博士論文

Market Attractiveness, Industries Environment Competitiveness, Entry Mode Choice Analysis

- Methods Applied, AHP, SWOT, Malmquist Index, Stepwise -Regression, and Proxy Framework Methods (SSA region)-

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Abstract:

Purpose: The principal objective of this study is to conduct empirical research on potential attractive markets in Sub-Sahara African, based on general macro environment and industry competitive analysis, to differentiate, identify, and highlight those countries with potential attractive markets and the ones with higher risks for investment. Measure and document the influences of the supporting industries total factor productivity in agriculture, electricity, gas & water and financial sectors in overall potential market attractiveness. The results, meant to establish the effectiveness of the existing policies also as basis for remedying any shortfalls for long-term sustenance of potential attractive markets and robust development of the region. The general macro analysis and the industry competitiveness, analyzed in terms of standalone and trading blocs to identify the industries contribution on potential attractive markets. Lastly, the author seeks for a viable entry mode choice in SSA markets, applying Dunning's eclectic theory. The goal of the outcome is to enable organizations senior managers make efficient and faster competitive actions and responses in strategic decision-making process on potential markets in Sub-Saharan countries.

Design/Methodology/approach: Due to the economic and social complexities of the Sub Saharan region coupled with deficiency of data in the firm level. This study adopts hybrids of techniques for exhaustive analysis. The general macro environment analysis for market attractiveness in chapter 2 adopts analytical hierarchy process (AHP) and SWOT methods. The supporting industries analysis in chapter 3 applies DEA based Malmquist Index (1953), to calculate the trend in total factor productivity of the agriculture, energy and financial sectors, and stepwise regression, to examine the contribution of the input variables to the formation of the total factor productivity growth. The industry competitiveness analysis in chapter 4, integrates various tools from different scholars, which includes qualitative SSA's economics development literature review, the traditional long-term (Porter competitiveness 90s), the input-output tables (Manfred et.al, 2013), and the DEA based Malmquist TFP Index (Fare et.al 1994). Lastly, in chapter 5, the market entry mode, adopts Dunning's eclectic theory qualitative methods.

Findings: In general macro-environment the resulting priorities reveals attractive market potential in twenty SSA countries. However, in terms of the contributions or effects of total factor productivity growth and the industry competitiveness on overall market attractiveness the results reveal

horrendous performances. The supporting industries total factor productivity results reveals, regressive state in agricultural and energy sectors in most of the countries. While the industry competitive analysis reveals, in most countries the industries are using outdated technologies, the major cause of mediocre performance especially in the secondary sector or manufacturing the least contributor in overall potential attractive markets. In standalone markets, Angola is the most competitive in almost every industry. However, in overall market attractiveness, Mauritius is the best practice model. In trading blocs, the Southern African Development Community (SADC) is the most competitive and the region with the potential attractive market. This analysis provides better understanding of the trade-offs in the decision making process and the effectiveness of applying various models in decision-making processes. Combining AHP absolute measurements with MI index, Input- Output tables and Dunning's eclectic in multi-criteria decision problem offered comprehensive results on theoretical and practical problems.

Research Limitations/ Implications: Follow up study is necessary in market attractiveness model with more variables in sub-criteria level for better assessment of the overall markets. Moreover, more research is necessary in most of the countries especially those countries where the supporting industries are liabilities and yet have higher weighted priority in general macro environment.

Practical implication: The hybrid of various models is expedient tools for those searching for new markets in Sub-Sahara African or other developing countries.

Originality value: The research advances the body of knowledge on market attractiveness by addressing the shortcomings of the traditional macro analysis (PEST) and expands past studies on developing countries market potential analysis. In addition, the authors designed useful scholarly frameworks for industry environment analysis and suggested the viable mode of entry in SSA markets. Expanded or advanced the analytical hierarchy process by incorporating conventional relative measurements with conventional absolute in multi-criteria decision-making minimizing subjectivity in the global environment. Combined and expanded the Porters five forces with a proxy framework for better industry evaluations by adding time dimensions.

Key words: *Market attractiveness, SSA, Analytical Hierarchy Process, Criteria, Decision Alternative, Competitive analysis, Total Factor Productivity, DEA Base Malmquist Index, Technical efficiency, Technical change, Mode of Entry.*

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Abbreviations:

Abbrev.	Definition.
AHP	Analytical Hierarchy Process.
COMESA	Common Markets for Eastern and Southern African
CPIA	Country Policy & Institutional Assessment.
DEA	Data Envelop Analysis.
DRC	Domestic Resource Cost.
ECOWAS	Economic Community of West African States.
FDI	Foreign Direct Investment.
GDP	Gross Domestic Product.
GII	Global Innovations Index.
HDI	Human Development Index.
I/O Model	Industrial Organization Model.
IT	Information Technologies
JAICA	Japan International Corporation Agency.
JVs	Joint Ventures.
LPI	Logistic Performance Index.
MATLAB	Matrix Laboratory.
MI	Malmquist index.
MPI	Malmquist Productivity Index.
PEST	Politics, Economics, Social, Technology
PESTI	Politics, Economics, Social, Technology, Infrastructure.
RBM Model	Resource Based Model.
SADC	Southern African Development Community.
SSA	Sub-Saharan Africa.
SWOT	Strengths, Weaknesses, Opportunities and Threats.
TC & TE	Technical change and Technical Efficiency.
TFP	Total factor Productivity.
WOS	Wholly Owned Subsidiaries.

Synopsis:

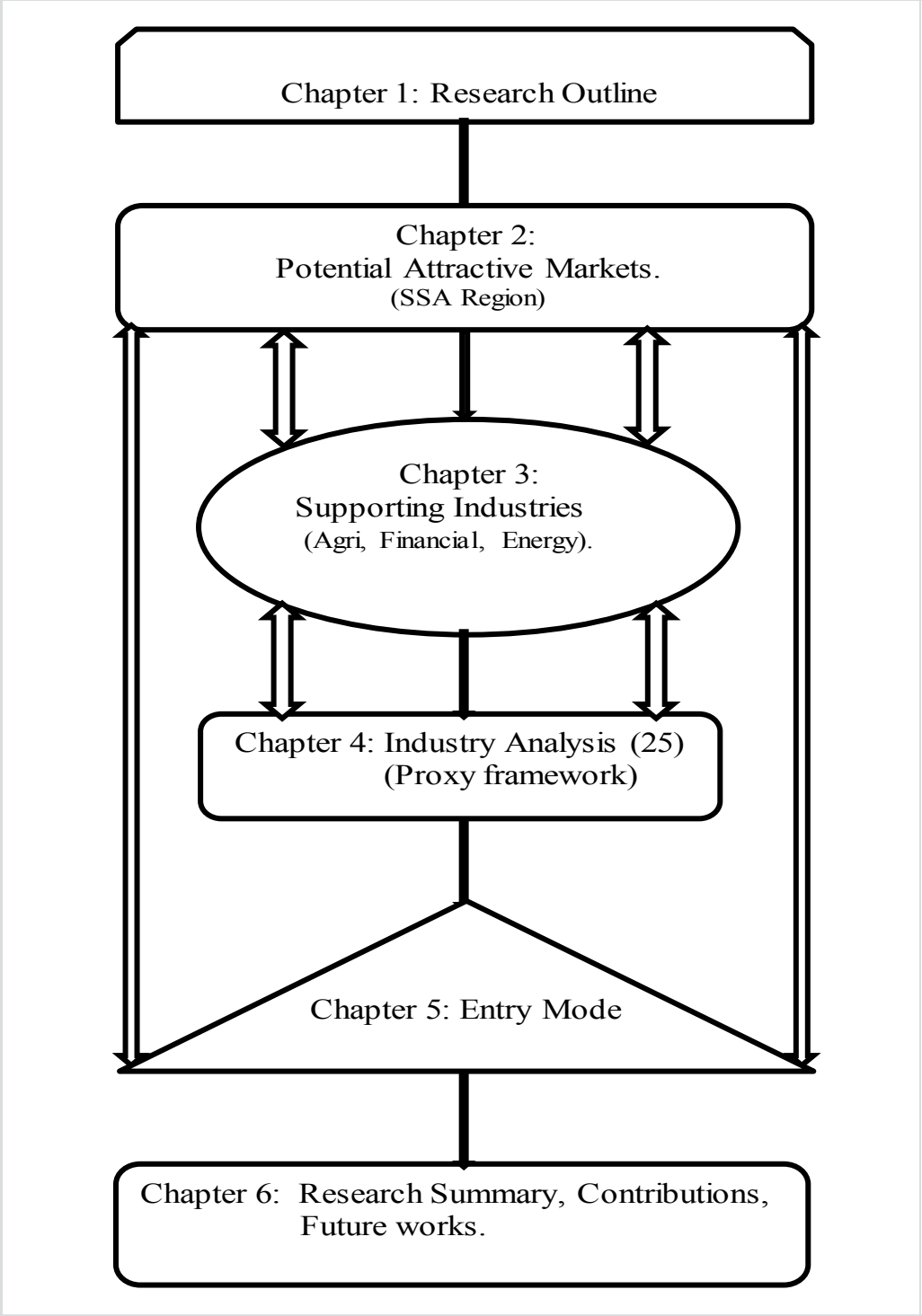

Figure 1.1 Research Outline Flow Chart (SSA).

1. Introduction (SSA Region):

The SSA region differs from the developing countries in Mediterranean Africa, Asia and Latin America in terms of social cultural, political systems, the level of the economic development, and geographic climatic conditions. Their markets characterized, by higher degree of risk than their developed counterparts do. Nonetheless, the strengths of the African continent are its richness in natural resources. The continent has 50 % of the world's gold, most of the world's diamonds and chromium, 90 % of the cobalt, 40 % of the world's potential hydro-electric power, 65 % of the manganese, millions of acres of untilled arable farmland as well as other natural resources (Williams, 1997). The region, expected to maintain the second fastest economic growth globally, with a forecasted real GDP growth of 47.1 % in 2013-2020 (Eghbal, 2013). Currently, the general economic environment in SSA region performance is better than the last three decades. In the year 2014, the GDP growth averaged 6.6 % up from 4.2 % in 2013. Consumer industries and infrastructure investments are the primary benefactors of the rapid growth. The opportunities in Africa are increasingly evident, by the year 2035; the continent will have the largest workforce with over half of the population currently under the age of 20. Over the last decade improvements in macroeconomics and a burgeoning and fast growing South-South trade and investment flow with over US$170 billion with China alone. Across various sectors Africa presents ample prospects with US$2.6 trillion of revenue expected by 2020 across resources, agriculture, consumer and infrastructure, of which US$1.4 trillion will be exclusively in consumer industries (Ernst &Young`s, 2013).

In historical and geographical perspective, the entire continent consists of 54 small independent countries in total, 48 considered as the SSA region. Inappropriately, Europe's arbitrary post-colonial demarcation left Africans bunched into countries that do not represent their cultural heritage; a contradiction that still troubles the region even today. These artificial borders have often led to border conflicts; the uncertainties of the borders demarcation between Eritrea and Ethiopia, Mali and Burkina Faso, Nigeria and

Cameroon, Senegal and Mauritania were the cause of the atrocious and avoidable wars (Zartman, 2001). The most common characteristic of the SSA countries, they are landlocked therefore, supply chain requires frequent border crossings, which is very difficult to manage due to poor infrastructures maintenance and lack of modern technology. A major hindrance for economic growth since it imposes excessive extra cost on transportation of goods. Solving these barriers may reduce the cost in supply chain as well as promote trade across industries, while attaining regional social and economic integration. Since 2005, the Japanese International Corporation Agency (JAICA) has comprehensively studied and aided the development of cross border transport infrastructure (CBTI) in Africa. Hereby, JAICA defines infrastructure as the transportation crossing several borders. Widely, the infrastructure includes hard infrastructure or physical and soft infrastructure. The hard infrastructure includes highways, railroads, cargo transshipment facilities, international border facilities, weighbridges, and inland container depots among others. The soft infrastructure includes cross border transportation laws and regulations related to border crossing such as clearance quarantine, organization systems and resources for smooth operations and hard operations maintenance (JAICA, 2012). According to the regional director of the African Development Bank, Africans have known for more than 50 years that, the infrastructures lags behind and it should be prioritized due to the fact that, the African growth has caused huge demographic shift from rural to the urban areas and the infrastructure has not kept pace with the growth. The director emphasizes that, over 30 countries have prolonged power problem, and transportation cost are on the rise increasing the cost of goods by approximately 75 % in some of the landlocked countries. He emphasizes that, for the next decade, Africa needs to spend almost US$90 billion a year to upgrade and maintain its crumbling infrastructure (Faal, 2013).

In spite of the current substantial political and economic improvements over the past decade, a major threat in the region remains widespread extreme poverty. Over 800, million people are still struggling against extreme poverty and the situation may worsen with the population projected to be 1.7 billion by 2050 (JICA, 2013). According to the latest global poverty update for the first time since 1981, less than half of the African

population of 47 % lived below $ 1.25 a day in 2008; the rate was 51 % in 1981. However, the $1.25 a day poverty rate in SSA has fallen 10 percentage points since 1999. The facts are, severe development challenges still remains in Africa, where approximately one in every two people currently, lives on $1.25 a day (World Bank, 2012). Moreover, the neglected tropical diseases (NTDS) and HIV virus aggravates and compounds further the level of poverty. Since the epidemic of HIV aids globally about 70 million people are affected by the HIV virus and 35 million have died from it, SSA remains the most severely affected region with nearly every 20 adults (4.9 %) living with HIV and accounting for 69 % of the people suffering with HIV worldwide (World Health Organization, 2013). Far from the HIV aids virus, Neglected Tropical Diseases are not necessarily serious health hazards; nonetheless, they are an integral cause of poverty to many families. Primarily found in Asia, the Pacific, Central and South America. Nevertheless, the majority of the people infected with NTDs live in Sub-Saharan Africa and in order to achieve the millennium goal of poverty eradication there is a greater need for NTDs control and if this can be attained it will be a huge relief on developing countries vulnerable economies (O`Brien MP, 2008).

Tribal conflicts and terrorism are other major problems, though the rate of tribal wars occurrence has subsided considerably still the problem crops up now and then due to uneven distribution of wealth from natural resources, and cattle grazing and watering pasture areas. Although terrorism is a relatively new problem brought by religion differences, the Islamist radicals have taken advantage of weak central governments, un-manned porous borders, under-trained and under-paid police forces and flourishing drug cartels (Olga Khazan, 2013). Relatively, the negative image of the continent as a whole conceals the complex diversity of the economic performance and the existence of investment opportunities in individual countries and various trading blocs. Besides the negative image problem the situation, aggravated further by inadequate data collection methods due to the robustness of the informal sector. In spite of all these obstacles, economists expect to see US$ 1.4 trillion in spending by African consumers in 2020 (Mahinda, 2013). The share of foreign direct investment (FDI) is slowly improving Africa's share of FDI projects reached 5.7 % in 2013 the highest level ever experienced

in the region. While the number in SSA region alone increased by 4.7 %. Within SSA, the Southern Africa leads in terms of the absolute numbers of FDI projects while both East and West Africa have experienced strong growth rates (Nibbe & Sita, 2014). Today, most of the SSA countries have evolved from the past economic mediocrity into stable developing countries with great future market potential.

1.1 Research outline:

Though the issues of globalization are still controversial, presently there is convincing argument that it has led to technologies innovations enhancing productions and services deliveries. Consequently, the innovations has ushered a world without boundaries. Flows of knowledge and information via computers, TVs, satellites, the web, and the internet have revolutionized and hastened the global business environment interlocking once stand-alone and bloc markets (Bhandari & Heshmati, 2005). The rate of ideas exchange has increased tremendously altering consumer perception and preferences while boosting countries' economies, trade, technologies and enhanced well-being. Nonetheless, understanding the global business environment and its complexities is a challenge especially when, each country's market environment is composed of unique cultural, political, legal and economic characteristics that defines or dictates how business is conducted in host nations; this set of national characteristics may differ greatly from country to country. Subsequently, globalization not only can be helpful on achieving candid development but also, when the conditions are inadequate, or managed poorly. The local response or lack of response can ultimately cause greater damage than good in developing countries (Tadaro & Smith, 2003). Nonetheless, once closed global markets to foreign companies are now open, and its ultimate effect on trade will only increase the importance of standalone countries and regional trading blocs. However, organizations managers faced with overwhelming opportunities of potential markets, commits two fallacies in search for potential attractive market. Either they spend much time pursuing poor prospects or they totally ignore countries with great potential

markets in the screening process. Hence, in the search for potential markets in Sub-Sahara African region (hereafter SSA) the author strives to avoid committing these fallacies, focusing solely on 20 prescreened countries analyzed using general macro indicators for potential markets.

Albeit the considerable increase of globalization in developed and emerging economies, most markets in developing countries are still under researched especially the SSA region, which is empirically underserved, concealing yet untapped and unknown potential attractive markets. This is due to the regions past social, political and economic difficulties, creating negative perception and attribution forcing cautious potential investors to avoid the region. Accordingly, arguably various researchers in matters of international business research have concentrated on developed and emerging economies where necessary technology and data are readily available. Therefore, the endeavor of this study focuses on the neglected potential attractive markets in SSA region with intentions of highlighting the attractive markets in terms of standalone and trading blocs.

Deviating from the traditions of market analysis, the research addresses the anomalies of using the traditional general macro environment analysis and incorporates industry competitive analysis to magnify the impacts of the industries competitiveness and their contributions towards the overall market attractiveness. Inserted in between the general macro environment and industry competitiveness analysis are the measurements of the supporting industries (agriculture, energy, and financial sectors) total factor productivity growth (TFP). With the goal of finding the impact or effects of these, related supporting industries on overall potential attractive markets. The findings are important bearing in mind, in the past researchers have indicated that the three supporting industries are primarily responsible for the regions slow economic growth and especially the cause of declining agricultural and manufacturing sectors impacting negatively on potential market attractiveness. To conclude the study, based on the industry needs the author suggests the viable entry mode choice. The goal of the outcome is to screen and highlight those countries or trading blocs with greater overall potential market

attractiveness and those with greater risks for investments. The study consists six chapters, briefly outlined below.

Chapter 1 conveys the research outline; chapter 2 addresses the issues of the potential market attractiveness applying the traditional general macro environment analysis. Adopted are two methods the SWOT analysis tool the regions strengths, weaknesses, opportunities and threats and the analytical hierarchy process (AHP). SWOT tool was necessary to highlight the current conditions of the region. Suggested by Professor Yukihiro Maruya, the analytical hierarchy process (AHP) a multi-criteria decision-making technique allows the inclusion of subjective factors in arriving at a recommended decision. In this case the resulting AHP priorities, ranked based on the weighted average for potential growth and sourcing opportunities on each country's general macro environment. In the prescreening process the technique, used to filter those countries with great prospects and those with higher risks emphasize on social/ cultural issues. The application of the macro indicators in the screening process serves as the minimum standard that a country must satisfy in order to proceed to the next stage or the micro level considerations based on the weighted averages score. For complete reading on potential attractive markets, please refer to chapter 2.

After the screening process, only the top 20 countries commendably weighted proceeds for micro level considerations in chapter three and four. As afore mentioned chapter 3 measures the TFP growth to appraise the influence or impacts of the supporting industries (agriculture, energy, and financial sectors) on market attractiveness and their influence on industry competitiveness. The appraisal is important with over 30 countries having chronic power problem. A binding constraint for most large firms and small firms and the situation, further aggravated by inadequate financial access and lack of clean water. Further considered, as the cause of decline in agriculture productivity and manufacturing sectors primarily attributed to outdated infrastructure especially, in power generation, transportation, hazardous business environment, low education and health among other problems (Hinh & George, 2012; Justin, 2012; Kei, 2013). Therefore, assessing or analyzing the current conditions of the supporting industries will

enhance the decision-making process enabling organizations to create more cost effective and innovative methods of production.

The term “supporting industries” is relatively new, its etymology, Japanized - English, gained popularity in mid 1980s when the Japanese government first used it in its official documents. Currently, the term, extensively used in various countries however, its true meaning is still ambiguous with no global consensus of its definition. Nevertheless, it depends largely on the user assumedly to include all those industries, which provide production inputs or narrowly as those industries that provide only parts, components and tools (Kenichi, 2007). In this case, the author applies the term to depict the crucial sectors, which enhances productivity growth in incremental output while also boosting the industries global competitiveness. Porters (1980) observes, when local supporting industries are competitive, firms enjoy more cost effective and innovative inputs. The analysis, conducted through productivity growth, which is not only essential to increase output, but also to improve the competitiveness of the industries in both host and international markets. For complete readings please, refer to chapter three.

Chapter 4 is included into the potential attractive markets analysis because of the anomalies caused by the traditional macro indicators. These indicators describe the potential attractive market as a whole based on the conformity with politics, economic, social and technology (PEST). Nonetheless, though enlightening the macro indicators rarely identify the current state of the industries. Therefore, in this chapter the author incorporates into the analysis the industry competitiveness of 25 industries to identify their contributions and influences towards potential market attractiveness. This is crucial because, a country may have a competitive potential market in mining but inefficient and unproductive manufacturing or services. In international business study, seldom the research goes beyond the general macro indicator analysis this is because in developed countries the markets are mature and well defined, thus no need for analyzing the market beyond the general macro environment. However, in most developing countries especially the SSA region the markets are still in infant stage, characterized by incomplete information systems.

The industry competitiveness, analyzed using Malmquist Index and input-output technique as a proxy framework a substitute for Porters Five Forces. The proxy framework is necessary due to data unavailability on the firm level. The decomposition of the MI makes it ideal since it does not require behavioral objective. The goal is to identify the industry competitiveness and technology level in standalone and bloc markets using panel data between the periods (2003-2007 and 2007-2011). It is important to identify the level of technological progress to identify the needs of the industries, whether to adopt neutral, laborsaving or capital saving technologies. This period is meaningful due to the facts that it is in between the markets liberalization in 2000 in most of the SSA countries and the global recession in 2008. The analysis, conducted with the notion, the competition within the industries, grounded in its economic structure that goes beyond the behavioral of the existing competitors. Lastly, grouped together are the related industries to find their impacts and contributions towards the overall potential attractive markets. Please, refer to chapter 4 For further readings.

Chapter 5, based on the state of the industry competitiveness analysis theorizes Dunning's eclectic framework on the entry mode choice. The mode has been the subject of various empirical studies as well as an important theoretical consideration in manufacturing and service sectors (Argawal & Ramaswami, 1992; Erramilli & Rao, 1993; Andersen, 1997; Roberts, 1999; Domke-Damonte, 2000). This makes the mode the third most researched topic in international business behind foreign direct investment and internalization (Werner, 2002, Anne & George, 2007). Conversely, in SSA region the viable mode of entry is still unknown. Therefore, after exhausting the search for potential attractive markets the author recommends the appropriate means of entry mode choice in SSA markets based on external and internal factors applying Dunning`s eclectic theory. In this study the market entry mode defined, as the structural agreement that allows a firm to implement its product market strategy in a host country either by carrying out marketing operations only (via export modes) or both production and marketing operations by itself or in partnership with others. This could be contractual Modes, Joint Ventures, or Wholly Owned operations (Sharma & Erramilli,

2004). Applied in chapter 2 on potential attractive market, were the external factors or the macro indicators (PEST) also acknowledged as exigency variables with great impact on entry mode choice (Terspra & Yu, 1988; Kogut & Singh, 1988; Argarwal, 1994; Root, 1994; Barkema, Bell & pennings, 1996). Finally, presented in chapter 6 is the research summary and recommendations. Therefore, the prior observed general macro indicators were sufficient to cover both potential attractive market analysis and the entry mode choice.

1.2 Nature of the problems:

The SSA region, well known for various practical and theoretical problems, which ranges from deficient education systems, which not only affect the business environment but also hinders quality and focused research due to inferior statistical data collection methodologies for meaningful analysis. Hence, although there are tons of literatures that concerns to potential attractive markets pre-screening and selection process in developed and emerging markets. Empirical research on potential market attractiveness opportunities in SSA countries remains limited in both quantity and focus (Peter & Maruyama, 2015). The region past social, political and economic situations creates negative perception and attribution. Justifiably so, various researchers have focused their research on potential attractive markets at developed and emerging economies where technology and data are readily available. Hence, the absence of trends database on output and productivity by sectors that relate the industrial sectors efficiency and productivity growth to businesses and industrial growth or that traces changes in industrial sectors overtime in SSA region. For many managers, the situation dispossesses the chance of applying problem - scenario approach in decision-making process for much desirable potential attractive markets investments.

Apart from the absence or lack of trends database, the past few researches on Mediterranean Africa, perceives the traditional market analysis on purely macroeconomic and political factors of which at the outset, fails to account for

developing market's vitality and future potential resulting from rapid change, and national attributes that affect specific sectors and market receptiveness (Sakarya , Eckman & Hyllegard, 2006). Moreover, the analysis mainly deals with economics and economic systems, which identifies the relation of market attractiveness only to two sets of factors deriving from two points of view: economic & financial and political (Saaty 1980; Tripodo & Dazzi, 1995; Abid & Bahlouh, 2011). Nevertheless, these two set of factors are inadequate to address fully the complexities of market attractiveness in SSA region. The region not only differs from those of other developing countries in Mediterranean Africa, Asia and Latin America in terms of social cultural, political systems and the level of economic development, but also in geographic climatic conditions, energy, transport logistics and communication infrastructure.

Furthermore, apart from the theoretical research arguments there are also practical problems with various credible world bodies addressing chronic problems in energy, financial and transportation infrastructures, in the region thus the need to assess the effects or contributions of the supporting industries on overall market attractiveness. For example, according to an intensive Enterprise Survey conducted by the World Bank (2012), over 30 countries in the region have prolonged power problem, and transportation cost are on the rise increasing the cost of goods by approximately 75 % in some of the landlocked countries. In addition, the main binding constraints for many small and large businesses in SSA were access to finance and electricity a major cause of manufacturing slump in the region (Justin, 2012). The problems, compounded further by most countries commodity and resource markets are imperfect, producers, consumers have limited information, and rarely do prices equate the laws of supply and demand. Certain groups and political elites influence the allocation of scarce resources usurping the role of power in economic decision-making process.

Other problems pertain to measurements issues especially, on productivity growth, with few researches addressing past inefficiencies in the SSA industries using simple measures of efficiency such as the domestic resource cost and effective rates of protection in relation to global production. Disappointingly, these measures though enlightening about the magnitude of the inefficiencies leaves decision makers without a

solid base for suggesting means of remedying the situation (Howard, 1992; Paul, 1999; Garth & Francis, 2009). This study incorporates various techniques such as AHP technique in general macro environment with Malmquist Index (MI) and input-output techniques in industry environment competitiveness. The hybrid of various techniques offers better assessments of the effectiveness of the existing policies as basis for remedying economic shortfalls for sustenance of the long-term robust development in potential market attractiveness (Ethel, 2009; Margaret, 2014; Carlos, 2014). The study also addresses the issue of the viable entry mode choice in SSA markets, still under researched, with past research based primarily only on FDI (Elizabeth, 2006; Elias, 2009; Rubaiyat & Sha, 2011).

The problems are undertaken, with high expectations to provide yet untapped useful insights on the potential attractive market in SSA region. While also providing a critical look on the industries state of competitiveness and technology level, focusing on three major questions, (1) is there potential attractive market in SSA region. (2) What are the impacts or effects of the related supporting industries namely, agriculture, gas & water and financial sectors on overall potential attractive markets and what are the contribution of the input variable in the composition of the TFP growth? (3) What is the impact or the effects of the current state of the industries competitiveness and the level of technology on overall potential market attractiveness? (4), what is the viable entry mode choice in SSA trading blocs? For in-depth analysis, the study adopts various methods. To address the first question adopted the analytical hierarchy process (AHP) and SWOT methods. Applied for the second question, data envelopment analysis (DEA) based Malmquist Index and stepwise regression analysis for the second part of the question. The third question is addressed through proxy framework designed using various scholarly tools with policy makers and top managers in mind. Lastly, answered is the fourth question using Dunning's eclectic theory. The goal of the outcome is to identify the overall market attractiveness, measure and document the three sectors productivity growth, and the industries competitiveness for cross section of the countries and benchmark the valuation of the sectors for furthering policy actions and

business operations. Assess the appropriate entry mode choice in the markets based on the conditions of the industries environment competitiveness.

1.3 Objectives:

The primarily objective of this study is to present quantifiable focused and comprehensive theoretical and practical results in international business studies aberrant from the pitfalls of traditional potential attractive markets analysis. Customarily, the general macro indicators are the variables applied for potential market attractiveness. As indicated earlier the pitfalls of applying these variables, describe the market as a single entity, and seldom highlight the current state or the industry performances. Satiated is this problem, by conducting empirical research that incorporates the traditional macro environment analysis with industry competitiveness analysis while also assessing the effectiveness of the crucial supporting industries on market attractiveness.

Whereas past researches perceives traditional market analysis on purely macroeconomic and political factors of which at the outset, fails to account for developing market's vitality and future potential resulting from rapid change, and national attributes that affect specific sectors and market receptiveness. This problem is aggravated further, since the analyzed data mainly deals with economics and economic systems. Which identifies the relation of market attractiveness to only two sets of factors deriving from two points of view: economic & financial and political whereby these two set of factors are inadequate to address fully the complexities of market attractiveness in SSA region. To riposte the problems the author emphasizes on social cultural issues, while also expanding the traditional market analytical model political, economic, social/ cultural and technology (PEST) views with indicators, logistics and transport infrastructure into limited easily comprehensible priorities based on the degree of conformity between potential or existing market environmental factors at the macro level (national level). The reaction expands the traditional analytical model from PEST to PESTI. With expectations of capturing and addressing, the effects of the crumbling infrastructure on

overall market attractiveness. The emphasize is on the external environment of each country`s social/cultural, political/ legal, economic and technological. Nevertheless, researchers and business managers understands that applying the macro factors in the general environment only reveals the market attractiveness or unattractiveness as a whole. This does not highlight or reveal the respective industries performance in terms of competitiveness. Therefore, it is necessary to unpack the macro indicators and conduct industry competitive analysis of each country, to identify the impact of industries competitiveness on overall market attractiveness. While also assessing the impact of the supporting industries namely agriculture, energy and financial on potential attractive market. This not only reveals the conditions of the overall market attractiveness but also highlights the regions current industry competitiveness. The goal is to seek for a practical solution for policy makers and senior managers. While also creating a trend database on output and productivity by sectors, which will relate the industrial sectors efficiency and productivity growth to businesses and industrial growth or that traces changes in industrial sectors overtime. This goes beyond the past research on simple measurements of inefficiencies on the SSA industries. In order to solve these problems, designs creative hybrid analytical frameworks that do justice and compatible with the SSA countries, while also enhancing the traditional analytical methods. Integrating into the analysis, tools developed by various scholars, including qualitative SSA economics sectors development literature review, the traditional long-term (Porter competitiveness 90s), the input-output tables (Manfred et.al, 2013), and the DEA based Malmquist TFP Index (Fare et.al 1994).

Finally, applying deductive arguments the study prescribes the viable mode of entry in the market based on the current state of the industries competitiveness and the level of technology. The compilation and applications of the hybrid analytical framework is better equipped to enlighten the magnitude of the industry's competitiveness through measuring total factor productivity growth. This offers better assessments of the effectiveness of the existing policies as basis for remedying economic shortfalls for sustenance of the long-term robust development (Ethel, 2009; Margaret, 2014; Carlos,

2014). In brief, the goals of this undertaking are to contribute in decision making to the field of research, and to the business sphere in the following:

- Highlight the countries and industries with greater or less potential for investment according to the country and industry attractiveness. While also expanding the knowledge of yet other untapped developing countries with great market potential by making extra efforts of going beyond the traditional macro general environment analysis to incorporating total factor productivity growth and industry environment.
- Introduce expert knowledge that incorporates economic and non-economic factors for sound judgment, upgrade or expand the traditional analytical model (political, economic, social, and technology "PEST" to "PESTI" by adding infrastructure variable for ease in decision making by organizations senior managers. Incorporate conventional relative measurements with conventional absolute measurements on AHP methodology for multi-criteria decision making in the global environment for subjectivity reduction.
- Document the current performance of the industries to establish the effectiveness of the existing policies as basis for remedying shortfalls for sustenance of the robust development over the long term.
- Incorporate macro general environment analysis with industry environment analysis for better evaluations in competitiveness. In addition, further knowledge base, on entry mode choice in SSA countries, thorough conceptual study on issues relevant to various organizations and markets in SSA trading blocs.

1.4 Methodologies Applied:

There are various Multi-criteria decision analysis approaches and Multivariate statistical methodologies used as geometric representations supporting multi-criteria decision-making. On the other hand, every so often it is hard to interpret the result as a map of the environment due to the dependency on the measurable statistical properties of the data rather than on, more correctly, the perception of the problem and its political and social ramifications as they apply to each country. After consultations with Professor

Yukihiro Maruyama about the ideal model for market attractiveness, AHP method developed by (Saaty, 1980) was the most appropriate tool for the market search being a simple decision analysis model that combines subjective judgment and system approaches. Currently, AHP model is widely used to solve various problems in Africa, such as, the suitability of community based management approach in forest reserves of Rwanda (Masozerra , Alavalapatib , Jacobsonc & Shresthab, 2006), assessment for potential multi-airport system in Cape Town South Africa, (Zietman & Vanderschureen, 2014) also for screening urban transport projects in Accra Ghana, (Jones , Tefe & Opuku, 2013). Also, incorporated, is the SWOT analysis, a simple widely used qualitative tool, which examines an organization, an industry or a country's strengths and weakness (internal factors) with opportunities and threats (external factors). The analysis provides the basic outline in which to perform the analysis of decision situations. In this situation the tool, used to examine the strengths, weaknesses, opportunities and threats of the SSA countries as an entire region or bloc market.

The methodology applied in chapter 3, is the DEA based Malmquist Index to calculate the trend in total factor productivity of three sectors (Agriculture, Energy and Financial), through the period (2001 - 2011) using trend data. Stepwise regression also applied, to examine the contribution of the input variables to the formation of the total factor productivity growth (TFP). These three industries (sectors) under considerations in chapter 3 are not only the supporting industries to the rest of the economy but also complement each other economically and a major hindrance for many small and big firms' performance in the region, causing major slump in manufacturing in the region (World Bank, 2012). In SSA region the effects of these industries on overall market attractiveness is still undocumented bearing in mind that over 30 countries experience frequent power shortage. The effects or the impacts of power shortage in those countries needs to be urgently addressed for better policy formulation favorable to market potential.

Chapter 4 adopts a proxy framework design from various scholarly tool for analyzing the industrial competitiveness and technology level of the industries in SSA region. Analyzing the industry competitiveness is necessary since the general macro indicators

view the market attractiveness as a whole. This does not highlight the state or performance of individual industries. Normally, the traditional industrial analysis models for competitiveness requires current or historical data on the firm's performances, allegedly determined by various industry properties, including the concentration of the economies of scale, the degrees of the firms in the industry, diversification, product differentiation, and market entry barriers. From the outset, this process ignores or fails to account for the firms' data unavailability in developing countries especially those regions in Africa. To overcome the hindrance, designed is a creative analytical framework for competitiveness. The analysis is conducted under the assumptions, holding everything else ceteris paribus MI > I indicates the industry competitiveness i.e. the greater the TFP the healthier the industry and the better it contributes toward overall potential attractive market. MI = I Indicates status quo or no changes in the industry. While MI < I indicates regression or a declining industry a liability towards overall market attractiveness. All industries, classified according to the goods and services per the International Standard for Industrial Classification (ISIC) of All Economic Activities, Rev.3.1. Lastly the industries, classified according to their relatedness to reveal their contributions or impacts on overall market attractiveness.

1.5 Data:

This research applies data from various sources, the macro- indicators indexes in chapter II, derived from the World Bank, UNIDO, and Country Watch etc. While the data used in Chapter III and IV were collected from Eurostat, (EORA, RIO input-output table) the statistical office of the European Communities which gathers and analyses figures from national statistical offices and provides harmonized data for Europe's business communities, professional organizations, academic researches, librarian`s , NGO`s media outlets and the general public.

2. Market Attractiveness (SSA):

In this chapter, the focus is to answer if there is potential attractive market in SSA region. For simplicity purposes the markets, grouped on standalone and bloc markets potential, evaluated based on the rate of economic development as validated by various reliable market and social indicators. These indicators identify countries and markets that organizations or investors should invest their vital resources for long-term commitment. In the context of international business studies, the host market potential is one of the most important explanatory factors in country attractiveness the primary driver in firms venture into international markets (Yoshida, 1987; Dana-Nicoleta, 2006, p. 173; Peter & Maruyama, 2015). This study, defines market attractiveness of the (countries) as consistent and robust growth of economic and non-economic factors at the macro level in recent years. In this case, a country potential related, to a set of variables economics /financial, political legal, social cultural, and technology/infrastructure with an ongoing improvement for the business environment, exponential growth in trade and investment and of substantial improvements in the quality of human life.

Due to the complexities of the SSA region political economy, emphasize is on social/cultural factors a major contributor of civil discord in Africa., Every so often the regions multi-ethnic composition is the primary cause of tribal conflicts, which affects the entire economic growth. For the best results, focus is on both standalone and regional trading bloc's attractiveness. Some of the standalone attractive markets also happen to be globally strategic markets the arena, where the current and future global competition occurs (Gillespie et.al, 2007). Most Sub-Saharan countries are landlocked which offers them geographic proximities with identical climatic conditions and logistical infrastructure. The regions strengths, weaknesses, opportunities and threats, which organizations may encounter in course of doing business in the region, assessed through (SWOT) tool. The chapter, structured as follows; section 2 explains how we define the market attractiveness. Section 2.1 introduces the SWOT components. Section

2.2 explains why AHP is the preferred tool relative to other available methods. Section 2.3 highlights the formula applied on the criteria, sub-criteria and the alternatives. Please note here, for originality purposes discarded, the usual tradition intensity measurements, adopted conventional relative measurement, and conventional absolute measurement in the criteria, weighted independently of the evaluation of the alternative. Results and recommendations presented in section 2.4.

2.1 SWOT Analysis:

A word of caution here, although these countries have almost similar problems, economically some are doing better and developing faster than others develop. Conducted, is the SWOT analysis of the entire region based on the current conditions. The major strengths of the African continent are its richness in natural resources. The continent has 50 % of the world's gold, most of the world's diamonds and chromium, 90 % of the cobalt, 40 % of the world's potential hydroelectric power, 65 % of the manganese, millions of acres of untilled arable farmland as well as other natural resources (Williams, 1997). The region overall is expected to maintain the second fastest economic growth globally, with a forecasted real GDP growth of 47.1 % in 2013-2020 (Eghbal, 2013). Therefore, senior managers in organizations should focus on targeted and tailored strategies for each country overall, the size of the SSA region. In markets attractiveness survey conducted by Ernest &Young in 2013, overall ranked Africa fifth out of other nine regions, a head of the former Soviet states, Eastern Europe, the Middle East, Western Europe and Central America. The respondents ranked Africa as the more attractive place for investments that is a significant improvement from the survey conducted in the year 2011 of which Africa was slightly ahead of Soviet states and Central America.

The opportunities in Africa are increasingly evident, by the year 2035, the continent will have the largest workforce with over half of the population currently under the age of 20; over the last decade improvements in macroeconomics and a burgeoning and fast

growing South-South trade and investment flow (with over US$170 billion with China). Across various sectors, Africa presents ample prospects with US$2.6trillion of revenue expected by 2020 across resources, agriculture, consumer and infrastructure, of which US$1.4 trillion will be solely in consumer industries (Ernst & young's, 2013). There are also formidable weaknesses facing the region despite the considerable improvement over the past decade. The major weakness, extreme poverty remains widespread in the region. Over 800, million people are still struggling against extreme poverty and the situation may worsen with the population projected to be 1.7 billion by 2050 (JICA, 2013). According to the latest global poverty update for the first time since 1981, less than half of the African population of 47 % lived below $ 1.25 a day in 2008; the rate was 51 % in 1981. However, the $1.25 a day poverty rate in SSA has fallen 10 percentage points since 1999 (World Bank, 2012). Apart from poverty, the current threats, which may jeopardize the business environment, are tribal conflicts and terrorism. Though the rate of occurrence in tribal wars has subsided considerably, the problem still crops up now and then due to uneven distribution of wealth from natural resources, cattle grazing and watering pasture areas. Terrorism, relatively a new problem exploited through corruption and religion differences. The Islamist radicals have taken advantage of weak central governments, un-manned porous borders, under-trained and under-paid police forces and flourishing drug cartels (Olga Khazan, 2013). Relatively, the negative image of the continent as a whole conceals the complex diversity of the economic performance and the existence of investment opportunities in individual countries and various trading blocs. In spite of all these obstacles, economists expect to see US$ 1.4 trillion in spending by African consumers in 2020 (Mahinda, 2013).

The historical and geographical perspective of the region offers apple opportunities in various ways. The entire continent consists of 54 small independent countries in total, 48 out of those considered as the SSA region. One common characteristic with SSA countries, they are landlocked therefore, supply chain requires numerous border crossings, which is very difficult to manage due to poor infrastructures maintenance and

lack of modern technology. This offers great opportunities for those involved with, technology, construction, financial services and many other consulting services.

2.2 Applying AHP method:

The analytical hierarchy process (AHP), developed by Thomas L. Saaty, designed to solve multi complex multi-criteria decision problem. Its application usually takes the following three basic steps, structuring the hierarchy, setting priorities and maintaining rational consistency. In this research, structuring the hierarchy, the decomposition of the overall goal is to find the potential attractive markets in SSA countries. Normally, the top level of the hierarchy refers to the goal, which in this case is "market attractiveness or potential". The subsequent levels include the elements that affect the decision (criteria or attributes), in this case, Economic, Political/legal, Social/Cultural, Technology and Infrastructure these are the five main Macro-factors that substantially influence a country's attractiveness. The second level includes elements (sub-criteria's) that contribute to the definition of the first level criteria, in this case prioritized are factors that most affects the social cultural issues. The bottom level consists of the decision alternatives i.e. the (44 SSA countries). Dropped are the following countries (Southern Sudan, Sudan, Sierra Leone, and Somalia) due to insufficient data for meaningful analysis.

Setting the priorities for each level of the hierarchy entails determining the relative importance between each pair of factors. The pairwise judgment starts from the second level attributes (Economic, Political/Legal, Social/Cultural, Technology and Infrastructure) to the lowest but not the least level (Alternatives-44 SSA countries). The original AHP used relative measurements and had limitations in which it could not deal with a situation involving certain number of alternatives such as the 44 countries. To overcome such predicament Saaty proposed an absolute measurement which we have incorporated with the dominant alternatives method proposed by (Kinoshita & Nakanishi, 1999) a new type of Analytical Hierarchy Process designed to deal with

cases in which the weight of the criteria valley in accordance with the alternative chosen as the dominant view (Conventional absolute measurement). Finally, we evaluate each country, based on her performance with respect to each sub-criterion using normalized or standardized data for the most appropriate rating grade. In this case, normalization is necessary since indicators such as GDP and inflation influences the model differently, for example, higher GDP is good but a higher inflation is bad. The results are then weighted and combined to yield weights with respects to the major sub-criteria's and the ranking of potential markets (countries) is the synthesized results. Below are the model set-up explanations.

Criteria: Usually, the screening process of countries markets starts with gathering relevant information on each country and screening out those un-desirable. The first stage involves applying macro- indicators (Political, Economic, Social/Cultural, Technology, and Infrastructure) to discriminate between those countries that present basic opportunities and those with higher risk. Traditionally, the Macro-Indicators describes the total market in terms, of PEST, emphasizing on political and economic attributes however, for the purpose of in-depth analysis the traditional (PEST) is expanded with infrastructure making (PESTI). In methodology emphasizes is on social/cultural factor.

Sub-Criteria: The second level includes elements (sub-criteria's) that contribute to the definition of the first level criteria the five main macro-indicators e.g., GDP, inflation contributes to economic criteria, Global peace Index, and CPIA contributes to political/legal criteria e.tc.

Alternatives: Each decision alternative (44 SSA countries) contributes to each criterion in a unique way. Applying AHP, specification of the mathematical process, synthesized the information on relative importance of the criteria and the preferences, for the decision alternatives to provide an overall priority ranking in the market attractiveness, evaluation problem. We provide a priority ranking of the 44 countries in terms of how well each country meets the overall objective of being the best with the most appeal. However, in this case statistical data, adopted in the sub criteria level instead of the

commonly applied intensity ratings in the evaluation of the elements minimizing subjectivity.

Establishing priorities: In the pairwise comparison of the four criteria for the market attractiveness, in each of the above comparisons, selected the most important criterion and then expressed sound judgment on how much more important the criterion is to the objective.

2.3 Data applied and Sources:

Incorporated are various indicators from credible sources. Below is a list of the indicators applied in the model and their sources. Priority is on the indicators, which has direct impact on the well-being of the societies bearing in mind that, a country can have higher GDP etc. and still experience civil unrest with unmet social needs.

Index.	Source.
Corruption Index	TRANSPARENCY INTERNATIONAL.
CPIA (Legal). Business Regulatory Environment	World Bank.
Economic factors considered	(International Monetary Fund, World Economic outlook database).
Energy	Energy Africa outlook.
Global Peace Index	INSTITUTE for Economics &PEACE.
Human Development Index	United Nations Development Program (UNDP).
Logistic Performance Index	WORLD BANK
Number of Airports:	Central Intelligence The world Fact Book:
Political Risk Index	Country Watch
Strength of Legal Rights Index	World Bank.
Technologies Index	International Telecommunication Union (ITU), ICT database.
The Global Innovation Index	Global Innovation Index 2013 Conceptual Framework
Total road network and Rail lines	International Road Federation, World Road Statistics.

Figure 2.1 Indexes Applied and Sources.

The applications of the above indicators, expanded further in figure 2.2 regarding the market attractiveness selection. Figure 2.2 (Market Hierarchy SSA) below, provides a summary of the five pairwise comparisons presented for the attractive market selection problem. Please, note that, the flexibility of AHP can accommodate the unique preferences of each researcher or business analyst. The choice of criteria that are

considered may vary depending on the researcher or the industry. AHP methods can accommodate any set of criteria depending with the decision maker.

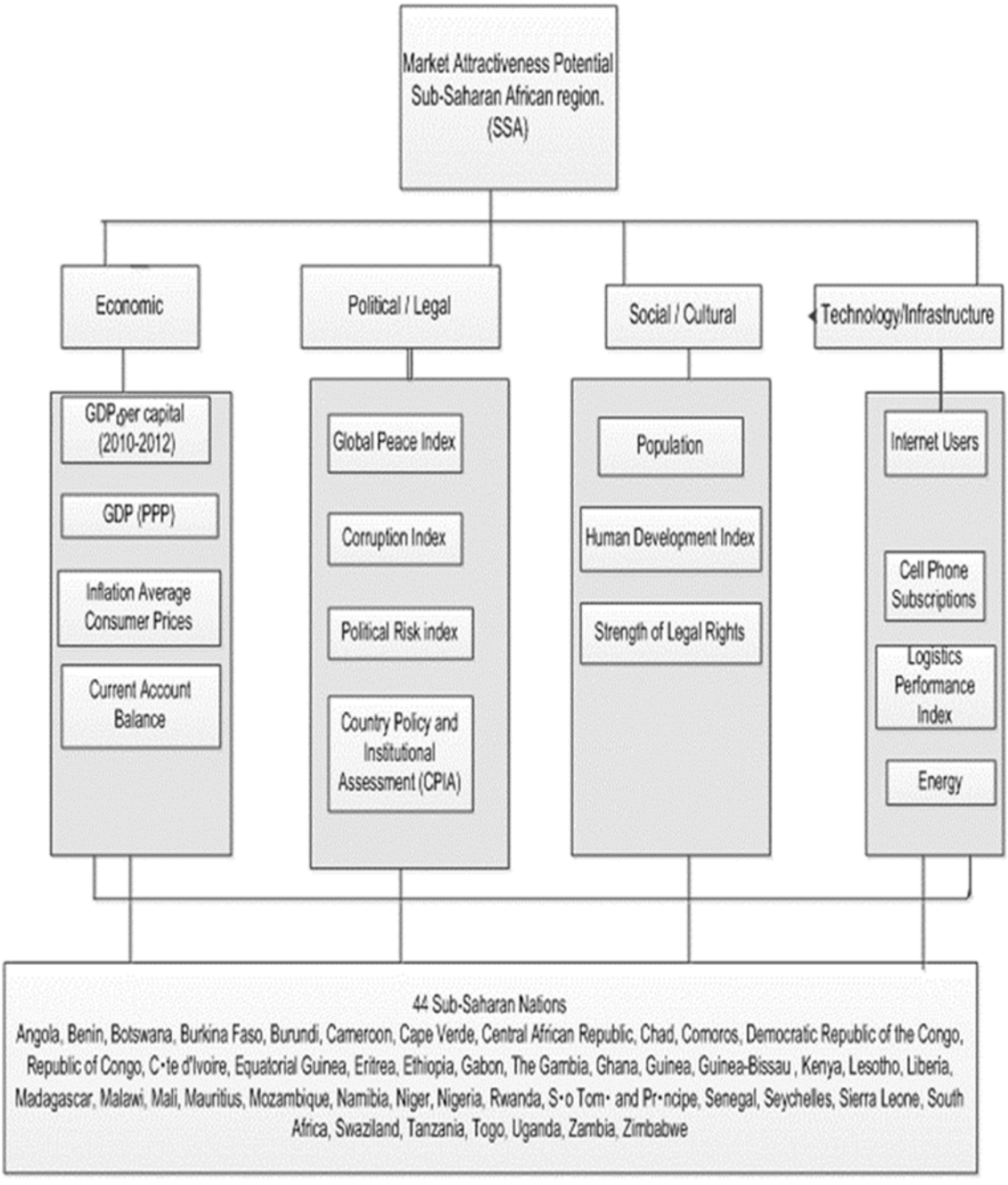

Figure 2.2 Market Attractiveness Hierarchies (SSA).

The above Figure 2.2 expands the traditional (PEST) model with infrastructure as the fifth variable into (PESTI). It is difficult to analyze the market attractiveness in SSA without considering the impacts and effects of the old crumbling infrastructure logistics.

Below is the summary of the five pairwise comparisons Social/Cultural, politics are equally important, and together these two criteria dominate the remaining criteria.

Table 2.1 Macro Indicators (Criteria).

PESTI Matrix.	Social/Cul	Politics	Economic	Technology	Infrastructure	Weight Priority
Social/Cul	1	1	3	6	3	0.3491
Politics	1	1	3	6	3	0.3491
Economic	1/3	1/3	1	3	1	0.1262
Technology	1/6	1/6	1/3	1	1/3	0.0495
Infrastructure	1/3	1/3	1	3	1	0.1262

Above, politics and social / cultural are equally important and together these two criteria dominate the remaining criteria. The reasoning behind, social conflict and political violence in Africa is a complex subject. SSA region is home to wars of decolonization, secessionist struggles by minority groups, long-running guerrilla insurgencies, coups, urban unrest in sprawling slums, clashes between paramilitary thugs with ties to political parties, simple criminal banditry, coordinated mass-killings by state authorities, and anarchistic state failures. It is appealing to broadly oversimplify based on the experiences of a single country, but the experiences of Liberia, Ethiopia, Mozambique, and the Democratic Republic of the Congo -- all of which have fallen prey to long-running civil wars -- are quite different. This short note only traces few broad patterns, but it should not be taken as a substitute for careful investigation into individual country's experiences. Many researchers suggest that underlying ethnic cleavages in SSA are the source of domestic instability and conflict. Rebel groups and political parties are organized on clan, tribal, or ethnic lines, and politicians and would-be leaders often play upon ethnic differences to rise to power (Weinstein, 2007).

Below, is the second level, which includes elements (sub-criteria) that contribute to the definition of the first level criteria or the five main macro-indicators, population is the dominant indicator. Balanced growth is crucial for the welfare of the country or improving the productive capacity of the economy. It is important to know the size of a country’s population, its growth rate another demographic attributes in order to analyse the dynamics of the population, labour force and employment to estimate the quantity of

goods and services that will be needed to meet future demand. The population of the countries not only plays a vital role in economics development but also for the social well-being of the people.

Table 2.2 Social Cultural (Sub-Criteria).

Cultural Matrix	population15-24	HDI	Strength (legal rights)	Weight Priority
population15-24	1	3	3	0.6000
HDI	1/3	1	1	0.2000
Strength (legal rights)	1/3	1	1	0.2000

Below, the dominant indicator is the global peace, advances the economic development of societies by fostering conditions that are conducive to business and investment. At the same time, business can play a decisive role in building and strengthening peace through job and wealth creation. Yet the value of peace to the world economy is poorly understood and rarely discussed outside of academia. A key objective of the Institute of peace is to help raise awareness of the global cost of violence, which in 2010, was estimated to be more than $8.12 trillion. If the world had been just 25 % more peaceful in 2010 the global economy would have reaped an additional economic benefit just over US$2 trillion. This amount would pay for the 2 % of global GDP per annum investment estimated by the Stern Review to avoid the highest effects of climate change, cover the cost of achieving the Millennium Development Goals, eliminate the public debt of Greece, Portugal and Ireland, and address the one-off rebuilding costs of the most expensive natural disaster in history – the 2011 Japanese earthquake and tsunami (Institute of Economic Peace, 2012).

Table 2.3 Political / Legal (Sub criteria).

Political Matrix	Global Peace Index	Corruption Index	Political Index	CPI	Weight Priority
Global Peace Index	1	3	3	3	0.5000
Corruption Index	1/3	1	1	1	0.1667
Political Index	1/3	1	1	1	0.1667
CPI	1/3	1	1	1	0.1667

Below, we identify GDP per Capital, GDP (PPP), and Current Account as equally important. However, Inflation is the dominant indicator Inflation is measured by the

core Consumer Price Index (CPI), which is the standard measurement of inflation, used in the U.S financial markets. Core CPI excludes food and energy from its formulas because these goods show more price volatility than the remainder of the CPI. In addition a huge GDP may influence the inflation rate. Therefore more than any other indicator it has direct impact on people's live hood.

Table 2.4 Economic Indicators (Sub-Criteria).

Economics Matrix	GDP Per Capital	GDP(PPP)	Inflation Rate	Current Acount	Weight Priority
GDP Per Capital	1	1	1/3	1	0.1667
GDP (PPP)	1	1	1/3	1	0.1667
Inflation rate	3	3	1	3	0.5000
Current Accoint Bal	1	1	1/3	1	0.1667

Below technology comparisons, telephone lines and global innovations dominate the rest of the criteria. Telephone lines and fixed broadband in SSA lags behind most of the other countries in emerging and developed markets. This affects the business environment; the number of cellphones subscribers is greater than the number of line holders. However, it is difficult to conduct business with cellphones alone because line connections are required for a fixed broadband.

Table 2.5 Technology Indicators (Sub-Criteria).

Technology Matrix	Telephone lines	Fixed Broad Band	Cellphone Subs	GII	Weight Priority
Telephone lines	1	3	3	1	0.3750
Fixed Broad Band	1/3	1	1	1/3	0.1250
Cellphone Subs	1/3	1	1	1/3	0.1250
GII	1	3	3	1	0.3750

Below the dominant indicators are the Energy consumption, logistics index, and the total road network.

Table 2.6 Infrastructure Indicators (Sub-Criteria).

Infrastructure Matrix	Energy Consumption	Logistics Index	Total Road Network	Rail Lines	Airports	Weight Priority
Energy Consumption	1	1	1	2	3	0.2601
Logistics Index	1	1	1	2	3	0.2601
Total Road Network	1	1	1	2	3	0.2601
Rail Lines	0.5	0.5	0.5	1	2	0.1378
Airports	1/3	1/3	1/3	0.5	1	0.0819

According to the World Bank Fact Sheet, although the African continent, endowed with fossil fuels and renewable resources is unevenly distributed, creating windfall profits for

some countries and exacerbating crisis in others. Since the mid-1990s, external finance to Africa's power sector has averaged only around US$600 million per year of public assistance, plus a similar volume of private finance. More recently, Chinese, Indian and Arab sources have also emerged as significant energy financiers. Nonetheless, doubling current levels of energy access by the year 2030 will require sustained investment at much higher levels.

2.3 Formula Applied & Results:

Below are the results and the formula applied for the criteria, sub- criteria's and the alternatives (Countries) To conclude the result in the alternatives in the criteria level, two measurements were applied Conventional Relative Measurements and Conventional Absolute Measurement, weighted independently of the evaluation of the alternatives. MATLAB was also used to derive the final result of the Country`s ranking.

Below find, the formula applied to synthesize the results.

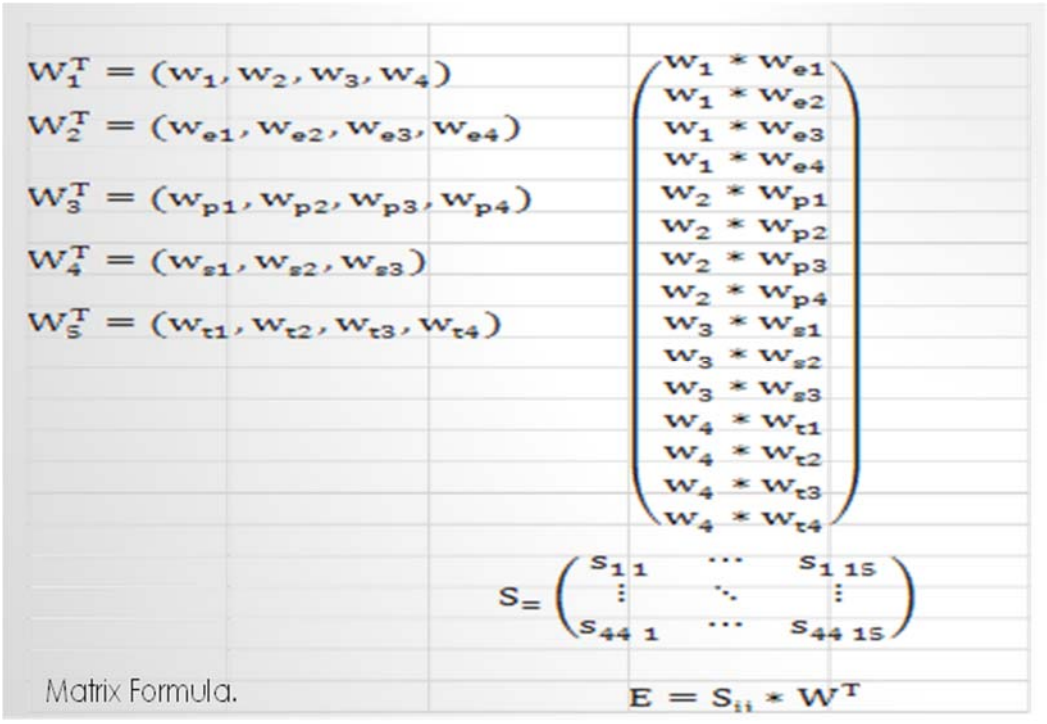

Figure 2.3 Formula Applied (AHP) Model.

Table 2.7 Index Weights (Sub-Criteria`s).

Sub-Criterias	Weights
Population15-24	0.2094
Human Development Index	0.0698
Strength of legal rights	0.0698
Global Peace Index	0.1745
Corruption Index	0.0582
Political Index	0.0582
CPIA	0.0582
GDP Per Capital	0.021
GDP (PPP)	0.021
Inflation rate	0.0631
Current Account Bal	0.021
Telephone lines	0.0186
Fixed Broad Band	0.0062
Cellphone Subs	0.0062
Global Innovations index	0.0186
Energy Consumption	0.0328
Logistics Index	0.0328
Total Road Network	0.0328
Rail Lines	0.0174
Airports	0.0103

Summarized in table 2.8 below, are the synthesized, AHP ranking of the decision alternatives total weights based on the weighted priorities results.

Table 2.8 Results Ranking (weights Priority).

Country	Weights	Ranking	Country	Weights	Ranking	Country	Weights	Ranking	Country	Weights	Ranking
Mauritius	0.5416	1	Uganda	0.3579	12	Cameroon	0.2980	23	Guinea	0.2422	34
South Africa	0.5186	2	Kenya	0.3569	13	Liberia	0.2924	24	The Gambia	0.2404	35
Nigeria	0.4962	3	Seychelles	0.3480	14	Zimbabwe	0.2892	25	Democratic Repub	0.2337	36
Botswana	0.4770	4	Senegal	0.3322	15	Swaziland	0.2889	26	Chad	0.2306	37
Namibia	0.4504	5	Equatorial Guinea	0.3315	16	Rwanda	0.2790	27	Mali	0.2290	38
Ghana	0.4277	6	Burkina Faso	0.3304	17	Madagascar	0.2784	28	Guinea-Bissau	0.2190	39
Gabon	0.3912	7	Benin	0.3270	18	Mozambique	0.2757	29	Comoros	0.2094	40
Zambia	0.3742	8	Angola	0.3263	19	Niger	0.2694	30	S・o Tom・ and	0.1963	41
Togo	0.3695	9	Malawi	0.3199	20	Cape Verde	0.2644	31	Central African Re	0.1787	42
Lesotho	0.3665	10	Ethiopia	0.3193	21	C・te d'Ivoire	0.2621	32	Eritrea	0.1644	43
Tanzania	0.3589	11	Republic of Congo	0.2995	22	Sierra Leone	0.2469	33	Burundi	0.1423	44

After applying the general macro indicators as a screening process, the results above in table 2.8 shows, only two countries had weights over .5000, four with weights over .4000, 15 with weights over .3000, 19 the majority had weight over .2000 and four with over .1000. Remarkably, in terms of geographic and the population perspectives, a

small country leads the rest of the bigger countries. The expectations would be countries such as South Africa or Nigeria with higher population and abundant natural resources to have the best weight priorities but the results shows a different case. This exposes the anomalies of depending only on purely macroeconomic and political factors. Consequently, at the outset the analysis is dominated by economics and economic systems, which attributes the potential attractive markets only to two sets of factors deriving from two points of view: economic & financial and political. Previously, the author argued, these two set of factors are inadequate to address fully the complexities of developing countries market attractiveness especially in SSA region. The region not only differs from those of other developing countries in Mediterranean Africa, Asia and Latin America in terms of social cultural, political systems and the level of economic development, but also in geographic climatic conditions, energy, transport logistics and communication infrastructure. Therefore, as the results indicates emphasis on social cultural issues captures and highlights the positive contribution of sound policies on potential attractive market in Mauritius, which the government had undertaken. Take for instance, the current population in Mauritius is 1.319 million and the GDP (PPP) is $18,585.4, South Africa with a population of 54 million and GDP (PPP) of 13,046.2, and finally Nigeria with population of 178,516,904 million and GDP (PPP) of 5,606.56. Looking at this numbers emphasizes the merits of prioritizing on social issues in developing markets. For the last two decades the government of Mauritius, designed policies tailored towards alleviating poverty etc. not surprising, AHP model was able to detect those changes and their contribution towards the overall general macro environment. Now the hypothetical question could be, what is the contribution of the crucial three industries (agriculture, energy, and financial) in overall potential attractive markets and how competitive is the rest of its industries in Mauritius and the rest of the countries? Below is the weight map ranking on the SSA countries general macro environment.

Figure 2.4 Weighted Map Ranking Results. (Modified from google maps).

The red part represents all those countries considered as the Sub- Sahara African region. The countries marked X means, not analyzed i.e. the northern part of Africa and those countries in SSA with no data for meaningful analysis. The visual map indicates that there are tendencies within the Southern regional, East African and West African regional trading bloc in potential attractive markets. The assumptions could be favorable geographical proximities, climates and locations easily accessible to the ports, and better policies formulations favorable to the respective societies.

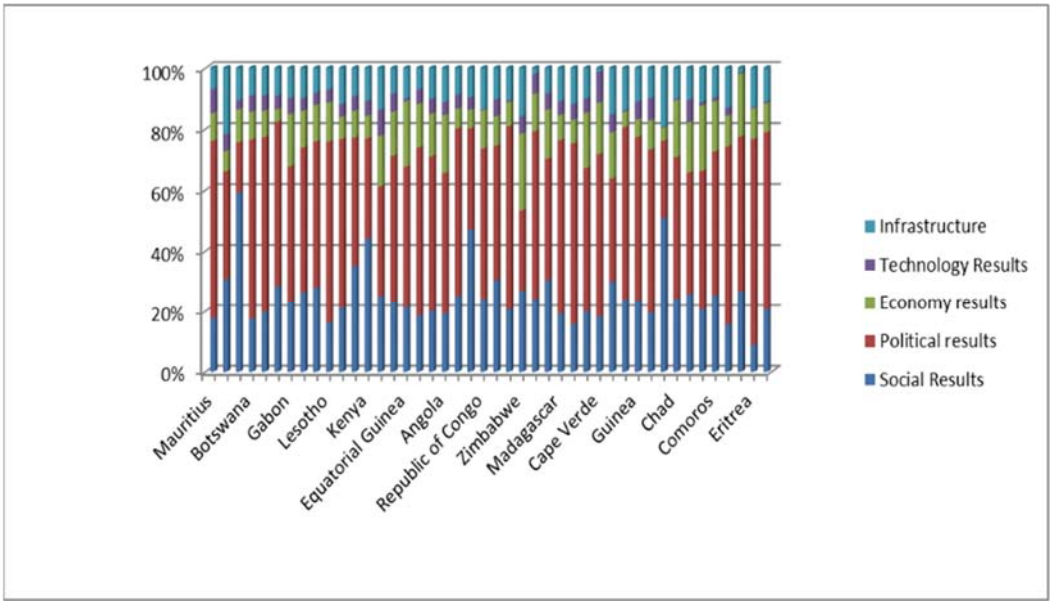

Figure 2.5 PESTI Heat Wave (Macro Indicators).

The figure above shows the heat wave of the newly designed PESTI percentages, and how each factor contributes towards the final decisional making analysis. As the heat wave priorities result indicates, Social cultural and political issues had the greatest impact on the market attractiveness potential in SSA region of Africa. Finally, we conclude chapter 2 on market attractiveness potential in SSA with conclusion and recommendations in section 2.4 below.

2.4 Conclusion and Recommendations:

Generally, firms prefers to venture in attractive markets that are graded higher in attractiveness with low risk, high profitability and where competitive advantage is attainable however, attaining all those mentioned factors in a globalized market environment is not a simple task. It requires various well-augmented strategies to venture even into those countries classified as a high risk. Arnold & Quelch, 1998

observes, conventional wisdom may suggest that, organizations might postpone entry of the developing markets. However, various types of first – mover advantages may be higher in these economies. Therefore, it is necessary for organizations from developed countries to enter these markets in developing countries with the proper entry and exit strategy configurations to attain, existing market expansion, strategic resource seeking, and natural resource seeking and host country's location advantages. Entry, exist strategy involves various considerations though the importance of these considerations varies by industry and by the main objective of each company. This chapter addressed the need for the expansion of the traditional (PEST to PESTI) and proposed additional criteria (infrastructure) which includes energy, logistics, and communications infrastructures. However, the proposed criteria are not substitutes for the traditional market attractiveness method, but intended to expand and address the deficiencies of the traditional PEST. Due to the complexities of political economy and the social structure in SSA region, in the evaluation model emphasis or priority should be on social/cultural issues. The multi-ethnic composition at times causes tribal conflicts, which affects the entire economy. Therefore, unaided the economic & financial and political criteria's cannot capture fully the impacts of tribal conflicts on economic growth rather these criteria tend to conceal the markets attractiveness potential of the region. Moreover, focus should be both on standalone and on regional bloc attractiveness, some standalone attractive markets also happen to be globally strategic markets, the arena where the current and future global competition occurs (Gillespie et.al, 2007). The combination of SWOT analysis and AHP model, determined with great success the relative importance of the criteria and alternatives as pertaining to the social/cultural, political, economic, technology and infrastructure positions of SSA countries.

The analysis provides strong basis for international businesses decision makers. SWOT analysis has highlighted the strengths and the hidden opportunities, while the potential threats and weaknesses may help senior managers in risk hedge management. Applying AHP model, the author also analyzed and calculated percentages of the each macro indicator and its contributions to the overall goal of the countries market attractiveness. The AHP priorities results indicate that, Social cultural and political issues have the

greatest impact on market attractiveness in SSA market attractiveness. The resulting priorities reveals attractive market growth potential and sourcing opportunities in Mauritius that might otherwise have been overlooked applying the traditional PEST model. The government of Mauritius has integrated social cultural, infrastructure and politics with economic factors making it the best option among the 44 evaluated Sub-Saharan countries followed by South Africa and Nigeria respectively. Since 1980s, the government of Mauritius undertook social and economic reforms breaking down barriers to improve the ease of doing business. For example, personal and income tax were halved, empowered labor laws, directed lending policy and banks were obliged to led to the export processing zones at lower rates than anywhere else in Africa. (Hon Xavier Luc Duval the Vice Prime Minister of Mauritius). Thus, the importance of Mauritius aligning the social/cultural and political issues with economic development may have played a central role in the final analysis criterion in our decision-making. Various regional trading blocs are also a possibility, the Southern region as a bloc market has the best potential followed by the East African trading bloc.

These analysis also helps us to gain a better understanding of the trade-offs in the decision making process and a clearer understanding of the effectiveness of AHP absolute measurements in multi criteria decision problem while combining both theory and practicality. However, more research is necessary with those countries with priorities between 0.2995 and 0.2190 perhaps by adding more factors to the sub-criteria level may offer the decision makers a chance to modify the weights and note the resulting map. However, since the macro indicators presents the overall potential attractive market as a single entity. It is important to analyze beyond the general macro environment and incorporate the industry analysis to reveal the state of the industries competitiveness and their contribution towards the overall potential market attractiveness. Crucial also, is measuring the total factor productivity on three supporting industries to identify their contributions or effects on market attractiveness especially beneficial to those countries with lower weights.

In the proceeding, chapters the focus shift from the general environment macro level to the micro level (industry), the number of the countries, reduced to 20 from the original

44 based on the weighted priority results derived from the SWOT and AHP model. Chapter 3, addresses the productivity growth in “agriculture”, electricity, gas and water” and “financial intermediation & business activities” in 20 SSA countries. Researchers recognize, these three industries, as the major binding constraints for economic growth in the region and a major slump in the manufacturing industries. However, the past researches on productivity growth are primarily on the agricultural sector where data is readily available. These three industries not only economically complement each other but also crucial for supporting other industries in overall market attractiveness potential. Prospected raw materials from the ground, requires processing into finished products through energy consumptions and firms’ needs to borrow funds to expand or maintain their existing businesses. Therefore, maintaining appealing attractive markets requires efficiency and productivity in these industries.

3. TFP Growth: (Agriculture, Energy and Financial Sectors)

This chapter addresses the impacts of the related supporting industries, (agriculture, gas & water and financial sectors) on overall potential attractive markets. Addressed also, are the contribution of the input variable in the composition of the TFP growth. Various researchers observes, productivity growth is indispensable not only for the incremental of outputs, but also in global competitiveness for potential attractive markets, it`s also a useful tool for policy makers to improve decisions on economic development and industries performances. Improvement of the total factor productivity is the inevitable requirement to realize healthy and robust development in SSA potential attractive market. The Chapter organized as follows. Section 3 introduces the importance of measuring the total factor productivity growth (TFP), section 3.1 covers the economic changes in the SSA countries and offers the reasons why conducting TFP measurements in the region is necessary. Section 3.2 provides the background and explains the number of the 20 countries. Section 3.3 addresses the industries structural problems. Section 3.4 is the methodologies applied; section 3.5 provides the data sources. Sections 3.6 offer the empirical results from the Malmquist Index. Section 3.7 is the stepwise regression analysis results, and section 3.8 provides the conclusions.

3.1 Importance of Measuring TFP Changes SSA:

In the recent years, after undergoing significant structural and institutional changes, the African economies has attracted global attention in potential attractive markets especially those countries in the SSA region. However, the past inefficiencies in SSAs, industries is objectively well documented using simple measures of efficiency in relation to global production such as the domestic resource cost and effective rates of protection. Unfortunately, the measures though enlightening about the whole magnitude of the inefficiencies leaves decision makers without a solid base for suggesting means of remedying the situation. For example, various reasons such as technical or allocation

inefficiency can cause a higher domestic resource cost (DRC) due to incorrect combination of resources and higher DRC explains less about the extent of dispersion of the total factor productivity within an industry (Howard, 1992). Therefore, this chapter conducts trend analysis on the productivity growth of the "agricultural", "financial" and "electricity, gas and water" sectors. Applied, DEA based Malmquist Index, to calculate the trend in total factor productivity of the three industries through the period (2001 - 2011) and stepwise regression to examine the contribution of the input variables to the formation of the total factor productivity growth (TFP). The selected period of our study is noteworthy because, it is after the reduction of barriers of trade (1990s-2000) regarded as the turning point of the SSA economies and their respective industries ushering competition in markets once closed traditional monopolistic markets and the recession of 2008. The wave of liberalization forced the SSA governments and industry policy makers to shift from measuring production costs to the assessment of efficiency and productivity. This analysis provides useful insights into the evolution of the sectors while providing a critical look on the achievements of the sectors understudy focusing on two major questions, what are the effects of productivity growth in three crucial industries namely, agriculture, gas & water and the financial sectors on market attractiveness potential. In addition, what is the contribution of input variable in the composition of the total factor productivity growth in SSA region?

To expend the analysis, two methods applied, the first question adopts the data envelopment analysis (DEA) based Malmquist Index and for the second question, applies stepwise regression analysis. With policy makers and top managers in minds, the goal of the outcome is to identify the contributions and the effects of the three sectors productivity growth for cross section of the countries potential attractive market and benchmark the valuation of the sectors for furthering policy actions and business operations.

3.2 The 20 Countries & Industries:

After the screening process in chapter 2, only 20 countries merited further analysis in industry environment based on their final weights priority. The results ranked the countries based on weighted priorities according to how successful the country have integrated social cultural issues and politics with economic factors creating conducive environment for doing business. While these three sectors were reached based on practical chronic problem and a major binding constraints to the firms performance and growth in the region as indicated by (JAICA, 2014; Euro monitor, 2013; World Bank, 2012). The main binding constraints for many small and large businesses in SSA were access to finance and electricity and a major cause of manufacturing slump in the region (Justin, 2012). Moreover, these sectors economically complement each other, and their importance in the country's overall economic growth and potential attractive markets is unsurpassable, especially in industrial growth, job creation and poverty reduction. Please refer to table 4.2 in chapter 4, for a full list of the 20 countries, and their respective industries understudy.

3.3 Industries Structural Problem:

Lack of availability of finances to small but fast growing economies, coupled with political economy issues and the size-related geographic challenges has resulted in severe energy sector problem which affects overall potential attractive market. Despite the fact that, the region is rich in low- carbon, low-cost energy resources, consistent power supply from the local companies is still a problem. The region has developed less than 7 percent of its hydropower capacity, and its generation is the lowest in the world. The problem compounded further by, the investment stagnation to increase the generation capacity (Regional Economic Outlook, 2014). Economic growth and energy consumption typically evolves together though their underlying relationship is

contentious; various empirical researches have offered mixed results (Soyas & Sari, 2003; Ouedraogo, 2010; Odhiambo 2009a, & 2009b; Akinlo 2009).

Nevertheless, various researchers have identified various distinctive challenges in the energy sector, such as, substantial investments is required to solve the existing problems, which is greater than the available finances, and the high risks and up-front development costs typically exclude private investment. In addition, that SSA economies are growing rapidly, this intensifies the demand for energy. However, the governments have limited resources for much- needed investments in generation capacity and maintenance; the utilities are inefficient with poor performances. All these problems produce vicious cycle of insufficient energy services and higher prices, which manifest negatively crimpling the overall economic growth. For example, SSA have the lowest rates of electrification, the average rate is only 32 % compared to the average rate of low and middle-income countries (LMIC) all over the world, which is 74 %. The electricity consumption per capital the average of SSA countries is only 517 kWh, which is significantly lower than the world average (1,527kWh with exception of South Africa (4,532kWh). Moreover, SSA countries rate of electric power transmission and distribution loss is 11.2 % almost equivalent to the world LMIC average 11.1 %, which indicates operating inefficiencies of power utilities. Almost 70 % of the African population approximately 600 million people and 10 million small and medium-sized enterprises have no access to electricity, which accounts for nearly 45 % of people lacking electricity around the globe. Most regions in the world have urban electrification rates of 90 % or higher, however, in SSA less than 60 % of urban dwellers have electricity (World Bank, 2012).

There is also a huge problem with clean water with only 61 % of SSAs countries population with access to safe drinking water, which is far below the world LMIC average of 86 %. These problems not only makes achieving Millennium development goals (MDGs) target rate of 75 % by 2015 unattainable but also affects international firm managers, should prospect raw material and process them in SSA or export them somewhere else for processing? . In addition half of the population in rural areas with no access to safe water (Fujita, et.al). Therefore, one solution for poverty reduction in

SSA is dealing with the lingering energy predicaments, which hinder economic growth influencing negatively on potential attractive markets. Furthermore, improving energy infrastructures is crucial for progress in industrialization, poverty reduction and expanding opportunities to easily accessible education and medical services. Hence, SSA governments' needs to formulate policies geared towards stable energy supply to meet the increasing demand while conforming to global standards on pollution and the natural environment conservation (Sudo, 2013).

In most SSA countries, the financial systems are still in infant stage, which constrains access to credit thus limiting the implementation of new projects especially making strides in innovations is a toll order. Hence, accessible financial services, savings and insurance among other services is required to straighten up businesses and household cash flows and far-reaching financial access may help earmark talent across occupations, encouraging small businesses to apply their skills to create productive job opportunities (Dabla-Norris et.al, 2013). Moreover, structural transformation emphasis on these three industries may facilitate poverty reduction, job creation, promote financial inclusion and raise productivity in agriculture. Finances are important aspects of firm's performance, for example at some point firms have to purchase machinery, equipment or vehicles through borrowing from banks though this depends with firms' respective operations and strategies.

3.4 Methodologies Applied:

According to the neoclassical growth theory, the only source of sustainable economic growth for market attractiveness is the total factor productivity (Solow, 1957). As mentioned earlier the improvement of the total factor productivity is the inevitable requirement to realize healthy and robust development of SSA industries. In this respect, DEA based Malmquist Index is applied, to calculate the trend in total factor productivity of three sectors through the period (2001 – 2011). Malmquist total factor productivity index introduced in 1953, before developed further by Caves, Christensen

and Diewet (1982a, 1982b) within the framework of DEA as a theoretical index, but popularized by Fare et al. 1994 as an empirical index for measuring the productivity overtime. The Malmquist index decomposes the productivity change into two components the "catch-up" which captures the change in technical efficiency overtime and "frontier-shift" captures the changes in technology that occurs over time (Coelli & Rao, 2005; Fare et.al. 2011). In business environment or the industry analysis, the Malmquist total factor productivity index decomposes productivity change into two components the "catch-up phenomena" and "frontier shift". The catch-up captures the change in technical efficiency overtime, and technical change "frontier shift" captures the change in technology that occurs overtime. The technical efficiency change indicates or measures the change in efficiency between the current (t) and next (t+1) periods, while the technological change (innovations) captures the shift in frontier technology.

Technological change is the development of new products or the development of new technologies that allow methods of production to improve and results in the shifting upwards of the production frontier. To be more precise, technological change includes new production process, called process innovation and the discovery of new products called product innovations. With process innovation firms figure out more efficient ways of making existing products allowing output to grow at a faster rate than economic inputs are growing. The cost of production declines overtime with process innovations-new way of making things. Technical efficiency change, on the other hand, can, make use of existing labor, capital, and other economic inputs to produce more of the same product. An example is the increase in skills or learning by doing. As producers gain experience of producing products the more they become good and efficient at it. Labor finds new ways of doing things so that relatively minor modifications to plant and procedures can contribute to highest level of productivity. Panel or trend data allows for estimation of technical progress (the movement of the frontier established by the best practices firms) and the changes in technical efficiencies overtime (the distance of the inefficient, firms from the best practice firm) or catching up. There are several approaches for measuring TFP but in this case used, the time series DEA method output

oriented (Banker, Charnes, & Cooper, 1984; Charnes et.al., 1985; Fare, Gross Kopf, Norris, & Zhang, 1994). Defined is the output orientation on MPI:

$$M^{t+1}\,(x^{t+1}, y^{t+1}, x^t, y^t) = \left[\frac{D^t(x^{t+1},y^{t+1})}{D^T(x^t,y^t)} \times \frac{D^{t+1}(x^{t+1},y^{t+1})}{D^{t+1}(x^t,y^t)}\right]^{\frac{1}{2}},$$

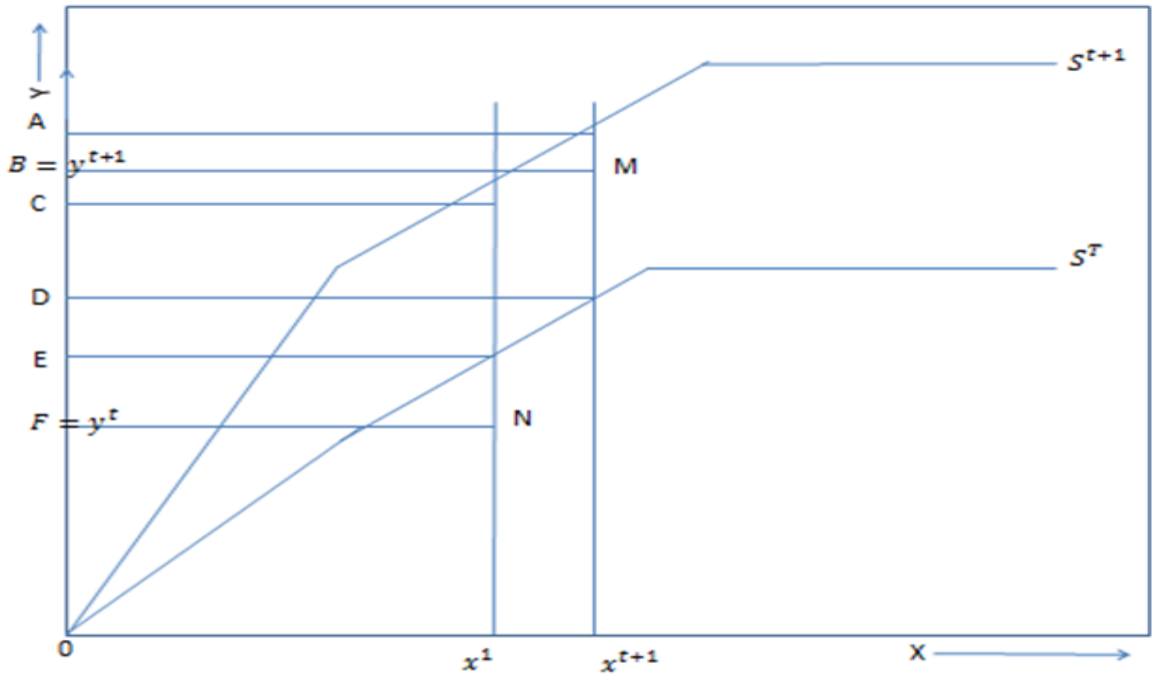

Figure 3.1 TE and TC changes.

Where D^t is the distance function measuring the efficiency of transformation of inputs x^t to outputs y^t in the period t. Note that, if there is a technological change in the period (t+1), then $D^{t+1}(x^t, y^t) =$ the efficiency of transformation of inputs at period t to output at period t $\neq D^t(x^t, y^t)$. The MPI is a geometric average of the effects of technology change, written as:

$$M^{t+1}\,(x^{t+1}, y^{t+1}, x^t, y^t) = \left[\frac{D^t(x^{t+1},y^{t+1})}{D^T(x^t,y^t)} \times \frac{D^{t+1}(x^{t+1},y^{t+1})}{D^{t+1}(x^t,y^t)}\right]^{\frac{1}{2}},$$

$$M^{t+1}\,(x^{t+1}, y^{t+1}, x^t, y^t) = \frac{D^{t+1}(x^{t+1}, y^{t+1})}{D^t(x^t, y^t)}\left[\frac{D^t(x^{t+1}, y^{t+1})}{D^{t+1}(x^{t+1}, y^{t+1})} \cdot \frac{D^t(x^t, y^t)}{D^{t+1}(x^t, y^t)}\right]^{\frac{1}{2}},$$

or

$$\mathrm{M} = \mathrm{E} \times \mathrm{T},$$

where,

$$\text{E= technical efficiency change and T} = \text{Technology change.}$$

In Figure 3.1, S^{t+1} is the frontier at$(\text{t} + 1)$, if there is technical progress, S^{t+1} will shift upwards from S^t. M represents actual productivity gains (x^{t+1}, y^{t+1}) at (t + 1), while N represents the gains at time t. Please note, DEA efficiency may acts as a distance function measure, as it reflects the efficiency of conversion of inputs to output. Hence,

$D^{t+1}(x^{t+1}, y^{t+1})$ = DEA efficiency applying $\text{x}^{\text{t+1}}$ inputs and $\text{y}^{\text{t+1}}$outputs

= OB / OA.

Similarly,

$$D^t(x^t, y^t) = \frac{OF}{OE}.$$

Hence,

$$\text{E} = \text{Technical efficiency change} = \frac{D^{t+1}(x^{t+1}, y^{t+1}\ )}{D^t(x^t\ ,\ y^t\ )}$$

$$= \frac{(OB/OA)}{OF/OE}.$$

When E > 1, only then there is indication of an increase in the technical efficiency of converting inputs to outputs, the ratio $\frac{D^t(x^t,y^t)}{D^{t+1}(x^t,y^t)}$ that, usually when there is improvement in technical change (May be better management could be a technical change), which indicates the same input x^t can produce greater level of output when used in the time period (t + 1). Note, the input x^t can only produce OE as its best output in time t, but it can produce a higher level of output OC in time (t + 1). Therefore, the ratio OA/ OE is the measure of accrued technical change. When this ratio is greater than unity, only then there is technological improvement.

$$D^t(X^t, y^t) = \frac{OF}{OE},$$

$$D^{t+1}(X^t, y^t) = \frac{OF}{OC}.$$

Therefore,

$$\frac{D^t(X^t, y^t)}{D^{t+1}(X^t, y^t)} = \frac{OC}{OE}.$$

In case of technological progress, the ratio should be greater than unity.

Likewise, $\frac{D^t(X^{t+1},y^{t+1})}{D^{t+1}(X^{t+1},y^{t+1})} = \frac{OA}{OD} > 1$ for technological progress. Thus,

$$\mathrm{T} = \text{Technology change}$$

$$= \left[\frac{D^t(x^{t+1},y^{t+1})}{D^{t+1}(x^{t+1},y^{t+1})} \cdot \frac{D^t(X^t,y^t)}{D^{t+1}(X^t,y^t)}\right]^{1/2}$$

$$= \left[\frac{OA}{OD} \times \frac{OC}{OE}\right]^{1/2}.$$

This represents the average technological change, measured as the geometric mean of the two above ratios. For comprehensive analysis, various researchers have combined DEA with other methods (Felix &Ojenlaki 2008, Alper, 2006). Apart from DEA, we also applied stepwise regression analysis to examine the contribution of the input variables in the formation of the total factor productivity growth (TFP). TFP is the dependent variable, and compensation for employee, consumption on fixed capital, net mixed income, net operating, taxes on production and gross output are the independent variables.

$\mathrm{TFP} = \beta_o + \beta_1 logC + \beta_2 LogCFC + \beta_3 LogNMI + \beta_4 LogNO + \beta_5 LogTP + \beta_6 LogG$,

where,

C = Consumption, $CFC = Consumption\ on\ Fixed\ Capital, NMI = Net\ Mixed\ Income,$

$NO = Net\ Operating, TP = Taxes\ on\ Production, G = Gross.$

3.5 Data:

Data were collected from Eurostat, (EORA, RIO input-output table) the statistical office of the European Communities which gathers and analyses figures from national statistical offices and provides harmonized data for Europe's business communities, professional organizations, academic researches, librarian`s , NGO`s media outlets and the general public. The compilation of supply, Use and Input-Output tables is complex

and challenging than most other statistical tools. However, they offer the most detailed descriptions of an economy with insightful analysis of the process of production and the use of good and services (products) and the income generated in the production process. Satellite accounts; provide a framework linked to the central accounts and which enables attention on a certain field or aspects of economic and social life in the context of the national accounts; such as the satellite accounts for the environment, or tourism, or unpaid household work. Input / Output tables are widely used for various purposes such as comparing economic linkages between different countries (Dong, 2013) in this study; the (IOT) tables were the best data for conducting developing countries industry analysis. The tables were sufficient for obtaining an estimate of the production technology, which covered the periods (2001-2011) respectively. Please note, every industry has six inputs and one gross output however, only five input variables used. Taxes on subsidies were almost zeroing in all countries therefore, insignificant in this study. Offered below, is the explanation of the inputs applied.

Input Variables:

Compensation of employees is the total remuneration, in cash or in kind, payable by an employer to the employee in return for work done by the latter during the accounting period. In regional household accounts, compensation of employees, calculated for regions according to the location of the household. Compensation of employees is broken down into the following: (a) wages and salaries: wages and salaries in cash; wages and salaries in kind and (b) employers' social contributions: employers' actual social contributions; employers' imputed social contributions.

Subsidies on production: consist of subsidies except subsidies on products, which resident producer units may receive for engaging in production. For their other non-market output, other non-market producers can receive other subsidies on production only if those payments from general government depend on general regulations applicable to market and non-market producers as well.

Gross operating surplus, defined in the context of national accounts as a balancing item in the generation of income account representing the extra or excessive amount generated by incorporated enterprises overhead after paying labor input costs.

Consumption of fixed capital reflects the decline in the value of the fixed assets of enterprises, governments and owners of dwellings in the household sector. Fixed assets decline in value due to normal wear and tear, foreseeable ageing (obsolescence) and a normal rate of accidental damage. Unforeseen obsolescence, major catastrophes and the depletion of natural resources, however, are not included. Unlike "depreciation" in business accounting, CFC in national accounts is not a method for allocating the costs of past expenditures on fixed assets over subsequent accounting periods. Rather, it is the decline in the future benefits of the assets due to their use in the production process.

Net operating surplus, by deducting Capital fixed income from Gross operating surplus, one calculates net operating surplus. For example, the concept for unincorporated enterprises (e.g. small family businesses like farms and retail shops or self-employed taxi drivers, lawyers and health professionals) is gross mixed income. Since in most such cases it is difficult to distinguish between income from labor and income from capital, the balancing item in the generation of income account is "mixed" by including both, the remuneration of the capital and labor (of the family members and self-employed) used in production.

3.6 Empirical Results:

Table A.1 see the appendix A. Shows the regions agricultural sector MI growth is -0.34 % for the period of the study (2001-2011). This indicates the agricultural sector is a liability towards the region overall potential attractive markets. However, its contribution varies in respective countries. In the first period (2001-2002,) there are inconsistencies; the growth starts high at 1.42 % and then drops significantly to -5.8 % in the second period (2002-2003). Followed by -3.85 % in (2003-2004), then progresses drastically to 6.3 % in (2004-2005), then yet again regresses to -4 % in (2005-2006), during (2006 and 2007) still in regression -4.1 %, however, there is slight improvement in regression to -1.5 % in (2008-2009). It dramatically progresses to 9.8 % in (2009-2010) but the progress slightly declines to 3.8 % in (2010-2011). As the

general trend indicates, there was inconsistent growth but the most progressive periods were in 2005 and 2010.

Among the 20 countries, the range of TFP growth disparity is great; Seychelles 17.7 % is the best practice model, followed by Burkina Faso 13.9 %, Nigeria 11.3 %, South Africa 7.2 %, Kenya 4.8 %, Mauritius 2.7 % and Senegal 0.78 percent. These are the seven countries, which the agricultural sector has contributed positively towards the overall potential attractive markets. Tanzania and Namibia were in status quo (1) that means there was no progress or regression, which indicates the sector, had neutral contributions towards overall potential attractive markets. However, the majority of the country's 11 in total the average TFP ratio regressed ranging from 0.99 in Botswana to 0.89 for Benin, this indicates the sector influenced negatively on potential attractive market. Please, note that, during the first three years (2002-2004) the average technical efficiency starts in regression of -2.2 % followed by further decline - 6.5 % and -7.8 %respectively. However, at the same period the technical change had progress of 3.6 %, 1.15 % and 5.2 % respectively. Therefore, at the beginning of the 2001 technical change had the greatest impact on the composition of the TFP growth in all countries. However, at the end of the study in 2011 the results indicates, efficiency change (catching up phenomena) in the agricultural sector on average had the greatest impact for the increase in productivity than technical change over the countries.

These shows the agricultural commercial farms in the region are making use of existing labor, capital, and other economic inputs to produce more of the same products. An example could be training workers or farmers increasing their skills or learning by doing. As workers or farmers gain, experience of producing products or crops the more they become good and efficient at it. Labor finds new ways of doing things so that relatively minor modifications to farms or plant and procedures can contribute to highest level of productivity. Nevertheless, majority of the rural population still exercise subsistence farming using only traditional tools such as the axe, handled hoes, and long handled knife (Panga). Given the limited amount of land that a family can cultivate applying primitive tools these small enclosures or small areas are overused and as such, they are subject to rapidly diminishing returns to increased labor inputs. Overall, the

effects of the agricultural sector in overall market attractiveness are negative. Only the following countries had progress in TFP (Seychelles, Burkina Faso, Nigeria, South Africa, Kenya, Mauritius and Senegal and the regions average is -0.34 %.

Table A.2 see appendix A. shows the average TFP growth in financial sector, the region average is 7.3 % for the period of the study (2001-2011). This indicates, the sector influenced positively the regions potential attractive markets. There was productivity growth during the period, with exception of regression in two distinct periods (2007-2008 and 2009- 2010). The range of disparity is small among the countries, with the exception of Malawi, which has slightly different variation pattern worth mentioning. Malawi starts with modest ratio in 2001 at (1.15) in the year (2002) the ratio increases dramatically to (5.54) and the highest ratio among all countries during the period under the study. Then, for eight consecutive years (2003-2011), the model shows status quo (1) for Malawi which means there was no progress or regression during the period. In respective countries the sectors positive contributions in overall market attractiveness is as follows Malawi 47 %, followed by Angola 27.1 %, Nigeria 17.2 %, Ghana 16.3 %, Senegal 13 %, Botswana 12.2 %, Zambia 11.7 %, Namibia 9.1 %, Uganda 4 %, South Africa 3.9 %, Mauritius 1.7 %, and Tanzania 0.28 %. In total, the sector had positive contributions in 12 countries. The sectors had neutral or no change on Burkina Faso, Kenya, Lesotho, Seychelles and Togo. In regression are Guinea 0.99, Benin 0.96 and Gabon 0.86. The general trend over the ten years period suggests that there was sustained productivity growth however; growth or progress has been constantly declining over time. Further analysis reveals fluctuations in technological progress but the results indicate that the productivity growth observed is entirely due the degree of catch-up due to improved technical efficiency, either better management or policies are the major contributors to the growth in market attractiveness rather than technological innovations. Overall, the financial sector has positively influenced to the regions market attractiveness potential 12 countries (Malawi, Angola, Nigeria, Ghana, Senegal, Botswana, Zambia, Namibia, Uganda, South Africa Mauritius and Tanzania had progress in TFP. While in technical change, the following ten countries had progress (South Africa, Seychelles, Angola, Botswana, Nigeria, Ghana, Senegal, Uganda,

Mauritius and Tanzania and the region average in technical change is 98.9%. Overall, the sector had great influence on potential attractive markets in the region.

Table A.3 refer to appendix A. shows the electricity, gas and water industry the average TFP growth is 8.5 % for the period of the study (2001-2011). This indicates there was sustained productivity growth over the period, affecting the potential attractive markets positively. However, the range of variation is huge among the countries, which varies from 62.8 % to -19.9 %. Overall, 10 countries had progress thus the sector had positive contributions, 5 countries in status quo meaning there was no progress or regression over the period. In regression, five countries, indicating the sector was a liability. In respective countries, the sector had positive contributions, Seychelles 62.8 %, followed by South Africa 61.4 %, Zambia 39.1 %, Guinea 19.2 %, Angola 12.9 %, Malawi 9.1 %, Kenya 0.57 %, Ghana 3.9 %, Tanzania 57 %, Botswana 0.24 %, and Benin 0.05 %. The general trend indicates that there was a sustained productivity growth but that progress has been fluctuating overtime. The yearly average starts low (0.972) in the first year (2001-2002), then progresses in the next 3 years, regressed in the fifth year, slightly improved during the sixth year, regressed in the seventh year but regained progress over the next 3 years. The Malmquist calculations indicate that technical efficiency or the catching-up in the industry on average over the 20 countries are greatly responsible for the increase in productivity than the contribution of technical change. Moreover, the technical efficiency indicates that there was great potential for output increase without increasing the current inputs. Overall, the energy sector had positively influenced the market attractiveness potential in the region.

3.7 Regression Results:

In the stepwise regression analysis defined, (TFP) as the dependent variable and the independent variables were compensation for employees, consumption on fixed capital, net mixed income, net operating, taxes on production, and the gross output. The initial results in agricultural sector revealed the following,

The agricultural model TFP $= \beta_0 + \beta_1 logCFC + \beta_2 logNMI + \beta_3 logTP$

$$\text{TFP} = +0.99696386 - 0.0509059 logCFC - 0.012305 logNMI + 0.04650435 logG$$

T Ratio (5.47) (-2.52) (-2.46) (2.66)

Rsquare0.4655 Adjusted R-square=0.3654

The electricity, gas and water model TFP $= \beta_0 + \beta_1 logNO + \beta_2 logG$

$$\text{TFP} = +0.187525 - 0.1133332 logNO + 0.168930785 logG$$

T Ratio (0.44) (-3.07) (4.22)

R-square 0.5171 Adjusted – R square=0.4603

The Financial model, TFP $= \beta_0 + \beta_1 logTP + \beta_2 logG$

$$\text{TFP} = 0.67269 + 0.01918912 logTP + 0.01442493 logG$$

T Ratio (1.78) (1.50) (0.58)

R-square 0.1541, Ad-Square=0.0546

After the exclusion of non- significant variables from the analysis of the three industries understudy the initial results reveals that only the gross correlates with TFP and all three models are weak especially the financial intermediaries with an R- square (0.1541) and Adjusted R-square of only (0.0546). In agriculture sector there was no single variable higher enough to correlate with the TFP however, the model suggests that Consumption on Fixed Capital, Net Mixed Income, and Gross may explains 36.5 % of the variance of the TFP. With Electricity, Gas and Water, with an adjusted R-square of (0.4603) indicates that, Net Operating and Gross may explain the 46 % of the variance of TFP. Overall, the findings of the industries are poor; managers and policy makers might want to consider adding more independent variables to explain the remaining variability in the TFP.

3.8 Conclusion and Discussions:

This chapter concludes by, comparing the previous results derived from general macro environment analysis with total factor productivity growth (TFP) analysis to highlight the impacts and contributions of the three supporting industries on the overall potential attractive markets. These results, derived through DEA Malmquist productivity index and AHP, compared and contrasted in figure 3.2 below. Reading from left to right presented first, the weight priorities from AHP and the TFPs from the supporting industries namely agriculture, financial and energy. The letter "P" indicates, the supporting industry had positive impacts or contribution towards the decomposition of the general macro environment, letter "N" indicates, neutral effects while the letter "L" indicates the supporting industry had negative effects and a liability towards potential attractive market. The causes of neutral effects could be the industry maturity or products or services lifecycle.

	Weights	Agriculture	Financial	Energy		AHP	Agriculture	Financial	Energy
Country	AHP	TFP	TFP	TFP	Country	Weights	TFP	TFP	TFP
Mauritius	0.5416	P	P	N	Tanzania	0.3589	N	P	P
South Afric	0.5186	P	P	P	Uganda	0.3579	L	P	L
Nigeria	0.4962	P	P	L	Kenya	0.3569	P	N	P
Botswana	0.4770	L	P	P	Seychelles	0.3480	P	N	P
Namibia	0.4504	N	P	L	Senegal	0.3322	P	P	L
Ghana	0.4277	L	P	P	Equatorial (	0.3315	L	L	P
Gabon	0.3912	L	L	L	Burkina Fa:	0.3304	P	N	N
Zambia	0.3742	L	P	P	Benin	0.3270	L	L	N
Togo	0.3695	L	N	N	Angola	0.3263	L	P	P
Lesotho	0.3665	L	N	N	Malawi	0.3199	L	P	P
P= Positive contribution N = Neutral contribution.				L= Liability					

Figure 3.2 Sectors (TFP) Potential Attractive Markets contributions.

As the figure indicates, the contributions of the supporting industries in overall potential attractive markets in the top two countries (Mauritius and South Africa) with weights over 5000 in general macro environment is enormous. In Mauritius, apart from sound macro policies, the agricultural sector and financial contributed positively towards

overall potential attractive market. While there were no changes in energy sector assumptions made, the sector matured long before the year 2000. The contributions of all three sectors in potential attractive market in South Africa are positive. However, this is not surprising bearing the mind the size of the South African economy. Nigeria, third in general macro environment analysis has agriculture and financial influencing positively the overall potential market. However, the energy sector is a liability. Gabon with all three supporting industries as liabilities towards overall potential attractive markets is the only country that warrants further analysis and worthy mentioning, given the importance of these supporting industries it is difficult to comprehend how it, ranked among the top ten countries in general macro analysis. As the result indicates, there are a number of crucial policy implications arising from the results of this study. First and foremost the poor overall productivity performance in agriculture is a cause for concern, as agriculture is important for the overall economic growth especially other studies have argued that it's the main supporting sector for the rest of the industries in terms of raw materials, overall economic growth and job creation. With its contributions towards overall potential attractive markets a liability in almost all the countries. This is an indication of dire challenges in boosting total factor productivity growth in the sector. Given SSAs projected increase in food requirements and the limits to extensive agricultural growth, progress in agricultural sector is urgently required. As Kato, 2013, observed, innovations alone are not enough to solve the problems in SSAs agricultural sector, a large number of complementary institutional and policy reforms are necessary. However, the good news is that unlike the agriculture in Asia, Latin America, African agriculture has not gone through the transition process to modern agriculture, and adoption of agricultural technology through the Green Revolution, and agricultural land productivity has been stagnant.

In the financial sector, the TFP growth for all countries is 7.3 % an indication of the sector has influenced positively the regions overall potential market attractiveness. In 12 countries the sector have identical or similar contributions over the period understudy, the sector influenced no changes in five countries in status quo. In three countries, the

sector is a liability or contributed negatively in potential attractive market. The industry performance is far much better than that of the agriculture sector. This attributed to foreign companies in the region, in countries such as Angola, Malawi, Nigeria and Ghana. The effects of TFP on potential attractive markets, the range of variation between the countries, which the TFP has positive influence the range is very narrow; Malawi 1.47, Angola 1.27, Nigeria 1.72, Ghana 1.16, Senegal 1.13, Botswana 1.12, Zambia 1.11, Namibia 1.09, Uganda 1.04, South Africa 1.03, Mauritius 1.01 and Tanzania 1.02. The sector influenced no changes in Kenya, Lesotho, Seychelles and Togo.

In energy, in TFP for all countries is 8.5 %, which indicates the energy sector positive influence in the regions potential attractive markets. However, as a general observation the technical efficiency had the greatest impact on the decomposition of the TFP across the countries. Seychelles 1.62 followed by South Africa 1.61, Zambia 1.39, Guinea 1.19, Angola 1.12, Malawi 1.09, Ghana 1.03, and Kenya 1.005, and Tanzania 1.002 and Botswana 1.001. As the results indicate, the agriculture sector had the least effect in contributions towards the overall potential attractive markets. Remarkably, the countries ranked top in general macro environment analysis (Mauritius, South Africa, and Nigeria) also has better performance in term of TFP in all supporting industries. South Africa has total factor productivity in agriculture, energy and financial, while both Mauritius and Nigeria has total factor productivity in agriculture and financials respectively. Therefore, the importance of these three industries in overall general environment on market attractiveness is apparent. Those countries weighted lowly may learn from Mauritius, South Africa or Nigeria how to develop and implement crucial agriculture, energy and financial policies.

The regression analysis reveals that, all the three models are weak especially in the financial intermediaries with an R-square (0.1541) and Adjusted R-square of only (0.0546). In agriculture sector no single variable is higher enough to correlate with the TFP however, the model suggests that Consumption on Fixed Capital, Net Mixed Income, and Gross may explains 36.5 % of the variance of TFP. With Electricity, Gas

and Water, with an adjusted R square of 0.4603 indicates that, Net Operating and Gross may explain the 46 % of the variance of TFP. This result confirms that Gross alone are influencing TFP as observed; this attributed to the fact that the Gross variable composition contains the components of export and imports variables, which were not included in the original formation of the TFP growth. Overall, the findings of the industries are poor; managers and policy makers might want to consider adding more independent variables to explain the remaining variability in the TFP. Ideally, if data is readily available we should work on the firm level instead of the industry in each country to get better measurement of technical efficiency and technical change across countries. We hope to do the same in future for better and meaningful results. However, overlooking the limitations, this study contributes to the understanding of the impact of these crucial supporting industries under study on potential attractive markets or in development in general. The finding my also serve as a base for further analysis aimed at understanding how investment in these supporting industries may influence the development of other underperforming countries.

4. Industry Environment Competitiveness:

This chapter addresses the impact of current state of the industries competitiveness and the level of technology on potential attractive markets in SSA region. Primarily, most successful organizations continuously monitor changes in the environment however small those changes may be especially, conducting industry competitiveness is crucial for organizations vying for new markets in order to identify the state of the industry. The industry environment is the set of factors that has direct influence on the firm's competitive actions and competitive responses. Depending on the type of industry or service, organizations may adopt with the international focus according to the external environment and internal strategic objectives. In this chapter, the analysis is on the industry environment competiveness of 25 industries.

Typically, traditional industrial analysis models for competitiveness requires current or historical data on the firm's performances, allegedly determined by various industry properties, including the concentration of the economies of scale, the degrees of the firms in the industry, diversification, product differentiation, and market entry barriers. On the outset, this process ignores or fails to account for the firms' data unavailability in developing countries especially those in SSA region. As exigencies for data unavailability designed, a creative analytical framework for industry competitiveness analysis, which does justice and compatible with the SSA countries, while enhancing the traditional analytical methods. The framework is an integration of various analytical tools such as the qualitative SSA economics sectors development literature review, the traditional long-term (Porter competitiveness 90s), the input-output tables (Manfred et.al, 2013), and the DEA based Malmquist TFP Index (Fare et.al 1994) formed the basis of the proxy framework. The intended function of the proxy framework is to cover the Porters five forces of competition, threat of new entrants, the power of suppliers, power of the buyers, product substitute, and the intensity of competitor's rivalry while also adding value through time sensitivity, distance functions and quantitative dimensions to the traditional model.

The analysis is conducted under the following assumptions, MI > I indicates the industry growth holding everything else ceteris-paribus, thus a competitive and attractive industry contributing positively towards overall potential attractive markets. MI < I indicates the industry negative contribution (regression) i.e. a liability towards potential attractive market, extra strategic measures are necessary when vying such market. MI = I indicates industry stagnation which could be caused by factors such as the industry maturity, products or services life cycle among other factors. The goal of the outcome is to identify the state of the industry and its contribution towards potential attractive markets. The industries, classified according to the goods and services per the International Standard Industrial Classification (ISIC) of All Economic Activities, Rev.3.1.

This chapter, organized as follows, section 4 defines the industry environment and explains why it is necessary to conduct industry environment analysis. Section 4.1 addresses the various model used in industry competitiveness analysis. Section 4.2 covers the proxy framework used due to lack of historical data on the firm level. Section 4.3 addresses the current economic conditions in SSA countries. Section 4.4 explains the data used while section 4.5 discusses the methodologies applied. Offered in section 4.6 are the results from the study. Section 4.7 covers the results from the primary sector while section 4.8 covers the secondary sector results. Section 4.9 addresses the tertiary results and revisits manufacturing and tertiary in terms of trading blocs. Presented in section 4.10, are the conclusions and discussions.

4.1 Industry Competitiveness Models:

Top management decisions makers and researchers acknowledges the power of the theory of rational expectations that, it is difficult to profit from widely anticipated, or predictable, events since rational actors would already have taken the necessary actions and attained their objectives. Hence, faster decision-making process is essential

especially on monitoring and evaluating industry competitiveness or the firms' development in the industry. It is even more important currently, as the global market interconnectedness has radically changed the nature of competition, as a result decision makers in public and private organizations must adapt to the new global mind-set. The globalization of industries, their respective markets and rapid and significant technological innovation changes are the major drivers of the current competitive sphere. Typically, in business sphere, the external environment encompasses three major domains, the general, the industry, and the competitor analysis. Further unravelling of the domains reveals as previously addressed in chapter 2 on market attractiveness, the general environment is a composition of the political/legal, economics, social-cultural and technology dimensions that influences the industry and the firms operating within it. The industry environment is the set of factors that has direct influence on the firm's competitive actions and competitive responses. Studying these forces, the firm finds a position in an industry where it can influence the forces to its favor or where it can shield itself in order to earn above average return (Hitt, Ireland & Hoskinson, 2005). The configuration of these dimensions explains whether the industry environment is homogeneity or heterogeneity, stable or unstable, simple or complex (Harris, 2004). Nonetheless, the global competition has raised performance standards in various dimensions, including operation efficiency, productivity, cost, quality, reduced product life cycle that makes it practically impossible to eliminate the environmental uncertainties. However, researchers and managers have formulated well-tested and proven capabilities used to respond to ever-rising demands and opportunities existing in a dynamic and uncertain competitive environment in the 21st Century (Subramaniam & Venkataraman, 2001).

There are two practical models universally used by decision makers to produce the inputs required to effectively formulate and implement strategies for long-term strategic flexibility. Namely, the industrial organization model (I/O) and resource based model (RBM), the I/O model clarifies the influence of the external environment on the firms' actions. Theoretically, the assumptions made, performance of the firms 'is determined by the various industry properties e.g. the concentration of the economies of scale, the

degree of the firms in the industry, diversification, product differentiation and market entry barriers. Thus, the industry environment exerts greater influence in decision-making process than the decisions made by the firm managers (Bowman & Helfat, 2001; Shamsie, 2003). Various research findings support the I/O model, which specifies that roughly 20 % of the firm's profitability can be explained by the industry but 36 % of the variance in profitability could be attributed to firm's characteristics and strategic actions (McGahan, 1999). Furthermore, analysis shows that both the environment and the firm characteristics play a role in determining the firm's specific level of profitability thus; there is likelihood of reciprocal relationship between the firms' strategies and the external environment (Henderson & Mitchell, 1997).

In strategic management, packages of market activities and resources constitute the firm whereby, through the application of I/O model the market activities are unveiled. While the resource based model (RBM) describes the development and effective use of firm's resources, core competencies and capabilities. Hence, integrating these two models together creates a hybrid of the most effective strategy. The resource- based theory assumes that every organization is a set of unique resources and capabilities that delivers above average returns. It explains that the differences in firms' performance across time are typically due to the unique resources and capabilities rather than the industry's structural characteristics (Lee, Lee & Pennings, 2001; Blyler & Coff, 2003). Both models challenges the firms to locate the most appealing and profitable industry to compete under the assumptions, most firms have identical valuable resources that are mobile across firms therefore, competitive advantage lies in strategy implementations in the usage of the resources as required by the industrial characteristics and the code of ethics.

The commonly used tool to capture the complexity of the competition, the intensity of industry competition and industry's profit potential measured by the long-run return on invested capital is the Porters five forces model. The properties of the five forces are the threat of new entrants, the power of suppliers, power of the buyers, product substitute, and the intensity of competitor's rivalry. Mostly, when reviewing the competitive environment the five forces model of competition expands the arena for competitive

analysis. The Porters five forces have accomplished much in developed markets with abundant historical and current data from the industries and the firms readily available. Nonetheless, its' applicability in developing market or the SSA region is limited by data unavailability thus, the need for applying proxy framework. The currently situation in SSA, the global leaders and the world international bodies are advocating for better and faster policy formulation and higher level of investment to achieve the millennium development goals (MDGs) in 2015. Therefore, the current industry performance needs assessment for better policy formulations to enable faster development. Moreover, the knowledge of the state of the economy and industry improves the quality of business decisions and enables decision makers to put business issues into perspective. This chapter's endeavor involves analyzing and highlighting the current state of industries competitiveness in 20 SSA countries. The current analysis evolves from the general (macro) environment into industrial environment (micro) analysis of the top twenty countries weighted higher. The goal of the outcome is to find the contribution of the respective industries towards the overall potential attractive market. The analysis offers insights of the industry competitiveness while providing a critical look on the countries industry achievements through focusing on these questions. In standalone and bloc markets, which industries are competitive and what is the contribution towards potential attractive markets and what is the contribution of technical change to the total factor productivity growth in these industries.

Previously, there is no research attempt made which covers all industries ranging from those in primary sector to those in tertiary or services in the region. This attributed to the fact that the number of small firms in the informal sector is greater than in the formal sector that makes data gathering methodologies an expensive and tiresome exercise. Hence, there is a significant gap in the larger body of research literature about the emerging market dynamism in the SSA region and the rest of the world.

4.2 The Proxy Framework:

Today, the industry boundaries are becoming more and more unstable, in certain industries such as financial services and communications due to rapidly changing technologies, deregulations and globalization, which are undermining the value of traditional industry analysis. The analysis sought to integrate tools developed by various scholars, these tools include qualitative SSA economics sectors development literature review, the traditional long-term (Porter competitiveness 90s), the input-output tables (Manfred et.al, 2013), and the DEA based Malmquist TFP Index (Fare et.al 1994). The TFP index measures the TFP change between two data points by calculating the ratio of the distances of each data point relative to a common technology. The imperative role the TFP plays in long-term economic growth and social impact such as structural transformation, earning and poverty reduction makes it appealing for industry competitiveness evaluation. We use the Malmquist methods to measure and decompose the total factor productivity changes along the time variations between (2003-2007 and 2007- 2011) periods. The period is important because it falls between the SSA's market liberalization in the early 2000 and after the recession in 2008. Couple of assumptions made, Malmquist productivity index (MI) above unity indicates productivity growth and/or industry competitiveness with positive contributions towards overall potential attractive market, while below unity reveals productivity decline and/or industry liability with negative consequences. The framework, applied as a proxy for bench marking the state of the industry competitiveness while also expanding the traditional methods. The intended function of the proxy framework is to cover the Porters five forces of competition, threat of new entrants, the power of suppliers, power of the buyers, product substitute, and the intensity of competitor's rivalry while also adding value through time sensitivity, distance functions and quantitative dimensions to the traditional model. In figure 4.1 below, comparisons done on the traditional Porters

model and the newly designed proxy framework, highlighted are the differences and similarities between the two models.

Input -Output Technique + Malmquist Index.	Porters Five Forces.
Quantitative.	Mostly qualitative.
Time Sensitive.	Ignores time (static).
Sources of competitiveness (Industry)	Sources of competitiveness firm.
Analysis stems from the Industry.	Strategic analysis starts with the value chain.
Reveals Industry attractiveness, Skills and Techno Levels.	Reveals Industry attractiveness.
Applies distance functions.	Does not apply or dictates distance functions.
Does not require behavioral objectives	Requires behavioral objectives.

Figure 4.1Proxy Framework v/s Five Forces Model.

Although there are slight differences the importance of the Porters 5 forces is unsurpassable in industry analysis especially the dimension of rivalries that helps firms to improve their competitive positions. Therefore, the proxy model is not whatsoever a substitute of the five forces but rather an expansion of the five forces.

4.3 Current Business Environment:

Currently, in terms of doing business the general environment in Africa, especially in the SSA region has evolved from the past mediocrity into attractive markets powerhouse. Africa perceived attractiveness relative to other regions has improved dramatically over the past few years moving from the third –from – last position in 2011 to become the second-most attractive investment destination in the world in 2014, only United States of America ranks ahead of Africa in terms of investments attractiveness. Three key trends with broad shift have boosted the regions attractiveness (a) the region has caught investors' attention with the greatest number of foreign direct investment (FDI) projects directed to the region. First, from 2011 to 2013, the shares of the FDI projects rose from 75 % to 83 %, second, increase in intra-investment due to the regional value chains and strengthening regional integration. Third, the shift in sector focus, as services and consumer related industries gained prominence, the previously extractive industries such as mining and metal, and coal, oil and natural gas were the sectors attracting FDI (EY's attractiveness Survey, 2014). In respective economic

sectors, the performance of the primary sector in SSA region relative to rest of the world in terms of agriculture transformation and natural resources exploration performs poorly. This because of poor resource management practices although lately there is a slight improvement. Take for instance, the regions agricultural activities employ over 65 % of the labor force and accounts for 32 % of the GDP. Since 2000, the agriculture performance has greatly improved but not fast enough, to cope with hunger and poverty reduction, in spite of the acceleration in agriculture GDP growth from 2.3 % per year in the 1980s to 3.8 % per year from 2000 to 2005. Land expansion has fueled the growth but in many SSA countries, rapid urbanization is limiting further expansions. According to the World Bank, higher and sustained growth will require attention to five core areas of public action, - facilitating agricultural markets and trade, improving agricultural productivity; investing in public infrastructure for agricultural growth, reducing rural vulnerability and insecurity, and improving agricultural policy and institutions. Moreover, Ndulu, B. et al., 2008, observes, in natural resource exploration, the recent discoveries in oil, gas and hydrocarbon in East Africa has attracted much attention to the region, which until recently was blank spots regarding African subsoil resources. So far, these new discoveries amount to 100 trillion cubic feet, more than ten times Africa's current output rivalling the world largest fields, such as those in the Western Australia and Qatar. In mining, the US Geology Survey (USGS) estimates Africa will expand its metal and mineral production in 15 important metals by 78 % between 2010 and 2017, compared with only 30 % in the America and Asia. The resumption of base metal mining such as iron ore and bauxite in West Africa (Guinea and Sierra Leone) will quadruple the African output of these metals over the next few years (Bloomberg, 2012a). The secondary sector or manufacturing is not faring well either relative to the rest of the world.

In other parts of the world especially in Asia, labor-intensive manufacturing has transformed most of the successful developing countries in their low-income stage of growth. However, in SSA the case is different the share of global light manufacturing has steadily declined. Without economic structural transformation, even with the preferential access to markets in the United States and the European Union though in

good intentions has not made much of a difference. Without immediate structural transformation, the gap between the Asian countries such as India and China will widen even further, which in the 1980s had no much different from SSA currently (Lin, 2012). Today, manufacturing accounts for roughly 13 % of the GDP in SSA a smaller share than any other region. Thus, given the small magnitude of the manufacturing sector in most of these countries it is not dismaying that, manufacturing exports are not important source of export earnings in most SSA countries except in the middle-income countries in Southern Africa and the middle-income island economies, manufacturing accounts for over 30 % of exports only in Kenya, Senegal and Zimbabwe. There are various binding constraints in the sector growth but one striking characteristics of the African economies is the composition of informal firms which are estimated to account for about 38 % of the GDP in SSA relative to East Asia and Pacific which is only 18 % (Schneider, Buehn & Montenegro, 2011). The informal firms are less productive than the formal in the region, accounting for greater share in employment than output. For example, roughly, 88 % of the workforce in Zambia works in firms with less than five employees and almost all micro firms in Zambia are unregistered not even with the local governments (Clarke, eta.al, 2010)

The tertiary or services in SSA region share of the GDP in Africa has risen from 44.4 % in 1980 to 53.1 % in 2009 compared to the rest of the sectors such as agriculture, forestry and fisheries. The expansion of the service sector abetted by deregulations and cost reduction in technology innovations, attracting investors to the sector contributed to the GDP between 2 to 5% in 2005 and 2011. While that of agriculture and manufacturing with less than 2 % or negative growth rate, enabled by the country's relative higher education standards than the rest of the region (Yoshizawa, 2013). Further, in improvement in education will facilitate better human skills resulting in competitive services in the region.

4.4 Data:

The data applied in this chapter are the input-output tables derived from Eurostat, the statistical office of the European Communities which gathers and analyses figures from national statistical offices and provides harmonized data for Europe's business communities, professional organizations, academic researches, librarian`s , NGO`s media outlets and the general public. The compilation of supply, Use and Input-Output tables is complex and challenging than most other statistical tools. However, they offer the most detailed descriptions of an economy with insightful analysis of the process of production and the use of good and services (products) and the income generated in the production process. Satellite accounts; provide a framework linked to the central account that enables focusing attention on a certain field or aspects of economic and social life in the context of the national accounts; such as the satellite accounts for the environment, or tourism, or unpaid household work. Leontief (1963) attributes the history of input-output table to the research by Marshall K. Wood, George D. Danzing, and their associates in Project Scoop of the U.S Air force in 1940s. Their main goal was to rearrange sectors in order to reduce computation redundancy for solving a system of linear equations. In addition, they also found that IOT revealed definite structural characteristics of the economy. In this study, the (IOT) tables were the best data for conducting developing countries industry analysis. The tables were sufficient to obtain a better estimate on the production technology. Currently, IOT serves as a useful tool for analyzing the production structure of an economy, the scope for their exploitations is extraordinarily diversified (Kondo, 2014). Their backward and forward linkages acts as a tool for external environmental analysis for scanning, monitoring, forecasting and assessing industry sectors in the economy in this case the industries in SSA region. Moreover, they complement Porters' five forces perfectly in market research. Bearing in mind, the objective of using effective market research and analysis approach is rarely the development of inclusive entry for all hypothetical factors, rather to find common

trends and market opportunities. The proxy framework examines and identifies the key structural features of the industry that influences competitive behavior and profitability and analyzes relationships between the industry structure, competition and the level of profitability. In addition, the model can also forecast the changes in the industry. Figure 4.2 below shows the 20 SSAs countries and their respective industries under our current considerations.

Country	Primary	Secondary	Tertiary
Angola	Agricultural	Food & Beverages	**Distributive Services**
Benin	Fishing	Textile and Wear	Wholesale Trade
Botswana	Mining	**Transportable goods**	Retail Trade
Burkina Faso		Wood and Paper	Hotel & Restaurant
Gabon		Petroleum Chemical	Post & Telecommunication
Ghana		Other Manufacturing	Electricity, Gas and Water
Guinea		Recycling	Transport service
Kenya		**Basic Metal Products**	**Financial & Business Related**
Lesotho		Metal Products	Financial & Business
Malawi		Transport Equipment	Maintenance & Repair
Mauritius		Electrical and Machinery	Other Services
Namibia		Construction	**Community & Social Services**
Nigeria			Public Administration
Senegal			Education and Health
Seychelles			Household services
South Africa			
Tanzania			
Togo			
Uganda			
Zambia			

Figure 4.2 SSA Countries and Respective Industries.

For each industry, the MI is composed of the following variables, compensation for employees, subsidies on production, net operating surplus, net mixed income and consumption on fixed capital and for every five inputs in each industry there is one gross output.

4.5 Methodology:

Malmquist introduced the (MI) index in 1953 but further developed within the framework of DEA by; Caves, Christensen and Diewet (1982a, 1982b) as a theoretical index but popularized as an empirical index by Fare et al. 1994) meant for measuring the productivity overtime. The Malmquist index decomposes the productivity change into two components the "catch-up" which captures the change in technical efficiency overtime and "frontier-shift" this captures the changes in technology that occurs over time (Coelli & Rao, 2005; Fare et.al. 2011). The MI distance function defines the production technologies for multi-input and multi-output technology without the specification of behavioral objective such as profit maximization or cost minimization. We may define input distance function and output distance functions as an input distance functions exemplifies the production technology according to the most contracted input vector, given an output. An output distance function defines the production technology as per the most expanded output vector, in this research our emphasis is on an output distance function. Currently, Malmquist Index is widely used in Africa such as in measuring productivity changes in financial institutions, (Boitumelo, Valadkhani, Charles, 2009), and productivity growth in agriculture (Alejadro &Yu, 2008).

The output oriented Malmquist productivity change index (Fare et.al 1994) specifies an output based Malmquist productivity change index as follows. The TFP index measures the TFP change between two data points by calculating the ratio of the distances of each data point relative to a common technology. If the period t technology is used as the reference technology, the Malmquist (output- oriented) TFP change index between period s (the base period) and t may be written as follows.

$$m_o^t\left(q_{s,}x_s\,,q_{t,}x_t\right)=\frac{d_o^t\,(q_t,x_t)}{d_o^t(q_s,x_s)}\,. \tag{1}$$

Alternatively, if the period s reference technology is applied the definition is as:

$$m_o^s\left(q_{s,}x_s\,,q_{t,}x_t\right)=\frac{d_o^s\,(q_t,x_t)}{d_o^s(q_s,x_s)}\,. \tag{2}$$

In the above equations, the notation $d_o^s\,(q_t,x_t)$ is the distance function from he observed period (t) to the period s technology. If $m_o > 1$ indicates positive TFP growth from period (s) to period (t) while if $m_o < 1$ indicates a TFP decline. However, in order to overcome any restriction or the arbitrarily of choosing one of the fore mentioned technologies, the Malmquist TFP index is often defined as the geometric mean of these two indices by Caves, Christensen and Diewert (1982b) i.e.

$$m_\circ\left(q_s,x_s,q_{t,}x_t\right)=\left[\frac{d_\circ^s(q_t,x_t)}{d_\circ^s(q_s,x_s)}\times\frac{d_\circ^t(q_t,x_t)}{d_\circ^t(q_s,x_s)}\right]^{\frac{1}{2}}, \tag{3}$$

An equivalent way of writing this to show that its equivalent to the product of a technical efficiency change index and technical change index would be:

$$m_\circ\left(q_s,x_s,q_{t,}x_t\right)=\underbrace{\frac{d_\circ^t(q_t,x_t)}{d_\circ^s(q_s,x_s)}}_{\text{Efficiency Change}}\underbrace{\left[\frac{d_\circ^s(q_t,x_t)}{d_\circ^t(q_t,x_t)}\times\frac{d_\circ^s(q_s,x_s)}{d_\circ^t(q_s,x_s)}\right]^{\frac{1}{2}}}_{\text{Technical Change}}\,. \tag{4}$$

Please note the ratio outside the square brackets is the technical efficiency between periods (s) and (t) and the part in the square brackets is a measure of technical change. It is a geometric mean of the shift in technology between the two periods evaluated at xt and xs. Other researchers have suggested further decomposition of these technical efficiency and technical to other components but for our purposes the decomposition of efficiency and technical change are enough to solve our problem. Technical efficiency change (Catch-up) indicates or measures the change in efficiency between the current (t) and next (t+1) periods, while the technological change (innovations) captures the shift in frontier technology. Technological change is the development of new products or the development of new technologies that allow methods of production to improve and results in the shifting upwards of the production frontier. To be more precise,

technological change includes new production process, called process innovation and the discovery of new products called product innovations. With process innovation firms figure out more efficient ways of making existing products allowing output to grow at a faster rate than economic inputs are growing. The cost of production declines overtime with process innovations-new way of making things.

Technical efficiency change, on the other hand, can, make use of existing labor, capital, and other economic inputs to produce more of the same product. An example is increase in skills or learning by doing. As the producer gain experience of producing something, they become more and more efficient at it. Labor finds new ways of doing things so that relatively minor modifications to plant and procedures can contribute to highest level of productivity. Panel data allows for estimation of technical progress (the movement of the frontier established by the best practices firms) and the changes in technical efficiencies overtime (the distance of the inefficient, firms from the best practice firm) or catching up.

4.6 Results Introduction:

Summarized in this section are the results of the 25 industries in 20 SSA during the periods (2003-2007) and (2007-2011). For all the tables in this chapter please, refer to appendix B for all tables in this chapter. Tables B.1 to B.3 are those industries in the primary sector or those involved with production of raw materials in agriculture, fishing, and mining. Tables B.4 to B.25 are those industries in the secondary sector or manufacturing. Tables B.14 to B.25 are the industries in the tertiary sector or services in standalone alone markets. Tables B.26 to B.31 presents the results of the trading blocs' rankings. There are 20 countries, each with 25 industries and 8 years period hence; there are many computer-generated outputs to describe. The entire calculations involved solving $25 \times (3 \times 8-2) = 550$ linear programming problems. Therefore, lots of information on the productivity scores in each year; in addition, there are measures of Technical Efficiency change (catch-up), Technical Change (frontier shift) and Total factor

Productivity change (TFP) for each country and their adjacent years. Hence, the results present only the most crucial information regarding potential attractive markets with greater managerial implications in decision-making processes.

The Malmquist index is applied as a benchmarking technique therefore the productivity scores offers information about the DMU or the (industry's) capacity to improve outputs while holding everything else equal in this sense, the index strengthens the decision making support on the industry contributions towards potential market. The preliminary results, provides the averages of Technical Change and TFP change for each country over the period 2003-2011. Also checked are the changes in technical change to identify the technology change of the industries.

4.7 Primary Sector Results:

This section explains the primary production, which involves acquiring raw materials. For example, metals and coal are mined, oil drilled from the ground, rubber tapped from trees, foodstuffs farmed and fish trawled at times this is known as extractive production as per ISIC Rev 3.1. The results presented first, covers the primary sector on stand-alone competitiveness.

Table B.1 see the appendix B, shows the agricultural sector, the firms in the sector includes those in the exploitation of vegetal and animal natural resources, comprising the activities of growing of crops, raising and breeding of animals, harvesting of timber and other plants, animals or animal products from a farm or their natural habitats. Overall in TFP growth, five countries in progress, three in status quo, 12 in regression and the region average in TFP is -5.8 % and in technical change 1.1 %. In TFP growth, Burkina Faso is the best practice model with 50.7 %, followed by Nigeria 47.9 %, Kenya 22.8 %, Mauritius 10.5 % and Senegal 7.4 %. This indicates, agriculture in those five countries had positive contributions towards overall market attractiveness. In status quo are Namibia, Seychelles and Tanzania. In regression, Botswana -0.4 %, Angola -2.5 %, Ghana -5 %, Lesotho -17.3 %, Uganda -20.5 %, Gabon -24.1 %, Zambia -25 %,

Benin -22.2 %, Guinea -26.7 %, South Africa -26.8 %, Togo -37.6 %, and Malawi -45.7 % the highest decline in TFP. In technical change, nine countries in progress or above unity, three in status quo and eight in regression. South Africa is the best practice model with 105.4 %, followed by Burkina Faso 52.8 %, Nigeria 37 %, Kenya 18.9 %, Senegal 13 %, Mauritius 9.7 %, Botswana 5.1 %, Ghana and Angola 3.7 % a piece. In status quo are Namibia, Seychelles and Tanzania. In regression, Uganda -11.8 %, Zambia -13.8 %, Lesotho -17.3 %, Gabon -18.7 %, Togo -30.4 %, Malawi -32.2 %, Benin -48.3 %, and Guinea -54.6 is the highest decline in technical change. As the results indicates, apart from those five countries in progress and those three in status quo. The rest 12 countries agriculture is a liability in overall potential attractive market in the region. The situation in agriculture is horrendous and requires measures to boost productivity and competitiveness to contribute in market attractiveness. In the decomposition of the MI, the TE exerted greater influence over the TC, which means greater skills in agriculture than innovations contributed towards TFP.

Table B.2 see the appendix B, shows the fishery industry. Composition of all those firms involved with fishery including those captures fishery and aquaculture, covering the use of fishery resources from marine, brackish or freshwater environments, with the goal of capturing or gathering fish, crustaceans, mollusks and other marine organisms and products (e.g. aquatic plants, pearls, sponges etc.). Also included are those which performs activities that are normally integrated in the process of production for own account (e.g. seeding oysters for pearl production). Overall in MI, eight countries has progress, which indicates positive contributions towards overall market attractiveness, nine in status quo, three in regression and the region average is 16.1%. In TFP growth contributions towards potential attractive market, Burkina Faso is the best practice model with 161.8 %, followed by Seychelles 42 %, Lesotho 35 %, Nigeria 27.8 %, Mauritius 27.3 %, Senegal 18.7 %, Kenya, 18.2 % and Angola 11.3 %. In status quo are Benin, Botswana, Gabon, Guinea, Malawi, South Africa, Togo, Uganda and Zambia. In regression, Ghana -4.8 %, Namibia -6.2 % and Tanzania 8.8 % is the highest decline in this industry. In technical change, ten countries in progress, nine in status quo, one in regression and the region average is 9.4 %. Mauritius is the best practice model with

41.7 %, followed by Nigeria 36.3 %, Burkina Faso 34.7 %, Senegal 26.6 %, Lesotho 14.3 %, Kenya 13.1 %, Angola 12.3 %, Tanzania 9 %, Seychelles 4 %, and Namibia 0.4 %. In status quo are Benin, Botswana, Gabon, Guinea, Malawi, South Africa, Togo, Uganda and Zambia. In regression is Ghana -4.8 %. The region average 16.1 % indicates, fisheries had greater contributions towards the regions market attractiveness than agriculture.

Table B.3 see appendix B, shows the mining industry. The industry includes those firms involved in the extraction of minerals occurring naturally as solids (coal and ores), liquids (petroleum) or gases (natural gas). In MI contributions towards potential attractive markets, 10 countries in progress, 5 in status quo, 5 in regression and the region average is 11.8 %. Burkina Faso is the best practice model with 73.7 %, followed by Seychelles 56.4 %, Lesotho 36.4 %, Botswana 35.2 %, South Africa 25 %, Angola 22.4 %, Nigeria 16.3 %, Kenya 4.5 %, Namibia 3.6 %, and Senegal 0.2 %. In status quo are Benin, Malawi, Mauritius, Togo and Uganda. In regression, Tanzania -1.1 %, Gabon -3.3 %, Guinea -9.6 %, Ghana -10.5 %, and Zambia -13.3 % the highest decline. In technical change, eight countries in progress, five in status quo, seven in regression and the region average is 3.2 %. South Africa is the best practice model 28 %, followed by Nigeria 23.1 %, Angola 14.7 %, Botswana 14.5 %, Namibia 11.8 %, Burkina Faso and Kenya with 9.2 % a piece and Lesotho 1.9 %. In status quo are Benin, Malawi, Mauritius, Togo and Uganda. In regression Tanzania -0.2 %, Senegal -3.7 %, Seychelles and Gabon with -5.5 %, apiece, Guinea -9.6 %, Ghana -10.5 %, and Zambia -13.3 is the highest decline. Various foreign firms invest in the mining industry in SSA region therefore, for further analysis it is important to compare the MI of the adjacent years for the periods (2003-2007) and (2007-2011). Analyzed first is (2003-2007) period. In MI, during the first period nine countries in progress, six in status quo, five in regression and the region average is 15.6 %. Burkina Faso is the best practice model with 100 %, followed by Botswana 93.9 %, South Africa 51.9 %, Namibia 48.7 %, Angola 32.3 %, Nigeria 25.9 %, Seychelles 21.7 %, Tanzania 5.2 % and Kenya 5.1 %. In status quo are Benin, Lesotho, Malawi, Mauritius, Togo and Uganda. In regression Senegal -1 %, Gabon -4.8 %, Guinea -19.3 %, Ghana -21.1 % and Zambia 26.6 % is the

highest decline. In technical change, during the same period (2003-2007), 10 countries in progress, six in status quo, four in regression and the region average is 6.5 %. Botswana is the best practice model with 52.9 %, followed by Nigeria 43.8 %, Namibia 26.7 %, South Africa 21.8 %, Angola 21 %, Seychelles 13.3 %, Kenya 11.9 %, Senegal 4.4 %, Gabon 3.9 %, and Burkina Faso 0.3 %. In status quo are Benin, Lesotho, Malawi, Mauritius, Togo and Uganda. In regression Tanzania -2.4 %, Guinea -19.3 %, Ghana -21.1 %, and Zambia -26.6 % the highest decline. The MI, in the second period (2007-2011), seven countries in progress, eight in status quo, five in regression and the region average is 7.9 %. During this period Seychelles 91.1 %, is the best practice model followed by, Lesotho 72.9 %, Burkina Faso 46.8 %, Angola 12.5 %, Nigeria 6.8 %, Kenya 3.9 %, and Senegal 1.4 %. In status quo are Benin, Ghana, Guinea, Malawi, Mauritius, Togo, Uganda and Zambia. In regression, South Africa -1.7 %, Gabon -1.8 %, Tanzania -7.6 %, Botswana -23.5 % and Namibia 41.5 % is the highest decline. In technical change during the same period (2007-2011), seven countries in progress, seven in status quo, six in regression and the region average is -0.13 %. South Africa is the best practice model in 34.2 %, followed by Burkina Faso 18.2 %, Angola 8.4 %, Kenya 6.5 %, Lesotho 3.8 %, Nigeria 2.3 % and Tanzania 1.9 %. In status quo are Ghana, Guinea, Malawi, Mauritius, Togo, Uganda and Zambia. In regression, Benin -1.1 %, Namibia -3.1 %, Senegal -11.8 %, Gabon -15.1 %, Botswana -23.8 %, and Seychelles -24.4 % is the highest decline. Worth mentioning, the region MI averages of 15.6 % in (2003-2007) declines to 7.9 % in the second period (2007-2011) also in technical change, the region average 6.5 % in the first period (2003-2007) declines to -0.13 in the second period (2007-2011). The figure 4.3 below is comparison of the TFP, TE and TC in the mining industry.

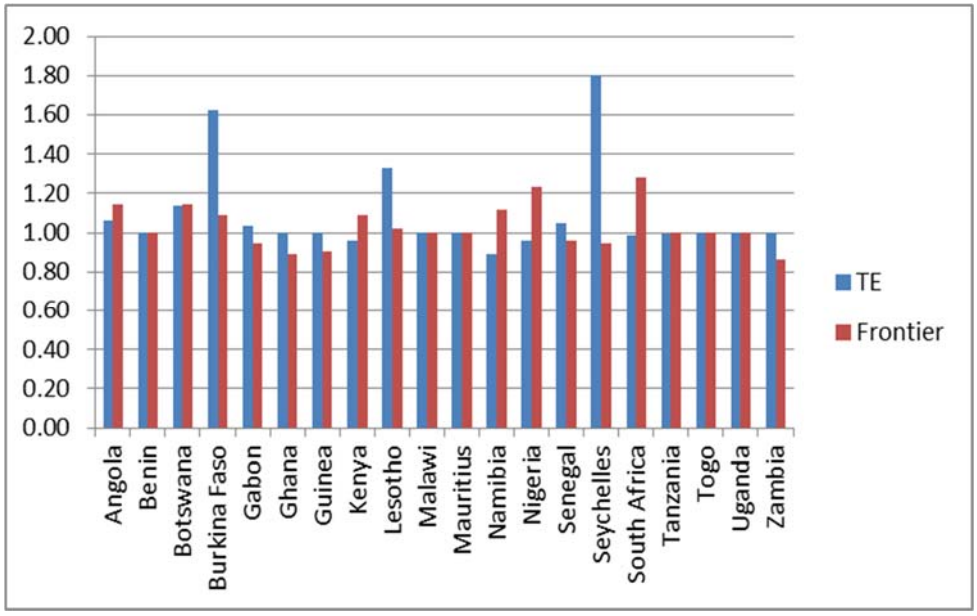

Figure 4.3 TE, TC & MI (Mining & Quarry).

During the period 2003-2011, as the figure above indicates, technical efficiency has the greatest contribution than technical change in the composition of the MI, this attributed to better use of existing labor, capital, and other economic inputs to produce more of the same product or increase in skills or learning by doing in the mining industry. As the producer gain experience in mining methods, they become more and more efficient at it. Thus, labor finds new ways of doing things so that relatively minor modifications to plant and procedures may contribute to highest level of productivity.

In conclusion, attributing the industries in primary sector impacts or contributions towards overall potential attractive market reveals, the agriculture average is -5.8 %, with four countries in progress, fishing average is 16.1 % with eight countries in progress while the mining average is 11.8 % and ten countries in progress. As the results indicates the industries with the greatest contributions towards overall potential market attractiveness in the primary sector are the mining and fishing. The decline of -5.8 % in the agriculture is a liability and requires necessary measures to make the sector competitive and attractive sector.

4.8 Results Secondary Sector (Manufacturing):

This section includes all manufacturing industries in the region, i.e. those firms involved in the physical or chemical transformation of materials, substances, or components into new products, although there is no single universal criterion for defining manufacturing. It is widely, understood, the materials, substances, or components transformed are raw materials that are products of agriculture, forestry, fishing, mining or quarrying as well as products of other manufacturing activities. Substantial alteration, renovation or reconstruction of goods is manufacturing activities. Please note: The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurry. Generally, the activities in the manufacturing section involve the transformation of materials into new products. Their output is a new product. However, the definition of what comprises a new product is somewhat subjective. Below, starts with the results of the light industries.

Table B.4 see the appendix B, shows the results of food and beverages industry. It includes the processing of the products of agriculture, forestry and fishing into food for humans or animals, also includes the production of various intermediate products that are not directly food products. It also includes the manufacturing of beverages, such as nonalcoholic beverages and mineral water, manufacture of alcoholic beverages mainly through fermentation, beer and wine, and the manufacture of distilled alcoholic beverages. In MI, contributions towards potential attractive markets, 11 countries in progress, 5 in status quo 4 in regression, and the region average is 12.6 %. In the following countries, the industry had positive impacts in overall market attractiveness. Angola is the best practice model with 127.3 %, followed by Nigeria 64.8 %, Ghana 61.7 %, Botswana 46.2 %, Kenya 27.9 %, Burkina Faso 25.5 %, South Africa 20.1 %, Benin 12.3 %, Malawi 12 % , Mauritius 9.7 %, and Uganda 2.6 %. In the following countries Lesotho, Namibia, Seychelles, Tanzania and Togo the industry influenced no changes (status quo). However, in Senegal -34.1 %, Guinea -34.2 %, Zambia -42.7 % and Gabon -47.3 the industry was a liability, and influenced negatively towards market

attractiveness. In technical change, seven countries in progress, five in status quo, eight in regression and the region average is -3.3 %. Botswana is the best practice model with 52 %, followed by Nigeria 47.9 %, Ghana 43.5 %, Angola 41.7 %, South Africa 24.2 %, Kenya 20.9 %, and Burkina Faso 10.3 %. In status quo are Lesotho, Namibia Seychelles, Tanzania, Togo and Uganda. In regression, Uganda -11.2 %, Senegal -28.5 %, Mauritius -32 %, Guinea -34.2 %, Benin -44.1 %, Malawi -45.5 %, Gabon -55.6 % and Zambia -56.9 is the highest decline.

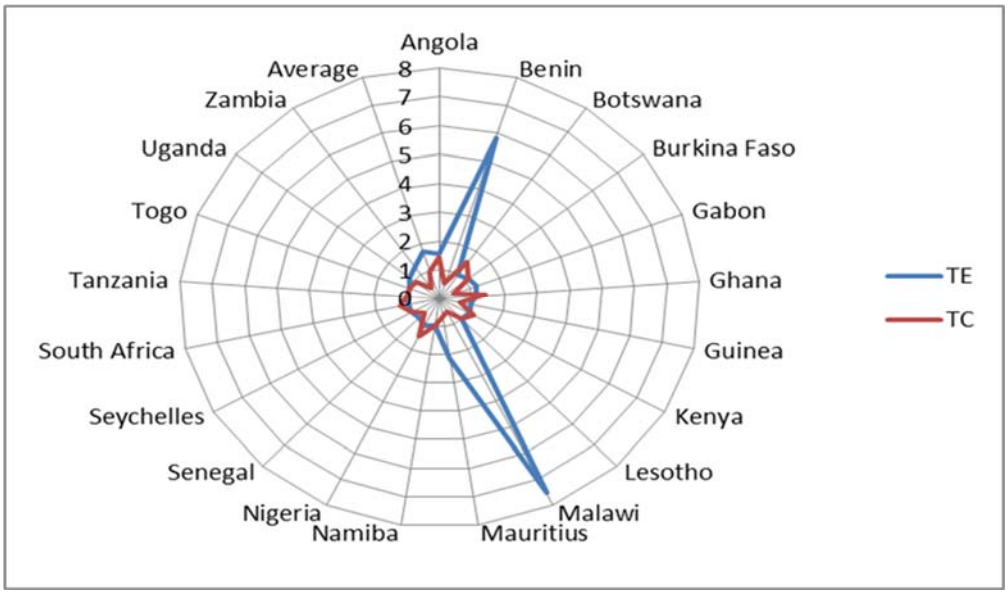

Figure 4.4 Food & Beverages Industry. Period (2003-2011).

The development of food and beverages industry is important both in terms of domestic and international consumptions therefore this industry warrants further analysis in TE and TC comparisons towards the decomposition of the total factor growth (TFP). As the figure above shows, TC represented by the inner part of the circle is smaller than TE represented by the larger part. This indicates almost all countries have no technological capabilities of developing new products. Consequently, adopting new technologies in methods of production might be one of the solutions to make the industry more competitive and better contributions towards overall market attractiveness.

Table B.5 see the appendix B, shows the textile and wear industry includes all the firms involved in preparation and spinning of textile fibers as well as textile weaving,

finishing of textiles and wearing apparel, manufacture of made-up textile articles, except apparel e.g. household linen, blankets, rugs, cordage etc. the industry is considered as light manufacturing. In MI, contributions towards overall market attractiveness, 10 countries in progress this indicates in those ten countries the industry had positive contributions towards market attractiveness, three in status quo, seven in regression and the regional average is -1.3 %, which indicates region wise the industry had negative contributions towards market attractiveness. Angola is the best practice model, with 54.8 %, followed by Tanzania 42.3 %, Botswana 36.3 %, Kenya 30 %, Ghana 25.2 %, South Africa 21.5 %, Nigeria 19.4 %, Mauritius 15.2 %, Guinea 3.8 % and Benin 3 %. In status quo are Burkina Faso, Namibia and Seychelles. In regression, Zambia -18.7 %, Malawi -20.4 %, Lesotho -30.1 %, Togo -35.6 %, Uganda -56.8 %, Senegal -58 %, and Gabon -59.2 % is the highest decline. In technical change, seven countries in progress, three in status quo, ten in regression and the region average is -14.9 %. Botswana is the best practice model with 38.8 %, followed by Mauritius 24 %, South Africa 23 %, Nigeria 20.9 %, Angola 20.7 %, Ghana 18.5 % and Kenya 17.2 %. In status quo are Burkina Faso, Namibia and Seychelles. In regression, Zambia -22.1 %, Tanzania -22.9 %, Lesotho -30.1 %, Togo -35.6 %, Benin -44.7 %, Guinea -46.6 %, Senegal -58 %, Uganda -61.8 %, Gabon -63.8 % and Malawi -77.1 % is the highest decline in the industry. Bearing in mind that the textile and wear industry considered, a light industry, that requires less capital and less energy than the capital-and energy intensive heavy industries, and only 10 or half of the countries understudy in progress. This is a clear indication of the abysmal state of the manufacturing sector in the SSA region, which influences negatively the overall potential attractive markets in the region. Table B.6 refer to appendix B, shows the wood and paper industry, it includes the manufacturing of wood products, such as lumber, plywood, veneers, wood containers, wood flooring, wood trusses, and prefabricated wood buildings. The production processes include sawing, planning, shaping, laminating, and assembling of wood products starting from logs cut into bolts, or lumber. The industry also includes the manufacturing of pulp, paper and converted paper products grouped together because they constitute a series of vertically connected processes. In MI contributions towards

overall potential market attractiveness, ten countries in progress, four in status quo, six in regression and the region average is -5.6 % an indication of poor contributions towards regions market attractiveness. However, in respective countries positive contributions, Kenya is best practice model with 39.1 %, Angola, 35.4 %, South Africa 20.1 %, Mauritius 14.7 %, Botswana 13.9 %, Nigeria 10.3 %, Tanzania 6.1 %, Benin 5.3 %, Ghana 5.1 % and Senegal 0.7 %. Burkina Faso, Lesotho, Seychelles, Togo in status quo. In regression, Namibia -19.1 %, Malawi -32.3 %, Guinea -34.2 %, Uganda -58.7 %, Gabon -58.7, and Zambia -60.6 % is the highest decline. In technical change, nine countries in progress, four in status quo, seven in regression and the region average is -11.7 %. South Africa is the best practice model with 26.2 %, Mauritius 24.8 %, Angola 23.5 %, Kenya 17 %, Botswana 12.5 %, Nigeria 12.3 %, Senegal 7.8 %, and Ghana 4.6 % and Tanzania 1.5 %. In status quo are Burkina Faso, Lesotho, Seychelles and Togo. In regression, Malawi -32.3 %, -34.2 %, Benin -43.5 %, Gabon -60.3 %, Uganda -61.8 %, Zambia -63.3 % and Namibia -70.2 % is the highest decline.

Table B.7 see the appendix B, shows the petroleum & chemical industry, and includes the transformation of crude petroleum and coal into usable products. The dominant process is petroleum refining, which involves the separation of crude petroleum into component products through such techniques as cracking and distillation. Also includes, the transformation of organic and inorganic raw materials by a chemical process and the formation of products. It distinguishes the production of basic chemicals that constitute the first industry group from the production of intermediate and products produced by further processing of basic chemicals that make up the remaining industry classes. In MI, contributions towards overall potential attractive markets, eight countries in progress, four in status quo, eight in regression and the region average is -6.6 %. Angola is the best practice model with 97.8 %, followed by South Africa 21.1 %, Botswana 12.2 %, Kenya 10.5 %, Tanzania 9.8 %, Ghana 9 %, Mauritius 2.7 %, and Benin 2.5 %. In status quo are Burkina Faso, Lesotho, Seychelles, and Togo. In regression, Guinea -3.1 %, Senegal -4.7 %, Nigeria -4.8 %, Malawi -36 %, Namibia -38.9 %, Uganda -69.2 %, Gabon -70.9 %, Zambia -71 is the highest regression decline. In technical change, seven countries in progress, four in status quo, nine in regression

and the regional average is -18 %. Angola is the best practice model with 35.8 %, followed by South Africa 25.5 %, Mauritius 11.4 %, Ghana 9.24 %, Kenya 7.6 %, Botswana 7 %, and Senegal 2.5 %. In status quo are Burkina Faso, Lesotho, Seychelles and Togo. In regression, Nigeria -1 %, Tanzania -30.2 %, Malawi -36 %, Benin -46 %, Guinea -46.9 %, Uganda -71.7 %, Zambia and Gabon -72.3 % a piece, Namibia -84.3 % is the highest decline.

Table B.8 see appendix B, shows other manufacturing industry; include the manufacture of a variety of goods not covered in other parts of the classification. This is a residual industry, production processes, input materials and use of the produced goods can vary widely. In MI contributions towards overall potential attractive markets, 11countries in progress, four in status quo, five in regression and the regional average is 0.6%. Mauritius is the best practice model with 88.3 % growth in TFP, followed by Tanzania 28.1 %, South Africa 26.4 %, Lesotho 19.4 %, Burkina Faso 7.4 %, Angola 5.6 %, Nigeria 5.3 %, Botswana 4.2 %, Ghana 3 %, Kenya 2 %, and Seychelles 0.8 %. In status quo are Benin, Guinea, Malawi and Togo. In regression, Namibia -10.5%, Uganda -37.4 %, Gabon -38.8 %, Senegal -45.4 % and Zambia 46.6 % is the highest decline. In technical change, ten countries in progress, four in status quo, six in regression and the region average is -1.5 %. South Africa is the best practice model with 23.4 %, followed by Lesotho 19.7 %, Nigeria 16.5 %, Ghana 6.3 %, Mauritius and Botswana 2.1 % a piece, Kenya 1.8 %, Angola 1.7 %, Seychelles 0.8 % and Burkina Faso 0.4 %. In status quo are Benin, Guinea, Malawi and Togo. In regression, Tanzania -3 %, Namibia -10 %, Zambia -14.3 %, Uganda -16.4 %, Gabon -17.1 %, Senegal -45.4 % is highest decline.

Table B.9 see appendix B, the recycling industry, includes the processing of waste, scrap and other articles, whether used or not, into secondary raw material. A transformation process is required, either mechanical or chemical. It is typical that, in terms of commodities, input consists of waste and scrap, the inputs sorted or unsorted but normally unfit for further direct use in an industrial process, whereas the output made fit for direct use in an industrial manufacturing process. The resulting secondary raw material is an intermediate good, with a value, but is not a final new product. In MI,

contributions towards overall potential attractive markets, 15 countries in progress, two in status quo, three in regression and the region average is 14.9 %. Angola is the best practice model with 79.8 %, followed by Mauritius 63.4 %, Seychelles 50.3 %, Burkina Faso 38.9 %, Nigeria 26.7 %, Lesotho 24.2 %, Uganda 15.5 %, Zambia 13.9 %, Senegal 9.5 %, Malawi 9 %, Tanzania 8.6 %, Botswana 7.1 %, Togo 2.1 %, Ghana 1.7 % and Benin 0.3 %. In status quo are Gabon, Kenya and Guinea. In regression, Namibia -3.6 %, and South Africa -49.5 is the highest decline. In technical change, 17 countries in progress, one in status quo, two in regression and the region average is 13.8 %. Kenya is best practice model with 75 %, followed by Mauritius 42.4 %, Lesotho 24.1 %, Nigeria 23.9 %, and Zambia 23.4 %, Senegal 21.2 %, Namibia 18.8 %, Angola 17.2 %, Uganda 15.5 %, Tanzania 14.8 %, Malawi and Botswana 13.3 % a piece, Seychelles 9.9 %, Burkina Faso 8.7 %, Togo 2.1 % and Ghana 1.8 %. In status quo are Benin, Gabon and Guinea. In regression, South Africa -49.5 % is the highest decline.

Table B.10 see appendix B, reveals the results in basic metal products industry, includes the activities of smelting and/or refining ferrous and non-ferrous metals from ore, or scrap, using electro metallurgic and other process metallurgic techniques. This division also includes the manufacture of metal alloys and super-alloys by introducing other chemical elements to pure metals. The output of smelting and refining, usually in ingot form, is used in rolling, drawing and extruding operations to make products such as plate, sheet, strip, bars, rods, wire, tubes, pipes and hollow profiles, and in molten form to make castings and other basic metal products. The basic metal product is capital intensive and high-energy consumption industry. In MI, contributions towards overall potential attractive markets six countries in progress, three in status quo, eleven in regression and the region average is -8.7 %. Angola is the best practice model with 85.1 %, followed by Tanzania 34.2 %, South Africa 23 %, Botswana 5 %, Ghana 2.6 %, and Benin 1.2 %. In status quo are Burkina Faso, Seychelles and Togo. In regression, Lesotho -3.8 %, Guinea -4.1 %, Nigeria -4.3 %, Senegal -8 %, Kenya -18.6 %, Namibia -31 %, Mauritius -31.6 %, Zambia -35.4 %, Malawi -37.6 %, Uganda -75.2 %, and Gabon -76.1 % is the highest decline. In technical change, six countries in progress, three in status quo, 11 in regression and the region average is -23.5 %. Angola is the

best practice model with 38.2 %, followed by South Africa 26.8 %, Ghana 4.3 %, Nigeria, Senegal and Botswana 2.2 % a piece. In status quo are Burkina Faso, Seychelles and Togo. In regression, Lesotho -5.9 %, Tanzania -8.3 %, Malawi -37.6 %, Zambia -39.4 %, Kenya -45.7 %, Benin -47 %, Guinea -47.4 %, Gabon -76.2 %, Uganda -76.5 %, Mauritius -78.6 % and Namibia -84.2 % is the highest decline.

Table B.11 see appendix B, shows the transport equipment industry, includes the manufacture of transportation equipment such as ship building and boat manufacturing, the manufacture of railroad rolling stock and locomotives, air and spacecraft and the manufacture of parts thereof. Please note in SSA region, the definition of transport equipment could be indistinct. In MI, contributions towards overall potential attractive markets 19 countries in progress, no country in status quo, one in regression and the region average is 479.7 %. Kenya, as the best practice model with 4900.5 %., followed by Nigeria 2271.4 %, Tanzania 623.4 % South Africa 523.9 %, Botswana 470.6 %, Angola 220 % , Ghana 137 %, Seychelles 84.1 %, Senegal 62.2 %, Burkina Faso 58.9 %, Togo 56.4 %, Uganda 45.2 %, Malawi 31.1 %, Benin 30.4 %, Gabon 26.3 %, Guinea 25.2 %, Zambia 15.8 %, Lesotho 12.2 %, and Mauritius 0.6 %. In regression, Namibia with -1.2 % decline. In technical change, 19 countries in progress, no country in status quo, one country in regression and the region average is 474.6 %. Kenya is the best practice model with 4900.5 %, followed by Botswana 1504.2 %, Nigeria 938.1 %, Angola 624.1 %, Ghana 352.5 %, Burkina Faso 256.8 %, Lesotho 219.5 %, South Africa 130.7 %, and Namibia 130.1 %, Seychelles 83.1 %, Senegal 62.1 %, Tanzania 56.7 %, Togo 56.3 %, Gabon 42.6 %, Zambia 33.1 %, Malawi 29.3 %, Benin 28.5 %, Guinea 23.6 %, and Uganda 23.1 %. In regression is Mauritius -47.4 % the highest decline in the industry.

Table B.12 see appendix B, shows electrical and machinery industry includes all those firms involved in the manufacturing of products that generate, distribute and use electrical power. Also included is the manufacture of electrical lighting, signaling equipment and electric household appliances. In MI, contributions towards overall potential attractive markets seven countries in progress, four in status quo, nine in regression and the region average is -5.1. Angola is the best practice model with 44.9%,

followed by Tanzania 24.9 %, South Africa 24.5 %, Lesotho 7 %, Botswana 5.6 %, Ghana 5.1 % and Benin 0.8 %. In status quo are Burkina Faso, Kenya, Seychelles and Togo. In regression, Nigeria -1.1 %, Guinea -3.1 %, Senegal -6.3 %, Namibia -8.1 %, Malawi -21.9 %, Mauritius -41.1 %, Uganda -41.1 %, Uganda -41.8 %, Gabon -43.1 %, and Zambia -49 % is the highest decline in the industry. In technical change eight countries in progress, four in status quo, eight in regression and the region average is -13.5 %. Angola is the best practices model with 28.6 %, followed by South Africa 26.5 %; Lesotho 16.2 %, Nigeria 6.2 %, Ghana 5 %, Tanzania 3.1 %, Botswana and Senegal with 2.6 % a piece. In status quo are Burkina Faso, Kenya, Seychelles and Togo. In regression, Malawi -21.9 %, Benin -34.3 %, Guinea -35.4 %, Namibia -43.8 %, Gabon -44 %, Uganda -45.5 %, Zambia -47.3 %, and Mauritius -89.5 is the highest decline.

Table B.13 see appendix B, shows the construction industry, includes specialized and the general construction activities for buildings and civil engineering works. It includes new work, repair, additions and alterations, the erection of prefabricated buildings or structures on the site and construction of a temporary nature. General construction is the construction of entire dwellings, office buildings, stores and other public and utility buildings, farm buildings etc., or the construction of civil engineering works such as motorways, streets, bridges, tunnels, railways, airfields, harbors and other water projects, irrigation systems, sewerage systems, industrial facilities, pipelines and electric lines, sports facilities etc. As the table indicates in MI, contributions towards overall potential attractive markets eleven countries in progress, three in status quo, six in regression and the region average is 5.7 %. Angola is the best practice model with 180.7 %, followed by Ghana 86.7 %, Nigeria 33.3 %, Botswana 25.7 %, South Africa 25.3 %, Senegal 20.7 %, Mauritius 16.4 %, Lesotho 6.3 %, Tanzania 2.4 %, Guinea 1.5 %, and Benin 1.1 %. Burkina Faso, Seychelles and Togo in status quo. In regression, Kenya -15.6 %, Namibia -30.1 %, Malawi -39.7 %, Gabon -64.6 %, Uganda -66.8 %, and Zambia -69.5 is the highest decline. In technical change, eight countries in progress, three in status quo, nine in regression and the region average is -12.3 %. Angola and Ghana are the best practice mode with 61.1 % apiece, Botswana 31.6 %, Nigeria 31 %, South Africa

24.9 %, Senegal 24.8 %, Mauritius 15.2 %, and Lesotho 0.7 %. In status quo are Burkina Faso Seychelles and Togo. In regression, Tanzania -25.8 %, Kenya -33.8 %, Malawi -39.7 %, Benin -47.7 %, Guinea -48.1 %, Uganda -71 %, Gabon -71.3 %, Zambia -74.4 % and Namibia -85 %, is the highest decline. Figure 4.5 below, summarizes the secondary or manufacturing sector competitiveness by the number of the MI and TC in progress, status quo or regression to identify the industry and the technology competitiveness.

Competitiveness	Malmquist Index Status.				Technical Change Status.			
Industry	Progress	Status quo	Regression	Regional Ave.	Progress	Status quo	Regression	Regional Ave.
Food & Beverages	11	5	4	12.6%	7	5	8	-3.30%
Textile & Wear	10	3	7	-1.30%	7	3	10	-14.9%
Wood & Paper	10	4	6	-5.6%	9	4	7	-11.7%
Petroleum Chemical	8	4	8	-6.6%	7	4	9	-18%
Other Manufacturing	11	4	5	0.6%	10	4	6	-1.5%
Recycling	15	2	3	14.9%	17	1	2	13.8%
Basic Metal Products	6	3	11	-8.7%	6	3	11	-23.5%
Transport Equipment	19	0	1	479%	19	0	1	474%
Electrical & Machinery	7	4	9	-5.3%	7	4	9	-5.1%
Construction	11	3	6	5.7%	8	3	9	-12.3%

Figure 4.5 MI and TC Competitiveness (Manufacturing).

The figure above confirms the dire need for policy formulations that will enable faster growth in the manufacturing industries. Out of the ten industries understudy in secondary sector the transport equipment industry is the most competitive industry and has contributed most towards the regions overall potential market attractiveness with 19 countries. Followed by recycling 15 countries, food & beverages and constructions industry with 11 countries apiece. The least competitive industries are basic metals with six countries, electrical machinery with seven countries, and petroleum chemical. The decay in petroleum chemical, basic metal products and electrical machinery could be because these industries are capital and energy intensive industries and lack of loans and energy shortages is still a chronic problem. This a firms the argument addressed in chapter 3 that, the major binding constraints for many small and large businesses in SSA were access to finance and electricity causing great manufacturing slump in the region. Therefore, policy makers may prioritize the needs of three industries addressed in chapter 3. In technical change, transport equipment industry is the most competitive

with 19 countries, followed by recycling 17 countries and other manufacturing with 10 countries. The regional average is negative in almost all industries except in transport equipment and recycling. This indicates technological decay whereby innovations of new products in those countries are impossible without upgrading the current technology or adopting new ones. Technology is not only essential for economic growth but also important in accomplishing traditional tasks such as making clothes in textile industries or constructing houses. It may help the secondary sector or manufacturing by adopting policies geared towards labor augmenting technological progress. That is, upgrading quality of skills of the labor force or capital augmenting technological progress that results in more productive usage of capital goods, only then the manufacturing in SSA can compete with the rest of the world in global markets. Bearing in mind the 20 countries understudy had the best general market attractiveness, unravelling the industries shows otherwise. The industry environment shows all most all the regional average MI and TC as negative indicating horrendous state of manufacturing in SSA.

Further analysis on the grouped industries reveal the secondary sector or manufacturing, divided into the following broad categories, light manufacturing, transportable goods and basic metals. These broad categories condensed further into various subcategories whereby, the category light manufacturing consist, subcategories food & beverages and textile & wear. Category transportable goods consists subcategories wood and paper, petroleum chemical, other manufacturing and recycling. While category basic metals composed by subcategories, metal products, transportable equipment, electrical & machinery and constructions. The analyzed results, presented using the same format, in light manufacturing the average in food & beverages is 12.6% with 11 countries in progress while the average in textile and wear is -1.3% with ten countries in progress. Therefore, in light manufacturing the food & beverages subcategory exerted greater influence in potential attractive markets in the region.

In transportable good subcategories, the average in wood & paper is -5.6 with ten countries in progress; the average in petroleum chemical is -6.6 with eight countries in progress; the average in other manufacturing is 0.6% with 11 countries in progress; and

the average in recycling is 14.9% with 15 countries in progress. Therefore, in transportable goods category, the recycling industry exerted greater influence in potential market attractiveness followed by other manufacturing. Petroleum chemical is a liability, which requires urgent measures to boost its competitiveness.

In basic metals subcategories, the average in metal products is -8.7% with six countries in progress, the average in transport equipment is 479% with 19 countries in progress; the average in electrical & machinery is -5.1% with seven countries in progress; while the average in construction is 5.7% with 11 countries in progress. Therefore, in basic metal category, transport & equipment contributed most in market attractiveness followed by construction. Metal product is a liability, which requires urgent measures to boost competitiveness.

4.9 Tertiary Results:

This refers to the commercial services that support the production and distribution process, e.g. insurance, transport, advertising, warehousing and other services such as teaching and health care. *See all tables in the appendix.*

Table B.14 see the appendix B, shows the wholesale trade, includes the sale without transformation of new and used goods to retailers, business-to-business trade, such as to industrial, commercial, institutional or professional users, or resale to other wholesalers, or involves acting as an agent or broker in buying goods for, or selling goods to, such persons or companies. The principal types of businesses included in this industry, are such as wholesale merchants or jobbers, industrial distributors, exporters, importers, and cooperative buying associations, sales branches and sales offices (but not retail stores) maintained by manufacturing or mining units as a part of their plants or mines. For the purpose of marketing products that do not merely take orders filled by direct shipments from the plants or mines. Also included are merchandise brokers, commission merchants and agents and assemblers, buyers and cooperative associations engaged in the marketing of farm products. In MI, contributions towards overall potential attractive

markets 10 countries in progress, four in status quo, six in regression and the region average is -0.04 %. Ghana is the best practice model 39.6 %, Nigeria 27.8 %, South Africa 24.5 %, Angola 23.2 % Kenya 21.9 %, Botswana 21.3 %, Mauritius 16.2 %, Benin 2.7 %, Tanzania 1 % and Guinea 0.98 %. In status quo are Burkina Faso, Lesotho, Seychelles and Togo. In regression, Namibia -14.6 %, Senegal -20.9 %, Malawi -25.8 %, Uganda -38.9 % and Zambia 41.5 % is the highest decline. In technical change, seven countries in progress, four in status quo, nine in regression and the region average is -12.5 %. South Africa is the best practice model with 22.6 %, followed by Nigeria 22.3 %, Ghana 18.8 %, Botswana 18.2 %, Kenya 17.3 %, Mauritius 15.4 %, and Angola 11.1 %. In status quo are Burkina Faso, Lesotho, Seychelles and Togo. In regression, Malawi -25.8 %, Tanzania -32.4 %, Benin -37.5 %, Guinea -38.7 %, Uganda -43.4 %, Gabon -43.9 %, Zambia -46.1 %, Senegal -51.6 %, and Namibia -56.3 is the highest decline. Figure 4.6 below, is the MI comparison of the two periods understudy.

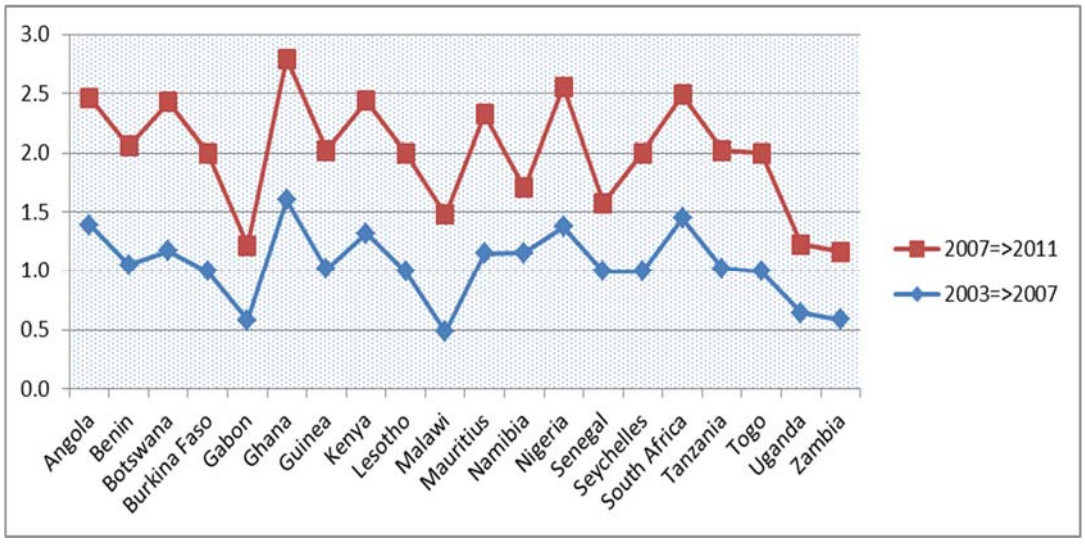

Figure 4.6 Wholesale Trades.

In the first period (2003-2007) in blue, Ghana is the best practice model with 60.3 %, South Africa 44.7 %, Angola 39.2 %, Nigeria 37.7 %, Kenya 32.2 %, Botswana 17.3 %, Namibia 15.8 %, Mauritius 15 %, Benin 5.5 %, Tanzania 2.1 % and Guinea 1.9 %. In status quo are four countries and five in regression. The regional average growth rate is 5.1 % during the first period. Below the upper right are those countries in progress

during the second period (2007-2011), Botswana 25.3 %, Ghana 18.8 %, Nigeria 17.9 %, Mauritius 17.4 %, Kenya 11.7 %, Angola 7.2 % and South Africa 4.3 %. In status quo are eight countries and five in regression. The regions average decline turns to -5.1 %. Interestingly, there were more countries in progress in the first period (2003-2007), 11 in total while in the second period (2007-2011) the number reduces to seven. The second period is after or covers the recession in 2008 therefore, this warrant further research of the impact of the recession in wholesale or in services in general.

Table B.15 refer to appendix B, shows the retail services, includes the resale (sale without transformation) of new and used goods mainly to the general public for personal or household consumption or utilization, by shops, department stores, stalls, mail-order houses, hawkers and peddlers, consumer cooperatives etc.. In MI, contributions towards overall potential attractive markets 14 countries in progress, two in status quo, four in regression and the region average is 10.8 %. Angola has the best practice model with 67.3 %, followed by Nigeria 33.7 %, Senegal 29.4 %, Lesotho 22.6 %, Burkina Faso 19.8 %, Ghana 16.3 %, Namibia 8.3 %, Tanzania 6.2 %, Uganda 6.1 %, Togo 5.3 %, Mauritius 4.1 % Botswana 4.3 %, Seychelles 0.74 %, and Benin 0.22 %. In status quo are Kenya, and South Africa. In regression, Malawi -0.05 %, Guinea -0.11 %, Gabon -3.3 % and Zambia -5.1 % is the highest decline. In technical change, 14 countries in progress, 1 in status quo, five in regression and the region average is 6.4 %. Nigeria is the best practice model 34 %, followed by Angola 27 %, Senegal 23.7 %, Burkina Faso 23 %, Ghana 18 %, Lesotho 14 %, Mauritius 11 %, Namibia 10 %, Uganda5.4 %, Togo 4.2 %, Seychelles 3.7 %, Botswana 3 %, Benin 1.4 %, Tanzania 0.5 %. South Africa is the only country in status quo. In regression, Gabon -0.2 %, Malawi -0.8 %, Zambia -0.9 %, Guinea -1 % and Kenya -49.5 % is the highest decline.

Table B.16 refer to appendix B, shows the hotel & restaurant industry, includes the provision of short-stay accommodation for visitors and other travelers. Also included is the provision of longer-term accommodation for students, workers and similar individuals. Some units may provide only accommodation while others provide a combination of accommodation, meals and/or recreational facilities. In MI,

contributions towards overall potential attractive markets 11 countries in progress, 3 in status quo, six in regression and the regions average is 7.5 %. Angola is the best practice model 160.4 % growth rate in TFP, Ghana 61.5 %, Nigeria 47.1 %, Lesotho 29.3 %, South Africa 21.8 %, Mauritius 12.4 %, Botswana 6.5 %, Tanzania 3 %, Benin 2.7 %, Malawi 0.8 % and Guinea 0.6 %. In status quo are Burkina Faso, Seychelles and Togo. In regression, Senegal -0.7 %, Kenya -5.5 %, Namibia -28.4 %, Uganda -49.8 %, Zambia -55.6 % and Gabon -55.9 % is the highest decline. In technical change, seven countries in progress, three in status quo, 10 in regression and the region average is -12.4 %. Angola is the best practice model with 50.8 %, Ghana 34 %, Nigeria 29 %, South Africa 25 %, Mauritius 7.3 %, Botswana 0.2 % and Lesotho 0.1 %. In status quo are Burkina Faso Seychelles and Togo. In regression, Senegal -0.3 %, Kenya -10.2 %, Tanzania -23.2 %, Benin -40.8 %, Malawi -42.1 %, Guinea -42.5 %, Uganda -52.3 %, Gabon -55.8 %, Zambia -56.1 %, and Namibia -72.2 is the highest decline.

Table B.17 refer to appendix B, shows the Post and telecommunications, includes the activities of providing telecommunications and related service activities, i.e. transmitting voice, data, text, sound and video. The transmission facilities that carry out these activities based on a single technology or a combination of technologies. The commonality of activities classified in this division is the transmission of content, without being involved in its creation. The breakdown in this division based on the type of infrastructure operated. In MI, contributions towards overall potential attractive markets 9 countries in progress, six in status quo, five in regression and the region average is 9.4 % Angola has the best practice model with 181.7 %, Ghana 80.5 %, Nigeria 78.2 %, Senegal 26.6 %, South Africa 19.1 %, Botswana 10.8 %, Benin 5.6 %, Tanzania 1.8 %, and Guinea 0.72 %. In status quo are Burkina Faso, Kenya, Lesotho, Mauritius, Seychelles, and Togo. In regression, Zambia -19.8 %, Namibia -22.4 %, Malawi -40.7 %, Uganda -66.8 % and Gabon -67.1 is the highest decline. In technical change, six countries in progress, six in status quo, eight in regression and the region average is -13.3 %. Angola and Ghana is the best practice model with 56 % a piece, followed by Nigeria 51.7 %, Senegal 29.3 %, South Africa 26 %, and Botswana 10 %. In status quo are Burkina Faso, Kenya, Lesotho, Mauritius, Seychelles and Togo. In

regression, Malawi -40.7 %, Tanzania -43.2 %, Benin -48.1 %, Guinea -48.5 %, Uganda -71.5 %, Gabon -73 %, Zambia -84.8 %, and Namibia -87 % is the highest decline.

Table B.18 refer to appendix B, shows the electrical, gas and water industry, includes those activity of providing electric power, natural gas, steam, hot water and the like through a permanent infrastructure (network) of lines, mains and pipes. The dimension of the network is not decisive; also included are the distribution of electricity, gas, steam, hot water and the like in industrial parks or residential buildings in the developed world. The industry also includes the operation of electric and gas utilities, which generate, control and distribute electric power or gas. In SSA except in the larger cities, the rural areas are still undeveloped. In MI, contributions towards overall potential attractive markets four countries in progress, four in status quo, 12 in regression and the region average is -13.4 %. Angola is the best practice model with 83.9 %, followed by South Africa, 17.6 %, Kenya 3.4 % and Botswana 0.13 %. In status quo are Burkina Faso, Lesotho, Mauritius and Seychelles. In regression, Guinea -2.2 %, Nigeria -3.4 %, Tanzania -18.9 %, Ghana -23.9 %, Benin -25.9 %, Malawi -29.6 %, Uganda -29.9 %, Togo -31.2 %, Namibia -35.8 %, Senegal -41.6 %, Zambia -64.6 % and Gabon -66.4 % is the highest decline. In technical change, four countries in progress, four in status quo, 12 in regression and the region average is -23.1 %. Angola is the best practice mode 34.6 %, South Africa 29.9 %, Kenya 0.10 %, and Botswana 0.05 %. In status quo are Burkina Faso, Lesotho, Mauritius and Seychelles. In regression, Nigeria 0.1 %, Benin -25.9 %, Ghana -28.2 %, Malawi -29.6 %, Togo -31.2 %, Senegal -40.5 %, Guinea -44.5 %, Tanzania -49.1 %, Zambia -62.8 %, Gabon -64.6 %, Uganda -72.4 %, and Namibia -77.6 is the highest decline. Below is the energy sector two periods MI comparison in figure 4.7.

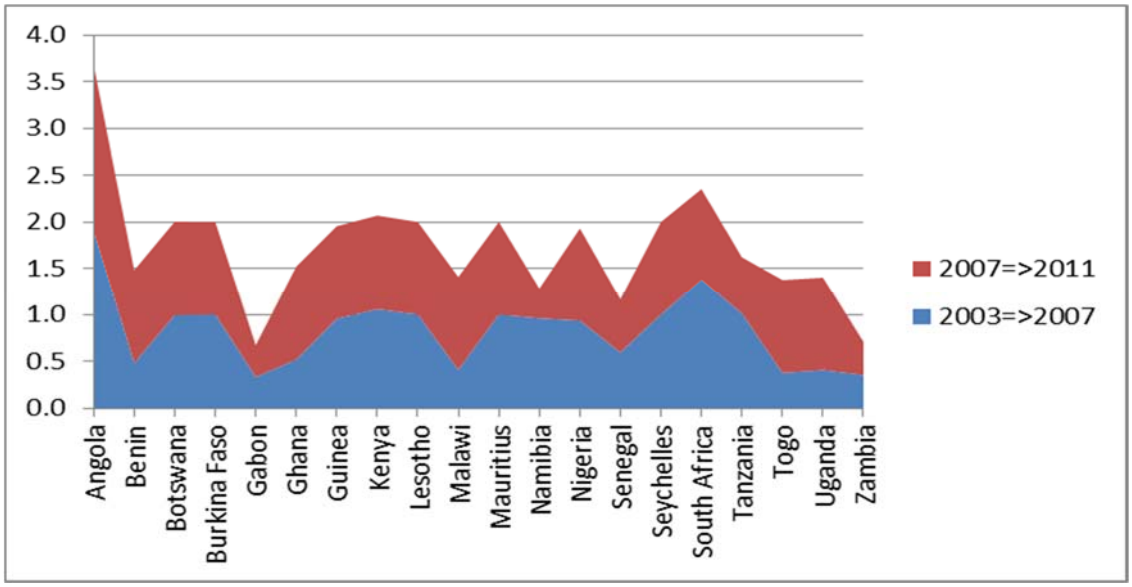

Figure 4.7 Electricity, Gas & Water (Energy).

In the first period (2003-2007) in blue, four countries are in progress, four in status quo, 12 in regression and the regional average is -16.7 %. During the period, Angola is the best practice model with 90 %, followed by South Africa 37.6 %, Kenya 5.7 %, and Tanzania 1 %. In regression, Gabon -66.7 % is the highest decline. In technical change during the first period (2003-2007), five countries in progress, 4 in status quo, 11 in regression and the region average is -30 %. During the period, Angola is the best practice model with 38 %, followed by South Africa 31.8 %, Kenya 4.9 %, Botswana 4.8 %, and Nigeria 3.6 %. In regression, Guinea -89 % is the highest decline. In the second period (2007-2011) in red, in MI, four countries in progress, eight in status quo, eight in regression and the region average is -10.1 %. Angola is the best practice model 77.7 %, followed by Kenya 1.1 %, Botswana 0.94 %, and Ghana 0.36 %. In regression, Namibia -67.6 % is the highest decline. In technical change, only two countries in progress, eight in status quo, 10 in regression and the region average is -16.1 %. Angola is the best practice model 31.3 %, followed by South Africa 28 %. In regression, Uganda -84 % is the highest decline. Analyzed twice are the utilities under trend and panel data. As the results shows while there were only four countries in progress under the panel (2003-2007) and (2007-2011), the number increases to ten under trend analysis (2001-2011). Under panel data Angola is the best practice model with 83.9 %,

however, using trend data Seychelles is the best practice model with 62.8 % under the trend analysis.

Table B.19 please see appendix B, shows transport services; In MI, contributions towards overall potential attractive markets seven countries in progress, five in status quo, eight in regression and the region average is 8.3 %. Angola is the best practice model 178 %, followed by Ghana 81.7 %, Nigeria 77.6 %, Botswana 48.5 %, South Africa 21.8 %, Guinea 9.4 % and finally Tanzania 0.65 %. In status quo are Burkina Faso, Lesotho, Mauritius, Seychelles and Togo in status quo. In regression, Zambia -4.3 %, Gabon -16.5 %, Kenya -22.4 %, Namibia -23.9 %, Uganda -25.4 %, Benin -41 %, Malawi -42.9 % and Senegal -74 is the highest decline in the region. In technical change, five countries in progress, five in status quo, 10 in regression and the region average is -18.2 %. Ghana, Nigeria, and Botswana are the best practice models with 58.2 % a piece, and South Africa 25.8 %. In status quo are Burkina Faso, Lesotho, Mauritius, Seychelles and Togo in status quo. In regression, Kenya -22.4 %, Benin -41 %, Malawi -42.9 %, Tanzania -47.6 %, Guinea -48.9 %, Senegal -73.9 %, Gabon -83.7 %, Uganda -86 %, Zambia -86.7 % and Namibia -89.9 % is the highest decline.

Table B.20 see appendix B, shows the financial and business intermediaries, comprises units primarily engaged in financial transactions, i.e. transactions involving the creation, liquidation or change of ownership of financial assets. Also, included are insurance and pension funding) and activities facilitating financial transactions. Units charged with monetary control, the monetary authorities, are included here. In MI, contributions towards overall potential attractive markets 9 countries in progress, 5 in status quo, six in regression and the region average is 8.9 %. Angola is the best practice model 185.9 %, followed by, Nigeria 88.6 %, Ghana 77.5 %, Botswana 48.3 %, South Africa 21 %, Benin 12 %, Mauritius 5.8 %, Guinea 4.7 %, and Tanzania 0.41 %. In status quo are Burkina Faso, Kenya, Lesotho, Seychelles, and Togo. In regression, Zambia -15.1%, Namibia -23.4 %, Malawi -39.9 %, Uganda -59.4 %, Gabon -60.3 %, and Senegal -65 % is the highest decline. In technical change, six countries in progress, five in status quo, nine in regression and the region average is -12.2 %. Nigeria, Angola, Botswana, and Ghana, are the best practice model with 57.1 % apiece followed by South Africa

26.5 % and Mauritius 3.7 %. In status quo are Burkina Faso, Kenya, Lesotho, Seychelles and Togo. In regression, Tanzania -5.3 %, Malawi -39.9 %, Benin -47.6 %, Guinea -48.2 %, Senegal -63.9 %, Uganda -64.6 %, Gabon -67.1 %, Zambia -81.1 %, and Namibia -85.9 % is the highest decline.

Comparing MI of the two adjacent periods (2003-2007) and (2007-2011) before and after the recession of 2008 reveals in the first period (2003-2007), ten countries in progress, eight in status quo, five in regression and the region is 18 %. The best practice model in the first period (2003-2007) is Angola with 295.8 %, followed by Nigeria 130.1 %, Ghana 101.5 %, Botswana 44.2 %, South Africa 32.5 %, Namibia 30 %, Benin 24.1 %, Mauritius 9.6 %, Guinea 9.5 % and Tanzania 0.36 %. In status quo are Burkina Faso, Kenya, Lesotho, Seychelles and Togo. In regression, Uganda -55.2 %, Zambia -57.5 %, Senegal -60.5 %, Gabon -64 % and Malawi 79.9 % is the highest decline. In the second period (2007-2011) in MI, 8 countries in progress, 8 in status quo, four in regression and region average is -0.21 %. Angola is the best practice model with 76.1 %, followed by Ghana 53.5 %, Botswana 52.4 %, Nigeria 41.1 %, Zambia 27.1 %, South Africa 9.5 %, Mauritius 2 %, and Tanzania 0.45 %. In status quo are Benin, Guinea, Burkina Faso, Kenya, Lesotho, Seychelles, Togo and Malawi. In regression, Gabon 56.5 %, Uganda 63.5 %, Senegal 69.5 %, and Namibia -76.9 % is the highest decline. In technical change, first period (2003-2007), seven countries in progress, five in status quo, eight in regression and the region average is -8.5. Nigeria, Angola, Botswana, Tanzania, and Ghana with 82.4 % apiece are the best practice models, followed by South Africa 37.6 % and Mauritius 6 %. In status quo are Burkina Faso, Kenya, Lesotho, Seychelles and Togo. In regression, Senegal -61.1 %, Uganda -63.5 %, Gabon -64.5 %, Zambia -70.9 %, Malawi -79.9 %, Namibia -94.9 %, Benin -95.2 %, and Guinea -96.4 % is the highest decline. In the second period (2007-2011), six countries in progress, five in status quo, nine in regression and the regional average is -15.9 %. Angola, Botswana, Ghana and Nigeria are the best practice models with 31.9 % a piece, followed by South Africa 15.5 %, and Mauritius 1.4 %. In status quo are Burkina Faso, Kenya, Lesotho, Seychelles, Togo, Malawi, Benin and Guinea. In regression, Uganda -65.6 %, Senegal -66.6 %, Gabon -69.6 %, Namibia -76.9 %,

Zambia -91.4 %, and Tanzania -93.1 % is the highest decline. The MI results shows during the first period (2003-2007) ten countries experienced rapid TFP growth but slowed down in the second period (2007 -2011) and the regional average changed from 18 % to -02.1 %. There was also a dramatic decline in TC regional average from -8.5 % to -15.9 %. Recession in 2008 among other variables caused the dramatic decline.

Table B.21 refer to appendix B shows the maintenance and repair. All activities related to motor vehicles and motorcycles, including Lorries and trucks, wholesale and retail sale of new and second-hand vehicles, maintenance and repair, wholesale and retail sale of parts and accessories, activities of commission agents involved in wholesale or retail sale of vehicles, washing, polishing and towing of vehicles etc. In MI, contributions towards overall potential attractive markets 11 countries in progress, 3 in status quo, six in regression and the regional average is 11.8 %. Angola is the best practice model 170.7 %, followed by Ghana 85.8 %, Nigeria 77.4 %, Burkina Faso 37.3 %, Senegal 19.4 %, Lesotho 19.2 %, Benin 9.7 %, Guinea 9.5 %, Botswana 8.6 %, Mauritius 7.5 % and Namibia 0.43 %. Seychelles. In status quo are South Africa and Tanzania. In regression, Kenya -8.3 %, Togo -33 %, Malawi -34.3 %, Zambia -42.2 %, Uganda -43.1 %, and Gabon -47.4 % is the highest decline. In technical change, nine countries in progress, three in status quo, eight in regression and the region average is -5.3 %. Ghana is the best practice model with 42.5 %, followed by Angola 42.4 %, Nigeria 36.4 %, Kenya 30.9 %, Mauritius 30.7 %, Senegal 22.7 %, Burkina Faso 17.5 %, Botswana 5.6 %, and Namibia 0.43 %. Zambia -61.8 % is the highest decline.

Table B.22 see the appendix B, shows other services industry, (as a residual category) includes the activities of membership organizations, the repair of computers and personal and household goods and a variety of personal service activities not covered elsewhere in the classification. In MI, contributions towards overall potential attractive markets 7 countries in progress, seven in status quo, six in regression and the region average is -7.9 %. Lesotho is the best practice model with 47 %, followed by South Africa 25.1 %, Mauritius 10.7 %, Botswana 3.4 %, Ghana 2.9 %, Kenya 2.2 %, and Angola 1.5 %. In status quo are Burkina Faso, Guinea, Malawi, Namibia, Seychelles, Tanzania and Togo. In regression, Nigeria -0.8 %, Senegal -23.2 %, Benin -31 %,

Uganda -65 %, Gabon -66.2 %, and Zambia -66.5 % is the highest decline. In technical change, eight countries in progress, seven in status quo, five in regression and the region average is -11.2 %. South Africa is the best practice model with 21.6 %, followed by Botswana, Ghana, Kenya, Mauritius and Nigeria with 1.2 % apiece and Lesotho 0.8 % is last. In status quo are Burkina Faso, Guinea, Malawi, Namibia, Seychelles, Tanzania and Togo. In regression, Senegal -23.2 %, Benin -31 %, Zambia -66.1 %, Gabon -66.5 %, and Uganda -67.1 %. Is the highest decline

Table B.23 see the appendix B, shows Public Administration, and includes activities of a governmental nature, normally carried out by the public administration. This includes the enactment and judicial interpretation of laws and their pursuant regulation, as well as the administration of programs based on them, legislative activities, taxation, national defense, public order and safety, immigration services, foreign affairs and the administration of government programs. In MI, contributions towards overall potential attractive markets 17 countries in progress, astoundingly no country in status quo, only three in regression and the region average is 11.9 %. Angola is the best practice model 87 %, followed by Lesotho, 33.1 %, Burkina Faso 33.1 %, South Africa 27.4 %, Togo 11.6 %, and Tanzania 11.5 %, Seychelles 8.7 %, Guinea 5.6 %, Gabon 4.2 %, Kenya 4.1 %, Malawi 3 %, Uganda 2.9 %, Zambia 2.7 %, Benin 2.2 %, Namibia 2 %, Ghana 1 %, Nigeria 0.19 %. In regression, Senegal -0.03 %, Botswana -0.7 % and Mauritius 1.4 % is the highest decline. In technical change, all 20 countries in progress, and the regional average is 8.2 %. Angola is the best practice model with 38.3 %, followed by Lesotho 33.1 %, South Africa 27.4 %, Nigeria 12.7 %, Tanzania 6.6 %, Kenya 4.1 %, Gabon 3.34 %, Uganda 3.33 %, Benin 3.29 %, Guinea 3.28 %, Malawi, Togo and Seychelles 3.27 % a piece, Zambia 3.22 %, Botswana 3 %, Ghana 2.9 %, Senegal 2.8 %, Namibia 2.7 %, Burkina Faso 2.6 % and Mauritius 2.4 %. So far, in tertiary sector the public administration is the most competitive in all countries understudy.

Table B.24 see the appendix B, shows education and health, includes education at any level or for any profession, oral or written as well as by radio and television or other means of communication. It includes education by the different institutions in the regular school system at its different levels as well as adult education, literacy programs

etc. Also included are military schools and academies, prison schools etc. at their respective levels, includes public as well as private education. In addition, Included are the provision of health and social work activities. Activities include a wide range of activities, starting from health care provided by trained medical professionals in hospitals and other facilities, over residential care activities that still involve a degree of health care activities to social work activities without any involvement of health care professionals. Various researchers have proven that education is the catalyst to better life, and the fruits of educating the masses are higher and better production therefore, the measure of the efficiency and productivity in education and health in Sub-Saharan region where the majority struggles in abject poverty is important. As the table indicates, in MI, contributions towards overall potential attractive markets 11 countries in progress, 3 in status quo, six in regression and the region average growth is 16.4 %. Angola is the best practice model with 155.2 %, Ghana 70.3 %, Nigeria 67.4 %, Senegal 53.9 %, Botswana 48.1 %, South Africa 24.5 %, Tanzania 12.9 %, Benin 12.2 %, Kenya 11.2 %, Guinea 7 % and Mauritius 0.2 %. In status quo are Burkina Faso, Seychelles, and Togo. In regression, Lesotho -1.1 %, Namibia -12.7 %, Uganda -28.8 %, Zambia -29.5 %, Malawi -31.3 % and Gabon -31.6 % is the highest decline. In technical change, eight countries in progress, three in status quo, nine in regression and the region average growth is 0.2 %. Ghana is the best practice model with 62.2 %, followed by Angola 58.3 %, Senegal 56.7 %, Botswana 55.6 %, Nigeria 45.5 %, South Africa 22.2 %, Kenya 10.8 % and Mauritius 0.2 %. In status quo are Burkina Faso Seychelles and Togo. In regression, Lesotho -1.1 %, Tanzania -5.9 %, Malawi -31.3 %, Uganda -34.6 %, Gabon -41.5 %, Benin -41.9 %, Guinea -43.4 %, Zambia -46.1 % and Namibia -61.8 % is the highest decline.

Table B.25 see the appendix B, shows the private household, includes the undifferentiated subsistence goods-producing and services-producing activities of households. In MI, contributions towards overall potential attractive markets 17 countries in progress, one in status quo, two in regression and the region average is 18.5 %. Angola is the best practice model with 84.5 %, followed by Lesotho 60.1 %, Burkina Faso 44.9 %, Seychelles 43.6 % Ghana 24.3 %, and Senegal 24.1 %, Togo

23.8 %, Mauritius 19.1 %, Malawi 14.5 %, Namibia 12.7 %, Nigeria 10.1 %, Benin 7.6 %, Botswana 6.5 %, Guinea 5.6 %, Uganda 5.5 %, Zambia 4.8 %, Gabon 0.4 %. South Africa is the only country in status quo. In regression, Tanzania -10.7 % and Kenya -11.8 % is the highest decline. In technical change, 18 countries in progress, one in status quo, one in regression and the regional average growth is 17.5 %. Mauritius is the best practice model with 39.4 %, followed by Angola 33.5 %, Tanzania 29.1 %, Senegal 28 %, Seychelles 26.5 %, Namibia 25.4 %, Kenya 25 %, Togo 23.5 %, Ghana 20.7 %, Lesotho 19.4 %, Nigeria and Malawi 18.4 % apiece, Burkina Faso 13.7 %, Botswana 8.7 %, Uganda 8.4 %, Benin 7.6 %, Guinea 5.6 % and Zambia 2.1 %. Figure 4.8 below, summarizes the stand-alone competitiveness in the tertiary or services sector.

Competitiveness	Malmquist Index Status.				Technical Change Status.			
Industry	Progress	Status quo	Regression	Regional Ave.	Progress	Status quo	Regression	Regional Ave.
Whole Sale Trade	10	4	6	-0.04	7	4	9	-12.5%
Retail Trade	14	2	4	10.8%	14	1	5	6.4%
Hotel & Restaurant	11	3	6	7.5%	7	3	10	-12.4%
Post & Telecom	9	6	5	9.4%	6	6	8	-13.3%
Electricity, Gas and Water	4	4	12	-13.4%	4	4	12	-23.1%
Transport Services	7	5	8	8.3%	5	5	10	-18.2%
Financial & Business	9	5	6	8.9%	6	5	9	-12.2%
Maintenance & Repair	11	3	6	11.8%	9	3	8	-5.3%
Other Services	7	7	6	-7.9%	8	7	5	-11.2%
Public Administration	17	0	3	11.9%	20	0	0	8.2%
Education & Health	11	3	6	16.4%	8	3	9	0.2%
House Holds	17	1	2	18.5%	18	1	1	17.5%

Figure 4.8 Tertiary Sector- Standalone Competitiveness.

Typically, the nature of services makes it difficult to conceptualize productivity due to their nature, the figure above shows in terms of MI, public administration, and the households as the most competitive with 17 countries apiece. Followed by retail trade with 14 countries, with 11 countries each are the Hotel & restaurant, maintenance & repair, and education. In terms of technical change, the public administration is the most competitive with all 20 countries in progress. This probably the local governments are embracing newer technology or upgrading the existing ones. The households follow with 18 countries, an indication of more homes adapting electronics goods. The least competitive industry is electricity, gas and water.

From here, the focus shifts from standalone to the trading blocs (SADC, ECOWAS and COMESA/ EAC). The industries, sorted into manageable categories according to their

relatedness as shown in appendix B, tables B.26 to B.28, the secondary sector composed of the light industries, transportable goods, and basic metals. Tables B.29 to B.31, tertiary sector constitutes categories, distributive services, financial & business and community services. Typically, firms seek profitable industries with higher rapid growth and low barriers of entry. However, it depends on the industry environment and the products life cycle stage. The life cycle stage indicates the state of the industry whether its emerging newly established young industry growing at yearly rate < 5 % , or > 5 %. Greater than five indicates mature growth, less than five indicates slowing growth rate. Negative growth means declining negative growth for a prolonged period. The state of the industry, derived through, dividing Malmquist index, by eight years of the period understudy. Assumptions, those industries ranked 1 to 5 are competitive. The results presented, as follows, first the trading bloc, the country and the competitive industry.

Table B.26 see the appendix B, is SADC trading bloc in the secondary sector. Overall, in the secondary sector or manufacturing SADC trading bloc is the most competitive in the region, which indicates the region has great potential attractive markets than the rest of the regions. The results presented first, SADC trading bloc- Angola is the country with the most competitive industries not only in SADC trading bloc but also in the rest of the other trading blocs. This indicates, most industries in Angola contributed towards the overall market attractiveness in that country. The following competitive industries Petroleum chemical, recycling, metal products, electrical machinery, construction, Food & Beverages and Textile & Wear contributed towards Angola's overall market attractiveness. Botswana was competitive in, wood & paper, petroleum chemical, metal products, transport equipment, electrical machinery, construction, food & Beverages and textile & wear. Lesotho was competitive in the following, other manufacturing and Electrical machinery. Tanzania is competitive in the following industries, petroleum chemical, other manufacturing, metal products electrical machinery and textile and wear. South Africa is competitive in petroleum chemical, metal products, electrical, machinery, wood, & paper and construction.

Table B.27 see the appendix B. The first presented results, COMESA trading bloc- Kenya is the most competitive in the following industries, wood and paper, petroleum chemical, transport equipment, food, and beverages, textile, and wear. Please note, Tanzania overlaps between SADC and COMESA trading blocs. Tanzania is competitive in the following industries, petroleum chemical, other manufacturing, metal products electrical machinery and textile and wear. Mauritius is competitive in, other manufacturing and recycling. COMESA- Seychelles is competitive in recycling. In COMESA, majority of the industries are concentrated at the bottom of the competitive ranking especially those in Uganda, Namibia and Zambia.

Table B.28 see the appendix B. Results presented first, ECOWAS trading bloc, Burkina Faso competitive in, other manufacturing. Nigeria is competitive in, recycling, transport equipment, construction, and food and beverages.

Table B.29 see the appendix B. is the tertiary sector, reported first is SADC trading bloc. Angola is the most competitive in the following industries, wholesale trade, retail trade, hotel & restaurant, post & telecommunications, electricity, gas & water, transport services, financial & business, maintenance & repair, public administration, education & health, and household services. Botswana is competitive in, electricity, gas and water, transport services, business services, other services and education & health. Lesotho is competitive in, retail trade, hotel & restaurant, other services, public administration and household services. Seychelles is competitive in household services. South Africa competitive in wholesale trade, hotel & restaurant, post & telecommunications, electricity, gas and water, transport services, business services, other services and public administration.

Table B.30 see the appendix B. Is the tertiary sector- COMESA trading bloc, Kenya is competitive in wholesale trade, electricity, gas and water. Mauritius is competitive in other services and Seychelles competitive in household services.

Table B.31 see the appendix B. Is the tertiary sector- ECOWAS trading bloc, Burkina Faso is competitive in, retail trade, electricity, gas and water, maintenance & repair, public administration and household services. Ghana is competitive in, wholesale trade, hotel & restaurant, post & telecommunications, transport services, business services,

maintenance & repair, other services, education and health and household services. Nigeria is competitive in, wholesale trade, retail trade, hotel & restaurant, post & telecommunications, transport services, business services, maintenance & repair, and education and health. Senegal is competitive in, retail trade, post & telecommunications, maintenance & repair, and education and health and Togo is competitive only in public administration. Overall, in the secondary sector most industries are experiencing substantial growth especially in Angola, Botswana, South Africa and Tanzania. Please note, Tanzania, Seychelles, Zambia and Namibia overlaps between SADC and COMESA/ EAC trading blocs. The overlap managed properly, offers geographic strategic advantage to access other trading blocs. SADC trading bloc, is the most competitive followed by COMESA and finally ECOWAS. However, in tertiary sector the most competitive industries are in SADC, ECOWAS and finally COMESA.

Further analysis on the contributions of the tertiary sector towards the overall potential market attractiveness explained. The tertiary sector or services, broken into three broad categories namely distributive services with subcategories wholesale trade, retail trade, hotel & restaurant, post & telecommunications, electricity, gas &water and transport services; Financial & intermediaries with subcategories financial services, maintenance & repair, and other services; Community service with subcategories public administration, education & health and households. The results follows the same format, in distributive category, the wholesale trade average is -0.04 with 11 countries in progress. The average in retail trade is 10.8% with 14 countries in progress. The average in hotel & restaurant is 7.5% with 11 countries in progress. In post &telecommunications, the average is 9.4% with nine countries in progress. In electricity, gas & water the average is -13.4% with only four countries in progress. The last in distributive category is transport services with 8.3 % average and 7 countries in progress. Therefore, in distributive category the retail trade (10.8%), and post & telecommunications, (9.4%) had the greatest contribution towards potential attractive markets. While electricity, gas & water (-13.4%) is a liability in market attractiveness.

In financial & intermediaries category, the average in financial services is 8.9% with nine countries in progress. The average in maintenance & repair is 11.8% with 11

countries in progress and the average in other services is -7.9% with seven countries in progress. Therefore, the maintenance & repair (11.8%) exerts greater influence in potential market attractiveness.

In community service category, the public administration average is 11.9% with 17 countries in progress. The average in education & heath is 16.4% with 11 countries in progress and the average in households is 18.5% with 17 countries in progress. The results indicates the household has the greatest impact on the potential market attractiveness but it should also be noted education and public administration are also competitive,

4.10 Conclusion and Discussion:

Comparing the competitiveness of the industries in the primary sector the MI reveals, the fishing industries is the most competitive and had the greatest influence on potential attractive markets in the primary sector, followed by the mining, agriculture with all its importance in raw material prospecting is a liability towards overall potential market attractiveness in the region. It is interesting to note that out of the 10 countries competitive in the fisheries, six countries (Seychelles, Lesotho, Botswana, South Africa, Angola and Namibia) belong to the Southern African Development Community (SADC) trading bloc. Burkina Faso, Nigeria and Senegal belong to the Economic Community of West African States (ECOWAS) trading bloc and Kenya the only country from East African Community (EAC) trading bloc. This reveals the market relatedness in terms of trading bloc. However, further research is necessary to assess the influence of the policies, management skills and technology in the primary sector. Overall, the proxy framework reveals that, almost half of these countries require urgent measures to boost competiveness. Especially, in agriculture, energy, basic metals, petroleum chemicals and financial sectors with an exception of South Africa, the rest of the countries requires urgent measures in adaptation of new technologies or upgrading the existing ones.

It is also apparent that, in almost all industries the technical efficiency had greater influence in the composition of the MI or competitiveness. This indicates, in most of these industries they are producing the same amount of products or services using the existing technologies but innovations of new products or services is impossible using the existing technology. Therefore, an upgrade of the existing technology or purchasing new technology is necessary to make the industries potential market more appealing to the investors. Based on these findings, the approach on the mode of entry in chapter V demands that foreign firms vying for these industries should have superior technology capabilities than the current industry technology in most SSA countries.

5. Environmental Influences Entry mode Decision:

Over the past three decades, contemporary researchers have identified the choice of foreign entry mode as the most crucial decision associated with organizations strategic success (Wind & Pelmutter, 1977; Ekeledo & Sivakumar, 1998). The mode has been the subject of various empirical studies as well as an important theoretical consideration in manufacturing and service sectors (Argawal & Ramaswami, 1992; Erramilli & Rao, 1993; Andersen, 1997; Roberts, 1999; Domke-Damonte, 2000). This makes the study of mode of entry the third most researched field in international management behind foreign direct investment and internalization (Werner, 2002, Anne & George, 2007). However, no previous known attempt made to connect the mode with potential market attractiveness based on the needs of the industries. The results from the previous chapters indicates, in most of these industries the TE exerted greater influence on MI than the TC. Which means the industries can only produce the same amount of products or services using the existing technologies but innovations of new products or services are impossible using the existing technology. Therefore, an upgrade of the existing technology or purchasing new technology is necessary to make the industries potential market more competitive. Therefore, this chapter seeks for the viable market entry mode in SSA region based on the results.

The author defines the entry mode, as the structural agreement that allows a firm to implement its product market strategy in a host country either by carrying out marketing operations only (via export modes) or both production and marketing operations by itself or in partnership with others. This could be contractual Modes, Joint Ventures, or Wholly Owned operations (Sharma & Erramilli, 2004). Previously applied, on market attractiveness potential, were the external factors or the macro indicators also acknowledged as exigency variables with great impact on entry mode choice (Terspra & Yu, 1988; Kogut & Singh, 1988; Argarwal, 1994; Root, 1994; Barkema, Bell & pennings, 1996). Apart from the external factors, the internal factors also dictate the strategic decision on the entry mode choice into foreign markets. These factors includes

but not limited to the organizations collective international experience, the size of the organization, resource commitments and degree of control, the growth and profitability relative to the industry competitiveness (Pan, Li & Tse, 1999). Typically, firms prefers to venture in attractive markets, graded higher in attractiveness with low risk, high profitability and where competitive advantage is attainable but, attaining all those mentioned factors in a cut throat globalized market environment is not a simple task. Various well-augmented strategies are essential to venture even into those countries classified as a low risk. Conventional wisdom may suggest that, organizations might postpone entry in the developing markets however, some types of first –mover advantages may be higher in these economies (Arnold & Quelch, 1998). Thus, it is necessary for those organizations from developed or emerging countries seeking existing market expansion, strategic resource seeking, natural resource and host country's location advantages to enter the SSA markets with the proper entry and exit strategy configurations. These strategies involve various considerations, though the importance of these considerations varies by industry and the primary objective of each organization.

5.1 Foreign Entry Mode Choice- Determinants:

Empirical research on entry mode strategies results in 25 different factors as the ideal determinants of entry mode choice. Nevertheless, the findings differs in terms of the implication of some of the variables some emphasizing on the importance of these factors and others discarding the factors altogether. Between the year 1987 and 1992 there were eight empirical studies that resulted with 17 statistically tested factors significant for determining the foreign mode of entry (Arvid, Rabi & Roger, 2005 pg. 236). This chapter, adopts the great results from Arvid and Roger, compare, and contrasts it qualitatively with various entry mode choices. The goal of the undertaking is to find a viable entry mode choice in SSA markets. Introduced briefly, are the 17

variables, perfectly applicable also in SSA markets. Some of these variables pertain to the internal factors of the firm while others pertain to the industry environment.

1. Firm Size: This is the measure of the managerial capabilities and resources of the firm, which could influence the choice of entry mode. Various research findings indicate the firm size has correlation with FDI, especially through joint ventures or wholly owned (Agarwal & Ramaswami, 1992).

2. Value of Firm Specific Assets: Those firms with highly valued technology capabilities for sustainable competitive edge may prefer entry modes, which gives them full control of the venture avoiding joint ventures with local partners. Contemporary researches have used different methods for capturing the value of firm specific assets. For example, Agarwal & Ramaswami use the "ability to develop differentiated products." While Gatignon & Anderson use the "value of the firm-specific know- how as representation of the value of firm specific assets in the venture (Gatignon & Anderson, 1988).

3. Venture Size. Gatigon and Anderson observe, empirical results indicate the venture size sways firms from wholly owned mode to joint ventures. Therefore, the size of the venture influences the extent of control sought by the foreign firms.

4. Global strategic motivation: Hamel and Prahalad argue that, strategic factors into foreign market entries transcend efficiency considerations, which motivates firms to prefer cooperative choices (JVs), and wholly owned subsidiaries (WOS) than trade or transfers.

5. Global Synergies: Kim & Hwang argues that, firms adopts pyramid control over affiliates when interactions between and among the foreign affiliates and the parent company are high in pursuit of an integrated global strategy. Thus, when the potential synergies from global integration are high, it is most likely firms will seek high control entry modes like WOS.

6. Intent to Conduct Joint R &D: Richard and Christopher (1990), observes, modes of entry that do not involve an equity stake may not provide the necessary control to manage the multifaceted task involved in conducting R&D. Therefore, if the intent of a firm entering foreign market is to conduct research and development in conjunction

with an affiliate, it will be inclined to favor a joint venture as opposed to other low control modes.

7. Tacit Nature of Know-How: Kim and Hwang argues, if the nature of the firm specific is implicit not responsive to efficient transfer to a partner then the tacit know-how correlates with the degree of control. Thus, wholly owned mode enables efficient utilization of the accumulated tacit knowledge.

8. Technical Intensity: Williamson (1975) & Teece (1981), observes, the failure of the market to mediate the exchange of technology and tacit –knowledge leads firms to technically intense industries to prefer wholly owned mode. However, if the entering firm or the host firm is seeking technology and tacit knowledge will most likely prefer joint venture with the firm with higher technology capabilities.

9. Advertising Intensity: Kogut & Singh argues, an industry characterized by high advertising intensity inclines to shy away from joint ventures and adopts modes for full control (WOS) in the foreign venture.

10. Market Knowledge: As Firms gains experience in the local market environment prefers wholly owned mode than joint ventures and prefer high control modes when following clients in a country market (Kogut & Singh, 1988; Erramilli & Rao, 1990).

11. Multinational Experience: Erramilli (1991) argues experiences reduce uncertainties in the assessment of the economic worth in foreign markets. Therefore, less experienced firms with international business or multinational operations are prone to risk exposure and prefer low control/ low resource, noninvestment- type such as trade and transfer related entry modes. However, experienced firms prefer high control / high resources investment mode such as joint ventures or wholly owned.

12. Market Potential: Agarwal & Ramaswami, observes, in markets with higher potential markets, firms either pursue joint ventures or wholly owned for higher profitability and market presence in those countries.

13. Industry Growth: Growth indicates the level of competition and profitability that a firm will encounter in that country. Kogut & Singh (1988), the mode preferences depends on competitive assumptions and joint ventures are encouraged when the industry is growing though the evidence is weak.

14. Country Risk: Generally, firms avoid high-risk investments although some argues about high-risk high- returns. Kim & Hwang (1992), observes, Firms avoids countries with high political risks in terms of internalization or expropriation or the restrictions on remittance of assets and limitation on operations and managerial choice. However, if the market is appealing firms prefer trade or transfer related modes.

15. Cultural Distance: Again Kim and Hwang (1992), argues that firms venturing in culturally distance countries prefers licensing or joint ventures over wholly owned.

16. Global Industry Concentration: Hamel & Prahalad observes, in a global industry characterized by global competition forces firm under a global strategy to act on competitors moves not only in domestic market but also in competitor's home country or even in third country markets. In such case the firm's needs full control of their foreign affiliates therefore, firms prefers high control modes such as WOS.

17. Contractual Risks: Agarwal & Ramaswami argues, if the cost of contract enforcement is high, then firms prefers high control modes over their assets and knowledge skills therefore, firms pursue high control entry modes. In this chapter, we adopt all the 17 determinates of foreign entry mode to argue about the choice of international entry mode in SSA region.

Addressed below are the various types of different modes associated with international business environment as indicated in section 5.1 Contemporary researchers such as Pan and Tse has classified modes of entry into equity and non-equity categories.

5.2 International Entry Mode Choices:

Already identified is the SSA region as the ideal location therefore, organizations must decide how to enter the region, from these related categories (trade, transfer and foreign direct investment) market entry modes graphically presented in figure 5.1 below.

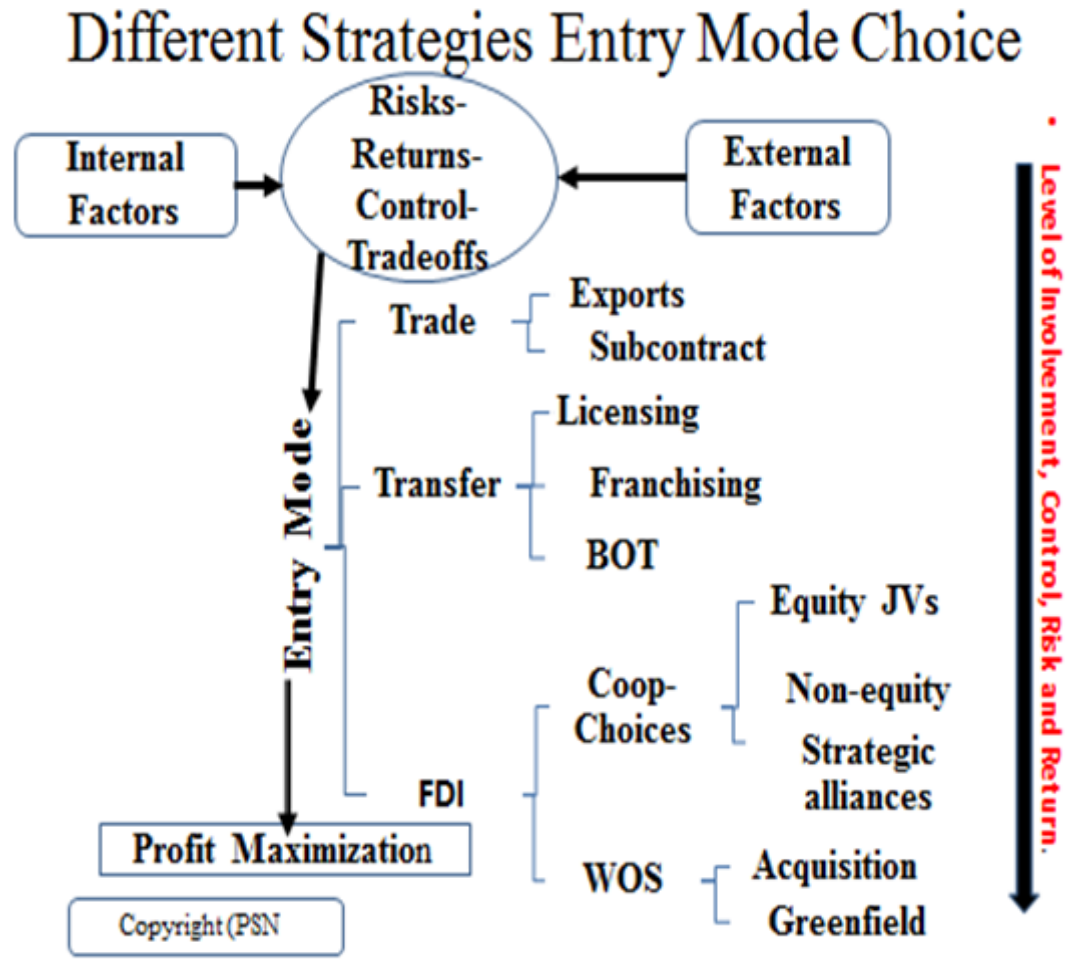

Figure 5.1 Various Entry Mode Choices (International Business).

Normative decision theory suggests that the choice of foreign market entry mode should be based on trade-offs between risk and returns. A firm, expected to choose the entry mode that offers the highest risk adjusted return on investment. However, behavioral evidence indicates that a firms choice may also be determined by resource availability and need for control {Cespedes 1988; Stopford & Wells 1972}. Resource availability refers to the financial and managerial capacity of a firm for serving a particular foreign market. Control refers to a firms need to influence systems, methods, and decisions in that foreign market (Anderson & Gatignon 1986). Control is desirable to improve a firm's competitive position and maximize the returns on its assets and skills. Higher operational control results from having a greater ownership in the foreign venture. However, risks are also likely to be higher due to the assumptions of responsibility for

decision-making and higher commitment of resources. The entry mode choices are often a compromise among these four attributes.

5.3 Mode of Entry Decisions:

As indicated by the arrow pointing downwards in figure 5, as the organizations resource commitment increases so do the expected profits, as organizations shifts from trade to transfer to FDI entry modes. Briefly addressed below, are the benefits and drawbacks clarity involved with each related mode strategy.

Trade- Related Mode: Basically, there are two kinds of trade related entry modes, which are exporting and subcontracting. Between the two exporting, is the simplest form that can take the following three forms, (a), indirect exporting which occurs when an organization sells its products to another firm i.e. (B2B) and then the buyer sells the products to the market, (b), direct exporting involves, a firm selling its product directly to the foreign market. (c), Intra-corporate transfer involves an organization selling its products to an affiliated firm, which then handles the export. It is common for organizations to contract with an export management company as an agent for exporting. Subcontracting occurs, when a foreign company provides local manufacturers with the necessary raw materials, semi-finished products or the necessary technology for production, bought back by the foreign company. Sub-contracting is the appropriate mode when an organization is seeking for lower labor cost (Richard & Luciara, 2006).

Transfer Related Mode: This involves entering a foreign market through legal asset transfer or the rights to use those assets in exchange for royalties. Licensing, franchising and build- to operate transfer (BOT) are all transfer related modes. Licensing is an agreement for the use of another's trademark, patent, copyright or trade secret purposes. Licensing occurs when a firm leases the use of its intellectual property rights that includes intangible rights. Firms prefer licensing due to its lower expenses on the side of the licenser. Royalty payments take various forms such as fixed amount per unit sold, flat fee, or a certain percentage of the sold licensed products. Licensing affords new

organizations in international business the fastest way to enter a new market at low cost. However, drawbacks such as the licensees failing to pay royalties, local currency devaluation, and the highest happens when the licensor lose control over the licensees manufacturing and marketing operations. Therefore, how the licensing program fits into organizations long term strategic objectives is an important consideration before adopting the mode.

In recent years, there is explosion of franchising all over the world; almost 50 % of the major retail businesses are franchises (Konigsberg, 1999; Richard & Luciara, 2006). It is a common or special form of licensing which involves two entities or people. Moreover, it gives the owner of the product greater control in decision making on marketing the product. The agreement allows the local entrepreneur or the franchisee to operate the business under the name of the franchisor in exchange for fees. Therefore, the franchisor provides the trademarks, operating process, and brand name as well as infinite services such as training, and quality assurance programs. Usually fees, paid as a fixed payment plus royalty on sales. The advantages of franchising, risks of failure and associated cost are borne by the franchisee. The drawbacks, failing to uphold the quality or the brand standard set by the franchisor, deviating from the laid down policies or procedures. After franchisor terminates the contract, the franchisee may remain in business by a minor alteration of the organizations brand name or trademark.

Build-operate transfer, a turnkey project whereby, an international organization takes the responsibility of designing, building, or constructing the entire factory operation or production system upon completion of the projects hands over to the local personnel or purchaser at a predetermined price. The mode is popular in large construction projects such as airports, electric power stations, roads factories and refineries, chemical plants and automobile plants. Normally, BOT projects occurs when the local firms or governments want to start an industry but lack either the capital or the technical know-how this allows the contractor of the BOT to recoup the investments and allows the purchaser to learn how to operate the facilities which is a win- win situation.

Foreign Direct Investment: Occurs when an organization secures ownership stake in a foreign enterprise. The venture may serve purpose such as obtaining raw materials for

the company in production in other countries. FDI may take one or two forms, joint ventures and wholly owned subsidiaries, which enables control of the overseas operations with the activities of the headquarters. An equity based venture may also be established for components or products mainly exported to the home country or a third country. A firm establishes such operations in foreign countries to benefit from the labor availability, energy among and other inputs at lower prices. The advantages in FDI are high profit potential, control over operations, avoidance of tariffs and nontariff barriers and knowledge of the market. Drawbacks, requires high financial commitment, increased complexities in management, greater exposure to political risk and the vulnerability to restrictions on foreign investment by host country.

Joint venture: occurs when two firms collaborate to create a joint owned enterprise for mutual interest that share equity, capital and labor among other factors. Joint ventures are the preferred entry mode for emerging markets and developing countries. In developing countries JVs typically occurs between an international firm and a state owned enterprise that could be the local government. In many developing countries, it is a form of investment to develop local expertise for the local market. Typically, the local governments of the developing countries limits the JVs international firms' ownership to less than 50 % in addition they may emphasize on reinvesting the profits into the firm rather than repatriate (Dana-Nicoleta, 2006).

By contrast, a wholly owned subsidiary is the entry mode, which the foreign company stakes are 100 % of the new entity in the host country. Wholly owned normally adopts two strategies a green field or a brown field strategy. With green, the foreign entity builds factory from the scratch starting with more than an empty green field. While the brown field strategy, the entity acquires an existing facility or factory in the host country and modernizes the facility for the business. However, when the entity builds a factory applying these strategies and, minimal transformation of the product undertaken, this known as screwdriver plant. A strategy for legally approved tariff avoidance by putting final touches on completed products and then exporting them after stamping them made in that country the final assembly was undertaken. The greatest advantage with wholly owned is the total control of the organizations operations in the host

country including revenue management. However, it also has the greatest risk in terms of political, social, legal and internalizations attempts. The major assumptions behind wholly owned mode, long term commitment in the market, the organization is financially capable setting wholly owned subsidiary and high confidence with the local government or host country to set up wholly owned subsidiary. The decision making process concerning the appropriate mode of entry into foreign markets or in this case the SSA trading blocs apparently depends on the targeted region, the organizations product or services, the management motivation, and the corporate or business strategy of the organization.

5.4 OLI Theoretical Framework:

Scholars have developed various tested theories and concept in entry mode research used as organizations tools theoretically linked to entry mode choice. Including transaction cost theory, resource based theory, institutional theory, uncertainty theory, and OLI theory (Anne & George, 2007). While all the above theories are descriptive and informative on mode, selection only Dunning's OLI provides descriptive and normative superior mode choice solution (Agarwal & Ramaswami, 1992; Brouthers, Brouthers & Weiner, 1999). Therefore, this chapter adopts the Dunning's OLI framework, also referred as eclectic paradigm. OLI is a comprehensive framework, which considers the impacts of organizations, and location specific factors that exerts greater influence on the organization's choice of entry mode. After considering the risks and returns involved, control and resource commitments associated with each entry mode based on three notions ownership, location and internalization (Dunning, 1993). More specifically, OLI addresses issues of ownership advantages control, cost, and the benefits of inter-firms relationships, location advantages pertains to resource commitment, availability, and the overall cost of those resources while internalization advantages refer to the concern for reducing transactions and costs of coordination. Moreover, OLI theory emphasizes that organizations seek international markets when

features of location, ownership and internalizations advantages presents certain competitive advantage to the organization. For example, with location advantage, those characteristics that presents particular location advantage, ranging from natural resources, climatic conditions, and superior infrastructure logistics to skillful workforce. Discussed below, the principal elements of OLI, ownership, location and internalization framework as it pertain to both the firm and the SSA region.

5.5 Application OLI Framework:

First, discussed and argued concerns the ownership advantage what a foreign firm ought to possess before venturing in the SSA potential markets. In almost all organizations, the constant key question before engaging in new venture is whether the organization is better off owning the new endeavor or at least owning the rights to the product or services. One of the most cited reason for ownership advantage, it allows high degree of control including tacit assets such as complex learning capabilities and organizational and operational routines unteachable through spoken or written (Rugman &Verbeke, 2003).

Ownership Advantage: This is internal to the firm, the advantages that differentiate a firm from its competitor. The ownership advantages, characterized by unique resources is difficult to imitate or resource capabilities (Dunning, 1988, 1993). Nonetheless, not all ownership advantages are globally transportable (Erramilli, Agarwal, & Kim, 1997). Past researches has identified various ownership resources, which provides advantages and have great impact on entry mode choice. These resources include but not limited to (a) international experience, (b) differentiated products or services and (c) the firm size (Agarwal & Raswami, 1992; Dunning, 1993; Brouthers, Brouthers, & Weiner, 1999). The author argues that, firms vying for SSA markets must have multinational experience at least in one country among various trading blocs, and global strategic motivation such as the willingness and flexibility to adopt forward, or backward integration or buy back joint ventures among others to successfully venture in SSA

markets. In addition, also important are the following determinants, the firm size, tacit nature of the knowhow, and technical intensity. This will enable the firm to adopt high control / high resources investment- type modes like joint ventures or wholly owned affiliates as suggested by (Williamson, 1975; Leece, 1981; Hamel & Prahalad, 1985; Erramilli, 1991; Agarwal & Ramaswami, 1992; Kim & Hwang, 1992). However, to exploit ownership advantage fully, they also should have ultimate control over their proprietary rights, such as patents, trademarks, brand names, brand reputation, technological and marketing capabilities in order to overcome the weak institutions in SSA region. The results derived in chapters 3 and 4 shows, in almost all the industries, in the decomposition of the TFP. The technical efficiency change (TE) exerted greater influence than the TC. This means the industries are producing the same amount of products or services using the existing technologies but innovations of new products or services are impossible using the existing technology therefore, it is paramount to find the necessary means of upgrading the existing technology or purchasing new technology. Lessons from the developed markets the fastest way of solving this problem of upgrading the much-required technology is through joint ventures or wholly owned modes.

Location advantages SSA: International firms are most likely to invest in attractive markets potential as established earlier in chapter 2. The determinants of the market attractiveness are market potential and investment risks involved, incentives offered by the host country, or geographic location in a trading bloc. Resource endowment, inexpensive unskilled labor, or educated labor force etc. Following the aforementioned determinants then, the SSA countries evaluated for market attractiveness in terms of standalone or trading blocs' offers unprecedented opportunities found nowhere else. This ranges from natural resources, minerals commodities, great demographic resources that not only are good for job creation but also boosts economic growth and investments potential. The region is experiencing the fastest population development in the world, expected to exceed 1 billion by 2019 accounting for 13.4 % of the global population, and the youngest in the world. Whereby, 70.3 % of the population was under the age of 30 in the year 2012. The region offers demographic advantage in terms of future labor

force and consumer markets (Passport, 2012). Introduced here below, each trading bloc location advantages in the SSA region.

SADC: The Southern African Development Community (SADC) currently has 15 member states of which six countries, analyzed from this trading bloc. The bloc presents a huge market potential with a population of approximately 227 million and a GDP of US$ 575.5 billion in 2010. Almost half of the GDP is composed of the service sector 51 %, industry 32 % and agriculture just 17 %. Geographically the region covers approximately 554919 sq. Km. (World Development Indicators, 2012). The objectives of SADC are to become a fully-fledged market for common economic, political and social values and systems. The members states has drafted specific tax incentives and signed mutual beneficial agreements that has lessened taxation on businesses, creating very attractive climate for industries and trade. Some of these incentives includes, financial and accounting incentives such as, investment tax credits of which a certain percentage of the acquisition cost deducted, in addition to the normal depreciation deductions from tax liabilities. Full cost of acquisitions of assets, allowed as a deduction from the taxable profits of the year in which initial investment made and accelerated depreciation allowances among other incentives.

COMESA: The Common Markets for Eastern and Southern African States (COMESA), trading bloc consists 21 members states in total of which seven countries analyzed, from this trading bloc. Its current strategy is faster regional integration for economic prosperity in the entire region. The bloc has a population of over 389 million with an annual import bill of approximately US$ 32 billion, and an export bill of US$ 82 billion and its geographical area almost 12 million sq.km. The major institutions created to foster sub-regional cooperation and development in the region are such as, The COMESA TRADE and Development Bank in Nairobi, Kenya, The COMESA Re-insurance Company (ZEP-RE) also in Nairobi, Kenya, The COMESA Association of Commercial Banks in Harare, Zimbabwe, The COMESA Clearing House also in Harare, Zimbabwe, and the COMESA Leather Institute in Ethiopia. COMESA offers its members and partners various benefits such as, a greater rational exploitation of natural resources, harmonized monetary, banking and financial policies, reliable transport and

communication infrastructure, harmonized and greater competitive markets and increased agricultural production and food security (Administrator COMESA, 2015).

ECOWAS: The community of West African states (ECOWAS) currently has 16 member states with a surface area of 3.8 million sq. Km. The region has a combined GDP of US$ 734.8 billion (ECOWAS, 2015). Its strategy is to create a common external tariff with the intention of eliminating entirely all tariffs and tariff barriers between member states. The institutions of the economic community of West African states (ECOWAS) are as follows, the commission, the community parliament, the community court of justice and the ECOWAS Bank for Investment and Development (EBID) the banks responsibilities includes implementing policies, initiate programs and undertake development project for the member states. The primary projects undertaken, intra-community road construction and telecommunications infrastructure and agriculture, energy and water resources development (African Union Commission, 2015). ECOWAS trading blocs` external trade led by various products such as fuels from extractive industries, which represents 75 % of exports excluding re-exports dominated by Nigeria 73 %, Cocoa and cocoa food preparations 5 % of the exports, and the precious stones 3 %. Primarily ECOWAS trade with Americas accounts for 40 %, of which 34 % with NAFTA, Europe accounts for 28 % and the Asian Countries and those of Oceania 16 %. The regions imports, dominated by fuels 24 % of the imports, followed by motor vehicles, tractors, and cycles, however, trade in services is hampered by institutional, regulatory and infrastructure constraints (Trade region Statistics, 2015). Lastly, there is greater need for evaluating the firms' ownership or firm specific advantages in relation to the competitive environment in the host country. This is due to; specific advantage is valued in relation to the capabilities of the competitors and irregular characteristics of the host country (Sanjay & Siddharthan, 1982; Casson, 1987; Buskley, 1990; Dunning, 1992). In this case, the major irregular characteristic in the SSA industries is outdated technologies. To complete the Dunning's framework, discussed below is the internalization advantages.

Internalization advantages: The main question of internalization is whether the firm by itself should undertake products manufacturing or jointly with local firms.

Transaction cost is crucial which includes cost of negotiating, monitoring and enforcing contracts between business partners. Richard and Luciara (2005 pg. 212) argues that, if the cost is high a firm will likely rely on FDI or joint venture in entry mode. On the other hand, if the transaction costs are low firms will likely adopt trade or transfer modes. Therefore, a global firm can select among a variety of entry mode choices of which each offers the firm varying degree of control for example, a pharmaceutical firm may prefer WOS abroad than enter into a contractual agreement with a foreign firm to manufacture its patented products in the latter's home country plant which is an example of internalization. Internalization advantages refer to the concern for reducing transaction and coordination costs, which firms should bear in mind before entering SSA markets for the proper strategic alliances.

Exit Strategy: Highlighted are different entry mode strategies under various conditions. However, in reality entry mode strategies constitutes a combination of different format, rarely do experienced global organization adopt a single entry mode for each country. Bundling of activities is common with experienced organizations for example a firm might start a subsidiary that produces some of the products locally and import others for assembly line. The same firm may export to other foreign subsidiaries bundling such entry modes to a legal entity. Nonetheless, circumstances may force the firms to abandon certain markets even those appealing attractive market. The regions political economy makes the region prone to volatile inflations and deflations among other economic problems. Therefore, firms might consider consolidating their operations. Customarily, consolidations occur when a firm cannot meet its financial obligations to service its debt. Which indicates it is time to pull out of the poorly performing markets. Another indicator of when to quit the market are frequent changes in government regulations and high political risks. Phillip Kotler the marketing guru addresses the implications of exit strategy in the 21st Century; it is advisable for managers to familiarize themselves with Kotler's works. Various strategic configurations are also possible, not addressed due to the time constraints with intentions of revisiting these issues in future.

5.6 Conclusion:

In conclusion, the importance of comparing and contrasting the determinants of foreign mode of entry with the suggested mode entry choices, emphasized for the best decisions. The preferential mode for the SSA markets whether in terms of standalone or bloc markets is through FDI, which either may take one or two forms, joint ventures or wholly owned subsidiaries. This will enable control of the overseas operations with the activities of the headquarters in home country. An equity based venture may also be established for components or products mainly exported to the home country or a third country. Currently, joint ventures are the preferred entry mode for emerging markets and developing countries. In developing countries JVs typically occurs between an international firm and a state owned enterprise or the local government. This form of investment enables many developing countries faster development in local expertise for the local market. Nevertheless, the mode of entry choice will largely depend with the proper alignment of the firms' objectives with the determinants of foreign mode of entry and the market requirements. Chapter 2 identified, the countries with attractive markets in SSA for explorations by organizations therefore, how to enter the attractive markets the organizations must take into account the local business environment relative to the firm's own core competency while adopting the FDI investments such as the wholly owned subsidiaries and joint ventures. The advantages of WOS are such as; the management has total control over the operations and access to technology, process among other intangibles. The major downfall with WOS is higher capital investments thus greater risk exposure. While joint ventures minimizes risks due to resource sharing and affords the firm faster penetration of the target market. However, joint ventures also have its downfall such as conflict in management styles and resource investments. Typically, firms prefers to venture in attractive markets that are graded higher in attractiveness with low risk, high profitability and where competitive advantage is attainable however, attaining all these mentioned factors in a cut- throat- globalized market environment is not a simple task. It will require various well-augmented

strategies to venture even into those countries classified as a low risk. It is necessary for organizations from developed countries to enter these markets in SSA countries with the proper entry and exit strategy configurations to attain, existing market expansion, strategic resource seeking, and natural resource seeking and host country's location advantages.

6. Research Summary:

Summarized in this chapter are the results and implications of the study, whereby, the author has exhaustively addressed the issues pertaining to potential attractive markets in SSA region. Deviating from the traditions of market analysis, the research addressed the anomalies of using the traditional general macro environment analysis and incorporated industry competitive analysis to magnify the impacts of the industries competitiveness and their contributions towards the overall market attractiveness. Inserted in between the general macro environment and industry competitiveness analysis were the measurements of the supporting industries (agriculture, energy, and financial sectors) total factor productivity growth (TFP). With the goal of finding the impact or effects of these, related supporting industries on overall potential attractive markets. Empirical research, which incorporates macro and microenvironment, was necessary due to the complexities of political economy and the social structures of the SSA region. Whereby, emphasis or priorities were on social/cultural issues rather than economic and economic systems.

The results indicated only two countries (Mauritius and South Africa) had weights priority over .5000, four with weights over .4000, 15 with weights over .3000, 19 the majority had weight over .2000 and four with over .1000. Remarkably, in terms of geographic and the population perspectives, a small country leads the rest of the bigger countries. The expectations would be countries such as South Africa or Nigeria with higher population and abundant natural resources to have the best weight priorities. The study also exposed and addressed the anomalies of traditional analysis depending only on purely macroeconomic and political factors. Of which at the outset the analysis is dominated by economics and economic systems, which attributes the potential attractive markets only to two sets of factors deriving from two points of view: economic & financial and political. Previously, in the study the author argued, these two set of factors were inadequate to address fully the complexities of developing countries market attractiveness especially in SSA region.

The region not only differs from those of other developing countries in Mediterranean Africa, Asia and Latin America in terms of social cultural, political systems and the level of economic development, but also in geographic climatic conditions, energy, transport logistics and communication infrastructure. Therefore, the study expanded the traditional model from PEST to PESTI, which included infrastructure variables to cover the deficiency of the crumbling infrastructure. As the results indicated emphasizing on social cultural issues not only helped in capturing and highlighting the positive contribution of sound policies on potential attractive market but also the level of development in Mauritius which the government had undertaken. For example, the current population in Mauritius is only 1.319 million and the GDP (PPP) is $ 18,585.4, South Africa with a population of 54 million has a GDP (PPP) of $ 13,046.2, and Nigeria with population of 178,516,904 million has a GDP (PPP) of $ 5,606.56. This indicates, even though Mauritius with small population relative to South Africa, the business environment in Mauritius is more stable than in South Africa. The public in Mauritius has more money to spend, which minimizes the chances of unrest behavior due to poverty etc. For the last two decades the government of Mauritius, designed policies tailored towards alleviating poverty etc. not surprising, AHP model was able to detect those changes and their contribution towards the overall general macro environment. The resulting priorities revealed attractive market growth potential and sourcing opportunities in Mauritius, overlooked applying the traditional PEST model. These analysis also helped us to gain better understanding of the trade-offs in the decision making process and a clearer understanding of the effectiveness of AHP absolute measurements in multi criteria decision problem while combining both theory and practicality.

Crucial also, was measuring the total factor productivity on three supporting industries to identify their contributions or effects on market attractiveness. As the results indicated, there were a number of crucial policy implications arising from the results. Primarily the poor overall productivity performance of these supporting industries in most countries understudy. Especially in agriculture is a cause for concern, as these industries are important for the overall economic growth especially other studies have

argued that, they are the engine for a vibrant manufacturing. As Kato, 2013, observed, the problems in SSAs agricultural sector cannot be solved thorough innovations alone, a large number of complementary institutional and policy reforms are necessary. The financial and energy industries performance was far much better than that the agriculture sector, attributed to foreign companies in the region in countries such as Angola, Malawi, Nigeria, Kenya and Ghana. Therefore, it is fair to conclude that the agriculture sector had the least contribution towards overall potential attractive markets. Please note, the following countries with the top priority weights over .5000 (Mauritius, and South Africa,) had progress in TFP growth in all three supporting industries. Hence, the importance of these three industries in overall general environment on market attractiveness though not crystal clear their influences is apparent.

Those countries with lower weighted priorities may use Mauritius, South Africa or Nigeria as benchmarks and learn how to develop and implement crucial agriculture, energy and financial policies. However, the stepwise regression analysis revealed that, all the three models were weak especially in the financial intermediaries with an R-square (0.1541) and Adjusted R-square of only (0.0546). In agriculture sector no single variable was higher enough to correlate with the TFP however, the model suggests that Consumption on Fixed Capital, Net Mixed Income, and Gross could explain 36.5 % of the variance of TFP. With Electricity, Gas and Water, with an adjusted R square of 0.4603 indicated that, Net Operating and Gross could explain the 46 % of the variance of TFP. The result confirmed that Gross alone was influencing TFP as observed; this attributed to the fact that the Gross variable composition contains the components of export and imports variables, which were not included in the original formation of the TFP growth. Overall, the findings of the supporting industries were poor; managers and policy makers might want to consider adding more independent variables to explain the remaining variability in the TFP. Ideally, if data is readily available we should work on the firm level instead of the industry in each country to get better measurement of technical efficiency and technical change across countries. We hope to do the same in future. However, overlooking the limitations, this study contributes to the understanding of the impact of these crucial supporting industries under study on potential market

attractiveness and development in SSA region. The finding my also serve as a base for further analysis aimed at understanding how investment on these supporting industries influences the development of other developing countries. However, further research is necessary since the appalling situation in some of these countries understudy is under statement to attribute to the mediocre performance of the supporting industries.

The industry competitive analysis revealed, in the secondary sector, basic metals, petroleum chemical and electrical and machinery had abysmal performances. This could be the effects of inadequate financial systems, lack of loans e.tc. , and energy shortages still a chronic problem in the region. Since these industries are capital and energy intensive the inefficiencies and low productivity of the supporting industries hinders competitiveness on the rest of industries influencing negatively the overall potential market attractiveness of the secondary sector. This confirms and affirms the argument addressed in chapter 3 that, the major binding constraints for many small and large businesses in SSA were access to finance and electricity causing great manufacturing slump in the region. Therefore, the author suggests policy makers may prioritize the needs of the supporting industries.

Further analysis on competitiveness revealed, in the primary sector, the fishing industries was the most competitive and had the greatest influence on potential attractive markets. Followed by the mining sector, agriculture with all its importance in raw material prospecting was a liability towards overall potential market attractiveness in the region. It was interesting to note that out of the 10 competitive countries in the fishing industry, six of them (Seychelles, Lesotho, Botswana, South Africa, Angola and Namibia) belong to the Southern African Development Community (SADC) trading bloc. Burkina Faso, Nigeria and Senegal belong to the Economic Community of West African States (ECOWAS) trading bloc and Kenya the only country from East African Community (EAC) trading bloc. Overall, the proxy framework revealed, almost half of these countries understudy require urgent measures to boost competiveness. Especially, in agriculture, energy, basic metals, petroleum chemicals and financial sectors with an exception of South Africa. The rest of the countries require urgent measures in adaptation of new technologies or upgrading the existing ones.

It is also apparent that, in almost all industries the technical efficiency had greater influence in the composition of the MI or competitiveness. This indicates, in most of these industries they are producing the same amount of products or services using the existing technologies but innovations of new products or services is impossible using the existing technology. Therefore, an upgrade of the existing technology or purchasing new technology is necessary to make the industries potential market more appealing to the investors. Overall, the findings of the industries were poor; managers and policy makers might want to consider adding more independent variables to explain the remaining variability in the TFP. Ideally, if data is readily available we should work on the firm level instead of the industry in each country to get better measurement of technical efficiency and technical change across countries. We hope to do the same in future for better and meaningful results. However, overlooking the limitations, this study contributes to the understanding of the impact of these crucial sectors (industries) under study on development in SSA region. The finding may also serve as basis for further analysis aimed at understanding how investment in these industries influences the development of other developing countries. However, further research is necessary since what has caused the negative TFP growth in most industries in some of these countries understudy is still unknown.

The study also covered the viable mode of entry choice in SSA region. Generally, firms prefers to venture in attractive markets that are graded higher in attractiveness with low risk, high profitability and where competitive advantage is attainable however, attaining all those mentioned factors in a globalized market environment is not a simple task. It requires various well-augmented strategies to venture even into those countries classified as a high risk. Conventional wisdom may suggest that, organizations might postpone entry of the SSA markets. However, various types of first – mover advantages may be higher in these economies. Therefore, it is necessary for organizations from developed countries to enter these markets in SSA with the proper entry and exit strategy configurations to attain, existing market expansion, strategic resource seeking, and natural resource seeking and host country's location advantages. Entry, exist

strategy involves various considerations though the importance of these considerations varies by industry and by the main objective of each company.

The study emphasized the importance of comparing and contrasting the determinants of foreign mode of entry with the suggested mode entry choices, for the best results. The preferential mode for the SSA markets whether in terms of standalone or bloc markets was through FDI, which either may take one or two forms, joint ventures or wholly owned subsidiaries. This will enable control of the overseas operations with the activities of the headquarters in home country. An equity based venture may also be established for components or products mainly exported to the home country or a third country. Currently, joint ventures are the preferred entry mode for emerging markets and developing countries. In developing countries JVs typically occurs between an international firm and a state owned enterprise or the local government. This form of investment enables many developing countries faster development in local expertise for the local market. Nevertheless, the mode of entry choice will largely depend with the proper alignment of the firms' objectives with the determinants of foreign mode of entry and the market requirements. How to enter the potential attractive markets, organizations must take into account the local business environment relative to the firm's own core competency and adopting the FDI investments such as the wholly owned subsidiaries and joint ventures. The advantages of WOS are such as; the management has total control over the operations and access to technology, process among other intangibles. The major downfall with WOS is higher capital investments thus greater risk exposure. While joint ventures minimizes risks due to resource sharing and affords the firm faster penetration of the target market. However, joint ventures also have its downfall such as conflict in management styles and resource investments.

6.1 Contributions:

The research advances the body of knowledge on market attractiveness by addressing the deficiencies of the traditional macro analysis (PEST) and expands the model into

PESTI by adding infrastructure as the fifth variable, which provides better assessment on developing countries market potential analysis. The study also updates and expands the industry competitiveness analytical methods by incorporating macro general environment with microenvironment analysis adding time orientation and distance function factors to the Porter five forces of competition. Moreover, the study advanced the analytical hierarchy process by incorporating conventional relative measurements with conventional absolute in multi-criteria decision-making process trivializing subjectivity in the global environment. Furthermore, documenting and measuring the current performance of the industries in SSA region establishes the effectiveness of the existing policies as basis for remedying any shortfalls for sustenance of potential market attractiveness over the long term. This adds more data into the region database for future research. Finally, the study advance knowledge about market entry mode in SSA countries, thorough conceptual study on issues relevant to various organizations and markets in SSA trading blocs. The hybrids of various models from different scholars are expedient tools for those searching new markets in Sub-Sahara African or other developing countries.

Suggestions for Future works: Further extension on this research is necessary to accommodate those countries weighted higher in overall market attractiveness potential but the supporting industries are liabilities to identify the cause of the market attractiveness. Moreover, the industry competitiveness exemplified fluctuations in technological progress in the decomposition of the MI, entirely due the degree of catch-up or improved technical efficiency, which is either better management or policies the major contributors in market attractiveness rather than technological progress or innovations. In the secondary sector, basic metals, petroleum chemical and electrical and machinery had abysmal performances. This could be the effects of inadequate financial systems, lack of loans e.tc, causing further complications in business environment and in policy formulation and warrant further research.

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Appendix A:

Table A.1 Agricultural Sector TFP (Primary, 2001-2011).

Country	TE	TC	MI
Angola	0.9797	1.0148	0.9938
Benin	1.1260	0.8661	0.8957
Botswana	0.9822	1.0182	0.9976
Burkina Faso	1.0137	1.1246	1.1392
Gabon	0.9814	1.0148	0.9952
Ghana	0.9674	1.0148	0.9812
Guinea	1.1454	0.8452	0.9267
Kenya	1.0100	1.0388	1.0484
Lesotho	1.0981	0.9085	0.9252
Malawi	0.9373	0.9758	0.9156
Mauritius	1.0060	1.0224	1.0277
Namibia	1.0000	1.0000	1.0000
Nigeria	1.0163	1.0964	1.1136
Senegal	0.9694	1.0410	1.0078
Seychelles	10.8010	4.0112	1.1771
South Africa	10.5757	3.8631	1.0724
Tanzania	1.0000	1.0000	1.0000
Togo	1.0882	0.7878	0.7638
Uganda	0.9643	1.0148	0.9780
Zambia	0.9590	1.0148	0.9727
Average	1.9811	1.2836	0.9966

Table A.2 Financial Services (2001-2011).

Country	TE	TC	MI
Angola	1.1305	1.1357	1.2715
Benin	3.5302	0.8613	0.9633
Botswana	0.9914	1.1357	1.1225
Burkina Faso	1.0000	1.0000	1.0000
Gabon	2.2403	0.8662	0.8631
Ghana	1.0326	1.1357	1.1637
Guinea	3.9524	0.9416	0.9991
Kenya	1.0000	1.0000	1.0000
Lesotho	1.0000	1.0000	1.0000
Malawi	3.3487	0.9226	1.4701
Mauritius	1.0057	1.0121	1.0175
Namibia	3.6162	0.9945	1.0918
Nigeria	1.0393	1.1357	1.1727
Senegal	1.0023	1.1357	1.1309
Seychelles	10.8010	10.8010	1.0000
South Africa	10.7898	10.8534	1.0393
Tanzania	2.2791	1.0109	1.0028
Togo	1.0000	1.0000	1.0000
Uganda	1.0071	1.0643	1.0408
Zambia	3.1658	0.7898	1.1179
Average	2.7466	1.9898	1.0734

Table A.3 Electricity, Gas and Water (2001-2011).

Country	TE	TC	MI
Angola	0.9797	1.0148	0.9938
Benin	1.1260	0.8661	0.8957
Botswana	0.9822	1.0182	0.9976
Burkina Faso	1.0137	1.1246	1.1392
Gabon	0.9814	1.0148	0.9952
Ghana	0.9674	1.0148	0.9812
Guinea	1.1454	0.8452	0.9267
Kenya	1.0100	1.0388	1.0484
Lesotho	1.0981	0.9085	0.9252
Malawi	0.9373	0.9758	0.9156
Mauritius	1.0060	1.0224	1.0277
Namibia	1.0000	1.0000	1.0000
Nigeria	1.0163	1.0964	1.1136
Senegal	0.9694	1.0410	1.0078
Seychelles	10.8010	4.0112	1.1771
South Africa	10.5757	3.8631	1.0724
Tanzania	1.0000	1.0000	1.0000
Togo	1.0882	0.7878	0.7638
Uganda	0.9643	1.0148	0.9780
Zambia	0.9590	1.0148	0.9727
Average	1.9811	1.2836	0.9966

Table A.4 Agriculture Stepwise Analysis Fit for MI.

SSE	DFE	RMSE	RSquare	RSquare Adj	Cp	p	AICc	BIC
0.0845612	16	0.0726985	0.4656	0.3654	5.4896574	4	-38.277	-37.584

Table A.5 Financial Stepwise Analysis Fit for MI.

SSE	DFE	RMSE	RSquare	RSquare Adj	Cp	p	AICc	BIC
0.2775121	18	0.1241666	0.1377	0.0898	-2.524356	2	-21.2949	-19.8077

Table A.6 Energy Stepwise Analysis Fit for MI.

SSE	DFE	RMSE	RSquare	RSquare Adj	Cp	p	AICc	BIC
0.4330156	17	0.159598	0.5171	0.4603	-0.129824	3	-9.23007	-7.9138

Appendix B:

Table B.1 Agriculture TFP, (Primary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.0041	0.8809	**0.9425**	0.9945	1.0795	**1.0370**	0.9987	0.9509	**0.9748**
Benin	ECOWAS	0.8514	2.5651	**1.7083**	0.6748	0.3591	**0.5170**	0.5745	0.9211	**0.7478**
Botswana	SADC	1.0354	0.8697	**0.9526**	0.9700	1.1337	**1.0518**	1.0044	0.9860	**0.9952**
Burkina Faso	ECOWAS	0.8646	1.1229	**0.9937**	1.6160	1.4400	**1.5280**	1.3972	1.6170	**1.5071**
Gabon	ECOWAS	0.9946	0.8752	**0.9349**	0.7973	0.8284	**0.8128**	0.7930	0.7250	**0.7590**
Ghana	ECOWAS	0.9237	0.9078	**0.9157**	0.9945	1.0795	**1.0370**	0.9187	0.9799	**0.9493**
Guinea	ECOWAS	2.5392	1.0000	**1.7696**	0.3627	0.5438	**0.4532**	0.9210	0.5438	**0.7324**
Kenya	COMESA/EA	1.0689	0.9936	**1.0313**	1.2571	1.1209	**1.1890**	1.3437	1.1138	**1.2287**
Lesotho	SADC	1.0000	1.0000	**1.0000**	0.6534	1.0000	**0.8267**	0.6534	1.0000	**0.8267**
Malawi	COMESA	0.8132	0.7873	**0.8003**	0.6982	0.6559	**0.6771**	0.5678	0.5164	**0.5421**
Mauritius	COMESA	0.9549	1.0617	**1.0083**	1.1277	1.0679	**1.0978**	1.0768	1.1338	**1.1053**
Namibia	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Nigeria	ECOWAS	1.0029	1.1602	**1.0815**	1.3972	1.3433	**1.3703**	1.4012	1.5585	**1.4798**
Senegal	ECOWAS	0.9662	0.9342	**0.9502**	1.1446	1.1165	**1.1305**	1.1059	1.0430	**1.0745**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	0.3326	0.3874	**0.3600**	2.3436	1.7655	**2.0545**	0.7794	0.6839	**0.7316**
Tanzania	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Togo	ECOWAS	2.7086	0.2822	**1.4954**	0.3522	1.0390	**0.6956**	0.9539	0.2932	**0.6236**
Uganda	COMESA	0.9772	0.8534	**0.9153**	0.6836	1.0795	**0.8815**	0.6680	0.9212	**0.7946**
Zambia	SADC/COME	0.8943	0.8550	**0.8747**	0.6431	1.0795	**0.8613**	0.5751	0.9230	**0.7490**
Regional	Average	1.0966	0.9768	**1.0367**	0.9855	1.0366	**1.0111**	0.9366	0.9455	**0.9411**

Table B.2 Fisheries TFP, (Primary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	0.7631	1.2886	**1.0259**	1.2728	0.9746	**1.1237**	0.9713	1.2559	**1.1136**
Benin	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Botswana	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Burkina Faso	ECOWAS	2.3143	1.6167	**1.9655**	1.2588	1.4368	**1.3478**	2.9131	2.3229	**2.6180**
Gabon	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Ghana	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	0.9023	**0.9512**	1.0000	0.9023	**0.9512**
Guinea	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Kenya	COMESA/EA	0.9558	1.1480	**1.0519**	1.2157	1.0482	**1.1320**	1.1620	1.2034	**1.1827**
Lesotho	SADC	1.1253	1.2327	**1.1790**	1.1038	1.1828	**1.1433**	1.2421	1.4580	**1.3501**
Malawi	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Mauritius	COMESA	0.7812	1.0480	**0.9146**	1.5946	1.2410	**1.4178**	1.2457	1.3005	**1.2731**
Namibia	SADC/COME	0.9990	0.8684	**0.9337**	1.0057	1.0023	**1.0040**	1.0047	0.8704	**0.9375**
Nigeria	ECOWAS	0.9822	0.8855	**0.9339**	1.4703	1.2573	**1.3638**	1.4442	1.1134	**1.2788**
Senegal	ECOWAS	1.0083	0.8552	**0.9317**	1.3693	1.1633	**1.2663**	1.3806	0.9948	**1.1877**
Seychelles	SADC/COME	1.3816	1.3512	**1.3664**	0.9662	1.1141	**1.0402**	1.3349	1.5054	**1.4202**
South Africa	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Tanzania	SADC/COME	0.8536	0.8189	**0.8363**	1.0773	1.1033	**1.0903**	0.9196	0.9035	**0.9115**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Zambia	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Regional	Average	1.0582	1.0557	**1.0569**	1.1167	1.0713	**1.0940**	1.1809	1.1415	**1.1612**

Table B.3 Mining and Quarry TFP, (Primary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.0926	1.0373	**1.0650**	1.2110	1.0846	**1.1478**	1.3231	1.1251	**1.2241**
Benin	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Botswana	SADC	1.2683	1.0039	**1.1361**	1.5293	0.7615	**1.1454**	1.9396	0.7644	**1.3520**
Burkina Faso	ECOWAS	1.9999	1.2419	**1.6209**	1.0034	1.1826	**1.0930**	2.0068	1.4686	**1.7377**
Gabon	ECOWAS	0.9151	1.1567	**1.0359**	1.0397	0.8484	**0.9440**	0.9515	0.9813	**0.9664**
Ghana	ECOWAS	1.0000	1.0000	**1.0000**	0.7881	1.0000	**0.8940**	0.7881	1.0000	**0.8940**
Guinea	ECOWAS	1.0000	1.0000	**1.0000**	0.8069	1.0000	**0.9034**	0.8069	1.0000	**0.9034**
Kenya	COMESA/EA	0.9392	0.9757	**0.9575**	1.1196	1.0657	**1.0926**	1.0515	1.0398	**1.0457**
Lesotho	SADC	1.0000	1.6654	**1.3327**	1.0000	1.0388	**1.0194**	1.0000	1.7300	**1.3650**
Malawi	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Mauritius	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Namibia	SADC/COME	1.1737	0.6036	**0.8886**	1.2675	0.9689	**1.1182**	1.4876	0.5848	**1.0362**
Nigeria	ECOWAS	0.8753	1.0440	**0.9596**	1.4389	1.0235	**1.2312**	1.2594	1.0686	**1.1640**
Senegal	ECOWAS	0.9478	1.1516	**1.0497**	1.0443	0.8814	**0.9628**	0.9898	1.0150	**1.0024**
Seychelles	SADC/COME	1.0741	2.5302	**1.8021**	1.1332	0.7554	**0.9443**	1.2171	1.9112	**1.5641**
South Africa	SADC	1.2467	0.7314	**0.9891**	1.2184	1.3427	**1.2806**	1.5190	0.9821	**1.2506**
Tanzania	SADC/COME	1.0790	0.9059	**0.9925**	0.9757	1.0199	**0.9978**	1.0528	0.9239	**0.9884**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Zambia	SADC/COME	1.0000	1.0000	**1.0000**	0.7337	1.0000	**0.8668**	0.7337	1.0000	**0.8668**
Regional	Average	1.0806	1.1024	**1.0915**	1.0655	0.9987	**1.0321**	1.1563	1.0797	**1.1180**

Table B.4 Food & Beverage TFP, (Secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.8136	1.3069	**1.5602**	1.6609	1.1745	**1.4177**	3.0123	1.5350	**2.2736**
Benin	ECOWAS	10.6767	1.0000	**5.8383**	0.1167	1.0000	**0.5584**	1.2463	1.0000	**1.1232**
Botswana	SADC	0.8022	1.1890	**0.9956**	1.7852	1.2552	**1.5202**	1.4320	1.4924	**1.4622**
Burkina Faso	ECOWAS	1.0687	1.2119	**1.1403**	1.1475	1.0604	**1.1039**	1.2264	1.2850	**1.2557**
Gabon	ECOWAS	0.9675	1.4536	**1.2105**	0.4859	0.4007	**0.4433**	0.4701	0.5825	**0.5263**
Ghana	ECOWAS	1.0598	1.2192	**1.1395**	1.6723	1.1991	**1.4357**	1.7723	1.4619	**1.6171**
Guinea	ECOWAS	1.0000	1.0000	**1.0000**	0.3155	1.0000	**0.6578**	0.3155	1.0000	**0.6578**
Kenya	COMESA/EA	0.9634	1.1845	**1.0740**	1.3808	1.0374	**1.2091**	1.3303	1.2288	**1.2796**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	14.1001	1.0000	**7.5500**	0.0880	1.0000	**0.5440**	1.2413	1.0000	**1.1206**
Mauritius	COMESA	3.3338	1.0000	**2.1669**	0.3584	1.0000	**0.6792**	1.1950	1.0000	**1.0975**
Namibia	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Nigeria	ECOWAS	1.1478	1.0680	**1.1079**	1.7286	1.2300	**1.4793**	1.9840	1.3137	**1.6488**
Senegal	ECOWAS	0.9400	0.8973	**0.9186**	0.7835	0.6460	**0.7148**	0.7365	0.5797	**0.6581**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0750	0.8479	**0.9615**	1.3065	1.1787	**1.2426**	1.4045	0.9994	**1.2020**
Tanzania	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.2337	1.1237	**1.1787**	0.5325	1.2418	**0.8872**	0.6570	1.3954	**1.0262**
Zambia	SADC/COME	1.4303	1.2284	**1.3293**	0.4297	0.4319	**0.4308**	0.6146	0.5306	**0.5726**
Regional	Average	**2.3306**	**1.0865**	**1.7086**	**0.9396**	**0.9928**	**0.9662**	**1.1819**	**1.0702**	**1.1261**

Table B.5 Textile & Wear TFP, (Secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.3895	1.1562	**1.2728**	1.3091	1.1052	**1.2071**	1.8189	1.2779	**1.5484**
Benin	ECOWAS	10.1526	1.0000	**5.5763**	0.1044	1.0000	**0.5522**	1.0603	1.0000	**1.0302**
Botswana	SADC	0.8799	1.1136	**0.9968**	1.5611	1.2153	**1.3882**	1.3736	1.3534	**1.3635**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	1.0009	1.2661	**1.1335**	0.3811	0.3425	**0.3618**	0.3814	0.4337	**0.4075**
Ghana	ECOWAS	0.9923	1.1319	**1.0621**	1.2835	1.0871	**1.1853**	1.2736	1.2305	**1.2520**
Guinea	ECOWAS	16.1692	1.0000	**8.5846**	0.0666	1.0000	**0.5333**	1.0767	1.0000	**1.0384**
Kenya	COMESA/EA	0.9394	1.3432	**1.1413**	1.3595	0.9855	**1.1725**	1.2771	1.3238	**1.3004**
Lesotho	SADC	1.0000	1.0000	**1.0000**	0.3975	1.0000	**0.6987**	0.3975	1.0000	**0.6987**
Malawi	COMESA	11.3313	1.0000	**6.1657**	0.1098	0.3469	**0.2283**	1.2440	0.3469	**0.7954**
Mauritius	COMESA	1.1083	0.7697	**0.9390**	1.1703	1.3102	**1.2403**	1.2970	1.0085	**1.1528**
Namibia	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Nigeria	ECOWAS	0.9566	1.0252	**0.9909**	1.3255	1.0940	**1.2098**	1.2680	1.1216	**1.1948**
Senegal	ECOWAS	1.0000	1.0000	**1.0000**	0.4476	0.3915	**0.4195**	0.4476	0.3915	**0.4195**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0874	0.8782	**0.9828**	1.2874	1.1742	**1.2308**	1.4000	1.0312	**1.2156**
Tanzania	SADC/COME	3.4123	1.0000	**2.2061**	0.5413	1.0000	**0.7707**	1.8472	1.0000	**1.4236**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	0.2874	1.0000	**0.6437**	0.2874	1.0000	**0.6437**
Uganda	COMESA	1.1918	1.0746	**1.1332**	0.3810	0.3814	**0.3812**	0.4541	0.4099	**0.4320**
Zambia	SADC/COME	1.0252	1.0508	**1.0380**	0.4279	1.1293	**0.7786**	0.4387	1.1867	**0.8127**
Regional	Average	**2.8818**	**1.0405**	**1.9612**	**0.7720**	**0.9282**	**0.8501**	**1.0172**	**0.9558**	**0.9865**

Table B.6 Wood & Paper TFP, (Secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.0456	1.1586	**1.1021**	1.3599	1.1116	**1.2357**	1.4219	1.2879	**1.3549**
Benin	ECOWAS	8.5800	1.0000	**4.7900**	0.1290	1.0000	**0.5645**	1.1072	1.0000	**1.0536**
Botswana	SADC	0.9521	1.0846	**1.0184**	1.2271	1.0241	**1.1256**	1.1684	1.1108	**1.1396**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.9575	1.1307	**1.0441**	0.4191	0.3747	**0.3969**	0.4013	0.4237	**0.4125**
Ghana	ECOWAS	0.8885	1.1427	**1.0156**	1.1341	0.9593	**1.0467**	1.0076	1.0962	**1.0519**
Guinea	ECOWAS	1.0000	1.0000	**1.0000**	0.3160	1.0000	**0.6580**	0.3160	1.0000	**0.6580**
Kenya	COMESA/EA	0.8556	1.6606	**1.2581**	1.3717	0.9697	**1.1707**	1.1736	1.6103	**1.3919**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.3523	1.0000	**0.6761**	0.3523	1.0000	**0.6761**
Mauritius	COMESA	1.3193	0.6365	**0.9779**	1.0325	1.4643	**1.2484**	1.3622	0.9320	**1.1471**
Namibia	SADC/COME	1.1359	6.5265	**3.8312**	0.4209	0.1747	**0.2978**	0.4781	1.1399	**0.8090**
Nigeria	ECOWAS	0.9157	1.0619	**0.9888**	1.2366	1.0114	**1.1240**	1.1323	1.0740	**1.1031**
Senegal	ECOWAS	0.8840	0.9937	**0.9388**	1.1725	0.9844	**1.0785**	1.0365	0.9782	**1.0073**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0688	0.8249	**0.9468**	1.3148	1.2104	**1.2626**	1.4052	0.9984	**1.2018**
Tanzania	SADC/COME	0.6932	2.2678	**1.4805**	1.5753	0.4548	**1.0151**	1.0920	1.0314	**1.0617**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.0991	1.0877	**1.0934**	0.3882	0.3741	**0.3811**	0.4267	0.4069	**0.4168**
Zambia	SADC/COME	1.0564	1.0926	**1.0745**	0.3782	0.3552	**0.3667**	0.3995	0.3881	**0.3938**
Regional	Average	**1.3726**	**1.3834**	**1.3780**	**0.8914**	**0.8734**	**0.8824**	**0.9140**	**0.9739**	**0.9440**

Table B.7 Petroleum Chemical TFP, (secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.5681	1.3346	**1.4514**	1.4099	1.3076	**1.3588**	2.2109	1.7452	**1.9780**
Benin	ECOWAS	13.1414	1.0000	**7.0707**	0.0799	1.0000	**0.5400**	1.0500	1.0000	**1.0250**
Botswana	SADC	1.0331	1.0639	**1.0485**	1.1153	1.0265	**1.0709**	1.1522	1.0921	**1.1221**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.9595	1.1525	**1.0560**	0.2893	0.2634	**0.2763**	0.2776	0.3036	**0.2906**
Ghana	ECOWAS	0.8998	1.1187	**1.0093**	1.1988	0.9862	**1.0925**	1.0787	1.1033	**1.0910**
Guinea	ECOWAS	15.1015	1.0000	**8.0507**	0.0620	1.0000	**0.5310**	0.9363	1.0000	**0.9681**
Kenya	COMESA/EA	0.9380	1.1282	**1.0331**	1.1407	1.0121	**1.0764**	1.0700	1.1418	**1.1059**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.2782	1.0000	**0.6391**	0.2782	1.0000	**0.6391**
Mauritius	COMESA	0.8031	1.0224	**0.9127**	1.0232	1.2056	**1.1144**	0.8217	1.2326	**1.0271**
Namibia	SADC/COME	0.8709	18.5728	**9.7219**	0.2596	0.0535	**0.1566**	0.2261	0.9942	**0.6101**
Nigeria	ECOWAS	0.8774	1.0546	**0.9660**	1.0386	0.9409	**0.9897**	0.9112	0.9922	**0.9517**
Senegal	ECOWAS	0.8929	0.9686	**0.9307**	1.0690	0.9813	**1.0251**	0.9544	0.9504	**0.9524**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0643	0.8553	**0.9598**	1.3122	1.1993	**1.2558**	1.3966	1.0258	**1.2112**
Tanzania	SADC/COME	0.9781	4.8299	**2.9040**	1.1802	0.2157	**0.6980**	1.1543	1.0419	**1.0981**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.1377	1.0402	**1.0889**	0.2796	0.2859	**0.2828**	0.3181	0.2974	**0.3077**
Zambia	SADC/COME	0.9847	1.0781	**1.0314**	0.2890	0.2643	**0.2767**	0.2846	0.2850	**0.2848**
Regional	Average	**2.3125**	**2.1110**	**2.2118**	**0.8013**	**0.8371**	**0.8192**	**0.9061**	**0.9603**	**0.9332**

Table B.8 Other Manufacturing TFP, (Secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	0.9931	1.0942	**1.0436**	1.1247	0.9098	**1.0173**	1.1169	0.9955	**1.0562**
Benin	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Botswana	SADC	1.0433	0.9949	**1.0191**	1.0886	0.9550	**1.0218**	1.1358	0.9501	**1.0430**
Burkina Faso	ECOWAS	1.0000	1.1437	**1.0719**	1.0305	0.9776	**1.0041**	1.0305	1.1181	**1.0743**
Gabon	ECOWAS	0.4348	1.2821	**0.8584**	1.0634	0.5936	**0.8285**	0.4624	0.7611	**0.6117**
Ghana	ECOWAS	0.8217	1.1373	**0.9795**	1.1383	0.9892	**1.0638**	0.9353	1.1250	**1.0302**
Guinea	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Kenya	COMESA/EA	0.9572	1.0536	**1.0054**	1.0757	0.9604	**1.0181**	1.0297	1.0119	**1.0208**
Lesotho	SADC	0.7916	1.2320	**1.0118**	1.2734	1.1211	**1.1973**	1.0080	1.3811	**1.1946**
Malawi	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Mauritius	COMESA	2.5915	0.9902	**1.7908**	1.0886	0.9550	**1.0218**	2.8211	0.9456	**1.8833**
Namibia	SADC/COME	1.0000	1.0000	**1.0000**	0.9043	0.8851	**0.8947**	0.9043	0.8851	**0.8947**
Nigeria	ECOWAS	0.8053	1.0203	**0.9128**	1.2587	1.0719	**1.1653**	1.0137	1.0936	**1.0537**
Senegal	ECOWAS	1.0000	1.0000	**1.0000**	0.5645	0.5255	**0.5450**	0.5645	0.5255	**0.5450**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0171	**1.0086**	1.0000	1.0171	**1.0086**
South Africa	SADC	1.1655	0.8764	**1.0210**	1.2651	1.2042	**1.2346**	1.4745	1.0553	**1.2649**
Tanzania	SADC/COME	1.5055	1.1477	**1.3266**	0.9429	0.9969	**0.9699**	1.4195	1.1442	**1.2818**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	0.4562	1.2585	**0.8573**	1.0634	0.6080	**0.8357**	0.4851	0.7652	**0.6251**
Zambia	SADC/COME	0.4011	0.9883	**0.6947**	1.0634	0.6488	**0.8561**	0.4266	0.6412	**0.5339**
Regional	Average	**0.9983**	**1.0610**	**1.0296**	**1.0473**	**0.9210**	**0.9841**	**1.0414**	**0.9708**	**1.0061**

Table B.9 Recycling TFP, (secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	2.0219	1.0979	**1.5599**	1.1081	1.2368	**1.1725**	2.2405	1.3580	**1.7992**
Benin	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Botswana	SADC	0.9661	0.9252	**0.9456**	1.1478	1.1182	**1.1330**	1.1089	1.0346	**1.0717**
Burkina Faso	ECOWAS	1.2657	1.2898	**1.2777**	1.0897	1.0852	**1.0875**	1.3793	1.3997	**1.3895**
Gabon	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Ghana	ECOWAS	1.0000	1.0000	**1.0000**	1.1256	0.9095	**1.0175**	1.1256	0.9095	**1.0175**
Guinea	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Kenya	COMESA/EA	0.4662	0.7364	**0.6013**	2.1451	1.3579	**1.7515**	1.0000	1.0000	**1.0000**
Lesotho	SADC	0.7973	1.2352	**1.0163**	1.3276	1.1544	**1.2410**	1.0585	1.4260	**1.2422**
Malawi	COMESA	1.0860	0.8471	**0.9665**	1.0827	1.1875	**1.1351**	1.1758	1.0058	**1.0908**
Mauritius	COMESA	1.2973	0.9246	**1.1110**	1.7034	1.1463	**1.4248**	2.2099	1.0599	**1.6349**
Namibia	SADC/COME	0.7606	0.8664	**0.8135**	1.2506	1.1254	**1.1880**	0.9512	0.9750	**0.9631**
Nigeria	ECOWAS	1.0585	0.9841	**1.0213**	1.3113	1.1662	**1.2388**	1.3881	1.1477	**1.2679**
Senegal	ECOWAS	1.0235	0.7770	**0.9002**	1.2463	1.1778	**1.2121**	1.2755	0.9151	**1.0953**
Seychelles	SADC/COME	1.3861	1.3509	**1.3685**	1.0690	1.1294	**1.0992**	1.4817	1.5257	**1.5037**
South Africa	SADC	1.0000	1.0000	**1.0000**	0.0100	1.0000	**0.5050**	0.0100	1.0000	**0.5050**
Tanzania	SADC/COME	1.1086	0.8012	**0.9549**	1.0862	1.2092	**1.1477**	1.2042	0.9687	**1.0865**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0430	1.0000	**1.0215**	1.0430	1.0000	**1.0215**
Uganda	COMESA	1.0000	1.0000	**1.0000**	1.2312	1.0793	**1.1553**	1.2312	1.0793	**1.1553**
Zambia	SADC/COME	0.8468	1.0191	**0.9330**	1.3720	1.0954	**1.2337**	1.1618	1.1163	**1.1391**
Regional	Average	**1.0542**	**0.9927**	**1.0235**	**1.1675**	**1.1089**	**1.1382**	**1.2023**	**1.0961**	**1.1492**

Table B.10 Basic Metal Products TFP, (Secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.3529	1.3233	**1.3381**	1.4446	1.3207	**1.3826**	1.9545	1.7477	**1.8511**
Benin	ECOWAS	17.2584	1.0000	**9.1292**	0.0594	1.0000	**0.5297**	1.0255	1.0000	**1.0128**
Botswana	SADC	0.9936	1.0659	**1.0298**	1.1002	0.9457	**1.0229**	1.0931	1.0080	**1.0506**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.9234	1.0938	**1.0086**	0.2516	0.2242	**0.2379**	0.2324	0.2452	**0.2388**
Ghana	ECOWAS	0.8705	1.1211	**0.9958**	1.1404	0.9457	**1.0431**	0.9927	1.0603	**1.0265**
Guinea	ECOWAS	18.1849	1.0000	**9.5925**	0.0504	1.0000	**0.5252**	0.9167	1.0000	**0.9584**
Kenya	COMESA/EA	0.8717	2.6180	**1.7448**	0.6945	0.3905	**0.5425**	0.6054	1.0222	**0.8138**
Lesotho	SADC	1.0000	1.0421	**1.0210**	0.9022	0.9796	**0.9409**	0.9022	1.0208	**0.9615**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.2461	1.0000	**0.6231**	0.2461	1.0000	**0.6231**
Mauritius	COMESA	9.7698	1.0000	**5.3849**	0.1072	0.3201	**0.2137**	1.0477	0.3201	**0.6839**
Namibia	SADC/COME	1.2171	15.2137	**8.2154**	0.2438	0.0712	**0.1575**	0.2967	1.0826	**0.6897**
Nigeria	ECOWAS	0.8232	1.0650	**0.9441**	1.1002	0.9457	**1.0229**	0.9057	1.0072	**0.9564**
Senegal	ECOWAS	0.8213	0.9885	**0.9049**	1.1002	0.9457	**1.0229**	0.9035	0.9349	**0.9192**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0782	0.8510	**0.9646**	1.3264	1.2115	**1.2689**	1.4301	1.0310	**1.2305**
Tanzania	SADC/COME	2.0244	1.0000	**1.5122**	0.8323	1.0000	**0.9162**	1.6850	1.0000	**1.3425**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.0327	1.0782	**1.0555**	0.2413	0.2273	**0.2343**	0.2492	0.2451	**0.2471**
Zambia	SADC/COME	0.9832	1.0893	**1.0363**	0.2654	0.9457	**0.6056**	0.2610	1.0302	**0.6456**
Regional	Average	**3.1603**	**1.8275**	**2.4939**	**0.7053**	**0.8237**	**0.7645**	**0.8874**	**0.9378**	**0.9126**

Table B.11 Transport Equipment TFP, (Secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	2.6689	0.4283	**1.5486**	0.0885	14.3940	**7.2413**	0.2362	6.1645	**3.2003**
Benin	ECOWAS	1.3618	1.0000	**1.1809**	0.0984	2.4731	**1.2857**	0.1340	2.4731	**1.3035**
Botswana	SADC	3.1635	0.3529	**1.7582**	0.0312	32.0541	**16.0427**	0.0988	11.3134	**5.7061**
Burkina Faso	ECOWAS	4.2519	0.3626	**2.3072**	0.1521	6.9840	**3.5680**	0.6467	2.5321	**1.5894**
Gabon	ECOWAS	1.3594	0.8646	**1.1120**	0.1182	2.7350	**1.4266**	0.1607	2.3647	**1.2627**
Ghana	ECOWAS	1.9779	0.5043	**1.2411**	0.1191	8.9310	**4.5251**	0.2356	4.5037	**2.3696**
Guinea	ECOWAS	1.3493	1.0000	**1.1747**	0.0870	2.3860	**1.2365**	0.1174	2.3860	**1.2517**
Kenya	COMESA/EA	1.5546	0.6433	**1.0989**	100.0000	0.0100	**50.0050**	100.0000	0.0100	**50.0050**
Lesotho	SADC	2.9274	0.2597	**1.5935**	0.2189	6.1729	**3.1959**	0.6407	1.6028	**1.1218**
Malawi	COMESA	1.3269	1.0000	**1.1635**	0.1086	2.4784	**1.2935**	0.1441	2.4784	**1.3113**
Mauritius	COMESA	18.5156	1.0000	**9.7578**	0.0549	0.9957	**0.5253**	1.0165	0.9957	**1.0061**
Namibia	SADC/COME	2.7092	0.3691	**1.5392**	0.1179	4.4860	**2.3019**	0.3194	1.6558	**0.9876**
Nigeria	ECOWAS	0.3704	2.1944	**1.2824**	0.0614	21.6024	**10.8319**	0.0228	47.4050	**23.7139**
Senegal	ECOWAS	1.0000	1.0000	**1.0000**	0.0448	3.1984	**1.6216**	0.0448	3.1984	**1.6216**
Seychelles	SADC/COME	1.0000	1.0056	**1.0028**	0.3647	3.2991	**1.8319**	0.3647	3.3176	**1.8412**
South Africa	SADC	0.3137	2.8632	**1.5884**	0.2887	4.3268	**2.3077**	0.0906	12.3884	**6.2395**
Tanzania	SADC/COME	0.3608	5.1204	**2.7406**	0.3324	2.8019	**1.5672**	0.1199	14.3471	**7.2335**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	0.3879	2.7391	**1.5635**	0.3879	2.7391	**1.5635**
Uganda	COMESA	1.1217	1.1823	**1.1520**	0.1189	2.3432	**1.2310**	0.1333	2.7704	**1.4519**
Zambia	SADC/COME	1.3095	0.8492	**1.0793**	0.1184	2.5436	**1.3310**	0.1551	2.1599	**1.1575**
Regional	Average	**2.4821**	**1.1500**	**1.8161**	**5.1456**	**6.3477**	**5.7467**	**5.2535**	**6.3403**	**5.7969**

Table B.12 Electrical & Machinery TFP, (Secondary Sector).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	0.9869	1.3072	**1.1470**	1.4452	1.1268	**1.2860**	1.4262	1.4730	**1.4496**
Benin	ECOWAS	3.2477	1.0000	**2.1238**	0.3129	1.0000	**0.6565**	1.0163	1.0000	**1.0081**
Botswana	SADC	0.9928	1.0707	**1.0317**	1.0966	0.9569	**1.0267**	1.0887	1.0245	**1.0566**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.9663	1.0680	**1.0172**	0.5749	0.5436	**0.5592**	0.5555	0.5806	**0.5680**
Ghana	ECOWAS	0.8956	1.1220	**1.0088**	1.1240	0.9765	**1.0503**	1.0067	1.0956	**1.0512**
Guinea	ECOWAS	3.2069	1.0000	**2.1035**	0.2919	1.0000	**0.6460**	0.9361	1.0000	**0.9681**
Kenya	COMESA/EA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Lesotho	SADC	0.7785	1.0746	**0.9265**	1.2067	1.1181	**1.1624**	0.9394	1.2014	**1.0704**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.5617	1.0000	**0.7808**	0.5617	1.0000	**0.7808**
Mauritius	COMESA	1.0313	33.1453	**17.0883**	0.1793	0.0299	**0.1046**	0.1850	0.9911	**0.5880**
Namibia	SADC/COME	1.1694	2.2769	**1.7232**	0.6501	0.4732	**0.5617**	0.7602	1.0775	**0.9189**
Nigeria	ECOWAS	0.8242	1.0473	**0.9357**	1.1106	1.0138	**1.0622**	0.9153	1.0617	**0.9885**
Senegal	ECOWAS	0.8519	0.9802	**0.9160**	1.0966	0.9569	**1.0267**	0.9342	0.9379	**0.9361**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.1048	0.8550	**0.9799**	1.3124	1.2183	**1.2653**	1.4499	1.0417	**1.2458**
Tanzania	SADC/COME	1.2854	1.1316	**1.2085**	1.0569	1.0070	**1.0319**	1.3586	1.1395	**1.2490**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.0808	1.0569	**1.0689**	0.5438	0.5451	**0.5444**	0.5878	0.5761	**0.5819**
Zambia	SADC/COME	0.9933	0.9445	**0.9689**	0.5340	0.5180	**0.5260**	0.5304	0.4893	**0.5099**
Regional	Average	**1.2208**	**2.7040**	**1.9624**	**0.8549**	**0.8742**	**0.8645**	**0.9126**	**0.9845**	**0.9485**

Table B.13 Construction TFP, (secondary Sector).

	Periods.	(1) Period	(2) Period	Catch-up	(1) Period	(2) Period	Frontier	(1) Period	(2) Period	MI
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Average**	**2003=>2007**	**2007=>2011**	**Average**	**2003=>2007**	**2007=>2011**	**Average**
Angola	SADC	1.9986	1.3696	**1.6841**	1.9112	1.3109	**1.6111**	3.8197	1.7954	**2.8075**
Benin	ECOWAS	22.8858	1.0000	**11.9429**	0.0447	1.0000	**0.5223**	1.0229	1.0000	**1.0114**
Botswana	SADC	0.8212	1.1359	**0.9785**	1.5070	1.1253	**1.3162**	1.2375	1.2782	**1.2579**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	1.0030	1.5103	**1.2567**	0.3134	0.2599	**0.2867**	0.3143	0.3926	**0.3535**
Ghana	ECOWAS	1.1118	1.2284	**1.1701**	1.9112	1.3109	**1.6111**	2.1248	1.6103	**1.8675**
Guinea	ECOWAS	27.8326	1.0000	**14.4163**	0.0371	1.0000	**0.5185**	1.0315	1.0000	**1.0157**
Kenya	COMESA/EA	1.6093	1.0000	**1.3046**	0.5955	0.7281	**0.6618**	0.9583	0.7281	**0.8432**
Lesotho	SADC	1.0000	1.1112	**1.0556**	1.0000	1.0142	**1.0071**	1.0000	1.1270	**1.0635**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.2052	1.0000	**0.6026**	0.2052	1.0000	**0.6026**
Mauritius	COMESA	0.9654	1.0566	**1.0110**	1.1713	1.1334	**1.1524**	1.1307	1.1976	**1.1641**
Namibia	SADC/COME	21.5306	1.0000	**11.2653**	0.0538	0.2381	**0.1460**	1.1581	0.2381	**0.6981**
Nigeria	ECOWAS	0.9094	1.1492	**1.0293**	1.4435	1.1778	**1.3106**	1.3127	1.3534	**1.3331**
Senegal	ECOWAS	0.9557	0.9837	**0.9697**	1.4346	1.0621	**1.2483**	1.3711	1.0447	**1.2079**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0902	0.9067	**0.9984**	1.3241	1.1741	**1.2491**	1.4434	1.0645	**1.2540**
Tanzania	SADC/COME	0.9657	2.5945	**1.7801**	1.1028	0.3793	**0.7410**	1.0649	0.9840	**1.0245**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.2142	1.0720	**1.1431**	0.3023	0.2759	**0.2891**	0.3671	0.2958	**0.3314**
Zambia	SADC/COME	1.1301	1.2676	**1.1988**	0.2713	0.2389	**0.2551**	0.3066	0.3028	**0.3047**
Regional	Average	**4.5512**	**1.1693**	**2.8602**	**0.8814**	**0.8714**	**0.8764**	**1.1434**	**0.9706**	**1.0570**

Table B.14 Wholesale Trade TFP, (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.1364	1.0759	**1.1061**	1.2256	0.9972	**1.1114**	1.3927	1.0729	**1.2328**
Benin	ECOWAS	4.2538	1.0000	**2.6269**	0.2481	1.0000	**0.6241**	1.0555	1.0000	**1.0277**
Botswana	SADC	0.9091	1.1684	**1.0387**	1.2911	1.0733	**1.1822**	1.1738	1.2540	**1.2139**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.9716	1.2213	**1.0965**	0.5985	0.5234	**0.5609**	0.5815	0.6393	**0.6104**
Ghana	ECOWAS	1.2174	1.1222	**1.1698**	1.3170	1.0594	**1.1882**	1.6032	1.1889	**1.3961**
Guinea	ECOWAS	4.5306	1.0000	**2.7653**	0.2251	1.0000	**0.6125**	1.0198	1.0000	**1.0099**
Kenya	COMESA/EA	1.0394	1.0387	**1.0390**	1.2721	1.0758	**1.1739**	1.3222	1.1174	**1.2198**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.4835	1.0000	**0.7418**	0.4835	1.0000	**0.7418**
Mauritius	COMESA	0.9908	1.0227	**1.0068**	1.1616	1.1481	**1.1548**	1.1509	1.1742	**1.1626**
Namibia	SADC/COME	3.5540	1.0000	**2.2770**	0.3259	0.5479	**0.4369**	1.1583	0.5479	**0.8531**
Nigeria	ECOWAS	1.0282	1.0649	**1.0466**	1.3394	1.1075	**1.2234**	1.3771	1.1794	**1.2783**
Senegal	ECOWAS	2.6032	1.0000	**1.8016**	0.3830	0.5831	**0.4831**	0.9970	0.5831	**0.7901**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.1486	0.8752	**1.0119**	1.2607	1.1919	**1.2263**	1.4480	1.0432	**1.2456**
Tanzania	SADC/COME	2.9123	1.0000	**1.9562**	0.3509	1.0000	**0.6754**	1.0218	1.0000	**1.0109**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.1026	1.0660	**1.0843**	0.5808	0.5502	**0.5655**	0.6404	0.5865	**0.6135**
Zambia	SADC/COME	1.0391	1.1393	**1.0892**	0.5637	0.5127	**0.5382**	0.5857	0.5841	**0.5849**
Regional	Average	**1.6719**	**1.0397**	**1.3558**	**0.8313**	**0.9185**	**0.8749**	**1.0506**	**0.9485**	**0.9996**

Table B.15 Retail Trade TFP (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.5076	1.1113	**1.3094**	1.3186	1.2238	**1.2712**	1.9879	1.3600	**1.6739**
Benin	ECOWAS	0.9761	1.0000	**0.9881**	1.0292	1.0000	**1.0146**	1.0046	1.0000	**1.0023**
Botswana	SADC	0.9646	1.0636	**1.0141**	1.0624	0.9992	**1.0308**	1.0247	1.0627	**1.0437**
Burkina Faso	ECOWAS	0.9087	1.0450	**0.9769**	1.2801	1.1806	**1.2303**	1.1632	1.2337	**1.1985**
Gabon	ECOWAS	0.9302	1.0088	**0.9695**	1.0218	0.9731	**0.9974**	0.9505	0.9816	**0.9660**
Ghana	ECOWAS	0.9538	1.0178	**0.9858**	1.3327	1.0370	**1.1848**	1.2712	1.0554	**1.1633**
Guinea	ECOWAS	1.0184	1.0000	**1.0092**	0.9796	1.0000	**0.9898**	0.9976	1.0000	**0.9988**
Kenya	COMESA/EA	100.0000	1.0000	**50.5000**	0.0100	1.0000	**0.5050**	1.0000	1.0000	**1.0000**
Lesotho	SADC	0.9836	1.1794	**1.0815**	1.2065	1.0745	**1.1405**	1.1867	1.2673	**1.2270**
Malawi	COMESA	1.0155	1.0000	**1.0077**	0.9838	1.0000	**0.9919**	0.9990	1.0000	**0.9995**
Mauritius	COMESA	0.9857	0.9022	**0.9439**	1.0981	1.1272	**1.1126**	1.0823	1.0170	**1.0496**
Namibia	SADC/COME	0.9362	1.0203	**0.9782**	1.1664	1.0528	**1.1096**	1.0919	1.0742	**1.0831**
Nigeria	ECOWAS	0.9811	1.0167	**0.9989**	1.5101	1.1740	**1.3420**	1.4816	1.1936	**1.3376**
Senegal	ECOWAS	1.2179	0.8509	**1.0344**	1.3133	1.1619	**1.2376**	1.5995	0.9886	**1.2940**
Seychelles	SADC/COME	0.9857	0.9563	**0.9710**	1.0519	1.0226	**1.0373**	1.0369	0.9779	**1.0074**
South Africa	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Tanzania	SADC/COME	1.1139	1.0000	**1.0569**	1.0029	1.0082	**1.0056**	1.1172	1.0082	**1.0627**
Togo	ECOWAS	1.0517	0.9713	**1.0115**	1.0309	1.0538	**1.0423**	1.0843	1.0235	**1.0539**
Uganda	COMESA	1.0337	0.9783	**1.0060**	1.0887	1.0195	**1.0541**	1.1254	0.9974	**1.0614**
Zambia	SADC/COME	0.9486	0.9667	**0.9576**	1.0092	0.9720	**0.9906**	0.9573	0.9397	**0.9485**
Regional	Average	**5.9756**	**1.0044**	**3.4900**	**1.0748**	**1.0540**	**1.0644**	**1.1581**	**1.0590**	**1.1086**

Table B.16 Hotel & Restaurant TFP, (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	2.0170	1.3485	**1.6827**	1.7050	1.3128	**1.5089**	3.4390	1.7702	**2.6046**
Benin	ECOWAS	5.7778	1.0000	**3.3889**	0.1825	1.0000	**0.5912**	1.0544	1.0000	**1.0272**
Botswana	SADC	1.0293	1.0998	**1.0646**	1.0588	0.9465	**1.0026**	1.0898	1.0409	**1.0654**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.9694	1.0268	**0.9981**	0.4449	0.4373	**0.4411**	0.4313	0.4490	**0.4401**
Ghana	ECOWAS	1.2371	1.1685	**1.2028**	1.4485	1.2325	**1.3405**	1.7919	1.4401	**1.6160**
Guinea	ECOWAS	6.7711	1.0000	**3.8855**	0.1497	1.0000	**0.5748**	1.0136	1.0000	**1.0068**
Kenya	COMESA/EA	1.0270	1.0769	**1.0520**	0.9171	0.8788	**0.8979**	0.9419	0.9463	**0.9441**
Lesotho	SADC	1.1257	1.4655	**1.2956**	1.0272	0.9759	**1.0016**	1.1563	1.4302	**1.2932**
Malawi	COMESA	6.4742	1.0000	**3.7371**	0.1572	1.0000	**0.5786**	1.0176	1.0000	**1.0088**
Mauritius	COMESA	1.0484	1.0471	**1.0478**	1.0909	1.0563	**1.0736**	1.1437	1.1060	**1.1249**
Namibia	SADC/COME	6.3832	1.0000	**3.6916**	0.1629	0.3913	**0.2771**	1.0400	0.3913	**0.7157**
Nigeria	ECOWAS	1.2117	1.0556	**1.1337**	1.3910	1.1907	**1.2909**	1.6855	1.2569	**1.4712**
Senegal	ECOWAS	0.9962	0.9946	**0.9954**	1.0511	0.9427	**0.9969**	1.0471	0.9376	**0.9924**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0292	0.9112	**0.9702**	1.3351	1.1659	**1.2505**	1.3741	1.0623	**1.2182**
Tanzania	SADC/COME	1.0169	2.0568	**1.5368**	1.0552	0.4805	**0.7678**	1.0729	0.9883	**1.0306**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.0559	1.0478	**1.0518**	0.5053	0.4474	**0.4764**	0.5335	0.4688	**0.5012**
Zambia	SADC/COME	1.0081	1.0110	**1.0095**	0.4560	0.4220	**0.4390**	0.4597	0.4266	**0.4432**
Regional	Average	**2.1589**	**1.1155**	**1.6372**	**0.8569**	**0.8940**	**0.8755**	**1.1646**	**0.9857**	**1.0752**

Table B.17 Post &Telecommunications (TFP), Services.

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	2.1180	1.3451	**1.7315**	1.8294	1.3081	**1.5688**	3.8747	1.7595	**2.8171**
Benin	ECOWAS	30.1065	1.0000	**15.5533**	0.0369	1.0000	**0.5185**	1.1124	1.0000	**1.0562**
Botswana	SADC	0.9453	1.0813	**1.0133**	1.2083	0.9935	**1.1009**	1.1422	1.0743	**1.1083**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	1.0238	1.4475	**1.2357**	0.2904	0.2484	**0.2694**	0.2973	0.3596	**0.3284**
Ghana	ECOWAS	1.1197	1.1952	**1.1574**	1.8294	1.3081	**1.5688**	2.0484	1.5634	**1.8059**
Guinea	ECOWAS	34.2755	1.0000	**17.6377**	0.0296	1.0000	**0.5148**	1.0144	1.0000	**1.0072**
Kenya	COMESA/EA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.1848	1.0000	**0.5924**	0.1848	1.0000	**0.5924**
Mauritius	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Namibia	SADC/COME	30.8880	1.0000	**15.9440**	0.0433	0.2150	**0.1291**	1.3363	0.2150	**0.7756**
Nigeria	ECOWAS	1.2563	1.0665	**1.1614**	1.7265	1.3081	**1.5173**	2.1690	1.3950	**1.7820**
Senegal	ECOWAS	1.0272	0.9223	**0.9747**	1.4130	1.1737	**1.2934**	1.4514	1.0825	**1.2670**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	0.9783	0.9062	**0.9422**	1.3675	1.1539	**1.2607**	1.3378	1.0456	**1.1917**
Tanzania	SADC/COME	0.9774	13.3759	**7.1766**	1.0595	0.0748	**0.5672**	1.0355	1.0010	**1.0183**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.2461	1.0781	**1.1621**	0.2926	0.2762	**0.2844**	0.3646	0.2977	**0.3312**
Zambia	SADC/COME	1.3737	22.1381	**11.7559**	0.2453	0.0572	**0.1512**	0.3369	1.2658	**0.8014**
Regional	Average	**5.7168**	**2.7278**	**4.2223**	**0.8778**	**0.8559**	**0.8668**	**1.1853**	**1.0030**	**1.0941**

Table B.18 Electricity, Gas and Water TFPs, (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.3774	1.3534	**1.3654**	1.3801	1.3136	**1.3468**	1.9009	1.7778	**1.8394**
Benin	ECOWAS	1.0000	1.0000	**1.0000**	0.4818	1.0000	**0.7409**	0.4818	1.0000	**0.7409**
Botswana	SADC	0.9468	1.0602	**1.0035**	1.0490	0.9522	**1.0006**	0.9932	1.0095	**1.0013**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.8953	1.0123	**0.9538**	0.3714	0.3348	**0.3531**	0.3325	0.3389	**0.3357**
Ghana	ECOWAS	1.0730	1.0541	**1.0635**	0.4823	0.9522	**0.7172**	0.5175	1.0037	**0.7606**
Guinea	ECOWAS	8.7448	1.0000	**4.8724**	0.1092	1.0000	**0.5546**	0.9551	1.0000	**0.9776**
Kenya	COMESA/EA	1.0074	1.0615	**1.0345**	1.0494	0.9527	**1.0011**	1.0572	1.0113	**1.0342**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.4080	1.0000	**0.7040**	0.4080	1.0000	**0.7040**
Mauritius	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Namibia	SADC/COME	7.7373	1.0000	**4.3686**	0.1240	0.3237	**0.2239**	0.9595	0.3237	**0.6416**
Nigeria	ECOWAS	0.9017	1.0377	**0.9697**	1.0363	0.9599	**0.9981**	0.9344	0.9961	**0.9653**
Senegal	ECOWAS	0.9669	0.9967	**0.9818**	0.6139	0.5751	**0.5945**	0.5936	0.5732	**0.5834**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0442	0.7625	**0.9034**	1.3186	1.2807	**1.2997**	1.3770	0.9766	**1.1768**
Tanzania	SADC/COME	2.4777	1.0000	**1.7389**	0.4080	0.6097	**0.5088**	1.0109	0.6097	**0.8103**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	0.3754	1.0000	**0.6877**	0.3754	1.0000	**0.6877**
Uganda	COMESA	1.0221	6.4789	**3.7505**	0.3980	0.1535	**0.2757**	0.4068	0.9945	**0.7007**
Zambia	SADC/COME	0.9062	1.0018	**0.9540**	0.3894	0.3532	**0.3713**	0.3529	0.3538	**0.3534**
Regional	Average	**1.8050**	**1.2910**	**1.5480**	**0.6997**	**0.8381**	**0.7689**	**0.8328**	**0.8984**	**0.8656**

Table B.19 Transport Services (TFP).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	2.0802	1.3093	**1.6947**	1.8405	1.3236	**1.5820**	3.8286	1.7330	**2.7808**
Benin	ECOWAS	1.0000	1.0000	**1.0000**	0.1790	1.0000	**0.5895**	0.1790	1.0000	**0.5895**
Botswana	SADC	0.8213	1.1031	**0.9622**	1.8405	1.3236	**1.5820**	1.5116	1.4600	**1.4858**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	25.1641	1.0000	**13.0821**	0.0556	0.2699	**0.1627**	1.3989	0.2699	**0.8344**
Ghana	ECOWAS	1.1157	1.1951	**1.1554**	1.8405	1.3236	**1.5820**	2.0534	1.5819	**1.8176**
Guinea	ECOWAS	54.4439	1.0000	**27.7219**	0.0218	1.0000	**0.5109**	1.1886	1.0000	**1.0943**
Kenya	COMESA/EA	1.0000	1.0000	**1.0000**	0.5507	1.0000	**0.7753**	0.5507	1.0000	**0.7753**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.1403	1.0000	**0.5701**	0.1403	1.0000	**0.5701**
Mauritius	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Namibia	SADC/COME	48.1145	1.0000	**24.5573**	0.0280	0.1722	**0.1001**	1.3481	0.1722	**0.7602**
Nigeria	ECOWAS	1.1995	1.0168	**1.1082**	1.8405	1.3236	**1.5820**	2.2078	1.3458	**1.7768**
Senegal	ECOWAS	1.0840	0.8938	**0.9889**	0.2770	0.2445	**0.2608**	0.3002	0.2186	**0.2594**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	0.9950	0.9365	**0.9658**	1.3601	1.1567	**1.2584**	1.3533	1.0833	**1.2183**
Tanzania	SADC/COME	21.3416	1.0000	**11.1708**	0.0475	1.0000	**0.5237**	1.0132	1.0000	**1.0066**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.2927	26.0056	**13.6491**	0.2340	0.0457	**0.1398**	0.3025	1.1880	**0.7452**
Zambia	SADC/COME	47.2694	1.0000	**24.1347**	0.0356	0.2297	**0.1326**	1.6824	0.2297	**0.9560**
Regional	Average	**10.6461**	**2.2730**	**6.4596**	**0.7646**	**0.8706**	**0.8176**	**1.2029**	**0.9641**	**1.0835**

Table B.20 Financial TFP, (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	2.1696	1.3349	**1.7522**	1.8245	1.3194	**1.5720**	3.9583	1.7613	**2.8598**
Benin	ECOWAS	26.2716	1.0000	**13.6358**	0.0473	1.0000	**0.5236**	1.2417	1.0000	**1.1208**
Botswana	SADC	0.7905	1.1553	**0.9729**	1.8245	1.3194	**1.5720**	1.4423	1.5244	**1.4833**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	1.0150	1.4312	**1.2231**	0.3541	0.3034	**0.3288**	0.3594	0.4342	**0.3968**
Ghana	ECOWAS	1.1049	1.1636	**1.1342**	1.8245	1.3194	**1.5720**	2.0158	1.5352	**1.7755**
Guinea	ECOWAS	30.8151	1.0000	**15.9076**	0.0355	1.0000	**0.5178**	1.0952	1.0000	**1.0476**
Kenya	COMESA/EA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.2009	1.0000	**0.6005**	0.2009	1.0000	**0.6005**
Mauritius	COMESA	1.0339	1.0054	**1.0197**	1.0607	1.0146	**1.0377**	1.0967	1.0201	**1.0584**
Namibia	SADC/COME	25.6495	1.0000	**13.3247**	0.0507	0.2301	**0.1404**	1.3002	0.2301	**0.7651**
Nigeria	ECOWAS	1.2617	1.0696	**1.1656**	1.8245	1.3194	**1.5720**	2.3019	1.4113	**1.8566**
Senegal	ECOWAS	1.0160	0.9129	**0.9645**	0.3888	0.3332	**0.3610**	0.3950	0.3042	**0.3496**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	0.9626	0.9487	**0.9556**	1.3767	1.1552	**1.2659**	1.3252	1.0959	**1.2106**
Tanzania	SADC/COME	0.5501	14.5987	**7.5744**	1.8245	0.0688	**0.9467**	1.0037	1.0045	**1.0041**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.2281	1.0612	**1.1446**	0.3641	0.3431	**0.3536**	0.4471	0.3641	**0.4056**
Zambia	SADC/COME	1.4638	14.8022	**8.1330**	0.2902	0.0859	**0.1880**	0.4248	1.2716	**0.8482**
Regional	Average	**5.0666**	**2.4242**	**3.7454**	**0.9146**	**0.8406**	**0.8776**	**1.1804**	**0.9978**	**1.0891**

Table B.21 Maintenance & Repair TFP, (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	2.6007	1.2213	**1.9110**	1.4048	1.4427	**1.4237**	3.6534	1.7620	**2.7077**
Benin	ECOWAS	13.8010	1.0000	**7.4005**	0.0865	1.0000	**0.5433**	1.1944	1.0000	**1.0972**
Botswana	SADC	1.0268	1.0316	**1.0292**	1.0608	1.0515	**1.0561**	1.0892	1.0847	**1.0870**
Burkina Faso	ECOWAS	1.1177	1.2234	**1.1705**	1.2144	1.1367	**1.1755**	1.3573	1.3906	**1.3739**
Gabon	ECOWAS	1.3990	1.2500	**1.3245**	0.3601	0.4377	**0.3989**	0.5038	0.5472	**0.5255**
Ghana	ECOWAS	1.5429	1.0762	**1.3095**	1.3894	1.4622	**1.4258**	2.1437	1.5736	**1.8586**
Guinea	ECOWAS	15.5329	1.0000	**8.2665**	0.0767	1.0000	**0.5384**	1.1918	1.0000	**1.0959**
Kenya	COMESA/EA	0.7112	0.6892	**0.7002**	1.2541	1.3651	**1.3096**	0.8919	0.9408	**0.9163**
Lesotho	SADC	1.0000	1.3916	**1.1958**	1.0000	0.9958	**0.9979**	1.0000	1.3857	**1.1929**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.3131	1.0000	**0.6565**	0.3131	1.0000	**0.6565**
Mauritius	COMESA	0.8903	0.7615	**0.8259**	1.2449	1.3692	**1.3071**	1.1084	1.0426	**1.0755**
Namibia	SADC/COME	1.0000	1.0000	**1.0000**	1.0087	1.0000	**1.0043**	1.0087	1.0000	**1.0043**
Nigeria	ECOWAS	1.6587	0.9327	**1.2957**	1.3836	1.3448	**1.3642**	2.2949	1.2544	**1.7746**
Senegal	ECOWAS	1.1172	0.8219	**0.9696**	1.2560	1.1983	**1.2271**	1.4032	0.9849	**1.1940**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Tanzania	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	0.3389	1.0000	**0.6695**	0.3389	1.0000	**0.6695**
Uganda	COMESA	1.6781	0.9922	**1.3352**	0.3793	0.5047	**0.4420**	0.6365	0.5008	**0.5687**
Zambia	SADC/COME	2.0725	1.1362	**1.6044**	0.3077	0.4552	**0.3815**	0.6377	0.5172	**0.5775**
Regional	Average	**2.6074**	**1.0264**	**1.8169**	**0.8539**	**1.0382**	**0.9461**	**1.1883**	**1.0492**	**1.1188**

Table B.22 Other Services, TFP.

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	0.9778	1.0322	**1.0050**	1.0742	0.9499	**1.0121**	1.0503	0.9806	**1.0155**
Benin	ECOWAS	1.0000	1.0000	**1.0000**	0.3781	1.0000	**0.6891**	0.3781	1.0000	**0.6891**
Botswana	SADC	1.0014	1.0454	**1.0234**	1.0742	0.9499	**1.0121**	1.0757	0.9931	**1.0344**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.9697	1.0555	**1.0126**	0.3470	0.3213	**0.3342**	0.3365	0.3392	**0.3378**
Ghana	ECOWAS	0.9534	1.0896	**1.0215**	1.0742	0.9499	**1.0121**	1.0241	1.0351	**1.0296**
Guinea	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Kenya	COMESA/EA	0.9576	1.0696	**1.0136**	1.0742	0.9499	**1.0121**	1.0287	1.0160	**1.0223**
Lesotho	SADC	1.1740	1.7598	**1.4669**	1.0366	0.9799	**1.0082**	1.2170	1.7243	**1.4707**
Malawi	COMESA	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Mauritius	COMESA	1.1983	0.9772	**1.0877**	1.0742	0.9499	**1.0121**	1.2871	0.9282	**1.1077**
Namibia	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Nigeria	ECOWAS	0.9112	1.0565	**0.9838**	1.0742	0.9499	**1.0121**	0.9788	1.0036	**0.9912**
Senegal	ECOWAS	1.0000	1.0000	**1.0000**	0.5341	1.0000	**0.7670**	0.5341	1.0000	**0.7670**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.1476	0.9026	**1.0251**	1.2581	1.1746	**1.2163**	1.4438	1.0601	**1.2520**
Tanzania	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.0494	1.0782	**1.0638**	0.3346	0.3224	**0.3285**	0.3512	0.3476	**0.3494**
Zambia	SADC/COME	0.9384	1.0419	**0.9901**	0.3539	0.3224	**0.3382**	0.3321	0.3359	**0.3340**
Regional	Average	**1.0139**	**1.0554**	**1.0347**	**0.8844**	**0.8910**	**0.8877**	**0.9019**	**0.9382**	**0.9200**

Table B.23 Public Administration TFP, (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.5492	1.1738	**1.3615**	1.3396	1.4264	**1.3830**	2.0754	1.6743	**1.8749**
Benin	ECOWAS	1.0174	0.9636	**0.9905**	1.0255	1.0405	**1.0330**	1.0433	1.0026	**1.0230**
Botswana	SADC	0.9620	0.9658	**0.9639**	1.0287	1.0314	**1.0301**	0.9896	0.9962	**0.9929**
Burkina Faso	ECOWAS	1.4642	1.1294	**1.2968**	1.0213	1.0314	**1.0263**	1.4954	1.1648	**1.3301**
Gabon	ECOWAS	0.9663	1.0509	**1.0086**	1.0290	1.0379	**1.0335**	0.9943	1.0908	**1.0425**
Ghana	ECOWAS	0.9719	0.9902	**0.9811**	1.0253	1.0343	**1.0298**	0.9965	1.0242	**1.0103**
Guinea	ECOWAS	0.9706	1.0751	**1.0229**	1.0250	1.0406	**1.0328**	0.9948	1.1188	**1.0568**
Kenya	COMESA/EA	1.0000	1.0000	**1.0000**	1.0723	1.0098	**1.0411**	1.0723	1.0098	**1.0411**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.2625	1.4007	**1.3316**	1.2625	1.4007	**1.3316**
Malawi	COMESA	1.0467	0.9493	**0.9980**	1.0250	1.0405	**1.0327**	1.0728	0.9878	**1.0303**
Mauritius	COMESA	0.9737	0.9496	**0.9617**	1.0288	1.0209	**1.0249**	1.0018	0.9694	**0.9856**
Namibia	SADC/COME	0.9608	1.0251	**0.9929**	1.0219	1.0324	**1.0271**	0.9818	1.0583	**1.0200**
Nigeria	ECOWAS	0.8422	0.9334	**0.8878**	1.1075	1.1476	**1.1276**	0.9327	1.0711	**1.0019**
Senegal	ECOWAS	1.0039	0.9396	**0.9718**	1.0266	1.0310	**1.0288**	1.0306	0.9687	**0.9997**
Seychelles	SADC/COME	0.9565	1.1489	**1.0527**	1.0250	1.0405	**1.0327**	0.9804	1.1955	**1.0879**
South Africa	SADC	1.0000	1.0000	**1.0000**	1.3372	1.2126	**1.2749**	1.3372	1.2126	**1.2749**
Tanzania	SADC/COME	1.0923	1.0000	**1.0461**	1.0525	1.0812	**1.0669**	1.1497	1.0812	**1.1154**
Togo	ECOWAS	1.1534	1.0107	**1.0820**	1.0250	1.0405	**1.0327**	1.1822	1.0516	**1.1169**
Uganda	COMESA	1.0310	0.9624	**0.9967**	1.0286	1.0381	**1.0333**	1.0604	0.9990	**1.0297**
Zambia	SADC/COME	1.0169	0.9735	**0.9952**	1.0260	1.0384	**1.0322**	1.0433	1.0109	**1.0271**
Regional	Average	**1.0489**	**1.0121**	**1.0305**	**1.0767**	**1.0888**	**1.0827**	**1.1348**	**1.1044**	**1.1196**

Table B.24 Education & Health TFPs, (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading blocs	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.8503	1.3009	**1.5756**	1.7937	1.3737	**1.5837**	3.3189	1.7870	**2.5530**
Benin	ECOWAS	7.7856	1.0000	**4.3928**	0.1600	1.0000	**0.5800**	1.2459	1.0000	**1.1230**
Botswana	SADC	0.7840	1.1867	**0.9853**	1.8191	1.2942	**1.5567**	1.4262	1.5359	**1.4810**
Burkina Faso	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Gabon	ECOWAS	0.9639	1.4113	**1.1876**	0.6318	0.5377	**0.5847**	0.6089	0.7589	**0.6839**
Ghana	ECOWAS	1.0689	1.0255	**1.0472**	1.8410	1.4042	**1.6226**	1.9678	1.4400	**1.7039**
Guinea	ECOWAS	8.7369	1.0000	**4.8685**	0.1306	1.0000	**0.5653**	1.1409	1.0000	**1.0704**
Kenya	COMESA/EA	0.8841	1.1467	**1.0154**	1.2092	1.0076	**1.1084**	1.0691	1.1553	**1.1122**
Lesotho	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Malawi	COMESA	1.0000	1.0000	**1.0000**	0.3727	1.0000	**0.6863**	0.3727	1.0000	**0.6863**
Mauritius	COMESA	1.0000	1.0000	**1.0000**	1.0054	1.0000	**1.0027**	1.0054	1.0000	**1.0027**
Namibia	SADC/COME	0.8903	6.3616	**3.6260**	0.5685	0.1949	**0.3817**	0.5062	1.2398	**0.8730**
Nigeria	ECOWAS	1.2316	1.0431	**1.1373**	1.6526	1.2589	**1.4558**	2.0354	1.3132	**1.6743**
Senegal	ECOWAS	1.0188	0.9308	**0.9748**	1.8356	1.2994	**1.5675**	1.8701	1.2095	**1.5398**
Seychelles	SADC/COME	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
South Africa	SADC	1.0954	0.9335	**1.0144**	1.2954	1.1488	**1.2221**	1.4190	1.0723	**1.2457**
Tanzania	SADC/COME	1.1563	1.2615	**1.2089**	1.0752	0.8049	**0.9400**	1.2432	1.0154	**1.1293**
Togo	ECOWAS	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Uganda	COMESA	1.1525	1.0180	**1.0852**	0.6784	0.6291	**0.6538**	0.7819	0.6404	**0.7111**
Zambia	SADC/COME	1.4816	1.1445	**1.3131**	0.5244	0.5516	**0.5380**	0.7770	0.6313	**0.7042**
Regional	Average	**1.8050**	**1.3382**	**1.5716**	**1.0297**	**0.9753**	**1.0025**	**1.2394**	**1.0900**	**1.1647**

Table B.25 Households TFP, (Services).

	Periods.	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average	(1) Period	(2) Period	Average
Country	Trading bloc	**2003=>2007**	**2007=>2011**	**Catch-up**	**2003=>2007**	**2007=>2011**	**Frontier**	**2003=>2007**	**2007=>2011**	**MI**
Angola	SADC	1.5945	1.1454	**1.3700**	1.4030	1.2689	**1.3359**	2.2371	1.4534	**1.8453**
Benin	ECOWAS	1.0000	1.0000	**1.0000**	1.1236	1.0288	**1.0762**	1.1236	1.0288	**1.0762**
Botswana	SADC	0.9868	0.9728	**0.9798**	1.1432	1.0311	**1.0871**	1.1281	1.0030	**1.0656**
Burkina Faso	ECOWAS	1.2578	1.2922	**1.2750**	1.1734	1.1009	**1.1372**	1.4758	1.4227	**1.4492**
Gabon	ECOWAS	1.0816	0.9884	**1.0350**	0.9458	0.9977	**0.9717**	1.0229	0.9862	**1.0045**
Ghana	ECOWAS	1.0176	1.0476	**1.0326**	1.4383	0.9767	**1.2075**	1.4636	1.0232	**1.2434**
Guinea	ECOWAS	1.0000	1.0000	**1.0000**	1.0989	1.0136	**1.0563**	1.0989	1.0136	**1.0563**
Kenya	COMESA/EA	0.6197	0.8016	**0.7106**	1.3326	1.1683	**1.2505**	0.8258	0.9365	**0.8812**
Lesotho	SADC	1.0731	1.6475	**1.3603**	1.2797	1.1101	**1.1949**	1.3732	1.8289	**1.6011**
Malawi	COMESA	0.9513	0.9844	**0.9679**	1.2518	1.1168	**1.1843**	1.1909	1.0993	**1.1451**
Mauritius	COMESA	0.7248	1.0619	**0.8934**	1.7139	1.0747	**1.3943**	1.2423	1.1413	**1.1918**
Namibia	SADC/COME	0.9721	0.8259	**0.8990**	1.2490	1.2593	**1.2541**	1.2141	1.0401	**1.1271**
Nigeria	ECOWAS	0.9461	0.9132	**0.9297**	1.1710	1.1982	**1.1846**	1.1079	1.0941	**1.1010**
Senegal	ECOWAS	1.0894	0.8370	**0.9632**	1.3427	1.2192	**1.2810**	1.4627	1.0205	**1.2416**
Seychelles	SADC/COME	1.1372	1.1323	**1.1347**	1.3008	1.2309	**1.2658**	1.4792	1.3937	**1.4364**
South Africa	SADC	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**	1.0000	1.0000	**1.0000**
Tanzania	SADC/COME	0.7745	0.6144	**0.6944**	1.2359	1.3479	**1.2919**	0.9572	0.8281	**0.8927**
Togo	ECOWAS	1.0577	0.9455	**1.0016**	1.2566	1.2134	**1.2350**	1.3290	1.1473	**1.2382**
Uganda	COMESA	0.9667	0.9807	**0.9737**	1.1269	1.0427	**1.0848**	1.0893	1.0225	**1.0559**
Zambia	SADC/COME	1.0101	1.0436	**1.0269**	1.0501	0.9927	**1.0214**	1.0607	1.0361	**1.0484**
Regional	Average	**1.0130**	**1.0117**	**1.0124**	**1.2319**	**1.1196**	**1.1757**	**1.2441**	**1.1260**	**1.1850**

Table B.26 SADC Trading Bloc Ranking, (Secondary Sector).

Secondary Sector (Manufacturing) 25 Industries Ranking (SSA)

Country	**Transportable Goods**	TE	TC	MI	Ranking	**Basic Metals**	TE	TC	MI	Ranking	**Light Industries**	TE	TC	MI	Ranking
Angola	Wood and paper	1.102	1.236	1.355	**2**	Metal Products	1.338	1.383	1.851	**1**	Food and Beverages	1.560	1.418	2.274	**1**
	Petroleum Chemical	1.451	1.359	1.978	**1**	Transport equipment	1.549	7.241	3.200	**6**	Textile and Wear	1.273	1.207	1.548	**1**
	Other Manufacturing	1.044	1.017	1.056	**6**	Electrical Machinery	1.147	1.286	1.450	**1**					
	Recycling	1.560	1.172	1.799	**1**	Construction	1.684	1.611	2.808	**1**					
Botswana	Wood and paper	1.018	1.126	1.140	**5**	Metal Products	1.030	1.023	1.051	**4**	Food and Beverages	0.996	1.520	1.462	**4**
	Petroleum Chemical	1.048	1.071	1.122	**3**	Transport equipment	1.758	16.043	5.706	**5**	Textile and Wear	0.997	1.388	1.363	**3**
	Other Manufacturing	1.019	1.022	1.043	**8**	Electrical Machinery	1.032	1.027	1.057	**5**					
	Recycling	0.946	1.133	1.072	**12**	Construction	0.979	1.316	1.258	**4**					
Lesotho	Wood and paper	1.000	1.000	1.000	**12**	Metal Products	1.021	0.941	0.961	**10**	Food and Beverages	1.000	1.000	1.000	**12**
	Petroleum Chemical	1.000	1.000	1.000	**10**	Transport equipment	1.594	3.196	1.122	**18**	Textile and Wear	1.000	0.699	0.699	**16**
	Other Manufacturing	1.012	1.197	1.195	**4**	Electrical Machinery	0.927	1.162	1.070	**4**					
	Recycling	1.016	1.241	1.242	**6**	Construction	1.056	1.007	1.064	**8**					
Namibia	Wood and paper	3.831	0.298	0.809	**15**	Metal Products	8.215	0.157	0.690	**15**	Food and Beverages	1.000	1.000	1.000	**13**
	Petroleum Chemical	9.722	0.157	0.610	**17**	Transport equipment	1.539	2.302	0.988	**20**	Textile and Wear	1.000	1.000	1.000	**12**
	Other Manufacturing	1.000	0.895	0.895	**16**	Electrical Machinery	1.723	0.562	0.919	**15**					
	Recycling	0.814	1.188	0.963	**19**	Construction	11.265	0.146	0.698	**16**					
Seychelles	Wood and paper	1.000	1.000	1.000	**13**	Metal Products	1.000	1.000	1.000	**8**	Food and Beverages	1.000	1.000	1.000	**14**
	Petroleum Chemical	1.000	1.000	1.000	**11**	Transport equipment	1.003	1.832	1.841	**8**	Textile and Wear	1.000	1.000	1.000	**13**
	Other Manufacturing	1.000	1.009	1.009	**11**	Electrical Machinery	1.000	1.000	1.000	**10**					
	Recycling	1.368	1.099	1.504	**3**	Construction	1.000	1.000	1.000	**13**					
South Africa	Wood and paper	0.947	1.263	1.202	**3**	Metal Products	0.965	1.269	1.231	**3**	Food and Beverages	0.961	1.243	1.202	**7**
	Petroleum Chemical	0.960	1.256	1.211	**2**	Transport equipment	1.588	2.308	6.239	**4**	Textile and Wear	0.983	1.231	1.216	**6**
	Other Manufacturing	1.021	1.235	1.265	**3**	Electrical Machinery	0.980	1.265	1.246	**3**					
	Recycling	1.000	0.505	0.505	**20**	Construction	0.998	1.249	1.254	**5**					
Tanzania	Wood and paper	1.481	1.015	1.062	**7**	Metal Products	1.512	0.916	1.342	**2**	Food and Beverages	1.000	1.000	1.000	**15**
	Petroleum Chemical	2.904	0.698	1.098	**5**	Transport equipment	2.741	1.567	7.234	**3**	Textile and Wear	2.206	0.771	1.424	**2**
	Other Manufacturing	1.327	0.970	1.282	**2**	Electrical Machinery	1.208	1.032	1.249	**2**					
	Recycling	0.955	1.148	1.086	**11**	Construction	1.780	0.741	1.024	**9**					
Zambia	Wood and paper	1.075	0.367	0.394	**20**	Metal Products	1.036	0.606	0.646	**17**	Food and Beverages	1.329	0.431	0.573	**19**
	Petroleum Chemical	1.031	0.277	0.285	**20**	Transport equipment	1.079	1.331	1.158	**17**	Textile and Wear	1.038	0.779	0.813	**14**
	Other Manufacturing	0.695	0.856	0.534	**20**	Electrical Machinery	0.969	0.526	0.510	**20**					
	Recycling	0.933	1.234	1.139	**8**	Construction	1.199	0.255	0.305	**20**					

Table B.27 COMESA Trading Bloc Ranking, (Secondary Sector).

Secondary Sector (Manufacturing) 25 Industries Ranking (SSA)															
Country	**Transportable Goods**	TE	TC	MI	Ranking	**Basic Metals**	TE	TC	MI	Ranking	**Light Industries**	TE	TC	MI	Ranking
Kenya	Wood and paper	1.258	1.171	1.392	**1**	Metal Products	1.745	0.542	0.814	**14**	Food and Beverages	1.074	1.209	1.280	**5**
	Petroleum Chemical	1.033	1.076	1.106	**4**	Transport equipment	1.099	50.005	50.005	**1**	Textile and Wear	1.141	1.172	1.300	**4**
	Other Manufacturing	1.005	1.018	1.021	**10**	Electrical Machinery	1.000	1.000	1.000	**9**					
	Recycling	0.601	1.751	1.000	**17**	Construction	1.305	0.662	0.843	**15**					
Malawi	Wood and paper	1.000	0.676	0.676	**16**	Metal Products	1.000	0.623	0.623	**18**	Food and Beverages	7.550	0.544	1.121	**9**
	Petroleum Chemical	1.000	0.639	0.639	**16**	Transport equipment	1.163	1.293	1.311	**13**	Textile and Wear	6.166	0.228	0.795	**15**
	Other Manufacturing	1.000	1.000	1.000	**14**	Electrical Machinery	1.000	0.781	0.781	**16**					
	Recycling	0.967	1.135	1.091	**10**	Construction	1.000	0.603	0.603	**17**					
Mauritius	Wood and paper	0.978	1.248	1.147	**4**	Metal Products	5.385	0.214	0.684	**16**	Food and Beverages	2.167	0.679	1.097	**10**
	Petroleum Chemical	0.913	1.114	1.027	**7**	Transport equipment	9.758	0.525	1.006	**19**	Textile and Wear	0.939	1.240	1.153	**8**
	Other Manufacturing	1.791	1.022	1.883	**1**	Electrical Machinery	17.088	0.105	0.588	**17**					
	Recycling	1.111	1.425	1.635	**2**	Construction	1.011	1.152	1.164	**7**					
Namibia	Wood and paper	3.831	0.298	0.809	**15**	Metal Products	8.215	0.157	0.690	**15**	Food and Beverages	1.000	1.000	1.000	**13**
	Petroleum Chemical	9.722	0.157	0.610	**17**	Transport equipment	1.539	2.302	0.988	**20**	Textile and Wear	1.000	1.000	1.000	**12**
	Other Manufacturing	1.000	0.895	0.895	**16**	Electrical Machinery	1.723	0.562	0.919	**15**					
	Recycling	0.814	1.188	0.963	**19**	Construction	11.265	0.146	0.698	**16**					
Seychelles	Wood and paper	1.000	1.000	1.000	**13**	Metal Products	1.000	1.000	1.000	**8**	Food and Beverages	1.000	1.000	1.000	**14**
	Petroleum Chemical	1.000	1.000	1.000	**11**	Transport equipment	1.003	1.832	1.841	**8**	Textile and Wear	1.000	1.000	1.000	**13**
	Other Manufacturing	1.000	1.009	1.009	**11**	Electrical Machinery	1.000	1.000	1.000	**10**					
	Recycling	1.368	1.099	1.504	**3**	Construction	1.000	1.000	1.000	**13**					
Tanzania	Wood and paper	1.481	1.015	1.062	**7**	Metal Products	1.512	0.916	1.342	**2**	Food and Beverages	1.000	1.000	1.000	**15**
	Petroleum Chemical	2.904	0.698	1.098	**5**	Transport equipment	2.741	1.567	7.234	**3**	Textile and Wear	2.206	0.771	1.424	**2**
	Other Manufacturing	1.327	0.970	1.282	**2**	Electrical Machinery	1.208	1.032	1.249	**2**					
	Recycling	0.955	1.148	1.086	**11**	Construction	1.780	0.741	1.024	**9**					
Uganda	Wood and paper	1.093	0.381	0.417	**18**	Metal Products	1.055	0.234	0.247	**19**	Food and Beverages	1.179	0.887	1.026	**11**
	Petroleum Chemical	1.089	0.283	0.308	**18**	Transport equipment	1.152	1.231	1.452	**12**	Textile and Wear	1.133	0.381	0.432	**18**
	Other Manufacturing	0.857	0.836	0.625	**17**	Electrical Machinery	1.069	0.544	0.582	**18**					
	Recycling	1.000	1.155	1.155	**7**	Construction	1.143	0.289	0.331	**19**					
Zambia	Wood and paper	1.075	0.367	0.394	**20**	Metal Products	1.036	0.606	0.646	**17**	Food and Beverages	1.329	0.431	0.573	**19**
	Petroleum Chemical	1.031	0.277	0.285	**20**	Transport equipment	1.079	1.331	1.158	**17**	Textile and Wear	1.038	0.779	0.813	**14**
	Other Manufacturing	0.695	0.856	0.534	**20**	Electrical Machinery	0.969	0.526	0.510	**20**					
	Recycling	0.933	1.234	1.139	**8**	Construction	1.199	0.255	0.305	**20**					

Table B.28 ECOWAS Trading Bloc Ranking, (Secondary Sector).

Country	Transpor	TE	TC	MI	Ranking	Basic Me	TE	TC	MI	Ranking	Light Ind	TE	TC	MI	Ranking
Benin	Wood and	4.790	0.565	1.054	**8**	Metal Pro	9.129	0.530	1.013	**6**	Food and	5.838	0.558	1.123	**8**
	Petroleum	7.071	0.540	1.025	**8**	Transport	1.181	1.286	1.304	**14**	Textile an	5.576	0.552	1.030	**10**
	Other Ma	1.000	1.000	1.000	**12**	Electrical	2.124	0.656	1.008	**7**					
	Recycling	1.000	1.000	1.000	**15**	Constructi	11.943	0.522	1.011	**11**					
Burkina Fa	Wood and	1.000	1.000	1.000	**11**	Metal Pro	1.000	1.000	1.000	**7**	Food and	1.140	1.104	1.256	**6**
	Petroleum	1.000	1.000	1.000	**9**	Transport	2.307	3.568	1.589	**10**	Textile an	1.000	1.000	1.000	**11**
	Other Ma	1.072	1.004	1.074	**5**	Electrical	1.000	1.000	1.000	**8**					
	Recycling	1.278	1.087	1.389	**4**	Constructi	1.000	1.000	1.000	**12**					
Gabon	Wood and	1.044	0.397	0.412	**19**	Metal Pro	1.009	0.238	0.239	**20**	Food and	1.211	0.443	0.526	**20**
	Petroleum	1.056	0.276	0.291	**19**	Transport	1.112	1.427	1.263	**15**	Textile an	1.134	0.362	0.408	**20**
	Other Ma	0.858	0.829	0.612	**18**	Electrical	1.017	0.559	0.568	**19**					
	Recycling	1.000	1.000	1.000	**16**	Constructi	1.257	0.287	0.353	**18**					
Ghana	Wood and	1.016	1.047	1.052	**9**	Metal Pro	0.996	1.043	1.027	**5**	Food and	1.139	1.436	1.617	**3**
	Petroleum	1.009	1.092	1.091	**6**	Transport	1.241	4.525	2.370	**7**	Textile an	1.062	1.185	1.252	**5**
	Other Ma	0.979	1.064	1.030	**9**	Electrical	1.009	1.050	1.051	**6**					
	Recycling	1.000	1.018	1.018	**14**	Constructi	1.170	1.611	1.868	**2**					
Guinea	Wood and	1.000	0.658	0.658	**17**	Metal Pro	9.592	0.525	0.958	**11**	Food and	1.000	0.658	0.658	**18**
	Petroleum	8.051	0.531	0.968	**13**	Transport	1.175	1.237	1.252	**16**	Textile an	8.585	0.533	1.038	**9**
	Other Ma	1.000	1.000	1.000	**13**	Electrical	2.103	0.646	0.968	**13**					
	Recycling	1.000	1.000	1.000	**18**	Constructi	14.416	0.519	1.016	**10**					
Nigeria	Wood and	0.989	1.124	1.103	**6**	Metal Pro	0.944	1.023	0.956	**12**	Food and	1.108	1.479	1.649	**2**
	Petroleum	0.966	0.990	0.952	**15**	Transport	1.282	10.832	23.714	**2**	Textile an	0.991	1.210	1.195	**7**
	Other Ma	0.913	1.165	1.054	**7**	Electrical	0.936	1.062	0.989	**12**					
	Recycling	1.021	1.239	1.268	**5**	Constructi	1.029	1.311	1.333	**3**					
Senegal	Wood and	0.939	1.078	1.007	**10**	Metal Pro	0.905	1.023	0.919	**13**	Food and	0.919	0.715	0.658	**17**
	Petroleum	0.931	1.025	0.952	**14**	Transport	1.000	1.622	1.622	**9**	Food and	1.000	0.420	0.420	**19**
	Other Ma	1.000	0.545	0.545	**19**	Electrical	0.916	1.027	0.936	**14**					
	Recycling	0.900	1.212	1.095	**9**	Constructi	0.970	1.248	1.208	**6**					
Togo	Wood and	1.000	1.000	1.000	**14**	Metal Pro	1.000	1.000	1.000	**9**	Food and	1.000	1.000	1.000	**16**
	Petroleum	1.000	1.000	1.000	**12**	Transport	1.000	1.564	1.564	**11**	Food and	1.000	0.644	0.644	**17**
	Other Ma	1.000	1.000	1.000	**15**	Electrical	1.000	1.000	1.000	**11**					
	Recycling	1.000	1.021	1.021	**13**	Constructi	1.000	1.000	1.000	**14**					

Table B.29 SADC Trading Bloc Ranking, (Services).

Tertiary Sector Industries Ranking (SSA).

Country	Distributive Services	TE	TC	MI	Ranking	Financial services	TE	TC	MI	Ranking	Social Services	TE	TC	MI	Ranking
Angola	Wholesale Trade	1.106	1.111	1.233	**4**	Business Services	1.752	1.572	2.860	**1**	Public Adminstration	1.362	1.383	1.875	**1**
	Retail Trade	1.309	1.271	1.674	**1**	Maintenance and Repair	1.911	1.424	2.708	**1**	Education and Health	1.576	1.584	2.553	**1**
	Hotel & Restaurant	1.683	1.509	2.605	**1**	Other Services	1.005	1.012	1.015	**7**	Household Services	1.370	1.336	1.845	**1**
	Post & Tel	1.732	1.569	2.817	**1**										
	Electricity, Gas & water	1.365	1.347	1.839	**1**										
	Transport Service	1.695	1.582	2.781	**1**										
Botswana	Wholesale Trade	1.039	1.182	1.214	**6**	Business Services	0.973	1.572	1.483	**4**	Public Adminstration	0.964	1.030	0.993	**19**
	Retail Trade	1.014	1.031	1.044	**12**	Maintenance and Repair	1.029	1.056	1.087	**9**	Education and Health	0.985	1.557	1.481	**5**
	Hotel & Restaurant	1.065	1.003	1.065	**7**	Other Services	1.023	1.012	1.034	**4**	Household Services	0.980	1.087	1.066	**13**
	Post & Tel	1.013	1.101	1.108	**6**										
	Electricity, Gas & water	1.004	1.001	1.001	**4**										
	Transport Service	0.962	1.582	1.486	**4**										
Lesotho	Wholesale Trade	1.000	1.000	1.000	**12**	Business Services	1.000	1.000	1.000	**12**	Public Adminstration	1.000	1.332	1.332	**2**
	Retail Trade	1.081	1.140	1.227	**4**	Maintenance and Repair	1.196	0.998	1.193	**6**	Education and Health	1.000	1.000	1.000	**15**
	Hotel & Restaurant	1.296	1.002	1.293	**4**	Other Services	1.467	1.008	1.471	**1**	Household Services	1.360	1.195	1.601	**2**
	Post & Tel	1.000	1.000	1.000	**12**										
	Electricity, Gas & water	1.000	1.000	1.000	**6**										
	Transport Service	1.000	1.000	1.000	**9**										
Namibia	Wholesale Trade	2.277	0.437	0.853	**15**	Business Services	13.325	0.140	0.765	**16**	Public Adminstration	0.993	1.027	1.020	**15**
	Retail Trade	0.978	1.110	1.083	**7**	Maintenance and Repair	1.000	1.004	1.004	**11**	Education and Health	3.626	0.382	0.873	**16**
	Hotel & Restaurant	3.692	0.277	0.716	**17**	Other Services	1.000	1.000	1.000	**11**	Household Services	0.899	1.254	1.127	**10**
	Post & Tel	15.944	0.129	0.776	**17**										
	Electricity, Gas & water	4.369	0.224	0.642	**17**										
	Transport Service	24.557	0.100	0.760	**16**										
Seychelles	Wholesale Trade	1.000	1.000	1.000	**13**	Business Services	1.000	1.000	1.000	**13**	Public Adminstration	1.053	1.033	1.088	**7**
	Retail Trade	0.971	1.037	1.007	**13**	Maintenance and Repair	1.000	1.000	1.000	**12**	Education and Health	1.000	1.000	1.000	**13**
	Hotel & Restaurant	1.000	1.000	1.000	**13**	Other Services	1.000	1.000	1.000	**12**	Household Services	1.135	1.266	1.436	**4**
	Post & Tel	1.000	1.000	1.000	**14**										
	Electricity, Gas & water	1.000	1.000	1.000	**8**										
	Transport Service	1.000	1.000	1.000	**11**										
South Africa	Wholesale Trade	1.012	1.226	1.246	**3**	Business Services	0.956	1.266	1.211	**5**	Public Adminstration	1.000	1.275	1.275	**4**
	Retail Trade	1.000	1.000	1.000	**16**	Maintenance and Repair	1.000	1.000	1.000	**13**	Education and Health	1.014	1.222	1.246	**6**
	Hotel & Restaurant	0.970	1.250	1.218	**5**	Other Services	1.025	1.216	1.252	**2**	Household Services	1.000	1.000	1.000	**18**
	Post & Tel	0.942	1.261	1.192	**5**										
	Electricity, Gas & water	0.903	1.300	1.177	**2**										
	Transport Service	0.966	1.258	1.218	**5**										
Tanzania	Wholesale Trade	1.956	0.675	1.011	**9**	Business Services	7.574	0.947	1.004	**9**	Public Adminstration	1.046	1.067	1.115	**6**
	Retail Trade	1.057	1.006	1.063	**8**	Maintenance and Repair	1.000	1.000	1.000	**14**	Education and Health	1.209	0.940	1.129	**7**
	Hotel & Restaurant	1.537	0.768	1.031	**8**	Other Services	1.000	1.000	1.000	**13**	Household Services	0.694	1.292	0.893	**19**
	Post & Tel	7.177	0.567	1.018	**8**										
	Electricity, Gas & water	1.739	0.509	0.810	**11**										
	Transport Service	11.171	0.524	1.007	**7**										
Zambia	Wholesale Trade	1.089	0.538	0.585	**20**	Business Services	8.133	0.188	0.848	**15**	Public Adminstration	0.995	1.032	1.027	**13**
	Retail Trade	0.958	0.991	0.948	**20**	Maintenance and Repair	1.604	0.381	0.577	**18**	Education and Health	1.313	0.538	0.704	**18**
	Hotel & Restaurant	1.010	0.439	0.443	**19**	Other Services	0.990	0.338	0.334	**20**	Household Services	1.027	1.021	1.048	**16**
	Post & Tel	11.756	0.151	0.801	**16**										
	Electricity, Gas & water	0.954	0.371	0.353	**19**										
	Transport Service	24.135	0.133	0.956	**13**										

Table B.30 COMESA Trading Bloc Ranking, (Services).

Tertiary Sector (Services) Industries Ranking (SSA)

Country	Distributive Services	TE	TC	MI	Ranking	Financial services	TE	TC	MI	Ranking	Social Services	TE	TC	MI	Ranking
Kenya	Wholesale Trade	1.039	1.174	1.220	**5**	Business Services	1.000	1.000	1.000	**11**	Public Adminstration	1.000	1.041	1.041	**10**
	Retail Trade	50.500	0.505	1.000	**15**	Maintenance and Repair	0.700	1.310	0.916	**15**	Education and Health	1.015	1.108	1.112	**9**
	Hotel & Restaurant	1.052	0.898	0.944	**16**	Other Services	1.014	1.012	1.022	**6**	Household Services	0.711	1.250	0.881	**20**
	Post & Tel	1.000	1.000	1.000	**11**										
	Electricity, Gas & water	1.034	1.001	1.034	**3**										
	Transport Service	1.000	0.775	0.775	**15**										
Malawi	Wholesale Trade	1.000	0.742	0.742	**17**	Business Services	1.000	0.600	0.600	**17**	Public Adminstration	0.998	1.033	1.030	**11**
	Retail Trade	1.008	0.992	0.999	**17**	Maintenance and Repair	1.000	0.657	0.657	**17**	Education and Health	1.000	0.686	0.686	**19**
	Hotel & Restaurant	3.737	0.579	1.009	**10**	Other Services	1.000	1.000	1.000	**10**	Household Services	0.968	1.184	1.145	**9**
	Post & Tel	1.000	0.592	0.592	**18**										
	Electricity, Gas & water	1.000	0.704	0.704	**14**										
	Transport Service	1.000	0.570	0.570	**19**										
Mauritius	Wholesale Trade	1.007	1.155	1.163	**7**	Business Services	1.020	1.038	1.058	**7**	Public Adminstration	0.962	1.025	0.986	**20**
	Retail Trade	0.944	1.113	1.050	**11**	Maintenance and Repair	0.826	1.307	1.075	**10**	Education and Health	1.000	1.003	1.003	**11**
	Hotel & Restaurant	1.048	1.074	1.125	**6**	Other Services	1.088	1.012	1.108	**3**	Household Services	0.893	1.394	1.192	**8**
	Post & Tel	1.000	1.000	1.000	**13**										
	Electricity, Gas & water	1.000	1.000	1.000	**7**										
	Transport Service	1.000	1.000	1.000	**10**										
Namibia	Wholesale Trade	2.277	0.437	0.853	**15**	Business Services	13.325	0.140	0.765	**16**	Public Adminstration	0.993	1.027	1.020	**15**
	Retail Trade	0.978	1.110	1.083	**7**	Maintenance and Repair	1.000	1.004	1.004	**11**	Education and Health	3.626	0.382	0.873	**16**
	Hotel & Restaurant	3.692	0.277	0.716	**17**	Other Services	1.000	1.000	1.000	**11**	Household Services	0.899	1.254	1.127	**10**
	Post & Tel	15.944	0.129	0.776	**17**										
	Electricity, Gas & water	4.369	0.224	0.642	**17**										
	Transport Service	24.557	0.100	0.760	**16**										
Seychelles	Wholesale Trade	1.000	1.000	1.000	**13**	Business Services	1.000	1.000	1.000	**13**	Public Adminstration	1.053	1.033	1.088	**7**
	Retail Trade	0.971	1.037	1.007	**13**	Maintenance and Repair	1.000	1.000	1.000	**12**	Education and Health	1.000	1.000	1.000	**13**
	Hotel & Restaurant	1.000	1.000	1.000	**13**	Other Services	1.000	1.000	1.000	**12**	Household Services	1.135	1.266	1.436	**4**
	Post & Tel	1.000	1.000	1.000	**14**										
	Electricity, Gas & water	1.000	1.000	1.000	**8**										
	Transport Service	1.000	1.000	1.000	**11**										
Tanzania	Wholesale Trade	1.956	0.675	1.011	**9**	Business Services	7.574	0.947	1.004	**9**	Public Adminstration	1.046	1.067	1.115	**6**
	Retail Trade	1.057	1.006	1.063	**8**	Maintenance and Repair	1.000	1.000	1.000	**14**	Education and Health	1.209	0.940	1.129	**7**
	Hotel & Restaurant	1.537	0.768	1.031	**8**	Other Services	1.000	1.000	1.000	**13**	Household Services	0.694	1.292	0.893	**19**
	Post & Tel	7.177	0.567	1.018	**8**										
	Electricity, Gas & water	1.739	0.509	0.810	**11**										
	Transport Service	11.171	0.524	1.007	**7**										
Uganda	Wholesale Trade	1.084	0.566	0.613	**18**	Business Services	1.145	0.354	0.406	**18**	Public Adminstration	0.997	1.033	1.030	**12**
	Retail Trade	1.006	1.054	1.061	**9**	Maintenance and Repair	1.335	0.442	0.569	**19**	Education and Health	1.085	0.654	0.711	**17**
	Hotel & Restaurant	1.052	0.476	0.501	**18**	Other Services	1.064	0.329	0.349	**18**	Household Services	0.974	1.085	1.056	**15**
	Post & Tel	1.162	0.284	0.331	**19**										
	Electricity, Gas & water	3.751	0.276	0.701	**15**										
	Transport Service	13.649	0.140	0.745	**17**										
Zambia	Wholesale Trade	1.089	0.538	0.585	**20**	Business Services	8.133	0.188	0.848	**15**	Public Adminstration	0.995	1.032	1.027	**13**
	Retail Trade	0.958	0.991	0.948	**20**	Maintenance and Repair	1.604	0.381	0.577	**18**	Education and Health	1.313	0.538	0.704	**18**
	Hotel & Restaurant	1.010	0.439	0.443	**19**	Other Services	0.990	0.338	0.334	**20**	Household Services	1.027	1.021	1.048	**16**
	Post & Tel	11.756	0.151	0.801	**16**										
	Electricity, Gas & water	0.954	0.371	0.353	**19**										
	Transport Service	24.135	0.133	0.956	**13**										

Table B.31 ECOWAS Trading Bloc Ranking, (Services).

Tertiary Sector (Services) Industries Ranking (SSA)

Country	Distributive Services	TE	TC	MI	Ranking	Financial services	TE	TC	MI	Ranking	Social Services	TE	TC	MI	Ranking
Benin	Wholesale Trade	2.627	0.624	1.028	**8**	Business Services	13.636	0.524	1.121	**6**	Public Adminstration	0.991	1.033	1.023	**14**
	Retail Trade	0.988	1.015	1.002	**14**	Maintenance and Repair	7.400	0.543	1.097	**7**	Education and Health	4.393	0.580	1.123	**8**
	Hotel & Restaurant	3.389	0.591	1.027	**9**	Other Services	1.000	0.689	0.689	**17**	Household Services	1.000	1.076	1.076	**12**
	Post & Tel	15.553	0.518	1.056	**7**										
	Electricity, Gas & water	1.000	0.741	0.741	**13**										
	Transport Service	1.000	0.589	0.589	**18**										
Burkina Faso	Wholesale Trade	1.000	1.000	1.000	**11**	Business Services	1.000	1.000	1.000	**10**	Public Adminstration	1.297	1.026	1.330	**3**
	Retail Trade	0.977	1.230	1.198	**5**	Maintenance and Repair	1.171	1.176	1.374	**4**	Education and Health	1.000	1.000	1.000	**12**
	Hotel & Restaurant	1.000	1.000	1.000	**12**	Other Services	1.000	1.000	1.000	**8**	Household Services	1.275	1.137	1.449	**3**
	Post & Tel	1.000	1.000	1.000	**10**										
	Electricity, Gas & water	1.000	1.000	1.000	**5**										
	Transport Service	1.000	1.000	1.000	**8**										
Gabon	Wholesale Trade	1.096	0.561	0.610	**19**	Business Services	1.223	0.329	0.397	**19**	Public Adminstration	1.009	1.033	1.043	**9**
	Retail Trade	0.969	0.997	0.966	**19**	Maintenance and Repair	1.325	0.399	0.525	**20**	Education and Health	1.188	0.585	0.684	**20**
	Hotel & Restaurant	0.998	0.441	0.440	**20**	Other Services	1.013	0.334	0.338	**19**	Household Services	1.035	0.972	1.005	**17**
	Post & Tel	1.236	0.269	0.328	**20**										
	Electricity, Gas & water	0.954	0.353	0.336	**20**										
	Transport Service	13.082	0.163	0.834	**14**										
Ghana	Wholesale Trade	1.170	1.188	1.396	**1**	Business Services	1.134	1.572	1.776	**3**	Public Adminstration	0.981	1.030	1.010	**16**
	Retail Trade	0.986	1.185	1.163	**6**	Maintenance and Repair	1.310	1.426	1.859	**2**	Education and Health	1.047	1.623	1.704	**2**
	Hotel & Restaurant	1.203	1.340	1.616	**2**	Other Services	1.022	1.012	1.030	**5**	Household Services	1.033	1.207	1.243	**5**
	Post & Tel	1.157	1.569	1.806	**2**										
	Electricity, Gas & water	1.064	0.717	0.761	**12**										
	Transport Service	1.155	1.582	1.818	**2**										
Guinea	Wholesale Trade	2.765	0.613	1.010	**10**	Business Services	15.908	0.518	1.048	**8**	Public Adminstration	1.023	1.033	1.057	**8**
	Retail Trade	1.009	0.990	0.999	**18**	Maintenance and Repair	8.266	0.538	1.096	**8**	Education and Health	4.868	0.565	1.070	**10**
	Hotel & Restaurant	3.886	0.575	1.007	**11**	Other Services	1.000	1.000	1.000	**9**	Household Services	1.000	1.056	1.056	**14**
	Post & Tel	17.638	0.515	1.007	**9**										
	Electricity, Gas & water	4.872	0.555	0.978	**9**										
	Transport Service	27.722	0.511	1.094	**6**										
Nigeria	Wholesale Trade	1.047	1.223	1.278	**2**	Business Services	1.166	1.572	1.857	**2**	Public Adminstration	0.888	1.128	1.002	**17**
	Retail Trade	0.999	1.342	1.338	**2**	Maintenance and Repair	1.296	1.364	1.775	**3**	Education and Health	1.137	1.456	1.674	**3**
	Hotel & Restaurant	1.134	1.291	1.471	**3**	Other Services	0.984	1.012	0.991	**15**	Household Services	0.930	1.185	1.101	**11**
	Post & Tel	1.161	1.517	1.782	**3**										
	Electricity, Gas & water	0.970	0.998	0.965	**10**										
	Transport Service	1.108	1.582	1.777	**3**										
Senegal	Wholesale Trade	1.802	0.483	0.790	**16**	Business Services	0.964	0.361	0.350	**20**	Public Adminstration	0.972	1.029	1.000	**18**
	Retail Trade	1.034	1.238	1.294	**3**	Maintenance and Repair	0.970	1.227	1.194	**5**	Education and Health	0.975	1.567	1.540	**4**
	Hotel & Restaurant	0.995	0.997	0.992	**15**	Other Services	1.000	0.767	0.767	**16**	Household Services	0.963	1.281	1.242	**6**
	Post & Tel	0.975	1.293	1.267	**4**										
	Electricity, Gas & water	0.982	0.595	0.583	**18**										
	Transport Service	0.989	0.261	0.259	**20**										
Togo	Wholesale Trade	1.000	1.000	1.000	**14**	Business Services	1.000	1.000	1.000	**14**	Public Adminstration	1.082	1.033	1.117	**5**
	Retail Trade	1.012	1.042	1.054	**10**	Maintenance and Repair	1.000	0.669	0.669	**16**	Education and Health	1.000	1.000	1.000	**14**
	Hotel & Restaurant	1.000	1.000	1.000	**14**	Other Services	1.000	1.000	1.000	**14**	Household Services	1.002	1.235	1.238	**7**
	Post & Tel	1.000	1.000	1.000	**15**										
	Electricity, Gas & water	1.000	0.688	0.688	**16**										
	Transport Service	1.000	1.000	1.000	**12**										