Indeed this revival cannot be taken for chance and sustaining this newly development squarely depends upon how effectively African countries, both individually and collectively, will respond to the challenge of rising up to compete in the global markets. This thesis therefore aims at explaining how the level of development advancement is influencing the ability of Sub Saharan
Africa to compete in the international economies. The research looks into the kind of levels, trends and factors of development that the SSA countries should put in place not only to compete but also to be ranked as a developed or an efficiency driven continent (Kwame, J. 2011).

1.3 Research objective
To explain how the level of development advancement is influencing the ability of Sub Saharan Africa to compete in the international economies.

1.4 Research questions
What are the main factors affecting development in Sub Saharan Africa and how do they influence its position in the global competitiveness hierarchy?

The specific sub-questions that guide the research are;

- What growth patterns and trends of foreign investments exist between Sub Saharan Africa, S. E Asia and Europe?
- How does the level of development advancement of Sub Saharan Africa influence its capacity to compete in the international economies?
- How do the factors of development determine foreign investments in the Sub Saharan region?
- How does Sub Saharan regional growth of development compare with the first and second world developments?

1.5 Significance of the study

- Scientific significance: The study will add knowledge to the subject of economic development and ability of countries to compete. It presents themes on global economies, development advantages and the levels of development in the world. This underpin understanding of the aspects of development a country deserves to compete adequately, rise to a higher rank in the competitive hierarchy or sustain its capacity to remain at the top.

- Policy relevance: The research will help policy makers in the developing countries to formulate strategies that prioritize development aimed to realize advancement, efficiency in operation, enlargement of market sizes, integrated economic ports and competitive economic environments that will attract foreign investors and in return lead to economic growth and spillover effects of knowledge and improved living standards. For the case of S.S. Africa the development policy frameworks, both individually at country level and collectively at regional level to be revised to suit the European and S.E Asian strategies.
1.6 Scope and limitations

The research focuses on reigniting the capacity of developing countries to compete in the global economies. The scope of the study is on Sub Sahara Africa, located on the Southern part of Sahara desert in Africa. It is a continent that has undergone a depression in economic growth for over three decades, even though it holds massive natural resources that are yet to be explored. The limitation of the study is on its scope and its exploratory type of the study methodology.

1.6.1 Geographical Scope

The geographical scope of this thesis is based on the aim to undertake an academic research on Sub Saharan Africa, a region that has been classified and characterized by under development for decades and also the need to give possible recommendations to enhance the capacity of this region to compete effectively in the world economies (World Bank 2013). The research thus focuses on three stratified regions of unique competitive characteristics, ranging from the most competitive with innovative and sophisticated economies, those with efficient ability to compete with the ability to manufacture and process resources to the regions that only specialize in producing raw materials with primary and basic services and infrastructure facilities, that do not form a favourable environment for attracting FDI investments. Proportionally and based on the Global Competitiveness Index report, the top ranked countries, from these regions are selected (Schwab, K. 2013). Accordingly, Europe region represents the first world, South East Asia the second world and Sub Saharan Africa the third world, as shown in the scheme below. For further examination and assessment, Sub Saharan Africa is divided into four main parts namely, the West, Central, Southern and East Africa. This research could also be applied at a country and a city level depending on the availability of data. In respect the research focused on comparing the competitiveness of Kenya - S.S Africa and Singapore – South East Asia.

Fig 1: Levels of study. (Source: Author, 2014)
1.6.2 Data preparation

In preparing the data for analysis, it was important to evaluate, scrutinize for the validity and reliability and check the missing observations. The limitations that arose were due to; the data having missing gaps, the data being modified by the researcher, due to electronic format incompatibilities, data dynamics as a result of data decay over time, censored or purge and the confidentiality requirements that lessened its usefulness (Ut Tran Thi 2013). In solving the above mentioned limitations, I sought the advice and expertise of my supervisor and colleagues. I also cleaned the data by removing the incomplete figures and filling the missing gaps with a dot since the programme recognized a dot as a missing figure and not a zero. In addition, I sorted out the data as per the variables and indicators for ease of analysis, evaluation and comparisons of the models.

Fig 2: Geographical scope of study. Source: Author, 2014 – Arc map extract.
CHAPTER 2: LITERATURE REVIEW

2.1 Chapter 2 guidelines.

The following literature review expounds on the aspects that defines the development advancement stagnation phenomenon of SSA, and its position in the world. It also features the potential the region holds in rising up again, given that, economic development undergoes phases of growth before attaining sustainability. The chapter presents the following themes:

- **Globalization**: Integration of global regions free from border restrictions in transfer of policies, knowledge and movement of goods and people.
- **Competitive advantage**: The dynamic and innovation characters which determines the levels of productivity and competitiveness of firms in the global network systems.
- **Location factors**: Characteristics (hard and soft) of a region to attract firm activities or operations.
- **Global agglomeration/clusters**: Global regional clusters are the effect of competitiveness.
- **Global economies**: Countries engage in international trade because they differ in their factor endowments.
- **Global economic networks**: Regions being part of the global networks for capital investments, information sharing and innovation.
- **Big Push**: Massive increase in foreign aid and synchronized augment in aggregated investments of various economic sectors which are aimed at alleviating poverty and accelerating rapid growth.

2.2 Globalization

Globalization denotes that the world is “flat” (Ohmae, K. 1990). It refers to the phenomenon whereby the world has shrunk, with shorter distances and the movements of things have been quickened (Al-Rodhan, NRF 2006). This phenomenon, involves transfer of knowledge and policies across borderless world, integration of global economic systems with market free from politics and intensification of socio-cultural interactions resulting into a global village (Albrow, M 1990).

“…globalization means the onset of the borderless world...” (Ohmae, K. 1990, p.169)

Al-Rodhan, NRF (2006), notes that since the 1950s, the globalization wave gradually increased; picking up considerably in 1980s. This acceleration was fueled by, technological advancement; leading to a faster, less costly and up to date analyses of economic trends in the world making it possible for firms to locate their subsidiaries in other host countries, and economic policies that opened domestic and international economies through import tariffs, quotas, export restraints and legal prohibitions. These factors were underpinned by World Bank, International Monetary Fund (IMF), General Agreement on Tariffs and Trade (GATT), and the World Trade Organization (WTO) (Soubbotina, T.P 2000).

According to Scholte, J (2002) Globalization is a multifaceted phenomenon with both positive and negative outcomes, whereby on one hand it’s seen as a source of modern failures of the local
companies in developing countries enriching the multinational corporations in developed or first world, while on another as a tool for prosperity enabling improvement of living standards and economic development of poor countries. Overall it plays a key role in shaping the world from the conventional approaches to the modern diverse frameworks that are both beneficial and competitive. This notion brings out the aspect of togetherness in the worldly decision making where cultural beliefs, economic dynamics, legal standings and political differences have been homogenized.

“Globalization can thus be defined as the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa.” (Giddens, A 1990, p. 64)

Technological spillovers enable developing countries to catch up with the advanced economies in aspects of productivity and development. It is noted that, globalization has boosted the economic growth of the developing countries in Asia, Latin America and Africa. However, the engagement of Sub-Saharan Africa in the world economy has been declining over the decades, since the benefits of globalization come with risks and new challenges. Therefore governments of developing economies focus on protecting their infant industries till they acquire adequate capacity of competitiveness with less vulnerability to the foreign competition. Nevertheless this leads to economic stagnation as a result of the protectionist policies. A considerable number of SSA countries has not tested the significance of this trade expansion and on the contrary realize a proportional drop in their production output. Therefore it is important for every country to find its right position in the international division of labour as per its comparative advantages, through diversification of production and exports (Soubbotina, T.P 2000). In essence globalization is evolutionary and keeps changing with development of the world economies (Al-Rodhan, NRF 2006).

2.3 The theory of competitive advantage

For centuries regions and countries have been trading products and goods at local, regional and at global scales. The regions and the countries trading always aim at producing and maximizing profits in the products and goods they have the ability to provide at a minimum cost of production using the available resources. According to the Ricardo’s theory of comparative advantage, a country benefits by specializing in the product in which it has comparative advantage and trading that good for the other products from another region or country specializing in the demanded good underpinned by local endowments (labour, capital, land and resources) (Ricardo,D. 1817). Therefore the theory of competitiveness begins from the aspect of national or regional productivity (Constantin, F. 2004).

In the contemporary world, the concept of competitive advantage has been an important aspect in the production and trading of goods in the world networks. It is evident that the nature of competition and the sources of competitive advantage are unique among industries and a region has the ability to influence the competitive advantage of a given industry (Porter, M. E 1990).
According to this theory, the competitiveness has a dynamic and an innovation characters which determines the levels of productivity and competitiveness of industries in the network systems. This concept is based on the diamond determinants, and a region or a country has success where the national diamond is complimentary (Frăsineanu 2008). These determinants are namely; a) the factorial determinants - the endowment of a country with factors; b) the determinants of the demand - the features of the internal market; c) up and downstream industries; d) the strategy and structure of the companies and the rivalry – the domestic competition; e) chance; and f) government.

The factorial determinants are the vital and crucial factors of production. They are classified into: Primary factors -which include natural resources, climate, geographical position, skilled or non skilled labour and advanced factors –which consist of the infrastructure, high-skilled labour, competitive innovative institutes and automated systems that are created with time and under huge investments. According to the Porter’s theory, the competitive advantage is created and for a country or a region to become competitive it must innovate new factors of production as well as improve the existing primary factors (Negriţoiu, M. 1997).

The Demand determinants are important in that, a nation is competitive if its domestic demand is strong enough to generate innovation faster than other countries. According to Porter, the development is self motivated and massive investments for production of the goods are always made in a developed country of a huge domestic market, contrary to the developing country with limited domestic market, where the only opportunity to reach a scaled economy is to internationalize. Through this the domestic market can develop the competitive advantages by internationalizing the domestic demand and the distribution of the national products abroad (Porter, M. E 1990).

Up and downstream industries plays a role in determining the comparative advantage of the nation by showing how it is ranked in the international market. Accordingly, a country is said to be more competitive if it has a specialized and concentrated horizontal and vertical industry that brings innovation and with the ability to network internationally in the global market (Porter, M. E 1990).

The strategy and structure of the company and the rivalry among them refers to the setup and the organization of companies of a country. They gain competitive advantage through the way they are managed in regard to the proposed objectives and the applied strategies of the host country. A stiff competition in the domestic market motivates the companies to promote new products on the market and to realize new markets to generate growth. This is supported by the government policies that encourage the establishment of new investments, enhancing the growth of the competition and thus sustaining the competitive advantage. Moreover the government can also influence the national market by provision of education, regulating the domestic market, creating a competitive infrastructure, cutting on costs and time limits (Porter, M. E 1990).

According to Frăsineanu, no country is competitive in all fields and those industries that succeed in a complex competitive domestic market are the ones that find a position in the international market scale (Frăsineanu. 2008). The national economies undergo phases of development which reflect the strength of a country in the international market and the status of the company’s
successive global network. These stages are: the stage of the advantages based on factorial endowment; investments; innovation and the national wealth. The nations cross these stages progressively one after the other, depending on the capacity of the country to grow (Constantin, F. 2004). According to Porter, the first stage shows that the economy of the country is pertinent to the global economic systems. In stage two, the national competitive advantage is based on the ability and capacity of a country and its companies to heavily invest. The third stage, involves the time for enhancement of the competitive advantages and the sustainable growth of the economic prosperity. The fourth stage refers to the continuous innovation and growth in order to sustain the accumulated wealth that was created in the past. This is as a result of market dynamics and company strategies which change often with the introduction of new managerial systems. In the current situation of the world economic market of regionalizing and globalizing, it is uncertain to conclude which countries or industries have the excellent strategies to create and sustain the competitive advantage in the respective phases of development (Frăsineanu. 2008).

2.4 Industrial location theory

The world today has become complex and each region is competing to be part of the global network. According to Alfred Weber in his Industrial theory, it is revealed that, similar industries are located in areas they can produce at a lower cost and also have the ability to market their products under limited constrains. Industries that produce similar products are often clustered in regions that enable them to reduce their costs of manufacturing (materials, labour, and transport) and also be in a position to find markets for their commodities. In this strategy, they earn greatest volume of sales at a limited cost of production thereby marketing the product at the least cost to the consumer (Weber, A, 1929). Additionally, the industries that are not within these aggregated regions of endowment with strong connections to large markets are often unable to compete adequately thus getting knocked out of the global system (Massey, D. 2006).

As a classical theory, it is assumed that all consumers have absolute access to the market knowledge i.e. they are aware of the products on market, their types, costs and quality and often their preference is based on a variety of alternatives which are cheapest and of quality. This introduces the aspect of the market price reaching equilibrium between the demand and supply. Weber further realized that the most successful businesses were located in regions which allowed the least cost of production to be actualized such as economic activities locating themselves in around pioneering industrializing areas, leading to agglomeration of activities (Weber, A, 1929). This notion leads to regional competition, where it heavily relies on cost minimization in a closed economy where the comparative advantages in factors of production influences the decision making of industry location (Porter, M. E. 2000)

This concept demonstrates that the location of an industry in a region is determined by a number of factors. Weber's reasoning is that the cost of transport, the weight (material index) of raw materials and end products, the type of skills required and the accessibility to the market determines the location of industry. These determinants define an industry’s location, its main purpose and orientations as noted below.
1. **Material oriented industries** - these industries are called "weight-losing" or bulk industries, and their manufacturing occurs near the raw materials. They include primary activities (or extractive industries) such as timber mills, mining and most agricultural activities (Weber, A, 1929).

2. **Labour oriented industries** - these are industries, which require cheap unskilled labour to complete activities that have not been mechanized, such as garment industries and skilled labour as well for high tech firms, such as those located in Silicon Valley, which require exceptionally skilled professionals (Weber, A, 1929).

3. **Transport oriented industries** – refers to industries with the primary production cost being transport and located in "break-in-bulk" regions where they have access to two or more modes of transportation. This allows the use of the cheapest transport available (Weber, A, 1929).

4. **Market oriented industries** – they are industries that produce breakable or perishable products. These industries overlook the high costs of labour and land to have access to markets for their end products, such as coca-cola or bottling industries and dairies among others (Weber, A, 1929).

In retrospect the theory shows how production costs (labour, materials/resources and transport) determine industrial location. Further, it opens our eyes to question if economic development in developing countries can be regenerated by investing in the major factors of production in order to attract location of industries or investments. It also sheds light in defining which markets are of importance to our industrial products.

2.5 The theory of Agglomeration / Clustering,

The concept of agglomeration shows a real world condition of two extremes of the epicentre and the periphery structure reflecting the first world countries clustered in micro industrial centres in the Northern hemisphere where the output products per capita progressively declines with distance as one moves away from the epicentre zones (Fujita, M. 2002). Indeed agglomeration benefits accrue as proximity reduces transport costs. In his work Marshall, A. (1920) presented three types of transport costs, namely the costs of moving goods, people, and ideas that are minimized through clustering. Firms will always locate near suppliers or customers to save shipping costs- Industries collate to lower transportation costs for acquiring raw materials and also delivering the end products to the customers. Industries prefer to spend much on other factors when these raw materials are obtained at a distance from the prospect market (Glenn, E. 2010). Labour is a vital element in agglomeration and it arises because workers are able to move across firms and industries of similar kind of work and workers. Agglomeration also brings about the effect of knowledge spill over which enhances learning and the rate of innovation (Glenn, E. 2010).

From studies, economic activities are configured by two forces of central (agglomeration) forces and centrifugal (dispersion) forces (Fujita, M. 2002). Individuals come together to benefit from the advantages of the division of labour. Besides, accessibility, economic agglomeration, and the presence of externalities, mutually influence invention of knowledge flows, learning and innovation which usually occur in a structured region such as Guadalajara area in Mexico. Agglomeration comprises of supporting and synchronizing institutions and agents that collaborate with the core producing companies or individuals in the region (Palacios, J. 2005).
Marshall, A. (1920) further reveals that, externalities play an important role in forming economic clustering thus creating a closed effect of such externalities as; accumulated production, formation and use of advanced technology, availability of specialized input services, and properly developed modern infrastructure. However, according to Palacios, J. (2005) the FDI groupings located in 3rd world nations are susceptible to pressures exerted by external factors, for instance the Jalisco’s electronics industry sag which was caused by the 2001-2003 USA economy crunch resulting to the migration of numerous projects and plants to China from Guadalajara (Palacios, J. 2005).

In the twenty first century, the regional development significantly improved through network frameworks. These networks have minimized distance between nodes and in return lowering transportation costs. The networks may also substitute agglomeration if the related nodes are unnoticeable. This means that small regions (developing) may thrive in production, consumption, acquiring knowledge and transacting businesses (Johansson, B. 2004). Therefore location differences will gradually disappear since the clustering forces will be weakening. Indeed the increased provision of high-speed transportation and the real time information technologies reveals the shortening of distances between the existing world clustered and un clustered regions and thus the world becoming a global village (Fujita, M. 2002).

2.6 Global Economies

Since ancient times, regions have engaged in trade where goods and services were exchanged. Trade is an important aspect in the world in the modern times and it is through trade theory that we can find out how beneficial it is for a region or a country to engage in international trade even for the products it is in a position to provide within its borders. Indeed, international trade enables a country to; - specialize in the manufacture and export of goods it can produce efficiently and also import goods that can be produced more efficiently in other nations (Charles, W.L. Hill, 2008). In the mid – 16th century the Mercantilism, concept of trade emerged in England. It showed that it was in a country’s best interest to hold a trade surplus or its treasure (gold), i.e. a nation could export more than it imports. This led to the realization of governments imposing restrictions on imports and also subsidizing products which were unable to compete in the local or export markets. According to Mercantilism, colonies exported products to their home countries and at the same time they traded with their colonies (Daniels, Radebaugh. 2001).

The fading of Mercantilism in 1800’s, led to the introduction of the concept of free trading. Free trade is an aspect where a government does not have any control on what its citizens can buy from another country or what they can produce and sell to another country. This influence is often through quotas or duties (Charles, W.L. Hill, 2008). In 1776, Adam Smith criticized the mercantilist and argued that a country with an absolute advantage efficiently produced products for export to other nations that are not in a position to produce it. He asserted that, every country specialized in products that gave it a competitive advantage whereby; labour became more skilled by repeating tasks; no time wastage in changing phases of production and long range production of goods acted as an incentive for innovating better methods of production.

According to Ricardo, D. (1817), benefits from trading will still be realized even in a country that has absolute advantage in all its commodities since the country is obligated to give up less-efficient output to produce more-efficient goods. Ricardo based his argument on comparative advantages and not absolute advantages (Charles, W.L. Hill, 2008). Hecksher-Ohlin also
emphasizes that, countries differ in their factor endowments and only specializes in producing those products it has a higher comparative advantage for exporting purpose (Sunanda, S. 2010).

In the mid-1960s, the product life-cycle theory was coined by Vernon, who suggested that, as goods continue to be produced in large quantities, the market locality and the production area will also transform affecting the flow and direction of trading (Charles, W.L. Hill, 2008). Under this, the product goes through four phases of development, namely; a) The innovation, production and sales of the product in the mother country; b) the competitive and growth of products, which is exported to other nations that do not have the technology and skills to manufacture the good; c) the maturity stage, which involves decline in export of the good with more standardization of the production and production start-up in the emerging countries; d) the decline phase where production increases in the emerging countries the innovating countries becoming the net producers. Accordingly, it is further shown that, most of the international trade occurs between industrial countries that have similar attributes, i.e. a country sells its products to a nation with market attributes similar to its home markets, the increased importance of acquired advantage as compared to the natural advantage, the sizes of the markets, historical colonial and political relationships and economic agreements. Further, the degree of dependency determines how a country features in the international trade. For instance, an independence condition is when a country does not opt to use goods, services or technologies from other nations; an interdependence situation, where trade is based on a mutual need and none of the parties’ cuts off supplies anticipating retaliation; and the dependence condition involving the developing countries relying boldly on sale of one primary product for export earnings (Daniels, Radebaugh. 2001).

The failures of the conventional trade theories resulted in the development of the new trade theory that was realized by Helpman (1981), Krugman (1979), and Lancaster (1980) in the late 1970s and 1980s, who aimed at explaining significant facts about post World War II trade data. They designed the new trade theory to account for; a) the increase of trade as compared to world GDP, b) answer why the international trade had concentrated among the industrialized countries and the reason behind the intra-industry trade among the industrialized countries. The theorists argued that, the increasing returns were the main reason why trade in differentiated products was more than the homogeneous goods sold (Raphael, Bergoeing. 2003). The new trade theory implies that due to the economies of scale and increasing returns to specialization, in certain industries we shall only have a limited number of firms in the world that maximize on profits (Charles, W.L. Hill, 2008).

2.7 Global economic network

The global economic network by the Multinational Companies (MNCs) and their subsidiaries across the world plays an instrumental role in the integration of all nations in the world. This new global economy is as a result of lower costs on transport, liberalization policies, modern technologies, unification of institutions and openness of capital (McCann, P. 2008). Global competition across national borders has enabled firms to disperse in major global markets and also create international linkages through integrating their activities on a world wide scale (Ernst,
Nevertheless these networks are unfairly geographically distributed, with centralized decision making institutions and investments limited to a few clustered regions. (Wall, R. S. 2011).

According to Huggins, R (2013), Network capital is defined by the type of inter-organizational networks in regions and the flow of knowledge within the channels. Theories of regional development based on endogenous development, agglomeration, clusters and innovation systems reveals that, industries in productive areas use the network capital as a platform for economic profits. Organizations located in less achieving areas often have a poor network capital base culminating into sourcing of inferior data leading to minimal growth rates. Therefore competitive achievement depends on the ability of the firm to obtain advanced capabilities from other advanced firms (Ernst, D. 2002). Indeed creation of new ideas gives birth to a diverse economic system and exploration of new networks even though the cost of establishing knowledge channels increase by distance from one node to the other. Additionally Innovation is not a matter of being in the right location but being in a proper network of adequate local knowledge. The predominant phenomenon of growth is determined by the knowledge base; whereby the most productive regions of the world are connected within networks that seem closed and with only a few actors. Empirically it is noted that, the global economic network system is concentrated in the core regions of North America, Europe and Asia. South America and Africa seem to be on the very periphery of this system (Wall, R. S. 2011).

The Global Production Network (GPN) has enabled ease diffusion of knowledge across the world availing economic opportunities in lower cost locations in the developing nations. Depending on the product structure of the GPN, every region experiences unique opportunities and constraints, and for the developing nations an absorptive capacity level should be attained to enable assimilation, adoption and acquiring of the imported technology. For example in the production of a television, the R&D is done in Japan and USA, provision of components by UK, Germany, Malaysia and South Korea and finally assembled in China, Thailand and Mexico where labour costs are minimal (Ernst, D. 2002). This network system is categorized into: a) Centralized global production – performed in one nation (or region), b) Regional production – each region produces goods in relation to the regional market in reference to the area accessibility, c) Regional specialization – production in response to the comparative advantages and d) Vertical transnational integration – involves sector production of goods with different regions playing part in the process depending on their comparative advantages (Helleiner, E. 2009)

According to Helleiner, E. (2009), the developing nations have enormous resources that if properly pooled together can create a positive impact in the global economies. This can be possible if the developed countries can offer technical support which can be in form of FDI. The global economic networks could be static with same members not changing or dynamic where members leave and others are added. Wall, R. S. (2011) asserts that the creation and increase of MNC networks is through FDI, which are categorized as: Horizontal FDI, which involves firms
duplicating number of home-country activities abroad in search for markets and Vertical FDI whereby firms portion their activities geographically, motivated by low costs of production. Arguably the FDI could be a complement to foreign trade and countries that provide cheap financial capital to MNCs to enable rapid expand and growth of the network (Rozin, et al 2004).

2.8 The Big Push theory
Most developed countries that experienced rapid growth in productivity and improvement in living standards over the past decades realized this through industrialization. The underdeveloped nations have not put up with this growth due to the small sizes of their domestic market which limits the firms to maximize on increasing returns on sales (Murphy, Kevin M 1988); and a country cannot industrialize, if spillovers between industrial activities exists, that is, development growth cannot be realized unless there is an aggregated network of all complementary sectors (Rosenstein-Roda, P.N. 1943). The capacity of industrializing one sector to broaden the size of market of other sectors, with properly coordinated investment systems is the platform of the 'big push' concept which was introduced by Rosenstein-Roda, P.N. (1943). Rosenstein-Roda, P.N. (1943) coined that, if aggregated sectors in an economy could adopt increasing returns on modern technologies simultaneously, they could create a market for goods from other sectors as a result of the increased income thus enlarging the market sizes and promoting industrialization.

Bateman, F. (2009) thus expounds on the big push approach as: "According to the 'big push' theory of economic development, publicly coordinated investment can break the underdevelopment trap by helping economies overcome deficiencies in private incentives that prevent firms from adopting modern production techniques and achieving scale economies. These scale economies, in turn, create demand spillovers, increase market size, and theoretically generate a self-sustaining growth path that allows the economy to move to a Pareto preferred Nash equilibrium where it is a mutual best response for economic actors to choose large-scale industrialization over agriculture and small-scale production."

In essence the Big Push entails a massive increase in foreign aid and synchronized increase in aggregated investments of various economic sectors which are aimed to alleviating poverty and accelerate rapid growth. The policy making community emphasizes that, developing nations are wobbling in a poverty trap, a condition that can be solved by aid financed by the developed countries. It is noted that, if this is not done, then developing nations shall remain poor indefinitely. Thus a rapid takeoff is the classic way for underdeveloped countries to become rich (Easterly, W. 2005). Therefore foreign aid is an essential catalyst for investment that would lead to the rapid takeoff (rapid economic growth) (Abuzeid, F. 2009).

The term “foreign aid,” in this context, refers to Official Development Assistance (ODA) which is the flow of concessional official funding to the developing nations consisting of grants and loans with a minimum of 25 percent grant component. ODA mainly comprises of bilateral aid
that is wired directly from the donor nation to recipient governments in the developing countries and multilateral aid that flows through an intermediary authorizing institution such as the United Nations and World Bank (Abuzeid, F. 2009). For instance, the total foreign aid channeled to Sub-Saharan Africa within 50 years was approximated to be $1 trillion (Erixon, F. 2005).

The Big Push model has received immense consideration in East Asia and South America where pro-active investment policies have been in operation (de Fontenay, Catherine 1999). Empirically, it is noted that, the economic growth of the Latin American countries was due to the big push strategy, which was enhanced by the huge public capital investments after World War II and the great economic depression periods (Easterly, W. 2005). However the implementation of this approach in the developing nations requires the government to actively foster market competition through a range of policies that are not affordable (de Fontenay, Catherine 1999). Consequently, the Big Push theory mandates the State the role of fostering and managing complementary investments, which in return improves the country’s welfare (Easterly, W. 2005).

According to Sachs, J. D. (2005) the foreign aid aims at augmenting the capital stock adequately above the threshold level (the Big Push): “if the foreign assistance is substantial enough, and lasts long enough, the capital stock rises sufficiently to lift households above subsistence. Growth becomes self-sustaining through household savings and public investments supported by taxation of households.” (Sachs, J. D. 2005, p. 246). Indeed while foreign aid increases government earnings, the poor who are in need of this funding economic uplifting do not actually benefit since the funding is channeled to unrealized projects, falsified procurement and state expenditures that become a milking cow for corrupt officers and government ministers (Abuzeid, F. 2009). Erixon, F. (2005), asserts that, in the past half a century, of Sub-Saharan Africa receiving donor funding, the region has registered declined growth in its GDP per capita. This phenomenon could be as a result of the high level of foreign funding dependency by the developing countries over this period. To ensure sustained and growth in per–capita incomes in developing countries, proper government structures and institutional frameworks should be in place (Abuzeid, F. 2009). In making grants or dispensing foreign funding, the donors or the international organizations such as IMF, UN and World Bank show no discrimination against corrupt states. Though huge amounts of funding have been and are still being allocated by the developed nations for Sub-Saharan Africa development, the long awaited “takeoff” is yet to be realized. According to the World Bank predictions, for instance, foreign aid wired to Zambia, since 1960s, ought to have increased the national per-capita income to above $20,000, by 1998, but as per the statistics, her income per capita had stagnated around $600 for years (World Bank, 1998). It is therefore evident, that, the export/import substitute sectors are still backward in developing countries because much emphasis is laid on infrastructure and other social welfare projects rather than modernizing the agricultural sector as the main source of export products to compete globally (World Bank, 1998).
2.9 Conceptual framework

Competitiveness is a phenomenon in which the global regions compete in attracting investments (FDI) by firms, people and knowledge. These regions are stratified into three major categories depending on the number of firm investments they host and their position in world production levels. These are; a) Resource driven, b) Efficiency driven and c) Innovative driven economies. In order to compete highly, each region aspires to create an environment with competitive advantages, which attract most investors. Those regions that are not able to put up with the stiff competition of developing proper economic frameworks and facilities attract fewer investments and in turn may not grow economically thus stagnated development advancement.

Fig 3: Conceptual framework (source; author, 2014)
The Innovative driven economies (1<sup>st</sup> world), comprises of those regions or countries that are ranked top in the global competitive index followed by the efficiency driven economies (2<sup>nd</sup> world) that hold competitive advantages but lack adequate capacity to be ranked among the top indexed countries. The resource driven economies (3<sup>rd</sup> world) consists of those regions or countries with comparative advantages and no or less competitive advantages (A complete list of countries per region is shown in annex 1).

The conceptual framework therefore shows how the development advantages are brought about through the theories of economic geography, how firms behave in the world economies and who competes in attracting firms for investments. Further, the level of development confirms that, no region acquired its position by just being what it is, but rather after undergoing certain phases of growth and development, i.e. the economies in the innovative and efficiency levels were once in the resource driven economies before advancing to their current positions. It is out of this reasoning this thesis argues that, 3<sup>rd</sup> world countries being in the resources driven phase hold the capacity to advance to the innovative driven economies and are in position to compete with the top ranked economies if they can acquire the needed competitive advantages.

2.10 Abstract for literature review

In the contemporary world, globalization has enabled global regions to interact collectively enhancing transfer of policies, knowledge and movement of goods and people. This is enabled by the advanced infrastructure and modern communication systems that has made the world borderless. Each region in the world is uniquely defined by location factors of development that bring about competitive advantages that determine the levels of development advancement. This difference of factor endowments leads to global economies where every region strives to import goods and services it lacks in order to progress and those that have export at a higher price for profit maximization. Global economies thus results into competitiveness whereby regions keep pace with the world economic trends and at the same time being in a position to attract the most foreign investments from abroad. To develop, strategically regions align themselves in global networks for capital investments information sharing and spillover effects of innovation. Therefore competitiveness and global networks results into regional groupings known as agglomeration; that is, the most developed areas in the world amazingly clustering together while the less developed regions positioning themselves on the periphery of the global economies. These regions on the periphery often seek for support from the developed nations, the so called ‘Big Push’ for rapid growth to alleviate poverty and other development deficiencies. SSA is part of the global network system but aligned on the periphery of the system. This section of literature defines how SSA features in the world economies and its level of development advancement which is empirically tested in chapter 4. Therefore the following chapter 3 gives the design and the methodology of how this literature review is linked to the empirical analysis which later on the conclusion of the research.
CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

The research applied a quantitative approach, which was based on Foreign Direct Investments (FDI). The data was sourced from the secondary database of fDi Markets which covers greenfield investments and includes information on firm, origin and destination country, firm activity and year of investment and distance of the network between the origin and destination nodes. The variables and indicators which made the independent variables were based on the indices as in the Global Competitive Index report 2014, the United Nations Conference for Trade and Development (UNCTAD; 1980-2012) and the United Nations NGOs reports, 2014 and The Organization for Economic Co-operation and Development (OECD). The data types used in the research were: Continuous data and discrete data (Nominal/categorical data and Ordinal Data). The research simultaneously apprises a number of contributing factors as x variables, in relation to the variation in y variables, at a high level of accurate predictions, therefore the use of the modeling statistical techniques.

3.1 Revised research questions.

What are the main factors affecting development in Sub Saharan Africa and how do they influence its position in the global competitiveness hierarchy?

The specific sub-questions that guide the research are;

- What growth patterns and trends of foreign investments exist between Sub Saharan Africa, S. E Asia and Europe?
- How does the level of development advancement of Sub Saharan Africa influence its capacity to compete in the international economies?
- How do the factors of development determine foreign investments in the Sub Saharan region?
- How does Sub Saharan regional growth of development compare with the first and second world developments?

3.2 Operationalization: variables and indicators

3.2.1 Description of the Data and variables

a. Dependent variable.

The analysis covers an aggregate of countries, in three regions; Europe – 40 countries, S.E Asia-11 countries and SSA – 35 countries for a period 2006 – 2012. The dependent variable for the research is the FDI numbered. This is because FDI is viewed as an indicator of competitiveness of a country or a region. Unless stated the data on FDI was sourced from the professional database of fDi Markets, and consists of a number of attributes for the selected firms.
The number of countries and the variables included in the regressions were determined by data availability. The summary statistics are shown in table 3.1 while derivation of variables shown in table 3.2.

### Table 3.1: Summary statistics

<table>
<thead>
<tr>
<th>Variable / Indicator</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable = FDI numbered</td>
<td>923</td>
<td>0.00</td>
<td>4448.00</td>
<td>106.43</td>
<td>315.00</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>2.08 Mobile telephone subscriptions/100 pop.</td>
<td>922</td>
<td>0.25</td>
<td>232.07</td>
<td>79.01</td>
</tr>
<tr>
<td>Market size</td>
<td>9.04 Individuals using Internet, %</td>
<td>922</td>
<td>0.08</td>
<td>7700.00</td>
<td>308.77</td>
</tr>
<tr>
<td>Labour market</td>
<td>7.02 Foreign market size index, 1–7 (best)</td>
<td>923</td>
<td>0.64</td>
<td>7.00</td>
<td>4.19</td>
</tr>
<tr>
<td>Innovation</td>
<td>10th pillar: Market size, 1-7 (best)</td>
<td>923</td>
<td>0.33</td>
<td>6.93</td>
<td>3.75</td>
</tr>
<tr>
<td>7th pillar: Labor market efficiency, 1-7 (best)</td>
<td>7.01 Cooperation in labor-employer relations, 1-7 (best)</td>
<td>923</td>
<td>2.79</td>
<td>5.95</td>
<td>4.36</td>
</tr>
<tr>
<td>Foreign aid</td>
<td>7.03 Hiring and firing practices, 1-7 (best)</td>
<td>923</td>
<td>2.89</td>
<td>6.32</td>
<td>4.46</td>
</tr>
<tr>
<td>7.06 Reliance on professional management, 1-7 (best)</td>
<td>923</td>
<td>1.97</td>
<td>6.11</td>
<td>3.89</td>
<td>0.80</td>
</tr>
<tr>
<td>12th pillar: Innovation, 1-7 (best)</td>
<td>12.01 Capacity for innovation, 1-7 (best)</td>
<td>923</td>
<td>1.68</td>
<td>5.84</td>
<td>3.39</td>
</tr>
<tr>
<td>12.02 Quality of scientific research institutions, 1-7 (best)</td>
<td>923</td>
<td>1.53</td>
<td>6.14</td>
<td>3.32</td>
<td>0.95</td>
</tr>
<tr>
<td>12.06 Availability of scientists and engineers, 1-7 (best)</td>
<td>923</td>
<td>1.68</td>
<td>6.35</td>
<td>3.86</td>
<td>1.01</td>
</tr>
<tr>
<td>Cluster effect</td>
<td>3.1 Reliance on professional management, 1-7 (best)</td>
<td>923</td>
<td>2.16</td>
<td>6.29</td>
<td>4.18</td>
</tr>
<tr>
<td>FDI inward stock</td>
<td>872</td>
<td>0.72</td>
<td>3931976.00</td>
<td>135102.94</td>
<td>357413.16</td>
</tr>
<tr>
<td>Bilateral donor flow</td>
<td>177</td>
<td>8.54</td>
<td>11428.02</td>
<td>1008.86</td>
<td>1108.55</td>
</tr>
<tr>
<td>Multilateral donor flows</td>
<td>177</td>
<td>-4102.47</td>
<td>4590.54</td>
<td>1010.70</td>
<td>948.43</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>177</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Author, 2014 based on fDi market data; GCI, 2013; UNCTAD (1980-2012) & OECD data.
b. Description of explanatory variables.

These variables are the various competitive characteristics of global regions. They include; infrastructure, labour market efficiency, market size, innovation, network effect, cluster effect and foreign donor flow. The variables are derived from the Global Competitive Index report which shows the competitiveness of countries ranked according to their performances (Schwab, K. 2013), UNCTAD (1980-2012), and UN NGOs database & OECD respectively. They are explained below:

i) Infrastructure
Globalization has transformed the world into a global village shortening the distance of interaction between and among people, firms and regions. This is done through infrastructure and two measures are employed: Mobile telephone subscription/ 100 Pop and Individuals using internet. The more people using telephone and internet, the more developed the infrastructure of a region. The estimated coefficients for the two indicators is expected to be positive.

ii) Market size
Trade plays a significant role in the growth of a region. According to Constantin, (2004), no particular country is endowed with adequate goods and services for its development thus, seeking the lacking products from another nation. In the contemporary world, export of products substitutes the domestic demand for firms in a region. In analyzing this variable, the indicator applied is the foreign market size index to measure the value of exports from a region. The estimated coefficient is expected to be positive.

iii) Macroeconomic - labour market efficiency
A stable macroeconomic environment enhances attraction and investments to an area. From the literature, it is pointed out that firms cannot operate efficiently in a country with unstable micro environment of labour market deficiencies. The measures applied are; Cooperation in labor-employer relations, Hiring and firing practices, and Reliance on professional management. The estimated coefficients of results should be positive for all the indicators.

iv) Innovation,
A country or a region that has matured economically aspires in creating more advanced goods and services above its competitors in the world. Such regions attract much foreign investments leading to accelerated growth and enhanced living standards. The indicators for analyzing this variable are: Capacity for innovation, quality of scientific research institution and availability of scientists and engineers. Capacity for innovation measures the degree at which a region is creative to invent products; quality of scientific research institution indicates the effectiveness and efficiency of the research framework of a country; while availability of scientists and engineers determines the degree at which knowledge is spread within a region. The estimated coefficients should be positive.
v) Network effects
According to Ernst, D. (2002) firms in the global economies create international linkages by integrating their activities on a world wide scale through the global economic network systems. The competitiveness of a region depends highly on it being in the proper network system of adequate local knowledge. Developing nations have benefited greatly from availed opportunities created by the network effects which mainly is easing of transfer of skills and knowledge across nations. To measure this effect, FDI source to destination distances in Kilometers are taken as an indicator. The expected coefficient should be positive.

vi) Cluster effects,
Agglomeration of firms in a region brings about division of labour, reduced transport costs and the effect of knowledge spill over which enhances learning and the rate of innovation (Glenn, E. 2010). Clustering effects are a catalyst to the development of a region. In measuring this variable, I applied the FDI inward stock which is the aggregated foreign investments to a region over a given period of time. The estimated coefficient should be positive.

vii) Foreign aid
The developed nations have always offered support to the developing countries. This creates a good economic relationship in addition to augmenting development in these areas. To measure this, I used two types of foreign funding: bilateral donor flows, which is the donor aid given directly to the recipient government by the donor country and multilateral donor flow, that is channeled to the recipient government through corporate organizations as World Bank, IMF and UN, that monitor the spending of the donor funds. The coefficient for bilateral funding is expected to be negative while for multilateral funding should be positive.
Table 3.2: Operationalization table

<table>
<thead>
<tr>
<th>No.</th>
<th>Theories</th>
<th>Concepts</th>
<th>Variables</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Globalization</td>
<td>Level of development advancement</td>
<td>Infrastructure</td>
<td>Mobile telephone subscription/ 100 Pop Individuals using internet</td>
</tr>
<tr>
<td>2</td>
<td>Global Economies</td>
<td>Macroeconomic environment</td>
<td>Market size</td>
<td>Foreign market size index,</td>
</tr>
<tr>
<td>3</td>
<td>Location Factors</td>
<td>Location determinants</td>
<td>Labor market efficiency</td>
<td>Cooperation in labor-employer relations, Hiring and firing practices, Reliance on professional management,</td>
</tr>
<tr>
<td>4</td>
<td>Global networks</td>
<td>Connectivity</td>
<td>Network effects</td>
<td>FDI Source - Destination distance (km)</td>
</tr>
<tr>
<td>5</td>
<td>Global Agglomeration</td>
<td>Clusters</td>
<td>Cluster effects</td>
<td>Stock of FDI (Cumulative number/period)</td>
</tr>
<tr>
<td>6</td>
<td>&quot;Big Push&quot;</td>
<td>Dependancy syndrome</td>
<td>Foreign aid</td>
<td>Bilateral donor flows Multilateral donor flows</td>
</tr>
</tbody>
</table>

Source: Author, 2014 based on literature review in chapter 2.

3.3 Research strategy and methodology.

The research applied the modeling strategy, which involved describing the relationships between the dependent (y) and independent variables(x), using Deterministic models (an equation that allow us to exactly determine the value of the dependent variable from the values of the independent variables with no occurrence of errors in the prediction, i.e. \( y=bx \)) and Probabilistic model (an equation taking into account the randomness that is part of a real life process, which includes both the deterministic and the random error components, i.e. \( y=bx + \text{random error} \)) (Steinsaltz, D. 2012). As statistics is a tool for creating knowledge from a set of indicators, the research used statistical techniques namely regression analysis and in particular multiple linear regression, since many independent variables (x) were considered in predicting the dependent variable (y). The Pooled OLS model was applied to run all the entries together without considering the aspects of cross section and time variations, leading to the error of heterogeneity.
Therefore, the data type being panel data (comprising of cross section and time series nature of
data) in which behaviour of entities are observed across time; the Fixed Effect (FE) and Random
Effect (RE) analysis were applied. The FE model eliminated the effect of the time-invariant
uniqueness from the independent variables to study the causes of changes while the RE assumed
variation across entities was random and uncorrelated with independent variables. In choosing
the best model among the two, a Hausman test was conducted in which the null hypothesis stated
RE was the appropriate model vs. the alternative FE model. The equations for the models applied
in the analysis of the data were:

i) Linear regression analysis (Pooled OLS) \[ y = \beta_0 + \beta_1 x_1 + ... + \beta_k x_k + \varepsilon \]

\[ (FDI/GDP)_{it} = \beta_0 + \beta_1 \text{ Infrastructure variables } + \beta_2 \text{ Market size } + \beta_3 \text{ Macroeconomic } + \beta_4 \text{ Innovation } + \beta_5 \text{ Network effect } + \beta_6 \text{ Cluster effect } + \beta_7 \text{ Foreign aid } + \varepsilon \]

ii) Fixed effect analysis. \[ y_{it} = \beta_1 x_{it} + \alpha_i + u_{it} \]

\[ (FDI/GDP)_{it} = \alpha_i + \beta_1 \text{ (Infrastructure variables) }_{it} + \beta_2 \text{ (Market size) }_{it} + \beta_3 \text{ (Macroeconomic) }_{it} + \beta_4 \text{ (Innovation) }_{it} + \beta_5 \text{ (Network effect) }_{it} + \beta_6 \text{ (Cluster effect) }_{it} + \beta_7 \text{ (Foreign aid) }_{it} + \varepsilon_{it} \]

iii) Random effect analysis. \[ y_{it} = \beta_1 x_{it} + \alpha + u_{it} + \varepsilon_{it} \]

\[ (FDI/GDP)_{it} = \alpha + \beta_1 \text{ (Infrastructure variables) }_{it} + \beta_2 \text{ (Market size) }_{it} + \beta_3 \text{ (Macroeconomic) }_{it} + \beta_4 \text{ (Innovation) }_{it} + \beta_5 \text{ (Network effect) }_{it} + \beta_6 \text{ (Cluster effect) }_{it} + \beta_7 \text{ (Foreign aid) }_{it} + \varepsilon_{it} + \varepsilon_{it} \]

Foregoing the research is stratified into three main parts:

i) Descriptive part; which presented the patterns and the trends of FDI in Europe, South East
Asia and Sub Saharan Africa and the capacity of each region to compete. This part used
the application of the descriptive statistics which deals with methods of organizing, summarizing,
and presenting data in a convenient and informative way using Graphical presentation (Bar
charts, Line chart) and Numeric description of mean, standard deviation, and mode (Agresti, A.
1997). The excel statistical software was used for this part.

ii) Explanatory part; showed the relationship between the dependent (y) variable and the
independent (x) variables. The dependent variable in this case is the FDI numbered while the
independent variables are the factors that influence development in Sub Saharan Africa. In this
part the multiple regression analysis was applied in predicting and estimating the relationship
between the y and x variables. In mentioning, the outcome or dependent variable was the
variable predicted- y variable and the predictor or independent variables- x variable, the variables
used for predicting the outcome.

The statistical softwares used for modeling were: EXCEL, SPSS and STATA. These statistical
softwares predicted and estimated relationships tested the satisfaction of conditions for each
model and limiting the possibilities of errors. Further, these applications allowed comparison of
many models of relationships before selecting the appropriate models for the prescriptive part,
depending on other outcomes.
iii) **Prescriptive part**: involved assessment of the selected models in the explanatory part and the available results. Recommendations to the policy makers were made, with a brief note highlighting how the study can be built on in the future.

![Operationalization scheme](image)

*Fig 4: Operationalization scheme (Source: Author, 2014)*

### 3.4 Data collection

There are three main types of foreign direct investments namely; ‘greenfield’ investments, ‘brownfield’ investments, and ‘mergers and acquisitions’ (M&A) (Meyer, 2001). The M&A is whereby firms choose to become a single new firm (merger), or acquire monetary possession of additional firms, which does not verily affect the capacity of a region to compete. The brown field investments are difficult to measure, since they focus on the agglomerated regions or locations which are already within the competitive higher hierarchy. The Greenfield investments are a reliable type of FDI which refers to a phenomenon where investments from parent companies are channeled to newly created subsidiaries. These investments impact heavily in an area because for the subsidiary firms to compete effectively, they require supportive services, institutions, infrastructure and skills within their locality. In this context this research is based on greenfield data.
3.5 Data Analysis and Techniques

The data analysis phase comprised of two main parts each linked to a specific research question and with a different statistical method. The first part of the research was on descriptive which defined the patterns, trends of FDI investments in the selected regions and the ability of each to compete in the world, i.e. Europe, S.E. Asia and Sub Saharan Africa. The second part was an explanatory research on; the levels of development and location factors or determinants.

Part A. Descriptive research on FDI flows

This first part of the analysis looked at the patterns and the general trends of FDI flows in the selected regions in the scope, as provided by the fDi Markets database. Under this, two selected ranked countries each from S.E Asia and S.S Africa were compared. The research was divided into three main parts of; patterns, trends of FDI flow and levels of development advancement guided by the following research questions:

- Which growth patterns and trends exist between Sub Saharan Africa, S. E Asia and Europe?

  The question seeks to show the pattern (the regular or irregular performance of FDI flows) and trend (the rise and fall of foreign investments in the world) in 2006 – 2012. The guiding specific questions to answer this question are outlined below:

  a) Pattern of FDI

    - How do the patterns in the 1st & 2nd world relate with the pattern in Sub Saharan Africa?
    - What is the position of Sub Saharan Africa in the global FDI pattern?
    - Which pattern of FDI exists in each selected region in the competitive hierarchy?
    - What pattern of FDI exists in West, East, Middle and South African segments?

  b) Trends of FDI

    - What trends of growth exist between Sub Saharan Africa and the rest of the world?
    - What is the position of Sub Saharan Africa in this global FDI trends?
    - Which trends of FDI exists in each selected region in the competitive hierarchy?
    - How do the trends in Sub Saharan Africa relate with the trends in Europe and Asia?
    - What trends of FDI exists in West, East, Middle and Southern African segments?

- How does the level of development advancement of Sub Saharan Africa influence its capacity to compete in the international economies?

This question is posed to determine the potential capacity SSA holds for it to enhance development advancement. Based on the literature review, SSA is wealthy; with reserves of raw materials. To answer this question, it is important to find out in which level is SSA that is, does it belong to; 1st world (Resource driven economies), 2nd world (Efficiency driven economies) or 3rd world (Innovation driven economies).
Part B. Explanatory research on FDI investments

This part showed the relationship between the dependent (y) variable and the independent (x) variables. The dependent variable in this case was FDI numbered while the independent variables are the factors that influence development growth in Sub Saharan Africa. In this part the multiple regression analysis was applied in predicting and estimating the relationship between the y and x variables. The research focused on the infrastructure, market size, macroeconomic environment, innovation, cluster effect and the influence of foreign aid variables. The SPSS and STATA statistical softwares were used in this part. The three guiding questions were:

- How do the factors of development advancement determine foreign investments in the Sub Saharan region?

As stated earlier, a region that is advanced in development attracts most foreign investments. FDI is an indicator for competitiveness and every region ought to be more advanced in development to attract more foreign investments. The significant relationship between the FDI and the variables, determines how developed a region is and the type of FDI (Resource, Market, Efficiency or Strategic asset seekers), it attracts.

- What is the development growth relationship of the four parts of Sub Saharan Africa (West, Middle, East and Southern)?

This question seeks to show how each of SSA segments relate to each other in terms of development growth.

- How does Sub Saharan regional growth of development compare with the first and second world developments?

Based on the results in the descriptive and analysis section, one can be able to determine SSA rate of development growth and what type of FDI investments it attracts.

3.6 Validity and Reliability

The databases, variables, indicators and methods used were consistent and operational with the scientific research. The quantitative data was retrieved from official professional sources, thus, guaranteeing reliability of the data.
CHAPTER 4: DATA FINDINGS AND ANALYSIS

PART A. DESCRIPTIVE RESEARCH ON FDI

This part seeks to answer two specific research questions as outlined in chapter 3;

A1. Which growth patterns and trends exist between Sub Saharan Africa, S. E Asia and Europe?

a) Pattern of FDI

The data used in this analysis, comprises of the fDi Markets Database for the whole world categorized under Europe, North America, Asia and Pacific, Middle East, Latin America and Africa continents, for the period 2006-2012 with a total of 46,145 entries of FDI from source region to destination region. According to the data, the number of investments within the period attracted to the world regions shows a unique pattern as shown in chart 1. Empirically, Europe registered a higher number of FDI investments (34,932 investments, 35%), followed by Asia and Pacific and North America each registering a total of 26,167 (26%) and 22,210 (22%) investments respectively by 2012. Latin America, Middle East and Africa within the same period recorded lower FDI investments of 7,095 (7%), 6,164 (6%) and 3,469 (4%) respectively. The graph shows two extremes of highly competitive segments comprising of Europe, Asia and Pacific and North America and less competitive parts of Latin America, Middle East and Africa.

In comparing the selected study regions among the rest of the world areas, Europe still holds an outstanding capacity of FDI investments as S.S. Africa and S.E Asia settles in the less competitive segment as shown in chart 2. In this lower segment, Latin America leads with 7% followed by S.E Asia (6%), Middle East (6%), Africa (3%) and S.S. Africa (2%). In essence, Europe takes the first position, while S.E Asia and S.S. Africa acquire the fifth and eighth positions respectively. Accordingly, Europe belongs to the 1st world segment while S.E Asia lies within the 2nd world as S.S. Africa wobbles in the 3rd world portion as shown in Chart 3. As a result many Multinational corporations prefer making intra FDI investments in developed nations due to the competitive advantages that enables them to maximize on profits and for ease of knowledge and innovation spillovers. Others make investments in the 2nd world countries, attracted by their economic efficiency to manufacture products as a form of adding value to goods; while to a certain limit the 3rd world may be preferred as the location for a few intra FDI investments due to its cheap raw materials and low costs on labour for extraction and exploitation of goods. The sources of these resource-seeking FDI are mainly from the high-income countries in Europe, North America and East Asia.
**Chart 1:** Number of FDI investments per global region in the period 2006-2012. 
**Source:** Author, 2014: based on fDi Markets, 2013.

**Chart 2:** Number of FDI investments per global region in 2006-2012. **Source:** Author, 2014 based on fDi Markets, 2013.
S.S. Africa is divided into four main parts namely, West, East, Middle and Southern which differ considerably in attracting FDI investments. Looking at the FDI pattern in these four parts in 2006 – 2012, the Southern segment (39%) attracts most FDI investments, followed by East Africa (37%), West Africa (23%) and Middle Africa (1%) as shown in chart 4. The list of countries that form each of the segments is appended as annex 1b. The share of Southern and East Africa aggregated takes more than three quarters of the total FDI investments in the S.S Africa. The pattern of the two reveals that, the two regions compete in attracting foreign investors with all having received the same number of FDI investments in the year 2008. Accordingly a great improvement was registered in the year 2008 and 2011 in all the four regions with the Middle Africa exceptionally showing a massive improvement in 2009 when in other parts declined. The leading countries with most FDI investments in each part are Southern - South Africa, East – Kenya, West – Nigeria and Middle – Cameroon. The Middle Africa countries are land locked, a limitation that could be hindering foreign investors to the region due to lack of alternative accessible routes for goods and services in and out of the area.


Taking a comparison at a country level, it is evident that, Singapore (S.E Asia) attracts a large number of foreign investors as compared to Kenya (S.S. Africa) (chart 5). Looking at the number of yearly investments in Singapore, it is remarkable that, the total FDI investments registered for Kenya in the period 2006 – 2012 is lower than the numbered FDI investments for Singapore in 2006 alone, and bearing that it was the year that attracted the least number for the period 2006 – 2012. Singapore is an innovative driven economy operating within an economic environment of competitive advantages that attracts both intra-regional and inter-national foreign investors. It is advanced in manufacturing and service sectors of FDI, unlike Kenya that is operating within the resource driven economy that is packaged mainly by comparative advantages, attractive to a small number of foreign investors.
b) Trend of FDI
The trend of FDI in the period 2006 – 2012 portrays a fluctuating tendency with both the selected regions reflecting drops of FDI investments in the year 2009 and 2012 and an absolute improvement in the year 2008 as shown in chart 6. This is due to the general global financial crisis the world has been experiencing since earlier years of 2000s. According to the statistics, the period 2006 – 2007 registered a slow recovery before picking up in 2008 and declining in years 2009-2012. There were great FDI investments in S.E Asia, small improvement in Europe and a drop in S.S Africa. S.E Asia has got a history of receiving huge FDI investments with MNCs attracted by their massive natural resources, wide regional market and a platform for pro-export production. The policies and perceptions of the S.E Asian countries have differed over time with such highly ranked competitive nations as Singapore and Malaysia spending enormous amount of public funds to attract MNCs, Indonesia liberating its FDI economic policies during economic slump and imposing strict restrictions on MNCs when prices for raw materials are increasing during periods of economic recovery while many other centrally schemed economies nationalizing the existing foreign firms (Sjöholm, Fredrik 2013). Foregoing S.E Asia registered an increase of 12% in FDI investments in the year 2008, but un expected fall to -12%, -7%, -7% and -14% in years, 2009, 2010, 2011 and 2012 respectively as shown in chart 6.
S.S Africa showed a unique trend in FDI investments starting with a drop in 2007 and an abrupt peak in 2008 and with a slight resilience in 2009 and 2010 before rising in 2011 and falling again in 2012 due to the global economic shake ups as shown in Charts 6 and 7. In absolute terms, the number of FDI investments in the region has considerably improved; taking 2006 as the base year, though with fluctuations in 2006 – 2012. S.S Africa is the poorest region in the world with over 44 least developed countries, a reason why MNCs prefer investing in certain countries than others.

In analyzing the region’s shares in FDI investments to the selected regions reveals a more unsatisfactory picture of the production of S.S. Africa in attracting MNCs noting hefty financial marginalization. The gap of foreign investments between European graph and S.S. Africa is very big and a bit wide between the levels of S.E Asia as shown in chart 7. The region mainly depends on investments from developed countries which have strict standards of attraction specializing majorly in the primary sector of mining, petroleum industry and quarrying unlike the S.E Asia which relies on intra – regional investments and manufacturing sector as noted in the literature review. Further, the FDI investments in S.S. Africa is unevenly distributed; for instance the top countries with high investments are South Africa (33%), Nigeria (11%) and Ghana (6%) in West Africa, and Kenya (9%), Uganda (5%) and Tanzania (5%) in East Africa, accounting for a total of 69% of the total FDI investments received by S.S Africa in 2006-2012. The limited attractiveness of the region to investors can be attributed to such risk factors as political and economic instability, poor policy frameworks, natural disasters, diseases and civic conflicts (Michaowski, T 2012).
From the literature review; the high increase in FDI investments in the year 2008 was attributed to the introduction of the Internet and Communication Technologies through globalization underpinning development of such sectors as finance, business and information services that are not capital intensive oriented. This improvement was experienced throughout the whole world, making it easy in sharing real time information through the internet and enabling other sectors as manufacturing to register high performances. This was followed by the rapid industrialization in China in the years 2010-2011, making China to seek raw materials at the same time S.S. African countries, attracting FDI investments in the manufacturing sector to the region. Further this period saw the introduction of new investments from Europe, Latin America and the Middle East. The decline in FDI investments in 2012 is due to the global economic downturn which was experienced all over the world with most investors from Europe cutting down foreign investments in S.S Africa. In addition there was limited empirical research on FDI in S.S. Africa with a bulk of FDI inflows being primary resource oriented.

On the other hand as S.S Africa and S.E Asia showed gradual propensity in their trends, Europe amazingly had sharp rises and falls trend. The region registered high FDI investments in 2008, a recovery in 2010 and drops in 2009, 2011 before ‘nose diving’ in 2012 (chart 6). Generally, Europe has been registering a negative trend since the year 2008 and the trend is expected to go lower (chart 7). This is due to the global financial crisis and the economic cold war arising among the European countries. Irrespective of this, Europe still sustains the top level position in receiving FDI investments thriving in a competitive innovative economic environment (chart 8).
In assessing the trends of the four parts of S.S Africa, it is evident that, there was an increase in the FDI investments attracted to the region in the period 2006 – 2012 as shown in chart 10. The East, Southern and West African parts registered an augment in 2008 and greater improvement in 2011. As the Southern foreign investments fell in 2010, East Africa was on the recovery trend reaching the peak in 2011 before falling again in 2012 below the accumulated FDI investments for Southern Africa in the same year. The West and Middle Africa trends showed an increase in 2008, 2009 and 2011 with declined investments in 2010 and 2012. The economic competition seems to be between the East and Southern Africa that dominates the FDI trend followed closely by the West Africa with the Middle Africa hanging on the periphery of the competitive perimeter.
Chart 10: Trend of FDI in West, East, South and Middle Africa. Source: Author, 2014 based on fDi Markets, 2013

Generally the decrease of foreign investments in the regions is due to the global economic challenges experienced worldwide and especially by the source countries. In reference to the literature review in chapter 2, MNCs are able to invest abroad when the economy in their mother country is stable and the government is also in a position to give incentives for locating subsidiary companies abroad. During the economic crisis limited support (in form of grants to the host country) from the government is offered, thus becoming costly for MNCs to build up in developing countries that lack proper infrastructure frameworks.
Reviewing the performance between Singapore and Kenya; FDI trend for the two countries draws a picture of two extremes with Singapore attracting massive number of foreign investors while Kenya registering just a limited number of FDI, in the period 2006 – 2012 as revealed in chart 11. Empirically, there was an increase in FDI investments in Singapore since 2007 until 2011 before dropping in 2012. Kenya recorded a drop in investments in 2007 and 2012 and a gradual increase in 2008 – 2011. As an efficiency driven economy Singapore’s ability to compete in the global economy overwhelms that of Kenya which is a resource driven economy.

A2. How does the level of development advancement of Sub Saharan Africa influence its capacity to compete in the international economies?

This research question attempts to find out the ability of a region to compete in the global economies. As revealed in the pattern and trends analysis section, SSA is a resource driven economy within the 3rd world economies. It holds the last position in attracting foreign investments due to its level of development advancement which is basically primary production oriented. Fortunately, this implies, SSA contributes at least a percentage of its goods to the world economy; however small it seems. To assess this, I weighted the percentage scores of each region upon the number of the regions (n=8) for the world and (n=2) for the countries.

Statistically, Europe upholds a higher ability to compete in the world among the stratified global regions as shown in chart 9 (a). Weighting upon the number of regions (n=8), its capacity stands at 2.56, followed by Asia & Pacific (1.92) and North America (1.6) as the top competitors. The ability of Latin America, S.E Asia, Middle East, Africa and S.S. Africa to compete in the global economies is worrying; each region scoring 0.6, 0.5, 0.5, 0.24 and 0.2 respectively below the quarter mark of Europe. Looking at the score board (chart 9b) of the three selected regions,
Europe still dominates with 2.4, while S.E Asia and S.S Africa scoring 0.45 and 0.15, below the competitive line (author’s own calculation, 2014 based on fDi Markets, 2013).

Chart 9: (a & b): Capacity to compete.  
**Source:** Author, 2014 based on fDi Markets, 2013

There are three major sectors of FDI investments and each feature differently in the global regions. These sectors determine how a region competes in the global economies. The primary sectors comprises of industries as the; agriculture, hunting, forestry and fisheries, mining, quarrying and petroleum. The manufacturing sector involves such industries as food, beverages, textiles, chemicals and chemical products, metals and metal products, electrical and electronic equipment and motor vehicles and other transport equipment. The services sector is made of such industries as; hotels and restaurants, finance, construction, business services, education and health and social services among others.

**Source:** Author, based on World Investment data, 2014.
According to statistics, the service sector is the most invested in, followed by the manufacturing sector. The primary sector is the least invested in as per chart 12. Generally the service and manufacturing sectors have registered a considerable gradual increase while the primary sector dropped. The drop in the primary sector is attributed to the fact that the greenfield activity in the extractive industry by 2nd and 3rd world economies has reduced, leaving most of all the operations to take place in developing countries. Due to modernization most investors are channeling huge capita investments into services and manufacture sectors.

Chart 13: Industries by in flow FDI number, per developed, transition and developing economies. 


Traversing through the FDI industries, the finance, business, trade and mining, quarrying and petroleum dominates the other sectors. Unspecified primary, education and public administration and defence register minimal investments. The developed economies scores highly in those
industries within the service sector such as finance and trade while the developing economies perform better in agriculture, education and mining. The transition economies performs good in the construction, metal and metal products and other services. For a region to operate effectively, it requires all the three sectors, however the level of advancement at which every region articulates its performance is what creates the difference. In the recent past, more investments in the finance, business and trade industries are being channeled to the developing countries. As stated in chapter 2, developing economies have static economic potetials that ought to be tapped. Market is one of this resources and it is through trading that, the developing economies can create new links with the global regions.

Chart 14: Capacity of Singapore and Kenya to compete.  

Source: Author, 2014 based on fDi Markets, 2013

The share of Singapore for the period 2006 – 2012 of the total FDI investments for the two countries is 91% while Kenya received only 9%. Weighting upon the two countries (n=2), the ability of Singapore to compete stands at 1.82 as Kenya struggles at 0.18. In essence Singapore has much competency and resilience capacity than Kenya.
PART B. EXPLANATORY RESEARCH ON FDI INVESTMENTS

This part of the thesis is focused on finding the factors of development that determine the attraction of FDI investments to Europe, S.E Asia and S.S Africa and its segments (West, East, Middle and Southern). It seeks to answer two specific research questions as outlined in chapter 1;

B1. How do the factors of development determine foreign investments in the Sub Saharan region?

In determining the factors of development, a multiple regression analysis in SPSS and fixed effect and random effect regression analysis in STATA; for FDI numbered were conducted on the variables obtained from GCI database, whereby the fit general pillars selected for the study were: pillars 7th – Labor market efficiency, 10th – Market size, and 12th – Innovation. The sub pillars on the above pillars therefore became also my indicators. For the infrastructure variable two indicators were selected from the first Pillar and 9th Pillar for the research. All selected indicators were: 2.08 Mobile telephone subscription/ 100 Pop, 9.04 Individuals using internet, 7.01 Cooperation in labor-employer relations, 7.03 Hiring and firing practices, 7.06 Reliance on professional management, 10.02 Foreign market size index, 12.01 Capacity for innovation, 12.02 Quality of scientific research institutions and 12.06 Availability of scientists and engineers. However due to multicollinearity, indicators; 2.08 Mobile telephone subscription/ 100 Pop and 9.04 Individuals using internet for the infrastructure variable was excluded as their Variance Inflation Factor (VIF) was above 10.

To choose the best model (Fixed effect and Random effect) in STATA, a Hausman test was also conducted. In respect, part (a) consists of analyzing the selected general pillars while part (b) the specific pillars for the Global, Europe, S.E Asia and S.S Africa. The FDI inward stock and donor funding determinants are introduced at the S.S Africa regional analysis juncture. The analysis is done reverence to four aspects of; level of development, firm location determinants, agglomeration effects and the influence of foreign aid.

1) World:
   Part a): General pillars.

The results for the random regression analysis for the numbered FDI investments on the general pillars, for the World are shown in table 4.1. A positive relationship is registered on market size (10th Pillar): the market size determines the productivity because a great (diverse) market attracts more firms which usually exploit the economies of scale. As discussed in literature review, the effects of globalization and global networking have made the world borderless substituting the international markets for domestic markets. This aspect refers to ability of firms to locate in a particular geographical area for production and be able to export goods and services to a wider global scope. The export driven economies such as Europe, North America and Asia are favoured by this factor due to their level and quality of productivity as a result of competitive advantages, unlike the Latin America, Middle East and Africa regions that have lower product.
standards for global competitiveness. The factor determines the sustainability of a firm’s production since every company seeks to maximize on profits in reference to transportation costs and government regulation to export of products. The market seeking FDI investments often have a mother company in the host country with several subsidiaries in various regions in the world, such as the Coca Cola, beer and automobile companies.

The results also show no significant relationship on the labour market efficiency (7th pillar) and innovation (12th pillar). The labour market efficiency are employees oriented promoting incentives and better work environment of which many FDI investors who would want to maximize on profits do not consider. Innovation begins from an epicenter of highly skilled and knowledgeable personnel before spilling over to other parts of the world. This centre of innovation is expensive to penetrate and is not a factor for most FDI investors to consider such as the production of aeroplanes.

Table 4.1: Results of regression analysis on FDI numbered and the general pillars for global

<table>
<thead>
<tr>
<th>Global (model fit: Random effect)</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors</td>
<td>(1)</td>
</tr>
<tr>
<td>7th pillar: Labor market efficiency,</td>
<td>14.92</td>
</tr>
<tr>
<td></td>
<td>(24.56)</td>
</tr>
<tr>
<td>10th pillar: Market size,</td>
<td>84.73***</td>
</tr>
<tr>
<td></td>
<td>(14.89)</td>
</tr>
<tr>
<td>12th pillar: Innovation,</td>
<td>8.44</td>
</tr>
<tr>
<td></td>
<td>(21.47)</td>
</tr>
<tr>
<td>Constant</td>
<td>-303.43**</td>
</tr>
<tr>
<td></td>
<td>(106.55)</td>
</tr>
<tr>
<td>Observations</td>
<td>923</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001: Source: Author, 2014 based on fDi Markets, 2013

Part b): Specific pillars.

Table 4.2 shows results of regression analysis on FDI numbered and the specific pillars for global. Relating to the results of regression analysis in table 4.1; a positive relation is registered on Hiring and firing practices (7.03), foreign market size index (10.02) and Capacity for innovation (12.01). Hiring and firing of employees depends on the firms regulations and mandate of which the firm plays the key role; a determinant that favours the efficiency and resource seekers FDIs as they aim for quality production and cheaper labour costs respectively. As discussed above, a foreign market of sizable population and with capacity to support the anticipated demand based on investments value, attracts much foreign (market oriented) investors in a region. Firms will be attracted in areas that have a potential for creativity rather
than primitivity, endowed with competitive advantages; a pull factor for efficiency seeking FDIs investments.

The negative relationship unexpectedly shown by the Cooperation in labor-employer relations (7.01), confirms that, firms are attracted by low costs of labour and will always shy away from spending unnecessary coins on the labour related issues. Further, there was no significant relationship on Reliance on professional management (7.06), Quality of scientific research institutions (12.02), and Availability of scientists and engineers (12.06): these are secondary factors that, most firms consider as a ‘by the way’ for efficiency and quality output in their production processes.

**Table 4.2: Results of regression analysis on FDI numbered and the specific pillars for global**

<table>
<thead>
<tr>
<th>Global (model fit: Random effect)</th>
<th>(1) FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factors</strong></td>
<td></td>
</tr>
<tr>
<td>7.03 Hiring and firing practices,</td>
<td>47.25***</td>
</tr>
<tr>
<td></td>
<td>(13.85)</td>
</tr>
<tr>
<td>7.01 Cooperation in labor-employer relations,</td>
<td>-54.28*</td>
</tr>
<tr>
<td></td>
<td>(21.11)</td>
</tr>
<tr>
<td>7.06 Reliance on professional management,</td>
<td>28.48</td>
</tr>
<tr>
<td></td>
<td>(18.79)</td>
</tr>
<tr>
<td>10.02 Foreign market size index,</td>
<td>79.40***</td>
</tr>
<tr>
<td></td>
<td>(10.24)</td>
</tr>
<tr>
<td>12.01 Capacity for innovation,</td>
<td>41.21*</td>
</tr>
<tr>
<td></td>
<td>(19.42)</td>
</tr>
<tr>
<td>12.02 Quality of scientific research institutions,</td>
<td>-1.42</td>
</tr>
<tr>
<td></td>
<td>(19.45)</td>
</tr>
<tr>
<td>12.06 Availability of scientists and engineers,</td>
<td>13.43</td>
</tr>
<tr>
<td></td>
<td>(16.72)</td>
</tr>
<tr>
<td>Constant</td>
<td>-477.90***</td>
</tr>
<tr>
<td></td>
<td>(81.24)</td>
</tr>
<tr>
<td>Observations</td>
<td>923</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ : **Source:** Author, 2014 based on fDi Markets, 2013
2) Europe:

Part a): General pillars.

The random effect regression results showed that, there was a high positive significance on the market size (10th pillar), in Europe with no significance on labor market efficiency (7th pillar) and Innovation (12th pillar) as per table 4.3. The market size refers to both the growth rate and the absolute size of the market. As discussed in the descriptive analysis section of this chapter, Europe hosts the highest number of FDI investments as compared to the other parts of the world and the market size stands out to be the major determinant. The uniqueness of this region is that, Europe has a single market in the name of “European Union” formed by many countries. Underpinned by this aspect, firms are able to target the domestic as well as markets in the adjacent territories; Europe becoming an export platform. In such an export driven economy region, the market is determined based on two main factors namely; policy (government and trade) and transportation/communication costs. Indeed Europe is well connected internationally through, ship freight, flights and speed train network systems. The European Union also protects its firms through setting high standards on imports, imposing strict regulations on foreign investors and, allowing exports subsidies and export credit subsidies. Coupled with the above factors, intellectual property rights and competitive advantages, highly competitive MNCs prefer investing in Europe.

Table 4.3: Results of regression analysis on FDI numbered and the general pillars for Europe.

<table>
<thead>
<tr>
<th>Europe (model fit: Random effect)</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors</td>
<td>(1)</td>
</tr>
<tr>
<td>7th pillar: Labor market efficiency,</td>
<td>-31.12</td>
</tr>
<tr>
<td></td>
<td>(21.83)</td>
</tr>
<tr>
<td>10th pillar: Market size,</td>
<td>79.34***</td>
</tr>
<tr>
<td></td>
<td>(15.52)</td>
</tr>
<tr>
<td>12th pillar: Innovation,</td>
<td>-4.47</td>
</tr>
<tr>
<td></td>
<td>(17.25)</td>
</tr>
<tr>
<td>Constant</td>
<td>-47.23</td>
</tr>
<tr>
<td></td>
<td>(110.08)</td>
</tr>
<tr>
<td>Observations</td>
<td>287</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
*p < 0.05, **p < 0.01, *** p < 0.001:

Source: Author, 2014 based on fDi Markets, 2013
Part b): Specific pillars.

According to the regression analysis results shown in table 4.4, there was a positive relationship on reliance on professional management (7.06) and foreign market size index (10.02): Europe is a highly economically competitive region that deserves professional management, and a diverse market which attracts foreign investors in the region. However, a negative relationship on cooperation in labor-employer relations was registered. Basically Europe is a highly automated region having migrated from the manual/ traditional methods to modern systems through ICT; employers cut labour costs by use of machines and to a limited extend having one or two highly skilled professionals to manage the operations.

Table 4.4: Results of regression analysis on FDI numbered and the specific pillars for Europe

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.01 Cooperation in labor-employer relations,</td>
<td>-46.45*  (20.61)</td>
</tr>
<tr>
<td>7.03 Hiring and firing practices,</td>
<td>0.75  (11.34)</td>
</tr>
<tr>
<td>7.06 Reliance on professional management,</td>
<td>38.45*  (17.87)</td>
</tr>
<tr>
<td>10.02 Foreign market size index,</td>
<td>45.54***  (11.47)</td>
</tr>
<tr>
<td>12.01 Capacity for innovation,</td>
<td>8.27  (17.45)</td>
</tr>
<tr>
<td>12.02 Quality of scientific research institutions,</td>
<td>-2.31  (16.03)</td>
</tr>
<tr>
<td>12.06 Availability of scientists and engineers,</td>
<td>19.25  (13.63)</td>
</tr>
<tr>
<td>Constant</td>
<td>-180.66*  (86.78)</td>
</tr>
</tbody>
</table>

Observations 287

Standard errors in parentheses
* $p < 0.05$,  ** $p < 0.01$,  *** $p < 0.001$ :  

Source: Author, 2014 based on fDi Markets, 2013
3) S.E Asia

Part a): General pillars.

The results of the random effect regression analysis on FDI numbered and the general pillars for S. E Asia are shown in table 4.5. A positive relationship was revealed upon innovation (12th pillar): more FDI investments are registered when there is advancement and improvement in the technological innovation. S.E Asia is among the fastest-growing regions in the world with an efficiency driven economy characterized by manufacturing activities. According to description analysis statistics it holds the 5th position globally, among the 8 regions (chart2); however with immense capacity to grow economically with its 4 countries; Singapore, Malaysia, Brunei and Thailand being ranked 2nd, 24th, 26th and 37th, respectively in the global competitiveness index report (Schwab, K. 2013). S.E Asia is renowned region that has taken the initiative to invest in research and development (R&D) through high quality scientific research institutions and research collaboration in research and technological developments between universities and industries resulting in the generation of ideas and knowledge for new technologies.

Therefore S.E Asia attracts strategic asset seeking and efficiency seekers FDIs, that focus on locating subsidiaries in vibrant centers of research and innovation in order to tap the capabilities present in the region of the host country.

Table 4.5: Results of regression analysis on FDI numbered and the general pillars for S.E Asia.

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th pillar: Labor market efficiency,</td>
<td>29.34 (28.45)</td>
</tr>
<tr>
<td>10th pillar: Market size,</td>
<td>5.42 (12.56)</td>
</tr>
<tr>
<td>12th pillar: Innovation,</td>
<td>67.18** (23.86)</td>
</tr>
<tr>
<td>Constant</td>
<td>-275.35*** (104.71)</td>
</tr>
</tbody>
</table>

Observations 56

Standard errors in parentheses
*p < 0.05, **p < 0.01, ***p < 0.001:  Source: Author, 2014 based on fDi Markets, 2013
Part b): Specific pillars.

In this section, the results showed a strong positive relationship on hiring and firing practices (7.03) and a weaker significance for foreign market size index (10.02): this leads to increased foreign investments. Strict employee regulations in Asia have led to limited potential investments and high levels of unemployment in the region culminating into brain drain with citizens seeking opportunities abroad. Flexible employee rules therefore will attract more foreign investments to the area.

Table 4.6: Results of regression analysis on FDI numbered and the specific pillars for S.E Asia

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7.01 Cooperation in labor-employer relations,</td>
<td>50.90</td>
<td>(33.03)</td>
</tr>
<tr>
<td>7.03 Hiring and firing practices,</td>
<td>82.46***</td>
<td>(18.84)</td>
</tr>
<tr>
<td>7.06 Reliance on professional management,</td>
<td>34.35</td>
<td>(25.44)</td>
</tr>
<tr>
<td>10.02 Foreign market size index,</td>
<td>25.01*</td>
<td>(10.58)</td>
</tr>
<tr>
<td>12.01 Capacity for innovation,</td>
<td>56.66</td>
<td>(30.96)</td>
</tr>
<tr>
<td>12.06 Availability of scientists and engineers,</td>
<td>-18.01</td>
<td>(30.77)</td>
</tr>
<tr>
<td>Constant</td>
<td>-565.57***</td>
<td>(79.50)</td>
</tr>
<tr>
<td>Observations</td>
<td>56</td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$:

Source: Author, 2014 based on fDi Markets, 2013
4) S. S. Africa

Part a): General pillars.

The significant results for the random effect regression analysis for the numbered FDI investments on the general pillars and FDI inward stock and donor flows, for S.S Africa are shown in table 4.7. Analytically, a positive relationship is registered on; the Innovation (12th pillar), Multilateral donor flows and FDI inward stock: increased innovation, multilateral donor funding and much clustered MNCs leads to more FDI investments to S.S. Africa. The significance on innovation is weaker since S. S Africa has the capacity to innovate but is yet to tap the capabilities correctly as in Europe or S. E Asia. Much of this is undertaken by such countries as South Africa, Nigeria and Kenya. Kenya currently is leading the world with the mobile money transfer and banking which has eased economic transactions resulting into immense economic growth. South Africa is an economic centre for most automobile and electronic assembly companies. Basically, FDI inward stock reflects how much MNCs have agglomerated in S.S. Africa over time. Agglomeration brings with it, spillover of knowledge and services, augments development, creates inter and intra company relationship and provides a sense of security to infant or new companies in an area. Therefore increased effects of clustering will lead to attraction of FDI investments, in return resulting in improved living standards in S.S. Africa. Further, high flows of multilateral donor funding which is channeled through international organizations as UN, World Bank and IMF brings security of investments thus leading to more FDI investments to S.S. Africa.

Part b): Specific pillars.

The results for this section as shown in table 4.8; are a reflection of results in part a) on the general pillars. The significance results for random regression analysis showed positive relations on Capacity for innovation (12.01), multilateral donor flows and FDI inward stock: high capacity for innovation, increased multilateral donor flows and greater agglomeration of MNCs in a region, the higher the number of FDI investments in S.S Africa. Generally, S.S Africa holds immense ability to innovate a factor that, favours strategic asset seekers FDIs. In addition, the multilateral donor flows and clustering of MNCs, leads to improvement in the living standards a call for advancement in development of infrastructure, standard institutional frameworks, quality health and provision of higher education which in return leads to economic growth.

Part c): S.S Africa segments.

Taking an analysis on factors of production for the South, West, East and Middle African parts, the regression results shows a unique output. The results for FDI numbered on the general and specific pillars, FDI inward stock and donor flows for each S.S African segment are appended as annex 2. For Southern Africa a positive relation was realized on: bilateral donor flows in both cases and on availability of scientists and engineers (12.06): an increase in direct donors flows leads to less FDI investments and greater availability of scientists and engineers the higher the
number of FDI investments in the Southern part of Africa. However, a negative relation on FDI inward stock in the second case leads to limited number of investments.

The results for East Africa showed a positive relation on FDI inward stock: foreign investments increase with augmented agglomeration effects in the region and a negative relation on reliance on professional management (7.06): any higher dependence on professional management leads to limited FDI investments in East Africa. The results for West Africa showed a positive relation on market size (10th pillar), foreign market size index (10.02), capacity for innovation and FDI inward stock: a greater market for the anticipated production, a higher capacity for innovation with good agglomeration effects attracts more foreign investments to West Africa. In the Middle Africa, the results revealed a positive relation on multilateral donor flows and a negative indication on bilateral donor flows meaning more foreign investments; and a negative on labor market efficiency (7th pillar) leading to a lower number of FDI investments to the area. The results for Singapore and Kenya showed no significant relationship on the FDI investments in both cases. The results are appended in annex 2.

Table 4.7: Results of regression analysis on FDI numbered and the general pillars for S. S. Africa

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th pillar: Labor market efficiency,</td>
<td>0.67 (3.36)</td>
</tr>
<tr>
<td>10th pillar: Market size,</td>
<td>1.43 (1.81)</td>
</tr>
<tr>
<td>12th pillar: Innovation,</td>
<td>8.38∗ (3.79)</td>
</tr>
<tr>
<td>Bilateral donor flow</td>
<td>-0.00 (0.00)</td>
</tr>
<tr>
<td>Multilateral donor flows</td>
<td>0.01** (0.00)</td>
</tr>
<tr>
<td>FDI inward stock</td>
<td>0.00*** (0.00)</td>
</tr>
<tr>
<td>Constant</td>
<td>-28.11∗ (13.74)</td>
</tr>
<tr>
<td>Observations</td>
<td>155</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
∗ p < 0.05, ** p < 0.01, *** p < 0.001: Source: Author, 2014 based on fDi Markets, 2013
Table 4.8: Results of regression analysis on FDI numbered and the specific pillars for S. S. Africa

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.01 Cooperation in labor-employer relations,</td>
<td>-3.70 (2.87)</td>
</tr>
<tr>
<td>7.03 Hiring and firing practices,</td>
<td>0.52 (1.92)</td>
</tr>
<tr>
<td>7.06 Reliance on professional management,</td>
<td>3.47 (1.95)</td>
</tr>
<tr>
<td>10.02 Foreign market size index,</td>
<td>2.46 (1.52)</td>
</tr>
<tr>
<td>12.01 Capacity for innovation,</td>
<td>9.29** (3.47)</td>
</tr>
<tr>
<td>12.02 Quality of scientific research institutions,</td>
<td>1.42 (2.34)</td>
</tr>
<tr>
<td>12.06 Availability of scientists and engineers,</td>
<td>-3.75 (2.14)</td>
</tr>
<tr>
<td>Bilateral donor flow</td>
<td>-0.00 (0.00)</td>
</tr>
<tr>
<td>Multilateral donor flows</td>
<td>0.01** (0.00)</td>
</tr>
<tr>
<td>FDI inward stock</td>
<td>0.00*** (0.00)</td>
</tr>
<tr>
<td>Constant</td>
<td>-20.60 (11.73)</td>
</tr>
<tr>
<td>Observations</td>
<td>155</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$:

Source: Author, 2014 based on fDi Markets, 2013
B2. How does Sub Saharan regional growth of development compare with the first and second world developments?

At the global level, the prime factors for production are the market size (10th Pillar), foreign market size index (10.02), Hiring and firing practices (7.03), followed by a weaker Capacity for innovation (12.01). The growth rate and the absolute size of the market, and foreign market size index (10.02) are also highly significant for Europe, in addition to professional management, with a negative relationship on cooperation in labor-employer relations. Hiring and firing practices (7.03), Innovation (12th pillar) and foreign market size index (10.02), stood out to be the main factors in S.E Asia. In the S. S Africa, FDI inward stock, Multilateral donor flows and the Innovation (12th pillar) sequentially were the significant factors.

The results reveal that, the factors of production determining firm location overlap among the regions. While market size is significant at world, Europe and S.E Asia, it is not significant for S.S Africa. The market size refers to both the growth rate and the absolute size of the market in respect of the market diversity and the ability of penetration by firms. Europe and S.E Asia are at advanced stages (efficiency, innovation and wealth creation) of development, and play a key role in setting global quality product standards that they are able to meet. Therefore this enables them penetrate domestic markets in the 2nd and 3rd world of less competitive economies. Unfortunately, for S.S Africa to survive in this stiff competitive environment, it is forced to rely on cheaper exports of raw materials to these highly competitive machines.

The aspect of innovation cuts across both the regions. This is also predominant in Europe and S.E Asia with S.S Africa showing significant capacity to innovate. In Europe it is revealed by the need for professional management while in S.E Asia by the strict employee regulations that are prevalent in the job market. Proper frameworks and institutions are well positioned to realize creativity in Europe and S.E Asia unlike in the S.S Africa which has the potential (brilliant population and resources) but lack good research institutions and defined frameworks to support any genious ideas coined out. For a region to compete it must cultivate the culture of creativity among and within its generations. Indeed, it is until that point African economy shall have learnt the art of tapping this creativity within its borders; that’s when it will begin to take off from the ‘runway’ of being a resource driven economy.

The notion of dependency on foreign funding is also significant, as shown by the high positive relationship of the multilateral donor flows. These are collective funds channeled to the recipient government through the regulating international institutions that monitor how the funds are spent. S.S Africa is lucky to receive the funds, though there is need to prioritize how, for what projects and when they should be injected to ‘push’ for development growth.
CHAPTER 5: CONCLUSION AND RECOMMENDATION

5.1 Introduction

A competitive economy is the one that attracts the most foreign investors and with the potential to grow at a faster rate over time. Consequently, competitiveness determines the level of development of a region or a country which in return ascertains the prosperity of rates of return on investments that drives a particular economy. Thus the economic growth of a region is evaluated upon the returns on investments obtained (Schwab, 2014). Competitive advantages differ among the world regions an effect that influences how industries and foreign investments locate themselves and perform in the world economies (Porter, M. E 1990). Indeed no region is competitive in all aspects; however regional economies develop in phases in reference to the capacity of a country with those at an advanced stage of development taking the first positions while those still crawling at the basic stages scoring poor in their growth (Frăsineanu. 2008). As shown in the report, the 3rd world countries are at the factorial endowment stage, the 2nd world countries at the investments and innovation stage while the 1st world countries are amassing at the innovating and national wealth stage.

5.2 Retrospect: research objective (To explain how the level of development advancement is influencing the ability of Sub Saharan Africa to compete in the international economies).

The dimension taken in this study; presents a clear picture of how the world economies are stratified and at the same time revealing that each region irrespective of its position in the level of development advancement, has the potential to grow and compete adequately. “This capacity can be reignited”. In this study, much focus was given to the Sub Saharan Africa; a third world region gifted with massive resources and such potential that if well tapped over time, can compete highly in the global economies. Empirically, Sub Saharan Africa is less advanced producing at a primary level and positioned at the lower ranks of the global economic competitive hierarchy. Foreign investors shy away due to this position thus limiting its ability to compete satisfactorily in the world economies with the advanced regions that attracts most foreign investments.

5.3 Conclusions and discussions:

5.3.1 Research Question 1: Which growth patterns and trends exist between the Sub Saharan Africa, S. E Asia and Europe?

Generally, the number of FDI investments in the region has considerably improved; taking 2006 as the base year, though with drops in 2006 – 2012. In the ancient years, the trends and patterns of FDI flows were mainly driven by the developed economies indicating a North- North scenario, where only global economic systems were formed by advanced countries (Nayyar, Rishika 1982). Due to dynamics in global economies, developing economies have become investors themselves instead of just being recipients of FDI investments. According to the theory of competitive advantages, the increased foreign investments in SSA is mainly as a result of economic reforms in countries, high demand for natural resources such as oil and gas and
opening of new networks in Asia enhanced by globalization. However, relating with Europe and S.E Asia, the performance of SSA is still low. There is a trend difference of over 80% and 70% between Europe and S.E Asia respectively. This gap difference due to SSA position in the level of development, limits the ability of the region to compete in the global economies.

5.3.2 Research Question 2: How does the level of development advancement of Sub Saharan Africa influence its capacity to compete in the international economies?

According to chapter 4, global economies are classified within three major categories namely, resource driven, efficiency and innovation driven. These economies are a reflection of how advanced a region is developed. From the analysis, Europe took the first position, while S.E Asia and S.S. Africa acquired the fifth and eighth positions respectively. Further it was noted that, services sector FDI are attracted to Europe, manufacture sector to S.E Asia and primary sector to SSA. The most valued and fastest growing sector of FDI is the services, followed by manufacturing and primary sector. The service sectors FDI are attracted by a stable macroeconomic environment with properly outlined labour market efficiency, clustered by both intra and inter-related industries, a diverse market and an advanced infrastructure framework for instance, The Netherlands. The manufacturing sectors are mainly attracted to an area of extensive labour market of innovative knowledge and skills with good hiring and firing practices for example Singapore. The primary sector is often attracted by the raw materials and the infrastructure which ease transportation of the extracted raw materials.

The domestic economy of the host region is able to grow through the economic networks and linkages created between firms in the domestic economy and the FDI sectors. However, not all FDI sectors have the same potential to form linkages with domestic firms, or the firms have the ability to absorb foreign technology. According to Hirschman, (1958), foreign investments have limited effect to spur economic growth if there are no linkages. The linkages for agriculture and mining are weak, since, the harvested or extracted primary products from plantations, wells and mines are exported out of the host country without any benefit to the domestic economy. The extensive integration of the services sector and the use of the intermediate products produced by the manufacturing sectors, enhances economic growth of the host country, leading to development advancement of other related sectors as infrastructure, health, education, real estate that bring about improvement in living standards of people. Indeed this mutual interaction also bring about the agglomeration effects where skills and knowledge is spilled over to other sectors, domestic competition resulting to production of quality goods and services, creation of stronger or more networks which further attracts more foreign investments to the host country.

Currently, the ability for SSA to compete is weak. In order to compete adequately, diversification of the FDI sectors should be done and proper frameworks to be strategized to realize this objective. Investment of public funds and or bilateral donor funds, to advance development could be a starting point.
5.3.3 Research Question 3: How do the factors of development determine foreign investments in the Sub Saharan region?

Development is a multifaceted term that refers to how rich or poor a country is, measured by the GDP and the process of transforming an area considering the aspects of economic and infrastructure (both social and physical). In this thesis, the term development is used collectively to mean a proper environment that attracts and sustain foreign investments. Development as a process undergoes phases of growth which are influenced by factors.

From the analysis, the factors that showed a positive relationship were; the Innovation (12th pillar), Multilateral donor flows and FDI inward stock. These indicators were operationalized from the variables; location factors, donor funding and the cluster effect. Foreign investors are drawn to a region that meets their expected needs and the level at which they would want to engage. There are four main types of FDI investments; resource seekers, efficiency seekers, market seekers and strategic asset seekers. As mentioned in chapter 2, resource seekers aim at locations characterized by; availability of natural resources (natural gas, oil and minerals), cheap unskilled and skilled labour, level and quality infrastructure. The efficiency seekers are attracted by lower costs of production and economic integration and diversity of the host region. The market seekers get attracted by the market size of a region, and access to global and regional markets, while the strategic asset seekers aim for areas with technological advancement and adequate producer protection such as patent rights.

Considering the model results, the type of foreign investors attracted to SSA are the strategic asset seekers due to the aspect of innovation and efficiency seekers as of agglomeration effects. The infrastructure is thus brought about by the multilateral donor funding. It is worth noting that some of the indicators were excluded due to multicollinearity and most showed no significant relationship on FDI. In essence innovation is taken as a key driver in the growth of knowledge economy. However this is determined by the ability of the host country to absorb the knowledge and the availability of innovation supportive institutions. Globalization has eased the transfer of knowledge and skills from firm to firm or a region to another shortening the reception and response durations. Foregoing, the rate of innovation in SSA is still at the lower level due to lack of innovation – complementary frameworks. Therefore this limits the kind of strategic asset FDI investments attracted to SSA. Agglomeration is an effect that brings about integration of firms creating interlinking networks of mutual benefits among and between the domestic firms.
5.3.4 Research Question 4: How does Sub Saharan regional growth of development compare with the first and second world developments?

Retracking into history, (table 5.1) the world had two main leagues of levels of development in the 1950’s and 60s’ with the 1st world- Europe, being the epicenter for modernization and industrialization taking the front raw of Pre-condition for takeoff while the second league being dominated by S.E Asia and SSA – with equally competing economies. In the 1970’s – 80’s, Europe moved into the takeoff stage and S.E Asia into the Transitional stage as SSA, was still evolving in the traditional society stage, leading to emergence of three leagues, of 1st, 2nd and 3rd world regions characterized by development advancement. However, SSA, having obtained independence in 1960’s, had no proper strategies to initiate development and dependent heavily on foreign countries for funds and knowledge. At this point the S.E Asian countries picked up quickly the skills and knowledge applied in Europe advancing higher into the take off stage in 1990’s.

Through, globalization and global economic network systems, SSA managed to penetrate the international economies to the transition stage with some of its economies moving into the takeoff stage of development in 2000’s. At this point, S.E Asia was driving to the maturity stage as Europe begun amassing itself in wealth. The table shows that each of the three regions has the potential of advancing in development beyond the high mass consumption stage. However, these phases of development take decades of planning and formulation of proper development strategies and policies. SSA can only catch up with the frontier regions if it begins to invest

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<td>S.S Africa</td>
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</table>

heavily in innovation and modernization of its primary processes to produce added value goods that can compete in the global economies in reference to Singapore, Malaysia and China.

5.4 Interpretation of the main research question (What are the main factors affecting development in Sub Saharan Africa and how do they influence its position in the global competitiveness hierarchy?)

In the 1960s, the SSA prospects for development looked promising and the region had hopes for rapid development. At this point, SSA economies performed better than those in the S.E Asia, such as Indonesia and Singapore. During this time her average economic growth was 3.4% per year in 1960 – 1980 (Heiresses, F 2009). There was growth in agricultural sector, improvement in living standards, infrastructure development and accumulated valuable knowledge and skills in management and manufacturing sectors. However in early 1980s, SSA economic growth rate slowed and the economic gap between the S.E Asia widened.

As noted earlier, development in this thesis refers to a good environment that attracts and sustains foreign investments. Factors therefore are those specific aspects that attract foreign investors in a region. Also as pointed out, the FDI is an indicator of competitiveness and the performance of a country or a region is defined on this basis. Foreign firms locate themselves strategically in regions of maximum inputs with proper environment comprising of good policy frameworks, competitive advantages, wider market, defined economic networks and agglomeration effects among others. Every global region aspires to have such an efficiency environment to attract the most foreign investments which arises competitiveness. To attract firms, every global region invests in creating an economic environment that attracts the top ranked companies in the world. The presence of firms in these regions does not only serve the demands of the immediate market but also plays a role in raising the living standards of host country, spillover of knowledge and innovation and attraction of more investments from other foreign firms.

The region with the capacity to attract the most number of top foreign investors becomes wealthier as more and more firms are attracted to tap the advantages endowed within it. These regions are ranked among the top competitive in the world. However, those regions with limited ability to develop and create a favourable environment for firm production, receives limited number of foreign investments due to their cheaper costs of production or market for goods and services. Sub Saharan Africa uses mostly primary oriented factors that produce goods, exported at a lower price, though it holds the capacity to innovate and sustain a manufacturing economy. The inability of S.S African to produce value added products, limits its capacity to compete in the global economies, thus being ranked among the less competitive regions in the competitive hierarchy.
5.5 Further knowledge proposition

This study has majorly focused on the foreign investments, the GCI indicators and the donor funding flows for research, limited by its study scope. Due to constraint of time, data for certain variables and indicators such as on Network effect were not obtained reducing the precision of the results. The output results of the regression analysis, showed illogical relationship with some of the coefficients of indicators like GDP being negative.

For further researches, more variables on the performance of regional economies ought to be included, sourced from other research institutions such as World Bank, UN, IMF, UNCTAD among other International organizations. Studies for certain indicators such as agglomeration and network effects should be undertaken at the lower levels of domestic markets within the regions, at continental, country or city levels. Having given an insight on the subject of economic development and ability of countries to compete, the study sets a platform upon which economic researchers in the developing countries can build upon to prioritize development strategies depending on the countries abilities.

5.6 Recommendations

According to Rostow’s theory of development, regions grow in five stages: 1. Traditional society, 2. Transitional stage, 3. Take off, 4. Drive to maturity and 5. High mass of consumption (Rostow, W 1960). In brief, the traditional society stage is characterized of subsistence production, barter trading with absolutely no penetration of technology operations. The transitional (preconditions for takeoff) stage comprises of emergence of financial institutions, manufacturing companies, development of infrastructure, political changes and a set of mind change towards technology; all these evolve at a limited pace. The takeoff stage involves modernization of the regions operations aligned to the developed societies, through ease of technological penetration, advanced financial investments and political changes underpinned by globalization and global economies. The drive to maturity comprises of diversification, investments, limited importation and high ability to innovate. The High mass consumption is characterized of business sophistication, invention and service oriented economies of highly automated systems.

In reference to this model, S. S Africa is within the takeoff stage of development; however most of her economies are not sure of this. The indication of capacity for innovation, as a factor for development shows that S.S Africa should begin to invest in science and technology, manufacturing operations, empress advanced financial institutions, accept the political climatic changes and limit imports with a vision of becoming self sustainable. This takes time and painstaking phases of development. For this to be fulfilled, I recommend the following.
1. Market union

Borrowing a leaf from the European market economies, regional integration of the S.S African economies should be of priority. This forms a platform for diversifying output above raw production leading to production of higher value added goods that can compete adequately in the global economies. Economies such as South Africa, Nigeria, Kenya, among others depend highly on intra-African economies. The union should draft market regulations and policies aimed at protecting its infant firms and monitoring trends of economic growth.

2. New ties of economic networks

S.S Africa should open doors for second world economies. Products that cannot penetrate the first world markets due to quality standards can be traded to flexible markets of China, India, Singapore and Latin American economies.

3. Economic environment

S.S Africa should establish advanced financial institutions equipped with up to date systems to process real time transactions in addition to forecasting future market trends. The environment should encourage inter firm relationships, through clustering industrial ports such as in Southern Africa or West Africa.

4. Research and Innovation

In reference to the S.E Asia, S.S. Africa should allocate huge funds on research and innovation through establishment of properly equipped scientific research institutions both at the local and national levels in order to tap the noticed and unnoticed creative brains. Singapore as an example, invested heavily in establishing the science and technology sector, which has enabled it to rise to the top ranks of the international economies.
Reference


Frăsineanu, 2008. The porter’s theory of competitive advantage. 7 (36), pp. 3493-3498.


Ut Tran Thi, (unpublished) Data in a research. Handout.


Annexes

Annex 1: Regions of study

According to the United Nations Statistics Division Standard Area Classification, the countries for the regions in respect to the study scope are listed below.

Annex 1a: List of countries forming Sub Saharan Africa, South East Asia and Europe as ranked in the GCI report.

<table>
<thead>
<tr>
<th>Sub Saharan Africa</th>
<th>Country/Economy</th>
<th>South East Asia</th>
<th>Country/Economy</th>
<th>Europe</th>
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Annex 1b: List of countries forming East, Middle, Southern and West Africa.

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Annex 2: Tables

Results for:

1. Southern Africa

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<td>12th pillar: Innovation,</td>
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Observations: 26

Standard errors in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

b)

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7.01 Cooperation in labor-employer relations,  1.66  
(21.84)
7.03 Hiring and firing practices,  -12.27  
(23.50)
7.06 Reliance on professional management,  8.04  
(20.88)
10.02 Foreign market size index,  -5.09  
(10.73)
12.01 Capacity for innovation,  -16.88  
(19.59)
12.02 Quality of scientific research institutions,  -18.27  
(17.19)
12.06 Availability of scientists and engineers,  44.19*  
(18.85)

Constant  26.00  
(104.08)
Observations  26

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

2. East Africa

a)

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<td>(6.68)</td>
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</table>
Bilateral donor flow & 0.01 & (0.01) \\
Multilateral donor flows & 0.00 & (0.01) \\
FDI inward stock & 0.00 "" & (0.00) \\
Constant & -59.48 & (49.69) \\
Observations & 66 & \\

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

b)

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilateral donor flow</td>
<td>0.00 (0.01)</td>
</tr>
<tr>
<td>Multilateral donor flows</td>
<td>0.01 (0.01)</td>
</tr>
<tr>
<td>FDI inward stock</td>
<td>0.00 (0.00)</td>
</tr>
<tr>
<td>7.01 Cooperation in labor-employer relations,</td>
<td>5.29 (7.60)</td>
</tr>
<tr>
<td>7.03 Hiring and firing practices,</td>
<td>1.26 (4.62)</td>
</tr>
<tr>
<td>7.06 Reliance on professional management,</td>
<td>-16.49* (7.68)</td>
</tr>
<tr>
<td>10.02 Foreign market size index,</td>
<td>0.32 (3.77)</td>
</tr>
<tr>
<td>12.01 Capacity for innovation,</td>
<td>4.98 (6.15)</td>
</tr>
<tr>
<td>12.02 Quality of scientific research institutions,</td>
<td>3.12</td>
</tr>
</tbody>
</table>
12.06 Availability of scientists and engineers, -3.92 (4.08)

Constant 23.89 (43.62)

Observations 66

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

3. West Africa

a)

West Africa (model fit: Random effect)

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th pillar: Labor market efficiency,</td>
<td>4.21</td>
</tr>
<tr>
<td></td>
<td>(3.50)</td>
</tr>
<tr>
<td>10th pillar: Market size,</td>
<td>8.91***</td>
</tr>
<tr>
<td></td>
<td>(1.94)</td>
</tr>
<tr>
<td>12th pillar: Innovation,</td>
<td>1.07</td>
</tr>
<tr>
<td></td>
<td>(4.04)</td>
</tr>
<tr>
<td>Constant</td>
<td>-34.90*</td>
</tr>
<tr>
<td></td>
<td>(15.15)</td>
</tr>
</tbody>
</table>

Observations 64

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

b)

West Africa (model fit: Fixed effect)

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.01 Cooperation in labor-employer relations,</td>
<td>-0.79</td>
</tr>
<tr>
<td></td>
<td>(1.90)</td>
</tr>
<tr>
<td>7.03 Hiring and firing practices,</td>
<td>2.26</td>
</tr>
<tr>
<td></td>
<td>(2.27)</td>
</tr>
<tr>
<td>7.06 Reliance on professional management,</td>
<td>-3.50</td>
</tr>
<tr>
<td></td>
<td>(2.86)</td>
</tr>
</tbody>
</table>
10.02 Foreign market size index, 4.25*  
(1.87)

12.01 Capacity for innovation, 7.18*  
(3.24)

12.02 Quality of scientific research institutions, -3.73  
(2.98)

12.06 Availability of scientists and engineers, 4.43  
(3.02)

Bilateral donor flow 0.00  
(0.00)

Multilateral donor flows 0.00  
(0.00)

FDI inward stock 0.00***  
(0.00)

Constant -31.75  
(16.68)

Observations 51

Standard errors in parentheses  
*  \( p < 0.05 \), **  \( p < 0.01 \), ***  \( p < 0.001 \)

4. Middle Africa

a)

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
</table>
| 7th pillar: Labor market efficiency, | -17.21*  
(7.52) |
| 10th pillar: Market size, | -0.65  
(3.61) |
| 12th pillar: Innovation, | -0.06  
(7.20) |
| Bilateral donor flow | -0.01***  
(0.00) |
Multilateral donor flows  
 0.03***  
(0.01)

FDI inward stock  
0.00  
(0.00)

Constant  
52.72*  
(23.63)

Observations  
12

Standard errors in parentheses  
* p < 0.05, ** p < 0.01, *** p < 0.001

5. Country levels.

a) Kenya

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
</table>
| 7th pillar: Labor market efficiency, | 61.13  
(30.01) |
| 10th pillar: Market size, | 14.69  
(39.31) |
| 12th pillar: Innovation, | -55.60  
(79.99) |
| Constant | -110.36  
(400.54) |

Observations  
7

$R^2$  
0.65

Adjusted $R^2$  
0.29

Standard errors in parentheses  
* p < 0.05, ** p < 0.01, *** p < 0.001
### Singapore

**Singapore (model fit: Fixed effect)**

<table>
<thead>
<tr>
<th>Factors</th>
<th>FDI numbered</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.01 Cooperation in labor-employer relations,</td>
<td>-155.77</td>
</tr>
<tr>
<td>7.03 Hiring and firing practices,</td>
<td>0.00</td>
</tr>
<tr>
<td>7.06 Reliance on professional management,</td>
<td>285.62</td>
</tr>
<tr>
<td>10.02 Foreign market size index,</td>
<td>76.21</td>
</tr>
<tr>
<td>12.01 Capacity for innovation,</td>
<td>-185.24</td>
</tr>
<tr>
<td>12.02 Quality of scientific research institutions,</td>
<td>0.00</td>
</tr>
<tr>
<td>12.06 Availability of scientists and engineers,</td>
<td>49.34</td>
</tr>
<tr>
<td>Constant</td>
<td>-302.88</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observations</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>$R^2$</td>
<td>1.00</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.</td>
</tr>
</tbody>
</table>

*Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$